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MASTER INFRASTRUCTURE REVIEW

FOR THE

BARRHAVEN CONSERVANCY DEVELOPMENT CORPORATION

BARRHAVEN CONSERVANCY

CITY OF OTTAWA

PROJECT NO.: 17-891

MARCH 2021
2ND SUBMISSION
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EXECUTIVE SUMMARY

This Master Infrastructure Review (MIR) is prepared in support of the Barrhaven Conservancy development on behalf of Barrhaven Conservancy Development Corporation (BCDC).

The overall Barrhaven Conservancy lands are situated north of the Jock River, between Highway 416 and Greenbank Road. The subject property is approximately 103 ha and is located within the City of Ottawa urban boundary in the Barrhaven ward.

The proposed development concept consists detached single homes, townhomes, park blocks, stormwater management blocks, open space and road allowances.

The subject property is located in the Jock River watershed and is under the jurisdiction of the Rideau Valley Conservation Authority (RVCA). Per the existing topography characterized in the available City of Ottawa base mapping, all flows from the subject property are ultimately conveyed to the Jock River by a series of municipal drains and ditches. The O'Keefe Municipal Drain, the Foster Ditch, and the Fraser-Clarke Watercourse all run through the subject property.

The development area is outside of the Jock River 100-year limit as confirmed by the RVCA.

The site is subject to permissible grade raises per geotechnical recommendations, ranging from 1.4 m to 2.2 m. The site will be designed as low as possible, to have regard for the geotechnical constraints. Environmental reporting has been completed to confirm environmental constraints for the site. There are three watercourses, which are required to be maintained or enhanced.

The recommended water servicing option of those evaluated is to connect through the Nepean Town Centre development area to Zone SUC, which has recently been upgraded. The watermains will extend along the future Chapman Mills Drive extension and through the Claridge "Burnett Lands" development area.

Detailed modelling at the detailed design stage will confirm phasing of the extensions of trunk watermains and sizing of the local watermain network. The proposed water design supply will conform to all relevant City and MECP Guidelines and Policies.

Sanitary servicing will be provided to the subject property via the off-site South Nepean Collector (SNC) trunk sanitary sewer. The recommended connection to the SNC is at existing SANMH 8 at the future Chapman Mills Drive (CMD) Extension as the inverts are at the lowest, providing the optimal grading strategy on a grade raise restricted site. A sanitary pump station is proposed on the west side of the Foster Ditch due to a crossing constraint between the proposed sanitary trunk sewer and the Foster Ditch invert. With the inclusion of the subject property, and the update to current City of Ottawa design parameters for demands, the SNC sanitary sewer adequately conveys

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the entirety of the subject property's proposed sanitary flows without impacting downstream properties.

The basis of the stormwater design is the Jock River Subwatershed study (Jock River SWS) and a summary of existing conditions, historical review of geology, hydrogeology, geomorphology, hydraulics and hydrology is presented. As well, the guidance of the stormwater criteria for the subject lands, north of the Jock River.

Stormwater service is to be provided by capturing stormwater runoff by an internal gravity sewer system that that will also have a parallel Modified Etobicoke Filtration System (including internal catchbasin features such as deeper 1.0 m sumps and Goss Traps) for quality control treatment. The storm sewers will discharge to naturalized wetlands prior to discharging to the Jock River. The proposed system will provide an Enhanced Level of Protection for stormwater runoff from the subject property before being discharged to the wetlands and Jock River. Previously, quantity control was not required for the Jock River and, based on high level review by JFSA, this will continue to be the case for the development area. Notwithstanding, some quantity control by means of erosion storage will be included.

A preliminary Hydraulic Grade Line (HGL) modelling analysis has been completed for the proposed Conservancy East system and has demonstrated that the HGL is kept below the ground surface. Due to the grade raise restrictions and the proposed storm and sanitary drainage schemes, the road centerlines do not allow for standard basements with a gravity connection to the storm sewer system. Because of the constraints on the subject property, sump pumps will be installed for all residential blocks, following City of Ottawa guidelines.

Erosion and sediment control measures will be implemented and maintained throughout construction. The Jock River, O'Keefe Drain, Foster Ditch and Fraser-Clarke Watercourse will all be protected from any negative impacts from construction.

The proposed servicing and grading plans will meet all City, RVCA, and MECP requirements as set out in background studies and current standards.

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1.0 INTRODUCTION

David Schaeffer Engineering Limited (DSEL) has been retained to prepare a Master Infrastructure Review (MIR) in support of the Draft Plan of Subdivision and Zoning applications for the Barrhaven Conservancy development on behalf of Barrhaven Conservancy Development Corporation (BCDC).

1.1 Study Area

The subject property is located within the City of Ottawa urban boundary in the Barrhaven ward. As illustrated in ***Figure 1***, the subject property is located north of the Jock River, east of Highway 416, west of Greenbank Road, and south of both McKenna Casey Drive and Strandherd Drive. Borrisokane Road bisects the subject property between Strandherd Drive and the Jock River. The subject property measures approximately 103.38 ha and is legally described as parts of Concessions 3 and 4, Lots 14 and 15.

The subject property is currently zoned Development Reserve (DR) Zone. The proposed development concept plan allows for the development of a mix of detached single homes, back-to-back townhomes, rear lane townhomes, park blocks, naturalized wetlands, and open space buffer blocks. It also includes a road network featuring 14 m, 16.5 m right-of-way (ROW) width local road network, 8.5 m ROW width laneways and a 24 m ROW width collector road. The proposed development concept plan is presented on ***Figure 2***.

The entirety of the subject property is within the Jock River Subwatershed and is under the jurisdiction of the Rideau Valley Conservation Authority (RVCA). The existing topography characterized in the available City of Ottawa base mapping indicates that all flows from the subject property are ultimately conveyed to the Jock River by way of the O'Keefe Municipal Drain, the Foster Ditch (former Municipal Drain), the Fraser-Clarke Watercourse (former Municipal Drain), and the Borrisokane roadside ditches, which all run through the subject property.

The development area is outside of the Jock River 100-year limit as confirmed by the Rideau Valley Conservation Authority (RVCA). Refer to the RVCA confirmation letter in

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Appendix A. The 100-year regulatory flood line is demonstrated in Drawing 1 (Grading) and Drawing 3 (Stormwater) in the ***Appendix***.

1.2 Study Scope

The subject property has been considered as a part of the ***Official Plan*** (City of Ottawa, 2003) and the associated ***Secondary Plan*** (City of Ottawa, 2003). As presented on Schedule B of the ***Official Plan***, the subject property is considered to be primarily General Urban Area, with portions of the subject property Employment Area, and Major Open Space.

The objectives of this Master Infrastructure Review are to:

- Provide historical background information regarding the servicing of the subject property;
- Present servicing options explored while determining the recommended servicing strategy;
- Provide sufficient detail to demonstrate that development of the subject property will be adequately supported by municipal services;
- Define the course of subsequent detailed design, review, and acceptance of the proposed municipal services;
- Demonstrate how the proposed municipal services will conform with current Ministry of the Environment, Conservation and Parks (MECP) servicing design criteria and other applicable agency guidelines; and,
- Demonstrate good engineering practice for the protection of public safety, the environment, and sustainable operation.

1.3 Environmental Assessment Act

Per Ontario Regulation 345/93: Designation and Exemption Private Sector Developers under Environmental Assessment Act, works undertaken by private sector developers are exempt from the Environmental Assessment Act unless they are:

- Schedule C projects (e.g. new wastewater treatment plant, stormwater pond w. biological treatment, new well, etc.); and
- Providing the project for the residents of a municipality for roads, water or wastewater.

All works proposed as part of this MIR are to be undertaken by a private sector and are Schedule A or B projects as follows:

- Proposed Modified Etobicoke Filtration System – Schedule B;

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- Proposed Sewers – Schedule A; and
- Proposed Roads – Schedule A

As such, the works described in this report are exempt from the requirements of the Environmental Assessment Act.

1.4 Development Plan

The proposed development concept is shown in ***Figure 2***. The subdivision consists of a mix of single detached homes, townhomes, park blocks, open space and a road network.

Table 1 summarizes the land use breakdown and predicted populations associated with the development concept.

Table 1: Development Statistics

Land Use - EAST	**Area (ha)**		**Projected Population**
Residential (Low/Medium Density)	31.7		4130
Residential (High Density)	0.44		210
Streets	18.39		
Rear Lanes	0.30		
Natural Heritage System	5.21		
Parks	4.83		
Open Space	0.39		
Jock River Open Space	23.7		
Land Use - WEST	**Area (ha)**		**Projected Population**
Residential	34.09		4052

The above statistics are used to inform the servicing design for the site.

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2.0 GUIDELINES, PREVIOUS STUDIES, AND REPORTS

2.1 Existing Studies, Guidelines, and Reports

The following studies were utilized in the preparation of this report.

Ottawa Sewer Design Guidelines,
City of Ottawa, October 2012
(City Standards)

- Technical Bulletin ISDTB-2014-01, Revisions to Ottawa Design Guidelines - Sewer
  City of Ottawa, February 5, 2014.
  (ISDTB-2014-01)
- Technical Bulletin PIEDTB-2016-01, Revisions to Ottawa Design Guidelines – Sewer
  City of Ottawa, September 6, 2016
  (PIEDTB-2016-01)
- Technical Bulletin ISTB-2018-01, Revisions to Ottawa Design Guidelines – Sewer
  City of Ottawa, March 21, 2018
  (ISTB-2018-01)
- Technical Bulletin ISTB-2018-04, Revisions to Ottawa Design Guidelines – Sewer
  City of Ottawa, June 27, 2018
  (ISTB-2018-04)
- Technical Bulletin ISTB-2019-02, Revisions to Ottawa Design Guidelines – Sewer
  City of Ottawa, July 8, 2019
  (ISTB-2019-02)

- Ottawa Design Guidelines – Water Distribution,
  City of Ottawa, July 2010
  (Water Supply Guidelines)

  - Technical Bulletin ISD-2010-2
    City of Ottawa, December 15, 2010.
    (ISDTB-2010-2)
  - Technical Bulletin ISDTB-2014-02
    City of Ottawa, May 27, 2014.
    (ISDTB-2014-02)
  - Technical Bulletin ISTB-2018-02
    City of Ottawa, March 21, 2018
    (ISTB-2018-02)

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Design Guidelines for Sewage Works,
Ministry of the Environment, Conservation and Parks, 2008.
(MECP Design Guidelines)

Stormwater Planning and Design Manual,
Ministry of the Environment, March 2003.
(SWMP Design Manual)

City of Ottawa Official Plan,
adopted by Council 2003.
(Official Plan)

City of Ottawa Secondary Plan – Former Nepean – South Nepean Urban Area – Areas 9 and Adopted by Council 2003. *(Secondary Plan)*

South Nepean Collector: Phase 2 Hydraulics Review / Assessment Technical Memorandum
Novatech, August 2015
(Novatech SNC Memo)

South Nepean Collector: Phase 2 Preliminary Design Report,
Novatech, March 2016
(Novatech SNC Design Report)

O'Keefe Drain Environmental and Stormwater Management Plan
CH2M Hill, May 2013
(CH2M Hill O'Keefe Drain EMP)

Foster Ditch Consolidated Modelling and Baseline Condition Definition for SWM Facility Design
CH2M Hill, August 2013
(CH2M Hill Foster Ditch Report)

Foster Stormwater Management Facility Environmental Study Report
CH2M Hill, October 2013
(CH2M Hill Foster SWM Facility Report)

Kennedy-Burnett Stormwater Management Facility Project File and Functional Design Report
CH2M Hill, February 2017
(CH2M Hill Kennedy-Burnett SWM Facility Report)

Kennedy-Burnett Potable Water Master Servicing Study Stantec, April 2014

Hydraulic Potable Water Assessment for Barrhaven Communities East Inc.
Stantec, March 2021
(Stantec Hydraulic Analysis)

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Jock River Reach One Subwatershed Study
Stantec, 2007
(Jock River Reach 1 SWS)

Environmental Impact Statement for Barrhaven Conservancy East
Kilgour & Associates Ltd., July 29, 2020
(Kilgour EIS)

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3.0 EXISTING CONDITIONS AND SITE CONSTRAINTS

3.1 Geotechnical Conditions

Paterson Group (Paterson) was commissioned to complete geotechnical investigations for the Barrhaven Conservancy Lands. The following reports were prepared:

- Geotechnical Investigation – Proposed Residential Development, Conservancy Lands East (Paterson Group, September 24, 2019)
- Geotechnical Investigation – Proposed Residential Development, Conservancy Lands West (Paterson Group, September 27, 2019)

The Barrhaven Conservancy Lands East consist of vacant land and are bordered by the Foster Ditch to the west, lands under development to the north and east, and the Jock River to the south. The existing ground surface across the site is relatively level with approximate ground surface elevation varying between 91 m and 92 m. The subsurface profile generally consists of an approximate 50 mm to 460 mm thick layer of topsoil underlain by a silty clay deposit. Due to the presence of a silty clay deposit, the permissible grade raise varies between 1.4 m in the northwest and 2.2 m in the southeast. Figure PG5036-2 *Permissible Grade Raise Plan* by Paterson Group is enclosed in ***Appendix B*** for reference.

The Barrhaven Conservancy Lands West consist of vacant land and is bordered by Highway 416 to the west, a railroad to the northwest, a stormwater retention pond to the northeast, the Foster Ditch to the east, vacant City Lands to the southeast, and the Jock River to the southwest. The existing ground surface across the site is relatively level with approximate ground surface elevation varying between 91 m and 92 m. The subsurface generally consists of an approximate 50 mm to 360 mm thick layer of topsoil underlain by a silty clay deposit. Due to the presence of a silty clay deposit, the permissible grade raise varies between 1.2 m to 1.8 m. Figure 5036-5 *Permissible Grade Raise Plan* by Paterson Group is enclosed in ***Appendix B*** for reference

3.2 Drainage

The subject property is relatively flat with the existing elevations ranging from 92 m in the north to 91 m in the south. The subject property gradually slopes towards the Jock River.

The subject property is within the Jock River watershed and is under the jurisdiction of the RVCA. As noted in ***Section 1.0***. The development area is outside of the Jock River 100-year limit as confirmed by the Rideau Valley Conservation Authority (RVCA). Refer to the RVCA confirmation letter in ***Appendix A***.

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The O'Keefe Municipal Drain, the Foster Ditch, and the Fraser-Clarke Watercourse all run through the subject property and convey stormwater to the Jock River.

3.2.1 Floodplain

On November 8th 2019 the RCVA gave permission to Barrhaven Conservancy Development Corporation to cut and fill on the subject property under permit RV5 44/19 pursuant to review under Section 28 of the Conservation Authorities Act, regulation 174/06. The application and approval by the RVCA was supported by a 2D HEC-RAS model prepared by JFSA. The JFSA model identified the existing and proposed 100-year water levels and permissible extent of fill placement.

The works pursuant to the above-mentioned permit were completed and accepted by the RVCA on May 31st 2020. Options to complete the fill area boundary as set by JFSA included building a structural face of fill (retaining wall) to the limits of the 100-year floodplain boundary, or, building a berm with the toe of slope at the 100-year floodplain boundary. A vertical structural face of fill was not seen as a desirable or practical outcome and a berm was thus constructed. As-builts for the top of berm were subsequently provided and approved by the RVCA, resulting in the May 31st approval noted above and the current 100-year floodplain boundary delineation. The toe of the berm as constructed corresponds to the approved JFSA 100-year floodplain line and the current top of berm corresponds to the as-built top of berm.

Barrhaven Conservancy Development Corporation is in the process of preparing a new permit application to the RVCA for the lands to permit revisions along some boundaries to accommodate the sloped berm and support the proposed development envelope, consistent with the JFSA 2D HEC-RAS model work. Once completed, all the development lands on the Draft Plan (development blocks, roads) shall be above the 100-year floodplain elevation and a new toe of berm (bottom of fill) will be established. This second cut/fill application will also permit cuts within the 100-year floodplain to create the environmental wetlands along the Jock River corridor for West and East as shown in the Environmental Impact Statement by Kilgour and Associates. ***Figure 9*** illustrates the rationale for this update.

3.3 Hydrogeology

As noted in the Jock River Reach 1 SWS, the hydrogeologic conditions have been well documented in the study limits. Previous terrain analysis and hydrogeological studies within the study limits were completed by Jacques Whitford Limited (JWL) and Golder Associates Limited (Golder) and Paterson Group (Paterson).

Based on Figure 3.4.1 of the Jock River Reach 1 SWS, the surficial soils for Barrhaven Conservancy are determined to be silty clay with underlying bedrock ranging from 80.0 m to 85.0 m below original ground. As shown on Figure 3.4.3, the *Interpreted Groundwater Flow Direction* is southerly across the Barrhaven Conservancy lands,

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towards the Jock River. Figures 3.4.1, 3.4.2 and 3.4.3 are provided in ***Appendix B*** for reference.

3.4 Environmental Features / Natural Heritage

Kilgour & Associates Limited completed an Environmental Impact Statement for the Barrhaven Conservancy East Development dated July 29, 2020 *(Kilgour EIS)*. The purpose of the *Kilgour EIS* is to review the overall development concept for the site from a natural heritage perspective; however, as a result of pre-consultation with the City of Ottawa and RVCA, the report is more comprehensive than a typical EIS, with information and analysis that is consistent with an Environmental Management Plan (EMP). The *Kilgour EIS* was prepared for the Barrhaven Conservancy Lands East, which are situated within the larger Barrhaven Conservancy Community, bordered by the Jock River to the south, Foster Ditch to the west, and the Fraser-Clarke Watercourse to the east. An EIS will be required for the Barrhaven Conservancy Lands West when development is proposed, to determine appropriate impact assessment and mitigation. It is noted in the *Kilgour EIS* that the report is intended to determine potential impacts of proposed site development on existing natural heritage features, provide mitigation and/or design considerations to protect those elements, and highlight relevant regulations as detailed planning proceeds to allow the developer to remain compliant. Figure 3 – Current Existing Conditions from the *Kilgour EIS* is enclosed in ***Appendix C*** for reference.

3.4.1 Surface Water Features and Fish Habitat

As noted in the *Kilgour EIS,* the Jock River flows from west to east along the southern boundary of the Barrhaven Conservancy Community for approximately 3 km to its confluence with the Rideau River and the site is entirely within Reach 1 of the Jock River Subwatershed. The Jock River is classified as a warm/warm-cool water system that is home to fish habitat, as detailed in the *Kilgour EIS*.

As described in the *Kilgour EIS*, lands between 80 m and 400 m wide, adjacent to the Jock River, will be established as a Jock River open space corridor. The open space corridor will include the development of both wetland and forest cover, designed to protect or enhance aquatic life and fish habitat. The wetland facilities will receive water inputs from stormwater quality treatment units, as discussed in ***Section 6.2***. Figure 5 – Conceptual Plan for the Jock River Riparian Corridor from the *Kilgour EIS* is enclosed in ***Appendix C*** for reference.

As noted in the *Kilgour EIS,* one municipal drain and two decommissioned municipal drains occur in the overall Barrhaven Conservancy Community and flow to the Jock River: the Foster Ditch, the Fraser-Clarke Watercourse, and the O'Keefe Drain. The Foster Ditch and the Fraser-Clarke Watercourse occur within the Barrhaven Conservancy East Lands. The O'Keefe Drain is located in the Barrhaven Conservancy

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West Lands and will be detailed in a future EIS when those lands proceed to development.

The Foster Ditch flows approximately 800 m through the site from an existing stormwater management pond to the Jock River. The Fraser-Clarke Watercourse is a former municipal drain that was decommissioned by the City of Ottawa. The O'Keefe Drain is a municipal drain, with approximately 770 m in length abutting the western border of the Barrhaven Conservancy Lands East. The watercourses through the proposed community will be retained and protected with 30 m setbacks from their normal high-water marks. The corridors will be revegetated and re-naturalized as part of the detailed design phase of the proposed development. Existing roadside ditches will be maintained but do not require setbacks.

The *Kilgour EIS* has noted that there are no predicted negative impacts to surface water features during site development given application of conventional construction-phase mitigations.

3.4.2 Trees / Significant Woodlands

The *Kilgour EIS* has noted that the site was historically agricultural lands with treed hedgerows between fields, a tree buffer along the southern boundary of the property, and some areas of regenerating scrubland in the south west. Most of the hedgerows have been removed. The *Kilgour EIS* notes that the narrow band of trees occurring directly along the banks of the Jock River, the Foster Ditch and the Fraser-Clarke Watercourse have been fully retained. No Provincially Significant Wetlands, wetlands found in association with Significant Woodlands, Significant Valley Lands, or Areas of Natural and Scientific Interest occur on or adjacent to the site. Other than the trees along the watercourses, the site currently consists of bare, flat soil, though the soil has been seeded with a grass mix to provide erosion control.

The *Kilgour EIS* has noted that there are few trees currently remaining on site, none anticipated to be impacted by development, and no unique treed habitats or tree species are present. Trees along the two watercourses were retained within the 30 m buffer surrounding them, as shown on Figure 3 – Current Existing Conditions from the *Kilgour EIS*, enclosed in ***Appendix C*** for reference. Further, riparian forest areas along the Jock River remain intact and are unlikely to be impacted by the project given conventional construction-phase mitigations.

3.4.3 Wildlife / Species at Risk

The *Kilgour EIS* has identified species at risk (SAR) with some potential to occur near, or to otherwise interact with the proposed development project (Bank Swallow, Northern Map Turtle, Snapping Turtle, and Blanding's Turtle); however, can be mitigated through appropriate and conventional mitigations. It is further noted that the proposed project is

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not expected to impact species at risk and the restored open space corridor has the potential to provide some additional new habitat for turtle species.

The *Kilgour EIS* notes that the site is unlikely to support wildlife. Amphibian habitats occur in the Foster Ditch and Fraser-Clarke Watercourse, which will remain within a 30 m protected corridor. Migratory birds have limited potential to occur and nest on the site. Wildlife species common to the area may continue to use or cross the site and the riparian forest along the Jock River functions as a wildlife corridor and will remain in place during and after site development. The implementation of suitable mitigation measure will minimize the risk resulting in no impact to amphibians, migratory birds and wildlife.

3.5 Existing Land Use and Adjacent Land Uses

Under existing conditions, the majority of the subject property is vacant.

For the Barrhaven Conservancy Lands West, City owned lands and a rail corridor is to the north, Highway 416 is to the west and City owned open space and the Jock River are to the south.

For the Barrhaven Conservancy Lands East, the Jock River is to the south, existing development is to the east and development underway is to the north.

Due to the proximity to existing residential developments, there are services adjacent to the proposed development area. In addition to water servicing, wastewater servicing and storm servicing, there will also be access to utility servicing. It is expected that Hydro, telecommunications, and natural gas servicing will be easily accessible.

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4.0 WATER SUPPLY SERVICING

4.1 Existing Water Supply Services

The subject property is located adjacent to the City of Ottawa's Pressure Zone 3SW (previously known as Pressure Zone BARR). Pressure Zone SUC services the land found to the east of the subject property, as well as south of the Jock River.

The City of Ottawa has recently started reconfiguring the pressure zones servicing Barrhaven and the South Urban Community (SUC) in order to improve reliability and efficiency and to increase pumping capacity to accommodate for future growth in the area.

The populations and demands attributed to the Barrhaven Conservancy Lands have not been included in the recent City of Ottawa reconfiguration works.

The Fallowfield Road Pumping Station (FRPS), previously known as Barrhaven Reservoir Pumping Station and Barrhaven Pumping Station (BPS), will continue to service Zone 3SW. The new FRPS is commissioned and in operation while the BPS is currently undergoing pumping tests on the newly installed pumps as part of its commissioning process.

The BPS is changing from a single zone station to a dual zone pump station and will operate in conjunction with the Ottawa South Pumping Station (OSPS) to service the newly expanded Zone SUC. It will also continue to service the smaller / reduced Zone 3SW with one of its pumps. The OSPS is currently undergoing detailed design for its upgrade.

Future watermains in the vicinity of the subject property have been identified at the following locations, as shown on ***Figure 3***.

- 400 mm 3SW watermain trunk within Strandherd Drive ROW;
- 300 mm 3SW watermain within the future Chapman Mills Drive extension;
- 600 mm SUC watermain trunk within the future Greenbank Road realignment;
- 300 mm SUC watermain within a future local road to the east of Greenbank Road; and,
- 300 mm SUC watermains within the future road network in new developments south of the Jock River.

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4.2 Water Supply Servicing Design

Stantec Consulting Limited was retained to perform a hydraulic assessment for the Barrhaven Conservancy Lands. The ***Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation (Stantec Hydraulic Analysis)*** prepared by Stantec on March 2021 is enclosed in ***Appendix D*** for reference. This report is prepared for both the Conservancy East Phase 2 (east of the Foster Ditch) and Conservancy West (west of the Foster Ditch) and is referred to overall as the Barrhaven Conservancy Lands.

Adequacy of sizing of the trunk watermain infrastructure was considered in the ***Stantec Hydraulic Analysis***. The subject property was deemed serviceable and offered multiple servicing alternatives that could adequately service the subject property conforming to all relevant City and MECP Guidelines and Policies.

4.2.1 Water Supply Servicing Alternatives

To supply water to the entirety of the subject property, a local watermain network will follow the road network and ultimately connect to off-site trunk watermains based on one of the following alternatives, presented in the ***Stantec Hydraulic Analysis***:

<u>Alternative 1 – Servicing from Zone 3SW</u>

As shown on Figure 1 of the ***Stantec Hydraulic Analysis***, Alternative 1 is to connect at two locations to Kennedy-Burnett watermains that are fed by the future 3SW watermain trunk within Strandherd Drive.

Based on the *Kennedy-Burnett Potable Water Master Servicing Study (Stantec, 2014)*, it is likely that the Barrhaven Conservancy Lands would experience pressures greater than the City of Ottawa's objective pressure of 80 psi during basic day demands if operating at the Zone 3SW pressure. Pressure mitigation measures such as pressure reducing valves (PRVs) at individual service connections would need to be considered.

Pumping capacity upgrades at the FRPS and/or BPS would be required to service the Barrhaven Conservancy Lands from Zone 3SW on a permanent basis. Another alternative would be to service the initial phase of development (refer to Figure 1 of the ***Stantec Hydraulic Analysis*** for the boundary line) from Zone 3SW on a temporary basis, to be switched to Zone SUC at a later time. Although technically feasible, this alternative essentially borrows capacity from existing approved areas within Zone 3SW until such time that the borrowed capacity is replaced through system upgrades. Through informal discussions, the City has indicated that this is not a desirable option and is disregarded.

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Alternative 2 – Servicing from Zone SUC

Alternative 2 is to connect at two locations to Zone SUC. Figures 2, 3, 4 and 5 of the ***Stantec Hydraulic Analysis*** present the connections presented in Alternatives 2a, 2b, 2c and 2d, respectively.

Based on the *Barrhaven South Urban Expansion Area Master Servicing Study (Stantec, 2017),* it is likely that the Barrhaven Conservancy Lands can anticipate maximum pressures greater than 75 psi and potentially be greater than 80 psi during basic day demands if operating at Zone SUC pressure. If they were to exceed 80 psi, PRVs would need to be considered.

Alternatives 2a and 2b propose the primary feed to be a new SUC watermain running parallel to the Strandherd watermain, connecting to the Kennedy-Burnett (KB) watermains. These options are now not desirable due to the advancement of the Strandherd Road widening project.

Alternative 2c proposed both the primary and secondary feed from the NTC as shown on Figure 4 of the ***Stantec Hydraulic Analysis*** to service the first stages of development in the Barrhaven Conservancy Lands. One connection is through the future Chapman Mills Drive (CMD) and one is through the future Claridge development southeast of the Kennedy-Burnett Pond. Servicing these lands with a 300 mm diameter watermain from CMD and a 200mm diameter from Claridge's development is possible; however, ultimate optimization of sizing would have to be completed at a later phase. This option also presents challenges due to limited land access or crossing at a body of water.

Alternative 3 – Servicing from Zone SUC with an Automated Valve from Zone 3SW

Alternative 3 is to service the Barrhaven Conservancy Lands by a new Zone SUC watermain running parallel to the Strandherd Drive watermain and a secondary feed from Zone 3SW for emergency conditions. This alternative proposes a secondary feed from Zone 3SW via an automated valve off the future Strandherd Drive watermain, as shown on Figure 5 of the ***Stantec Hydraulic Analysis***. With this design, water would flow from the high-pressure Zone 3SW to the low-pressure Zone SUC if there is a pressure drop on the Zone SUC side of the valve. This alternative requires an inter-zonal valve connection that is not typically used or accepted in the City of Ottawa and would present both operational challenges and costs to operate and maintain. This would also require installation of an additional separate watermain along Strandherd Drive so is therefore not feasible at this time as noted previously.

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Recommended Alternative:

Refer to Table 5: Potable Water Servicing Alternatives & Limitations of the ***Stantec Hydraulic Analysis*** for a summary of the alternatives. Prior coordination with City staff (and further discussion at a February 11, 2021 meeting) has indicated that an acceptable approach would be for service to be provided from the recently reconfigured South Urban Community (SUC) pressure zone (identified as Alternative '2C' in the ***Stantec Hydraulic Analysis***). The water supply network will be expanded through neighboring properties within the PZ SUC Nepean Town Centre (NTC) development area (i.e. Claridge's "Burnett Lands" development at 3370 Greenbank Road – a current General Plan of services is provided in ***Appendix D*** for reference) with ultimate watermain concepts in line with the prior Stantec study completed titled *"Kennedy-Burnett Potable Water Master Servicing Study (April 2014)"* (excerpt provided in ***Appendix D***). Preliminary coordination with landowners has been undertaken in order to ensure appropriate watermain sizes will be available when those developments are advanced. At the time of detailed design, detailed hydraulic modelling will be undertaken to verify that the proposed on-site and off-site watermains are in conformance with all relevant criteria.

The proposed water servicing layout is presented on ***Drawing 2***. As detailed designs progress, timing, alignment, and sizing of local watermains will be confirmed. The subdivision's local watermain network will be sized to meet maximum hour and maximum day plus fire flow demands, with consideration given to proposed phasing plans. ***Table 2*** summarizes the Water Supply Design Criteria employed in the preparation of the preliminary water demand estimate

Table 2: Water Supply Design Criteria

Design Parameter	Value
Extracted from Section 4: Ottawa Design Guidelines, Water Distribution (July 2010)	
Residential - Single Family	3.4 p/unit
Residential – Townhome/ Semi	2.7 p/unit
Residential – High Density	2.1 p/unit
Minimum Watermain Size	150 mm diameter
Minimum Depth of Cover	2.4 m from top to finished grade
Normal operating conditions desired operating pressure is within	350kPa and 480kPa
During fire flow operating pressure must not drop below	140kPa
Stantec Hydraulic Analysis, Stantec, July 20, 2017 for Population Exceeding 3000 Persons	
Residential – Detached Single	180 L/cap/day
Residential – Rear Lane Town	198 L/cap/day
Residential – Back-to-Back	198 L/cap/day
Residential – High Density	219 L/cap/day
Outdoor Water Demand	1049 L/unit/day (single detached)
Basic Day	Population x Demand
Max Day	Basic Day + Outdoor Demand

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4.2.2 Fire Flow Demand

Fire Flow requirements are to be confirmed in accordance with Local Guidelines (Fire Underwriters Survey), City of Ottawa Water Supply Guidelines, and the Ontario Building Code, upon development of detailed concepts for the detached single homes, townhouses, and the park. For planning purposes, fire flow estimates are provided in the preliminary water demand estimate (***Appendix D*** and ***Table 3***) based on the information available in the preliminary concept plan and comparable recent developments in the City of Ottawa.

4.2.3 Boundary Conditions

To support the future development of a hydraulic analysis for the subdivision, boundary conditions are expected to be provided by the City of Ottawa for the preliminary water demands.

4.2.4 Water Demand Calculations

A summary of water demands for the subject site is presented in ***Table 3*** as derived from the criteria above and the Stantec Hydraulic Analysis found in ***Appendix D***.

Table 3: Water Demand Estimate (1)

	Unit Count			Pop	L/c/d	BSDY (MLD)	MXDY (MLD)
	Conservancy East	Conservancy West	Total				
Single Family	730	775	1,505	5,117	180	0.92	2.50
Townhouse	445	525	970	2,619	198	0.52	0.52
Rear-Lane Townhouse	165	-	165	446	198	0.09	0.09
High Density	100	-	100	210	219	0.05	0.05
Total	***1,440***	***1,300***	***2,740***	***8,392***		***1.58***	***3.16***

Notes: (1) Water demand details derived from Stantec Hydraulic Analysis. See Appendix D for report details.

4.3 Water Supply Conclusion

Stantec was retained to evaluate water servicing options for the subject lands. Through analysis and consultation, it was determined that the preferred option is to connect through the Nepean Town Centre development area to Zone SUC, which has recently been upgraded. The watermains are recommended to extend along the future Chapman Mills Drive extension and through the Claridge “Burnett Lands” development area. Detailed modelling at the designed design stage will confirm phasing of the extensions of trunk watermains and sizing of the local watermain network. The proposed water design supply will conform to all relevant City and MECP Guidelines and Policies.

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5.0 WASTEWATER SERVICING

5.1 Existing Wastewater Services

Per the ***South Nepean Collector (SNC) Wastewater Servicing Study and Functional Design Report*** by Dillon in October 2003 ***(Dillon SNC Report)***, the subject property is tributary to the South Nepean Collector (SNC) sewer as urban development land.

The SNC (previously called the Jock River Collector) sewer operates north of the subject property within Strandherd Drive prior to travelling south down Chapman Mills Drive (CMD) and then turns eastward within the future CMD right-of-way (ROW).

The SNC was designed to be constructed in three phases. Phase 1 of the SNC was completed in 2005, terminating at a 2400 mm maintenance hole located east of Longfields Drive, north of Bren-Maur Road. Phase 2 was recently extended to Strandherd Drive via the proposed extension of Chapman Mills Drive from its previous termination. Phase 3 will extend the trunk sewer along Strandherd Drive to the intersection of Maravista Drive. The wastewater is ultimately conveyed to the intersection of Jockvale Road and Longfields Drive where it then passes underneath the Jock River.

The ***South Nepean Collector Phase 2: Hydraulics Review / Assessment*** memo was prepared by Novatech Engineering Consultants on August 20, 2015 ***(Novatech SNC Memo)*** to provide an update to the sanitary design flows for Phase 2 of the South Nepean Collector, as previously documented in the ***South Nepean Collector (SNC) – Functional Design Report and Update*** by Dillon in 2012 ***(Dillon SNC Report and Update)***. In addition, Novatech is also currently the engineer of record for the design and implementation of the Phase 3 extension of the SNC, noted above.

The location of the SNC sewer is shown on ***Figure 4.***

5.2 South Nepean Collector Phase 3 – Preliminary Design

The 2015 ***Novatech SNC Memo*** contemplated that the Conservancy Phase 1 development area (north of the Fraser-Clarke Watercourse) would be serviced by the 900 mm diameter SNC sewer running adjacent to the property within the future extension of CMD. This is represented by area “A6-E” within the “*Sanitary Drainage Areas and Land Use – Fig.1”* plan within the 2015 Novatech memo (note that the actual tributary area and population varied slightly).

For the Phase 3 extension of the SNC, Novatech has prepared another review of sanitary flows within their technical memorandum titled “***Strandherd Drive Widening Project***, ***South Nepean Collector Phase 3: Sanitary Flow Calculations***” May 30, 2019 ***(2019 Novatech SNC Memo).*** The memorandum along with the design sheet

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calculations from the Novatech memo are provided in ***Appendix E*** for reference along with DSEL annotations on key items in the figure and design sheets. The updated "*Sanitary Drainage Areas and Land Use – Fig.1" (May 2019)* plan is essentially reflective of the same tributary information that was provided in the 2015 study (the plan has been marked up to reflect the Conservancy areas as a frame of reference). The associated design sheet also reflects updated City wastewater design criteria that was not accounted for in the 2015 study and is discussed further in the following section.

Report excerpts are provided in ***Appendix E*** for the SNC Phase 2 analysis as well as draft information associated with the Phase 3 extension.

The location of the SNC sewer is shown on ***Figure 4*** in ***Figures***.

5.3 Wastewater Design

The subject property is planned to be serviced by an internal gravity sanitary sewer system that is to generally follow the local road network, with select servicing easements identified to achieve efficiencies in servicing and grading designs. The wastewater servicing plan can be seen in ***Drawing 4***. As detailed designs progress, alignment and sizing of local sanitary sewers will be confirmed and additional servicing easements may be required, which may trigger minor amendments to the proposed fabric in the concept plan.

The ***Novatech SNC Memo*** contemplated that portions of the subject property would be serviced by the 900 mm diameter SNC sewer, running adjacent to the property within Strandherd Drive and the future extension of Chapman Mills. This ***Master Infrastructure Review*** proposes that the drainage area of the SNC sanitary sewer be expanded to include the entirety of the subject property.

Table 4 presents the wastewater design criteria applied in the design of this site.

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Table 4: Wastewater Design Criteria

Design Parameter	Value
Current Design Guidelines	
Residential - Single Family	3.4 p/unit
Residential – Townhome/ Semi	2.7 p/unit
Residential – Apartment	1.8 p/unit
Average Daily Demand	350 L/d/per
Peaking Factor	Harmon's Peaking Factor. Max 4.0, Min 2.0
Commercial / Institutional Flows	50,000 L/ha/day
Commercial / Institutional Peak Factor	1.5
Infiltration and Inflow Allowance	0.28 L/s/ha
Park Flows	28,000 L/ha/d
Park Peaking Factor	1.0
Sanitary sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} AR^{2/3} S^{1/2}$
Minimum Sewer Size	200mm diameter
Minimum Manning's 'n'	0.013
Minimum Depth of Cover	2.5m from crown of sewer to grade
Minimum Full Flowing Velocity	0.6m/s
Maximum Full Flowing Velocity	3.0m/s
Extracted from Sections 4 and 6 of the City of Ottawa Sewer Design Guidelines, October 2012, and recent residential subdivisions in City of Ottawa.	
Operational Parameters on Monitoring Data ***(Example Only, Values to be Reviewed on Case-by-Case Basis with City of Ottawa)***	
Average Daily Demand	300 L/d/per
Harmon – Correction Factor	0.4 to 0.6
Institutional / Industrial Flows	10,000 L/ha/day
Commercial Flows	17,000 L/ha/day
Commercial / Institutional Peak Factor	1 (non-coincident peak)
Extracted from Sections 4 and 6 of the City of Ottawa Sewer Design Guidelines, October 2012, and recent residential subdivisions in City of Ottawa.	

5.3.1 Wastewater Design Servicing Alternatives

Alternative 1 – Connect to existing Ph 2 South Nepean Collector at Chapman Mills Drive

A total area of 107.81 ha is proposed to drain into the SNC trunk sewer from the subject property, including the Conservancy East lands and the Conservancy West lands. The sanitary drainage area information is shown in ***Drawing 4*** and the design sheets are enclosed in ***Appendix E.***

Applying the City of Ottawa's wastewater design criteria to the overall development concept, the estimated peak sanitary flow from the subject property, including external flows, is ~106.58 L/s. The proposed internal gravity sanitary trunk sewer adequately services the subject property and does not exceed 82% capacity throughout the network.

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The proposed peak sanitary flow from the subject property (including Conservancy East and Conservancy West) to the existing SNC sanitary sewer (SANMH 8 in Novatech Drawing No. 20) is ~106.58 L/s. The addition of the Conservancy Land's peak flow to the peak design flows from the ***2019 Novatech SNC Memo*** results in an updated peak flow of 399.65 L/s to SNC sewer installations downstream of existing SANMH 8. With the inclusion of the subject property, the SNC sanitary sewer along the Conservancy Phase 1 frontage would be at approximately 95% capacity and downstream sections (based on SNC as-built information which had a minimum slope of 0.05%) and can adequately handle the entirety of the Conservancy property's proposed sanitary flows.

When reviewing the projected flows to the SNC, as derived from the *Novatech Phase 2 and Phase 3* SNC data, along with Conservancy Lands design flows, the following is summarized:

Table 5: South Nepean Collector – Projected Flow Updates

Report Reference	Projected Flows at Strandherd/CMD intersection (L/s)	Flow at Conservancy Lands Connection Point (L/s)	Difference From Original 2015 SNC Capacity Design (L/s)
2015 Novatech SNC Memo	384.7(1)	423.6	0
2019 Novatech Preliminary Phase 3 Design	282.5(2)	308.6(3)	-115
DSEL inclusion of Conservancy Lands tributary of ~107.81ha	282.5	399.65(4)	-23.95

(1) See annotated Novatech design sheet "South Nepean Collector – Phase 2 & 3" (August 2015) in Appendix C and associated "Sanitary Drainage Areas and Land Use" Figure 1 dated August 2015.
(2) See annotated Novatech design sheet "South Nepean Collection Phase 3" (September 2019) in Appendix C and associated "Sanitary Drainage Areas and Land Use" Figure 1 dated May 2019
(3) Incorporating the new Phase 3 flows into the 2015 Novatech analysis
(4) See DSEL sanitary flow spreadsheet review of Novatech's SNC Phase 2 and 3 design sheet data.

The above table demonstrates that with the updates to the SNC design parameters and incorporation of the Conservancy Lands sanitary flows there is a net reduction of 23.95 L/s to the SNC sewer at this location. As such this translates into no impacts downstream of this connection point to the SNC sewer network.

Alternative 2 – Connect to existing Phase 3 South Nepean Collector at Strandherd Dr.

In this alternative, the wastewater servicing design reviewed a connection into the off-site SNC sanitary sewer within Strandherd Drive at Borrisokane Road. The sanitary sewer is shown on the *Strandherd Drive Widening – Maravista Drive to Jockvale Road - Grading & Drainage 7, Strandherd Drive STA 12+200 to STA 12+500 Drawing No. 59,*

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Rev 1 (Issued for Construction) dated 26/06/20, provided in ***Appendix E*** for reference (City contract number CP000217)

Although the capacity for the Conservancy Lands within the system can be confirmed, there are some issues with connecting to this upstream location. The invert in the proposed SNC sanitary sewer at Borrisokane Road is at 87.75 m, which is approximately 1.25 m higher than the invert proposed in Alternative 1. If the sanitary connection was made at this location, the proposed sanitary within the Conservancy Lands would not work with the grading. Due to the grade raise restrictions across the site, it is not feasible to raise the site further to accommodate this sanitary connection.

Alternative 3 – Connect to future Phase 3 SNC at McKenna-Casey Drive

Sanitary servicing for the Conservancy West development area was reviewed for potential conveyance to the future alignment of the SNC at Strandherd Drive where it crosses the present McKenna Casey Drive. The proposed SNC sanitary sewer is shown on the *Strandherd Drive Widening – Maravista Drive to Jockvale Road - Grading & Drainage 5, Strandherd Drive STA 11+625 to STA 11+900 Drawing No. 56, Rev 1 (Issued for Construction) dated 26/06/20*, provided in ***Appendix E*** for reference (City contract number CP000217). At SNC manhole "SA14" the 750mm diameter sewer obvert is 89.14m. By analyzing a minimal sewer slope of 0.15% back into the site (which in reality would likely need to be steeper at the upstream ends as the pipe size would likely be too small to achieve minimum velocities), the result is only having approximately 1.1m of sewer cover on the sanitary at the low points based on preliminary grading design. This would require lifting the roadway low points around +/- 1.9m to set the sanitary below the storm sewers to provide sufficient room for crossings and connections, which would increase the grade raise exceedances (permissible ranging from 1.2 to 1.8m) in this area significantly.

Diversion of a portion of flows eastward through Conservancy East (without a pump station) is constrained by a conflict with the invert of the existing Foster Ditch.

Recommended Alternative

Alternative 1 is recommended, which has the lower and further downstream connection to the SNC sanitary sewer at future CMD at existing manhole '*SANMH 8*'. This connection is recommended as it will not lead to the requirement to lift the grades on the grade raise restricted site. Capacity in the SNC sanitary sewer has been confirmed.

The design of the gravity sewers for the Conservancy East area does not have any exceptional requirements up to the boundary of the Foster Ditch which is the westernmost limit of the East draft plan; however, the Foster Ditch does impart a constraint due to the bottom elevation of the watercourse. This constraint will necessitate the inclusion of a pump station, west of the Foster Ditch, in order to provide sanitary service upstream. The pump station overflow will connect to the downstream

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sewer. The upstream sanitary HGL will be controlled by the pump station failure which is controlled by the downstream HGL. The pump station information is schematic only and more detailed parameters will be available at the time of advancement of the draft plan for those Conservancy West lands that are west of the Foster Ditch.

The preliminary sanitary servicing design, along with a conceptual location of the pump station is shown on ***Drawing 2 & 4*** in ***Drawings***. The preliminary sanitary and storm trunk profiles are shown on ***Drawing 5*** and ***Drawing 6*** in ***Drawings***.

5.4 Wastewater Servicing Conclusion

The subject property will be serviced by local sanitary sewers, an on-site trunk sanitary sewer and the off-site existing SNC sanitary sewer as defined in previous reports. This MIR proposes the expansion of the drainage areas from the *South Nepean Collector: Phase 2 Hydraulics Review / Assessment Technical Memorandum* (Novatech, August 2015), to include the entirety of the subject property. Residual capacity exists downstream in the SNC after the addition of the subject property's wastewater flows to the SNC sanitary sewer, therefore the proposed servicing does not have a negative impact on neighboring landowners.

Three alternatives were considered as it relates to connections to the SNC sanitary sewer, with the recommended alternative being at the existing SNC *SANMH 8* at the future CMD extension adjacent to Conservancy Phase 1. This alternative was chosen as the inverts are lower providing a better grading strategy for the grade raise restricted Conservancy Lands.

There is a requirement for a sanitary pump station to be incorporated into the design for lands west of the Foster Ditch due to the constraint imposed by the invert elevation of the watercourse. The upstream HGL will be controlled by the pump station failure which is controlled by the downstream HGL.

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6.0 STORMWATER CONVEYANCE

6.1 Existing Stormwater Drainage

The subject lands are within the Jock River Subwatershed. The existing drainage features and patterns are illustrated on ***Figure 5***. Per the existing topography characterized in available City of Ottawa base mapping, all flows from the subject property are ultimately conveyed to the Jock River by a series of watercourses. The O'Keefe Municipal Drain, the Foster Ditch (former Municipal Drain), the Fraser-Clarke Watercourse (former Municipal Drain) and the Borrisokane roadside ditches all run through the subject property and convey stormwater to the Jock River. ***Section 6.1.1*** of this report provides a summary of background information from the Jock River Reach 1 Subwatershed Study (Stantec, June 2007) as it relates to the subject site. As ***Section 6.1.1*** is based on a summary of historical information and documentation, the Fraser-Clarke Watercourse and Foster Ditch are referred to as a Municipal Drains. It is noted that the Fraser-Clarke Watercourse and Foster Ditch did previously have status as Municipal Drains under the provincial *Drainage Act* but the drains were officially abandoned, pursuant to Section 84 of the *Act*, at the request of the landowner(s). Additional information regarding the meander belt for the Jock River and municipal drains and ditches that cross the subject site is contained in ***Section 6.1.2***.

6.1.1 Jock River Reach 1 Subwatershed

The following information provides a background summary from the Jock River Subwatershed Study (Stantec, June 2007) focusing on the subject site. The Jock River Reach 1 Subwatershed study also covered the Barrhaven South Community, south of the Jock River; however, that area was subject to its own Community Design Plan (CDP) and Master Servicing Study (MSS).

In January 2005, the Jock River Reach 1 Subwatershed Study was initiated to identify the existing environmental condition of the river and associated natural resources and to recommend strategies for the management of the natural environment in order to address growing development pressure in Barrhaven and the surrounding area.

The subwatershed is approximately 2300 hectares and when the study was completed in June 2007, approximately 1070 ha (47%) was developed. The Jock River Reach 1 subwatershed study provides the environmental and conceptual stormwater management requirements for the Barrhaven South community and the undeveloped urban lands north of the Jock River. The undeveloped urban lands north of the Jock River are the Barrhaven Conservancy Lands.

The existing natural resources within the subwatershed were identified and assessed to determine significant features and functions within the study area. The main tributaries noted within the Barrhaven Conservancy Lands are the O'Keefe Drain, Foster Ditch and

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Fraser-Clarke Watercourse. The O'Keefe Drain is a Municipal Drain. All the tributaries to the Jock River support fisheries and are considered fish habitat.

The holistic understanding of the health and state of the subwatershed's ecosystem led to the preparation of the preferred management strategy for the areas north and south of the Jock River. The Jock River Reach 1 management strategy consisted of three main components: Conceptual Stormwater Management Plan, Natural Environment Plan and Conceptual Fish Habitat Compensation Plan.

Stormwater Management Design Criteria

The following criteria were established for all future stormwater management facilities within Reach 1, applicable to the subject site:

Jock River:

- No quantity control storage required for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River.
- No erosion control storage required to maintain the pre-development in-stream erosion condition.
- Quality control volume as per the Ministry of the Environment, Conservation and Parks Enhanced Treatment (80% TSS removal), following the integrated SWM approach recommended in the Lower Rideau Watershed Strategy.

North of the Jock River:

- Quantity control storage as required to meet constraints within existing channels and/or at existing crossings (quantity control/level of control requirements to be determined through future detailed study).
- Erosion control storage as required to maintain stability and geomorphic function of the existing tributaries, as determined through further detailed study.
- Quality control storage as per the Ministry of the Environment, Conservation and Parks Enhanced Treatment (80% TSS removal).
- All stormwater management facility outlets will be designed to augment low flows to the extent possible.

6.1.1.1 Existing Conditions Summary

It is noted in the Jock River Reach 1 SWS that the area was the subject of numerous studies over many years as it was long identified for urban development. Prior to development, the subject site was primarily cropped land and wide shallow floodplain.

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6.1.1.1.1 Geology and Hydrogeology

As noted in the Jock River Reach 1 SWS, the geologic and hydrogeologic conditions have been well documented in the study limits. Previous terrain analysis and hydrogeological studies within the study limits were completed by Jacques Whitford Limited (JWL) and Golder Associates Limited (Golder) and Paterson Group (Paterson).

Based on Figure 3.4.1 of the Jock River Reach 1 SWS, the surficial soils for Barrhaven Conservancy are determined to be silty clay. Based on Figure 3.4.2 of the Jock River Reach 1 SWS, the underlying bedrock ranges from 80.0 m to 85.0 m. As shown on Figure 3.4.3, the Interpreted Groundwater Flow Direction is southerly across the Barrhaven Conservancy, toward the Jock River. Figures 3.4.1, 3.4.2 and 3.4.3 from the Jock River Subwatershed Study are enclosed in ***Appendix F***.

6.1.1.1.2 Geomorphology

Reach Delineation

Parish Geomorphic Ltd evaluated the Jock River Reach 1 from a fluvial geomorphology perspective, dividing it into four distinct reaches. The reaches were delineated based on the changes in channel sinuosity, augmented by geological, topographical and land use information. The Barrhaven Conservancy lands are adjacent to Reach JR-3 and Reach JR-4, as identified on Figure 3.5.1 in the Jock River Reach 1 SWS, enclosed in ***Appendix F***. These upstream reaches flow through a well-established riparian zone, consisting of a scrubland and deciduous forest. They are controlled by underlying clay material and bedrock of low relief so that the valley is unconfined.

The following provides a summary of the two reaches adjacent to Barrhaven Conservancy, from the Jock River Reach 1 SWS.

- Reach JR-3 is located between Cedarview and the meander bend of Half Moon Bay (in the Jock River). The reach was characterized by deep, turbid, slow moving water and low sinuosity. The relief contrasts strongly with the lower reaches due to a transition from glacial till deposits to clay and exposed bedrock. This results in an unconfined valley floodplain. Approximate bankfull width is 70 – 110 m. Reach JR-3 does not demonstrate significant evidence of geomorphic instability.

- Reach JR-4 is between Highway 416 and Cedarview Road and ranges from 70 - 120 m wide, with still, turbid water and moderate sinuosity. In stream vegetation is abundant. Reach JR-4 does not demonstrate significant evidence of geomorphic instability.

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Meander Belt Widths

The meander pattern for the reaches is divided in two. JR-3 and JR-4 consist of similar-shaped, low amplitude meanders. Meander belt quantification is used to identify and appropriate corridor that indicates the maximum lateral extent of the channel. Delineation of these corridors can then be used to implement specific developmental constraints at the planning level in order to avoid future remediation measures associated with channel erosion.

The following preliminary meander belt widths are determined to be conservative. For the upper reaches, JR-3 has a preliminary meander belt width of 198 m (218 m with a 10% buffer) and JR-4 has a meander belt width of 210 m (231 m with a 10% buffer).

Tributaries North of the Jock River

The presence of drains and tributaries was noted during the field reconnaissance for the Jock River Reach 1 SWS. The more defined drains were selected for geomorphic assessment and the ones through Barrhaven Conservancy (north of the Jock River) are identified as the Foster Ditch, O'Keefe Drain and the Fraser-Clarke Watercourse.

The Foster Ditch originates south of Fallowfield Road, west of Borrisokane Road and flows south until it converges with the Jock River south of McKenna Casey Drive. The ditch is approximately 3200 m long and has been artificially straightened. The surrounding land use is agricultural. Riparian vegetation is very sparse but mostly grasses with few shrubs. Due to the unnatural alignment of the ditch, a sinuosity value and the calculation of migration rates are not applicable. Top of the valley meander belt widths for the ditch derived using empirical formula are 28.16 and 37.18 m for a discharge of 0.5 and 2.0 m^3/s, respectively.

The O'Keefe Drain is located east of and runs parallel to Highway 416. The drain extends from south of Fallowfield Road and enters the Jock River south of McKenna Casey Drive. The drain is approximately 3100 m in length and has been artificially straightened to follow the depression between agricultural lands. The predominant land use is agricultural. The riparian vegetation consists mainly of grasses and some shrubs with thicker forested patches as the reach approaches the Jock River. Due to the unnatural alignment of the drain, a sinuosity value and the calculation of migration rates are not applicable. Top of the valley meander belt widths for the drain derived using empirical formula are 24.37 and 33.39 m for a discharge of 0.5 and 2.0 m^3/s, respectively.

The Fraser-Clarke Watercourse is located east of and parallel to Highway 416 and south of Strandherd Drive. The watercourse begins east of Borrisokane Road and enters the Jock River west of Greenbank Road. It is approximately 1900 m in length. Historically the land was predominantly agricultural which remained consistent throughout the time periods observed. After 1954, urban development increased north of the drain with the development of a subdivision located north of Strandherd Drive. As

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a result, the Kennedy-Burnett stormwater ditch was added and enters the Fraser-Clarke Watercourse, approximately 300 m from its confluence with the Jock River. Riparian vegetation consists mainly of grasses with few shrubs. A slight change in riparian vegetation is evident with a forested corridor located in the upstream limits of the watercourse. The watercourse is relatively straight with a sinuosity value of approximately 1.04. Although this watercourse is relatively natural, migration rates were unable to be calculated due to the small size of the channel.

The morphological characteristics of tributaries to the north of the Jock River are presented in Table 3.5.5 of the Jock River Reach 1 SWS.

Erosion Thresholds

Erosion thresholds established based on the particle size distribution of the bed materials. The critical depth and erosion threshold for the Foster Ditch are 0.35 m and 0.79 m^3/s, respectively. The parameters for the O'Keefe Drain are 0.49 m and 1.86 m^3/s respectively.

6.1.1.1.3 Hydrology and Hydraulics

The Jock River is a tributary of the Rideau River and the watershed is mainly rural, river slopes <0.5% and with some passive flow regulation. Its 556 km^2 drainage area forms roughly 15% of the Rideau River watershed. Although the Jock River carries high flows during the spring freshet, summer flows are documented to be quite low.

A number of drains and tributaries of the Jock River exist in Reach 1 and most are small-scale channels that tend to be less defined upstream with greater definition at the confluence with the Jock River. The tributaries collect runoff from areas north and south of the river and discharge into the Jock River during rain events and spring snowmelt; however, all drains dry up during summer months with the exception of some pools of water in the drains.

The tributary channels to the north of the Jock River, which are within the Barrhaven Conservancy Lands, are as follows:

The Foster Ditch originates south of Fallowfield Road, west of Cedarview Road (now Borrisokane Road) and flows south until it converges with the Jock River South of McKenna Casey Drive. The ditch is approximately 3200 m long and has been artificially straightened. This non-municipal drain is a fish bearing tributary of the Jock River with approximately 335 ha of catchment area. The surrounding land use is urban, vacant lands. Riparian vegetation is very sparse consisting of mostly grasses with a few shrubs.

The O'Keefe Drain is located east of and runs parallel to Highway 416. The drain extends from north of Fallowfield Road, with a small drainage area to the west of Highway 416 and enters the Jock River south of McKenna Casey Drive. The drain is

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approximately 4620 m in length and had been artificially straightened to follow the depression between vacant lands. This municipal drain is a fish bearing tributary of the Jock River with approximately 531 ha of catchment area. The predominant land use of the drainage areas is agricultural. The riparian vegetation consists mainly of grasses and some shrubs with thicker forested patches as the reach approaches the Jock River.

The Fraser-Clarke Watercourse (former Drain) is located north of the Jock River, south of Strandherd Drive. The watercourse begins east of Cedarview Road (now Borrisokane Road) and enters the Jock River west of Greenbank Road. It is approximately 1900 m in length. This watercourse is a fish bearing tributary of the Jock River with approximately 90 ha of catchment area. The predominant land use of the drainage area is vacant. With the urbanization of the lands north of the watercourse, the Kennedy-Burnett stormwater ditch was added and enters the Fraser-Clarke Watercourse, approximately 300 m from its confluence with the Jock River. Riparian vegetation consists mainly of grasses with a few shrubs. A slight change in riparian vegetation is evident with a forested corridor located at the upstream limits of the drain.

RVCA Hydrologic Model

As part of a flood risk mapping update, the RVCA updated the hydrology and hydraulics of the Jock River in 2004/2005.

Storm Drainage

Two major communities exist within the subwatershed north of the Jock River (Fallowfield Estates and the Barrhaven community). Ultimate modifications to the existing Foster Ditch and Kennedy-Burnett ponds have been identified in previous studies, with upgrades to better protect the Jock River and Rideau River.

Water Balance

As part of the Jock River Reach 1 SWS Study, a detailed water budget analysis was prepared. Marine clay is the predominant soil in the study area and, as such, based on the suggested permeability, it is shown that only a minor fraction (14%) of the proposed Barrhaven South Community will be suitable for infiltration practices due to the limited areas with sandy soil. It is further noted that the majority of the Reach is within tight-natured soils thereby limiting the recharge potential.

Natural Environment

There were no woodlots identified within Barrhaven Conservancy.

North of the Jock River, the existing Foster Ditch has been identified as fish habitat. The entire length of the O'Keefe Drain as well as a small unnamed tributary running

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parallel to the O'Keefe Drain were identified as fish habitat. The Fraser-Clarke Watercourse is also a fish bearing tributary, especially downstream of confluence with Kennedy-Burnett facility, the discharge from which contributes to the habitat.

6.1.1.1.4 Jock River Reach 1 – Subwatershed Objectives

The following represent the proposed combined objectives for Reach 1:

- Surface water quality
- Surface water quantity
- Aquatic communities and habitat
- Terrestrial communities and habitats
- Groundwater quality and quantity
- Sustainable land use and development
- Community education and awareness

6.1.1.1.5 Opportunities and Constraints to Development

Jock River Flow and Drainage Network

For the lands north of the Jock River, any proposed harmful alteration, disruption or destruction of fish habitat (HADD) would require DFO approval per the Fisheries Act. An integrated SWM planning approach consistent with the Lower Rideau Watershed Strategy will need to be demonstrated through further detailed study.

Water Quality

The proposed urban developments must ensure that net reduction in phosphorus loading to the Jock River is achieved through the combination of structural and non-structural BMPs.

Meander Belt Width

The meander belt widths are the limits to potential river migration; hence, future developments should not encroach into the meander belt width limits for the Jock River and the tributaries. Conservative meander belt widths for the tributaries north of the Jock River have been derived. Additional analysis of the meander belt width as part of detailed stormwater management planning is recommended for the tributaries.

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6.1.2 Jock River and Municipal Drains Erosion Hazards

In 2018 a review of the meander belt widths and erosions threshold analyses from previous studies were completed for the Jock River and the three watercourses which cross the site (O'Keefe Drain, Foster Ditch and Fraser-Clarke Watercourse). The analysis is detailed in the ***Erosion Hazard Assessment and Erosion Threshold Analysis, Jock River, Barrhaven Conservancy*** by GEO Morphix, dated January 11, 2018 and contained in ***Appendix G***.

As discussed in the ***Erosion Hazard Assessment and Erosion Threshold Analysis***, most watercourses have a natural tendency to develop and maintain a meandering planform, provided there are no spatial constraints. A meander belt width assessment estimates the lateral extent that a meandering channel has historically occupied and will likely occupy in the future, which is useful to determine the potential limit of development for proposed activities in the vicinity of the stream.

It was noted that the watercourses within the study site are all within unconfined valley systems, which are those with poorly defined valleys or slopes well-outside where the channel could realistically migrate. The meander belt width is an important factor as it is one of the potential factors which could define the development setbacks from the watercourses.

Erosion threshold analyses were also completed for the reaches OKD1, FD1, and FCD2 to determine flow conditions under which channel bed and bank materials can potentially be entrained and transported. Erosion thresholds are established to provide targets for any of the stormwater management facilities or oil and grit separators which may discharge to the watercourses. This will ensure that post-development erosion rates into the receiving watercourses do not exceed natural pre-development rates.

6.1.2.1 Jock River

The Jock River meander belt widths within the ***Jock River SWS*** were reviewed to assess suitability. The meander belt widths for reaches JR-3 and JR-4 are 218 and 231 m, respectively, which includes a 10% buffer. GEO Morphix noted that they were generally in agreement with the scale of the meander belt widths. They further note that the general tendency of the watercourse generally follows the overall trend of the channel passing through riffles or runs. GEO Morphix recommended a minor refinement for the downstream reach, JR-2, as the geologic feature at Half Moon Bay is not technically a meander. The proposed meander belt for reach JR-2 is 150 m, which is smaller than that proposed in the ***Jock River SWS***.

As noted in the ***Jock River SWS***, the setback from the watercourse is to be the greatest setback limit of the following environmental factors: 1) regulatory floodplain; 2) meander belt width; 3) aquatic setback limit of 15 m from top-of-bank or 30 m from normal high water marks, whichever is greater; and 4) slope stability. In most areas along the Jock

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River, the greater setback requirement is defined by the regulatory floodplain or the meander belt width.

6.1.2.2 O'Keefe Drain

As noted in the ***Erosion Hazard Assessment and Erosion Threshold Analysis***, the meander belt width for reaches OKD1 and OKD2 is 34 m and 32 m, respectively.

As noted in the ***Jock River SWS***, to ensure protection of the aquatic habitat north of the Jock River, a development setback should be provided for all of the tributaries. Further studies will determine the development setback, which will be the greater of: 1) regulatory floodplain; 2) meander belt width; and 3) aquatic setback, whichever is greater.

As detailed in the GEO Morphix study, the critical discharge of the bed and bank materials for the O'Keefe Drain at reach OKD1 is 0.80 m^3/s.

6.1.2.3 Foster Ditch

As noted in the ***Erosion Hazard Assessment and Erosion Threshold Analysis***, the meander belt width for reaches FD1, FD 2 and FD3 is 32 m for all three. It is noted that since the Foster Ditch was previously ditched, the bankfull dimensions are compromised. Therefore, GEO Morphix completed a detailed assessment was completed at reach FD1, which has more accurate bankfull dimension measurements. The calculated meander belt width for reach FD1 is used for reaches FD2 and FD3.

As noted in the ***Jock River SWS***, to ensure protection of the aquatic habitat north of the Jock River, a development setback should be provided for all of the tributaries. Further studies will determine the// development setback, which will be the greater of: 1) regulatory floodplain; 2) meander belt width; and 3) aquatic setback, whichever is greater.

As detailed in the GEO Morphix study, the critical discharge of the bed and bank materials for the Foster Ditch at reach FD1 is 0.68 m^3/s.

6.1.2.4 Fraser-Clarke Watercourse

As noted in the ***Erosion Hazard Assessment and Erosion Threshold Analysis***, the Fraser-Clarke Watercourse, reaches FCD2 and FCD3, consisted of a wetland feature with no channel centerline. Therefore, there is no erosion hazard associated with these features and the same applies to the swale features for reaches FCD3-1, FCD3-2, and FCD5.

As noted in the ***Jock River SWS***, to ensure protection of the aquatic habitat north of the Jock River, a development setback should be provided for all of the tributaries. Further studies will determine the development setback, which will be the greater of: 1)

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regulatory floodplain; 2) meander belt width; and 3) aquatic setback, whichever is greater.
As detailed in the GEO Morphix study, the critical discharge of the bed and bank materials for the Fraser-Clarke Watercourse at reach FCD2 is 0.33 m^3/s.

6.2 Proposed Stormwater Management Strategy

Stormwater flows will be conveyed through the subject property via an underground sewer network. The stormwater runoff will be treated to provide an Enhanced Level of Protection (80% TSS removal) before ultimately being released into the Jock River as per the ***Jock River Reach 1 SWS***.

6.2.1 Stormwater Management Servicing Alternatives

The proposed stormwater management design is shown on ***Drawing 3***. Several stormwater alternatives were considered for the drainage areas, while determining the optimal strategy.

Alternative 1 – Oil and Grit Separators to Naturalized Wetlands

In this alternative, the stormwater management design consists of:

- A storm sewer system designed to capture at least the minimum design capture events in accordance with the amendment to the storm sewer and stormwater management elements of the Ottawa Design Guidelines – Sewer (Technical Bulletin PIEDTB-2016-01);
- Multiple oil and grit separators (OGS) designed to provide an Enhanced Level of Protection per MECP guidelines, via treatment of the stormwater captured by the storm sewer network (estimated to be ten units for Conservancy East and six units for Conservancy West);
- Oil and grit separators (providing required TSS removal before discharge) will outlet to naturalized wetlands within the natural heritage corridor, connecting via channels to support hydration of the wetlands and ultimately outletting to the Jock River;
- In anticipation of future MECP requirements, wherein OGS units (unless Environmental Technology Verified (ETV)) will only be considered to be accounting for 50% TSS removal, additional treatment train requirements will need to be incorporated such as deep sump catchbasins, catchbasin inserts such as CB Shield™ and/or curb cuts with outlets to grassed swales;
- Inverts of outlets of oil and grit separators (OGS) are set at, or above, the 2-year summer water levels of the Jock River with a bypass design for the 100-year storm event;

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- An on-site road network designed to maximize the available surface storage within ROWs for the 100-year design event; where possible, with controlled release of stormwater to the minor storm sewer system;
- An overland flow route designed to safely convey stormwater runoff flows in excess of the on-site road storage to the desired outlets;
- It is anticipated that quantity control is not required for this segment of the Jock River; however, the quantity of stormwater runoff existing from the subject property will be minimized by optimizing on-site storage in the sags of the proposed road network, which in turn minimizes the size of downstream storm sewer infrastructure. JFSA has prepared a memorandum (*Review of Quantity Control Requirement for Jock River Reach 1 (March 2021)* in ***Appendix H***) summarizing the expectation that quantity control will still not be required for this section of the Jock River based on the extents of existing and proposed development conditions.

This alternative provides a treatment train consisting of OGS units discharging to naturalized wetlands within the floodplain prior to discharging to the Jock River. The implementation of OGS units has been used increasingly within Ottawa. Multiple OGS units have been proposed in order to maintain smaller storm sewer sizes, minimize standing water and keep grades low due to the presence of sensitive clay and the associated grade raise restrictions. The proposed grades will be set at a minimum of 0.50 m above the 100-year floodplain elevation. Although the OGS units can be subject to head losses, the design will include a bypass for the 100-year flow such that the head losses are negligible in the 100-year storm.

It is expected that the OGS units will require straightforward maintenance via mobile vacuum truck units, being cleaned out regularly as part of the routine City maintenance program, as compared to traditional stormwater management ponds which requires the mobilization of heavy equipment and dedicated sediment management land areas for the handling (dewatering) of sediments removed.

With this alternative, the existing drains/watercourses will not be an outlet for the stormwater flows and will remain in their natural state, with recommended setbacks implemented for surrounding development.

Alternative 2 – Stormwater Management Wetland Facilities in the Floodplain

In this alternative, the stormwater management design consists of:

- A storm sewer system designed to capture at least the minimum design capture events in accordance with the amendment to the storm sewer and stormwater management elements of the Ottawa Design Guidelines – Sewer (Technical Bulletin PIEDTB-2016-01);
- Multiple Stormwater Management (SWM) Wetland facilities in the floodplain, designed to provide Enhanced Level of Protection per MECP guidelines, via treatment of the stormwater captured in the storm sewer network;

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- An on-site road network designed to maximize the available storage in the on-site road network for the 100-year design event, where possible, with controlled release of stormwater to the minor storm system; and,
- An overland flow route designed to safely convey stormwater runoff flows in excess of the on-site road storage.
- It is anticipated that quantity control is not required for this segment of the Jock River (see JFSA memorandum in ***Appendix H***); however, the quantity of stormwater runoff existing from the subject property will be minimized by optimizing on-site storage in the sags of the proposed road network, which in turn minimizes the size of downstream storm sewer infrastructure.

This alternative provides separate stormwater management wetland facilities within the regulatory floodplain with the provision of traditional forebays. Multiple facilities are required in order to maintain smaller storm sewer sizes, minimize standing water and keep grades low due to the presence of sensitive clay soils and the associated grade raise restrictions. The multiple facilities impose additional maintenance requirements which would be undertaken by typical City procedures with mobilization of heavy equipment and dedicated sediment management land areas for the handling (dewatering) of sediments removed prior to export. Although this is an efficient use of land for the facilities themselves, any required sediment management areas would have to be outside of the floodplain area as is typically desired by the City of Ottawa. Additional challenges are encountered when proposing infrastructure within the floodplain.

With this alternative, it is anticipated that there would be minimal standing water within the proposed storm sewers.

With this alternative, the existing drains/watercourses will not be an outlet for the stormwater flows and will remain in their natural state, with recommended setbacks implemented for surrounding development.

Alternative 3 – Stormwater Management Wetland Facilities outside of the Floodplain

In this alternative, the stormwater management design consists of:

- A storm sewer system designed to capture at least the minimum design capture events in accordance with the amendment to the storm sewer and stormwater management elements of the Ottawa Design Guidelines – Sewer (Technical Bulletin PIEDTB-2016-01);
- Multiple (a minimum of three) Stormwater Management (SWM) facilities, designed to provide Enhanced Level of Protection per MECP guidelines, via treatment of the stormwater captured in the storm sewer network;

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- An on-site road network designed to maximize the available storage in the on-site road network for the 100-year design event, where possible, with controlled release of stormwater to the minor storm system; and,
- An overland flow route designed to safely convey stormwater runoff flows in excess of the on-site road storage.
- It is anticipated that quantity control is not required for this segment of the Jock River (see JFSA memorandum in ***Appendix H***); however, the quantity of stormwater runoff existing from the subject property will be minimized by optimizing on-site storage in the sags of the proposed road network, which in turn minimizes the size of downstream storm sewer infrastructure.

This alternative provides multiple traditional stormwater management facilities and dedicated sediment management areas situated outside of the regulatory floodplain. Multiple facilities are required in order to maintain smaller storm sewer sizes, minimize standing water and keep grades low due to the presence of sensitive clay and the associated grade raise restrictions. The multiple facilities impose additional maintenance requirements which would be undertaken by typical City procedures with mobilization of heavy equipment and dedicated sediment management land areas for the handling (dewatering) of sediments removed prior to export. This option is the least efficient use of developable land and creates multiple facilities requiring extensive maintenance requirements.

As with the other alternatives, it is anticipated that there would be minimal standing water within the proposed storm sewers. Multiple stormwater management facilities would have a significant impact on efficient land usage.

With this alternative, the existing drains/watercourses will not be an outlet for the stormwater flows and will remain in their natural state, with recommended setbacks implemented for surrounding development.

Alternative 4 – Modified Etobicoke Filtration System Outletting to Naturalized Wetlands

In this alternative, the stormwater management design consists of:

- A storm sewer system designed to capture at least the minimum design capture events in accordance with the amendment to the storm sewer and stormwater management elements of the Ottawa Design Guidelines – Sewer (Technical Bulletin PIEDTB-2016-01);
- A Modified Etobicoke Filtration System (MEFS) alongside all mainline storm sewers with multiple outlets along the southern boundary of the development area, discharging to naturalized wetlands within the natural heritage corridor, connecting via channels to support hydration of the wetlands and ultimately outletting to the Jock River. The proposed system is derived from the filtration system demonstration project within Braecrest Avenue in the City of Etobicoke (see excerpt from A.M. Candaras Associates publication "*City of Etobicoke*

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Exfiltration and Filtration Systems Pilot/Demonstration Project (1995)" in ***Appendix H***). In conjunction with the MEFS, as part of the treatment train approach, 1.0m deep sump catchbasins will be equipped with Goss Traps to reduce catchbasin sump sediment re-suspension and optimize TSS removal. An evaluation of the proposed treatment train for quality control is provided in the JFSA memorandum *BCDC Phase 2 – Preliminary Water Balance & Water Quality Controls (March 2021)* provided in ***Appendix H***;

- Inverts of storm outlets are set at, or above, the 2-year summer water levels of the Jock River;
- An on-site road network designed to maximize the available surface storage within ROWs for the 100-year design event; where possible, with controlled release of stormwater to the minor storm sewer system;
- An overland flow route designed to safely convey stormwater runoff flows in excess of the on-site road storage to the desired outlets;
- It is anticipated that quantity control is not required for this reach of the Jock River (see JFSA memorandum in ***Appendix H***); however, the quantity of stormwater runoff existing from the subject property will be minimized by optimizing on-site storage in the sags of the proposed road network, which in turn minimizes the size of downstream storm sewer infrastructure.

This alternative provides a treatment train consisting of an MEFS system discharging to multiple naturalized wetlands within the natural heritage corridor, connecting via channels to support hydration of the wetlands and ultimately outletting to the Jock River. The implementation of Etobicoke-type system variations have been used previously within Ottawa (i.e. Barrhaven South Urban Expansion Area and the Deer Run Subdivision (Stittsville)). Multiple outlet locations have been proposed in order to maintain smaller storm sewer sizes, minimize standing water and keep grades low due to the presence of sensitive clay and the associated grade raise restrictions. The proposed grades will be set at a minimum of 0.50 m above the 100-year floodplain elevation.

It is expected that the MEFS system will require straightforward maintenance via mobile vacuum truck units, being inspected/cleaned out regularly as part of a routine City maintenance program. The maintenance approach has been previously documented for a similar type of system in the Barrhaven South Urban Expansion Area Master Servicing Study (see J.L. Richards' memorandum *BSUEA Infiltration System Maintenance Requirements, June 22, 2017*) of general system maintenance requirements and recommendations (provided in ***Appendix H*** for reference).

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Recommended Alternative

The recommended alternative is Alternative 4, where a Modified Etobicoke Filtration System (MEFS) parallels the storm sewer network (along with deep sump catchbasins with Goss Trap inserts in the outlet) and the storm system has multiple outlets discharging to naturalized wetlands and the Jock River. This is determined to provide the best quality treatment strategy for the stormwater, prior to release to the Jock River. While providing the best treatment strategy, it also presents an efficient use of land and conservation of the existing drains/watercourse in their natural state.

The MEFS will require routine maintenance that will be greatly reduced compared to the maintenance requirements of multiple stormwater management facilities. This strategy may be more desirable to the City of Ottawa from a maintenance perspective as opposed to many OGS units (potentially sixteen) or multiple stormwater management ponds (minimum of three). Stormwater is pre-treated prior to outletting to the naturalized wetlands and it is expected that the wetlands will have minimal maintenance requirements.

Multiple outlets are proposed in order to minimize storm sewer size, standing water within the sewers, the reliance on sump pumps for foundation drainage and to keep the grades as low as possible, which is a key element due to the presence of sensitive clays and associated grade raise restrictions.

For the remainder of this document, it is assumed that the recommended Alternative 4 is to be implemented.

6.3 Post-Development Stormwater Management Targets

Stormwater management requirements for the proposed alternative Stormwater management scheme have been adopted from the ***Jock River Reach 1 Subwatershed SWS***, City of Ottawa ***Sewer Design Guidelines*** and the ***MECP SWMP Manual***.

Given the general criteria mentioned above, the following specific standards are applied for stormwater management within the subject property:

- Enhanced quality treatment will be provided for stormwater runoff from the subject property, corresponding to a long-term average Total Suspended Solid removal efficiency of 80%, as defined by the MECP prescribed treatment levels.
- Downstream receiving watercourses will be assessed for responses to planned stormwater management outflows, and stabilization mitigation measures will be planned as required.
- Storm sewers on local roads are to be designed to provide at least a 2-year level of service without any ponding per the City's latest Technical Bulletin PIEDTB-2016-01.

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- Storm sewers on collector roads are to be designed to provide at least a 5-year level of service without any ponding per the City's latest Technical Bulletin PIEDTB-2016-01.
- For less frequent storms (i.e. larger than 2-year or 5-year), the minor system sewer capture will be restricted with the use of inlet control devices to prevent excessive hydraulic surcharges.
- Under full flow conditions, the allowable velocity in storm sewers is to be no less than 0.80 m/s and no greater than 6.0 m/s.
- For the 100-year storm and for all roads, the maximum depth of water (static and/or dynamic) on streets, rear yards, public space and parking areas shall not exceed 0.35 m at the gutter.
- The major system shall be designed with sufficient capacity to allow the excess runoff of a 100-year storm to be conveyed within the public ROW or adjacent to the right-of-way provided that the water level must not touch any part of the building envelope, must remain below all building openings during the stress test event (100-year + 20%), and must maintain 15 cm vertical clearance between spill elevation on the street and the ground elevation at the nearest building envelope.
- Flow across road intersections shall not be permitted for minor storms (generally 5-year or less).
- When catch basins are installed in rear yards, safe overland flow routes are to be provided to allow the release of excess flows from such areas. A minimum of 30 cm of vertical clearance is required between the rear yard spill elevation and the ground elevation at the adjacent building envelope.
- The product of the maximum flow depths on streets and maximum flow velocity must be less than 0.60 m^2/s on all roads.

6.3.1 Quality Control

Per the ***Jock River Reach 1 SWS***, prior to discharge to the Jock River, quality treatment of stormwater runoff from the subject property is to be provided to meet the MECP Enhanced Protection criteria, corresponding to a long-term average Total Suspended Solid removal efficiency of 80%. See Section 6.4.1 for quality control approach and discussion.

6.3.2 Quantity Control

As noted in the ***Jock River SWS***, quantity control is not anticipated to be required for outlets to the Jock River, however, some quantity control may be provided by erosion storage, as erosion thresholds for any watercourses/outlets will be respected where required. As noted in Section 5.2 JFSA has reviewed the current/future development conditions contributing to this reach of the Jock River and concludes that quantity

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control will still not be required. See *Review of Quantity Control Requirement for Jock River Reach 1 (March 2021)* provided in ***Appendix D***.

6.4 Stormwater Management Design

The preferred stormwater management approach is comprised of a mainline storm sewer network, with a parallel Modified Etobicoke Filtration System (MEFS), with multiple stormwater outlets along the southern boundary of the development area, discharging to the Jock River via proposed naturalized wetlands. In conjunction with the MEFS, as part of the treatment train approach, 1.0 m deep sump catchbasins will be equipped with goss traps in order to reduce catchbasin sump sediment re-suspension and optimize TSS removal.

6.4.1 Modified Etobicoke Filtration System

The proposed MEFS has been derived from the Braecrest Avenue filtration system that is found in the A.M. Candaras Associates publication "*City of Etobicoke Exfiltration and Filtration Systems Pilot/Demonstration Project (1995)*". An excerpt from the report and MEFS configuration is provided in ***Appendix H*** for reference. Figure 25.3 of the Candaras study illustrates the general configuration of the perforated pipe system as well as the filtration trench surrounding the mainline storm sewer network. Generally, road catchbasins have a lower and upper sewer lead. The lower lead (for first flush flows) is connected to the filtration system while the upper lead will manage higher flows during larger events and is connected to the storm main. The full description of the system is in Section 25.2.2 of the study excerpt. The proposed configuration for the Conservancy East development and example cross-sections for the MEFS can be found in ***Figure 5*** of the ***Figures*** section.

As noted previously an evaluation of the proposed treatment train for quality control to achieve the required 90% TSS removal in the JFSA memorandum *BCDC Phase 2 – Preliminary Water Balance & Water Quality Controls (March 2021)* provided in ***Appendix H***.

6.4.1.1 Groundwater

Paterson Group has reviewed the anticipated long term groundwater condition for the development area. Paterson drawing PG5036-10A in ***Appendix H*** demonstrates the long term groundwater elevation across the Conservancy East development area. This elevation is also reflected in the trunk sewer profile Drawings No. 5 and 6 in the ***Drawings*** section.

6.4.1.2 MEFS Maintenance

The proposed maintenance approach for the MEFS would be similar to that as recommended for the Etobicoke Exfiltration System (EES) that is currently being implemented as part of the Barrhaven South Urban Expansion Area (BSUEA) within the

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City of Ottawa. As part of the Master Servicing Study review of that EES system, J.L. Richards prepared a memorandum (*BSUEA Infiltration System Maintenance Requirements, June 22, 2017*) of general system maintenance requirements and recommendations (provided in ***Appendix H*** for reference). The proposed MEFS system has similar characteristics and therefore similar requirements. The exception being that in order to treat all stormwater for TSS removal the system is proposed along all roadways (including collectors) within the development. This would therefore include roadways which may have additional deicing materials such as salt and sand during the winter season. As such, per Table 6.1 (see ***Appendix H***) of the MOECC Stormwater Management Planning and Design Manual, it would be recommended to plug the MEFS system along the 24m ROW road section during winter months. At the detailed design stage the opportunity to omit the collector ROWs from having the MEFS can be further assessed to determine if the capture in all other local ROWs will meet the required objectives and therefore avoid the salting concerns noted above.

6.5 Proposed Minor System

The subject property will be serviced by an internal gravity storm sewer system that is to generally follow the local road network and proposed servicing easements as required. The drainage will be conveyed within the underground piped sewer system to outlets located along the natural heritage corridor, providing hydration to wetlands. There will also be proposed outlets to the Fraser Clarke Watercourse in order to provide some baseflow to that feature (per City comments) along with rear yard sheet flow from lots backing onto the watercourse.

Street catchbasins will collect drainage from the streets and front yards, while rear yard catchbasins will capture drainage from backyards. Perforated catch basin leads will be provided in rear yards, except the last segment where they connect to the right-of-way which will be solid pipe, per City standards.

The preliminary rational method design of the minor system captures drainage for storm events up to and including the 2-year (local), 5-year (collector) and 10-year (arterial) event assuming the use of inlet control devices (ICD) for all catch basins within the subject property. The following table summarizes the standards that will be employed in the detailed design of the storm sewer network, meeting the requirements in ***Section 6.3***. The drainage area plans and rational method design sheets are provided in ***Appendix H***.

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Table 6: Storm Sewer Design Criteria

Design Parameter	Value
Minor System Design Return Period	1:2 year (PIEDTB-2016-01) for local roads, without ponding 1:5 year (PIEDTB-2016-01) for collector roads, without ponding 1:100 year (PIEDTB-2016-01) for arterial road, without ponding
Major System Design Return Period	1:100 year
Intensity Duration Frequency Curve (IDF) 2-year storm event: A=732.951 | B=6.199 | C=0.810 5-year storm event: A = 998.071 | B = 6.053 | C = 0.814	$i = \frac{A}{(t_c + B)^C}$
Minimum Time of Concentration	10 minutes
Rational Method	$Q = CiA$
Storm sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} A R^{2/3} S^{1/2}$
Runoff coefficient for paved and roof areas	0.9
Runoff coefficient for landscaped areas	0.2
Minimum Sewer Size	250 mm diameter
Minimum Manning's 'n' for pipe flow	0.013
Minimum Depth of Cover	1.5 m from crown of sewer to grade
Minimum Full Flowing Velocity	0.8 m/s
Maximum Full Flowing Velocity	6.0 m/s
Clearance from 100-Year Hydraulic Grade Line to Building Opening	0.30 m
Max. Allowable Flow Depth on Municipal Roads	35 cm above gutter (PIEDTB-2016-01)
Extent of Major System	To be contained within the municipal right-of-way or adjacent to the right-of-way provided that the water level must not touch any part of the building envelope and must remain below the lowest building opening during the stress test event (100-year + 20%) and 15cm vertical clearance is maintained between spill elevation on the street and the ground elevation at the nearest building envelope (PIEDTB-2016-01)
Stormwater Management Model	DDSWMM (release 2.1), SWMHYMO (v. 5.02) and XPSWMM (v. 10)
Model Parameters	Of = 76.2 mm/hr, Fc = 13.2 mm/hr, DCAY = 4.14/hr, D.Stor.Imp. = 1.57 mm, D.Stor.Per. = 4.67 mm
Imperviousness	Based on runoff coefficient (C) where Percent Imperviousness = (C - 0.2) / 0.7 x 100%.
Design Storms	Chicago 3-hour Design Storms and 24-hour SCS Type II Design Storms. Maximum intensity averaged over 10 minutes.
Historical Events	July 1st, 1979, August 4th, 1988 and August 8th, 1996
Climate Change Street Test	20% increase in the 100-year, 3-hour Chicago storm
Extracted from City of Ottawa Sewer Design Guidelines, October 2012, and ISSU, based on recent residential subdivisions in City of Ottawa.	

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The peak design flows are calculated based on an average predicted runoff coefficient (C-value) of 0.65 and 0.80 for the development areas, 0.40 for park areas and 0.25 for grassed areas. As detailed design progresses, the runoff coefficients will be refined to reflect the proposed building envelopes, driveways and other details.

There are several trunk sewers proposed and the peak flows are described for the trunk sewers which correspond to the stormwater management design areas as presented in the following table:

Table 7: Minor System Trunk Sewer Outlets

Area/Outlet # (from east to west)	Trunk Sewer Outlet to Headwall	Peak Flow (L/s)
1 (HW1)	900 mm diameter @ 0.15%	595
2 (HW2)	900 mm diameter @ 0.15%	481
3 (HW3)	675 mm diameter @ 0.15%	246
4 (HW4)	975 mm diameter @ 0.15%	647
5 (HW5)	975 mm diameter @ 0.15%	611
6 (HW6)	825 mm diameter @ 0.15%	368
7 (HW7)	1050 mm diameter @ 0.15%	572
8 (HW8	1050 mm diameter @ 0.15%	807
9 (HW9)	975 mm diameter @ 0.15%	624
10(HW10)	1050 mm diameter @ 0.15%	890
~~11 (HW11)~~	Omitted intentionally	-
12 (HW12)(1)	675 mm diameter @ 0.15%	215
13 (HW13)(1)	675 mm diameter @ 0.15%	244
14 (HW4)	825 mm diameter @ 0.15%	373
15 (HW15)	1050 mm diameter @ 0.20%	1066
16 (HW16)	1050 mm diameter @ 0.20%	689
17 (HW17)	975 mm diameter @ 0.15%	409
18 (HW18)	1050 mm diameter @ 0.20%	763
19 (HW19)	975 mm diameter @ 0.15%	258

(1) Outlet to the Fraser-Clarke Watercourse in the northern portion of the development to provide baseflow. All other stormwater outlets are to the south.

The storm sewers tributary to the various outlets and associated peak flows are detailed in the rational method design sheet, enclosed in ***Appendix H***.

The preliminary conceptual servicing plan is shown on ***Drawing 2*** and ***3*** in ***Drawings***. As detailed design progresses, alignment and sizing of local storm sewers will be confirmed and additional servicing easements may be required, potentially triggering minor amendments to the proposed lot fabric in the concept plan. The preliminary

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sanitary and storm trunk plan and profiles are shown on ***Drawing 5*** and ***Drawing 6*** in ***Drawings***.

6.6 Hydraulic Grade Line Analysis

A preliminary hydraulic grade line (HGL) modelling analysis has been completed by JFSA for the Conservancy East land area to demonstrate that the HGL will be maintained below the ground surface. See the *BCDC Phase 2 – Preliminary HGL Analysis (March 2021) in* ***Appendix H*** for details/results. The analysis has been evaluated for various scenarios for the Jock River in order to assess the appropriate HGL boundary condition:

- 5-year water level in Jock River + 100yr rain event; or
- 100-year water level in Jock River + 5yr rain event (deemed to be the critical event).

The HGL results in JFSA's Table 2 demonstrate that the freeboard to the ground surface ranges from 0.40m to 1.11m for the critical event noted above. The HGL is shown on the profile ***Drawings 5 and 6*** for reference. An HGL review for the Conservancy West area was not completed due to the preliminary nature of that future draft plan area. All of the same stormwater servicing principles will be applied to the West area as they are for the East area so it is anticipated there will be no HGL issues in this area as well.

An updated HGL analysis will be completed for the proposed system at the detailed design stage, based on the above noted events, including historical design storms and climate change stress test as required. Detailed grading design and storm sewer design will be modified as required to achieve the freeboard requirements set out in ***Section 6.3*** (per PIEDTB-2016-01).

6.7 Proposed Major System

Major system conveyance, or overland flow (OLF), will be provided to accommodate flows in excess of the minor system capacity. OLF is accommodated by generally storing stormwater up to the 100-year design event in road sags then routing additional surface flow along the road network and service easements towards the proposed naturalized wetlands, discharging to the Jock River through the natural heritage corridors, as shown on ***Drawing 1*** in ***Drawings***.

The grading design described shown on ***Drawing 1*** includes a saw-toothed-road design with 0.10 % minimum grade from highpoint to highpoint, in order to maximize available surface storage for management of flows up to the 100-year design event where possible.

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Given the elements above, the proposed drainage systems are expected to safely capture and convey all storms up to and including the 100-year event in accordance with the requirements of the City Standards.

6.8 Proposed Grading and Foundation Drainage

A site grading approach has been developed to optimize earthworks and provide major system conveyance to the receiving outlets – the proposed SWM wetland facilities, which outlet to the existing Jock River drainage network. The proposed grading plan can be seen on ***Drawing 1*** in ***Drawings***.

Paterson completed geotechnical investigations for the subject site, East lands and West lands as follows:

- Geotechnical Investigation – Conservancy Lands East (Paterson Group, February 3, 2021 Rev1); and
- Geotechnical Investigation – Conservancy Lands West (Paterson Group, September 27, 2019)

The geotechnical conditions are described in detail in ***Section 3.1.*** For the Barrhaven Conservancy Lands east, the grade raise restriction varies between 1.4 m and 2.2 m. For the Barrhaven Conservancy Lands West, the grade raise restriction varies between 1.2 m to 1.8 m. Paterson's permissible grade raise plans are contained in ***Appendix B*** for reference. ***Drawing 7*** has been prepared in order to illustrate areas where permissible grade raise may be exceeded by the conceptual grading. Although some minor exceedances areas are indicated within the roadways in this drawing, an updated review of the functional grading by Paterson has confirmed that the minor extent is acceptable. See Paterson memorandum "*Road Grade Exceedance Review*" (dated March 8, 2021) in ***Appendix B.*** Any actual exceedances will ultimately be determined at detailed design at which time review and signoff by a licensed Geotechnical Engineer will be required.

The following additional grading criteria and guidelines will be applied to detailed design, per ***City of Ottawa Guidelines***:

- Driveway slopes will have a maximum slope of 6%;
- Grading in grassed/landscaped areas to range from 2% to 3:1, with terracing required for slopes larger than 7%;
- Swales are to be 0.15m deep with 3:1 side slopes unless otherwise indicated on the drawings; and,
- Perforated pipe will be required for drainage swales if they are less than 1.5% in slope.

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6.8.1 Sump Pumps

Due to the grade raise restrictions and the proposed storm and sanitary drainage schemes, the road centerlines do not allow for standard basements with a gravity connection to the storm sewer system. Because of the constraints on the subject property, sump pumps are proposed for all residential blocks and residential lots.

The City of Ottawa issued Technical Bulletin *ISTB-2018-04* and *2019-02* for the amendment of the *Ottawa Design Guidelines – Sewer, Second Edition,* October 2012 with respect to the screening criteria for the use of sump pump systems for foundation drainage in Greenfield developments on sites with clay soils. Similar to the development of Conservancy Phase 1, the Conservancy East site has also been assessed as meeting the required criteria for the use of sump pumps.

One of the screening criteria is with respect to the hydraulic grade line (HGL) for the development wherein the system should be reviewed to demonstrate that the HGL cannot reasonably be lowered any further due to outlet restrictions. The site grading is constrained by the close proximity of the Jock River, which is the receiver of stormwater outflows, and is also constrained by grade raise restrictions for the property.

For the Barrhaven Conservancy Lands East (Phase 2), the grade raise restriction varies between 1.4 m and 2.2 m. For the Barrhaven Conservancy Lands west, the grade raise restriction varies between 1.2 m to 1.8 m. Paterson's permissible grade raise plans are contained in ***Appendix B*** for reference. Further investigation of site and potential surcharging or lightweight fill (LWF) underneath garages could increase the permissible grade raise and is being investigated further.

The functional grading plans for the subdivision have been prepared with the grade raise restrictions in mind, with grades being kept as low as possible.

The proposed centerline of road grades, and subsequently the house grades, do not allow for standard basements with a gravity connection to the storm sewer system. As such, the subdivision will be serviced entirely by sump pumps due to site constraints imposed by grade raise restrictions, HGL elevations and the proximity to the Jock River stormwater outlet.

6.9 Low Impact Development (LID) - Infiltration

The following general Low Impact Development techniques should be considered for implementation, where possible, as part of detailed design:

- Rear-yard swales should be designed with minimum grades where possible, to promote infiltration;

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- Rear-yard catchbasin leads should be perforated (except for the last segment connecting to the storm sewer within the right-of-way), to promote infiltration; and,
- Where eavestroughs are provided on residential units, they are to be directed to landscaped surfaces, to promote infiltration.
- Furthermore, the following techniques can be examined as part of detailed landscaping design of the park block:
- Amended topsoil (minimum 300mm thick) can be considered for use;
- Micro-grading can be considered to promote infiltration; and

Although Best Management Practices (BMPs) should be implemented, where feasible, the site is not conducive for infiltration based on the soil type being predominantly marine clay with limited sandy soil. This was stated in the Jock River Reach 1 SWS, summarized in ***Section 6.1.1.1.2 – Water Balance*** of this report. However, the MEFS discussed in Section 6.4 will contribute some limited infiltration benefits as first flush stormwater is run through the filtration trench. The amount of infiltration is dependent upon the surrounding soils.

6.10 Stormwater Servicing Conclusions

The stormwater runoff is designed to be captured by an internal gravity sewer system that will convey flows to multiple outlet locations. A proposed treatment train arrangement of 1.0 m deep sump catchbasins, to optimize catchbasin sump retention of solids, fitted with goss traps as well as a Modified Etobicoke Filtration System will provide the required quality control treatment to achieve the Enhanced Level of quality control protection treatment. Downstream of the storm outlets will be naturalized wetland areas where hydration with treated stormwater will occur in the natural heritage corridor prior to discharge to the Jock River. It is anticipated that quantity control is not required for the Jock River. Notwithstanding, some quantity control by means of erosion storage will be included.

A preliminary Hydraulic Grade Line (HGL) modelling analysis has been completed for the Conservancy East (Phase 2) development area at this time and demonstrates that the HGL is maintained below the ground surface with freeboards ranging from 0.40m to 1.11m. Further detailed HGL review will be completed for the proposed system at the detailed design stage. Due to the grade raise restrictions and the proposed storm and sanitary drainage schemes, the road centerlines do not allow for standard basements with a gravity connection to the storm sewer system. As such, because of the constraints on the subject property, sump pumps are proposed to be installed for all residential blocks and residential lots.

The Conservancy development areas will be outside of the Jock River's regulatory floodplain area. Appropriate setbacks from existing watercourse are incorporated into

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the draft plan based on advancement/finalizing of studies to assess the various determining criteria.

7.0 UTILITIES

Utility services extending to the site may require connections to multiple existing infrastructure points: consultation with Enbridge gas, Hydro Ottawa, Rogers, and Bell is required as part of the development process to confirm the servicing plan for the subject lands.

8.0 EROSION AND SEDIMENT CONTROL

Soil erosion occurs naturally and is a function of soil type, climate and topography. The extent of erosion losses is exaggerated during construction where vegetation has been removed and the top layer of soil becomes agitated.

Preliminary erosion and sediment controls are currently in place as part of the cut/fill work completed on the property and will be monitored, updated and maintained throughout future construction as required.

The following specific recommendations to the Contractor will be included in contract documents.

- Limit extent of exposed soils at any given time.
- Re-vegetate exposed areas as soon as possible.
- Minimize the area to be cleared and grubbed.
- Protect exposed slopes with plastic or synthetic mulches.
- Install silt fence to prevent sediment from leaving the site and entering existing watercourses, and clean and maintain throughout construction.
- Install catchbasin inserts during construction to protect from silt entering the storm sewer system.
- Install mud mat in order to prevent mud tracking onto adjacent roads.
- No refueling or cleaning of equipment near existing watercourses.
- No material stockpiles within 30 m of existing watercourses, unless otherwise permitted by RVCA and City of Ottawa.
- Provide sediment traps and basins during dewatering.
- Plan construction at proper time to avoid flooding.

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- The Contractor will, at every rainfall, complete inspections and guarantee proper performance.

- Erosion and sediment control will remain in place until the working areas have been stabilized and re-vegetated.

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9.0 CONCLUSIONS AND RECOMMEDATIONS

This Master Infrastructure Review (MIR) provides historical background information regarding the servicing of the subject property and presents servicing options explored while determining the recommended servicing strategy. Sufficient detail is provided to demonstrate that the development of the subject property will be adequately supported by municipal services and demonstrate how the municipal services will conform to current guidelines and design criteria. The conclusions from this report are as follows:

- Paterson Group has completed geotechnical investigations of the development areas and has noted that the site is subject to grade raise restrictions varying from 1.4 m to 2.2 m.

- The development area will be outside of the Jock River 100-year limit.

- The recommended water servicing preferred option of those evaluated is to connect through the Nepean Town Centre development area to Zone SUC, which has recently been upgraded. The watermains are recommended to extend along the future Chapman Mills Drive extension and through the Claridge “Burnett Lands” development area.

- Detailed modelling at the designed design stage will confirm phasing of the extensions of trunk watermains and sizing of the local watermain network. The proposed water design supply is to conform to all relevant City and MECP Guidelines and Policies.

- Sanitary service will be provided to the subject property via the off-site South Nepean Collector (SNC) trunk sanitary sewer connecting at Chapman Mills Drive. For the Conservancy West development area a new sanitary pump station is proposed, west of the Foster Ditch, where the sanitary trunk sewer is constrained by the bottom of ditch elevation. With the inclusion of the subject property, the SNC sanitary sewer can adequately handle the entirety of the subject properties proposed sanitary flows.

- Stormwater service is to be provided by capturing stormwater runoff by an internal gravity sewer system that will convey flows to various outlets to proposed naturalized wetlands. Prior to discharge to the wetlands, any first flush stormwater will have passed through a proposed Modified Etobicoke Filtration System (MEFS) at all catchbasin connection points. The MEFS, along with 1.0 m deep catchbasin sumps as well as goss traps will provide for an Enhanced Level of Protection quality control treatment prior to discharge to naturalized wetlands and then the Jock River. It is anticipated that quantity control will not be required for discharges to the Jock River.

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- The storm outlets will be set at, or above, the 2-year summer water level of the Jock River.

- A preliminary Hydraulic Grade Line (HGL) modelling analysis has been completed at this time for the Conservancy East (Phase 2) Lands and demonstrates that the HGL is maintained below the ground surface. An HGL analysis was not completed for the West lands due to the preliminary nature of that concept plan. However, all of the same principles are applied to the West area as the East area so it is anticipated there will be no issues in this regard given the East results. A detailed Hydraulic Grade Line (HGL) modelling analysis will be completed for the proposed system at the detailed design level. Due to the grade raise restrictions and the proposed storm and sanitary drainage schemes, the road centerlines do not allow for standard basements with a gravity connection to the storm sewer system. As such, because of the constraints on the subject property, sump pumps are proposed to be installed for all residential blocks following City of Ottawa guidelines.

- Erosion and sediment control measures will be implemented and maintained throughout construction. The Jock River and all municipal drains/watercourses will be projected from any negative impacts from during construction.

- The proposed servicing and grading plans are expected to meet all City, RVCA, and MECP requirements as set out in background studies and current standards.

Prepared by,
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Per: Kevin L. Murphy, P.Eng.

Reviewed by,
David Schaeffer Engineering Ltd.

Per: Jennifer Ailey, P.Eng.

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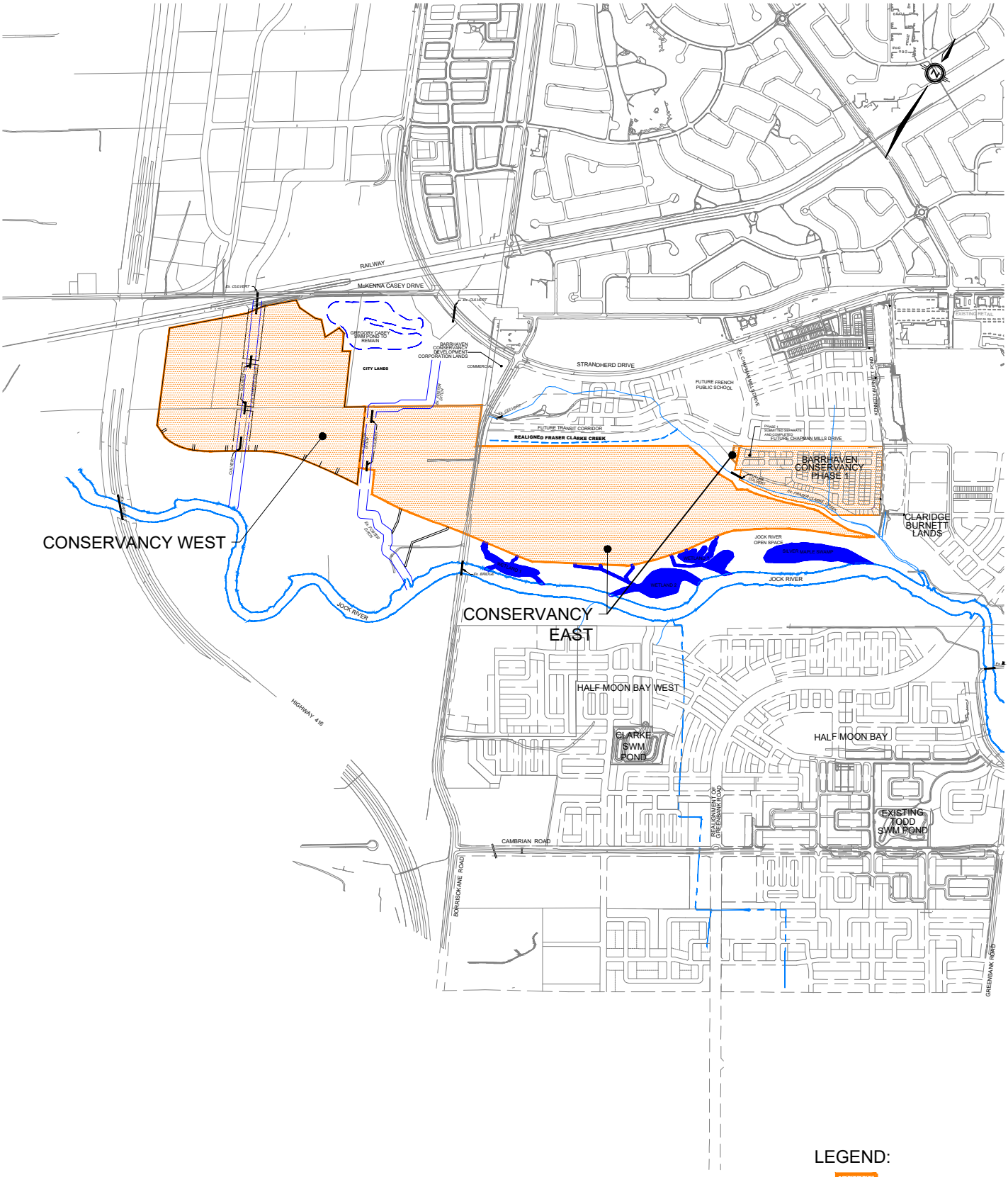
FIGURES & DRAWINGS



LEGEND:

SITE BOUNDARY

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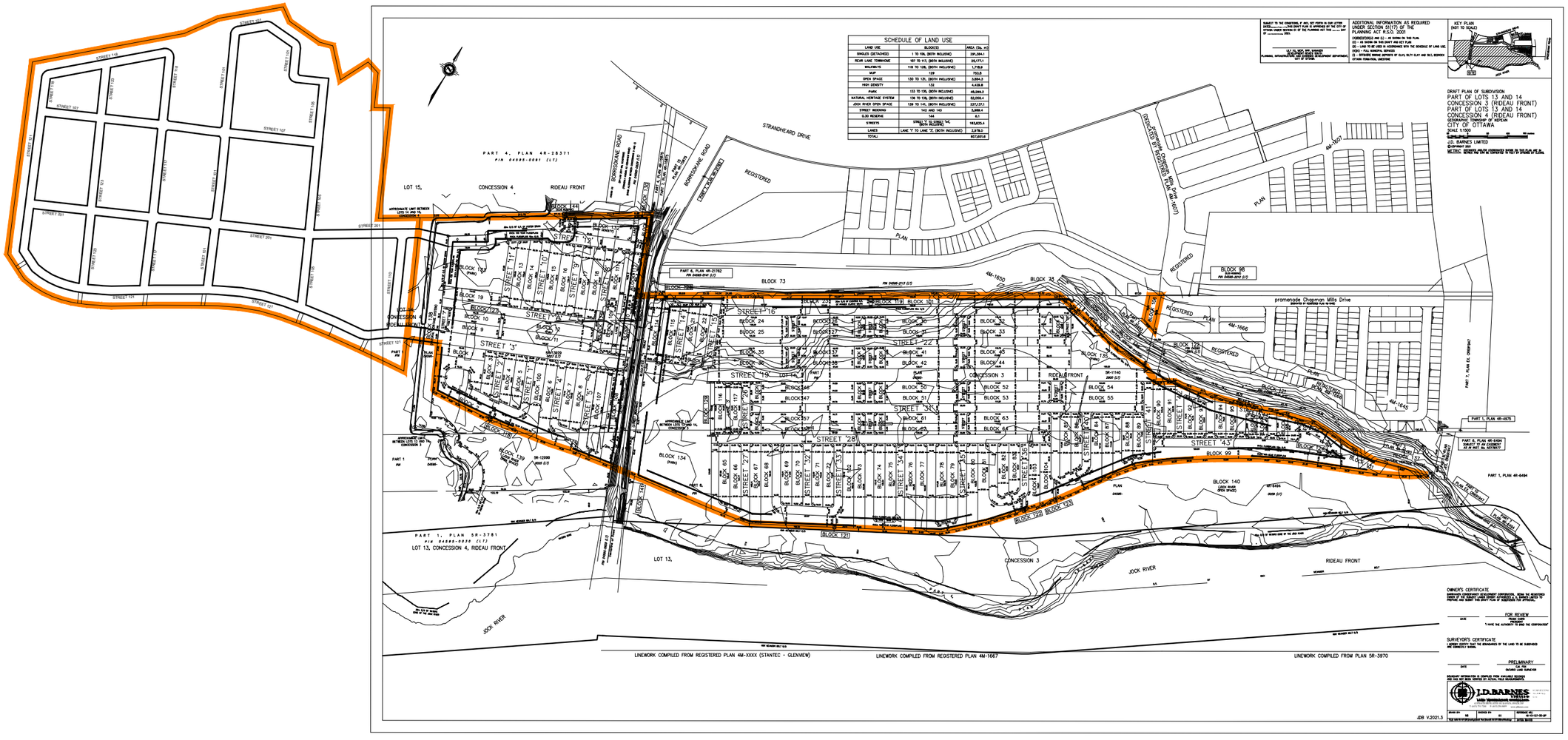
BARRHAVEN CONSERVANCY

KEY PLAN

CITY OF OTTAWA

DATE:	MARCH 2021
SCALE:	1:20000
PROJECT No.:	16-891
FIGURE:	1


SCHEDULE OF LAND USE
LAND USE | BLOCK(S) | AREA (Ha. ±)
SINGLES (DETACHED) | 1 TO 106, (BOTH INCLUSIVE) | 20K,384.1
REAR LANE TOWNHOME | 107 TO 113, (BOTH INCLUSIVE) | 25,177.1
WALKWAYS | 118 TO 126, (BOTH INCLUSIVE) | 1,716.0
MUP | 139 | 713.5
OPEN SPACE | 130 TO 135, (BOTH INCLUSIVE) | 3,884.3
HIGH DENSITY | 132 | 4,428.8
PARK | 133 TO 136, (BOTH INCLUSIVE) | 45,209.2
NATURAL HERITAGE SYSTEM | 136 TO 138, (BOTH INCLUSIVE) | 52,058.4
JOCK RIVER OPEN SPACE | 139 TO 144, (BOTH INCLUSIVE) | 237,137.1
STREET WIDENING | 142 AND 143 | 5,888.4
0.3M RESERVE | 144 | 4.1
STREETS | STREET 1 TO STREET 147, (BOTH INCLUSIVE) | 185,835.4
LANES | LANE "A" TO LANE "Z", (BOTH INCLUSIVE) | 2,978.0
TOTAL | | 857,605.8
ADDITIONAL INFORMATION AS REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT R.S.O. 2001
OVERDEVELOPED AREA (L) – AS SHOWN ON THIS PLAN.
(G) – AS SHOWN ON THIS DRAFT AND KEY PLAN
(D) – LAND TO BE USED IN ACCORDANCE WITH THE SCHEDULE OF LAND USE.
(V2C) – FULL MUNICIPAL SERVICES
(I) – DEFINERE MINING DEPOSITS OF CLAYS, SILTY CLAY AND SILT, BEDROCK
KEY PLAN
(NOT TO SCALE)
DRAFT PLAN OF SUBDIVISION
PART OF LOTS 13 AND 14
CONCESSION 3 (RIDEAU FRONT)
PART OF LOTS 13 AND 14
CONCESSION 4 (RIDEAU FRONT)
GEOGRAPHIC TOWNSHIP OF NEPEAN
CITY OF OTTAWA
SCALE 1:1500
J.D. BARNES LIMITED
OWNER'S CERTIFICATE
FOR REVIEW
SURVEYOR'S CERTIFICATE
PRELIMINARY
JDB: V.2021.3
LINEWORK COMPILED FROM REGISTERED PLAN 4M-XXXX (STANTEC - GLENVIEW)
LINEWORK COMPILED FROM REGISTERED PLAN 4M-1667
LINEWORK COMPILED FROM PLAN 5R-3970
STRANDHEARD DRIVE
BORRISOKANE ROAD
promenade Chapman Mills Drive
JOCK RIVER
RIDEAU FRONT
CONCESSION 3
CONCESSION 4
LOT 13,
LOT 14,
BLOCK 73
BLOCK 98
BLOCK 99
BLOCK 140
BLOCK 121
BLOCK 122
BLOCK 123
BLOCK 139
BLOCK 138
BLOCK 134
BLOCK 135
BLOCK 136
BLOCK 137
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PART 1, PLAN 5R-3781
PIN 04595-0028 (LT)
LOT 13, CONCESSION 4, RIDEAU FRONT
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PART 1, PLAN 4R-4975
PART 2, PLAN 4R-6494
PART 1, PLAN 4R-6494
PART 7, PLAN EX. 5R6894?
REGISTERED PLAN 4M-1607
REGISTERED PLAN 4M-1666
REGISTERED PLAN 4M-1645
REGISTERED PLAN 4M-1650
PLAN 24385
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PLAN 5R-12999
PLAN 5R-13781
PLAN 5R-13782
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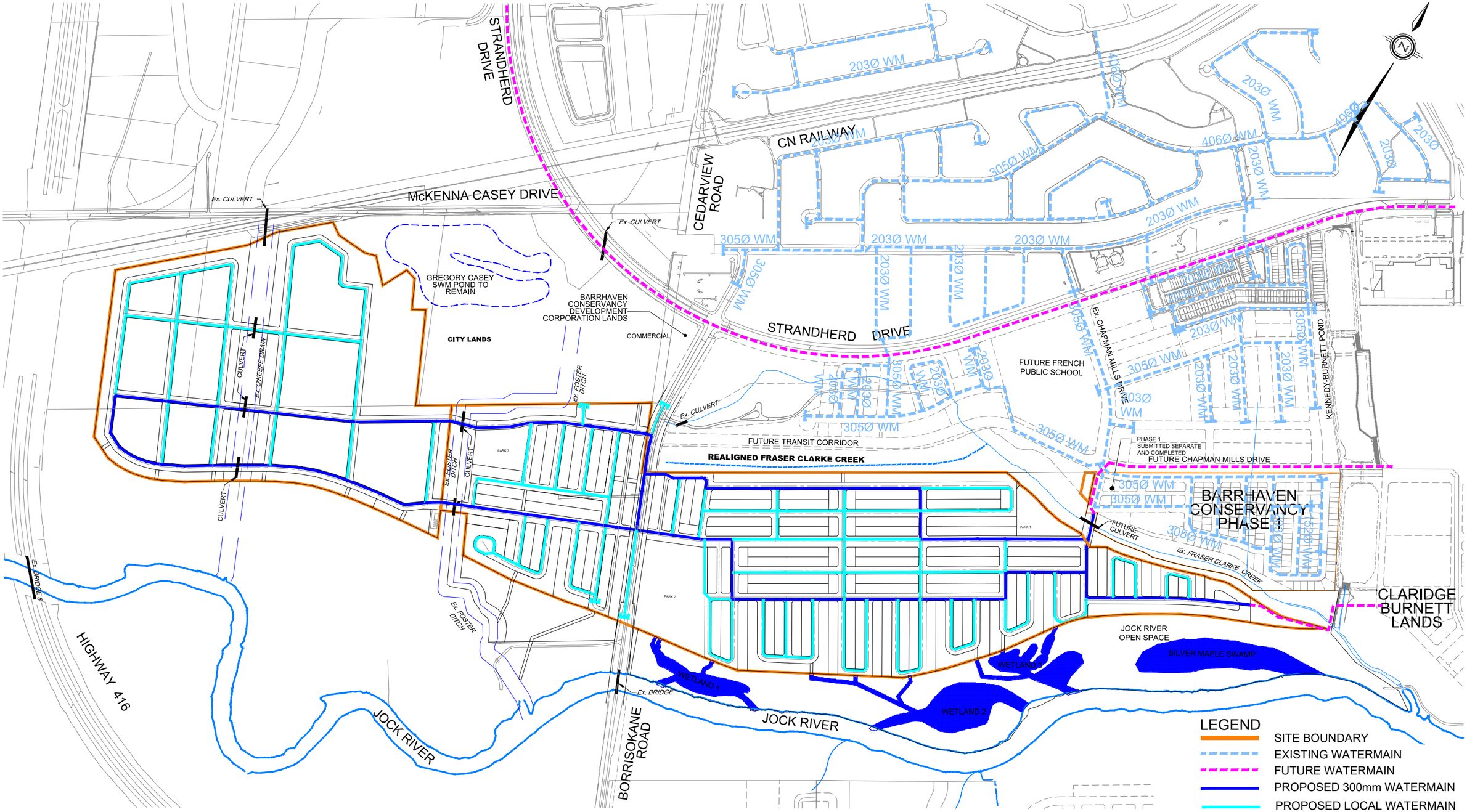
PLAN 5R-13800
PLAN



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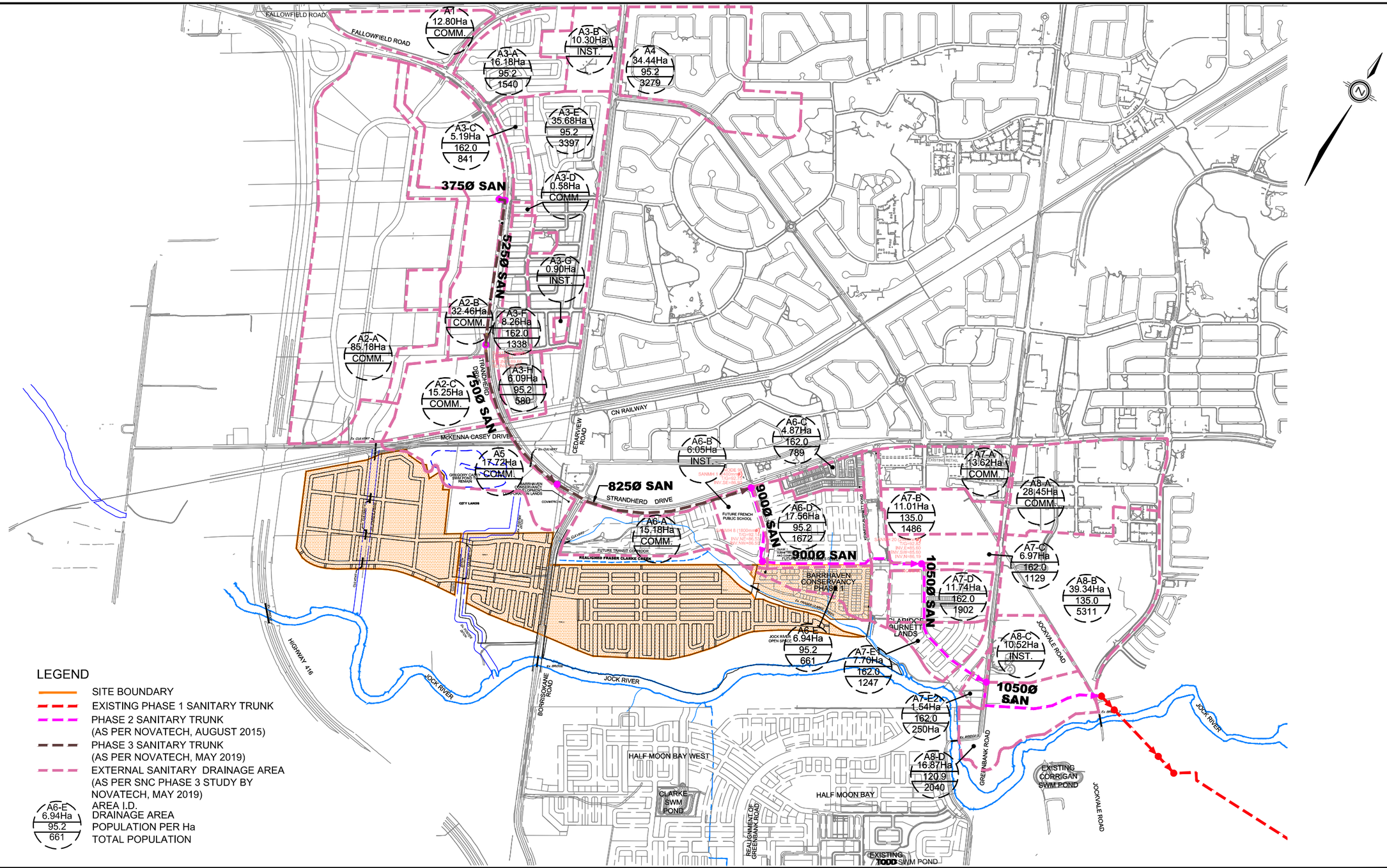
BARRHAVEN CONSERVANCY
WATERMAIN SERVICING PLAN
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	1:8000
DATE:	MARCH 2021
FIGURE:	3



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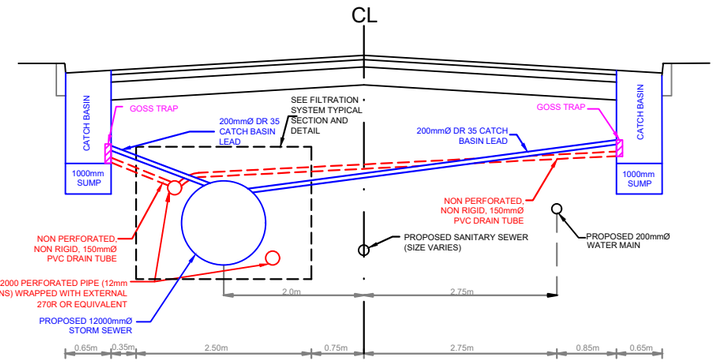
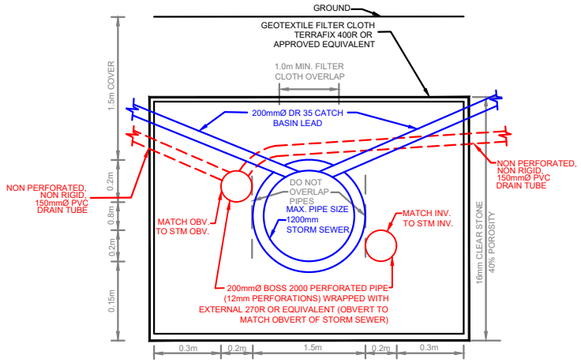
BARRHAVEN CONSERVANCY
EXTERNAL SANITARY SERVICING
CITY OF OTTAWA

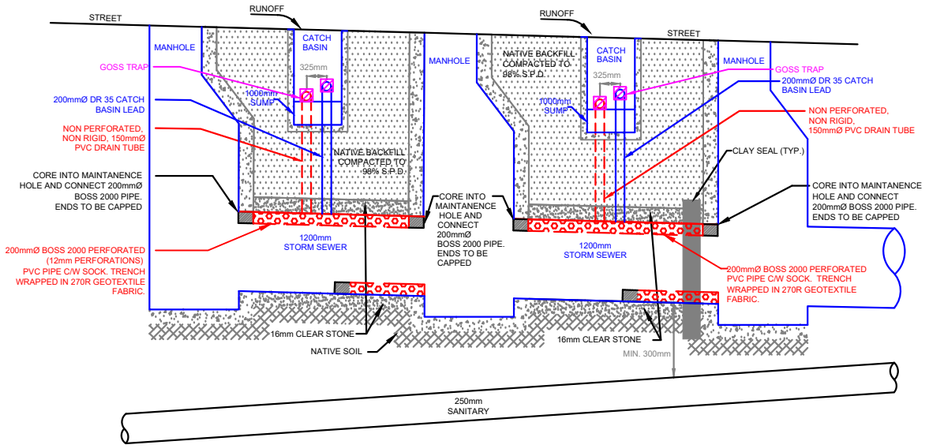
PROJECT No.:	16-891
SCALE:	1:18000
DATE:	MARCH 2021
FIGURE:	4



FILTRATION SYSTEM
LOCATION CROSS SECTION (TYP)
N.T.S.

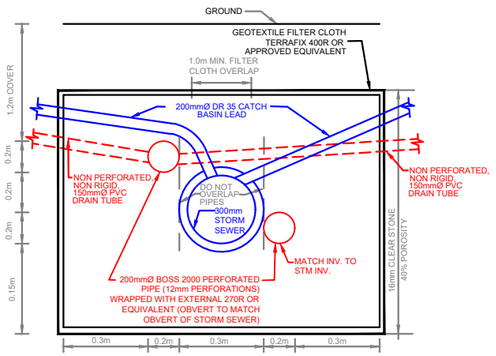


FILTRATION SYSTEM DETAIL
TYPICAL SECTION
N.T.S.

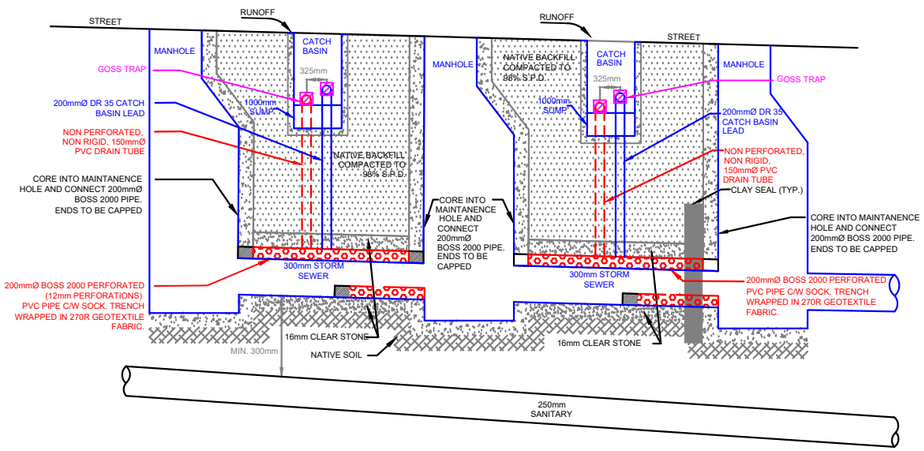


FILTRATION SYSTEM DETAIL
TYPICAL PROFILE
N.T.S.

SCENARIO 1 - DOWNSTREAM FILTRATION SYSTEM



FILTRATION SYSTEM DETAIL
TYPICAL SECTION
N.T.S.



FILTRATION SYSTEM DETAIL
TYPICAL PROFILE
N.T.S.

SCENARIO 2 - UPSTREAM FILTRATION SYSTEM

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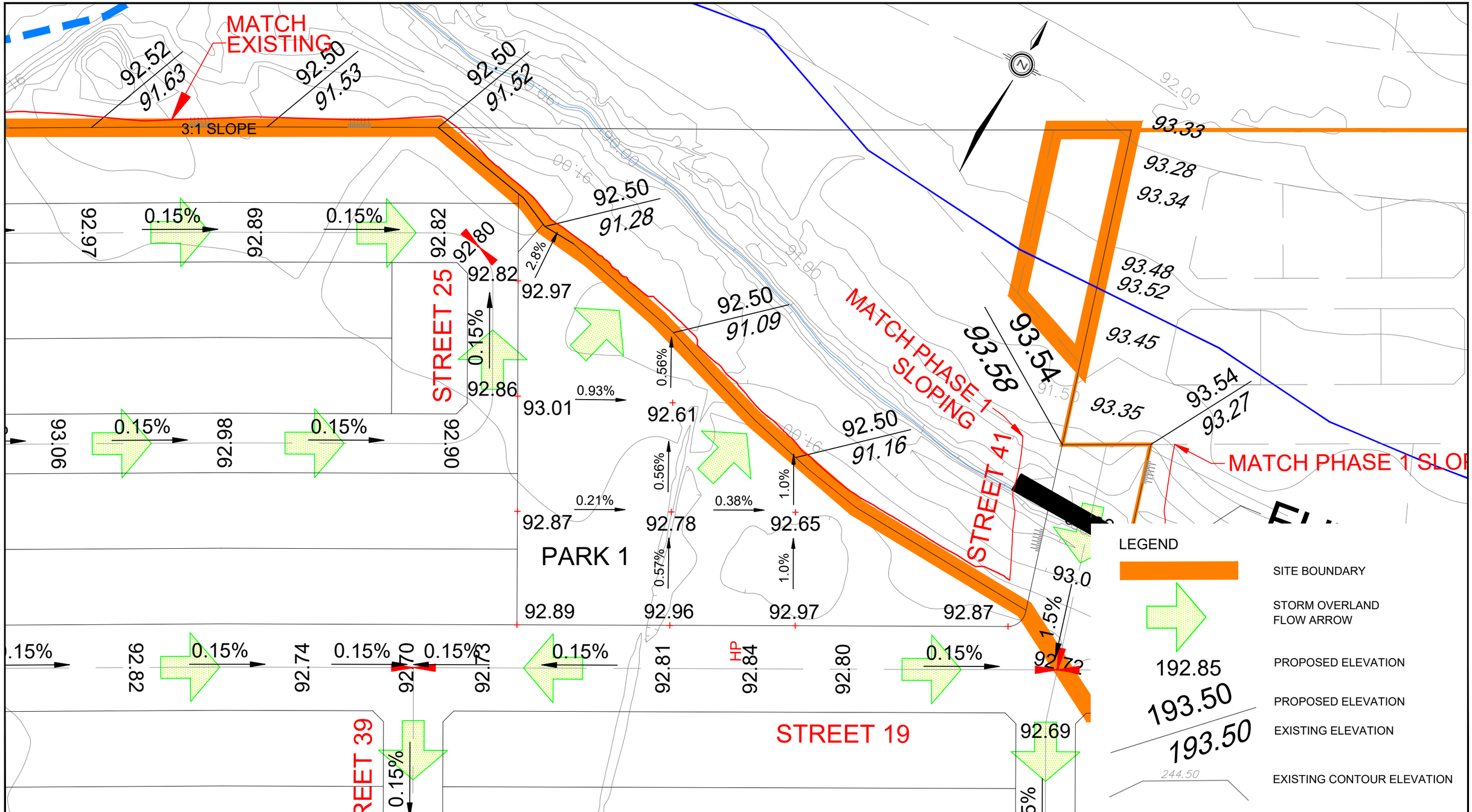
BARRHAVEN CONSERVANCY
FILTRATION SYSTEM DETAILS
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	NTS
DATE:	MARCH 2021
FIGURE:	5



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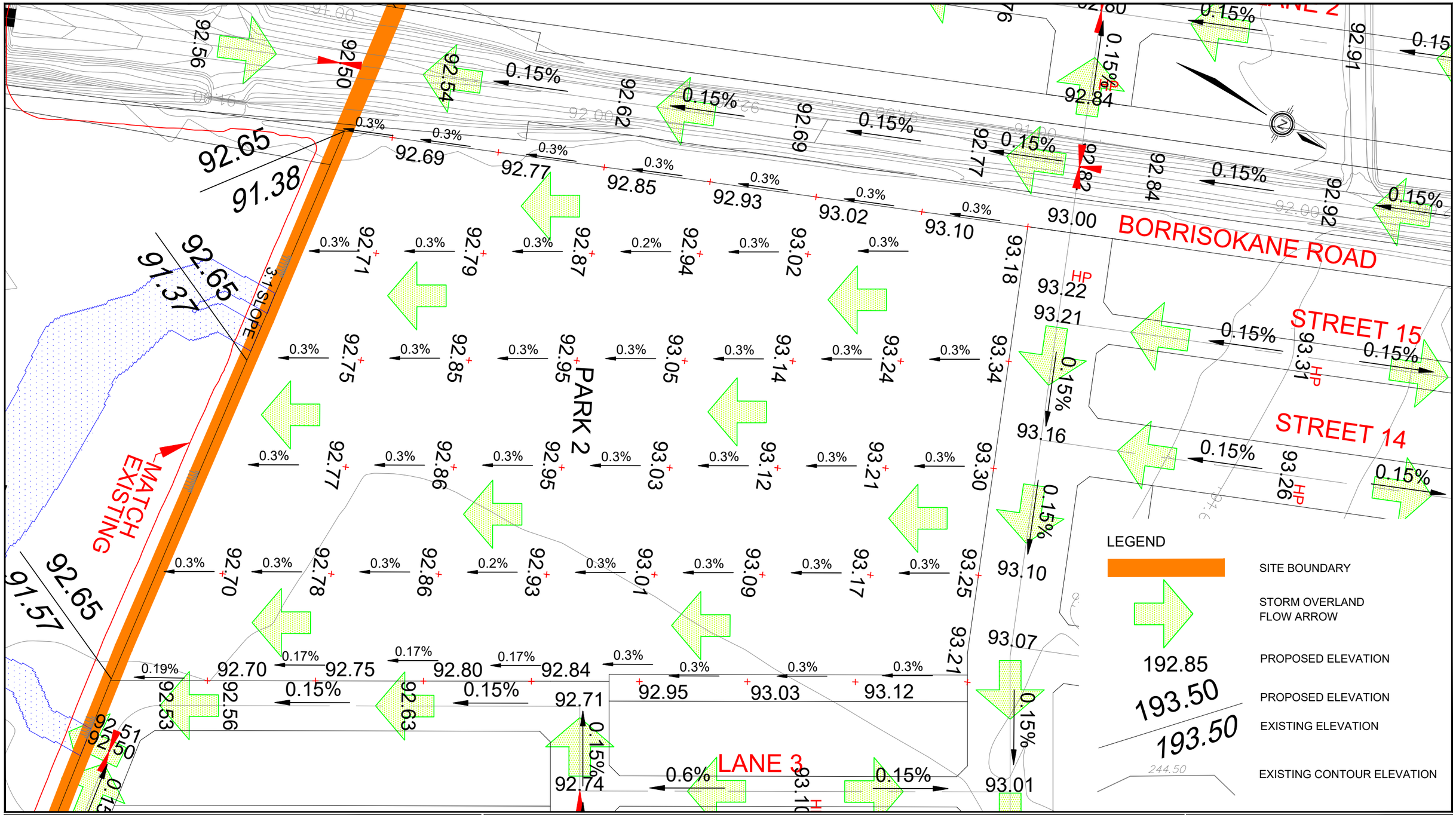
BARRHAVEN CONSERVANCY
CONCEPTUAL PARK 1 GRADING PLAN
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	1:1000
DATE:	MARCH 2021
FIGURE:	6



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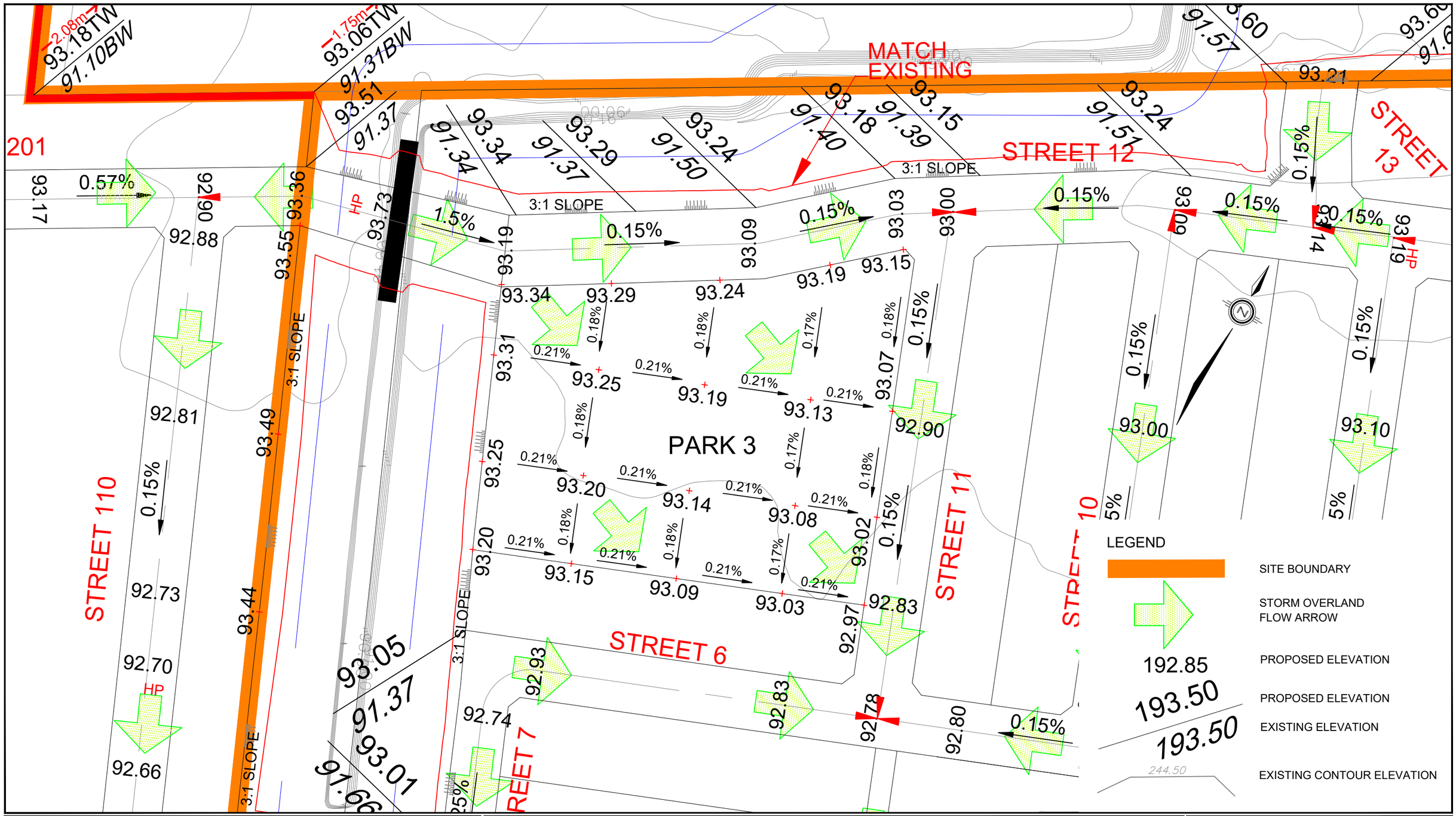
BARRHAVEN CONSERVANCY
CONCEPTUAL PARK 2 GRADING PLAN
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	1:1000
DATE:	MARCH 2021
FIGURE:	7



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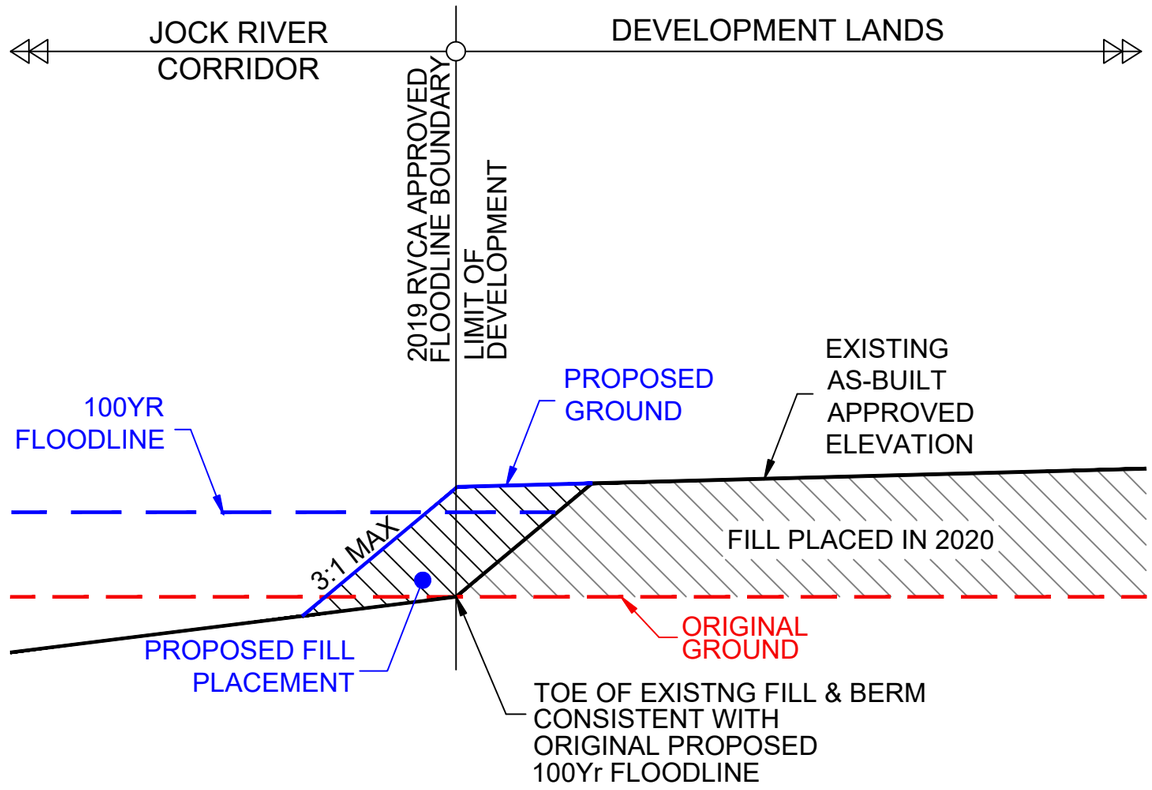
BARRHAVEN CONSERVANCY
CONCEPTUAL PARK 3 GRADING PLAN
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	1:1000
DATE:	MARCH 2021
FIGURE:	8



FLOODPLAIN BOUNDARY REVIEW

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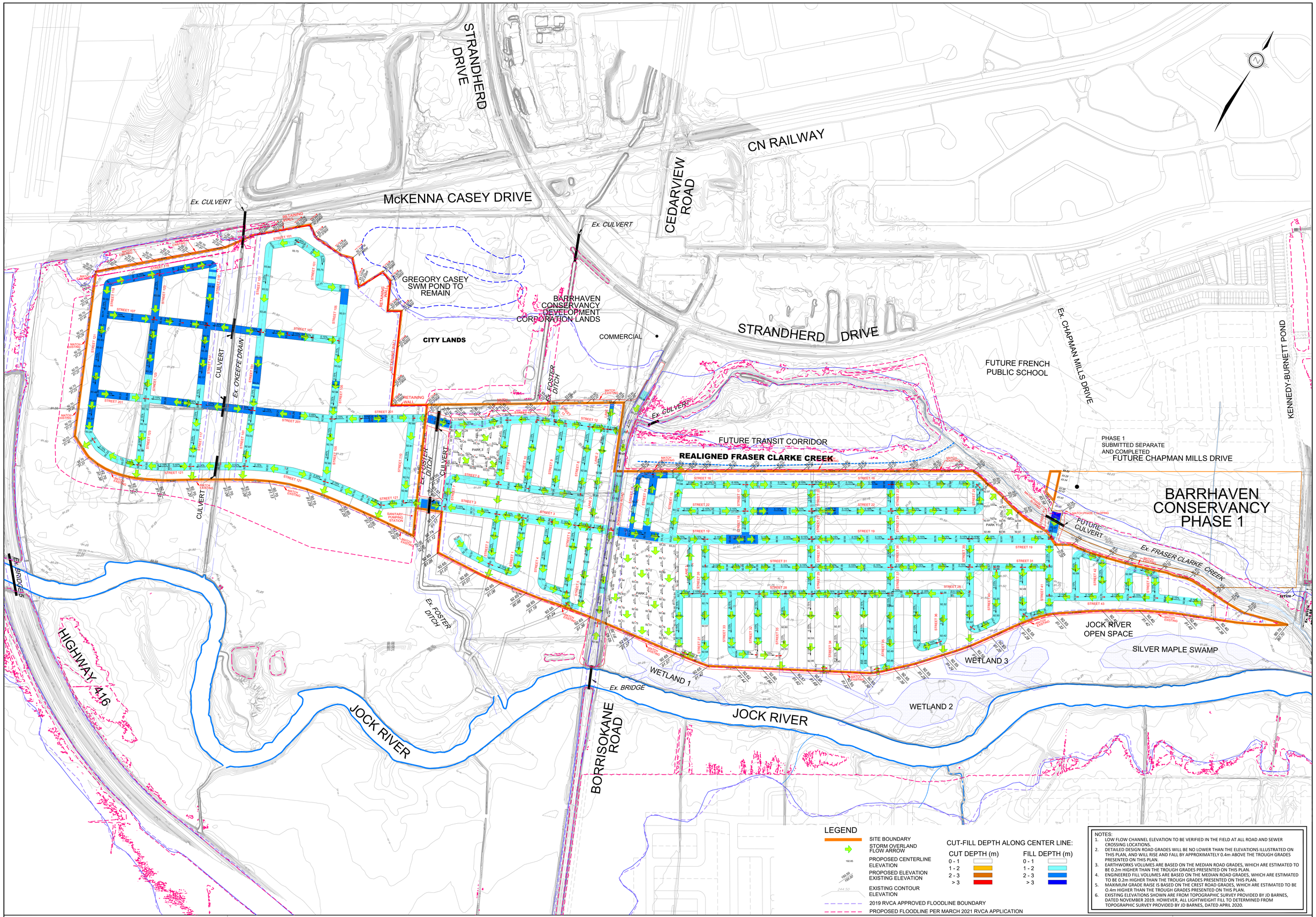
BARRHAVEN CONSERVANCY
FLOODPLAIN BOUNDARY REVIEW
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	NTS
DATE:	MARCH 2021
FIGURE:	9



LEGEND

- SITE BOUNDARY
- STORM OVERLAND FLOW ARROW
- PROPOSED CENTERLINE ELEVATION
- PROPOSED ELEVATION EXISTING ELEVATION
- EXISTING CONTOUR ELEVATION
- 2019 RVCA APPROVED FLOODLINE BOUNDARY
- PROPOSED FLOODLINE PER MARCH 2021 RVCA APPLICATION

CUT-FILL DEPTH ALONG CENTER LINE:

CUT DEPTH (m)	FILL DEPTH (m)
0 - 1	0 - 1
1 - 2	1 - 2
2 - 3	2 - 3
> 3	> 3

NOTES:

1. LOW FLOW CHANNEL ELEVATION TO BE VERIFIED IN THE FIELD AT ALL ROAD AND SEWER CROSSING LOCATIONS.
2. DETAILED DESIGN ROAD GRADES WILL BE NO LOWER THAN THE ELEVATIONS ILLUSTRATED ON THIS PLAN, AND WILL RISE AND FALL BY APPROXIMATELY 0.4m ABOVE THE TROUGH GRADES PRESENTED ON THIS PLAN.
3. EARTHWORKS VOLUMES ARE BASED ON THE MEDIAN ROAD GRADES, WHICH ARE ESTIMATED TO BE 0.2m HIGHER THAN THE TROUGH GRADES PRESENTED ON THIS PLAN.
4. ENGINEERED FILL VOLUMES ARE BASED ON THE MEDIAN ROAD GRADES, WHICH ARE ESTIMATED TO BE 0.2m HIGHER THAN THE TROUGH GRADES PRESENTED ON THIS PLAN.
5. MAXIMUM GRADE RAISE IS BASED ON THE CREST ROAD GRADES, WHICH ARE ESTIMATED TO BE 0.4m HIGHER THAN THE TROUGH GRADES PRESENTED ON THIS PLAN.
6. EXISTING ELEVATIONS SHOWN ARE FROM TOPOGRAPHIC SURVEY PROVIDED BY JD BARNES, DATED NOVEMBER 2019. HOWEVER, ALL LIGHTWEIGHT FILL TO DETERMINED FROM TOPOGRAPHIC SURVEY PROVIDED BY JD BARNES, DATED APRIL 2020.

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BARRHAVEN CONSERVANCY
CONCEPTUAL GRADING PLAN
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	1

STRANDHERD DRIVE

CN RAILWAY

CEDARVIEW ROAD

McKENNA CASEY DRIVE

Ex. CULVERT

Ex. CULVERT

GREGORY CASEY SWM POND TO REMAIN

BARRHAVEN CONSERVANCY DEVELOPMENT CORPORATION LANDS

COMMERCIAL

CITY LANDS

STRANDHERD DRIVE

FUTURE FRENCH PUBLIC SCHOOL

Ex. CHAPMAN MILLS DRIVE

KENNEDY-BURNETT POND

CULVERT

Ex. O'KEEFE DRAIN

Ex. FOSTER DITCH

Ex. CULVERT

FUTURE TRANSIT CORRIDOR

REALIGNED FRASER CLARKE CREEK

PHASE 1
SUBMITTED SEPARATE
AND COMPLETED
FUTURE CHAPMAN MILLS DRIVE

BARRHAVEN CONSERVANCY PHASE 1

CULVERT

Ex. FOSTER DITCH

CULVERT

FUTURE CULVERT

Ex. FRASER CLARKE CREEK

JOCK RIVER OPEN SPACE

SILVER MAPLE SWAMP

WETLAND 3

WETLAND 1

Ex. BRIDGE

WETLAND 2

JOCK RIVER

Ex. BRIDGE

HIGHWAY 416

JOCK RIVER

BORRISOKANE ROAD

Ex. FOSTER DITCH

HALF MOON BAY WEST

LEGEND

- SITE BOUNDARY
- STORM LOCAL SEWER
- SANITARY TRUNK SEWER
- SANITARY LOCAL SEWER
- PROPOSED WATERMAIN
- EXTERNAL SANITARY TRUNK SEWER
- EXISTING WATERMAIN
- FUTURE WATERMAIN
- 2019 RVCA APPROVED FLOODLINE BOUNDARY
- PROPOSED FLOODLINE PER MARCH 2021 RVCA APPLICATION
- STORM MANHOLE
- SANITARY MANHOLE

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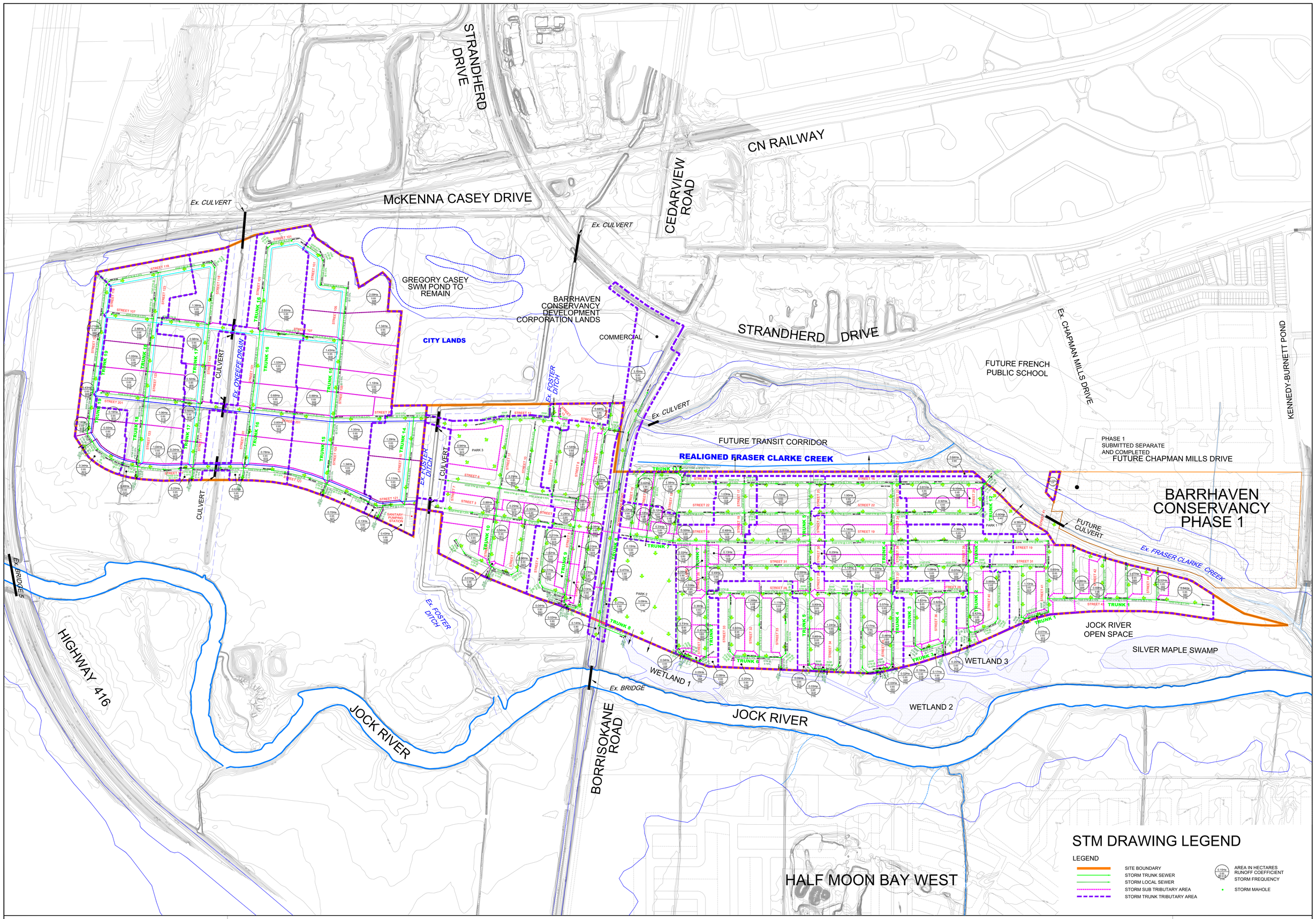
BARRHAVEN CONSERVANCY
CONCEPTUAL SERVICING PLAN
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	2



STM DRAWING LEGEND

LEGEND

- SITE BOUNDARY
- STORM TRUNK SEWER
- STORM LOCAL SEWER
- STORM SUB TRIBUTARY AREA
- STORM TRUNK TRIBUTARY AREA
- AREA IN HECTARES / RUNOFF COEFFICIENT / STORM FREQUENCY
- STORM MAHOLE

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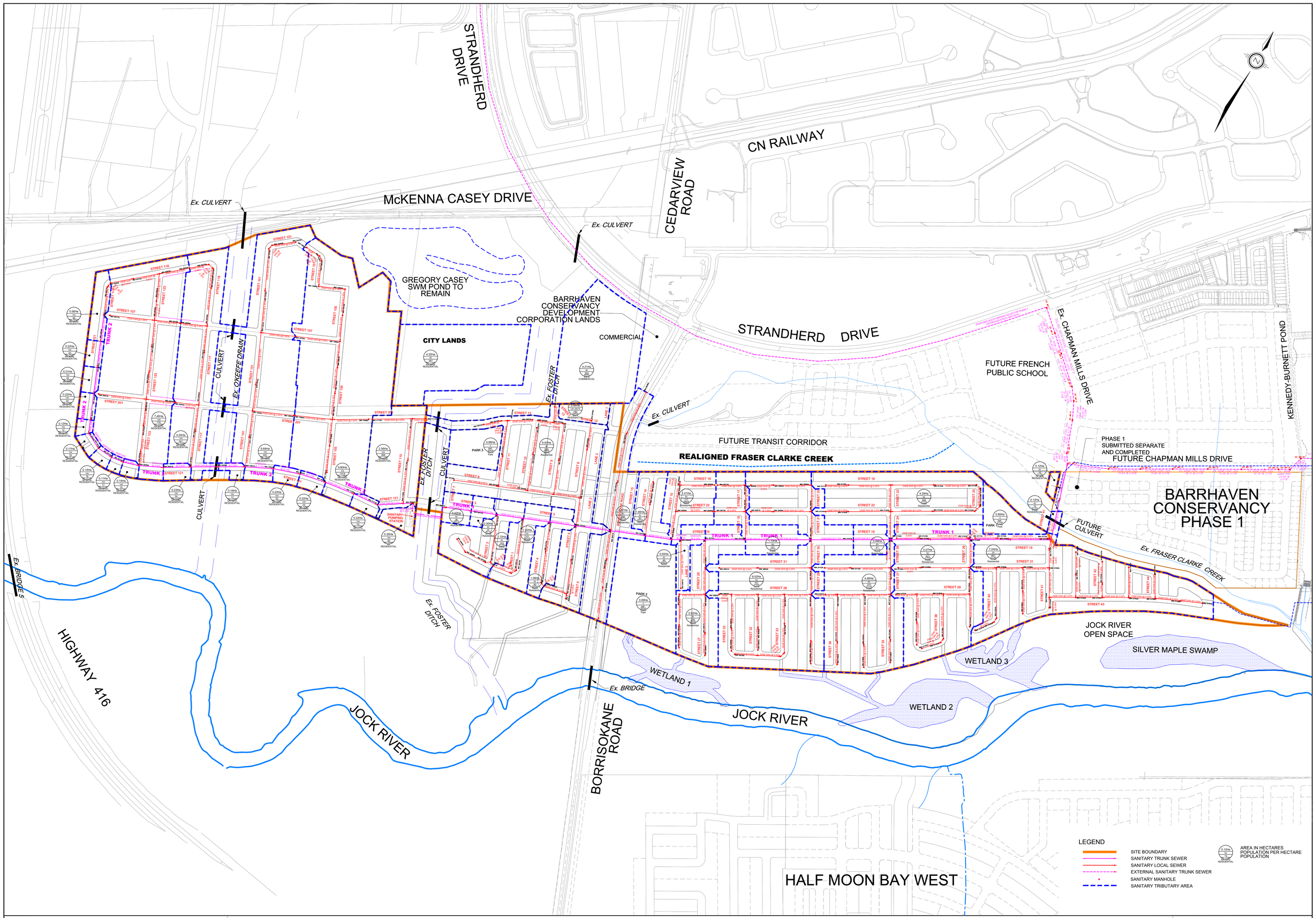
BARRHAVEN CONSERVANCY
STORM TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	3



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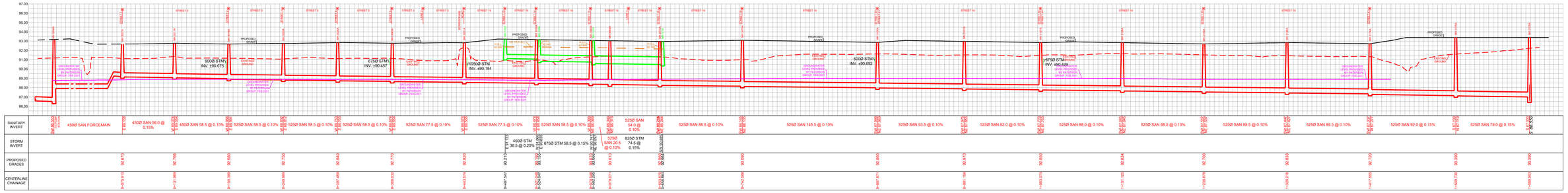
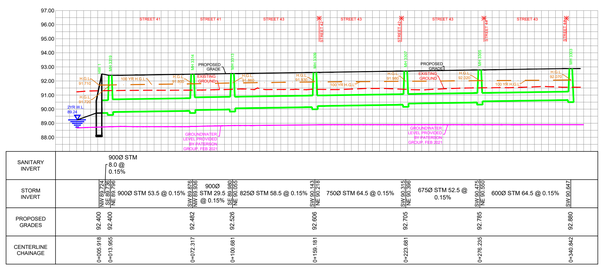
BARRHAVEN CONSERVANCY
SANITARY TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	4

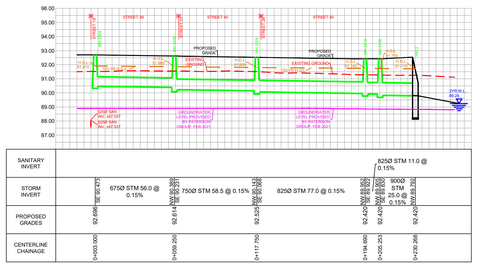
SANITARY TRUNK 1 AND STORM TRUNK 7



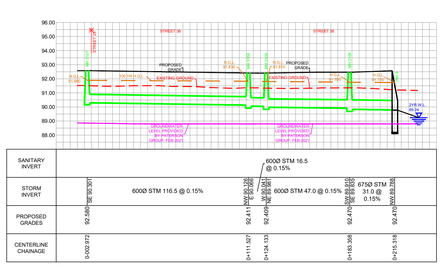
STORM TRUNK 1



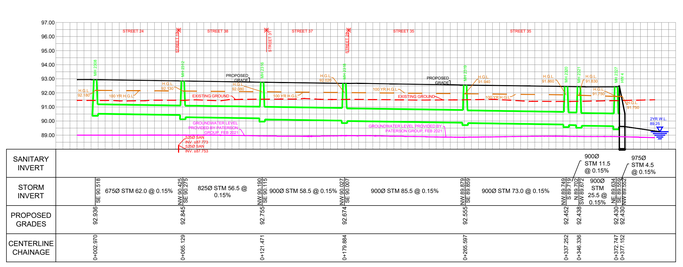
STORM TRUNK 2



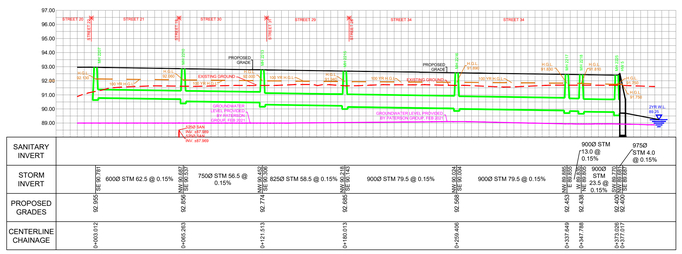
STORM TRUNK 3



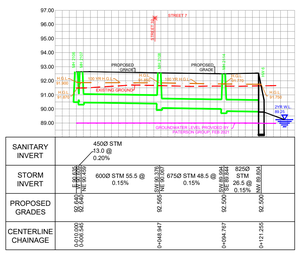
STORM TRUNK 4



STORM TRUNK 5



STORM TRUNK 6



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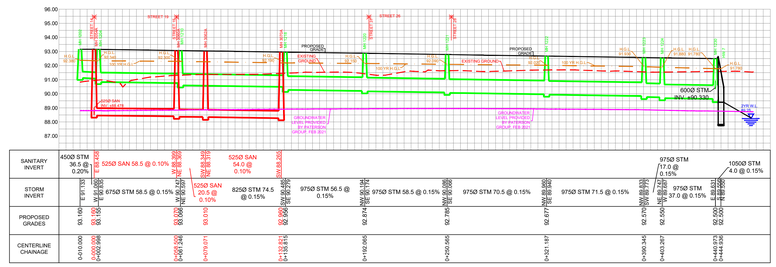

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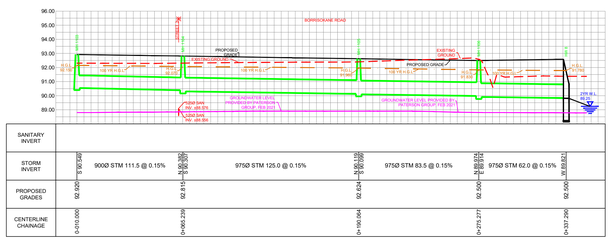

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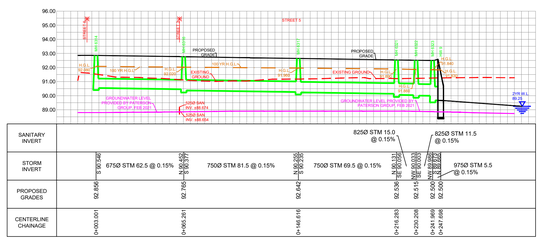

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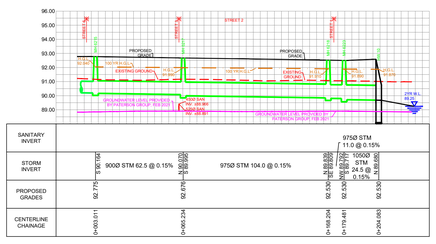

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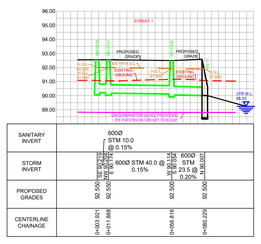
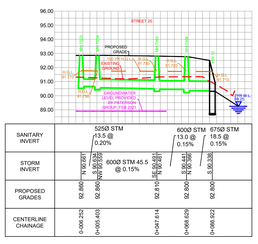


STORM TRUNK 12



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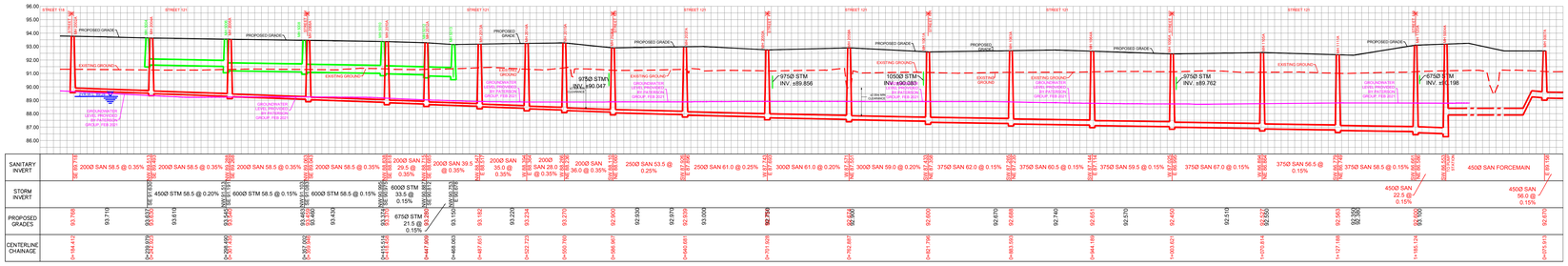
BARRHAVEN CONSERVANCY

SANITARY AND STORM TRUNK PROFILES

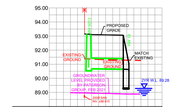
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:1500
DATE:	MARCH 2021
DRAWING No.	5

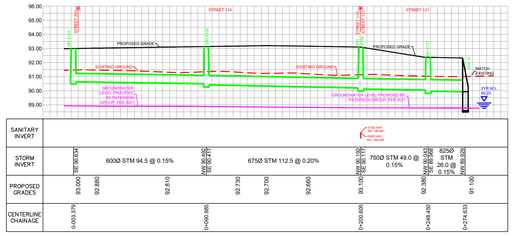
SANITARY TRUNK 2 AND STORM TRUNK 16 & 12A



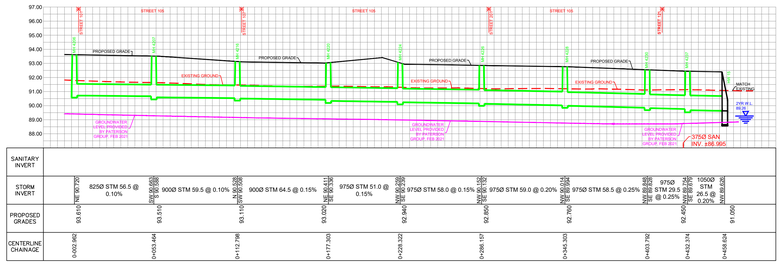
STORM TRUNK 19



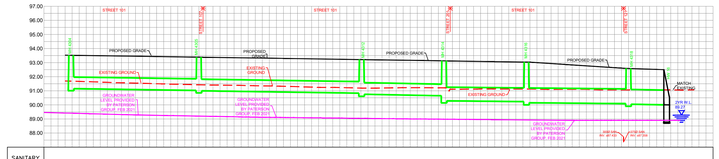
STORM TRUNK 14



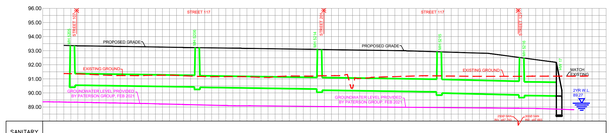
STORM TRUNK 15



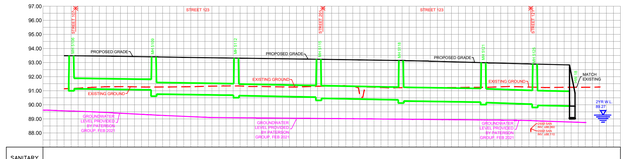
STORM TRUNK 16



STORM TRUNK 17



STORM TRUNK 18



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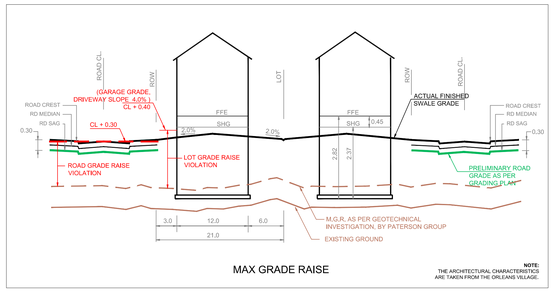
BARRHAVEN CONSERVANCY
SANITARY AND STORM TRUNK PROFILES
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:1500
DATE:	MARCH 2021
DRAWING No.	6



MAX GRADE RAISE

NOTE:
THE ARCHITECTURAL CHARACTERISTICS ARE TAKEN FROM THE ORLEANS VILLAGE.

NOTES:
1. LOW FLOW CHANNEL ELEVATION TO BE VERIFIED IN THE FIELD AT ALL ROAD AND SEWER CROSSING LOCATIONS.
2. DETAILED DESIGN ROAD GRADES REPRESENT LOW POINTS. ACTUAL DESIGN GRADES WILL RISE AND FALL BY APPROXIMATELY 0.3m ABOVE THE TROUGH/SAG GRADES PRESENTED ON THIS PLAN.
3. EARTHWORKS VOLUMES ARE BASED ON THE MEDIAN ROAD GRADES, WHICH ARE ESTIMATED TO BE 0.09m HIGHER THAN THE TROUGH/SAG GRADES PRESENTED ON THIS PLAN.

EARTHWORKS DEPTHS AND VOLUMES ARE APPROXIMATE BASED ON USING ASSUMED MEDIAN VALUES FOR THE MANY VARIABLES THAT AFFECT EARTHWORKS. WHILE THE MEDIAN DEPTH AND VOLUME ARE GENERALLY REFLECTIVE OF THE SITE CHARACTERISTICS, THE ACTUAL DEPTH AND VOLUME AT ANY PRECISE LOCATION WILL VARY (UP OR DOWN) BASED ON THE LOCATION OF HIGH POINTS AND LOW POINTS IN THE ROAD AND ON THE LOTS.

THE SITE GRADING PLAN HAS BEEN PREPARED IN GENERAL CONFORMANCE WITH CITY OF OTTAWA DESIGN CRITERIA AND HISTORIC PRACTICES. THE GRADING PLAN HAS NOT BEEN REVIEWED BY CITY OF OTTAWA AND IS SUBJECT TO CHANGE FOLLOWING CITY REVIEW. ANY CHANGE IN THE GRADING PLAN WILL HAVE A CORRESPONDING CHANGE IN EARTHWORKS.

MAXIMUM GRADE RAISE EXCEEDANCE - ROADS

Elevations Table - ROADS		
Minimum Elevation	Maximum Elevation	Color
-2.29	0.00	
0.00	0.25	
0.25	0.50	
0.50	0.75	
0.75	1.00	
1.00	1.25	
1.25	1.50	
1.50	1.75	
1.75	1.92	

MAXIMUM GRADE RAISE EXCEEDANCE - LOTS

Elevations Table - LOTS		
Minimum Elevation	Maximum Elevation	Color
-1.89	0.00	
0.00	0.25	
0.25	0.50	
0.50	0.75	
0.75	1.00	
1.00	1.25	
1.25	1.50	
1.50	1.75	
1.75	2.00	
2.00	2.32	

CONCEPTUAL GRADING PLAN: CONCEPTUAL GRADING PLAN DATED MARCH 2021

ORIGINAL GROUND: SURVEY DATED NOVEMBER 2019

MAXIMUM GRADE RAISE AS PER : GEOTECHNICAL INVESTIGATION, BY PATERSON GROUP
DATED SEPTEMBER 27, 2019 - REVISED MAY 15, 2020

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BARRHAVEN CONSERVANCY
MAXIMUM GRADE RAISE EXCEEDANCE
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	7

APPENDIX A

RVCA CONFIRMATION

Conservation Partners
Partenaires en conservation

Mississippi Valley Conservation Authority | Rideau Valley Conservation Authority | South Nation Conservation / Conservation de la Nation Sud

May 31, 2020

City of Ottawa
110 Laurier Avenue,
Ottawa, ON K1P 1J1

Attention: Doug James

Subject: **Barrhaven Conservancy Development Corporation**
Status of As-Built Grading
Related: RVCA Permit # RV5-4419 and RV5-1718)
Vacant land on the north side of the Jock River generally bounded by Highway 416 and the Fraser Clarke Creek, City of Ottawa

Dear Mr. James:

The RVCA has reviewed information recently submitted by David Schaeffer Engineering Ltd. including as-built grades in support of works approved by the Rideau Valley Conservation Authority under Section 28 of the Conservation Authorities Act (Permit File Number: RV5-4419 and RV5-1718). The RVCA offers the following comments related to future development proposed for the area within the scope of approved the permits.

The subject lands as identified as part of Lots 11, 12, 13, 14, 15 former geographic Township of Nepean, Concessions 3 & 4, now in the City of Ottawa have been addressed through the general placement of fill and the formal construction of a berm around the perimeter of four blocks within the subject lands. The site specific elevations of the berm have been reviewed by the RVCA and are generally accepted as being appropriate as removing these lands from the floodplain in accordance with the aforementioned approved permits.

The detailed grading plans submitted by David Schaeffer Engineering Ltd. titled As Constructed plan of Berms and Cut Areas – Barrhaven Conservancy", dated May 27, 2020, prepared by Adam Fobert, P.Eng. of DSEL, DSEL File Number 16891 using the following resources:

- Orthoimagery Survey, dated April 20, 2020, acquired and processed by First Base Solutions a division of JD Barnes Ltd and certified by Chris Fox, O.L.S., A.L.S., P. Eng. of JD Barnes Ltd, file reference number 2037OTTA0001; ·
- Topographic Detail of Part of Lot 13, 14,&15 Concession 3&4, dated May 6, 2020, certified by Chris Fox, O.L.S., A.L.S., P. Eng. of JD Barnes Ltd, file reference number 16-10-127-00; ·

- Contractor as-built collected by the Tomlinson Group of Companies of Phase 1 dated May 15, 2020, reviewed by Jeremy Chouindard, EIT and certified by Stephen Pichette, P.Eng. of DSEL

The above information indicates that land within the berm have generally been raised to exceed the flood elevation cross sections throughout the project area. However, it is noted that as this is considered an active construction site the presence of lower areas to manage construction, on-site erosion and sediment control show lower elevations. These areas will be addressed through the construction process, as sufficient material is presently stockpiled for this purpose to ensure. For the purposes of the floodplain, these areas are considered removed by virtue of the berm.

Conclusion:

The grade modifications, including construction of the berm and filling behind the berm, as documented in the above noted "as constructed" plans, have been completed in accordance with the plans approved by the RVCA under permits RV5-4419 and RV5-1718.

Please feel free to contact our office with any questions or comments you may have.

Respectfully,

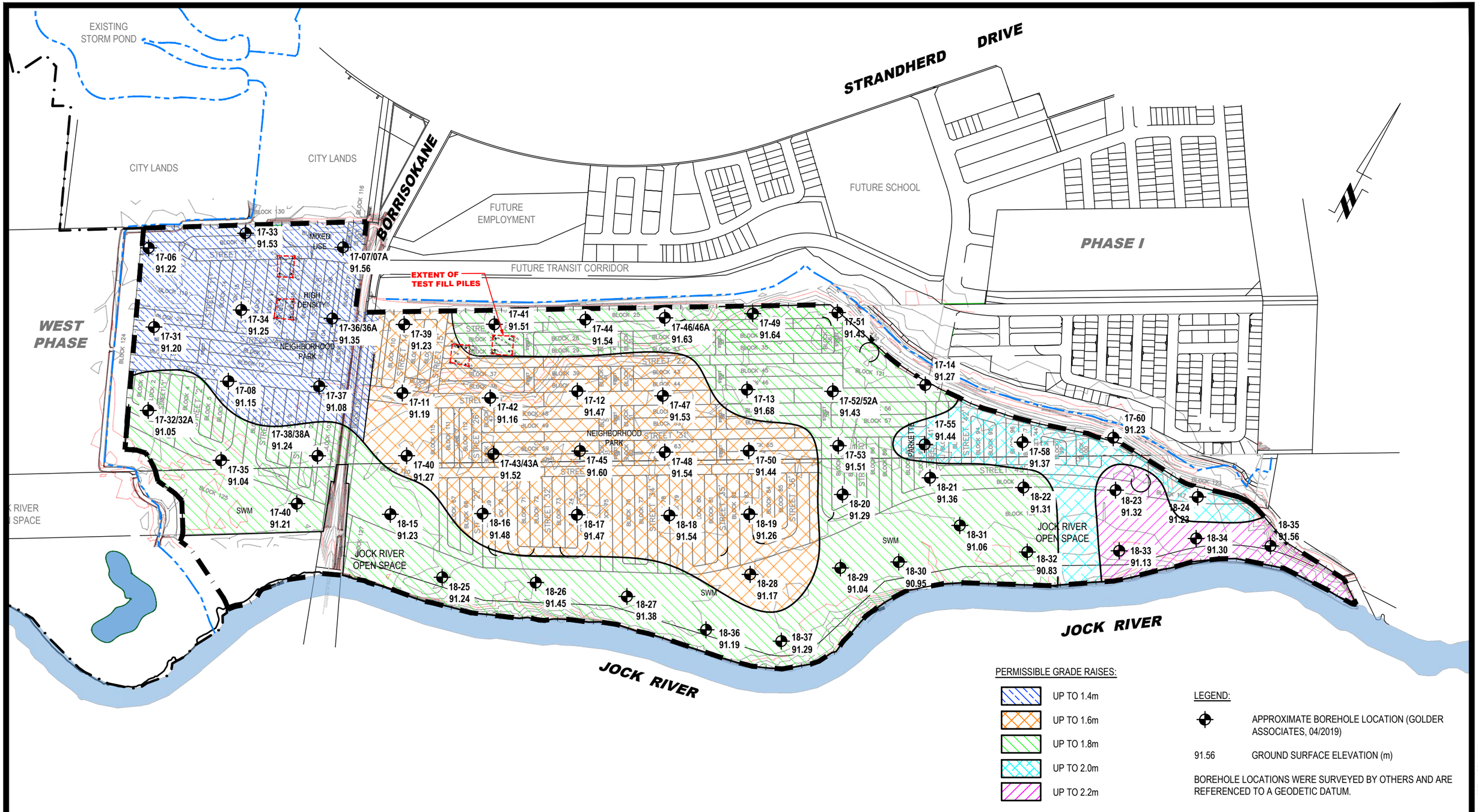
Terry K. Davidson

Terry Davidson, P.Eng
Director of Engineering and Regulations
Rideau Valley Conservation Authority
613-692-3571 x1107
terry.davidson@rvca.ca

attach: Technical memorandum by Evelyn Liu, M.Asc., P.Eng. Water Resources Engineer, RVCA dated May 29, 2020

APPENDIX B

GEOTECHNICAL



PERMISSIBLE GRADE RAISES:

- UP TO 1.4m
- UP TO 1.6m
- UP TO 1.8m
- UP TO 2.0m
- UP TO 2.2m

LEGEND:

- APPROXIMATE BOREHOLE LOCATION (GOLDER ASSOCIATES, 04/2019)
- 91.56 GROUND SURFACE ELEVATION (m)

BOREHOLE LOCATIONS WERE SURVEYED BY OTHERS AND ARE REFERENCED TO A GEODETIC DATUM.

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
2	REVISED CONCEPTUAL PLAN, UPDATED GRADE RAISE RESTRICTIONS	04/02/2021	OC
1	REVISED CONCEPTUAL PLAN, ADDED TEST FILL PILE INFO AND UPDATED GRADE RAISE RESTRICTIONS	14/05/2020	DJG

CAIVAN COMMUNITIES

GEOTECHNICAL INVESTIGATION
PROP. RESIDENTIAL DEVELOPMENT - CONSERVANCY LANDS EAST
OTTAWA, ONTARIO

Title:

PERMISSIBLE GRADE RAISE PLAN

Scale: 1:6000	Date: 09/2019
Drawn by: MPG	Report No.: PG5036-1
Checked by: OC	**PG5036-2**
Approved by: DJG	Revision No.: 2

11x17

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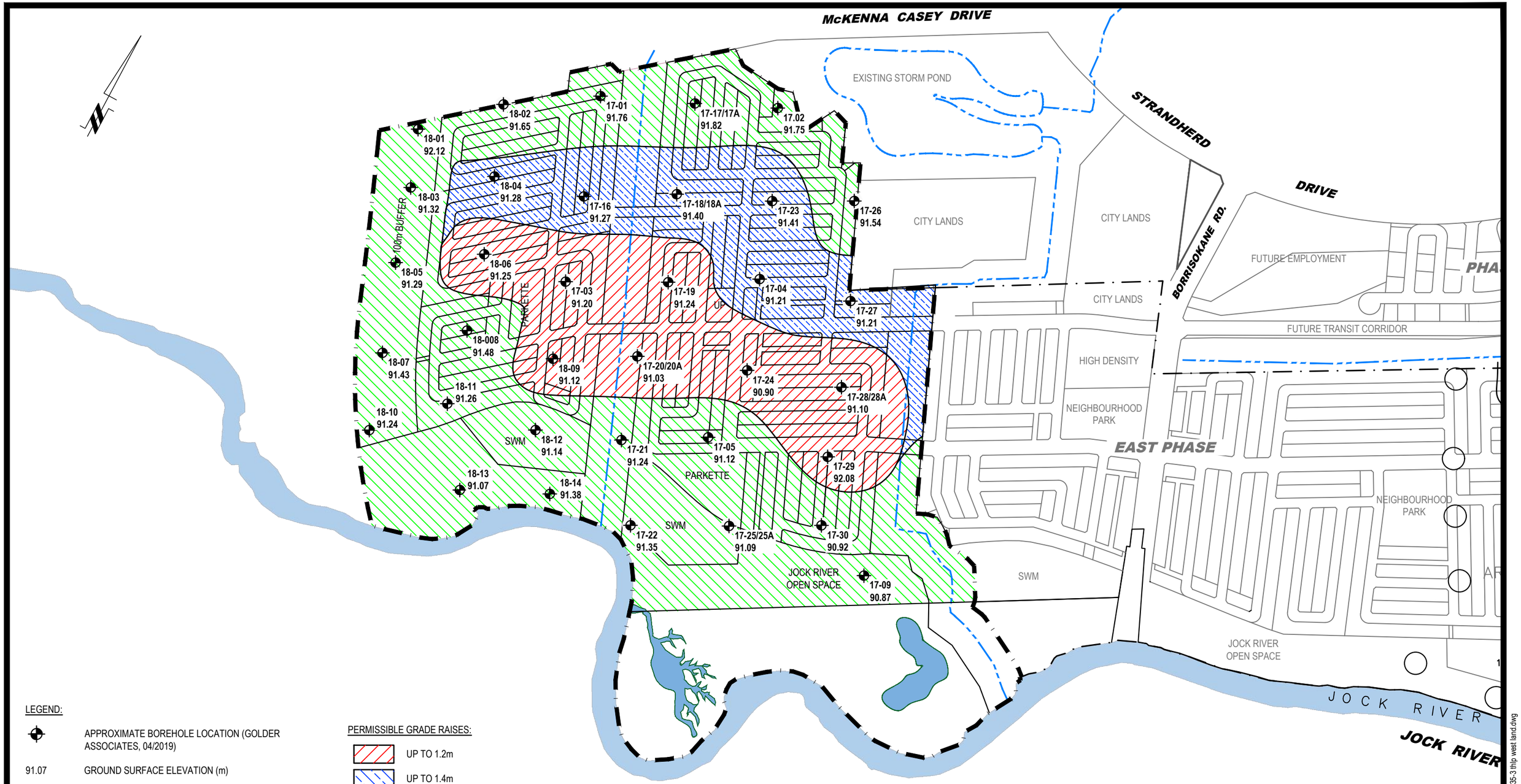

LEGEND:

- APPROXIMATE BOREHOLE LOCATION (GOLDER ASSOCIATES, 04/2019)
- 91.07 GROUND SURFACE ELEVATION (m)

BOREHOLE LOCATIONS WERE SURVEYED BY OTHERS AND ARE REFERENCED TO A GEODETIC DATUM.

PERMISSIBLE GRADE RAISES:

- UP TO 1.2m
- UP TO 1.4m
- UP TO 1.8m

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consulting engineers

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NO.	REVISIONS	DATE	INITIAL
0			

CAIVAN COMMUNITIES

GEOTECHNICAL INVESTIGATION
PROP. RESIDENTIAL DEVELOPMENT - CONSERVANCY LANDS WEST
OTTAWA, ONTARIO

Title:
PERMISSIBLE GRADE RAISE PLAN

Scale: 1:5000	Date: 09/2019
Drawn by: MPG	Report No.: PG5036-2
Checked by: SD	PG5036-5
Approved by: SD	Revision No.:

11x17

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patersongroup memorandum

consulting engineers

re:	**Road Grade Exceedance Review** Proposed Residential Development - Conservancy Lands Borrisokane Road - Ottawa
to:	Caivan Communities - **Mr. Hugo Lalonde** - hugo.lalonde@caivan.com David Schaeffer Engineering Ltd. - **Mr. Kevin Murphy** - KMurphy@dsel.ca
date:	March 8, 2021
file:	PG5036-MEMO.10

Paterson Group (Paterson) prepared the following memo to provide a geotechnical review of permissible grade raise exceedances of the proposed roadway grading at various locations throughout the aforementioned development. This memorandum should be read in conjunction with Paterson Group Report PG5036-1 Revision 1 dated February 3, 2021.

The following drawings prepared by David Schaeffer Engineering Ltd. were reviewed from a geotechnical perspective:

- ❏ Barrhaven Conservancy - Maximum Grade Raise Exceedance - Project No. 16-891 - Drawing No. 6 and 7 - dated March 2021
- ❏ Latest road grading AutoCAD file - 891_Grad_PS_Lowered_Mar5-21

Based on the available drawings, it is understood that minor permissible grade raise exceedances occur within the proposed roadway grades at various locations throughout the subject development.

Geotechnical Review

Based on our detailed review, the grading exceedances are considered acceptable from a geotechnical perspective and lightweight fill will not be required within the City of Ottawa right-of-way(s).

We trust that this information satisfies your immediate requirements.

Paterson Group Inc.



Owen Canton, E.I.T.





David J. Gilbert, P.Eng.

Paterson Group Inc.

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APPENDIX C

ENVIRONMENTAL

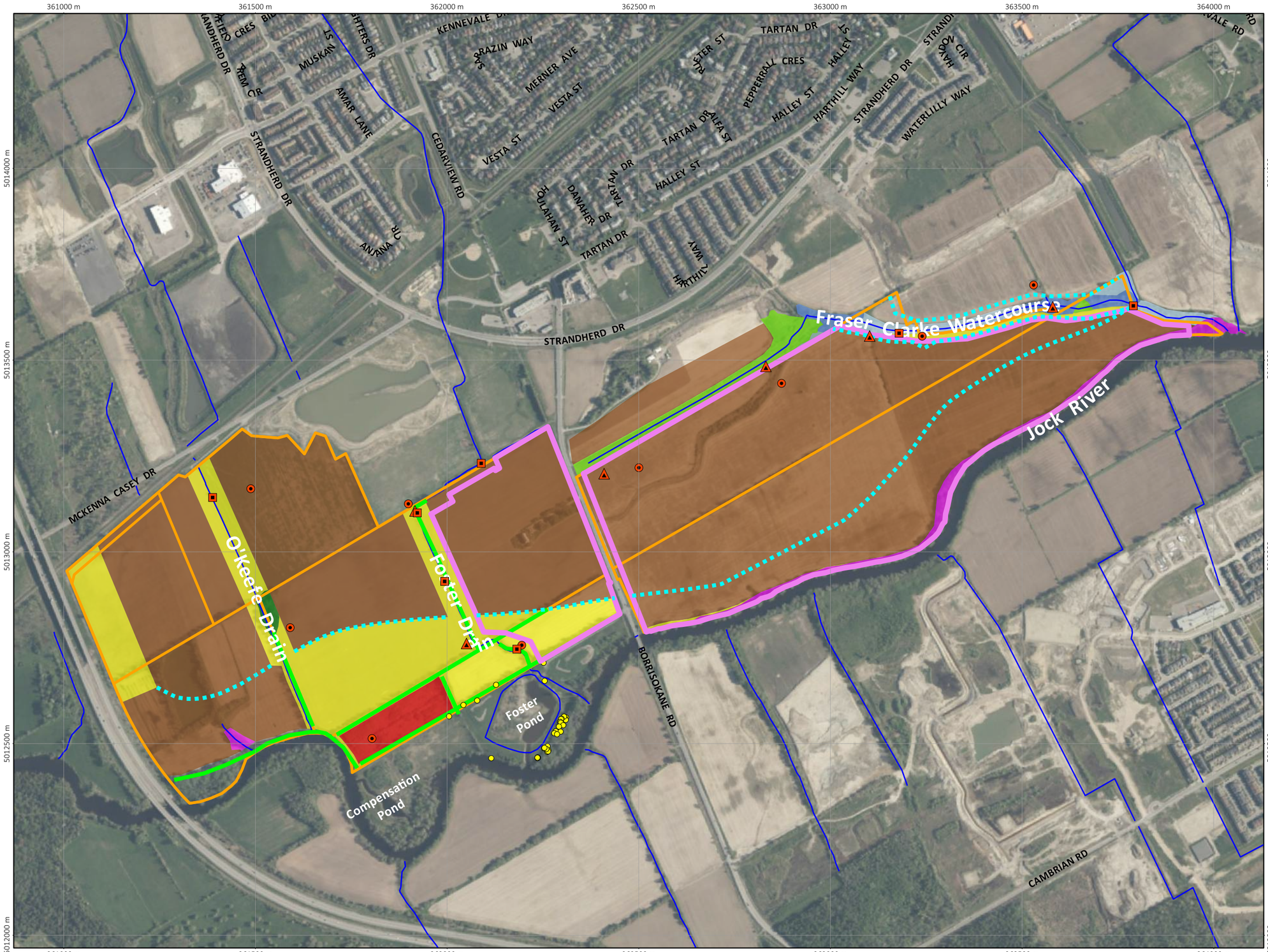


Figure 3 Current Existing Conditions

Legend

- Property parcels included within the Barrhaven Conservancy Community
- Barrhaven Concervancy East
- Edge of Regulatory Floodplain
- Watercourses / Drainge Features
- Hedgerow
- Butternut

Wildlife Surveys

- Bird Staion
- Frog Station
- Turtle Station

ELC

- CUT1
- Construction
- FOD3
- MAM2
- OAG
- Retained Hedge
- SWD2
- SWT2

N

0 500 m

Project: Barrhaven Conservancy Development Corporation
Created By: AF
MTM Zone 9
(NAD 83)
Printed on: 2020-07-21

KILGOUR & Associates



Figure 5 Conceptual Plan for the Jock River Riparian Corridor

Notes: Figure provided by NAK Design based on input by Kilgour & Associates Ltd.

APPENDIX D

WATER SERVICING

Stantec

Memo

To:	Kevin Murphy David Schaeffer Engineering Ltd.	From:	Jasmin Sidhu / Kevin Alemany Stantec Consulting Ltd.
File:	163401437 / 163401660	Date:	March 5, 2021

Reference: Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation

OVERVIEW

Stantec Consulting Ltd. (Stantec) was retained by Barrhaven Conservancy Development Corporation to perform a hydraulic assessment for a land parcel located adjacent to Pressure Zone (PZ) 3SW (previously known as PZ BARR). This technical memo reviews and assesses the limitations/opportunities associated with servicing the parcel in question as it is located near the Jock River. The parcel in question, which is divided into east (Conservancy East) and west (Conservancy West) portions, is herein referred to as the Barrhaven Conservancy Lands.

BACKGROUND REVIEW

As part of the assessment, the following reports were reviewed:

- City of Ottawa 2013 Water Master Plan, Stantec Consulting Ltd., September 2013;
- Kennedy-Burnett Potable Water Master Servicing Study, Stantec Consulting Ltd., April 2014;
- SUC Water Infrastructures Upgrades – Hydraulic Assessment, Stantec Consulting Ltd., July 2015; and,
- Barrhaven Master Servicing Study Addendum – Revised Potable Water and Sanitary Servicing Analysis for the Barrhaven South Urban Expansion Area, Stantec Consulting Ltd., March 2017.

ZONE 3SW AND ZONE SUC

ZONAL WATER DEMANDS & POPULATION PROJECTIONS

Zone 3SW services the lands adjacent to the proposed Barrhaven Conservancy Lands development. In 2015, the City embarked on a large initiative to reconfigure the pressure zones servicing Barrhaven and the southern reaches of Ottawa, and area called the South Urban Community (SUC). The purpose of the zone reconfiguration was to improve reliability, to improve efficiencies and to provide increased pumping capacity for future growth.

Table 1 shows the projected water demands and **Table 2** shows the projected populations of Zone 3SW and Zone SUC before and after the pressure zone reconfiguration. These values were adapted from the City of Ottawa 2013 Water Master Plan (Stantec, 2013) and the SUC Water Infrastructure Upgrades – Hydraulic Assessment (Stantec, 2015) reports.

Reference: **Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation**

Table 1: Water Demand Projections

Zone	Existing Pre-Zone Reconfiguration (MLD)			2018 Post-Zone Reconfiguration (MLD)			2031 Post-Zone Reconfiguration (MLD)			2060 Post-Zone Reconfiguration (MLD)		
	BSDY	MXDY	PKHR	BSDY	MXDY	PKHR	BSDY	MXDY	PKHR	BSDY	MXDY	PKHR
3SW	12.0	26.2	52.3	5.7	11.7	27.0	6.3	12.8	29.5	6.4	12.9	29.8
SUC	3.4	7.3	14.6	24.7	47.6	90.8	44.4	78.7	148.9	63.3	107.6	207.1

Table 2: Population Projections

Zone	Existing Pre-Zone Reconfiguration	2018 Post-Zone Reconfiguration	2031 Post-Zone Reconfiguration	2060 Post-Zone Reconfiguration
3SW	48,917	29,995	30,363	31,183
SUC	5,737	137,909	175,073	234,538

PUMPING CAPACITY

The newly installed pumps for Zone 3SW are sized based on population/demand projections for lands within current approved growth areas. They do not include demands attributed to the Barrhaven Conservancy Lands. As such, the current pumping capacity into Zone 3SW is not sufficient to supply these additional lands along with the growth already planned for in Zone 3SW up to 2060 projections.

The Fallowfield Road Pumping Station (FRPS) (previously known as Barrhaven Reservoir Pumping Station) and Barrhaven Pumping Station (BPS) will continue to service Zone 3SW post pressure zone reconfiguration; however, both pump stations are being equipped with new pumps that were sized for the post pressure zone reconfiguration water demands in Zone 3SW.

The new FRPS is already commissioned and in operation while the BPS is currently undergoing pumping tests on the newly installed pumps as part of its commissioning process.

The BPS is changing from a single zone station to a dual zone pump station and will operate in conjunction with Ottawa South Pumping Station (OSPS) to service the newly expanded Zone SUC. It will also continue to service the smaller/reduced Zone 3SW with one of its pumps.

The Ottawa South Pumping Station is the second pumping station that will feed Zone SUC. It is currently undergoing a detailed design for its upgrade. It may be possible to make some provisions to account for the additional demands in SUC however it is recommended that this be considered as soon as possible through discussions with the City.

Table 3 provides the pumping capacities into each pressure zone post zone reconfiguration upgrades.

Table 3: Pumping Capacity Post-Zone Reconfiguration

Zone	Firm Pumping Capacity (MLD)	Total Pumping Capacity (MLD)
3SW	14	21
SUC	113	173

Due to the elevated balancing storage provided by Moodie Tank, the firm capacity of the 3SW pumps must be able to supply the future 2060 maximum day demand of 12.9 MLD as shown in **Table 1**. The 3SW pumps were sized based on 2060 demands as they do not increase significantly compared to 2018 post zone reconfiguration demands.

In Zone SUC, without elevated storage, the firm capacity of the pumps must be able to supply the greater demand of peak hour (90.8 MLD) or maximum day plus fire flow (66.3 MLD; FF = 18.7 MLD) for post zone reconfiguration demands. It should be noted that pumping capacity at the SUC pump stations will be further increased in the future to meet 2031 and 2060 projected demands.

The above shows that both the 3SW and SUC pumps have been sized to meet the existing and future demands within the previously established growth areas. For the purpose of this assessment, it is assumed that the demand for the Barrhaven Conservancy Lands is not accounted for in the current capacity of the Zone 3SW pumps but can be accommodated by the SUC pumps. The impact on district-level distribution pumping and needs will be further reviewed as part of the City's 2021 Water Master Plan.

HYDRAULIC ASSESSMENT

WATER DEMANDS

Following the 2013 Water Master Plan "Design Criteria and Levels of Service", when projected population exceeds 3,000 persons, basic unit demands for Zone/System Levels are to be used. For residential land-uses, single family and semi-detached homes were considered to have similar demands, with both types of residential home categorized under "single family home" or SFH. All townhomes were categorized under "multi-level townhomes" or MLT and all apartments or high-density units were categorized under APT. Consumption rates for SFH, MLT and APT are presented in **Table 4**.

To determine the MXDY demand, an outdoor water demand (OWD) of 1,049 L/SFH/d is allocated to all SFH units. This is a fixed value and does not change with zone demand. This outdoor water demand is added to the basic day (BSDY) demand to obtain the MXDY demand.

The unit counts were provided by David Schaeffer Engineering Ltd. (DSEL) via email on March 1, 2021. The estimated water demands are presented in **Table 4**. This additional demand is not within the current capacity of the new pumps within Zone 3SW.

Table 4: Estimated Water Demands of the Barrhaven Conservancy Lands

Unit Types	Unit Count			PPU	Pop.	L/c/d	BSDY (MLD)	MXDY (MLD)
	Conservancy East	Conservancy West	Total					
Single Family	730	775	1,505	3.4	5,117	180	0.92	2.50
Townhouse	445	525	970	2.7	2,619	198	0.52	0.52
Rear-Lane Townhouse	165	-	165	2.7	446	198	0.09	0.09
High Density	100	-	100	2.1	210	219	0.05	0.05
Total	***1,440***	***1,300***	***2,740***		***8,392***		***1.57***	***3.15***

POTABLE WATER SERVICING ALTERNATIVES

Figures 1 to **6** and **Table 5** present alternatives to service the Barrhaven Conservancy Lands with potable water and discusses limitations of each alternative. For system reliability purposes, primary and secondary feeds have been identified for each alternative. It should be noted that the alignments shown in **Figures 1** to **6** are approximate with the intent to show general locations for possible connections.

Based on hydraulic modelling of trunk main looping through the Conservancy Lands and review of previously completed servicing studies for adjacent lands, all alternatives are anticipated to satisfy the City's objective minimum pressure of 40 psi during peak hour demand and achieve a typical planning level fire flow value 13,000 L/min or greater. These results are discussed further in the following sections. Detailed modelling results are provided in the **Hydraulic Modelling Results** attachment.

Alternative 1 – Servicing from 3SW

Figure 1 shows the connection points to the Kennedy-Burnett watermains that are fed by the future Strandherd Drive watermain.

Based on the Kennedy-Burnett Potable Water Master Servicing Study (Stantec, 2014), which is a subdivision adjacent to the Barrhaven Conservancy Lands, it is likely the Barrhaven Conservancy Lands will experience pressures greater than the City of Ottawa's objective pressure of 80 psi during basic day demands if operating at Zone 3SW pressure. This is corroborated by hydraulic modelling results which show the maximum pressure along the trunk main looping through the Conservancy Lands under basic day demands to be approximately 88 psi. Therefore, pressure mitigation measures would need to be considered (i.e., pressure reducing valves (PRVs) at individual service connections) for this servicing alternative.

Pumping capacity upgrades at FRPS and/or BPS would be required to service the Barrhaven Conservancy Lands from Zone 3SW on a permanent basis. As an example of costs, recent upgrades to the FRPS totaled approximately $1.5 million. Additional works at FRPS and BPS to service the Conservancy Lands could include retrofitting the pump(s), piping, valving and supporting infrastructures as well as instrumentation, electrical and mechanical aspects. A more in-depth assessment would be required to determine the potential costs.

Another alternative to service the Barrhaven Conservancy Lands from Zone 3SW would be on a temporary basis. As shown in **Figure 1**, the initial phase of development (estimated boundary shown) could be serviced at 3SW pressure and switched over to SUC pressure at a later time as development takes place. While this

alternative is likely to be technically feasible, the extent of development within the Barrhaven Conservancy Lands that can operate at 3SW pressure in the interim will depend on the City's planning and approvals currently in place. This alternative essentially borrows capacity from existing approved areas within Zone 3SW until such time that the borrowed capacity is replaced through system upgrades. Through discussions with City staff, the City has indicated that this is not a desirable option.

Alternative 2 – Servicing from SUC

Figures 2 to **5** show the Barrhaven Conservancy Lands being serviced by new SUC watermains and include various options for a secondary feed.

Both Alternatives 2a and 2b propose a new SUC watermain running parallel to the future 3SW Strandherd watermain as the primary feed. This feed would then run south, parallel to the existing watermains that currently service the existing subdivisions north of the Conservancy Lands (including Phase 1 lands) that operate at 3SW pressures. Alternative 2a proposes a secondary feed from Nepean Town Centre (NTC) whereas Alternative 2b proposes a secondary feed from Barrhaven South. Based on findings from the Barrhaven South Urban Expansion Area Master Servicing Study (Stantec, 2017), the Barrhaven Conservancy Lands can anticipate maximum pressures greater than 75 psi and potentially greater than 80 psi during basic day demands if operating at Zone SUC pressure. Hydraulic modelling results indicate that the maximum pressure along the trunk main looping through the Conservancy Lands under basic day demands is estimated to be approximately 76 psi and available fire flow to be in excess of 13,000 L/min for both Alternatives 2a and 2b. Therefore, PRVs would not be required. As these two options would require the installation of a second separate watermain along Strandherd Drive (which will be undergoing widening as part of a separate recently awarded project) and through the existing north subdivision, the City has indicated that these alternatives are not preferred.

Alternative 2c proposes both primary and secondary feeds from the NTC (one along future Chapman Mills Drive and one through the future Claridge development from southeast of the KB pond) to service the first stages of development in the Conservancy Lands. As per currently proposed, site servicing through the Claridge lands, Alternative 2c would connect to a 300 mm diameter watermain along Chapman Mills Drive and a 200 mm watermain southeast of the KB pond. Similar to Alternatives 2a and 2b, hydraulic modelling results show that the maximum pressure along the trunk main looping through the Conservancy Lands under basic day demands is estimated to be approximately 76 psi and available fire flow to be in excess of 13,000 L/min.

Alternative 2d proposes a primary feed through the future Claridge development from southeast of the KB pond and a secondary feed from Barrhaven South. Pressures and available fire flows along the trunk main looping through the Conservancy Lands are similar to those for Alternatives 2a, 2b and 2c.

All four alternatives (2a to 2d) present challenges due to limited land access, crossings of a body of water, and/or requiring a new watermain to be installed along recently or soon to be (re)constructed right-of-ways.

Alternative 3 – Servicing from SUC with an Automated Valve from 3SW

Figure 6 shows the Barrhaven Conservancy Lands being serviced by a new SUC watermain running parallel to the Strandherd Drive watermain and a secondary feed from 3SW for emergency conditions.

This alternative proposes a secondary feed from 3SW via an automated valve off the future Strandherd Drive watermain. Water would flow from the high pressure Zone 3SW into the low pressure Zone SUC if there is a pressure drop on the SUC side of the valve. This alternative requires an interzonal valve connection that is not typically used/accepted in the City of Ottawa and would present both operational challenges and costs to operate and maintain. Similar to Alternatives 2a and 2b, this option would require the installation of a second separate watermain along Strandherd Drive (which will be undergoing widening as part of a separate recently

awarded project) and through the existing north subdivision; therefore, the City has indicated that this alternative is not preferred.

Table 5: Potable Water Servicing Alternatives & Limitations

Alternative		Zone	Max Pressures	Min Pressures	Available Fire Flow at 20 psi	Limitations
1	Connect to the future 3SW 406 mm dia. WM along Strandherd Drive at two locations	3SW	88 psi	52 psi	> 13,000 L/min	Requires additional pumping capacity in Zone 3SW. Will require individual PRVs at each service connection. ***Therefore, the City has indicated that this is not a preferred option.***
2a	Connect to a future SUC WM that will run parallel to the future Strandherd WM and connect to a 2nd future SUC WM from the NTC (north of the Jock River)	SUC	76 psi	64 psi	≥ 13,000 L/min	Requires crossing water way east of the Barrhaven Conservancy Lands. Land around ponds may not be accessible. Requires installation of a second separate WM along Strandherd Drive and through the existing north subdivision. ***Therefore, the City has indicated that this is not a preferred option.***
2b	Connect to a future SUC WM that will run parallel to the future Strandherd WM and connect to a 2nd future SUC WM from Barrhaven South (south of the Jock River – crossing river)	SUC	76 psi	61 psi	> 13,000 L/min	Requires crossing the Jock River. Requires installation of a second separate WM along Strandherd Drive and through the existing north subdivision. ***Therefore, the City has indicated that this is not a preferred option.***
2c	Connect to future SUC WMs in the NTC (north of the Jock River) at two locations	SUC	76 psi	64 psi	> 13,000 L/min	Requires crossing water way east of the Barrhaven Conservancy Lands. Land around ponds may not be accessible. Requires installation of a second separate WM through the existing north subdivision that is currently operated at 3SW pressures.

Reference: **Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation**

Alternative		Zone	Max Pressures	Min Pressures	Available Fire Flow at 20 psi	Limitations
2d	Connect to a future SUC WM through the Claridge lands (north of the Jock River) and connect to a 2nd future SUC WM from Barrhaven South (south of the Jock River – crossing river)	SUC	76 psi	61 psi	> 13,000 L/min	Requires crossing the Jock River. Requires crossing water way east of the Barrhaven Conservancy Lands. Land around ponds may not be accessible.
3	Connect to a future SUC WM that will run parallel to the future Strandherd WM and connect to the Strandherd 3SW WM using an automated valve to feed from 3SW under emergency conditions	SUC	76 psi (could potentially be > 80 psi depending on valve operation)	67 psi	> 13,000 L/min	Requires crossing water way east of the Barrhaven Conservancy Lands. Land around ponds may not be accessible. May possibly require PRVs at each service connection. An automated 3SW/SUC valve presents operational challenges and costs. Requires installation of a second separate WM along Strandherd Drive and through the existing north subdivision. ***Therefore, the City has indicated that this is not a preferred option.***

SUMMARY & RECOMMENDATIONS

The recent pump station upgrades at the Zone 3SW pump stations are nearing completion. For the purpose of this assessment, it is assumed that the demand for the Barrhaven Conservancy Lands is not accounted for in the current capacity of the Zone 3SW pumps but can be accommodated by the SUC pumps.

Alternative 1 for servicing the Conservancy Lands would eventually require changing the recently commissioned pumps at the Fallowfield Road Pumping and Station and one of the new pumps at the Barrhaven Pump Station and potentially some of the associated piping, valving, instrumentation, electrical and mechanical appurtenances for higher capacity pumps and appurtenances. Due to the anticipated maximum pressures exceeding 80 psi during basic day demands, individual PRVs will be required at each service connection if the lands operate at Zone 3SW pressure. It is understood from discussions with the City staff that this is not a preferred option.

Servicing the Conservancy Lands from Zone SUC requires the installation of a second separate watermain along Strandherd Drive and through the existing north subdivision and/or a crossing of a stormwater pond and/or the Jock River to complete a looping network. All four alternatives present their own challenges with either limited land access, crossings of a body of water, and/or requiring a new watermain to be installed along recently or soon to be (re)constructed right-of-ways. City staff have indicated that options requiring a separate

Reference: **Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation**

watermain along Strandherd (2a, 2b and 3) are not preferred since this portion of Strandherd Drive is undergoing widening as part of a separate recently awarded project and the timing for modifications does not work. As such, the City has identified Alternative 2c as the preferred servicing alternative, with 2d also being a viable option. Based on hydraulic modelling results along the trunk main looping through the Conservancy Lands, servicing of these lands with two 300 mm diameter watermains from the future 300 mm and 200 mm Claridge lands watermains (i.e., Alternative 2c) is possible, however ultimate optimization of sizing would have to be completed at a later phase.

An automated 3SW/SUC valve could potentially be considered for interim conditions, as discussed in Alternative 3, however inter-zonal automated valve connections are not typically used/accepted in the City of Ottawa and would present both operational challenges and costs to operate and maintain.

In addition to the secondary feeds proposed for each alternative, other system reliability measures may be considered as development continues to progress in adjacent lands. Measures may include providing additional looping between subdivisions and/or potential use of automated valves between the 3SW and SUC networks in this area for use under emergency conditions.

Sincerely,

Stantec Consulting Ltd.

Jasmin Sidhu P. Eng.
Water Resources Engineer

Phone: 613 725 5553
Fax: 613 722 2799
Jasmin.Sidhu@stantec.com

Kevin Alemany M.A.Sc., P. Eng.
Principal, Water, Regional Discipline Leader

Phone: 613 724 4091
Fax: 613 722 2799
Kevin.Alemany@stantec.com

Attachments:
Figure 1: Alternative 1 – Servicing from Zone 3SW
Figure 2: Alternative 2a – Servicing from Zone SUC (from Strandherd) w/ Secondary Feed from NTC
Figure 3: Alternative 2b – Servicing from Zone SUC (from Strandherd) w/ Secondary Feed from Barrhaven South
Figure 4: Alternative 2c – Servicing from Zone SUC (from NTC) w/ Secondary Feed from NTC
Figure 5: Alternative 2d – Servicing from Zone SUC (from Claridge Lands) w/ Secondary Feed from Barrhaven South
Figure 6: Alternative 3 – Servicing from Zone SUC w/ Automated Valve from 3SW for Emergency Conditions
Figure 7: Conservancy Lands System Node ID Map
Hydraulic Modelling Results

Figure 1: Alternative 1 - Servicing from Zone 3SW

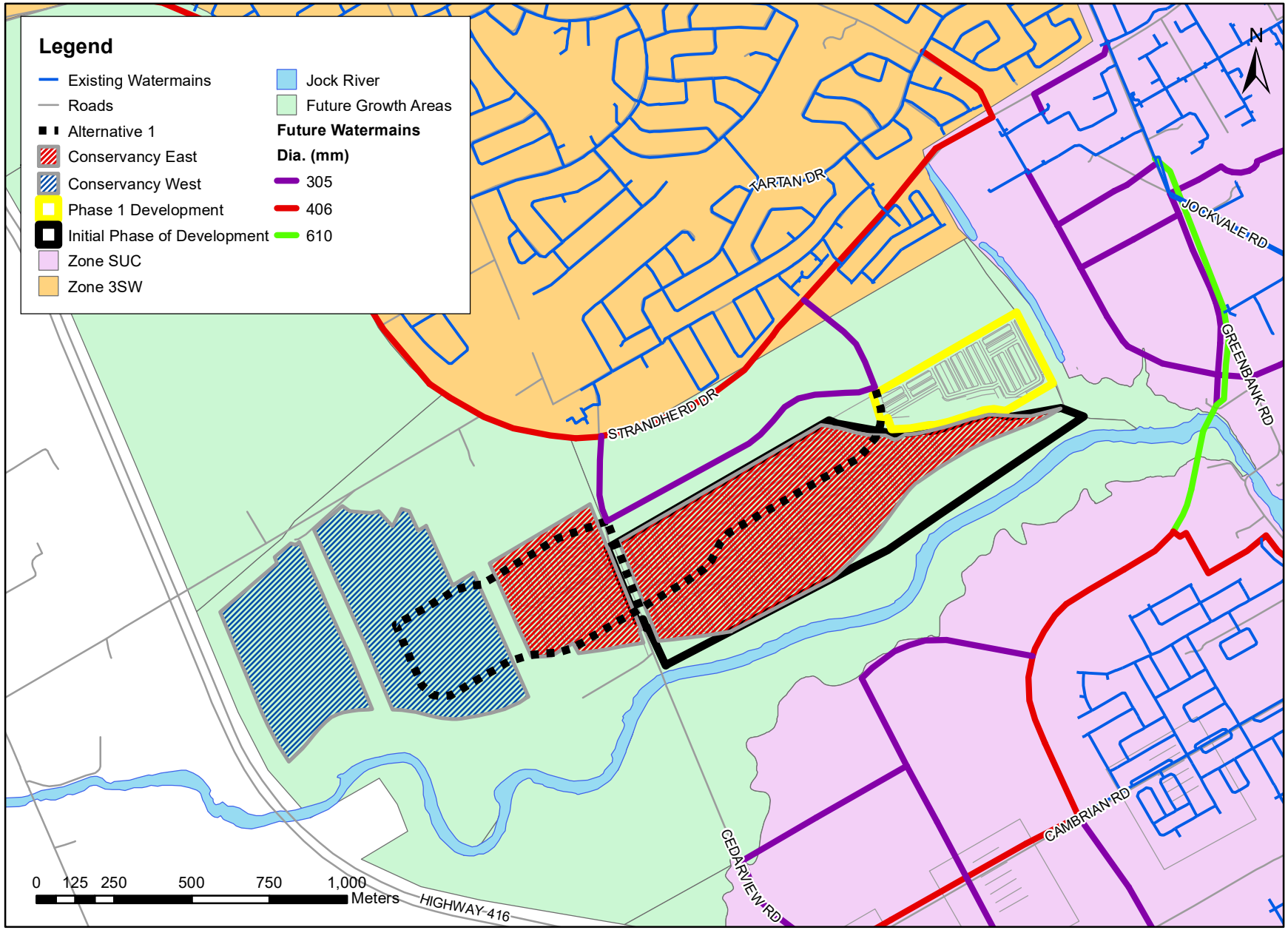


Figure 2: Alternative 2a - Servicing from Zone SUC (from Strandherd) w/ Secondary Feed from NTC

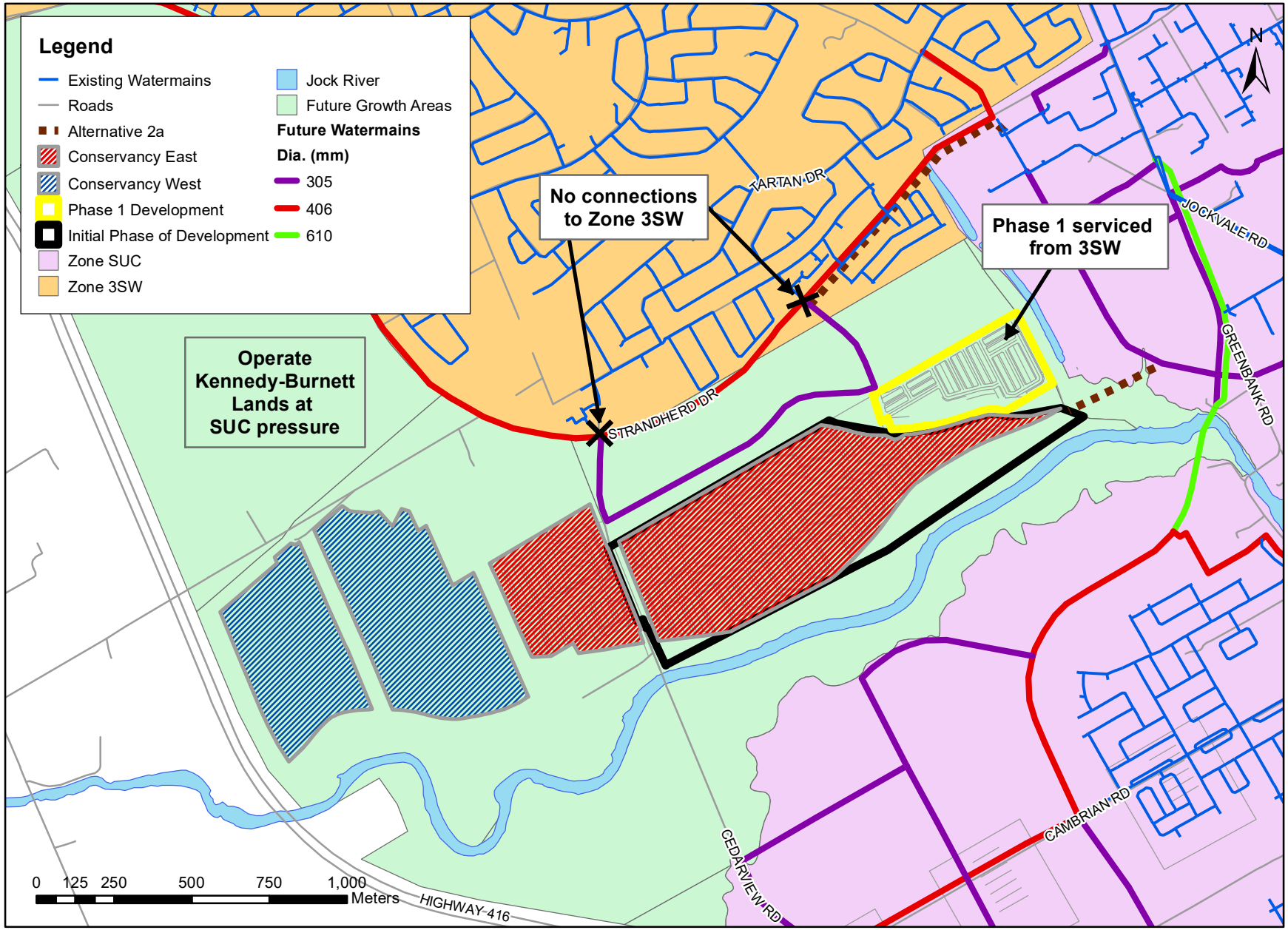


Figure 3: Alternative 2b - Servicing from Zone SUC (from Strandherd) w/ Secondary Feed from Barrhaven South

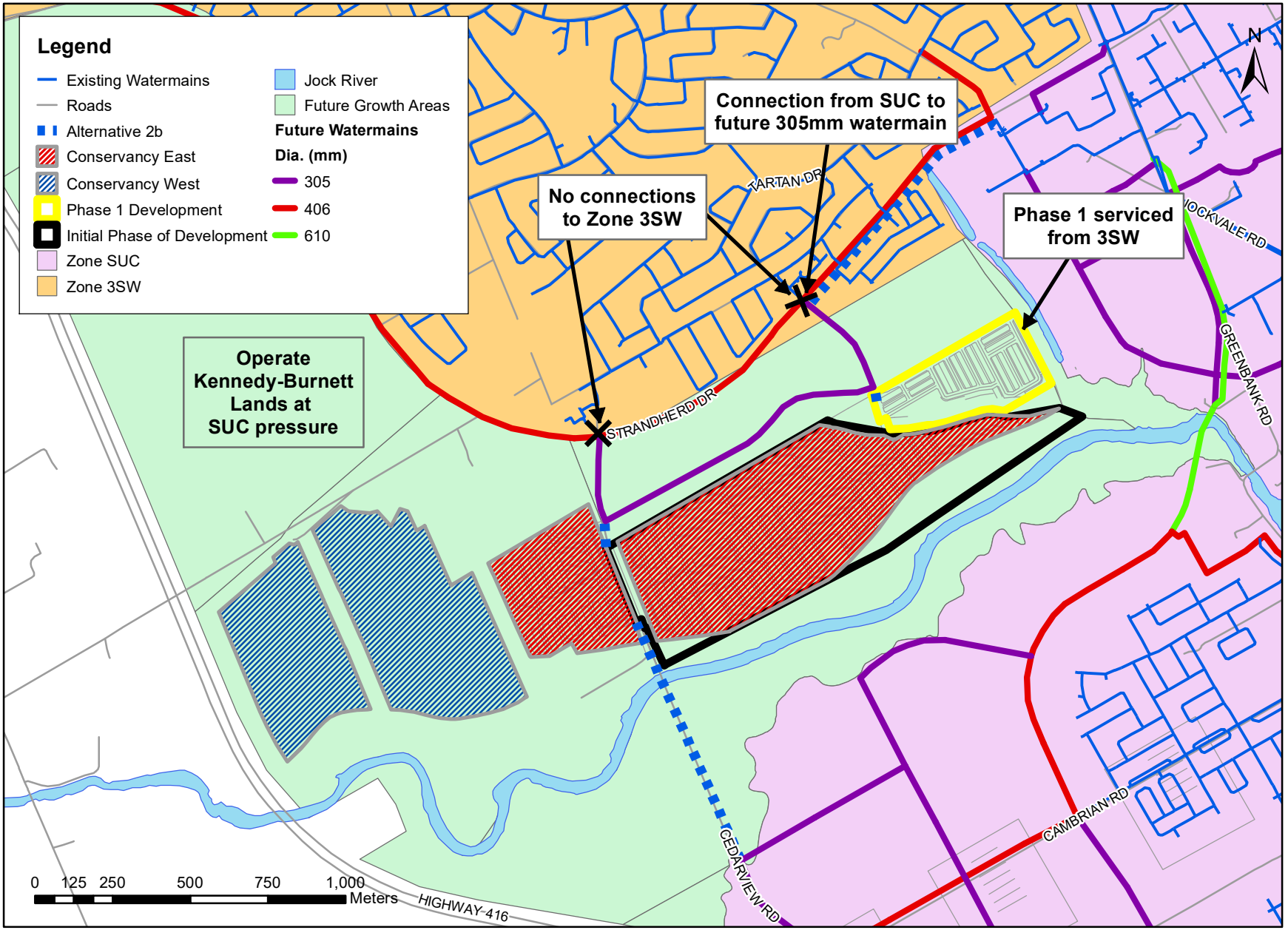


Figure 4: Alternative 2c - Servicing from Zone SUC (from NTC) w/ Secondary Feed from NTC

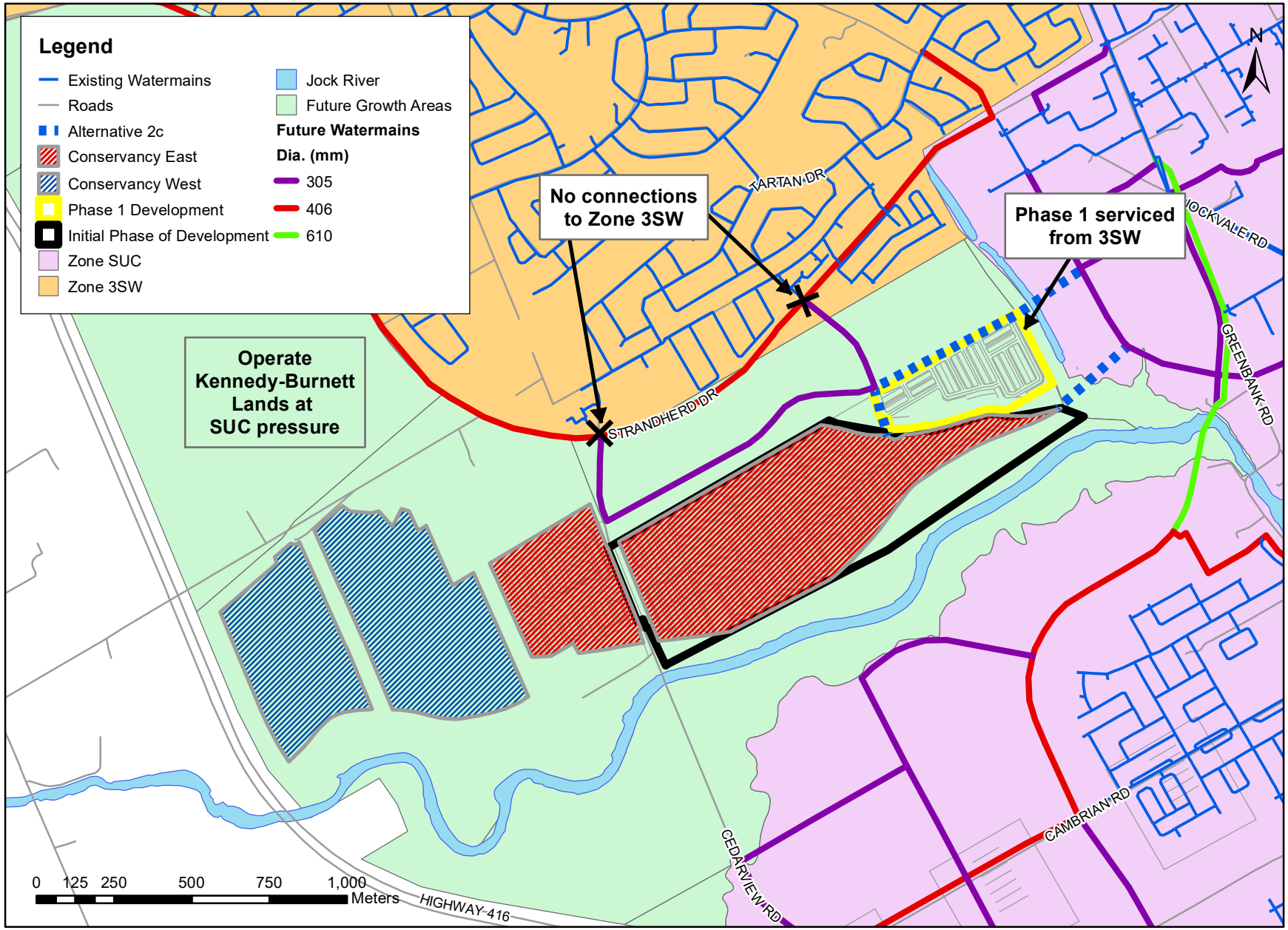


Figure 5: Alternative 2d - Servicing from Zone SUC (from Claridge Lands) w/ Secondary Feed from Barrhaven South

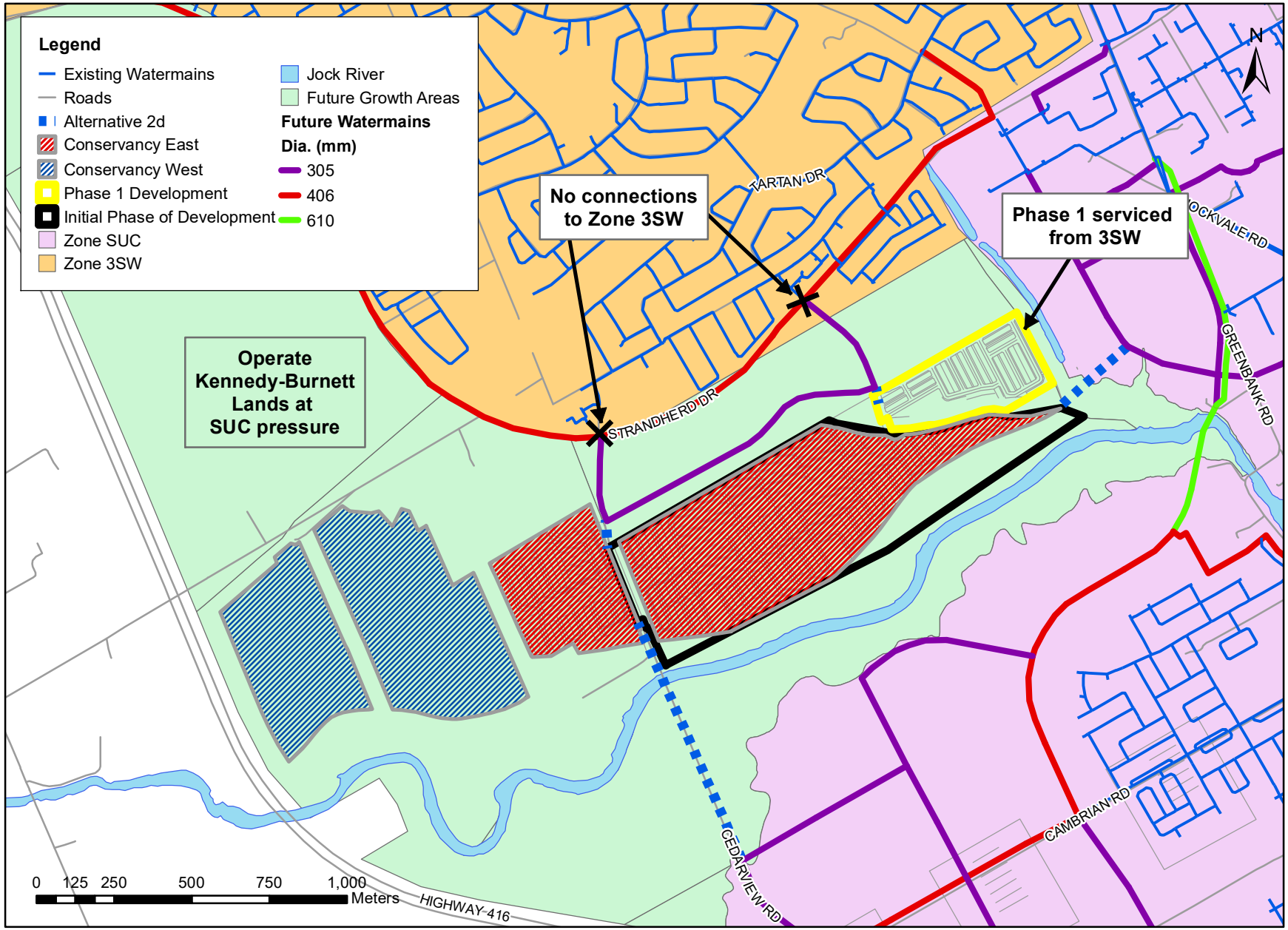


Figure 6: Alternative 3 - Servicing from Zone SUC w/ Automated Valve from 3SW for Emergency Conditions

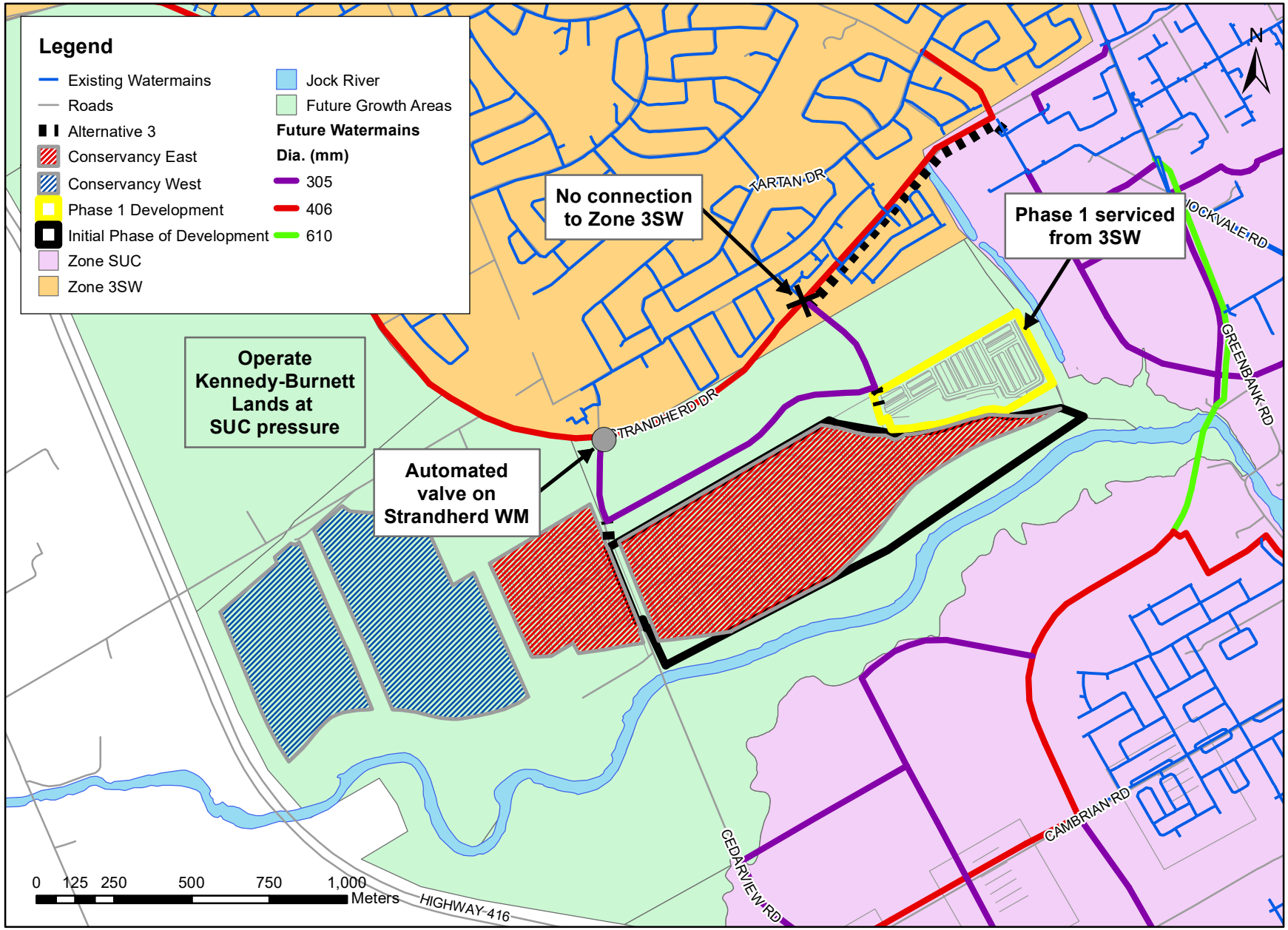
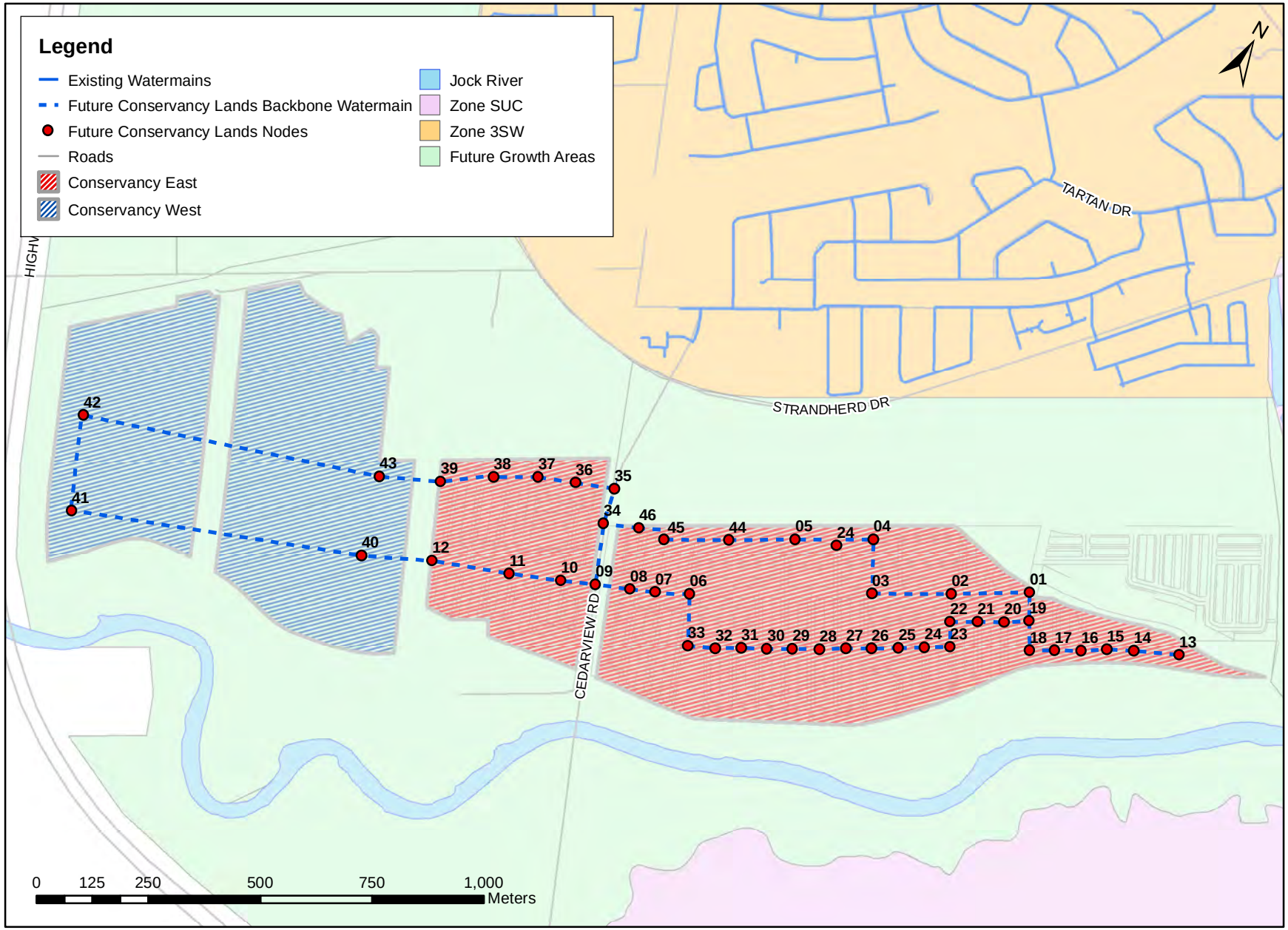


Figure 7: Conservancy Lands System Node ID Map



BSDY Model Results

	MIN	*87.5*						*75.7*						*75.6*					
	MAX	*87.5*						*75.7*						*75.6*					
Model Node ID	Figure Node ID	Servicing Alternative 1						Servicing Alternative 2a						Servicing Alternative 2b					
		Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)
F_BARRCONS_01	01	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.69	7:00	74.86	1.98	75.58	3:00	73.30	7:00	74.66	2.28
F_BARRCONS_02	02	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.66	7:00	74.85	2.01	75.58	3:00	73.28	7:00	74.66	2.29
F_BARRCONS_03	03	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.63	7:00	74.84	2.03	75.57	3:00	73.27	7:00	74.65	2.30
F_BARRCONS_04	04	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.61	7:00	74.83	2.05	75.57	3:00	73.27	7:00	74.65	2.30
F_BARRCONS_05	05	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.59	7:00	74.83	2.07	75.57	3:00	73.26	7:00	74.65	2.31
F_BARRCONS_06	06	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.56	7:00	74.81	2.10	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_07	07	87.47	2:00	82.61	7:00	85.35	4.87	75.66	3:00	73.55	7:00	74.81	2.10	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_08	08	87.47	2:00	82.61	7:00	85.35	4.86	75.66	3:00	73.55	7:00	74.81	2.10	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_09	09	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.26	7:00	74.64	2.31
F_BARRCONS_10	10	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_11	11	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_12	12	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_13	13	87.47	2:00	82.60	7:00	85.36	4.87	75.66	3:00	73.78	7:00	74.90	1.89	75.58	3:00	73.28	7:00	74.65	2.30
F_BARRCONS_14	14	87.47	2:00	82.60	7:00	85.36	4.87	75.66	3:00	73.75	7:00	74.89	1.91	75.58	3:00	73.28	7:00	74.65	2.30
F_BARRCONS_15	15	87.47	2:00	82.60	7:00	85.36	4.87	75.66	3:00	73.73	7:00	74.88	1.93	75.58	3:00	73.28	7:00	74.65	2.30
F_BARRCONS_16	16	87.47	2:00	82.60	7:00	85.36	4.87	75.66	3:00	73.72	7:00	74.88	1.94	75.58	3:00	73.28	7:00	74.65	2.30
F_BARRCONS_17	17	87.47	2:00	82.61	7:00	85.36	4.87	75.66	3:00	73.71	7:00	74.87	1.96	75.58	3:00	73.28	7:00	74.66	2.30
F_BARRCONS_18	18	87.47	2:00	82.61	7:00	85.36	4.87	75.66	3:00	73.70	7:00	74.87	1.97	75.58	3:00	73.28	7:00	74.66	2.30
F_BARRCONS_19	19	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.68	7:00	74.86	1.98	75.58	3:00	73.28	7:00	74.66	2.30
F_BARRCONS_20	20	87.47	2:00	82.61	7:00	85.36	4.87	75.66	3:00	73.67	7:00	74.86	1.99	75.57	3:00	73.28	7:00	74.65	2.30
F_BARRCONS_21	21	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.65	7:00	74.85	2.01	75.57	3:00	73.27	7:00	74.65	2.30
F_BARRCONS_22	22	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.64	7:00	74.85	2.02	75.57	3:00	73.27	7:00	74.65	2.31
F_BARRCONS_23	23	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.63	7:00	74.84	2.03	75.57	3:00	73.26	7:00	74.65	2.31
F_BARRCONS_25	25	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.61	7:00	74.83	2.05	75.57	3:00	73.26	7:00	74.64	2.31
F_BARRCONS_24	24	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.62	7:00	74.84	2.04	75.57	3:00	73.26	7:00	74.65	2.31
F_BARRCONS_26	26	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.60	7:00	74.83	2.06	75.57	3:00	73.26	7:00	74.64	2.31
F_BARRCONS_27	27	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.59	7:00	74.83	2.07	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_28	28	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.58	7:00	74.82	2.08	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_29	29	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.58	7:00	74.82	2.08	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_30	30	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.57	7:00	74.82	2.09	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_31	31	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.57	7:00	74.82	2.09	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_32	32	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.56	7:00	74.82	2.09	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_33	33	87.47	2:00	82.60	7:00	85.35	4.87	75.66	3:00	73.56	7:00	74.81	2.10	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_34	34	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_35	35	87.47	2:00	82.64	7:00	85.36	4.83	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.31
F_BARRCONS_36	36	87.47	2:00	82.63	7:00	85.36	4.84	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_37	37	87.47	2:00	82.63	7:00	85.36	4.84	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_38	38	87.47	2:00	82.63	7:00	85.36	4.85	75.66	3:00	73.55	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_39	39	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.54	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_40	40	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.54	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_41	41	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.54	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_42	42	87.47	2:00	82.61	7:00	85.36	4.86	75.66	3:00	73.54	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_43	43	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.54	7:00	74.81	2.11	75.57	3:00	73.25	7:00	74.64	2.32
F_BARRCONS_44	44	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.58	7:00	74.82	2.08	75.57	3:00	73.26	7:00	74.64	2.31
F_BARRCONS_45	45	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.56	7:00	74.82	2.10	75.57	3:00	73.26	7:00	74.64	2.31
F_BARRCONS_46	46	87.47	2:00	82.62	7:00	85.36	4.85	75.66	3:00	73.56	7:00	74.81	2.10	75.57	3:00	73.25	7:00	74.64	2.31

BSDY Model Results (cont'd)

	MIN	*75.7*						*75.6*						*75.6*					
	MAX	*75.7*						*75.6*						*75.6*					
Model Node ID	Figure Node ID	Servicing Alternative 2c						Servicing Alternative 2d						Servicing Alternative 3					
		Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)
F_BARRCONS_01	01	75.66	3:00	73.73	7:00	74.87	1.93	75.57	3:00	73.32	7:00	74.66	2.25	75.63	3:00	72.17	7:00	74.29	3.45
F_BARRCONS_02	02	75.66	3:00	73.70	7:00	74.86	1.95	75.57	3:00	73.31	7:00	74.66	2.26	75.63	3:00	72.14	7:00	74.28	3.49
F_BARRCONS_03	03	75.65	3:00	73.67	7:00	74.85	1.98	75.56	3:00	73.30	7:00	74.65	2.27	75.63	3:00	72.11	7:00	74.27	3.51
F_BARRCONS_04	04	75.65	3:00	73.66	7:00	74.84	2.00	75.56	3:00	73.29	7:00	74.65	2.27	75.62	3:00	72.09	7:00	74.26	3.53
F_BARRCONS_05	05	75.65	3:00	73.64	7:00	74.84	2.02	75.56	3:00	73.29	7:00	74.65	2.27	75.62	3:00	72.07	7:00	74.25	3.55
F_BARRCONS_06	06	75.65	3:00	73.60	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.23	3.59
F_BARRCONS_07	07	75.65	3:00	73.60	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.23	3.59
F_BARRCONS_08	08	75.65	3:00	73.60	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.23	3.60
F_BARRCONS_09	09	75.65	3:00	73.60	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.23	3.60
F_BARRCONS_10	10	75.65	3:00	73.60	7:00	74.82	2.06	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_11	11	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_12	12	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_13	13	75.66	3:00	73.80	7:00	74.90	1.85	75.60	3:00	73.53	7:00	74.76	2.07	75.63	3:00	72.14	7:00	74.28	3.49
F_BARRCONS_14	14	75.66	3:00	73.78	7:00	74.89	1.88	75.59	3:00	73.47	7:00	74.73	2.12	75.63	3:00	72.14	7:00	74.28	3.49
F_BARRCONS_15	15	75.66	3:00	73.77	7:00	74.89	1.89	75.59	3:00	73.44	7:00	74.72	2.15	75.63	3:00	72.14	7:00	74.28	3.49
F_BARRCONS_16	16	75.66	3:00	73.76	7:00	74.88	1.90	75.58	3:00	73.41	7:00	74.70	2.17	75.63	3:00	72.14	7:00	74.28	3.49
F_BARRCONS_17	17	75.66	3:00	73.75	7:00	74.88	1.91	75.58	3:00	73.38	7:00	74.69	2.20	75.63	3:00	72.14	7:00	74.28	3.48
F_BARRCONS_18	18	75.66	3:00	73.74	7:00	74.87	1.92	75.57	3:00	73.35	7:00	74.68	2.22	75.63	3:00	72.14	7:00	74.28	3.48
F_BARRCONS_19	19	75.66	3:00	73.73	7:00	74.87	1.93	75.57	3:00	73.33	7:00	74.66	2.24	75.63	3:00	72.15	7:00	74.28	3.48
F_BARRCONS_20	20	75.66	3:00	73.71	7:00	74.87	1.94	75.57	3:00	73.32	7:00	74.66	2.25	75.63	3:00	72.13	7:00	74.27	3.50
F_BARRCONS_21	21	75.66	3:00	73.70	7:00	74.86	1.96	75.57	3:00	73.31	7:00	74.66	2.26	75.63	3:00	72.12	7:00	74.27	3.51
F_BARRCONS_22	22	75.66	3:00	73.68	7:00	74.85	1.97	75.57	3:00	73.30	7:00	74.65	2.26	75.62	3:00	72.10	7:00	74.26	3.52
F_BARRCONS_23	23	75.65	3:00	73.67	7:00	74.85	1.98	75.57	3:00	73.30	7:00	74.65	2.27	75.62	3:00	72.09	7:00	74.26	3.53
F_BARRCONS_25	25	75.65	3:00	73.65	7:00	74.84	2.00	75.56	3:00	73.29	7:00	74.65	2.27	75.62	3:00	72.07	7:00	74.25	3.55
F_BARRCONS_24	24	75.65	3:00	73.66	7:00	74.85	1.99	75.56	3:00	73.30	7:00	74.65	2.27	75.62	3:00	72.08	7:00	74.25	3.54
F_BARRCONS_26	26	75.65	3:00	73.64	7:00	74.84	2.01	75.56	3:00	73.29	7:00	74.65	2.27	75.62	3:00	72.06	7:00	74.25	3.56
F_BARRCONS_27	27	75.65	3:00	73.64	7:00	74.83	2.02	75.56	3:00	73.29	7:00	74.65	2.28	75.62	3:00	72.06	7:00	74.25	3.57
F_BARRCONS_28	28	75.65	3:00	73.63	7:00	74.83	2.02	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.05	7:00	74.24	3.57
F_BARRCONS_29	29	75.65	3:00	73.62	7:00	74.83	2.03	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.05	7:00	74.24	3.58
F_BARRCONS_30	30	75.65	3:00	73.62	7:00	74.83	2.04	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.04	7:00	74.24	3.58
F_BARRCONS_31	31	75.65	3:00	73.61	7:00	74.83	2.04	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.04	7:00	74.24	3.58
F_BARRCONS_32	32	75.65	3:00	73.61	7:00	74.82	2.04	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.04	7:00	74.24	3.59
F_BARRCONS_33	33	75.65	3:00	73.61	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.24	3.59
F_BARRCONS_34	34	75.65	3:00	73.60	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.23	3.60
F_BARRCONS_35	35	75.65	3:00	73.60	7:00	74.82	2.06	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_36	36	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_37	37	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_38	38	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_39	39	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.29	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_40	40	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.28	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_41	41	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.29	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_42	42	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.29	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_43	43	75.65	3:00	73.59	7:00	74.82	2.06	75.56	3:00	73.27	7:00	74.64	2.29	75.62	3:00	72.02	7:00	74.23	3.60
F_BARRCONS_44	44	75.65	3:00	73.62	7:00	74.83	2.03	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.05	7:00	74.24	3.57
F_BARRCONS_45	45	75.65	3:00	73.61	7:00	74.82	2.04	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.04	7:00	74.24	3.58
F_BARRCONS_46	46	75.65	3:00	73.60	7:00	74.82	2.05	75.56	3:00	73.28	7:00	74.64	2.28	75.62	3:00	72.03	7:00	74.24	3.59

PKHR Model Results

MIN				*51.9*						*63.6*						*61.3*			
MAX				*51.9*						*64.0*						*61.6*			
Model Node ID	Figure Node ID	Servicing Alternative 1						Servicing Alternative 2a						Servicing Alternative 2b					
		Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)
F_BARRCONS_01	01	86.63	0:00	51.91	22:00	75.81	34.73	75.56	3:00	63.93	20:00	72.35	11.63	75.47	3:00	61.59	20:00	71.64	13.88
F_BARRCONS_02	02	86.63	0:00	51.90	22:00	75.81	34.73	75.55	3:00	63.87	20:00	72.31	11.69	75.47	3:00	61.53	20:00	71.62	13.94
F_BARRCONS_03	03	86.63	0:00	51.90	22:00	75.80	34.74	75.55	3:00	63.81	20:00	72.27	11.74	75.46	3:00	61.47	20:00	71.60	13.99
F_BARRCONS_04	04	86.63	0:00	51.90	22:00	75.80	34.74	75.55	3:00	63.78	20:00	72.24	11.77	75.46	3:00	61.44	20:00	71.59	14.02
F_BARRCONS_05	05	86.63	0:00	51.89	22:00	75.80	34.74	75.54	3:00	63.73	20:00	72.21	11.81	75.46	3:00	61.40	20:00	71.58	14.06
F_BARRCONS_06	06	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.66	20:00	72.16	11.88	75.46	3:00	61.33	20:00	71.56	14.13
F_BARRCONS_07	07	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.65	20:00	72.16	11.88	75.46	3:00	61.32	20:00	71.57	14.14
F_BARRCONS_08	08	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.65	20:00	72.16	11.88	75.46	3:00	61.32	20:00	71.57	14.14
F_BARRCONS_09	09	86.63	0:00	51.88	22:00	75.79	34.75	75.54	3:00	63.65	20:00	72.15	11.89	75.46	3:00	61.32	20:00	71.57	14.14
F_BARRCONS_10	10	86.63	0:00	51.88	22:00	75.79	34.75	75.53	3:00	63.65	20:00	72.15	11.89	75.46	3:00	61.32	20:00	71.56	14.14
F_BARRCONS_11	11	86.63	0:00	51.88	22:00	75.79	34.75	75.53	3:00	63.64	20:00	72.15	11.89	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_12	12	86.63	0:00	51.88	22:00	75.79	34.75	75.53	3:00	63.64	20:00	72.15	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_13	13	86.63	0:00	51.88	22:00	75.79	34.75	75.57	3:00	64.04	20:00	72.48	11.54	75.47	3:00	61.52	20:00	71.61	13.94
F_BARRCONS_14	14	86.63	0:00	51.88	22:00	75.79	34.75	75.57	3:00	64.00	20:00	72.44	11.57	75.47	3:00	61.52	20:00	71.61	13.94
F_BARRCONS_15	15	86.63	0:00	51.88	22:00	75.79	34.75	75.57	3:00	63.98	20:00	72.42	11.59	75.47	3:00	61.52	20:00	71.61	13.94
F_BARRCONS_16	16	86.63	0:00	51.88	22:00	75.79	34.75	75.56	3:00	63.96	20:00	72.40	11.60	75.47	3:00	61.53	20:00	71.61	13.94
F_BARRCONS_17	17	86.63	0:00	51.88	22:00	75.79	34.75	75.56	3:00	63.95	20:00	72.38	11.62	75.47	3:00	61.53	20:00	71.61	13.94
F_BARRCONS_18	18	86.63	0:00	51.89	22:00	75.79	34.74	75.56	3:00	63.93	20:00	72.36	11.63	75.47	3:00	61.53	20:00	71.62	13.94
F_BARRCONS_19	19	86.63	0:00	51.89	22:00	75.80	34.74	75.56	3:00	63.92	20:00	72.35	11.64	75.47	3:00	61.53	20:00	71.62	13.93
F_BARRCONS_20	20	86.63	0:00	51.88	22:00	75.79	34.75	75.56	3:00	63.89	20:00	72.32	11.67	75.47	3:00	61.51	20:00	71.61	13.96
F_BARRCONS_21	21	86.63	0:00	51.88	22:00	75.79	34.75	75.55	3:00	63.86	20:00	72.30	11.70	75.46	3:00	61.48	20:00	71.60	13.98
F_BARRCONS_22	22	86.63	0:00	51.87	22:00	75.78	34.75	75.55	3:00	63.83	20:00	72.28	11.72	75.46	3:00	61.46	20:00	71.59	14.01
F_BARRCONS_23	23	86.63	0:00	51.87	22:00	75.78	34.76	75.55	3:00	63.80	20:00	72.26	11.75	75.46	3:00	61.44	20:00	71.59	14.03
F_BARRCONS_25	25	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.76	20:00	72.23	11.78	75.46	3:00	61.40	20:00	71.58	14.06
F_BARRCONS_24	24	86.63	0:00	51.87	22:00	75.78	34.76	75.55	3:00	63.78	20:00	72.25	11.77	75.46	3:00	61.42	20:00	71.58	14.04
F_BARRCONS_26	26	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.74	20:00	72.22	11.80	75.46	3:00	61.39	20:00	71.57	14.07
F_BARRCONS_27	27	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.73	20:00	72.21	11.82	75.46	3:00	61.37	20:00	71.57	14.09
F_BARRCONS_28	28	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.71	20:00	72.20	11.83	75.46	3:00	61.36	20:00	71.57	14.10
F_BARRCONS_29	29	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.70	20:00	72.19	11.84	75.46	3:00	61.35	20:00	71.57	14.11
F_BARRCONS_30	30	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.69	20:00	72.18	11.85	75.46	3:00	61.35	20:00	71.57	14.11
F_BARRCONS_31	31	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.68	20:00	72.18	11.86	75.46	3:00	61.34	20:00	71.56	14.12
F_BARRCONS_32	32	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.67	20:00	72.17	11.86	75.46	3:00	61.34	20:00	71.56	14.12
F_BARRCONS_33	33	86.63	0:00	51.87	22:00	75.78	34.76	75.54	3:00	63.67	20:00	72.17	11.87	75.46	3:00	61.33	20:00	71.56	14.13
F_BARRCONS_34	34	86.63	0:00	51.90	22:00	75.80	34.74	75.54	3:00	63.65	20:00	72.15	11.88	75.46	3:00	61.32	20:00	71.57	14.14
F_BARRCONS_35	35	86.64	0:00	51.91	22:00	75.82	34.73	75.53	3:00	63.65	20:00	72.15	11.89	75.46	3:00	61.32	20:00	71.56	14.14
F_BARRCONS_36	36	86.64	0:00	51.90	22:00	75.81	34.73	75.53	3:00	63.64	20:00	72.15	11.89	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_37	37	86.64	0:00	51.90	22:00	75.81	34.74	75.53	3:00	63.64	20:00	72.15	11.89	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_38	38	86.64	0:00	51.89	22:00	75.80	34.74	75.53	3:00	63.64	20:00	72.15	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_39	39	86.63	0:00	51.89	22:00	75.80	34.75	75.53	3:00	63.64	20:00	72.14	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_40	40	86.63	0:00	51.88	22:00	75.79	34.75	75.53	3:00	63.64	20:00	72.15	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_41	41	86.63	0:00	51.88	22:00	75.79	34.75	75.53	3:00	63.64	20:00	72.14	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_42	42	86.63	0:00	51.88	22:00	75.79	34.75	75.53	3:00	63.64	20:00	72.14	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_43	43	86.63	0:00	51.89	22:00	75.80	34.75	75.53	3:00	63.64	20:00	72.14	11.90	75.46	3:00	61.31	20:00	71.56	14.15
F_BARRCONS_44	44	86.63	0:00	51.89	22:00	75.80	34.74	75.54	3:00	63.70	20:00	72.19	11.84	75.46	3:00	61.37	20:00	71.58	14.09
F_BARRCONS_45	45	86.63	0:00	51.89	22:00	75.80	34.74	75.54	3:00	63.67	20:00	72.17	11.86	75.46	3:00	61.34	20:00	71.57	14.12
F_BARRCONS_46	46	86.63	0:00	51.89	22:00	75.80	34.74	75.54	3:00	63.66	20:00	72.16	11.87	75.46	3:00	61.33	20:00	71.57	14.13

PKHR Model Results (cont'd)

MIN				*63.6*						*61.2*						*66.7*			
MAX				*64.0*						*62.4*						*66.9*			
Model Node ID	Figure Node ID	Servicing Alternative 2c						Servicing Alternative 2d						Servicing Alternative 3					
		Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)	Max Value (psi)	Max Time (hrs.)	Min Value (psi)	Min Time (hrs.)	Avg (psi)	Diff (psi)
F_BARRCONS_01	01	75.56	3:00	63.93	20:00	72.41	11.63	75.47	3:00	61.52	20:00	71.67	13.95	75.30	3:00	66.72	20:00	70.77	8.58
F_BARRCONS_02	02	75.56	3:00	63.87	20:00	72.37	11.69	75.46	3:00	61.46	20:00	71.65	14.01	75.29	3:00	66.73	20:00	70.73	8.57
F_BARRCONS_03	03	75.55	3:00	63.81	20:00	72.33	11.74	75.46	3:00	61.40	20:00	71.63	14.06	75.29	3:00	66.74	20:00	70.70	8.55
F_BARRCONS_04	04	75.55	3:00	63.78	20:00	72.31	11.77	75.46	3:00	61.37	20:00	71.62	14.09	75.28	3:00	66.74	20:00	70.68	8.54
F_BARRCONS_05	05	75.54	3:00	63.73	20:00	72.28	11.81	75.46	3:00	61.33	20:00	71.61	14.13	75.28	3:00	66.76	20:00	70.65	8.52
F_BARRCONS_06	06	75.54	3:00	63.66	20:00	72.22	11.88	75.46	3:00	61.26	20:00	71.60	14.20	75.27	3:00	66.74	20:00	70.60	8.53
F_BARRCONS_07	07	75.54	3:00	63.66	20:00	72.22	11.88	75.46	3:00	61.25	20:00	71.60	14.20	75.27	3:00	66.75	20:00	70.60	8.52
F_BARRCONS_08	08	75.54	3:00	63.65	20:00	72.22	11.88	75.46	3:00	61.25	20:00	71.60	14.21	75.27	3:00	66.76	20:00	70.60	8.51
F_BARRCONS_09	09	75.54	3:00	63.65	20:00	72.22	11.89	75.46	3:00	61.25	20:00	71.60	14.21	75.27	3:00	66.78	20:00	70.60	8.49
F_BARRCONS_10	10	75.54	3:00	63.65	20:00	72.22	11.89	75.46	3:00	61.24	20:00	71.59	14.21	75.27	3:00	66.78	20:00	70.60	8.49
F_BARRCONS_11	11	75.54	3:00	63.64	20:00	72.21	11.89	75.46	3:00	61.24	20:00	71.59	14.22	75.27	3:00	66.78	20:00	70.60	8.49
F_BARRCONS_12	12	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.24	20:00	71.59	14.22	75.27	3:00	66.78	20:00	70.60	8.49
F_BARRCONS_13	13	75.57	3:00	64.02	20:00	72.52	11.55	75.51	3:00	62.39	20:00	72.01	13.12	75.29	3:00	66.70	20:00	70.73	8.59
F_BARRCONS_14	14	75.57	3:00	63.99	20:00	72.48	11.58	75.50	3:00	62.16	20:00	71.92	13.34	75.29	3:00	66.70	20:00	70.73	8.59
F_BARRCONS_15	15	75.57	3:00	63.97	20:00	72.46	11.60	75.49	3:00	62.02	20:00	71.86	13.47	75.29	3:00	66.70	20:00	70.73	8.59
F_BARRCONS_16	16	75.57	3:00	63.95	20:00	72.45	11.61	75.48	3:00	61.90	20:00	71.82	13.59	75.29	3:00	66.70	20:00	70.73	8.59
F_BARRCONS_17	17	75.56	3:00	63.94	20:00	72.43	11.62	75.48	3:00	61.78	20:00	71.77	13.70	75.29	3:00	66.71	20:00	70.73	8.59
F_BARRCONS_18	18	75.56	3:00	63.93	20:00	72.42	11.63	75.47	3:00	61.67	20:00	71.73	13.81	75.29	3:00	66.71	20:00	70.73	8.59
F_BARRCONS_19	19	75.56	3:00	63.92	20:00	72.41	11.64	75.47	3:00	61.55	20:00	71.68	13.92	75.29	3:00	66.71	20:00	70.73	8.58
F_BARRCONS_20	20	75.56	3:00	63.89	20:00	72.39	11.67	75.47	3:00	61.51	20:00	71.67	13.96	75.29	3:00	66.71	20:00	70.72	8.58
F_BARRCONS_21	21	75.56	3:00	63.86	20:00	72.37	11.70	75.46	3:00	61.48	20:00	71.66	13.99	75.29	3:00	66.71	20:00	70.70	8.58
F_BARRCONS_22	22	75.55	3:00	63.83	20:00	72.34	11.73	75.46	3:00	61.45	20:00	71.64	14.02	75.29	3:00	66.71	20:00	70.68	8.58
F_BARRCONS_23	23	75.55	3:00	63.80	20:00	72.33	11.75	75.46	3:00	61.42	20:00	71.64	14.04	75.28	3:00	66.71	20:00	70.67	8.58
F_BARRCONS_25	25	75.55	3:00	63.76	20:00	72.30	11.79	75.46	3:00	61.37	20:00	71.62	14.09	75.28	3:00	66.71	20:00	70.65	8.57
F_BARRCONS_24	24	75.55	3:00	63.78	20:00	72.31	11.77	75.46	3:00	61.40	20:00	71.63	14.06	75.28	3:00	66.71	20:00	70.66	8.58
F_BARRCONS_26	26	75.55	3:00	63.74	20:00	72.28	11.80	75.46	3:00	61.35	20:00	71.62	14.11	75.28	3:00	66.71	20:00	70.64	8.57
F_BARRCONS_27	27	75.54	3:00	63.73	20:00	72.27	11.82	75.46	3:00	61.34	20:00	71.61	14.12	75.28	3:00	66.71	20:00	70.63	8.57
F_BARRCONS_28	28	75.54	3:00	63.71	20:00	72.26	11.83	75.46	3:00	61.32	20:00	71.61	14.14	75.28	3:00	66.71	20:00	70.63	8.57
F_BARRCONS_29	29	75.54	3:00	63.70	20:00	72.25	11.84	75.46	3:00	61.31	20:00	71.60	14.15	75.28	3:00	66.71	20:00	70.62	8.57
F_BARRCONS_30	30	75.54	3:00	63.69	20:00	72.25	11.85	75.46	3:00	61.30	20:00	71.60	14.16	75.27	3:00	66.71	20:00	70.62	8.56
F_BARRCONS_31	31	75.54	3:00	63.68	20:00	72.24	11.86	75.46	3:00	61.29	20:00	71.60	14.17	75.27	3:00	66.72	20:00	70.61	8.56
F_BARRCONS_32	32	75.54	3:00	63.68	20:00	72.24	11.86	75.46	3:00	61.28	20:00	71.60	14.18	75.27	3:00	66.72	20:00	70.61	8.55
F_BARRCONS_33	33	75.54	3:00	63.67	20:00	72.23	11.87	75.46	3:00	61.27	20:00	71.60	14.19	75.27	3:00	66.73	20:00	70.61	8.55
F_BARRCONS_34	34	75.54	3:00	63.65	20:00	72.22	11.89	75.46	3:00	61.25	20:00	71.59	14.21	75.27	3:00	66.81	20:00	70.61	8.46
F_BARRCONS_35	35	75.54	3:00	63.65	20:00	72.22	11.89	75.46	3:00	61.24	20:00	71.59	14.21	75.27	3:00	66.88	20:00	70.61	8.39
F_BARRCONS_36	36	75.54	3:00	63.64	20:00	72.21	11.89	75.46	3:00	61.24	20:00	71.59	14.22	75.27	3:00	66.86	20:00	70.60	8.41
F_BARRCONS_37	37	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.24	20:00	71.59	14.22	75.27	3:00	66.85	20:00	70.60	8.42
F_BARRCONS_38	38	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.23	20:00	71.59	14.22	75.27	3:00	66.84	20:00	70.60	8.43
F_BARRCONS_39	39	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.23	20:00	71.58	14.22	75.27	3:00	66.83	20:00	70.60	8.44
F_BARRCONS_40	40	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.23	20:00	71.59	14.22	75.27	3:00	66.78	20:00	70.60	8.49
F_BARRCONS_41	41	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.23	20:00	71.58	14.22	75.27	3:00	66.79	20:00	70.59	8.48
F_BARRCONS_42	42	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.23	20:00	71.58	14.22	75.27	3:00	66.80	20:00	70.59	8.47
F_BARRCONS_43	43	75.54	3:00	63.64	20:00	72.21	11.90	75.46	3:00	61.23	20:00	71.58	14.22	75.27	3:00	66.82	20:00	70.60	8.45
F_BARRCONS_44	44	75.54	3:00	63.70	20:00	72.25	11.84	75.46	3:00	61.30	20:00	71.60	14.16	75.28	3:00	66.77	20:00	70.63	8.51
F_BARRCONS_45	45	75.54	3:00	63.67	20:00	72.23	11.87	75.46	3:00	61.27	20:00	71.60	14.19	75.27	3:00	66.79	20:00	70.62	8.49
F_BARRCONS_46	46	75.54	3:00	63.66	20:00	72.23	11.88	75.46	3:00	61.26	20:00	71.60	14.20	75.27	3:00	66.80	20:00	70.61	8.47

MXDY+FF Model Results

	MIN						*303.0*							*218.8*							*236.1*	
	MAX						*492.7*							*396.5*							*333.3*	
		Servicing Alternative 1							Servicing Alternative 2a							Servicing Alternative 2b						
Model Node ID	Figure Node ID	Static Demand @ 6:00 (L/s)	Static Pressure @ 6:00 (psi)	Static Head @ 6:00 (m)	Fire-Flow Demand (L/s)	Residual Pressure (psi)	Available Flow at Hydrant (L/s)	Available Flow Pressure (psi)	Static Demand @ 6:00 (L/s)	Static Pressure @ 6:00 (psi)	Static Head @ 6:00 (m)	Fire-Flow Demand (L/s)	Residual Pressure (psi)	Available Flow at Hydrant (L/s)	Available Flow Pressure (psi)	Static Demand @ 6:00 (L/s)	Static Pressure @ 6:00 (psi)	Static Head @ 6:00 (m)	Fire-Flow Demand (L/s)	Residual Pressure (psi)	Available Flow at Hydrant (L/s)	Available Flow Pressure (psi)
F_BARRCONS_01	01	1.23	82.45	151.40	217.00	65.22	492.66	20.00	1.23	73.02	144.77	217.00	47.82	348.72	20.00	1.23	72.61	144.48	217.00	44.71	324.95	20.00
F_BARRCONS_02	02	1.23	82.44	151.39	217.00	62.16	438.32	20.00	1.23	72.93	144.70	217.00	42.43	307.95	20.00	1.23	72.60	144.47	217.00	42.21	307.03	20.00
F_BARRCONS_03	03	1.23	82.43	151.39	217.00	60.42	414.21	20.00	1.23	72.85	144.65	217.00	38.66	286.14	20.00	1.23	72.58	144.46	217.00	40.63	297.16	20.00
F_BARRCONS_04	04	1.23	82.43	151.39	217.00	59.86	407.27	20.00	1.23	72.80	144.61	217.00	36.67	276.21	20.00	1.23	72.58	144.45	217.00	40.05	293.76	20.00
F_BARRCONS_05	05	1.23	82.43	151.39	217.00	59.87	407.38	20.00	1.23	72.74	144.57	217.00	34.42	266.07	20.00	1.23	72.57	144.45	217.00	39.91	292.95	20.00
F_BARRCONS_06	06	1.23	82.38	151.35	217.00	59.74	408.68	20.00	1.23	72.64	144.50	217.00	31.89	255.93	20.00	1.23	72.56	144.44	217.00	41.94	305.86	20.00
F_BARRCONS_07	07	1.23	82.39	151.35	217.00	60.61	419.49	20.00	1.23	72.63	144.49	217.00	31.56	254.65	20.00	1.23	72.56	144.44	217.00	43.06	313.45	20.00
F_BARRCONS_08	08	1.23	82.39	151.36	217.00	61.37	429.79	20.00	1.23	72.63	144.49	217.00	31.38	253.98	20.00	1.23	72.57	144.45	217.00	44.04	320.51	20.00
F_BARRCONS_09	09	1.23	82.40	151.36	217.00	62.66	448.88	20.00	1.23	72.62	144.49	217.00	31.22	253.41	20.00	1.23	72.58	144.45	217.00	45.68	333.33	20.00
F_BARRCONS_10	10	1.23	82.40	151.36	217.00	60.88	422.35	20.00	1.23	72.62	144.48	217.00	29.02	245.21	20.00	1.23	72.57	144.45	217.00	43.22	314.36	20.00
F_BARRCONS_11	11	1.23	82.40	151.36	217.00	58.77	396.01	20.00	1.23	72.61	144.48	217.00	26.50	236.73	20.00	1.23	72.56	144.44	217.00	40.57	296.97	20.00
F_BARRCONS_12	12	1.23	82.40	151.36	217.00	56.46	372.06	20.00	1.23	72.61	144.48	217.00	23.77	228.42	20.00	1.23	72.56	144.44	217.00	37.75	281.20	20.00
F_BARRCONS_13	13	1.23	82.40	151.37	217.00	46.56	303.01	20.00	1.23	73.36	145.01	217.00	52.91	396.48	20.00	1.23	72.57	144.45	217.00	26.45	236.07	20.00
F_BARRCONS_14	14	1.23	82.40	151.37	217.00	50.78	327.64	20.00	1.23	73.26	144.93	217.00	51.39	380.54	20.00	1.23	72.57	144.45	217.00	30.67	250.32	20.00
F_BARRCONS_15	15	1.23	82.40	151.37	217.00	53.30	345.49	20.00	1.23	73.20	144.89	217.00	50.58	372.69	20.00	1.23	72.57	144.45	217.00	33.19	260.19	20.00
F_BARRCONS_16	16	1.23	82.40	151.37	217.00	55.74	365.66	20.00	1.23	73.15	144.86	217.00	49.87	366.14	20.00	1.23	72.57	144.45	217.00	35.63	270.88	20.00
F_BARRCONS_17	17	1.23	82.41	151.37	217.00	58.28	390.68	20.00	1.23	73.10	144.82	217.00	49.19	360.24	20.00	1.23	72.57	144.45	217.00	38.17	283.45	20.00
F_BARRCONS_18	18	1.23	82.41	151.37	217.00	60.70	419.58	20.00	1.23	73.06	144.79	217.00	48.61	355.39	20.00	1.23	72.58	144.45	217.00	40.59	297.10	20.00
F_BARRCONS_19	19	1.23	82.42	151.37	217.00	63.56	463.19	20.00	1.23	73.02	144.76	217.00	48.00	350.45	20.00	1.23	72.58	144.46	217.00	43.45	315.98	20.00
F_BARRCONS_20	20	1.23	82.40	151.37	217.00	62.44	445.23	20.00	1.23	72.97	144.73	217.00	45.79	332.15	20.00	1.23	72.57	144.45	217.00	42.59	310.07	20.00
F_BARRCONS_21	21	1.23	82.40	151.36	217.00	61.45	430.76	20.00	1.23	72.93	144.70	217.00	43.90	318.24	20.00	1.23	72.56	144.44	217.00	41.81	304.98	20.00
F_BARRCONS_22	22	1.23	82.39	151.36	217.00	60.57	419.04	20.00	1.23	72.88	144.67	217.00	42.20	306.94	20.00	1.23	72.56	144.44	217.00	41.12	300.66	20.00
F_BARRCONS_23	23	1.23	82.38	151.35	217.00	59.90	410.67	20.00	1.23	72.85	144.65	217.00	40.83	298.60	20.00	1.23	72.55	144.44	217.00	40.59	297.50	20.00
F_BARRCONS_24	24	1.23	82.38	151.35	217.00	59.33	403.87	20.00	1.23	72.82	144.62	217.00	39.57	291.43	20.00	1.23	72.55	144.43	217.00	40.16	294.91	20.00
F_BARRCONS_25	25	1.23	82.38	151.35	217.00	58.86	398.54	20.00	1.23	72.79	144.60	217.00	38.43	285.31	20.00	1.23	72.55	144.43	217.00	39.81	292.91	20.00
F_BARRCONS_26	26	1.23	82.38	151.35	217.00	58.48	394.41	20.00	1.23	72.76	144.58	217.00	37.35	279.87	20.00	1.23	72.55	144.43	217.00	39.55	291.44	20.00
F_BARRCONS_27	27	1.23	82.37	151.35	217.00	58.23	391.67	20.00	1.23	72.74	144.57	217.00	36.43	275.40	20.00	1.23	72.55	144.43	217.00	39.40	290.58	20.00
F_BARRCONS_28	28	1.23	82.37	151.35	217.00	58.08	390.07	20.00	1.23	72.72	144.55	217.00	35.59	271.50	20.00	1.23	72.55	144.43	217.00	39.34	290.25	20.00
F_BARRCONS_29	29	1.23	82.37	151.35	217.00	58.03	389.50	20.00	1.23	72.70	144.54	217.00	34.82	268.03	20.00	1.23	72.55	144.43	217.00	39.39	290.50	20.00
F_BARRCONS_30	30	1.23	82.37	151.35	217.00	58.07	389.96	20.00	1.23	72.68	144.53	217.00	34.17	265.20	20.00	1.23	72.55	144.43	217.00	39.53	291.29	20.00
F_BARRCONS_31	31	1.23	82.37	151.35	217.00	58.21	391.38	20.00	1.23	72.67	144.52	217.00	33.59	262.75	20.00	1.23	72.55	144.43	217.00	39.78	292.70	20.00
F_BARRCONS_32	32	1.23	82.38	151.35	217.00	58.45	393.89	20.00	1.23	72.66	144.51	217.00	33.06	260.58	20.00	1.23	72.55	144.43	217.00	40.14	294.83	20.00
F_BARRCONS_33	33	1.23	82.38	151.35	217.00	58.79	397.66	20.00	1.23	72.65	144.51	217.00	32.60	258.70	20.00	1.23	72.55	144.43	217.00	40.64	297.78	20.00
F_BARRCONS_34	34	1.23	82.43	151.39	217.00	64.31	475.90	20.00	1.23	72.63	144.49	217.00	31.29	253.65	20.00	1.23	72.56	144.44	217.00	43.76	318.55	20.00
F_BARRCONS_35	35	1.23	82.46	151.41	217.00	64.94	486.74	20.00	1.23	72.62	144.48	217.00	28.93	244.89	20.00	1.23	72.56	144.44	217.00	41.72	304.38	20.00
F_BARRCONS_36	36	1.23	82.45	151.40	217.00	62.29	440.70	20.00	1.23	72.61	144.48	217.00	26.94	238.15	20.00	1.23	72.55	144.44	217.00	39.94	293.44	20.00
F_BARRCONS_37	37	1.23	82.44	151.39	217.00	60.38	414.33	20.00	1.23	72.61	144.48	217.00	25.40	233.27	20.00	1.23	72.55	144.44	217.00	38.54	285.60	20.00
F_BARRCONS_38	38	1.23	82.43	151.38	217.00	58.60	393.27	20.00	1.23	72.61	144.47	217.00	23.92	228.85	20.00	1.23	72.55	144.43	217.00	37.20	278.57	20.00
F_BARRCONS_39	39	1.23	82.42	151.38	217.00	56.93	376.14	20.00	1.23	72.60	144.47	217.00	22.53	224.91	20.00	1.23	72.55	144.43	217.00	35.94	272.42	20.00
F_BARRCONS_40	40	1.23	82.40	151.36	217.00	55.06	359.46	20.00	1.23	72.61	144.47	217.00	22.09	223.70	20.00	1.23	72.55	144.44	217.00	36.00	272.60	20.00
F_BARRCONS_41	41	1.23	82.40	151.36	217.00	53.85	349.45	20.00	1.23	72.60	144.47	217.00	20.44	219.35	20.00	1.23	72.55	144.43	217.00	34.25	264.73	20.00
F_BARRCONS_42	42	1.23	82.41	151.37	217.00	53.93	350.01	20.00	1.23	72.60	144.47	217.00	20.23	218.80	20.00	1.23	72.55	144.43	217.00	33.95	263.41	20.00
F_BARRCONS_43	43	1.23	82.42	151.37	217.00	55.54	363.30	20.00	1.23	72.60	144.47	217.00	21.38	221.81	20.00	1.23	72.55	144.43	217.00	34.91	267.68	20.00
F_BARRCONS_44	44	1.23	82.43	151.39	217.00	60.56	416.31	20.00	1.23	72.70	144.54	217.00	32.99	260.16	20.00	1.23	72.57	144.45	217.00	40.46	296.30	20.00
F_BARRCONS_45	45	1.23	82.43	151.39	217.00	61.91	435.13	20.00	1.23	72.66	144.51	217.00	31.98	256.22	20.00	1.23	72.56	144.45	217.00	41.65	303.81	20.00
F_BARRCONS_46	46	1.23	82.43	151.39	217.00	62.94	451.40	20.00	1.23	72.64	144.50	217.00	31.59	254.74	20.00	1.23	72.56	144.44	217.00	42.57	309.97	20.00

MXDY+FF Model Results (cont'd)

	MIN						*235.1*							*281.2*								*274.7*	
	MAX						*438.9*							*411.4*								*539.8*	
		Servicing Alternative 2c							Servicing Alternative 2d							Servicing Alternative 3						
Model Node ID	Figure Node ID	Static Demand @ 6:00 (L/s)	Static Pressure @ 6:00 (psi)	Static Head @ 6:00 (m)	Fire-Flow Demand (L/s)	Residual Pressure (psi)	Available Flow at Hydrant (L/s)	Available Flow Pressure (psi)	Static Demand @ 6:00 (L/s)	Static Pressure @ 6:00 (psi)	Static Head @ 6:00 (m)	Fire-Flow Demand (L/s)	Residual Pressure (psi)	Available Flow at Hydrant (L/s)	Available Flow Pressure (psi)	Static Demand @ 6:00 (L/s)	Static Pressure @ 6:00 (psi)	Static Head @ 6:00 (m)	Fire-Flow Demand (L/s)	Residual Pressure (psi)	Available Flow at Hydrant (L/s)	Available Flow Pressure (psi)
F_BARRCONS_01	01	1.23	73.27	144.94	217.00	53.88	411.59	20.00	1.23	72.83	144.63	217.00	48.89	357.13	20.00	1.23	68.30	141.44	217.00	54.20	443.36	20.00
F_BARRCONS_02	02	1.23	73.19	144.88	217.00	48.40	350.55	20.00	1.23	72.81	144.62	217.00	46.37	334.36	20.00	1.23	68.20	141.38	217.00	52.58	417.07	20.00
F_BARRCONS_03	03	1.23	73.10	144.82	217.00	44.60	320.45	20.00	1.23	72.79	144.60	217.00	44.81	322.29	20.00	1.23	68.11	141.31	217.00	51.74	404.95	20.00
F_BARRCONS_04	04	1.23	73.06	144.79	217.00	42.59	307.23	20.00	1.23	72.78	144.60	217.00	44.28	318.41	20.00	1.23	68.06	141.28	217.00	51.61	403.52	20.00
F_BARRCONS_05	05	1.23	72.99	144.75	217.00	40.33	294.01	20.00	1.23	72.78	144.59	217.00	44.23	318.14	20.00	1.23	67.99	141.23	217.00	52.07	408.90	20.00
F_BARRCONS_06	06	1.23	72.89	144.67	217.00	37.78	281.12	20.00	1.23	72.77	144.59	217.00	46.53	336.61	20.00	1.23	67.87	141.14	217.00	52.49	416.19	20.00
F_BARRCONS_07	07	1.23	72.88	144.67	217.00	37.45	279.52	20.00	1.23	72.77	144.59	217.00	47.49	344.99	20.00	1.23	67.87	141.14	217.00	53.53	430.30	20.00
F_BARRCONS_08	08	1.23	72.88	144.67	217.00	37.27	278.69	20.00	1.23	72.78	144.59	217.00	48.33	352.86	20.00	1.23	67.86	141.14	217.00	54.47	444.31	20.00
F_BARRCONS_09	09	1.23	72.88	144.66	217.00	37.11	277.99	20.00	1.23	72.78	144.60	217.00	49.74	367.17	20.00	1.23	67.86	141.14	217.00	56.10	471.46	20.00
F_BARRCONS_10	10	1.23	72.87	144.66	217.00	34.91	267.61	20.00	1.23	72.77	144.59	217.00	47.29	343.07	20.00	1.23	67.86	141.13	217.00	54.47	442.40	20.00
F_BARRCONS_11	11	1.23	72.87	144.66	217.00	32.39	257.01	20.00	1.23	72.77	144.59	217.00	44.64	321.43	20.00	1.23	67.85	141.13	217.00	52.50	413.56	20.00
F_BARRCONS_12	12	1.23	72.86	144.65	217.00	29.66	246.78	20.00	1.23	72.76	144.58	217.00	41.82	302.25	20.00	1.23	67.84	141.12	217.00	50.35	387.47	20.00
F_BARRCONS_13	13	1.23	73.53	145.12	217.00	56.33	438.89	20.00	1.23	73.23	144.91	217.00	54.17	411.41	20.00	1.23	68.20	141.38	217.00	36.17	274.69	20.00
F_BARRCONS_14	14	1.23	73.45	145.07	217.00	55.37	426.51	20.00	1.23	73.11	144.83	217.00	52.87	396.55	20.00	1.23	68.20	141.38	217.00	40.39	297.87	20.00
F_BARRCONS_15	15	1.23	73.40	145.03	217.00	54.90	420.96	20.00	1.23	73.05	144.78	217.00	52.19	389.38	20.00	1.23	68.20	141.38	217.00	42.91	314.77	20.00
F_BARRCONS_16	16	1.23	73.37	145.01	217.00	54.52	416.78	20.00	1.23	72.99	144.74	217.00	51.60	383.50	20.00	1.23	68.20	141.38	217.00	45.35	333.95	20.00
F_BARRCONS_17	17	1.23	73.33	144.98	217.00	54.19	413.50	20.00	1.23	72.93	144.71	217.00	51.06	378.34	20.00	1.23	68.21	141.38	217.00	47.89	357.86	20.00
F_BARRCONS_18	18	1.23	73.30	144.96	217.00	53.94	411.33	20.00	1.23	72.89	144.67	217.00	50.61	374.21	20.00	1.23	68.21	141.38	217.00	50.31	385.71	20.00
F_BARRCONS_19	19	1.23	73.27	144.94	217.00	53.72	409.85	20.00	1.23	72.84	144.64	217.00	50.14	370.18	20.00	1.23	68.21	141.39	217.00	53.17	428.11	20.00
F_BARRCONS_20	20	1.23	73.22	144.91	217.00	51.57	383.38	20.00	1.23	72.82	144.63	217.00	49.02	358.69	20.00	1.23	68.17	141.35	217.00	52.47	417.33	20.00
F_BARRCONS_21	21	1.23	73.18	144.88	217.00	49.70	363.70	20.00	1.23	72.81	144.62	217.00	48.01	349.14	20.00	1.23	68.13	141.33	217.00	51.84	408.28	20.00
F_BARRCONS_22	22	1.23	73.14	144.85	217.00	48.02	348.06	20.00	1.23	72.80	144.61	217.00	47.11	341.21	20.00	1.23	68.09	141.30	217.00	51.30	400.80	20.00
F_BARRCONS_23	23	1.23	73.10	144.82	217.00	46.66	336.71	20.00	1.23	72.79	144.60	217.00	46.42	335.46	20.00	1.23	68.06	141.28	217.00	50.89	395.50	20.00
F_BARRCONS_24	24	1.23	73.07	144.80	217.00	45.41	327.09	20.00	1.23	72.78	144.60	217.00	45.83	330.74	20.00	1.23	68.03	141.25	217.00	50.55	391.30	20.00
F_BARRCONS_25	25	1.23	73.04	144.78	217.00	44.28	318.97	20.00	1.23	72.78	144.60	217.00	45.35	327.01	20.00	1.23	68.00	141.24	217.00	50.29	388.25	20.00
F_BARRCONS_26	26	1.23	73.01	144.76	217.00	43.21	311.81	20.00	1.23	72.77	144.59	217.00	44.97	324.11	20.00	1.23	67.98	141.22	217.00	50.12	386.22	20.00
F_BARRCONS_27	27	1.23	72.99	144.74	217.00	42.30	306.00	20.00	1.23	72.77	144.59	217.00	44.71	322.21	20.00	1.23	67.96	141.20	217.00	50.03	385.34	20.00
F_BARRCONS_28	28	1.23	72.97	144.73	217.00	41.46	300.94	20.00	1.23	72.77	144.59	217.00	44.56	321.11	20.00	1.23	67.94	141.19	217.00	50.02	385.47	20.00
F_BARRCONS_29	29	1.23	72.95	144.72	217.00	40.69	296.47	20.00	1.23	72.77	144.59	217.00	44.52	320.85	20.00	1.23	67.92	141.18	217.00	50.11	386.70	20.00
F_BARRCONS_30	30	1.23	72.94	144.71	217.00	40.05	292.86	20.00	1.23	72.77	144.59	217.00	44.60	321.38	20.00	1.23	67.91	141.17	217.00	50.27	388.93	20.00
F_BARRCONS_31	31	1.23	72.92	144.70	217.00	39.47	289.73	20.00	1.23	72.77	144.59	217.00	44.77	322.66	20.00	1.23	67.90	141.16	217.00	50.51	392.30	20.00
F_BARRCONS_32	32	1.23	72.91	144.69	217.00	38.95	286.98	20.00	1.23	72.77	144.59	217.00	45.05	324.78	20.00	1.23	67.89	141.16	217.00	50.86	396.88	20.00
F_BARRCONS_33	33	1.23	72.90	144.68	217.00	38.48	284.60	20.00	1.23	72.77	144.59	217.00	45.45	327.87	20.00	1.23	67.88	141.15	217.00	51.31	401.96	20.00
F_BARRCONS_34	34	1.23	72.88	144.67	217.00	37.18	278.30	20.00	1.23	72.77	144.59	217.00	47.96	349.54	20.00	1.23	67.86	141.14	217.00	58.19	511.76	20.00
F_BARRCONS_35	35	1.23	72.87	144.66	217.00	34.82	267.20	20.00	1.23	72.76	144.58	217.00	45.89	331.47	20.00	1.23	67.86	141.13	217.00	59.57	539.78	20.00
F_BARRCONS_36	36	1.23	72.87	144.66	217.00	32.83	258.79	20.00	1.23	72.76	144.58	217.00	44.10	317.79	20.00	1.23	67.85	141.13	217.00	56.82	477.17	20.00
F_BARRCONS_37	37	1.23	72.86	144.65	217.00	31.29	252.75	20.00	1.23	72.76	144.58	217.00	42.70	308.11	20.00	1.23	67.85	141.13	217.00	54.88	443.50	20.00
F_BARRCONS_38	38	1.23	72.86	144.65	217.00	29.81	247.32	20.00	1.23	72.75	144.58	217.00	41.34	299.52	20.00	1.23	67.84	141.12	217.00	53.06	417.44	20.00
F_BARRCONS_39	39	1.23	72.86	144.65	217.00	28.42	242.51	20.00	1.23	72.75	144.58	217.00	40.07	292.05	20.00	1.23	67.84	141.12	217.00	51.36	396.64	20.00
F_BARRCONS_40	40	1.23	72.86	144.65	217.00	27.98	241.02	20.00	1.23	72.76	144.58	217.00	40.08	291.95	20.00	1.23	67.84	141.12	217.00	49.07	372.57	20.00
F_BARRCONS_41	41	1.23	72.86	144.65	217.00	26.33	235.76	20.00	1.23	72.75	144.58	217.00	38.35	282.65	20.00	1.23	67.84	141.12	217.00	48.02	360.62	20.00
F_BARRCONS_42	42	1.23	72.86	144.65	217.00	26.12	235.09	20.00	1.23	72.75	144.58	217.00	38.05	281.16	20.00	1.23	67.84	141.12	217.00	48.19	362.40	20.00
F_BARRCONS_43	43	1.23	72.86	144.65	217.00	27.27	238.74	20.00	1.23	72.75	144.58	217.00	39.04	286.32	20.00	1.23	67.84	141.12	217.00	49.92	381.16	20.00
F_BARRCONS_44	44	1.23	72.95	144.72	217.00	38.89	286.46	20.00	1.23	72.77	144.59	217.00	44.83	322.66	20.00	1.23	67.94	141.19	217.00	53.10	422.12	20.00
F_BARRCONS_45	45	1.23	72.91	144.69	217.00	37.88	281.48	20.00	1.23	72.77	144.59	217.00	45.98	331.85	20.00	1.23	67.90	141.16	217.00	54.89	448.52	20.00
F_BARRCONS_46	46	1.23	72.89	144.68	217.00	37.48	279.64	20.00	1.23	72.77	144.59	217.00	46.84	339.26	20.00	1.23	67.88	141.15	217.00	56.28	472.74	20.00

Kennedy-Burnett Potable Water Master Servicing Study



Prepared for:
City of Ottawa
100 Constellation Crescent
Ottawa, ON K2G 6G8

Prepared by:
Stantec Consulting Ltd.
400-1331 Clyde Avenue
Ottawa, ON K2C 3G4

File No. 1634-01221

April 29, 2014

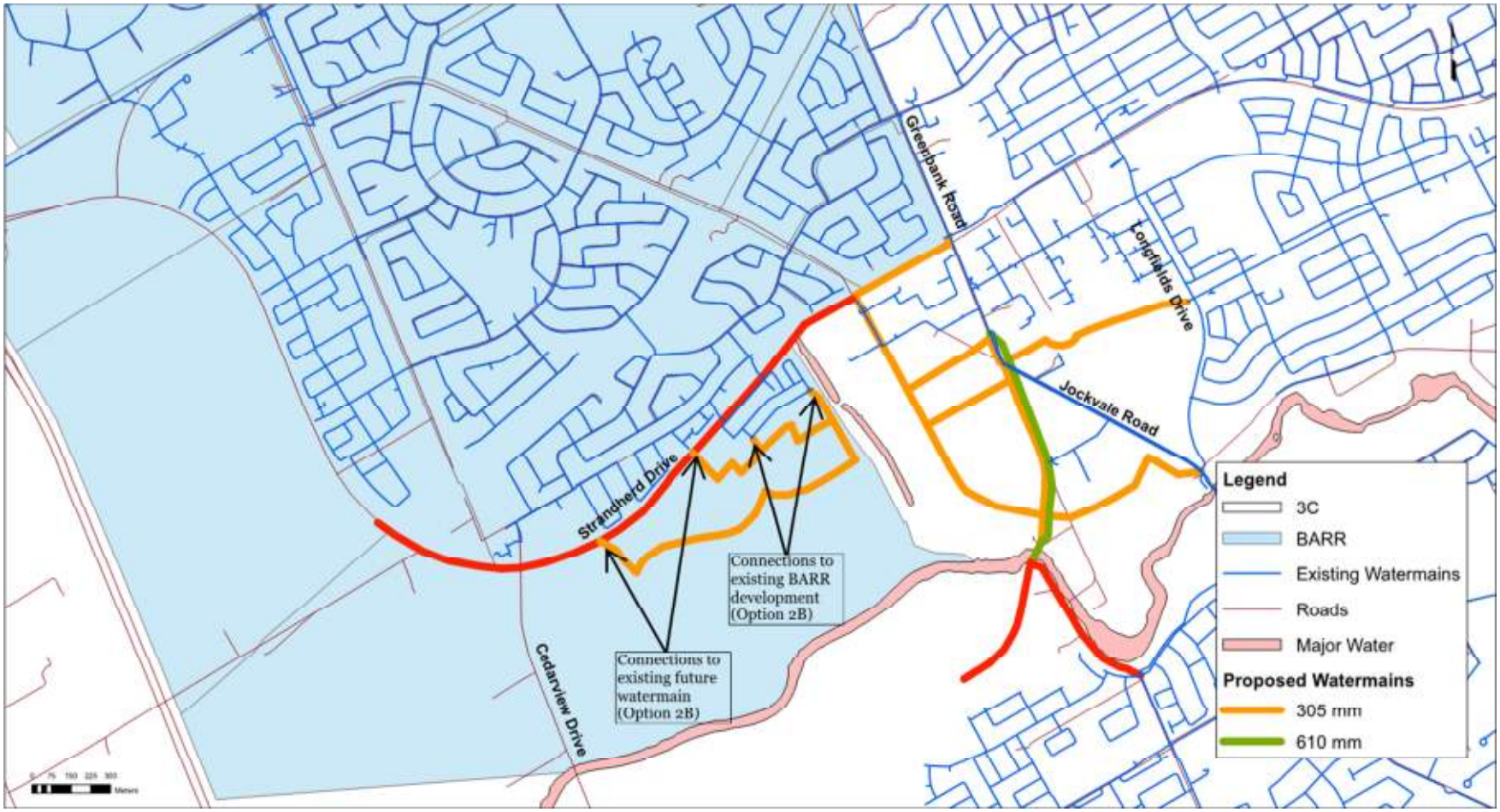
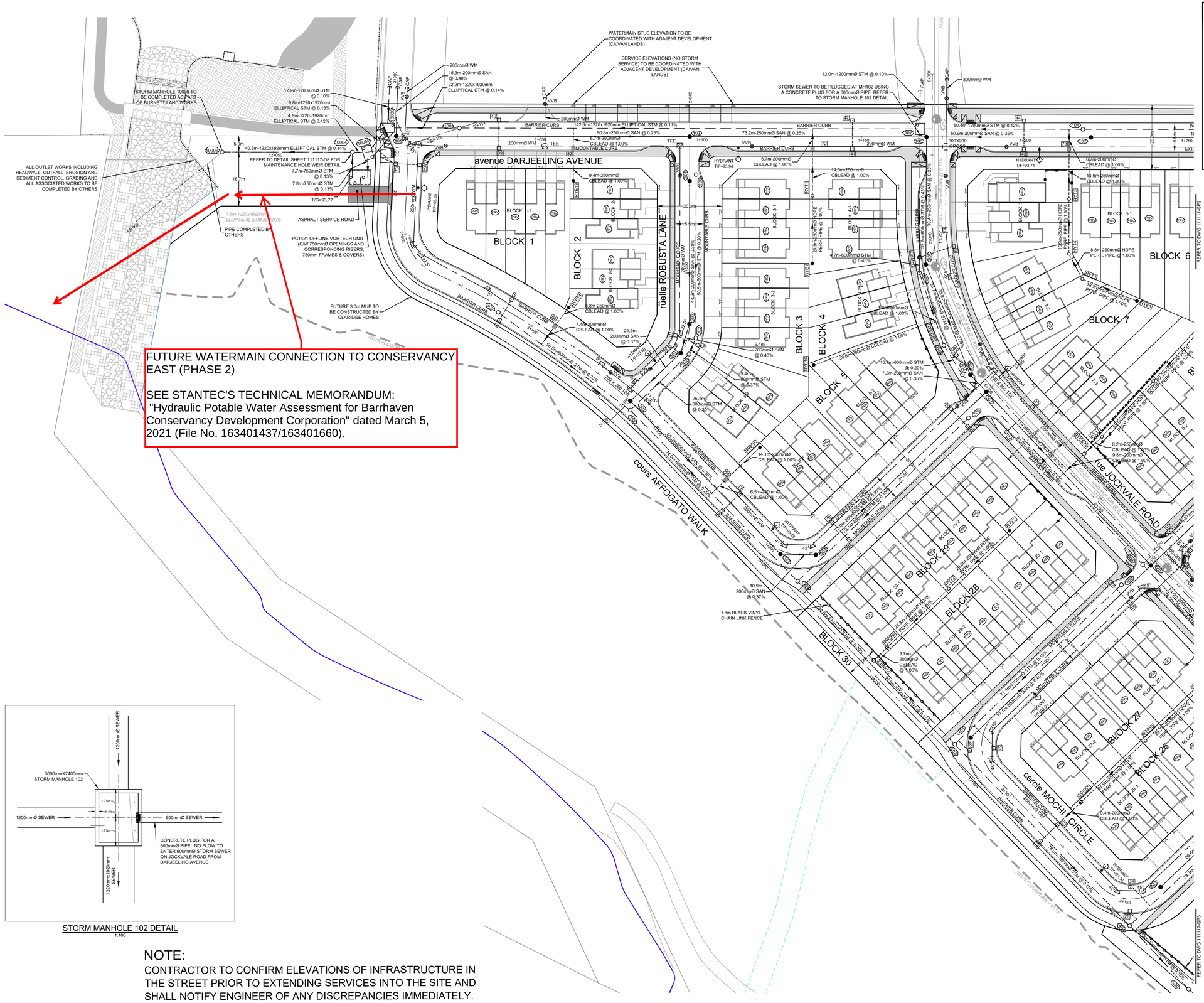


Figure 2-6: Proposed Pipe Layout Post Zone Reconfiguration – Scenario 2B

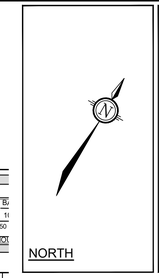


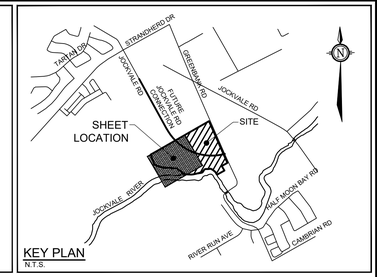
FUTURE WATERMAIN CONNECTION TO CONSERVANCY EAST (PHASE 2)

SEE STANTEC'S TECHNICAL MEMORANDUM: "Hydraulic Potable Water Assessment for Barrhaven Conservancy Development Corporation" dated March 5, 2021 (File No. 163401437/163401660).

STORM MANHOLE 102 DETAIL
1:100

NOTE:
CONTRACTOR TO CONFIRM ELEVATIONS OF INFRASTRUCTURE IN THE STREET PRIOR TO EXTENDING SERVICES INTO THE SITE AND SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES IMMEDIATELY.





KEY PLAN
N.T.S.

CATCHBASIN TABLE						
CB No.	STATION	T/G ELEVATION	INVERT	ICD DIA.	FLOW RATE (L/s)	HEAD (m)
CBMH1	6+055.96	93.55	90.37			
1	3+090.33	93.10	91.50	83mm ORIFICE SLIDE TYPE	38	1.56
2	3+090.33	93.10	91.50	83mm ORIFICE SLIDE TYPE	38	1.56
3	3+182.44	93.10	91.50	83mm ORIFICE SLIDE TYPE	38	1.56
4	3+182.43	93.10	91.50	83mm ORIFICE SLIDE TYPE	38	1.56
5	3+275.78	93.18	91.57	94mm ORIFICE SLIDE TYPE	50	1.65
6	3+275.78	93.18	91.57	94mm ORIFICE SLIDE TYPE	50	1.65
7	2+072.65	93.17	91.57	102mm ORIFICE SLIDE TYPE	58	1.55
8	2+073.33	93.21	91.61	102mm ORIFICE SLIDE TYPE	58	1.55
9	6+054.11	93.49	91.66	94mm ORIFICE SLIDE TYPE	25	1.63
11	6+114.05	93.41	91.53	102mm ORIFICE SLIDE TYPE	50	1.68
12	6+114.05	93.43	91.53	83mm ORIFICE SLIDE TYPE	50	1.68
19	4+019.25	92.92	91.24	83mm ORIFICE SLIDE TYPE	39	1.64
20	4+019.25	92.92	91.24	83mm ORIFICE SLIDE TYPE	39	1.64
21	4+085.15	92.72	91.13	83mm ORIFICE SLIDE TYPE	39	1.63
22	4+085.15	92.72	91.05	83mm ORIFICE SLIDE TYPE	39	1.63
23	4+118.88	92.69	91.20	83mm ORIFICE SLIDE TYPE	39	1.54
24	4+118.88	92.69	91.20	83mm ORIFICE SLIDE TYPE	39	1.54
25	4+152.04	92.73	91.13	83mm ORIFICE SLIDE TYPE	40	1.65
26	4+152.04	92.73	91.04	83mm ORIFICE SLIDE TYPE	40	1.65
39	1+037.78	93.28	91.47	102mm ORIFICE SLIDE TYPE	56	1.75
40	1+037.78	93.42	91.47	94mm ORIFICE SLIDE TYPE	56	1.75
41	1+147.13	93.44	91.75	83mm ORIFICE SLIDE TYPE	39	1.65
42	1+147.13	93.59	91.75	83mm ORIFICE SLIDE TYPE	39	1.65
43	1+200.23	93.40	91.72	94mm ORIFICE SLIDE TYPE	50	1.63
44	1+200.24	93.55	91.72	94mm ORIFICE SLIDE TYPE	50	1.63
69	3+028.31	93.33	91.61	83mm ORIFICE SLIDE TYPE	41	1.76
70	3+028.31	93.32	91.52	83mm ORIFICE SLIDE TYPE	41	1.76
79	3+225	93.15	91.55	83mm ORIFICE SLIDE TYPE	38	1.56
80	3+225	93.15	91.55	83mm ORIFICE SLIDE TYPE	38	1.56
81	6+087.01	93.51	91.91	83mm ORIFICE SLIDE TYPE	6	1.56

NOTE:
TOP OF GRATE ELEVATIONS ARE EDGE OF PAVEMENT GRADES FOR ROADSIDE CATCHBASINS AND TOP OF FRAME AND COVER FOR CURB INLET CATCHBASINS.

REAR YARD CATCHBASIN TABLE					
RYCB No.	T/G ELEVATION	INVERT	ICD DIA.	FLOW RATE (L/s)	HEAD (m)
RYE16	93.44	91.76		0	0.00
RYE1	93.56	91.75		0	0.00
RYT1	93.72	91.55		0	0.00
RYE14	93.59	92.03		0	0.00
RYE13	93.65	92.00		0	0.00
RYT5	93.70	91.92		0	0.00
RYT4	93.76	92.09		0	0.00
RYE3	93.55	92.35		0	0.00
RYCB6	93.22	91.11	83mm ORIFICE SLIDE TYPE	23	2.37
RYT2	93.23	91.37			
RYE2	93.28	91.63			
RYE15	93.43	91.96			
RYCB7	93.19	91.29			
RYT10	93.21	91.57			
RYT6	93.45	91.55			
RYT7	93.44	91.32			
RYT3	93.72	92.17			
RYCB74	93.55	91.24	127mm ORIFICE SLIDE TYPE		
RYCB85	93.70	91.07	152mm ORIFICE SLIDE TYPE		
72	93.53	91.41	102mm ORIFICE SLIDE TYPE		
73	93.51	91.77	127mm ORIFICE SLIDE TYPE		
82	93.48	91.61	83mm ORIFICE SLIDE TYPE		
84	93.14	91.52	94mm ORIFICE SLIDE TYPE		
88	93.19	91.66	94mm ORIFICE SLIDE TYPE		

NOTE:
SERVICE LATERALS UNDER GARAGE SHALL BE INSTALLED WITH SLEEVE.

NOTE:
THE POSITION OF ALL POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND OVERGROUND UTILITIES AND STRUCTURES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. BEFORE STARTING WORK, DETERMINE THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES AND ASSUME ALL LIABILITY FOR DAMAGE TO THEM.

No.	REVISION	mm/dd/yy	BY
18	ISSUED WITH CCN No.3	FEB 22/21	SAZ
17	ISSUED WITH SITE INSTRUCTION NO.3	FEB 11/21	SAZ
16	ISSUED FOR SERVICING CONSTRUCTION	FEB 1/21	SAZ
15	ISSUED FOR COMMENCE WORK NOTICE	JAN 29/21	SAZ
14	ISSUED FOR ORDERING PIPE MATERIALS	DEC 4/20	SAZ
13	REVISED SIZES FOR MANHOLES 102,10000,10002,10004	DEC 4/20	SAZ
12	ISSUED FOR ECA APPROVAL	NOV 19/20	SAZ
11	ISSUED TO GEOTECHNICAL CONSULTANT FOR REVIEW	NOV 4/20	SAZ
10	ISSUED FOR ADDENDUM NO.3	OCT 30/20	SAZ
9	ISSUED FOR ADDENDUM NO.1	OCT 23/20	SAZ
8	ISSUED FOR TENDER	OCT 16/20	SAZ
7	REVISED AS PER CITY OF OTTAWA COMMENTS	OCT 9/20	SAZ
6	REVISED AS PER CITY OF OTTAWA COMMENTS	AUG 24/20	SAZ
5	ISSUED FOR CITY OF OTTAWA REVIEW	JUNE 22/20	SAZ
4	ISSUED FOR DISCUSSION PURPOSES ONLY	JULY 12/19	SAZ
3	REISSUED WITH DRAFT PLAN OF SUBDIVISION	MAY 29/19	MSP
2	REISSUED WITH DRAFT PLAN OF SUBDIVISION	MAY 23/18	MSP
1	REISSUED WITH DRAFT PLAN OF SUBDIVISION	JAN 26/18	MSP

SCALE
1:500
1:500
0 5 10 15 20

DESIGN SAZ
CHECKED DDB
DRAWN RBG
CHECKED DDB
APPROVED MSP

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
BURNETT LANDS
3370 GREENBANK ROAD

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 111117
REV. REV # 18
DRAWING No. 111117-GP1

D07-16-17-0001

#18179

M:\2017\111117\CAD\Design\111117 - GP.DWG, GP1, Feb 22, 2021 - 2:48pm, rgrayton
PLAMBY.DWG - #18179
DVIEW 51.17"

APPENDIX E

SANITARY SERVICING

NOVATECH
Engineers, Planners & Landscape Architects

M E M O R A N D U M

DATE: MAY 30, 2019

TO: JOSÉE VALLEE – CITY OF OTTAWA

FROM: CONRAD STANG – NOVATECH

RE: STRANDHERD DRIVE WIDENING PROJECT
SOUTH NEPEAN COLLECTOR PHASE 3: SANITARY FLOW CALCULATIONS

CC: EDSON DONNELLY – NOVATECH

1.0 PURPOSE

This memorandum provides the sanitary sewer flow calculations and design sheet for Phase 3 of the proposed South Nepean Collector (SNC), as part of the Strandherd Drive Widening Project. Sanitary design flows have been estimated for both current-day operational flows and future development peak design flows. They are based on the latest available planning information for the vacant lands within the SNC sewershed.

2.0 BACKGROUND

In January 1998, the Master Servicing Study for the South Nepean Urban Area provided a conceptual plan for water, wastewater and stormwater infrastructure. The preferred alternative for wastewater servicing was an east/west trunk sewer alignment that was to be completed in several phases. The proposed sanitary trunk sewer was initially called the Jock River Collector, but was renamed the South Nepean Collector during the original functional design study completed in 2003.

Phase 1 of the South Nepean Collector was completed in 2005 and currently terminates at a 2400mm maintenance hole located east of Longfields Drive, north of Bren-Maur Road. Phase 2 was completed in 2016 and currently terminates at a 2400mm maintenance hole located at the intersection of Strandherd Drive and Fraser Fields Way.

Phase 3 will extend the trunk sewer along Strandherd Drive to the intersection of Kennevale Drive. Here it will connect with the existing sanitary trunk sewer that was constructed as part of the 2014 works to improve Strandherd Drive and develop the CitiGate Lands.

The sanitary sewer flows were previously documented in the *South Nepean Collector – Functional Design Report and Update* (Dillon, 2012). Novatech (2016) completed a Hydraulics Review / Assessment of the sanitary flows presented in the Dillion Report (attached). This was based on the latest planning information for the vacant lands within the SNC sewershed. The results of the Hydraulics Review / Assessment (Novatech, 2016) were similar to the results from the Dillion (2012) analysis.

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3.0 DESIGN PARAMETERS AND POPULATION ESTIMATES

3.1 Design Parameters

The sanitary design flow were calculated using the parameters from the City of Ottawa Sewer Design Guidelines (October 2012), revised per Technical Bulletin ISTB-2018-01 (March 2018). These parameters are summarized in **Table 1** and **Table 2**.

Table 1: Peak Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	280 L/cap/day	Harmon Equation, K=0.8 (1.6 min – 3.2 max)	0.33 L/s/ha
Commercial	28,000 L/ha/day	1.0 – 1.5*	
Institutional	28,000 L/ha/day	1.0 – 1.5*	
Other†	0 L/ha/day	N/A	

**Peak Factor = 1.5 if contributing area is >20%; Peak Factor = 1.0 if contributing area is <20%*
†Open Space, Arterial ROW, SWM Blocks, etc. with no sanitary flow contribution (extraneous flow only)

Table 2: Operational Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	200 L/cap/day	Harmon Equation, K=0.6 (1.2 min – 2.4 max)	0.30 L/s/ha
Commercial	17,000 L/ha/day	1.0 (non-coincident peak)	
Institutional	17,000 L/ha/day	1.0 (non-coincident peak)	

**There are no industrial areas identified within the tributary area.*

$$\text{Harmon Equation} = 1 + \frac{14}{4+\left(\frac{P}{1000}\right)^{\frac{1}{2}}} \times K$$

Where:

P = Population
K = Correction Factor:
- Peak Flow = 0.8
- Operational = 0.6

3.2 Land Use Designations & Population Estimates

Population densities and unit counts for future residential development are based on the Novatech (2016) Hydraulics Review / Assessment; refer to **Table 3**. They are based on the concept plans provided by the developers of the future residential areas.

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Table 3: Residential Land Use Population Densities

Residential Land Use	Units per ha	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

The land use designations shown in **Table 4** have been applied for the areas within Phases 2 & 3 of the SNC (Node 70 to 130). The Hydraulics Analysis / Review delineated the sewershed areas and land use designations using aerial photos (existing development) and conceptual site plans (future development).

Table 4: Land Use Designations

Land Use Designation	
Secondary Plan	**SNC Design**
Residential	Residential (Low / Medium / High Density)
Institutional / Office	Institutional
Commercial	Commercial
Recreational	
Business Park	
Prestige Business Park	
Park/Open Space Area	Other*
Ex. Snow Disposal Facility (future commercial)	
Stormwater Management Facility	
Conservation Lands	
Arterial Right-of-Ways	

** No sanitary flow contribution - extraneous flows (inflow/infiltration) only.*

The overall residential population estimate and sewershed area for Phases 2 and 3 of the SNC is provided in **Table 5** below. It is assumed that the snow dump facility at the Stranderd Drive and McKenna Casey Drive will ultimately be re-zoned for commercial development.

Table 5: Population Estimates and Areas

Existing / Future	Estimated Population / Area	Novatech (2015)
Existing	Estimated Population	6,944 persons
	Gross Residential Area	60.09 ha
	Gross Commercial / Institutional Area	64.37 ha
	Total Sewershed Area	124.5 ha
Future (full service)	Estimated Population	27,312 persons
	Gross Residential Area	248.48 ha
	Gross Commercial / Institutional Area	228.82 ha
	Total Sewershed Area	477.3 ha

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4.0 SANITARY DESIGN FLOWS

The sanitary flow allocations for Phases 2 and 3 of the SNC are provided in **Table 6**. The corresponding sanitary drainage area plan is provided as **Figure 1**. Sanitary sewer flow calculations for Phases 2 and 3 and detailed sanitary sewer design sheets for Phase 3 are attached to this memorandum.

The estimated sanitary design flows from Phase 3 of the SNC (entering Node 90) are as follows:

- Present-Day Operational Design Flows (Theoretical) = 55.1 L/s
- Future Peak Design Flows = 282.5 L/s

The outlet for Phase 3 of the SNC is the existing 900mm outlet pipe at the 2400mm maintenance hole (Node 90) located at the intersection of Strandherd Drive and Fraser Fields Way. Given a minimum design slope of 0.10%, this 900mm sanitary trunk sewer would have a full flow capacity of 597.2 L/s. Therefore, the downstream sanitary trunk sewer would be at 64% capacity, based on the future peak design flow being 282.5 L/s.

ATTACHMENTS:

- Figure 1: Sanitary Drainage Areas and Land Use
- Sanitary Sewer Flow Calculations
- Sanitary Sewer Design Sheets (Phase 3)
- South Nepean Collector Phase 2: Hydraulics Review / Assessment (Novatech, 2016)
- Excerpts from Dillion (2012)



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Table 6: Updated Allocation of Commercial, Institutional and Residential Demands to Phases 2 & 3 (Nodes 70 – 130) of the SNC by Collection Area

Collection Area	Upstream Node	Existing / Proposed Development	Existing / Proposed Land Use	Area (ha)	Estimated Number of Residential Units	Population Density (persons / ha)	Comment	Reference
A1	130	Proposed	Commercial	12.80	-	-	O'Keefe Court – Conceptual site plan shows proposed commercial.	Conceptual Plans for O'Keefe Court
A2-A	130	Proposed	Commercial	85.18	-	-	CitiGate – Analysis uses same approach as the design for CitiGate.	Detailed Servicing and SWM Report (Phase 1) (Novatech, 2014)
A2-B	130	Proposed	Commercial	32.46	-	-		
A2-C	120	Proposed	Commercial (ex. Snow dump)	15.25	-	-	Existing snow dump facility assumed to be future commercial.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)
A3-A	130	Proposed	Low Density Residential	16.18	461	95.2	Havencrest – Existing single family units.	Havencrest Design Report (IBI, 2013)
A3-B	130	Existing	Institutional	10.30	-	-	Cedarview Middle School and Cedarview Alliance Church.	Aerial Photos / Site Visits
A3-C	130	Existing	Medium Density Residential	5.19	311	162	Existing townhouse units.	
A3-D	130	Existing	Commercial	0.58	-	-	Existing commercial buildings.	
A3-E	130	Existing	Low Density Residential	35.68	999	95.2	Existing single family units.	
A3-F	130	Existing	Medium Density Residential	8.26	496	162.0	Existing townhouse units.	
A3-G	130	Existing	Institutional	0.90	-	-	Ottawa Torah Centre Chibad.	
A3-H	120	Existing	Low Density Residential	6.09	171	95.2	Existing single family units.	
A4	130	Existing	Low Density Residential	34.44	964	95.2	Existing single family units currently serviced by Jockvale pump station; to be redirected to SNC.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012); based on 2011 Census.
A5	110	Proposed	Commercial	17.72	-	-	Proposed commercial south of McKenna Casey Drive.	Site Visits
A6-A	100	Proposed	Commercial	15.18	-	-	Proposed commercial south of Srandherd Drive; east of Borrisokane Road.	Conceptual Plan for Lands Adjacent the Kennedy-Burnett SWMF provided by Minto (2015)
A6-B	100	Proposed	Institutional	6.05			Proposed school site on Minto property.	
A6-C	90	Existing	Medium Density Residential	4.87	292	162.0	Existing townhouse units.	Aerial Photos / Site Visits
A6-D	90	Proposed	Low Density Residential	17.56	492	95.2	Proposed single family units on lands owned by Minto / Mion.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A6-E	90	Proposed	Low Density Residential	6.94	203	95.2	Proposed single family units on lands owned by Pavic / Braovac.	
A7-A	80	Existing	Commercial	13.62	-	-	Existing large retail stores (commercial).	Aerial Photos
A7-B	80	Proposed	High Density Residential	11.01	826	135.0	Proposed high density units on lands owned by Richcraft / Trinity.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A7-C	80	Proposed	Medium Density Residential	6.97	418	162.0	Proposed Medium density units on lands owned by Mion.	
A7-D	80	Proposed	Medium Density Residential	11.74	704	162.0	Proposed Medium density units on lands owned by Caivan.	
A7-E1/E2	80	Proposed	Medium Density Residential	9.24	554	162.0	Proposed Medium density units on lands owned by Claridge.	
A8-A	80	Existing	Commercial	28.45	-	-	Existing Barrhaven Market Place (commercial).	Aerial Photos / Site Visits
A8-B	80	Proposed	High Density Residential	39.34	2951	135.0	Future development similar to Ampersands development.	Site Visits
A8-C	80	Existing	Institutional	10.52	-	-	Existing St. Joseph High School.	Aerial Photos / Site Visits
A8-D	80	Proposed	Low Density Residential	16.87	1012	162.0	Proposed 600 low density residential units.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)

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FALLOWFIELD RD

GREENBANK RD

MOODIE DR

HWY 416

STRANDHERD DR

MCKENNA CASEY DR

LONGFIELDS DR

JOCKVALE RD

JOCK RIVER

A1 12.80ha

A2-A 85.18ha

A2-B 32.46ha

A2-C 15.25ha

A3-A 16.18ha

A3-B 10.30ha

A3-C 5.19ha

A3-D 0.58ha

A3-E 35.68ha

A3-F 8.26ha

A3-G 0.90ha

A3-H 6.09ha

A4 34.44ha

A5 17.72ha

A6-A 15.18ha

A6-B 6.05ha

A6-C 4.87ha

A6-D 17.56ha

A6-E 6.94ha

A7-A 13.62ha

A7-B 11.01ha

A7-C 6.97ha

A7-D 11.74ha

A7-E1 7.70ha

A7-E2 1.54ha

A8-A 28.45ha

A8-B 39.34ha

A8-C 10.52ha

A8-D 16.87ha

130

120

110

100

90

80

70

60

50

40

30

20

10

Conservancy - WEST

Conservancy - EAST

Conservancy - Phase 1

LEGEND

- EXISTING / PROPOSED HIGH DENSITY RESIDENTIAL
- EXISTING / PROPOSED MEDIUM DENSITY RESIDENTIAL
- EXISTING / PROPOSED LOW DENSITY RESIDENTIAL
- EXISTING / PROPOSED COMMERCIAL
- EXISTING / PROPOSED INSTITUTIONAL
- OTHER LANDS (OPEN SPACE, PARKS, AND SWMFS)
- SOUTH NEPEAN COLLECTOR PHASE 1
- SOUTH NEPEAN COLLECTOR PHASE 2
- SOUTH NEPEAN COLLECTOR PHASE 3
- 80 SOUTH NEPEAN COLLECTOR NODE ID

NOVATECH
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SOUTH NEPEAN COLLECTOR SEWER

SANITARY DRAINAGE AREAS AND LAND USE

SCALE 1:20 000

DATE MAY 2019 | JOB 117190 | FIGURE FIG. 1

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PROJECT #: 117190
DESIGNED BY: CMS
CHECKED BY: RJD
DATE: December 5, 2018

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Current Operational Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	Existing Land Use	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Residential Populatation Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (17,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (17,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.3 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (200 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)
A1	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-B	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-B	Institutional	130		10.30		10.30					0.0	2.0	3.1	0.0	2.0	3.1	0.0	5.1
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	841	2.40	0.0	0.0	1.6	0.0	2.0	4.6	4.7	11.3
A3-D	Commercial	130	0.58			0.58			841	2.40	0.1	0.0	0.2	0.1	2.0	4.8	4.7	11.6
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	4238	2.39	0.0	0.0	10.7	0.1	2.0	15.5	23.4	41.1
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	5576	2.32	0.0	0.0	2.5	0.1	2.0	18.0	29.9	50.1
A3-G	Institutional	130		0.90		0.90			5576	2.32	0.0	0.2	0.3	0.1	2.2	18.3	29.9	50.5
A4	Low Density Residential*	130				0.00			5576	2.32	0.0	0.0	0.0	0.1	2.2	18.3	29.9	50.5
A2-C	Snow Dump Facility	120				0.00			5576	2.32	0.0	0.0	0.0	0.1	2.2	18.3	29.9	50.5
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	6155	2.30	0.0	0.0	1.8	0.1	2.2	20.1	32.7	55.1
A5	Open Space	110				0.00			6155	2.30	0.0	0.0	0.0	0.1	2.2	20.1	32.7	55.1
A6-A	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	2.2	20.1	32.7	55.1
A6-B	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	2.2	20.1	32.7	55.1
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	6944	2.27	0.0	0.0	1.5	0.1	2.2	21.6	36.4	60.3
A6-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	2.2	21.6	36.4	60.3
A6-E	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	2.2	21.6	36.4	60.3
A7-A	Commercial	90	13.62			13.62			6944	2.27	2.7	0.0	4.1	2.8	2.2	25.6	36.4	67.1
A7-B	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A7-C	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A7-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A7-E1/E2	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	2.2	25.6	36.4	67.1
A8-A	Commercial	80	28.45			28.45			6944	2.27	5.6	0.0	8.5	8.4	2.2	34.2	36.4	81.2
A8-B	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	2.2	34.2	36.4	81.2
A8-C	Institutional	80		10.52		10.52			6944	2.27	0.0	2.1	3.2	8.4	4.3	37.3	36.4	86.4
A8-D	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	4.3	37.3	36.4	86.4
ROW Along SNC Sewer Alignment	-	80				14.34			6944	2.27	0.0	0.0	4.3	8.4	4.3	41.6	36.4	90.7
TOTAL		***80***	***42.65***	***21.72***	***60.09***	***138.80***	***-***	***6944***	***6944***	***2.27***	***8.4***	***4.3***	***41.6***	***8.4***	***4.3***	***41.6***	***36.4***	***90.7***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = 1 + [14 / (4+(P/1000)$^{1/2}$)] x K

Where: P = population; K = correction factor = 0.6

2. Instituional / Commercial Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station; currently not directed to SNC

PROJECT #: 117190
DESIGNED BY: CMS
CHECKED BY: RJD
DATE: December 5, 2018

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Future Full Service Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	Existing / Proposed Land Use	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Residential Populatation Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (28,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (28,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.33 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (280 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)
A1	Commercial	130	12.80			12.80					6.2	0.0	4.2	6.2	0.0	4.2	0.0	10.4
A2-A	Commercial	130	85.18			85.18					41.4	0.0	28.1	47.6	0.0	32.3	0.0	80.0
A2-B	Commercial	130	32.46			32.46					15.8	0.0	10.7	63.4	0.0	43.0	0.0	106.5
A3-A	Low Density Residential	130			16.18	16.18	95.2	1540	1540	3.14	0.0	0.0	5.3	63.4	0.0	48.4	15.7	127.5
A3-B	Institutional	130		10.30		10.30			1540	3.14	0.0	3.3	3.4	63.4	3.3	51.8	15.7	134.2
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	2381	3.02	0.0	0.0	1.7	63.4	3.3	53.5	23.3	143.6
A3-D	Commercial	130	0.58			0.58			2381	3.02	0.3	0.0	0.2	63.7	3.3	53.7	23.3	144.0
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	5778	2.75	0.0	0.0	11.8	63.7	3.3	65.5	51.5	184.0
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	7116	2.68	0.0	0.0	2.7	63.7	3.3	68.2	61.8	197.0
A3-G	Institutional	130		0.90		0.90			7116	2.68	0.0	0.3	0.3	63.7	3.6	68.5	61.8	197.6
A4	Low Density Residential	130			34.44	34.44	95.2	3279	10395	2.55	0.0	0.0	11.4	63.7	3.6	79.9	85.9	233.1
A2-C	Commercial (ex. snow dump)	120	15.25			15.25			10395	2.55	7.4	0.0	5.0	71.1	3.6	84.9	85.9	245.5
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	10974	2.53	0.0	0.0	2.0	71.1	3.6	86.9	90.0	251.7
A5	Commercial	110	17.72			17.72			10974	2.53	8.6	0.0	5.8	79.7	3.6	92.7	90.0	266.1
A6-A	Commercial	100	15.18			15.18			10974	2.53	7.4	0.0	5.0	87.1	3.6	97.7	90.0	278.5
A6-B	Institutional	100		6.05		6.05			10974	2.53	0.0	2.0	2.0	87.1	5.6	99.7	90.0	282.5
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	11763	2.51	0.0	0.0	1.6	87.1	5.6	101.4	95.6	289.6
A6-D	Low Density Residential	90			17.56	17.56	95.2	1672	13435	2.46	0.0	0.0	5.8	87.1	5.6	107.1	107.2	307.0
A6-E	Low Density Residential	90			6.94	6.94	95.2	661	14096	2.44	0.0	0.0	2.3	87.1	5.6	109.4	111.7	313.8
A7-A	Commercial	90	13.62			13.62			14096	2.44	6.6	0.0	4.5	93.7	5.6	113.9	111.7	324.9
A7-B	High Density Residential	90			11.01	11.01	135.0	1486	15582	2.41	0.0	0.0	3.6	93.7	5.6	117.6	121.7	338.5
A7-C	Medium Density Residential	90			6.97	6.97	162.0	1129	16711	2.38	0.0	0.0	2.3	93.7	5.6	119.9	129.2	348.3
A7-D	Medium Density Residential	90			11.74	11.74	162.0	1902	18613	2.35	0.0	0.0	3.9	93.7	5.6	123.7	141.6	364.6
A7-E1/E2	Medium Density Residential	90			9.24	9.24	162.0	1497	20110	2.32	0.0	0.0	3.0	93.7	5.6	126.8	151.2	377.3
A8-A	Commercial	80	28.45			28.45			20110	2.32	13.8	0.0	9.4	107.5	5.6	136.2	151.2	400.5
A8-B	High Density Residential	80			39.34	39.34	135.0	5311	25421	2.24	0.0	0.0	13.0	107.5	5.6	149.2	184.4	446.7
A8-C	Institutional	80		10.52		10.52			25421	2.24	0.0	3.4	3.5	107.5	9.0	152.6	184.4	453.6
A8-D	Low Density Residential	80			16.87	16.87	120.9	2040	27461	2.21	0.0	0.0	5.6	107.5	9.0	158.2	196.9	471.6
ROW Along SNC Sewer Alignment	-	80				14.34			27461	2.21	0.0	0.0	4.7	107.5	9.0	162.9	196.9	476.3
TOTAL		***80***	***221.24***	***27.77***	***230.38***	***493.73***	***-***	***27461***	***27461***	***2.21***	***107.5***	***9.0***	***162.9***	***107.5***	***9.0***	***162.9***	***196.9***	***476.3***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = 1 + [14 / (4+(P/1000)$^{1/2}$)] x K

Where: P = population; K = correction factor = 0.8

2. Commercial Peaking Factor = 1.5; Institutional Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC
2. Area A8-D: proposed 600 medium density residential units

See Note (2) in the DSEL "Barrhaven Conservancy - Evaluation of SNC Flows" design sheet

THE PRIOR NOVATECH SNC DESIGN SHEET HAD FLOWS AT **423.6 L/s** AFTER AREA ID "A6-E'.

THIS UPDATED NOVATECH 'PHASE 3' EVALUATION HAS A FLOW OF **313.8 L/s**.

THE DSEL EVALUATION OF SANITARY FLOWS WITH THE NEW CITY DESIGN PARAMETERS AT THIS SAME NODE (WITH CONSERVANCY WEST AND EAST INCLUDED) IS **~401.58 L/s** (WHICH IS LESS THAN THE PRIOR **423.6 L/s** NOTED ABOVE)

SOUTH NEPEAN COLLECTOR (PHASE 3)
SANITARY SEWER DESIGN SHEET

DECEMBER 5 2018
JOB# 117190

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			Area				Population		Cumulative Design Flows					PROPOSED SEWER						
From MH	To MH	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (280 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)	Length (m)	Pipe Size (mm)	Type	Slope %	Capacity (L/s)	Full Flow Velocity (m/s)	Ratio (Q/Qfull)
SA 22	SA 21	120	146.27	11.20	105.84	263.31	10974	2.53	71.1	3.6	86.9	90.0	251.7	131.9	750	CONC	0.10	367.3	0.81	69%
SA 21	SA 20	120											251.7	90.6	750	CONC	0.10	367.3	0.81	69%
SA 20	SA 19	120											251.7	90.0	750	CONC	0.10	367.3	0.81	69%
SA 19	SA 18	120											251.7	72.1	750	CONC	0.10	367.3	0.81	69%
SA 18	SA 17	120											251.7	71.9	750	CONC	0.10	367.3	0.81	69%
SA 17	SA 16	120											251.7	71.4	750	CONC	0.10	367.3	0.81	69%
SA 16	SA 15	110	163.99	11.20	105.84	281.03	10974	2.53	79.7	3.6	92.7	90.0	266.1	73.2	750	CONC	0.10	367.3	0.81	72%
SA 15	SA 14	110											266.1	67.5	750	CONC	0.10	367.3	0.81	72%
SA 14	SA 13	110											266.1	56.6	750	CONC	0.10	367.3	0.81	72%
SA 13	SA 12	110											266.1	133.5	750	CONC	0.10	367.3	0.81	72%
SA 12	SA 11	110											266.1	150.0	750	CONC	0.10	367.3	0.81	72%
SA 11	SA 10	100	179.17	17.25	105.84	302.26	10974	2.53	87.1	5.6	99.7	90.0	282.5	97.8	750	CONC	0.10	367.3	0.81	77%
SA 10	SA 9	100											282.5	76.7	750	CONC	0.10	367.3	0.81	77%
SA 9	SA 8	100											282.5	79.7	750	CONC	0.10	367.3	0.81	77%
SA 8	SA 7	100											282.5	75.3	750	CONC	0.10	367.3	0.81	77%
SA 7	SA 6	100											282.5	84.9	750	CONC	0.10	367.3	0.81	77%
SA 6	SA 5	100											282.5	77.1	750	CONC	0.10	367.3	0.81	77%
SA 5	SA 4	100											282.5	78.9	750	CONC	0.10	367.3	0.81	77%
SA 4	SA 3	100											282.5	80.5	750	CONC	0.10	367.3	0.81	77%
SA 3	SA 2	100											282.5	150.0	750	CONC	0.10	367.3	0.81	77%
SA 2	SA 1	100											282.5	114.6	750	CONC	0.10	367.3	0.81	77%
SA 1	*EX 80*	100											282.5	12.4	750	CONC	0.10	367.3	0.81	77%

Design Parameters:

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles / semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row / townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = 1 + [14 / (4+(P/1000)$^{1/2}$)] x K

Where: P = population; K = correction factor = 0.8

2. Commercial Peaking Factor = 1.5; Institutional Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units



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M E M O R A N D U M

DATE: MAY 26, 2016

TO: JONATHAN KNOYLE – CITY OF OTTAWA

FROM: CONRAD STANG – NOVATECH

RE: SOUTH NEPEAN COLLECTOR PHASE 2: SANITARY FLOW CALCULATIONS

CC: EDSON DONNELLY – NOVATECH

1.0 PURPOSE

This memorandum provides the sanitary sewer flow calculations and design sheet for Phase 2 of the proposed South Nepean Collector (SNC). Sanitary design flows have been estimated for both current-day operational flows and future development peak design flows, based on the latest available planning information for the vacant lands within the SNC sewershed.

2.0 BACKGROUND

In January 1998, the Master Servicing Study for the South Nepean Urban Area provided a conceptual plan for water, wastewater and stormwater infrastructure. The preferred alternative for wastewater servicing was an east/west trunk sewer alignment that was to be completed in several phases. The proposed sanitary trunk sewer was initially called the Jock River Collector, but was renamed the South Nepean Collector during the original functional design study completed in 2003.

Phase 1 of the South Nepean Collector was completed in 2005 and currently terminates at a 2400mm maintenance hole located east of Longfields Drive, north of Bren-Maur Road. Phase 2 will extend the trunk sewer to Strandherd Drive at the intersection of the proposed transitway along the proposed extension to Chapman Mills Drive. Phase 3 will extend the trunk sewer along Strandherd Drive to the intersection of Maravista Drive.

The sanitary sewer flows were previously documented in the *South Nepean Collector – Functional Design Report and Update* (Dillon, 2012). A review of the sanitary flows provided in the Dillion Report based on the latest planning information for the vacant lands within the SNC sewershed was documented in the technical memorandum titled South Nepean Collector Phase 2: Hydraulics Review / Assessment (Novatech, 2015), which is attached to this memorandum. The results of the Hydraulics Review / Assessment (Novatech, 2015) were very similar to the results from the Dillion (2012) analysis.

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3.0 DESIGN PARAMETERS AND POPULATION ESTIMATES

3.1 Design Parameters

The sanitary design flow were calculated using the parameters from the City of Ottawa Sewer Design Guidelines (October 2012), and are summarized in **Table 1** and **Table 2**.

Table 1: Peak Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	350 L/cap/day	Harmon Equation, K=1 (2.0 min – 4.0 max)	0.28 L/s/ha
Commercial	50,000 L/ha/day	1.5	
Institutional	50,000 L/ha/day	1.5	
Other*	0 L/ha/day	N/A	

**Open Space, Arterial ROW, SWM Blocks, etc. with no sanitary flow contribution (extraneous flow only)*

Table 2: Operational Design Flow Parameters

Land Use	Average Daily Flow	Peaking Factor	Peak Extraneous Flows
Residential	300 L/cap/day	Harmon Equation, K=0.6 (1.2 min – 2.4 max)	Dry weather 0.05-0.08 L/s/ha Wet Weather 0.15 - 0.20 L/s/ha (typical events) 0.28 L/s/ha (large/annual events) 0.30 - 0.50 L/s/ha (extreme events)
Commercial	17,000 L/ha/day	1.0 (non-coincident peak)	
Institutional	10,000 L/ha/day	1.0 (non-coincident peak)	

**There are no industrial areas identified within the tributary area.*

$$\text{Harmon Equation} = 1 + \frac{14}{4+\left(\frac{P}{1000}\right)^{\frac{1}{2}}} \times K$$

Where:

P = Population

K = Correction Factor:

- Peak Flow = 1
- Operational = between 0.4 to 0.6 (0.6 used)

3.2 Land Use Designations & Population Estimates

Population densities and unit counts for future residential development are based on the current concept plans for these areas, and are presented in **Table 3**.

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Table 3: Residential Land Use Population Densities

Residential Land Use	Units per ha	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

The land use designations shown in **Table 4** have been applied for the areas within Phases 2 and 3 of the SNC (Node 70 to 130). The sewershed areas and land use designations were delineated using aerial photos (existing development) and conceptual site plans (future development).

Table 4: Land Use Designations

Land Use Designation	
Secondary Plan	**SNC Design**
Residential	Residential (Low / Medium / High Density)
Institutional / Office	Institutional
Commercial	Commercial
Recreational	
Business Park	
Prestige Business Park	
Park/Open Space Area	Other*
Ex. Snow Disposal Facility (future commercial)	
Stormwater Management Facility	
Conservation Lands	
Arterial Right-of-Ways	

** No sanitary flow contribution - extraneous flows (inflow/infiltration) only.*

The overall residential population estimate and sewershed area for Phases 2 and 3 of the SNC is provided in **Table 5** below. It is assumed that the snow dump facility at the Stranderd Drive and McKenna Casey Drive will ultimately be re-zoned for commercial development.

Table 5: Population Estimates and Areas

Existing / Future	Estimated Population / Area	Novatech (2015)
Existing	Estimated Population	6,944 persons
	Gross Residential Area	60.09 ha
	Gross Commercial / Institutional Area	64.37 ha
	Total Sewershed Area	124.5 ha
Future (full service)	Estimated Population	27,312 persons
	Gross Residential Area	248.48 ha
	Gross Commercial / Institutional Area	228.82 ha
	Total Sewershed Area	477.3 ha

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4.0 SANITARY DESIGN FLOWS

The sanitary flow allocations for Phases 2 and 3 of the SNC are provided in **Table 6**. The corresponding sanitary drainage area plan is provided as **Figure 1**. Sanitary sewer flow calculations for Phases 2 and 3 and detailed sanitary sewer design sheets for Phase 2 are attached to this memorandum.

The estimated sanitary design flows from Phases 2 and 3 of the SNC (entering Node 70) are as follows:

- Present-Day Operational Design Flows (Theoretical) = 72.5 L/s
- Future Peak Design Flows = 634.2 L/s

The outlet for Phase 2 of the SNC is the existing 1050mm outlet pipe at the 2400mm maintenance hole (Node 70) located east of Longfields Drive, north of Bren-Maur Road. Given a minimum design slope of 0.10%, this sanitary trunk sewer would have a full flow capacity of 900.5 L/s. Therefore, the downstream sanitary trunk sewer would be at 70% capacity, based on the future peak design flow being 634.2 L/s.

ATTACHMENTS:

- Figure 1: Sanitary Drainage Areas and Land Use
- Sanitary Sewer Flow Calculations
- Sanitary Sewer Design Sheets (Phase 2)
- South Nepean Collector Phase 2: Hydraulics Review / Assessment (Novatech, 2015)



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Table 6: Updated Allocation of Commercial, Institutional and Residential Demands to Phases 2 & 3 (Nodes 70 – 130) of the SNC by Collection Area

Collection Area	Upstream Node	Existing / Proposed Development	Existing / Proposed Land Use	Area (ha)	Estimated Number of Residential Units	Population Density (persons / ha)	Comment	Reference
A1	130	Proposed	Commercial	12.80	-	-	O'Keefe Court – Conceptual site plan shows proposed commercial.	Conceptual Plans for O'Keefe Court
A2-A	130	Proposed	Commercial	85.18	-	-	CitiGate – Analysis uses same approach as the design for CitiGate.	Detailed Servicing and SWM Report (Phase 1) (Novatech, 2014)
A2-B	130	Proposed	Commercial	32.46	-	-		
A2-C	120	Proposed	Commercial (ex. Snow dump)	15.25	-	-	Existing snow dump facility assumed to be future commercial.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)
A3-A	130	Proposed	Low Density Residential	16.48	461	95.2	Havencrest – Existing single family units.	Havencrest Design Report (IBI, 2013)
A3-B	130	Existing	Institutional	10.30	-	-	Cedarview Middle School and Cedarview Alliance Church.	Aerial Photos / Site Visits
A3-C	130	Existing	Medium Density Residential	5.19	311	162	Existing townhouse units.	
A3-D	130	Existing	Commercial	0.58	-	-	Existing commercial buildings.	
A3-E	130	Existing	Low Density Residential	35.68	999	95.2	Existing single family units.	
A3-F	130	Existing	Medium Density Residential	8.26	496	162.0	Existing townhouse units.	
A3-G	130	Existing	Institutional	0.90	-	-	Ottawa Torah Centre Chibad.	
A3-H	120	Existing	Low Density Residential	6.09	171	95.2	Existing single family units.	
A4	130	Existing	Low Density Residential	34.44	964	95.2	Existing single family units currently serviced by Jockvale pump station; to be redirected to SNC.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012); based on 2011 Census.
A5	110	Proposed	Commercial	17.72	-	-	Proposed commercial south of McKenna Casey Drive.	Site Visits
A6-A	100	Proposed	Institutional	20.70	-	-	Proposed school site on Minto property.	Conceptual Plan for Lands Adjacent the Kennedy-Burnett SWMF provided by Minto (2015)
A6-B	90	Existing	Medium Density Residential	4.87	292	162.0	Existing townhouse units.	Aerial Photos / Site Visits
A6-C	90	Proposed	Low Density Residential	10.11	283	95.2	Proposed single family units on lands owned by Minto.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A6-D	90	Proposed	Low Density Residential	5.59	157	95.2	Proposed single family units on lands owned by Mion.	
A6-E	90	Proposed	Low Density Residential	7.24	203	95.2	Proposed single family units on lands owned by Pavic / Braovac.	
A7-A	80	Existing	Commercial	13.62	-	-	Existing large retail stores (commercial).	Aerial Photos
A7-B	80	Proposed	High Density Residential	11.01	826	135.0	Proposed high density units on lands owned by Richcraft / Trinity.	Conceptual Plans for Lands Adjacent the Kennedy-Burnett SWMF provided by land owners.
A7-C	80	Proposed	Medium Density Residential	6.97	418	162.0	Proposed Medium density units on lands owned by Mion.	
A7-D	80	Proposed	Medium Density Residential	11.74	704	162.0	Proposed Medium density units on lands owned by Caivan.	
A7-E1/E2	80	Proposed	Medium Density Residential	9.24	554	162.0	Proposed Medium density units on lands owned by Claridge.	
A8-A	80	Existing	Commercial	28.45	-	-	Existing Barrhaven Market Place (commercial).	Aerial Photos / Site Visits
A8-B	80	Proposed	High Density Residential	39.34	2951	135.0	Future development similar to Ampersands development.	Site Visits
A8-C	80	Existing	Institutional	10.52	-	-	Existing St. Joseph High School.	Aerial Photos / Site Visits
A8-D	80	Proposed	Low Density Residential	16.87	1012	162.0	Proposed 600 low density residential units.	Functional Design Report and Update – SNC Phase 2 and 3 (Dillon, 2012)

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Attachment 1

Sanitary Drainage Areas and Land Use

FALLOWFIELD RD

GREENBANK RD

MOODIE DR

HWY 416

MCKENNA CASEY DR

STRANDHERD DR

JOCK RIVER

LONGFIELDS DR

JOCKVALE RD

A1 12.80ha

A2-A 85.18ha

A2-B 32.46ha

A2-C 15.25ha

A3-A 16.18ha

A3-B 10.30ha

A3-C 5.19ha

A3-D 0.58ha

A3-E 35.68ha

A3-F 8.26ha

A3-G 0.90ha

A3-H 6.09ha

A4 34.44ha

A5 17.72ha

A6-A 15.18ha

A6-B 6.05ha

A6-C 4.87ha

A6-D 17.56ha

A6-E 6.94ha

A7-A 13.62ha

A7-B 11.01ha

A7-C 6.97ha

A7-D 11.74ha

A7-E1 7.70ha

A7-E2 1.54ha

A8-A 28.45ha

A8-B 39.34ha

A8-C 10.52ha

A8-D 10.87ha

130 120 110 100 90 80 70 60 50 40 30 20 10

LEGEND

- EXISTING / PROPOSED HIGH DENSITY RESIDENTIAL
- EXISTING / PROPOSED MEDIUM DENSITY RESIDENTIAL
- EXISTING / PROPOSED LOW DENSITY RESIDENTIAL
- EXISTING / PROPOSED COMMERCIAL
- EXISTING / PROPOSED INSTITUTIONAL
- OTHER LANDS (OPEN SPACE, PARKS, AND SWMFS)
- SOUTH NEPEAN COLLECTOR PHASE 1
- SOUTH NEPEAN COLLECTOR PHASE 2
- SOUTH NEPEAN COLLECTOR PHASE 3
- 80 SOUTH NEPEAN COLLECTOR NODE ID

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SOUTH NEPEAN COLLECTOR SEWER

SANITARY DRAINAGE AREAS AND LAND USE

SCALE 1:20 000

DATE MAY 2016 | JOB 115075 | FIGURE FIG. 1

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Attachment 2

Sewer Flow Calculations

PROJECT #: 115075
DESIGNED BY: CMS
CHECKED BY: MJP
DATE: August 20, 2015

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Current Operational Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	Existing Land Use	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Residential Populatation Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (17,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (10,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.05 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (300 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)
A1	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A2-B	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-A	Open Space	130				0.00					0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
A3-B	Institutional	130		10.30		10.30					0.0	1.2	0.5	0.0	1.2	0.5	0.0	1.7
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	841	2.71	0.0	0.0	0.3	0.0	1.2	0.8	7.9	9.9
A3-D	Commercial	130	0.58			0.58			841	2.71	0.1	0.0	0.0	0.1	1.2	0.8	7.9	10.0
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	4238	2.39	0.0	0.0	1.8	0.1	1.2	2.6	35.1	39.0
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	5576	2.32	0.0	0.0	0.4	0.1	1.2	3.0	44.9	49.2
A3-G	Institutional	130		0.90		0.90			5576	2.32	0.0	0.1	0.0	0.1	1.3	3.0	44.9	49.4
A4	Low Density Residential*	130				0.00			5576	2.32	0.0	0.0	0.0	0.1	1.3	3.0	44.9	49.4
A2-C	Snow Dump Facility	120				0.00			5576	2.32	0.0	0.0	0.0	0.1	1.3	3.0	44.9	49.4
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	6155	2.30	0.0	0.0	0.3	0.1	1.3	3.4	49.1	53.8
A5	Open Space	110				0.00			6155	2.30	0.0	0.0	0.0	0.1	1.3	3.4	49.1	53.8
A6-A	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	1.3	3.4	49.1	53.8
A6-B	Open Space	100				0.00			6155	2.30	0.0	0.0	0.0	0.1	1.3	3.4	49.1	53.8
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	6944	2.27	0.0	0.0	0.2	0.1	1.3	3.6	54.6	59.6
A6-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	1.3	3.6	54.6	59.6
A6-E	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	0.1	1.3	3.6	54.6	59.6
A7-A	Commercial	90	13.62			13.62			6944	2.27	2.7	0.0	0.7	2.8	1.3	4.3	54.6	63.0
A7-B	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A7-C	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A7-D	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A7-E1/E2	Open Space	90				0.00			6944	2.27	0.0	0.0	0.0	2.8	1.3	4.3	54.6	63.0
A8-A	Commercial	80	28.45			28.45			6944	2.27	5.6	0.0	1.4	8.4	1.3	5.7	54.6	70.0
A8-B	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	1.3	5.7	54.6	70.0
A8-C	Institutional	80		10.52		10.52			6944	2.27	0.0	1.2	0.5	8.4	2.5	6.2	54.6	71.8
A8-D	Open Space	80				0.00			6944	2.27	0.0	0.0	0.0	8.4	2.5	6.2	54.6	71.8
ROW Along SNC Sewer Alignment	-	80				14.34			6944	2.27	0.0	0.0	0.7	8.4	2.5	6.9	54.6	72.5
TOTAL		***80***	***42.65***	***21.72***	***60.09***	***138.80***	***-***	***6944***	***6944***	***2.27***	***8.4***	***2.5***	***6.9***	***8.4***	***2.5***	***6.9***	***54.6***	***72.5***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = 1 + [14 / (4+(P/1000)$^{1/2}$)] x K

Where: P = population; K = correction factor = 0.6

2. Instituional / Commercial Peaking Factor = 1.0

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station; currently not directed to SNC

PROJECT #: 115075
DESIGNED BY: CMS
CHECKED BY: MJP
DATE: August 20, 2015

SANITARY SEWER DESIGN SHEET

South Nepean Collector - Phase 2 & 3

Theoretical Future Full Service Peak Wastewater Flow

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Location			Areas				Population				Individual Design Flows			Cumulative Design Flows				
Area I.D.	Existing / Proposed Land Use	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Total Gross Area (ha)	Residential Populatation Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (50,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (50,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.28 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (350 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)
A1	Commercial	130	12.80			12.80					11.1	0.0	3.6	11.1	0.0	3.6	0.0	14.7
A2-A	Commercial	130	85.18			85.18					73.9	0.0	23.9	85.1	0.0	27.4	0.0	112.5
A2-B	Commercial	130	32.46			32.46					28.2	0.0	9.1	113.2	0.0	36.5	0.0	149.8
A3-A	Low Density Residential	130			16.18	16.18	95.2	1540	1540	3.67	0.0	0.0	4.5	113.2	0.0	41.1	22.9	177.2
A3-B	Institutional	130		10.30		10.30			1540	3.67	0.0	8.9	2.9	113.2	8.9	43.9	22.9	189.0
A3-C	Medium Density Residential	130			5.19	5.19	162.0	841	2381	3.53	0.0	0.0	1.5	113.2	8.9	45.4	34.0	201.6
A3-D	Commercial	130	0.58			0.58			2381	3.53	0.5	0.0	0.2	113.7	8.9	45.6	34.0	202.2
A3-E	Low Density Residential	130			35.68	35.68	95.2	3397	5778	3.19	0.0	0.0	10.0	113.7	8.9	55.5	74.6	252.8
A3-F	Medium Density Residential	130			8.26	8.26	162	1338	7116	3.10	0.0	0.0	2.3	113.7	8.9	57.9	89.4	269.9
A3-G	Institutional	130		0.90		0.90			7116	3.10	0.0	0.8	0.3	113.7	9.7	58.1	89.4	270.9
A4	Low Density Residential	130			34.44	34.44	95.2	3279	10395	2.94	0.0	0.0	9.6	113.7	9.7	67.8	123.7	314.9
A2-C	Commercial (ex. snow dump)	120	15.25			15.25			10395	2.94	13.2	0.0	4.3	127.0	9.7	72.0	123.7	332.4
A3-H	Low Density Residential	120			6.09	6.09	95.2	580	10974	2.91	0.0	0.0	1.7	127.0	9.7	73.7	129.6	340.0
A5	Commercial	110	17.72			17.72			10974	2.91	15.4	0.0	5.0	142.4	9.7	78.7	129.6	360.3
A6-A	Commercial	100	15.18			15.18			10974	2.91	13.2	0.0	4.3	155.5	9.7	82.9	129.6	377.8
A6-B	Institutional	100		6.05		6.05			10974	2.91	0.0	5.3	1.7	155.5	15.0	84.6	129.6	384.7
A6-C	Medium Density Residential	90			4.87	4.87	162.0	789	11763	2.88	0.0	0.0	1.4	155.5	15.0	86.0	137.4	393.9
A6-D	Low Density Residential	90			17.56	17.56	95.2	1672	13435	2.83	0.0	0.0	4.9	155.5	15.0	90.9	153.8	415.2
A6-E	Low Density Residential	90			6.94	6.94	95.2	661	14096	2.81	0.0	0.0	1.9	155.5	15.0	92.9	160.2	423.6
A7-A	Commercial	90	13.62			13.62			14096	2.81	11.8	0.0	3.8	167.4	15.0	96.7	160.2	439.2
A7-B	High Density Residential	90			11.01	11.01	135.0	1486	15582	2.76	0.0	0.0	3.1	167.4	15.0	99.8	174.3	456.4
A7-C	Medium Density Residential	90			6.97	6.97	162.0	1129	16711	2.73	0.0	0.0	2.0	167.4	15.0	101.7	184.9	468.9
A7-D	Medium Density Residential	90			11.74	11.74	162.0	1902	18613	2.68	0.0	0.0	3.3	167.4	15.0	105.0	202.4	489.7
A7-E1/E2	Medium Density Residential	90			9.24	9.24	162.0	1497	20110	2.65	0.0	0.0	2.6	167.4	15.0	107.6	215.9	505.8
A8-A	Commercial	80	28.45			28.45			20110	2.65	24.7	0.0	8.0	192.0	15.0	115.5	215.9	538.5
A8-B	High Density Residential	80			39.34	39.34	135.0	5311	25421	2.55	0.0	0.0	11.0	192.0	15.0	126.6	262.4	596.0
A8-C	Institutional	80		10.52		10.52			25421	2.55	0.0	9.1	2.9	192.0	24.1	129.5	262.4	608.1
A8-D	Low Density Residential	80			16.87	16.87	120.9	2040	27461	2.52	0.0	0.0	4.7	192.0	24.1	134.2	279.8	630.2
ROW Along SNC Sewer Alignment	-	80				14.34			27461	2.52	0.0	0.0	4.0	192.0	24.1	138.2	279.8	634.2
TOTAL		***80***	***221.24***	***27.77***	***230.38***	***493.73***	***-***	***27461***	***27461***	***2.52***	***192.0***	***24.1***	***134.2***	***192.0***	***24.1***	***138.2***	***279.8***	***634.2***

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles and semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row/townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = 1 + [14 / (4+(P/1000)$^{1/2}$)] x K

Where: P = population; K = correction factor = 1.0

2. Instituional / Commercial Peaking Factor = 1.5

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units

THIS PRIOR NOVETECH SNC DESIGN SHEET HAD DESIGN FLOWS AT 423.6 L/S AFTER AREA ID "A6-E'.

THE DSEL EVALUATION WITH NEW PARAMTERS AT THIS SAME NODE WITH CONSERVANCY WEST AND EAST INCLUDED IS ~**401.58 < 423.6 L/S**

Attachment 3

Sanitary Sewer Design Sheets (Phase 2)

SOUTH NEPEAN COLLECTOR (PHASE 2)
SANITARY SEWER DESIGN SHEET

MAY 26, 2016
JOB# 115075

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			Area					Population				Individual Design Flows			Cumulative Design Flows					PROPOSED SEWER						
From MH	To MH	Upstream Node	Gross Commercial Area (ha)	Gross Institutional Area (ha)	Gross Residential Area (ha)	Right-of-Way (ha)	Total Gross Area (ha)	Residential Population Density (people / ha)	Individual Residential Population	Cumulative Residential Population	Residential Peaking Factor (Harmon Eqn[1])	Commercial Peak Flow Rate[2] (50,000 L/ha/d) (L/s)	Institutional Peak Flow Rate[2] (50,000 L/ha/d) (L/s)	Infiltration / Inflow Rate (0.28 L/s/ha) (L/s)	Commercial (L/s)	Institutional (L/s)	Infiltration / Inflow (L/s)	Residential Peak Flow Rate (350 L/cap/d) (L/s)	Cumulative Peak Design Flow (L/s)	Length (m)	Pipe Size (mm)	Type	Slope %	Capacity (L/s)	Full Flow Velocity (m/s)	Ratio (Q/Qfull)
MHSA 1	MHSA 2	90	192.79	17.25	174.17	0.00	384.21	1678	20110	20110	2.65	167.352	14.97	107.58	167.4	15.0	107.6	215.9	505.8	57.3	900	CONC	0.10	597.2	0.91	85%
MHSA 2	MHSA 3	90																	505.8	57.3	900	CONC	0.10	597.2	0.91	85%
MHSA 3	MHSA 4	90																	505.8	73.9	900	CONC	0.10	597.2	0.91	85%
MHSA 4	MHSA 5	90																	505.8	34.6	900	CONC	0.10	597.2	0.91	85%
MHSA 5	MHSA 6	90																	505.8	42.8	900	CONC	0.10	597.2	0.91	85%
MHSA 6	MHSA 7	90																	505.8	84.4	900	CONC	0.10	597.2	0.91	85%
MHSA 7	MHSA 8	90																	505.8	16.5	900	CONC	0.10	597.2	0.91	85%
MHSA 8	MHSA 9	90																	505.8	85.4	900	CONC	0.10	597.2	0.91	85%
MHSA 9	MHSA 10	90																	505.8	70.6	900	CONC	0.10	597.2	0.91	85%
MHSA 10	MHSA 11	90																	505.8	70.6	900	CONC	0.10	597.2	0.91	85%
MHSA 11	MHSA 12	90																	505.8	77.8	900	CONC	0.10	597.2	0.91	85%
MHSA 12	MHSA 13	90																	505.8	77.8	900	CONC	0.10	597.2	0.91	85%
MHSA 13	MHSA 14	90																	505.8	77.8	900	CONC	0.10	597.2	0.91	85%
MHSA 14	MHSA 15	90																	505.8	25.4	900	CONC	0.10	597.2	0.91	85%
MHSA 15	MHSA 16	90																	505.8	34.2	900	CONC	0.10	597.2	0.91	85%
MHSA 16	MHSA 17	90																	505.8	86.7	900	CONC	0.10	597.2	0.91	85%
MHSA 17	MHSA 18	90																	505.8	34.3	900	CONC	0.10	597.2	0.91	85%
MHSA 18	MHSA 19	90																	505.8	68.6	900	CONC	0.10	597.2	0.91	85%
MHSA 19	MHSA 20	90																	505.8	65.5	900	CONC	0.10	597.2	0.91	85%
MHSA 20	MHSA 21	80	221.24	27.77	230.38	14.34	493.73	256	7351	27461	2.52	192.049	24.11	138.24	192.0	24.1	138.2	279.8	634.2	18.2	1050	CONC	0.10	900.9	1.01	70%
MHSA 21	MHSA 22	80																	634.2	81.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 22	MHSA 23	80																	634.2	84.7	1050	CONC	0.10	900.9	1.01	70%
MHSA 23	MHSA 24	80																	634.2	77.4	1050	CONC	0.10	900.9	1.01	70%
MHSA 24	MHSA 25	80																	634.2	45.5	1050	CONC	0.10	900.9	1.01	70%
MHSA 25	MHSA 26	80																	634.2	35.8	1050	CONC	0.10	900.9	1.01	70%
MHSA 26	MHSA 27	80																	634.2	83.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 27	MHSA 28	80																	634.2	74.4	1050	CONC	0.10	900.9	1.01	70%
MHSA 28	MHSA 29	80																	634.2	77.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 29	MHSA 30	80																	634.2	83.8	1050	CONC	0.10	900.9	1.01	70%
MHSA 30	MHSA 31	80																	634.2	42.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 31	MHSA 32	80																	634.2	100.6	1050	CONC	0.10	900.9	1.01	70%
MHSA 32	MHSA 33	80																	634.2	13.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 33	MHSA 34	80																	634.2	99.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 34	MHSA 35	80																	634.2	99.9	1050	CONC	0.10	900.9	1.01	70%
MHSA 35	MHSA 36	80																	634.2	88.7	1050	CONC	0.10	900.9	1.01	70%
MHSA 36	MHSA 37	80																	634.2	88.8	1050	CONC	0.10	900.9	1.01	70%
MHSA 37	MHSA 38	80																	634.2	90.3	1050	CONC	0.10	900.9	1.01	70%
MHSA 38	MHSA 39	80																	634.2	87.5	1050	CONC	0.10	900.9	1.01	70%

Design Parameters:

Residential Land Use	Population Density (Units / ha)	Persons per Unit	Persons per ha
Low Density (singles / semis)	26 – 28 (28 used)	2.7 – 3.4 (3.4 used)	95.2
Medium Density (row / townhouse)	50 – 60 (60 used)	2.7	162.0
High Density (apartments)	60 – 75 (75 used)	1.8	135.0

Notes:

1. Harmon Equation = $1 + [14 / (4+(P/1000)^{1/2})] \times K$

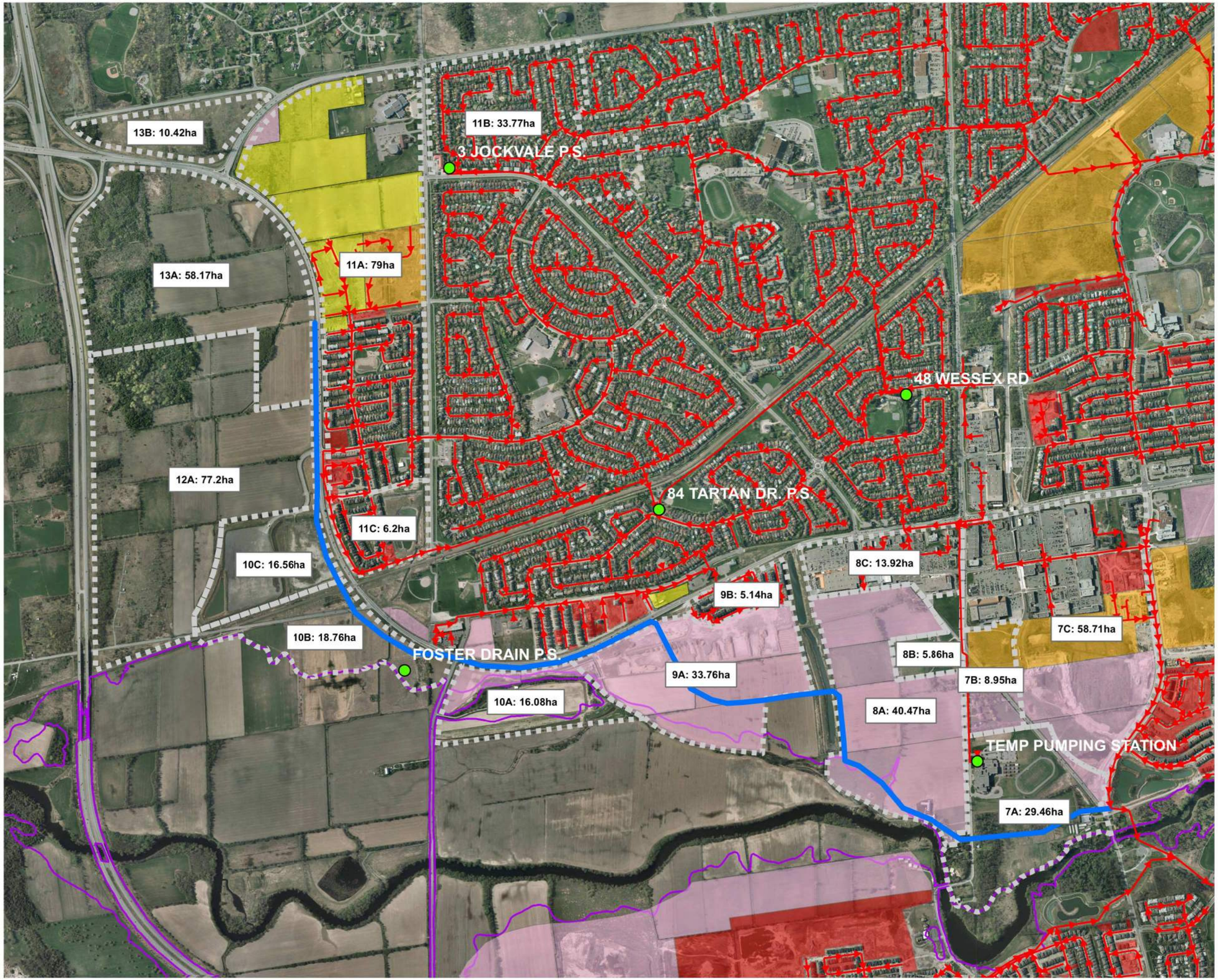
Where: P = population; K = correction factor = 1.0

2. Instituional / Commercial Peaking Factor = 1.5

Reported Design Flows / Assumptions:

1. Area A4: Existing single family units currently serviced by Jockvale pump station to be redirected to SNC

2. Area A8-D: proposed 600 medium density residential units



City of Ottawa
South Nepean Collector

Figure 01
Existing Sanitary Network and Collection Areas

- Pump Station
- Existing Sanitary Main (With Flow Direction)
- Proposed Alignment for South Nepean Collector
- Collection Area

DEVELOPMENT STATUS

- Registered
- Draft Approved
- Pending
- No Plan
- Floodplain

NOT TO SCALE

MAP DRAWING INFORMATION:
DATA PROVIDED BY THE CITY OF OTTAWA

MAP CREATED BY: BC
MAP CHECKED BY: MBM
MAP PROJECTION: NO PROJECTION

FILE LOCATION: \\Dillon.ca\dillon_dfs\Ottawa\Ottawa CA\CAD\2011\115681\Design_GIS\MXD\Figure01c_ExistingSanitaryNetwork.mxd

DILLON CONSULTING

PROJECT: 11-5681
STATUS: FINAL
DATE: 18/07/12

Table 5.1: Allocation of Commercial/Institutional and Residential Demands to SNC by Collection Area

Collection Area	Discharging Node	Estimated from GIS			City of Ottawa VURL Data			Other Space [1] (ha)	Population (PE)	Residential Density (PE/net ha)	Comments	Additional Source(s)
		Gross Institutional/Commercial (ha)	Gross Residential (ha)	Gross Area (ha)	Net Residential (ha)	Units (#)	Unit Density (#/ha)					
7A	70	13.5	7.4	29.5	4.0	605	0.3	9.1	1637	4.25	Flow calculations include St Joseph H.S. Pump Station firm capacity of 7.0 L/s Additional 600 units (TAC)	3.4ppu (TAC)
7B		0.0	9.24	9.24	6.23	1474	136.7	3.0	3321	638.8	Population from split VURL allocated by area. VURL parcel id 323 - inconsistency between net and gross reported area.	2.7ppu (TAC)
8A		0.0	40.0	40.0	24.1	4462	185.1	15.9	12047.4	499.9		2.7ppu (TAC)
8B		5.9	0.0	5.9	0.0	0	0	0.0			Future Commercial area	
8C		13.9	0.0	13.9	0.0	0	0	0.0			Commercial area includes Home Depot	
9A	80	0.0	33.8	33.8	18.6	635	34.1	15.2	2210	116.2		3.4ppu (TAC)
10A	90	0.0	16.1	16.1	9.7	451	28.0	6.4	1533.4	158.0	Assume net population = 60% gross.	3.4ppu (TAC)
10B	100	18.8	0.0	35.3	0.0	0	0	16.5			Allocated as potential future I/C use as directed by TAC	
10C	110	16.6	0.0	35.3	0.0	0	0	18.7			Area includes current Municipal Snow Dump. Flow allowance is made for potential future I/C use	
11C		0.0	6.2	6.2	Note 2			2.5	306	82.7	This area is south of '11 block' in the existing development	From IBI Apr 2010 Report Figure 1
11A	120	12.5	66.5	79.0				26.6	3923	98.3	Institutional includes 4.38ha church site and 6.89 ha institution at northeast corner, as well and Claridge Commercial (0.56ha) and DCR/Phoenix Commercial (0.64ha)	From IBI Apr2010 Report Figure 1
11B		0.0	37.0	37.0				14.8	1550	69.8	Presently serviced by Jockvale pump station; to be redirected to SNC.	Estimated from 2011 Census Block data
12A		77.2	0.0	77.2				0.0			Allow sanitary peak flow 79.0 L/s	Novatech, Employment Lands Report, Revised Jan 2012
13A	130	58.5	0.0	58.5				0.0			Allow sanitary peak flow 62.8 L/s plus Collection Area 13B, total 82.2 L/s	
13B		12.5	0.0	12.5				0.0			Allow sanitary peak flow 19.4 L/s; gravity discharge to Collection Area 13A	IBI/Novatech

Notes:
1. Other space includes other residential space accounting for the difference between gross area (measured with GIS) and net area (provided in VURL data), such as sidewalks, roads, greenspace, etc.
2. Collection Area 11A and 11B population and land use as identified under Additional Source(s). Other space reported as 60% of gross residential area, consistent with VURL average.

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CITY OF OTTAWA

2012 Operational current day

SOUTH NEPEAN COLLECTOR SEWER

SANITARY SEWER DESIGN SHEET - Operational Service (Average Flow Design Parameters)

TRIBUTARY AREA		LOCATION		AREA (ha)							INDIVIDUAL		CUMULATIVE		RESIDENTIAL		COMMERCIAL & INSTITUTION			INFIL. INFLOW	PEAK DESIGN	PROPOSED SEWER									OPERATIONAL DESIGN	
	Design Factors	FROM	TO	Gross ICI	Net ICI	Other ICI space (Green, Sidewalks, roads)	Gross RESIDENTIAL Area	Net Residential Area	Other Res (Green, Sidewalks, roads)	TOTAL AREA (Gross ICI plus Gross Residential)	POP	DENSITY	POP	AREA	PEAKING FACTOR	RESIDENT. FLOW	PEAKING FACTOR	CUM. AREA	I.C.I. FLOW (l/s)	Q(p)	FLOW Q(d)	LENGTH	GROUND ELEVATION	DEPTH OF COVER	PIPE SIZE	INVERT 1	INVERT 2	PIPE TYPE	GRADE	CAPACITY	Q(d)/Q(c)	VELOCITY at capacity	DEPTH	VELOCITY
												(po./ha.)		(ha.)		(L/s)				(L/s)	(L/s)	(m)	(m)	(m)	(m)	(m)	(m)			(L/s)		(m/s)	(m)	(m/s)
13A	1			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		0	0.0	4.50	0.00	1.00	0.00	0.00	0.00	0.00												
13B	1		Node 130	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		0	0.0	4.50	0.00	1.00	0.00	0.00	0.00	0.00		95.14	5.43	0.750		88.96							
12A	1	Node 130		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		0	0.0	4.50	0.00	1.00	0.00	0.00	0.00	0.00												
11A	1			12.5	9.4	3.1	66.5	8.0	58.5	79.0	1196	148.76	1196	79.0	3.75	15.57	1.00	12.50	2.00	3.95	21.52												
11B	1		Node 120	0.0	0.0	0.0	37.0	22.2	14.8	37.0	1550	69.82	2746	116.0	3.47	33.13	1.00	12.50	2.00	5.80	40.93	531.89	93.60	4.42	0.750	88.96	88.43	Conc.	0.10%	353.24	0.13	0.80	0.20	0.58
11C	1	Node 120		0.0	0.0	0.0	6.2	3.7	2.5	6.2	306	82.26	3052	122.2	3.44	36.41	1.00	12.50	2.00	6.11	44.52												
10C	1		Node 110	16.6	12.5	4.2	0.0	0.0	0.0	16.6	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01	497.82	93.44	4.76	0.750	88.43	87.93	Conc.	0.10%	353.24	0.14	0.80	0.20	0.58
10B	1	Node 110	Node 100	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01	603.17	93.03	4.95	0.750	87.93	87.33	Conc.	0.10%	353.24	0.14	0.80	0.20	0.58
10A	1	Node 100	Node 90	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01	430.49	93.75	6.03	0.825	87.33	86.90	Conc.	0.10%	455.17	0.11	0.85	0.21	0.61
9A	1	Node 90	Node 80	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01	1268.65	92.37	5.84	0.900	86.90	85.63	Conc.	0.10%	573.71	0.08	0.90	0.18	0.56
8A	1	Node 80		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3052	138.8	3.44	36.41	1.00	29.10	4.66	6.94	48.01												
8B	1			5.9	4.4	1.5	0.0	0.0	0.0	5.9	0		3052	144.7	3.44	36.41	1.00	35.00	5.60	7.24	49.23												
8C	1			13.9	10.4	3.5	0.0	0.0	0.0	13.9	0		3052	158.6	3.44	36.41	1.00	48.90	7.82	7.93	52.17												
7A	1			13.5	10.1	3.4	16.0	1.4	14.6	29.5	17	12.14	3069	188.1	3.43	36.59	1.00	62.40	9.98	9.41	55.93												
7B	1		Node 70	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0		3069	188.1	3.43	36.59	1.00	62.40	9.98	9.41	55.93	1448.98	91.24	6.01	1.050	85.63	84.18	Conc.	0.10%	864.51	0.06	1.00	0.18	0.56
										188.1																								
										DEFAULTS																								
										q=AVERAGE DAILY FLOW	300	L/CAP.D																						
										I=UNIT OF PEAK EXTR.FLOW	0.050	L/Ha.s																						
										Mannings 'n'	0.013																							
									q=AVERAGE COMMERCIAL AND INSTITUTIONAL		0.16	L/Ha.s																						
DESIGN		DJG																												Project 11-5681				
CHECKED																																		
TODAY:		7/18/2012																																

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CITY OF OTTAWA

2012 Full Service (Peak)

SOUTH NEPEAN COLLECTOR SEWER

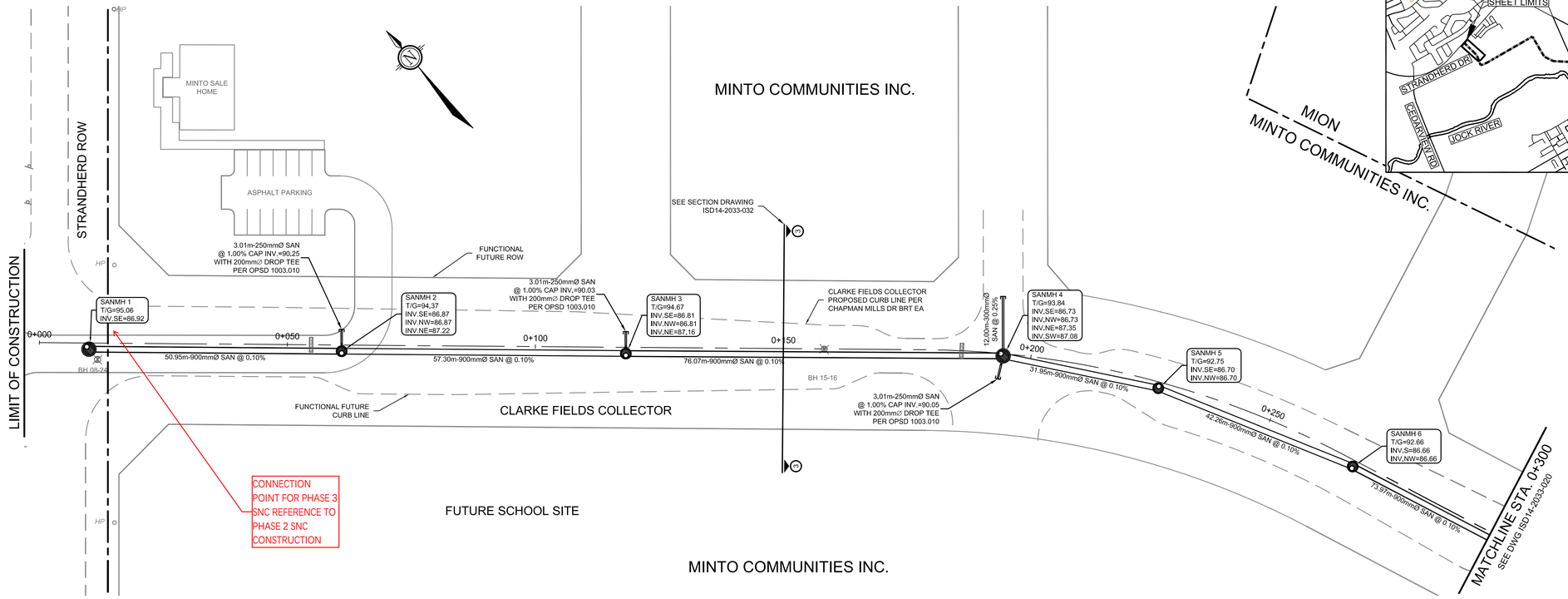
SANITARY SEWER DESIGN SHEET - Full Service (Peak Flow Design Parameters)

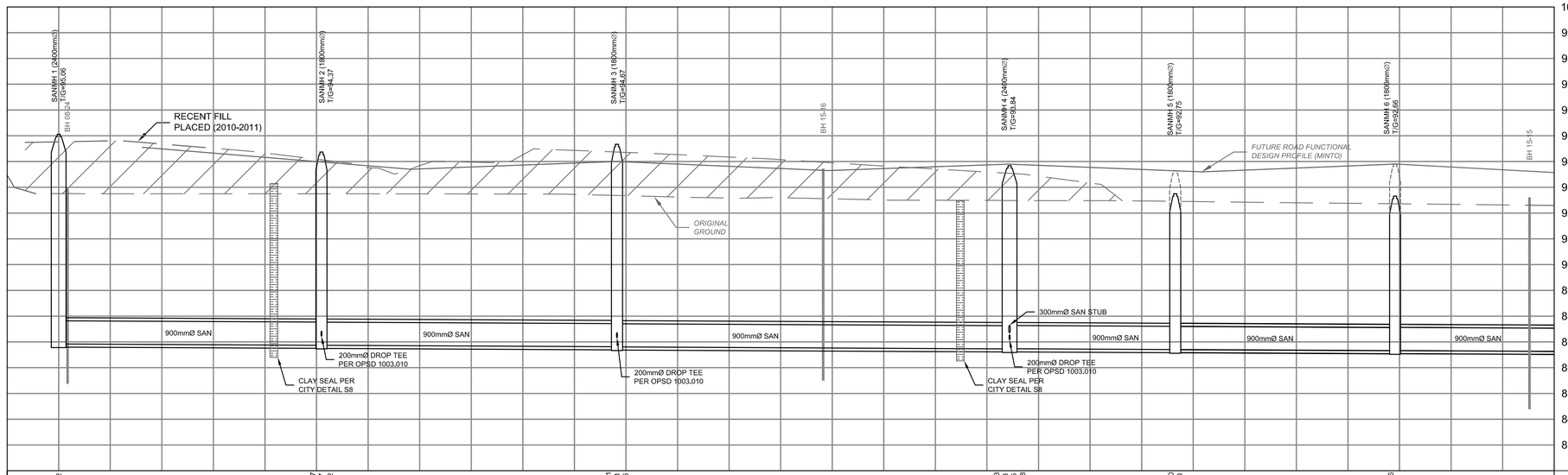
TRIBUTARY AREA		LOCATION		AREA (ha)							INDIVIDUAL	CUMULATIVE			RESIDENTIAL		COMMERCIAL & INSTITUTION			INFIL. INFLOW	PEAK DESIGN	PROPOSED SEWER									PEAK DESIGN			
	Design Factors	FROM	TO	Gross ICI	Net ICI	Other ICI space (Green, Sidewalks, roads)	Gross RESIDENTIAL Area	Net Residential Area	Other Res (Sidewalks, roads)	TOTAL AREA (Gross ICI plus Gross Residential)	POP	DENSITY	POP	Total I/C and Res AREA	PEAKING FACTOR	RESIDENT. FLOW	PEAKING FACTOR	I/C CUM. AREA	I/C FLOW (l/s)	Q(p)	FLOW Q(d)	LENGTH	GROUND ELEVATION	DEPTH OF COVER	PIPE SIZE	INVERT 1	INVERT 2	PIPE TYPE	GRADE	CAPACITY	Q(d)/Q(c)	VELOCITY at capacity	DEPTH	VELOCITY
												(pers/net ha.)		(ha.)		(L/s)				(L/s)	(L/s)	(m)	(m)	(m)	(m)	(m)	(m)			(L/s)		(m/s)	(m)	(m/s)
13A	1			58.5	43.9	14.6	0.0	0.0	0.0	58.5	0		0	58.5	4.50	0.00	1.50	58.50	50.90	16.38	67.28													
13B	1		Node 130	12.5	9.4	3.1	0.0	0.0	0.0	12.5	0		0	71.0	4.50	0.00	1.50	71.00	61.77	19.88	81.65		95.14	5.43	0.750		88.96							
12A	1	Node 130		77.2	57.9	19.3	0.0	0.0	0.0	77.2	0		0	148.2	4.50	0.00	1.50	148.20	128.93	41.50	170.43													
11A	1			12.5	9.4	3.1	66.5	39.9	26.6	79.0	3923	98.32	3923	227.2	3.34	53.09	1.50	160.70	139.81	63.62	256.52													
11B	1		Node 120	0.0	0.0	0.0	37.0	22.2	14.8	37.0	1550	69.82	5473	264.2	3.21	71.13	1.50	160.70	139.81	73.98	284.92	531.89	93.60	4.42	0.750	88.96	88.43	Conc.	0.10%	353.24	0.81	0.80	0.53	0.90
11C		Node 120		0.0	0.0	0.0	6.2	3.7	2.5	6.2	306	82.26	5779	270.4	3.19	74.59	1.50	160.70	139.81	75.71	290.11													
10C	1	Node 110	Node 110	16.6	12.5	4.2	0.0	0.0	0.0	16.6	0		5779	287.0	3.19	74.59	1.50	177.30	154.25	80.36	309.20	497.82	93.44	4.76	0.750	88.43	87.93	Conc.	0.10%	353.24	0.88	0.80	0.55	0.91
10B	1	Node 110	Node 100	18.8	14.1	4.7	0.0	0.0	0.0	18.8	0		5779	305.8	3.19	74.59	1.50	196.10	170.61	85.62	330.82	603.17	93.03	4.95	0.750	87.93	87.33	Conc.	0.10%	353.24	0.94	0.80	0.58	0.92
10A	1	Node 100	Node 90	0.0	0.0	0.0	16.1	9.7	6.4	16.1	1533	158.04	7312	321.9	3.09	91.48	1.50	196.10	170.61	90.13	352.22	430.49	93.75	6.03	0.825	87.33	86.90	Conc.	0.10%	455.17	0.77	0.85	0.55	0.95
9A	1	Node 90	Node 80	0.0	0.0	0.0	33.8	18.6	15.2	33.8	2161	116.18	9473	355.7	2.98	114.28	1.50	196.10	170.61	99.60	384.48	1268.65	92.37	5.84	0.900	86.90	85.63	Conc.	0.10%	573.71	0.67	0.90	0.55	0.97
8A	1	Node 80		0.0	0.0	0.0	40.0	24.1	15.9	40.0	12047	499.88	21520	395.7	2.62	228.45	1.50	196.10	170.61	110.80	509.85													
8B	1			5.9	4.4	1.5	0.0	0.0	0.0	5.9	0		21520	401.6	2.62	228.45	1.50	202.00	175.74	112.45	516.64													
8C	1			13.9	10.4	3.5	0.0	0.0	0.0	13.9	0		21520	415.5	2.62	228.45	1.50	215.90	187.83	116.34	532.62													
7A	1			13.5	10.1	3.4	16.5	5.2	11.3	30.0	1637	314.81	23157	445.5	2.59	242.84	1.50	229.40	199.58	124.74	567.16													
7B	1		Node 70	0.0	0.0	0.0	9.2	6.2	3.0	9.2	3980	638.84	27137	454.7	2.52	277.05	1.50	229.40	199.58	127.32	603.94	1448.98	91.24	6.01	1.050	85.63	84.18	Conc.	0.10%	864.51	0.70	1.00	0.64	1.07
							225.3	129.7		454.7	27,137.0																								
																						4,781.0												
										DEFAULTS																									
										q=AVERAGE DAILY FLOW	350	L/CAP.D																							
										I=UNIT OF PEAK EXTR.FLOW	0.280	L/Ha.s																							
										Mannings 'n'	0.013																							
									q=AVERAGE COMMERCIAL AND INSTITUTIONAL		0.58	L/Ha.s																							
DESIGN		DJG																																
CHECKED																																		
TODAY:		7/18/2012																																

DILLON CONSULTING

Project 11-5681

TITLE FRAME: 709mm x 534mm City of Ottawa 2008





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TITLE FRAME: 706mm x 534mm, City of Ottawa 2008

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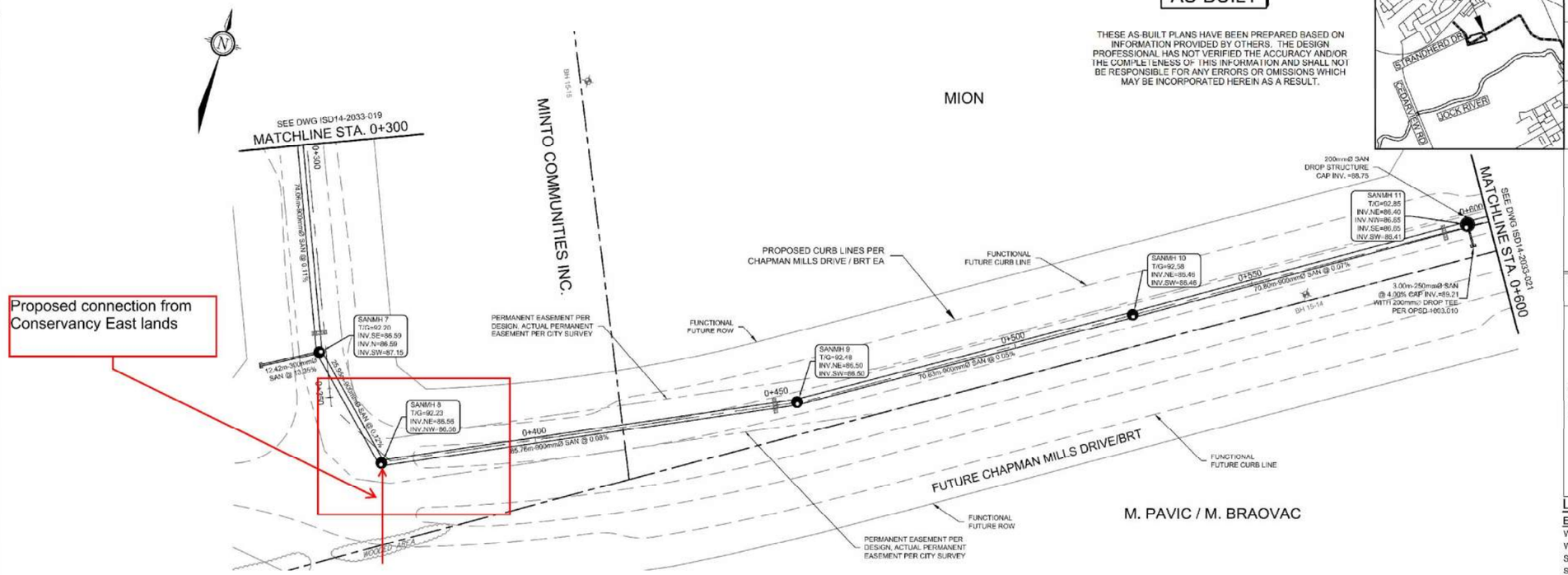
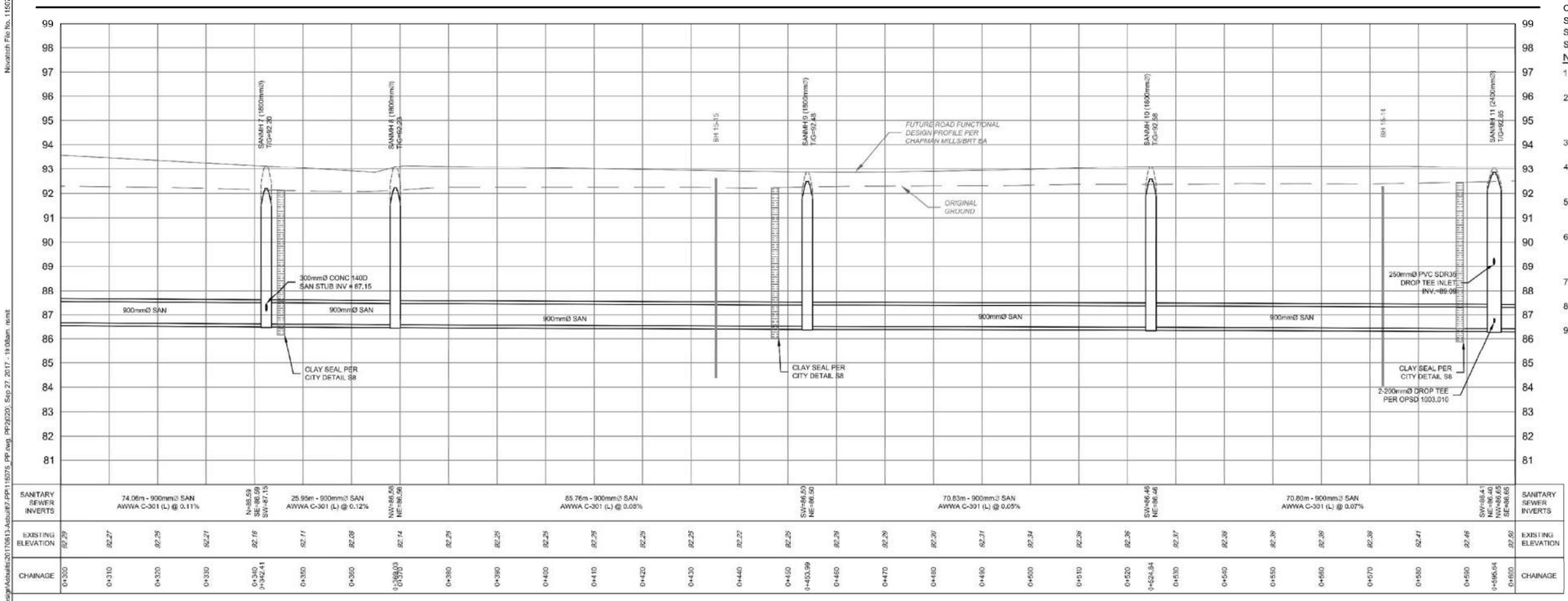
CITY OF OTTAWA
SOUTH NEPEAN COLLECTOR (SNC)
SEWER PHASE 2 - STRANDHERD DRIVE TO JOCKVALE ROAD

PLAN AND PROFILE
STA. 0+300 TO 0+600

AS-BUILT

THESE AS-BUILT PLANS HAVE BEEN PREPARED BASED ON INFORMATION PROVIDED BY OTHERS. THE DESIGN PROFESSIONAL HAS NOT VERIFIED THE ACCURACY AND/OR THE COMPLETENESS OF THIS INFORMATION AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY BE INCORPORATED HEREIN AS A RESULT.





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SANITARY SEWER CALCULATION SHEET

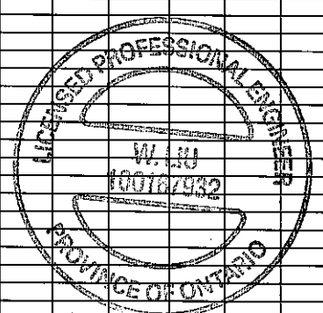
Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK		ICI	ICI	I+C+I+P	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	ICI Ratio	ICI Peaking Factor	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
rue Moonbeam Street																														
	9A	10A	0.49	11	11		38	0.49	38	3.67	0.45										0.49	0.49	0.16	0.61	56.5	200	0.65	26.44	0.02	0.84	0.35
	10A	11A	0.38	9	9		31	0.87	69	3.63	0.81										0.38	0.87	0.29	1.10	73.0	200	1.35	38.11	0.03	1.21	0.53
To promenade Albion Falls Drive, Pipe 11A - 12A								0.87	69													0.87								
rue Douglas Fir Street																														
	7A	8A	0.73	17	17		58	0.73	58	3.64	0.68										0.73	0.73	0.24	0.93	114.0	200	0.80	29.34	0.03	0.93	0.42
To promenade Albion Falls Drive, Pipe 8A - 11A								0.73	58													0.73								
promenade Beatrice Peak Drive																														
	1A	2A	0.48	11		11	30	0.48	30	3.68	0.36										0.48	0.48	0.16	0.52	85.5	200	0.65	26.44	0.02	0.84	0.33
	2A	4A	0.40	12		12	33	0.88	63	3.63	0.74										0.40	0.88	0.29	1.03	103.5	200	0.35	19.40	0.05	0.62	0.33
To promenade Albion Falls Drive, Pipe 4A - 5A								0.88	63													0.88								
promenade Albion Falls Drive																														
	3A	4A	0.23	5	5		17	0.23	17	3.71	0.20										0.23	0.23	0.08	0.28	53.0	200	1.25	36.67	0.01	1.17	0.34
Contribution From promenade Beatrice Peak Drive, Pipe 2A - 4A								0.88	63												0.88	1.11								
	4A	5A	0.15	3	3		11	1.26	91	3.60	1.06										0.15	1.26	0.42	1.48	34.5	200	0.35	19.40	0.08	0.62	0.36
PARK	Ctrl MH 500A	5A														0.67	0.67			0.11	0.67	0.67	0.22	0.33	11.0	200	0.65	26.44	0.01	0.84	0.28
	5A	6A	0.13	2	2		7	1.39	98	3.60	1.14						0.67			0.11	0.13	2.06	0.68	1.93	14.0	200	0.35	19.40	0.10	0.62	0.39
	6A	8A	0.22	4	4		14	1.61	112	3.58	1.30						0.67			0.11	0.22	2.28	0.75	2.16	55.5	200	0.35	19.40	0.11	0.62	0.41
Contribution From rue Douglas Fir Street, Pipe 7A - 8A								0.73	58												0.73	3.01								
	8A	11A	0.22	4	4		14	2.56	184	3.53	2.10						0.67			0.11	0.22	3.23	1.07	3.28	60.0	200	0.35	19.40	0.17	0.62	0.46
Contribution From rue Moonbeam Street, Pipe 10A - 11A								0.87	69												0.87	4.10								
	11A	12A	0.15	2	2		7	3.58	260	3.48	2.94						0.67			0.11	0.15	4.25	1.40	4.45	32.5	200	0.35	19.40	0.23	0.62	0.50
	12A	24A	0.04					3.62	260	3.48	2.94						0.67			0.11	0.04	4.29	1.42	4.46	28.5	200	0.35	19.40	0.23	0.62	0.50
To croissant Point Prim Crescent, Pipe 24A - 25A								3.62	260								0.67					4.29								
voie Horseshoe Falls Way																														
	14A	18A	0.22	7		7	19	0.22	19	3.71	0.23										0.22	0.22	0.07	0.30	58.5	200	1.00	32.80	0.01	1.04	0.32
To rue Coppermine Street, Pipe 18A - 19A								0.22	19													0.22								
	18A	25A	0.22	7		7	19	0.22	19	3.71	0.23										0.22	0.22	0.07	0.30	58.0	200	0.65	26.44	0.01	0.84	0.27
To Unknown Road6 - 06, Pipe 25A - 26A								0.22	19													0.22								
rue Coppermine Street																														
Contribution From voie Horseshoe Falls Way, Pipe 14A - 18A								0.22	19												0.22	0.22								
	18A	19A	0.41	12	12		41	0.63	60	3.64	0.71										0.41	0.63	0.21	0.92	74.5	200	0.35	19.40	0.05	0.62	0.31
	19A	20A	0.38	9	9		31	1.01	91	3.60	1.06										0.38	1.01	0.33	1.40	74.5	200	0.75	28.40	0.05	0.90	0.47
To croissant Point Prim Crescent, Pipe 20A - 21A								1.01	91													1.01								
croissant Point Prim Crescent																														
	13A	14A	0.28	5	5		17	0.28	17	3.71	0.20										0.28	0.28	0.09	0.30	53.5	200	0.95	31.97	0.01	1.02	0.31
	14A	15A	0.41	11	11		38	0.69	55	3.64	0.65										0.41	0.69	0.23	0.88	69.0	200	0.95	31.97	0.03	1.02	0.43
	15A	16A	0.41	9	9		31	1.10	86	3.61	1.01										0.41	1.10	0.36	1.37	72.5	200	0.35	19.40	0.07	0.62	0.35
	16A	17A	0.13	2	2		7	1.23	93	3.60	1.09										0.13	1.23	0.41	1.49	11.0	200	0.35	19.40	0.08	0.62	0.36
	17A	20A	0.22	4	4		14	1.45	107	3.59	1.24										0.22	1.45	0.48	1.72	52.0	200	0.35	19.40	0.09	0.62	0.38
Contribution From rue Coppermine Street, Pipe 19A - 20A								1.01	91												1.01	2.46								
	20A	21A	0.06					2.52	198	3.52	2.26										0.06	2.52	0.83	3.09	35.5	200	0.35	19.40	0.16	0.62	0.45

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da
Average Daily Flow =	280	l/p/day
Comm/Inst Flow =	28000	L/ha/da
Industrial Flow =	35000	L/ha/da
Max Res. Peak Factor =	4.00	
Park Peak Factor =	1.50	

Industrial Peak Factor = as per MOE Graph
Extraneous Flow = 0.330 L/s/ha
Minimum Velocity = 0.600 m/s
Manning's n = (Conc) 0.013 (Pvc) 0.013
Townhouse coeff= 2.7
Single house coeff= 3.4



Designed: P.P.
Checked: W.L.
Dwg. Reference: Sanitary Drainage Plan, Dwg. No. 33

PROJECT: **BARRHAVEN CONSERVANCY PHASE 1**
LOCATION: **City of Ottawa**
File Ref: 16-891 | Date: **January, 2019** | Sheet No. 1 of 2

891_San3.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION				RESIDENTIAL AREA AND POPULATION									COMM		INSTIT		PARK				I+C+I+P	INFILTRATION				PIPE						
STREET		FROM M.H.	TO M.H.	AREA (ha)	UNITS	UNITS Singles	UNITS Townhouse	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	ICI Ratio	ICI Peaking Factor	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
		21A	22A	0.04					2.56	198	3.52	2.26										0.04	2.56	0.84	3.10	21.0	200	0.35	19.40	0.16	0.62	0.45
		22A	23A	0.01					2.57	198	3.52	2.26										0.01	2.57	0.85	3.11	8.0	200	0.35	19.40	0.16	0.62	0.45
		23A	24A	0.26	6	6		21	2.83	219	3.51	2.49										0.26	2.83	0.93	3.42	42.0	200	0.80	29.34	0.12	0.93	0.62
Contribution From promenade Albion Falls Drive, Pipe 12A - 24A									3.62	260								0.67				4.29	7.12									
		24A	25A	0.49	12	12		41	6.94	520	3.37	5.68						0.67			0.11	0.49	7.61	2.51	8.30	91.5	200	0.35	19.40	0.43	0.62	0.59
Contribution From voie Horseshoe Falls Way, Pipe 18A - 25A									0.22	19												0.22	7.83									
	Upper Pipe	26A	25A	0.30	5	5		17														0.30	0.30	0.10	0.10	66.5	200	0.65	26.44	0.00	0.84	0.19
	Lower Pipe	25A	26A						7.46	556	3.36	6.05						0.67			0.11	0.00	8.13	2.68	8.85	66.5	200	0.35	19.40	0.46	0.62	0.60
To promenade Chapman Mills Drive, Pipe 26A - Ex. MH 13									7.46	556								0.67					8.13									
promenade Chapman Mills Drive																																	
		28A	29A	0.41	7		7	19	0.41	19	3.71	0.23										0.41	0.41	0.14	0.36	42.0	200	0.65	26.44	0.01	0.84	0.29
		29A	30A	0.28	6		6	17	0.69	36	3.67	0.43										0.28	0.69	0.23	0.66	60.0	200	0.35	19.40	0.03	0.62	0.29
		30A	31A	0.44	9		9	25	1.13	61	3.64	0.72										0.44	1.13	0.37	1.09	120.0	200	0.35	19.40	0.06	0.62	0.33
		31A	*Ex. MH 11*						1.13	61	3.64	0.72										0.00	1.13	0.37	1.09	18.5	200	3.40	60.48	0.02	1.93	0.72
To Existing Sanitary Trunk, *Ex. Pipe 11 - 12*									1.13	61													1.13									
		27A	26A	0.50	14		14	38	0.50	38	3.67	0.45						0.00			0.00	0.50	0.50	0.17	0.62	98.0	200	0.65	26.44	0.02	0.84	0.35
Contribution From croissant Point Prim Crescent, Pipe 25A - 26A									7.46	556								0.67				8.13	8.13									
		26A	*Ex. MH 13*						7.96	594	3.35	6.44						0.67			0.11	0.00	8.63	2.85	9.40	23.5	200	0.35	19.40	0.48	0.62	0.61
To Existing Sanitary Trunk, *Ex. Pipe 13 - 14*									7.96	594								0.67					8.63									

Conservancy Phase 1 - Flows and population tributary to South Nepean Collector

LICENSED PROFESSIONAL ENGINEER
W. LIU
100167932
PROVINCE OF ONTARIO

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da
Average Daily Flow =	280	l/p/day
Comm/Inst Flow =	28000	L/ha/da
Industrial Flow =	35000	L/ha/da
Max Res. Peak Factor =	4.00	
Park Peak Factor =	1.50	

Industrial Peak Factor = as per MOE Graph
Extraneous Flow = 0.330 L/s/ha
Minimum Velocity = 0.600 m/s
Manning's n = (Conc) 0.013 (Pvc) 0.013
Townhouse coeff= 2.7
Single house coeff= 3.4

Designed: P.P.
Checked: W.L.
Dwg. Reference: Sanitary Drainage Plan, Dwg. No: 33

PROJECT: BARRHAVEN CONSERVANCY PHASE 1
LOCATION: City of Ottawa
File Ref: 16-891
Date: January, 2019
Sheet No. 2 of 2

891_San3.xlsx

SANITARY SEWER CALCULATION SHEET

104 people/Ha	Population Density (Conservancy West)
83 people/Ha	Population Density (Conservancy East)

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION						COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
										0.00				0.00	0.00	0.00	0.00	0.000	0.00							
Extracted from SNC Novatech Ph3 design		EX SANMH1 (1)	105.8	10974	105.8	10974.0	2.53	89.98	179.17	179.17	17.25	17.25		0.00	92.69	302.22	302.22	99.73	282.40	165.0	914.4	0.10	597.22	0.47	0.91	0.89
at Strandherd & CMD intersection		See Note (2)	31.5	3116	137.3	14090	2.44	111.42		179.17				0.00	87.10	31.50	333.7	110.12	308.64	50.0	914.4	0.10	597.22	0.52	0.91	0.91
	CONSERVANCY WEST (3)	EX SANMH8	38.26	3897	175.6	17987	2.36	137.57		179.17				0.00	87.10	38.26	371.96	122.75	347.42	125.0	914.4	0.10	597.22	0.58	0.91	0.94
	CONSERVANCY EAST (3)	EX SANMH8	53.10	4542	228.7	22529	2.28	166.46	4.21	183.38			4.85	4.85	89.93	62.16	434.12	143.26	399.65	260.0	914.4	0.08	534.17	0.75	0.81	0.89
					228.7	22529	2.28	166.46		183.38				4.85	89.93	0.00	434.12	143.26	399.65		914.4	0.05	422.30	0.95	0.64	0.73

NOTES:

(1) Refer to Novatech Drawing No. 19 - South Nepean Collector (SNC) Sewer Phase 2 - Strandherd Rive to Jockvale Road (ISD14-2033) in Appendix C

(2) Derived from Tributary areas "A6-C" and "A6-D" from Novatech's "Sanitary Drainage Areas and Land Use - Fig. 1" plan dated August 2015 (See Appendix C of DSEL report) = 4.87ha and 17.56ha and derived from Barrhaven Conservancy Phase 1 design sheet (see Appendix C of DSEL report) = 1.13ha + 7.96ha

(3) Based on population densities of 104 people/ha for WEST and 83 people/ha for EAST. See Conservancy East sanitary design sheet

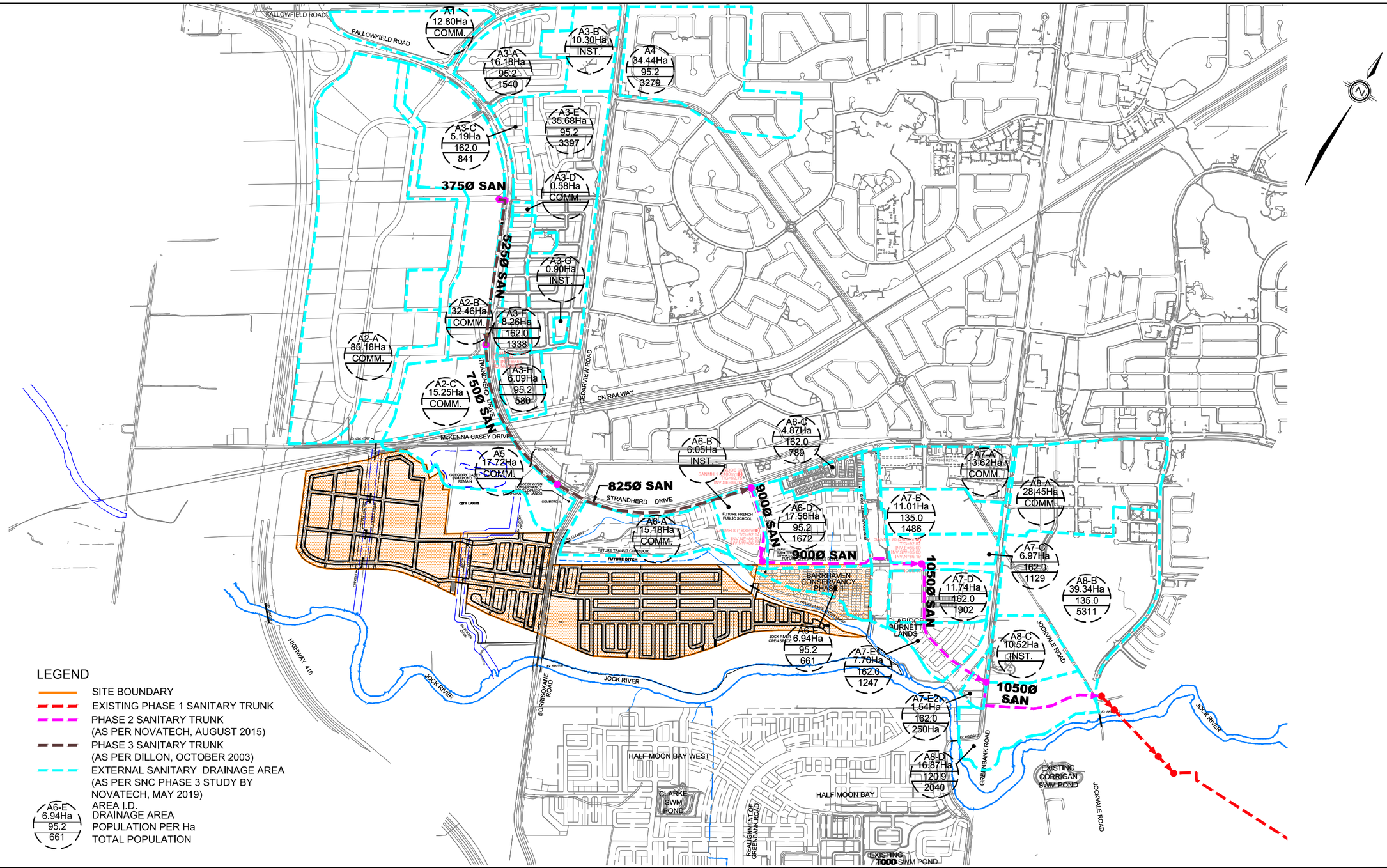
DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	Industrial Peak Factor = as per MOE Graph		
Average Daily Flow =	280	l/p/day	Extraneous Flow =	0.330	L/s/ha
Comm/Inst Flow =	28000	L/ha/da	Minimum Velocity =	0.600	m/s
Industrial Flow =	35000	L/ha/da	Manning's n =	0.000	
Max Res. Peak Factor =	4.00		Townhouse coeff=	2.7	
Commercial/Inst./Park Peak Factor =	1.50		Single house coeff=	3.4	
Institutional	0.32	l/s/Ha			

Designed: KLM	PROJECT: **Barrhaven Conservancy - Evaluation of SNC Flows**		
Checked: KLM	LOCATION: **City of Ottawa**		
Dwg. Reference:	File Ref: 16-891	Date: February 2021	Sheet No. 1 of 1

TOTAL FLOW INCLUDING CONSERVANCY LANDS IS 399.65 L/S WHICH IS LESS THAN THE PRIOR 423.6 L/S DETERMINED IN THE 2015 NOVATECH ASSESSMENT OF FLOWS AT THE SAME LOCATION IN THE SOUTH NEPEAN COLLECTOR DESIGN.

Based on Novatech's SNC as-builts, the minimum asbuilt slope is 0.05% downstream of SANMH8. Slopes range from 0.07 to 0.15.



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www.DSEL.ca

BARRHAVEN CONSERVANCY
EXTERNAL SANITARY SERVICING
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	1:18000
DATE:	FEBRUARY 2021
FIGURE:	4

STRANDHERD DRIVE

CEDARVIEW ROAD

CN RAILWAY

McKENNA CASEY DRIVE

Ex. CULVERT

Ex. CULVERT

GREGORY CASEY SWM POND TO REMAIN

BARRHAVEN CONSERVANCY DEVELOPMENT CORPORATION LANDS

COMMERCIAL

CITY LANDS

STRANDHERD DRIVE

FUTURE FRENCH PUBLIC SCHOOL

Ex. CHAPMAN MILLS DRIVE

KENNEDY-BURNETT POND

Ex. CULVERT

FUTURE TRANSIT CORRIDOR

REALIGNED FRASER CLARKE CREEK

PHASE 1
SUBMITTED SEPARATE AND COMPLETED
FUTURE CHAPMAN MILLS DRIVE

BARRHAVEN CONSERVANCY PHASE 1

FUTURE CULVERT

Ex. FRASER CLARKE CREEK

JOCK RIVER OPEN SPACE

SILVER MAPLE SWAMP

WETLAND 3

WETLAND 1

WETLAND 2

Ex. BRIDGE

JOCK RIVER

JOCK RIVER

HIGHWAY 416

Ex. BRIDGE 5

BORRISOKANE ROAD

HALF MOON BAY WEST

CULVERT

Ex. OKEEFE DRAIN

CULVERT

Ex. FOSTER DITCH

CULVERT

Ex. FOSTER DITCH

Ex. FOSTER DITCH

SANITARY PUMPING STATION

TRUNK 1

TRUNK 2

LEGEND

- SITE BOUNDARY
- SANITARY TRUNK SEWER
- SANITARY LOCAL SEWER
- EXTERNAL SANITARY TRUNK SEWER
- SANITARY MANHOLE
- SANITARY TRIBUTARY AREA

AREA IN HECTARES
POPULATION PER HECTARE
POPULATION

DSEL
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BARRHAVEN CONSERVANCY
SANITARY TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	4

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	PPHA*	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
SANITARY TRUNK 2																											
	2002A	2004A	0.56	104	58	0.56	58	3.6	0.69		0.00		0.00		0.00	0.00	0.56	0.56	0.18	0.87	58.5	200	0.35	19.40	0.04	0.62	0.31
	2004A	2006A	0.22	104	23	0.78	81	3.6	0.95		0.00		0.00		0.00	0.00	0.22	0.78	0.26	1.21	58.5	200	0.35	19.40	0.06	0.62	0.34
	2006A	2008A	0.21	104	22	0.99	103	3.6	1.20		0.00		0.00		0.00	0.00	0.21	0.99	0.33	1.53	58.5	200	0.35	19.40	0.08	0.62	0.36
	2008A	2010A	0.22	104	23	1.21	126	3.6	1.46		0.00		0.00		0.00	0.00	0.22	1.21	0.40	1.86	58.5	200	0.35	19.40	0.10	0.62	0.39
	2010A	2012A	0.12	104	12	1.33	138	3.6	1.60		0.00		0.00		0.00	0.00	0.12	1.33	0.44	2.04	29.5	200	0.35	19.40	0.10	0.62	0.40
	2012A	2013A	0.17	104	18	1.50	156	3.5	1.79		0.00		0.00		0.00	0.00	0.17	1.50	0.50	2.29	39.5	200	0.35	19.40	0.12	0.62	0.41
	2013A	2014A	0.15	104	16	1.65	172	3.5	1.97		0.00		0.00		0.00	0.00	0.15	1.65	0.54	2.51	35.0	200	0.35	19.40	0.13	0.62	0.42
	2014A	2015A	0.11	104	11	1.76	183	3.5	2.09		0.00		0.00		0.00	0.00	0.11	1.76	0.58	2.67	28.0	200	0.35	19.40	0.14	0.62	0.43
	2015A	2036A	0.14	104	15	1.90	198	3.5	2.25		0.00		0.00		0.00	0.00	0.14	1.90	0.63	2.88	36.0	200	0.35	19.40	0.15	0.62	0.44
	2036A	2037A	7.40	104	770	9.30	967	3.2	10.18		0.00		0.00		0.00	0.00	7.40	9.30	3.07	13.25	53.5	250	0.25	29.73	0.45	0.61	0.59
	2037A	2038A	0.23	104	24	9.53	991	3.2	10.41		0.00		0.00		0.00	0.00	0.23	9.53	3.14	13.56	61.0	250	0.25	29.73	0.46	0.61	0.59
	2038A	2058A	4.24	104	441	13.77	1432	3.2	14.64		0.00		0.00		0.00	0.00	4.24	13.77	4.54	19.19	61.0	300	0.20	43.25	0.44	0.61	0.59
	2058A	1061A	0.16	104	17	13.93	1449	3.2	14.80		0.00		0.00		0.00	0.00	0.16	13.93	4.60	19.40	59.0	300	0.20	43.25	0.45	0.61	0.59
	1061A	1063A	6.64	104	691	20.57	2139	3.1	21.15		0.00		0.00		0.00	0.00	6.64	20.57	6.79	27.94	62.0	375	0.15	67.91	0.41	0.61	0.58
	1063A	1064A	0.22	104	23	20.79	2162	3.0	21.35		0.00		0.00		0.00	0.00	0.22	20.79	6.86	28.21	60.5	375	0.15	67.91	0.42	0.61	0.58
	1064A	1096A	0.22	104	23	21.01	2185	3.0	21.56		0.00		0.00		0.00	0.00	0.22	21.01	6.93	28.49	59.5	375	0.15	67.91	0.42	0.61	0.59
	1096A	1105A	9.80	104	1019	30.81	3204	2.9	30.47		0.00		0.00		0.00	0.00	9.80	30.81	10.17	40.64	67.0	375	0.15	67.91	0.60	0.61	0.64
	1105A	1111A	0.22	104	23	31.03	3227	2.9	30.67		0.00		0.00		0.00	0.00	0.22	31.03	10.24	40.91	56.5	375	0.15	67.91	0.60	0.61	0.64
	1111A	1120A				31.03	3227	2.9	30.67		0.00		0.00		0.00	0.00	0.00	31.03	10.24	40.91	58.5	375	0.15	67.91	0.60	0.61	0.64
			4.32	85	367	35.35	3594	2.0	23.30		0.00		0.00		0.00		4.32	35.35									
	1120A	5004A	2.56	104	266	37.91	3861	2.9	36.00		0.00		0.00		0.00	0.00	2.56	37.91	12.51	48.51	100.0	450	0.15	110.42	0.44	0.69	0.67
	5004A	PS	0.35	104	36	38.26	3897	2.9	36.31		0.00		0.00		0.00	0.00	0.35	38.26	12.63	48.93	100.0	450	0.15	110.42	0.44	0.69	0.67
To Barrhaven Conservancy East:						38.26	3897				0.00		0.00		0.00			37.91									

* PPHA calculated based on a weighted average across the site, using the single house and townhouse coefficents of 3.4 and 2.7 people per unit respectively

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha					
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph				
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha		
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s		
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc)	0.013	
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=	2.7			
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4			

Designed: R.B.	PROJECT: **BARRHAVEN CONSERVANCY WEST**		
Checked: D.A.	LOCATION: **City of Ottawa**		
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 4	File Ref: 16-891	Date: March 2021	Sheet No. 1 of 1

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	PPHA*	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
SANITARY TRUNK 1																											
Contribution From Barrhaven Conservancy West:						38.26	3897				0.00		0.00		0.00		0.00	37.91									
	3007A	3011A	0.43	83	36	38.69	3933	2.9	36.60		0.00		0.00		0.00	0.00	0.43	38.34	12.65	49.25	56.0	450	0.15	110.42	0.45	0.69	0.67
	3011A	3019A	0.30	83	25	38.99	3958	2.9	36.81		0.00		0.00		0.00	0.00	0.30	38.64	12.75	49.56	58.5	450	0.15	110.42	0.45	0.69	0.67
	3019A	3023A	1.72	83	143	40.71	4100	2.9	37.99		0.00		0.00		0.00	0.00	1.72	40.36	13.32	51.31	58.5	525	0.10	136.00	0.38	0.63	0.58
	3023A	3026A	1.22	83	101	41.93	4202	2.9	38.82		0.00		0.00		0.00	0.00	1.22	41.58	13.72	52.55	58.5	525	0.10	136.00	0.39	0.63	0.59
	3026A	3045A	1.08	83	90	43.01	4291	2.8	39.56		0.00		0.00		0.00	0.00	1.08	42.66	14.08	53.64	58.5	525	0.10	136.00	0.39	0.63	0.59
			0.44		180	43.45	4471				0.00		0.00		0.00		0.44	43.10									
	3045A	3051A	6.81	83	565	50.26	5037	2.8	45.60	4.21	4.21		0.00	0.96	0.96	1.47	11.98	55.08	18.18	65.24	77.5	525	0.10	136.00	0.48	0.63	0.62
	3051A	3054A	3.57	83	296	53.83	5333	2.8	47.96		4.21		0.00		0.96	1.47	3.57	58.65	19.35	68.79	77.5	525	0.10	136.00	0.51	0.63	0.63
	3054A	3060A	1.00	83	83	54.83	5416	2.8	48.62		4.21		0.00	3.09	4.05	1.80	4.09	62.74	20.70	71.13	58.5	525	0.10	136.00	0.52	0.63	0.63
	3060A	3062A	1.41	83	117	56.24	5533	2.8	49.55		4.21		0.00		4.05	1.80	1.41	64.15	21.17	72.52	41.0	525	0.10	136.00	0.53	0.63	0.64
	3062A	3070A	0.55	83	46	56.79	5579	2.8	49.91		4.21		0.00		4.05	1.80	0.55	64.70	21.35	73.06	33.5	525	0.10	136.00	0.54	0.63	0.64
	3070A	3075A	2.52	83	209	59.31	5788	2.7	51.55		4.21		0.00		4.05	1.80	2.52	67.22	22.18	75.54	88.5	525	0.10	136.00	0.56	0.63	0.64
	3075A	3100A	1.70	83	141	61.01	5929	2.7	52.66		4.21		0.00		4.05	1.80	1.70	68.92	22.74	77.20	145.5	525	0.10	136.00	0.57	0.63	0.65
	3100A	3101A	8.52	83	707	69.53	6636	2.7	58.14		4.21		0.00		4.05	1.80	8.52	77.44	25.56	85.49	93.5	525	0.10	136.00	0.63	0.63	0.66
	3101A	3127A	0.49	83	41	70.02	6677	2.7	58.45		4.21		0.00		4.05	1.80	0.49	77.93	25.72	85.97	82.0	525	0.10	136.00	0.63	0.63	0.66
			4.46	83	370	74.48	7047				4.21		0.00		4.05		4.46	82.39									
	3127A	3128A	4.21	83	350	78.69	7397	2.7	63.92		4.21		0.00		4.05	1.80	4.21	86.60	28.58	94.30	88.0	525	0.10	136.00	0.69	0.63	0.68
	3128A	3145A				78.69	7397	2.7	63.92		4.21		0.00		4.05	1.80	0.00	86.60	28.58	94.30	88.0	525	0.10	136.00	0.69	0.63	0.68
	3145A	3146A	5.07	83	421	83.76	7818	2.6	67.09		4.21		0.00		4.05	1.80	5.07	91.67	30.25	99.14	89.5	525	0.10	136.00	0.73	0.63	0.68
	3146A	3174A				83.76	7818	2.6	67.09		4.21		0.00		4.05	1.80	0.00	91.67	30.25	99.14	89.5	525	0.10	136.00	0.73	0.63	0.68
			7.24	83	601	91.00	8419				4.21		0.00		4.05		7.24	98.91									
	3174A	3175A	0.12	83	10	91.12	8429	2.6	71.63		4.21		0.00	0.80	4.85	1.89	0.92	99.83	32.94	106.46	92.0	525	0.15	166.56	0.64	0.77	0.82
	3175A	3176A	0.12	83	10	91.24	8439	2.6	71.71		4.21		0.00		4.85	1.89	0.12	99.95	32.98	106.58	79.0	525	0.15	166.56	0.64	0.77	0.82
To Existing Sanitary Trunk:						91.24	8439				4.21		0.00		4.85			99.95									

* PPHA calculated based on a weighted average across the site, using the single house and townhouse coefficents of 3.4 and 2.7 people per unit respectively

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha					
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph				
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =		0.330	L/s/ha	
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =		0.600	m/s	
Max Res. Peak Factor =	4.00				Manning's n =	(Conc)	0.013	(Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.00				Townhouse coeff=		2.7		
Institutional =	0.32	l/s/Ha			Single house coeff=		3.4		

Designed: R.B.

Checked: D.A.

Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 4

PROJECT: **BARRHAVEN CONSERVANCY EAST**

LOCATION: **City of Ottawa**

File Ref: 16-891 | Date: March 2021 | Sheet No. 1 of 1

TITLE FRAME: 792mm x 534mm City of Ottawa 2006

Plot Date: 6/30/2020 9:06:42 AM
Last Saved: 6/30/2020 9:06:42 AM
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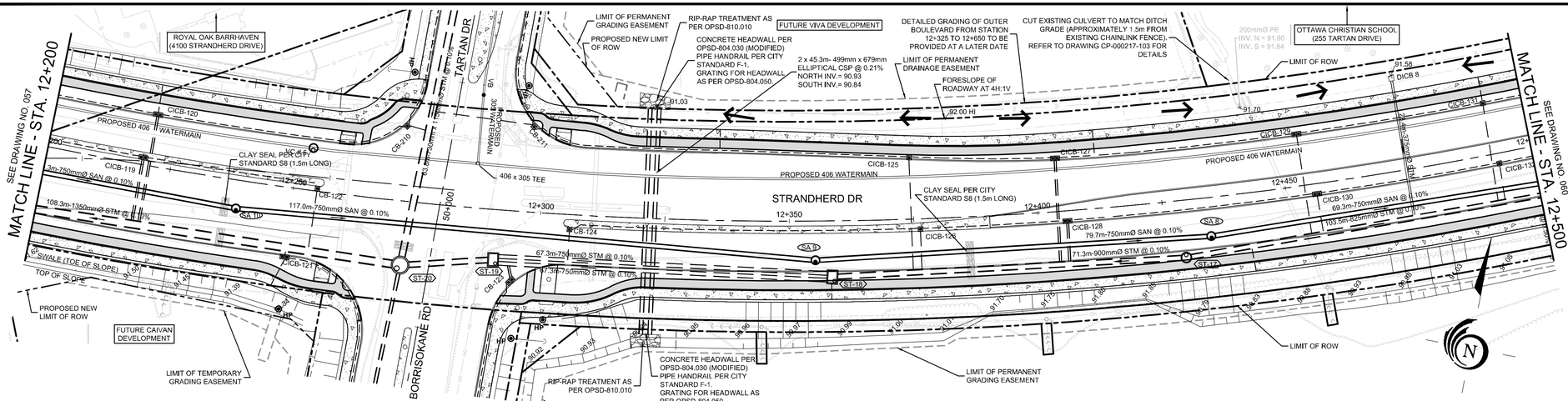

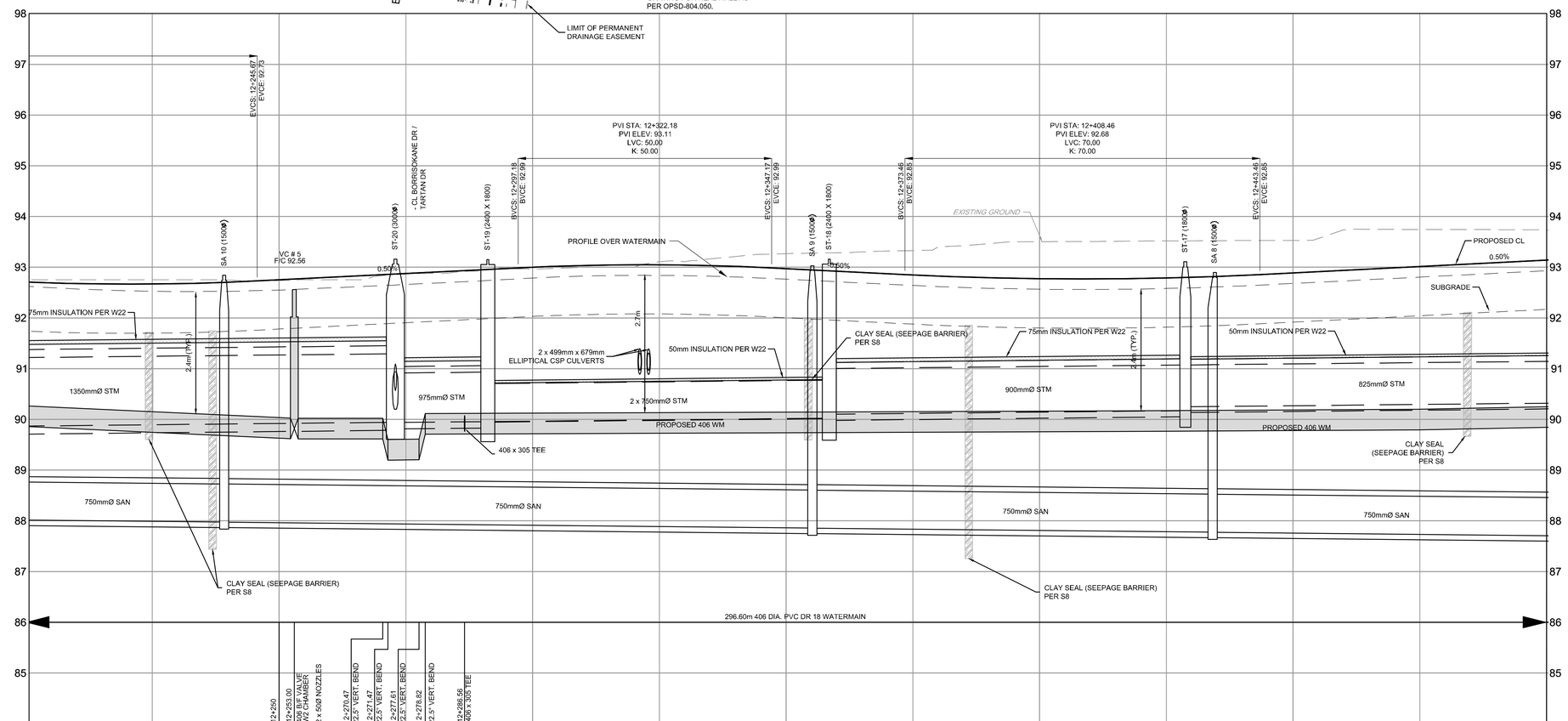

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TITLE FRAME: 790mm x 534mm City of Ottawa 2006

Plot Date: 6/30/2020 9:08:42 AM

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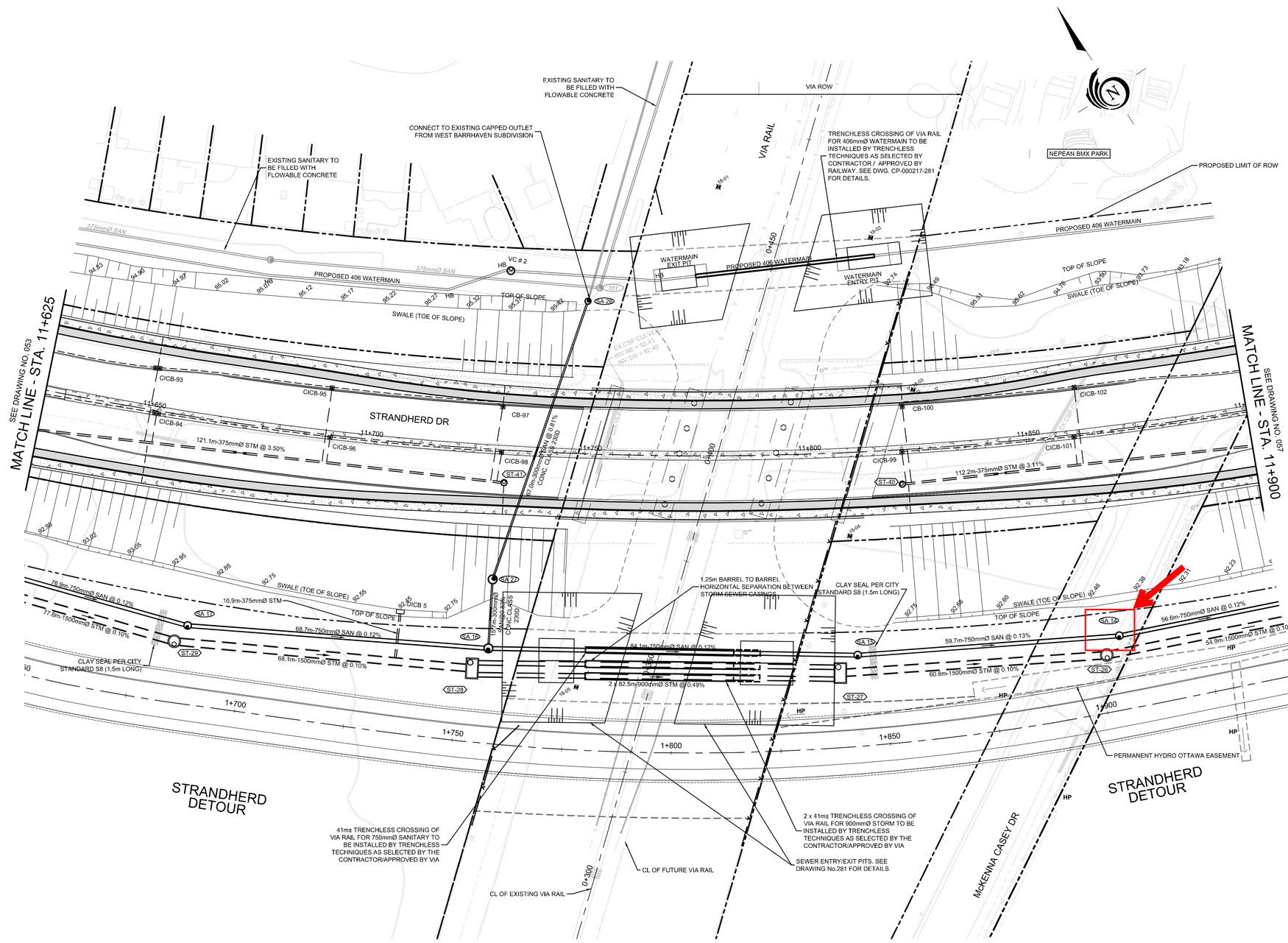

STRANDHERD DRIVE WIDENING

MARAVISTA DRIVE TO JOCKVALE ROAD

GRADING & DRAINAGE 5
STRANDHERD DRIVE - PLAN
STA. 11+625 TO STA. 11+900

C. DUCLOS, P.Eng.
Acting Director

J. VALLEE, P.Eng.
Project Manager

PARSONS NOVATECH
Engineers, Planners & Landscape Architects

LICENSED PROFESSIONAL ENGINEER
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June 26, 2020
PROVINCE OF ONTARIO

WATERMAIN DESIGN ONLY

LICENSED PROFESSIONAL ENGINEER
R. J. DOWDALL
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2020-06-26
PROVINCE OF ONTARIO

Ottawa

Contract No.	Dwg. No.
CP000217	055

Sheet 055 of

Asset No.

Asset Group

Des.	Chk'd.
TPB	RJD
Dwn.	Chk'd.
TPB	RJD
Utility Circ. No.	Index No.
CTY1810119	17676

Const. Inspector

Scale: 1:500 H (0 5 10 15 20)
1:50 V (0 1 2)

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

REVISIONS

No.	Description	By	Date (dd/mm/yy)
1.	ISSUED FOR CONSTRUCTION	RJD	26/06/20

NOTES:

1. REFER TO DWG 281 FOR ENTRY AND EXIT PIT REQUIREMENTS, CASING INSTALLATION AND RELATED DETAILS.

TITLE FRAME: 792mm x 534mm City of Ottawa 2008
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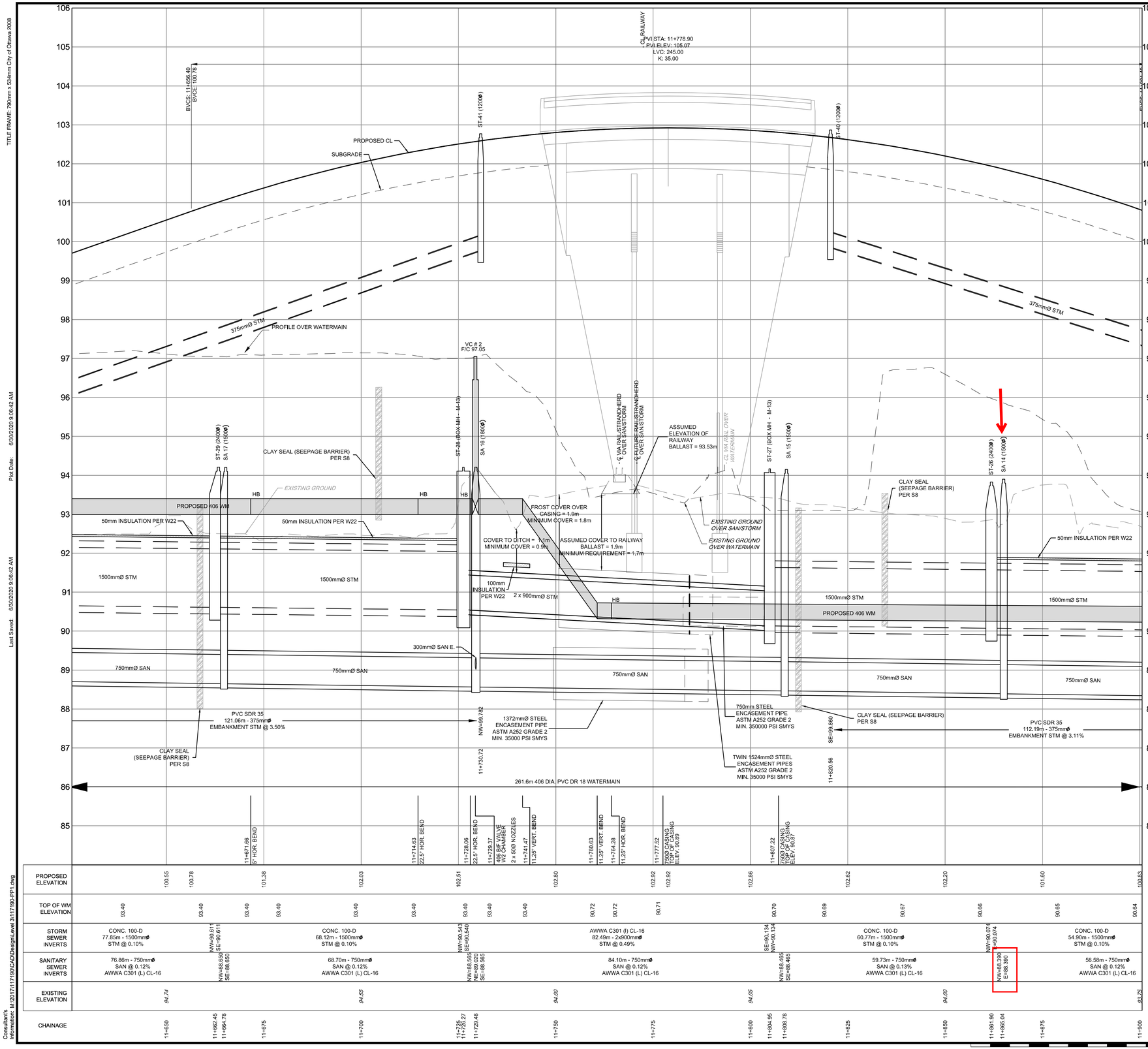


| | | |

APPENDIX F

JOCK RIVER SUBWATERSHED STUDY

JOCK RIVER REACH ONE SUBWATERSHED STUDY

SURFICIAL SOILS

Okeefe 516 ha | 77 | 3.6 hrs.
Foster 343 ha | 74 | 35%
Ken-Bu 290 ha | 71 | 35%
Mills 140 ha | 74 | 1.7 hrs.
Desire 24 ha | 77 | 0.34 hrs.
SW-1a 546 ha | 72 | 2.8 hrs.
Fraser 90 ha | 80 | 1.2 hrs.
S-2 112 ha | 72 | 0.4 hrs.
Corrig 79 ha | 77 | 0.95 hrs.
Jock VA 222 ha | 74 | 2.0 hrs.
E-Clar 85 ha | 77 | 1.2 hrs.
W-Clar 65 ha | 75 | 0.79 hrs.
S-1 349 ha | 77 | 2.3 hrs.
Todd 201 ha | 77 | 1.9 hrs.

FALLOWFIELD ROAD
STRANDHERD DRIVE
JOCKVALE ROAD
CEDARVIEW ROAD
GREENBANK ROAD
BRIAN MAUR ROAD
WOODROOFE AVE.
HIGHWAY 416
MOODIE DRIVE
McKENNA CASEY DRIVE
JOCK RIVER
RICHMOND ROAD
CAMBRIAN ROAD
TRAIL ROAD
BARNSDALE ROAD
PRINCE OF WALES
RIDEAU VALLEY DRIVE
HIGHWAY 16
RIDEAU RIVER

Desire 24 ha | 77 | 50% hrs.
- Sub-drainage Area Name
- Sub-drainage Area Size
- % Impervious or Time to Peak (hours)
- SCS Curve Number

Sub-drainage Area Limit

WATERSHED BOUNDARY

- SILTY CLAY
- GLACIAL TILL
- FLUVIOGLACIAL DEPOSIT
- ORGANIC DEPOSITS
- RIVER CHANNEL DEPOSITS
- MARINE SAND
- BEACH SAND
- BEDROCK

N

0 500m

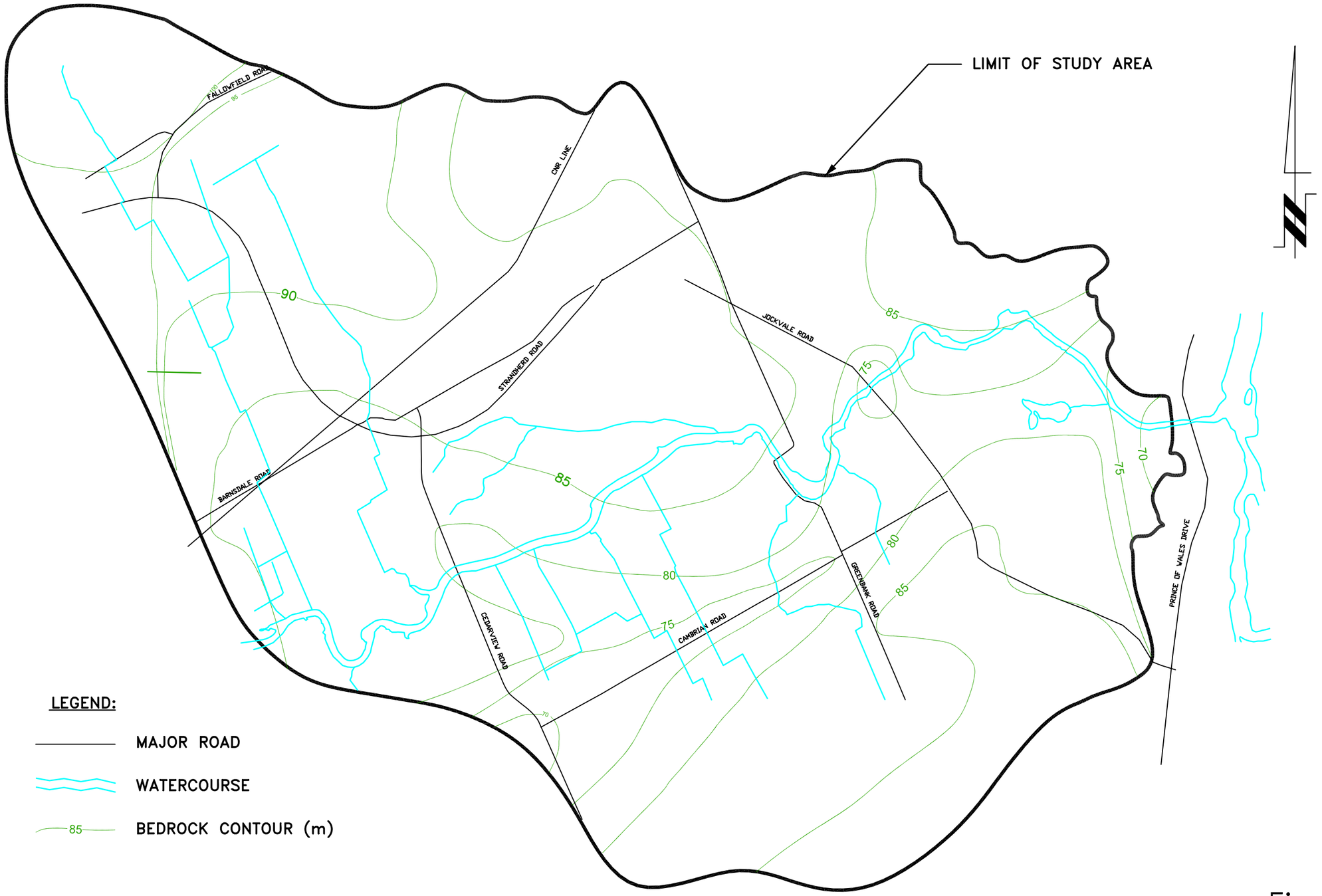
Source :
South Nepean Urban Area Master Servicing Study. Environmental Study Report, Volume 1 (J.L.Richards & Ainley Graham, 1998)

Stantec

Ottawa

JUNE 2007

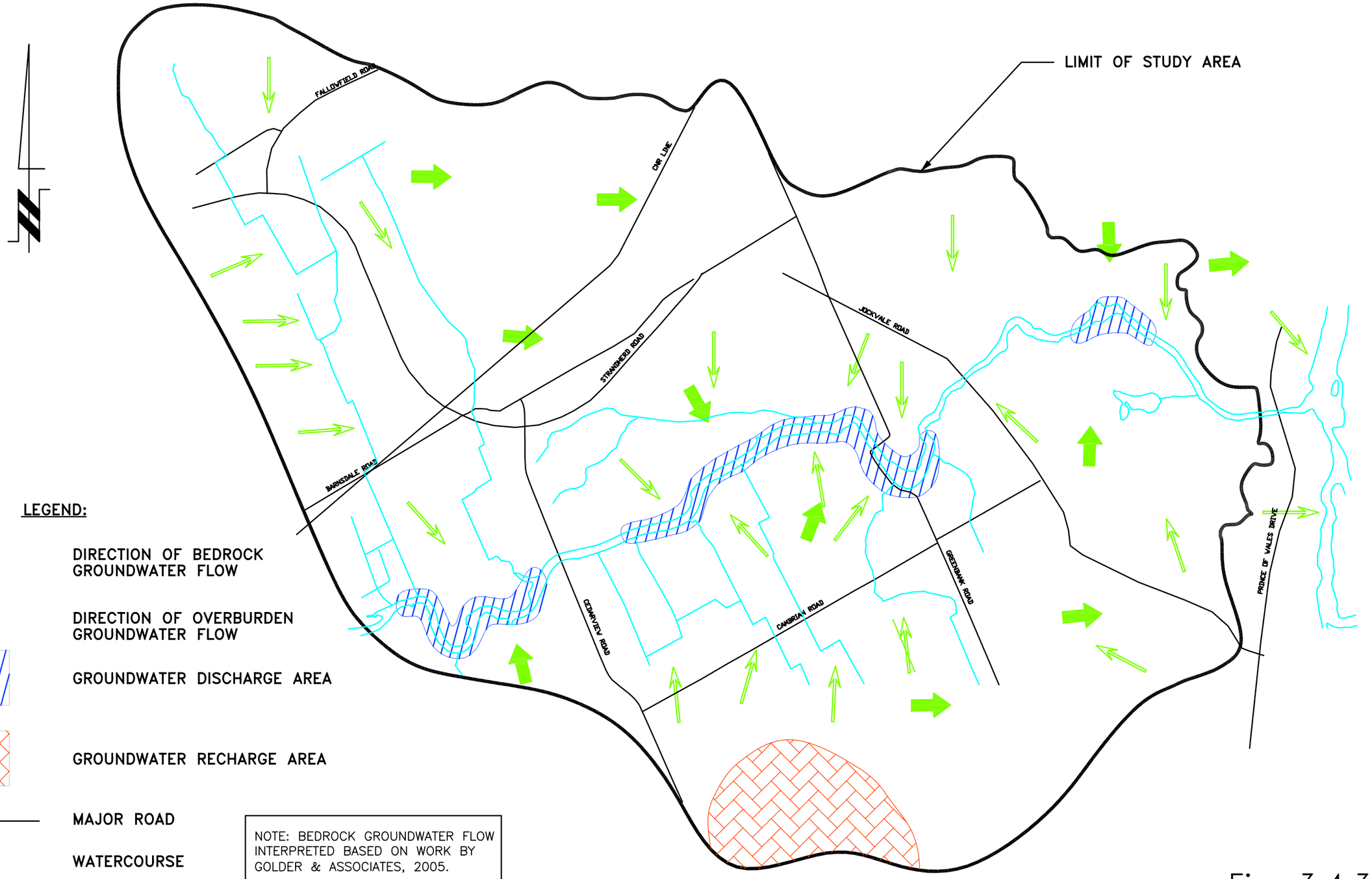
Figure 3.4.1



JUNE 2007

Fig: 3.4.2

paterson group consulting engineers 28 Concourse Gate, Unit 1, Ottawa, Ontario K2E 7T7	**Scale:** N.T.S. **Des.:** RAP **Dwn:** MPG **Chkd:** RAP	STANTEC CONSULTING LTD. JOCK RIVER SUBWATERSHED STUDY OTTAWA (NEPEAN), ONTARIO	BEDROCK CONTOURS	**Dwg. No.** PH0299–3 **Report No.:** PH0299–01 **Date:** 11/2005



LEGEND:

DIRECTION OF BEDROCK GROUNDWATER FLOW

DIRECTION OF OVERBURDEN GROUNDWATER FLOW

GROUNDWATER DISCHARGE AREA

GROUNDWATER RECHARGE AREA

MAJOR ROAD

WATERCOURSE

NOTE: BEDROCK GROUNDWATER FLOW INTERPRETED BASED ON WORK BY GOLDER & ASSOCIATES, 2005.

JUNE 2007

Fig: 3.4.3

paterson group
consulting engineers
28 Concourse Gate, Unit 1, Ottawa, Ontario K2E 7T7

Scale:	N.T.S.
Des.:	RAP
Dwn:	MPG
Chkd:	RAP

STANTEC CONSULTING LTD.
JOCK RIVER SUBWATERSHED STUDY
OTTAWA (NEPEAN), ONTARIO

INTERPRETED GROUNDWATER FLOW DIRECTION

Dwg. No. PH0299–2
Report No.: PH0299–01
Date: 11/2005

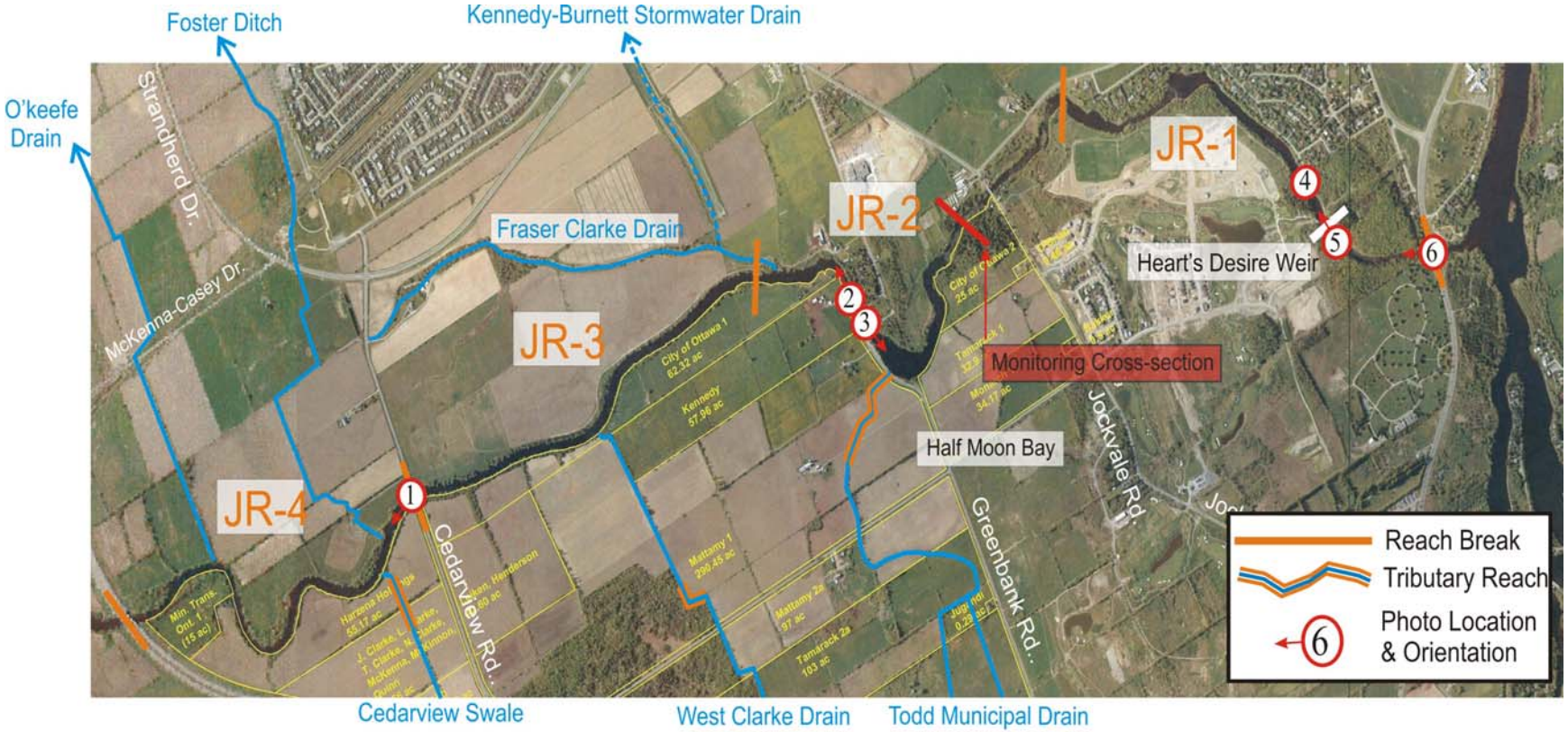


Figure 3.5.1: Delineation of reaches in R1 Study Area: JR-1, JR-2, JR-3 and JR-4 along the main Jock River, the Monitoring Cross Section and the six main tributaries contributing to the Jock River.

APPENDIX G

EROSION HAZARD ASSESSMENT & EROSION THRESHOLD ANALYSIS

Jock River, Barrhaven Conservancy

Erosion Hazard Assessment and Erosion Threshold Analysis



Prepared for:
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January 11, 2018
PN17071

GEO MORPHIX
Geomorphology
Earth Science
Observations

Report Prepared by:	GEO Morphix Ltd. 2800 High Point Drive Suite 100A Milton, ON L9T 6P4
Report Title:	Jock River, Barrhaven Conservancy – Erosion Hazard Assessment and Erosion Threshold Analysis
Project Number:	PN17071
Status:	Final
Version:	2.0
First Submission Date:	August 4, 2017
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Prepared by:	Cara Hutton, M.Sc.
Approved by:	Paul Villard, Ph.D., P.Geo.
Approval Date:	January 11, 2018

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1 Introduction

This report provides support in addressing meander belt width requirements for the Jock River and its tributaries and erosion threshold analyses for the Fraser Clark, Foster Ditch, and O'Keefe municipal drains. The property of the assessed reaches is located between Highway 416 to the west, Greenbank Road to the east, Strandherd Drive to the north, and Jock River to the South.

To delineate the hazard land associated with Jock River and the three (3) municipal drains and to determine the erosion thresholds analysis in support of the proposed stormwater management, the following activities were completed:

- Background review of existing documents related to the study area, including topography, physiography, and geology mapping;
- Review of the meander belt widths associated with the subwatershed study and subsequent analysis on the adjacent tributaries;
- Updated and confirm reach delineation for all three drains;
- Review of historical and recent aerial photographs;
- Completion of rapid geomorphic assessments of the three drains to document channel condition;
- Delineation of the hazard area adjacent to the Jock River and 3 drains based on the results of the updated belt width assessment where warranted;
- Complete a detailed geomorphic assessment of each municipal drain to determine a critical discharge or confirm existing erosion thresholds; and
- Modelling of erosion indices based on post- to pre-development synthetic storage or continuous modelling.

2 Background Review

A review of the meander belt widths and erosion threshold analyses from previous studies were completed for the Jock River and the three adjacent municipal drains. The following studies were reviewed:

- CH2M Hill Canada Limited. 2013. O'Keefe Drain Environmental and Stormwater Management Plan. Prepared for the City of Ottawa;
- CH2M Hill Canada Limited. 2013. Foster Stormwater Management Facility Environmental Study Report. Prepared for the City of Ottawa;
- Parish Aquatic Services, A Division of Matrix Solutions. 2016. Clarke Drain Erosion Threshold Assessment. Prepared for Minto Communities Inc.; and
- Stantec Consulting Ltd. 2007. Jock River Reach One Subwatershed Study Final Report: Volume 1 of 2. Prepared for the City of Ottawa.

3 Historical Assessment

Historical aerial photographs were reviewed to determine changes to the channel and surrounding land use/cover. This information, in part, provides an understanding of the historical factors that have contributed to current channel morphodynamics. The 1976 and 1991 aerials were provided by the City of Ottawa and the 2016 was provided by Google Earth Pro. A summary of the historical changes to the three drains are provided in **Table 1**. Historical aerial photographs are provided in **Appendix A**.

Table 1. Historical assessment

Watercourse	1976	1991	2014
Fraser Clark Drain	Agricultural fields surround associated reaches with little to no riparian buffer. Land use within the study site remains consistent to 2014. Reaches FCD2 and FCD3 consist of wetland features. Reach FCD3-3 was not present on the aerial photograph. Reaches FCD3-1, FCD3-2, and FCD5 consist of swale features.	Residential development extends to McKenna Drive and Borrisokane Road. A localized residential property present adjacent to Reach FCD4. Tree growth within the narrow riparian areas. Reach FCD5 was ditched and straightened. No changes to the form of the remainder of the reaches since 1976. Two elongated storm water ponds are constructed, extending east from McKenna Drive parallel to Reach FD1-1.	Residential development extends to Strandherd Drive. Residential and commercial properties present along Strandherd Drive. Riparian buffers increase in width and an increase in tree cover. No changes to the form of the reaches since 1991. A storm water pond was constructed between Strandherd Drive and Reach FCD4. Reach FCD4-1 was built to convey flows from the pond to FCD4.
Foster Ditch	Agricultural fields surround associated reaches with no riparian buffer. Land use within the study site remains consistent to 2014. Reaches FD1, FD2, FD3 are narrow features. Reach FD3 was ditched, Reaches FD1 and FD2 were unmodified.	Residential properties extend to the east side of Borrisokane Road. Riparian buffers are narrow and fragmented. Reaches FD1, FD2, FD3, and upstream of Reach FD3 have been noticeably widened. A stormwater pond and Reach FCD1-1 was constructed adjacent to Reach FD1. A flow structure was present at the pond inlet and an access road crosses Reach FD1.	Riparian buffers widen slightly and some tree establishment was noted. Residential areas extend west to Strandherd Drive and north towards Fallowfield Road. Stormwater pond along reach FD1 was reshaped, given a new outlet flowing into Jock River. The flow structure and access road are removed Upstream of the study site stormwater ponds were constructed. Reaches FD4 and FD5 were created as inlet and outlet reaches to the ponds. Further upstream, reaches FD6 to FD14 were re-aligned for development purposes.

Watercourse	1976	1991	2014
O'Keefe Drain	Agricultural fields surround associated reaches. Land use within the study site remains consistent to 2014. A narrow, established riparian buffer zone was only present along Reach OKD1. All other reaches possess little to no riparian area. All reaches were previously straightened and ditched	No notable changes to land use, riparian coverage, and channel formation since 1976.	Riparian tree growth noted upstream of the study site. No changes to riparian coverage and channel formation to reaches OKD1 and OKD2. Commercial development extends east of Strandherd Drive. Reaches OKD3 to OKD8 were re-aligned. Stormwater ponds were constructed along reaches OKD3, and OKD5.
Jock River	Agricultural fields surround associated reaches. Narrow riparian zones along both banks of all reaches. Reach JR-4 more sinuous than reach JR-3. No other morphology apparent in aerial.	No notable changes to land use, riparian coverage, and channel formation since 1976.	No notable changes to riparian coverage and channel formation since 1991. Residential development just south of reach JR-3. Highway 416 was built intersection reach JR-4.

4 Existing Conditions

4.1 Watershed Characteristics

Channel morphology and planform are largely governed by the flow regime and the availability and type of sediments (i.e., surficial geology) within the stream corridor. Physiography, riparian vegetation and land use also physically influence the channel. These factors provide insight into existing conditions and perception to the future potential changes as they relate to a proposed activity.

Physiographically, the project site is located within an area dominated by glaciofluvial deposits comprised of alluvial deposits and topset facies. Within the project site, surficial deposits also include modern alluvium ranging from clay to gravel with organic deposits as well as glaciolacustrine sediments composed of massive to laminated silt and clay with minor sand and gravel (OGS, 2010).

4.2 Confirmation of Reach Delineation

Reaches are homogeneous segments of channel used in geomorphological investigations. They are studied semi-independently as each is expected to function in a manner that is at least slightly different from adjoining reaches. This allows for a meaningful characterization of a watercourse as the aggregate of reaches, or an understanding of a particular reach, for example, as it relates to a proposed activity.

Reaches are delineated based on changes in the following:

- Channel planform;
- Channel gradient;
- Physiography;
- Land cover (land use or vegetation);
- Flow, due to tributary inputs;
- Soil type and surficial geology; and
- Certain types of anthropogenic channel modifications.

This follows scientifically defensible methodology proposed by Montgomery and Buffington (1997), Richards et al. (1997), Brierley and Fryirs (2005), and the Toronto and Region Conservation Authority (2004).

Thirteen reaches were delineated within the study area in a desktop exercise using available data and background reports. These reaches were then field verified. Seven reaches of Fraser Clark Drain (FCD), two reaches of O'Keefe Drain (OKD), and four reaches of Foster Ditch (FD) were defined in the subject lands. The reaches for the Jock River remain the same from the Subwatershed Study (Stantec, 2007). A reach map is provided in **Appendix B**. Reach mapping extends north of the study site.

4.3 Channel Characteristics

Reach observations and channel measurements were collected in June 2017. These field investigations were used to gain insight into the conditions and general characteristics of each reach in the subject property. A photographic record is included in **Appendix C** and documents the conditions from all observed reaches. Field notes and observations are provided in **Appendix D**.

Rapid geomorphological assessments were completed and included the following reach-by-reach observations:

- Characterization of stream form, process, and evolution using the Rapid Geomorphological Assessment (RGA) (MOE, 2003, VANR, 2007);
- Assessment of the ecological function of the watercourse using the Rapid Stream Assessment Technique (RSAT) (Galli, 1996);
- Stream classification following a modified Downs (1995) and a modified Brierley and Fryirs (2005) River Styles Classification approach;
- Reach-scale habitat sketch maps based on Newson and Newson (2000) outlining channel substrate, flow behaviour, geomorphological units, and riparian vegetation on the day;
- Instream estimates of bankfull channel dimensions; and
- Bed and bank material composition and structure.

4.4 Rapid Geomorphological Assessments

Channel stability and susceptibility to erosion were objectively assessed through the application of the Ontario Ministry of the Environment's (2003) Rapid Geomorphic Assessment (RGA). The RGA evaluates degradation, aggradation, widening, and planimetric form adjustment at the reach scale. The end result of the RGA is to produce a score, or stability index, which evaluates the degree to which a stream has departed from its equilibrium condition. A stream with a score of less than 0.20 is in regime, indicating minimal changes to its shape or processes over time. A score of 0.21 to 0.40 indicates that a stream is in transition or stress and is experiencing major change to process and form outside the natural range of variability. A score of greater than 0.41

indicates that a stream is in extreme adjustment, exhibiting a new stream type, or in the process of adjusting to a new equilibrium (MOE, 2003; VANR, 2007).

The Rapid Stream Assessment Technique (RSAT) was also employed to provide a broader view of the system and consider the ecological functioning of the watercourses (Galli, 1996). Observations were made of channel stability, channel scouring or sediment deposition, instream and riparian habitats, and water quality. The RSAT score ranks the channel as maintaining a poor (<13), fair (13-24), good (25-34), or excellent (35-42) degree of stream health.

Reaches were also classified according to a modified Downs (1995) Channel Evolution Model and the River Styles Framework (Brierley and Fryirs, 2005). The Down's Model describes successional stages of a channel as a result of a perturbation, namely hydromodification. Understanding the current stage of the system is beneficial as this allows one to predict how the channel will continue to evolve, or respond to an alteration to the system. The River Styles Framework (Brierley and Fryirs, 2005) provides a geomorphological approach to examining river character, behaviour, condition, and recovery potential.

Field observations are provided in **Table 2** and **Table 3** below.

4.4.1 Fraser Clark Drain

Reach FCD2 exists as an unconfined wetland between agricultural fields. The reach flows south east with low gradient and entrenchment to the Jock River. Riparian vegetation was comprised of trees and grasses. In the upstream portion of the reach, riparian cover was continuous and tree dominated. The downstream was grass dominated and entirely encroached with reeds. Average feature width and depth were 9.3, and 0.4 m, respectively. Bed and bank material were soft and comprised of clay, silt, and sand. There was no development of geomorphic units. Approximately 0.30 to 0.40 m deep of loose bed material and organics were present on the bed at the time of assessment.

Reach FCD3 exists as an unconfined wetland. Riparian vegetation was fragmented containing scattered trees and dominated by grasses. Approximately 75% of upstream is heavily encroached with reeds, containing no notable flow. Bed and bank materials consisted of clay, silt, and sand. Average feature width and depth were 12.3 m, and 0.2 m, respectively. There was no riffle-pool development throughout the reach.

Reach FCD3-1 is an unconfined swale feature surrounded by active agricultural fields. The riparian zone was fragmented and consisted of grasses with scattered trees and shrubs. The swale was heavily encroached with grasses and reeds. The reach had no defined channel banks and no riffle-pool features. Bed material consisted of clay, silt, and sand.

Reach FCD3-2 starts approximately 25 m east of Borrisokane Road and flows intermittently over a low gradient. There was no surface water present at the time of assessment. The riparian area was grass dominated, with reeds fully encroaching the bed. The reach had no defined channel banks and no riffle-pool features. Bed material consisted of clay, silt, and sand.

Reach FCD3-3 was not present at the time of assessment.

Reach FCD5 exists as an unconfined swale feature with a low gradient. The reach begins on the western side of Borrisokane Road, and concludes at a culvert at Borrisokane Road. No surface water was present at the time of assessment. The bank angles were low with no evidence of erosion. Riparian vegetation consisted of mainly grasses with scattered trees. Bed and bank material consisted of clay, silt, sand. The reach was absent of geomorphic development.

4.4.2 Foster Ditch

Reach FD1 consists as a sinuous, unconfined channel that perennially flows into Jock River. The reach flows over a low gradient surrounded by agricultural fields. Riparian coverage was dominated by grass, with trees present at the upstream and downstream breaks. The banks were highly entrenched and undercutting was present in the downstream portion of the reach. Bank angles were high and extent of bank erosion included 30-60% of the reach. Bankfull width and depth were 4.7 m and 0.7 m, respectively. No riffle-pool features were present. Grasses encroached minimally into the channel and a low density of woody debris was present. The bed and banks of the channel were both comprised of clay and silt, with sand and scattered rip rap present in the heavily modified areas. Bed materials were soft and were 0.05 to 0.20 m deep.

Reach FD2 consisted of a low gradient, perennial channel surrounded by agricultural fields. The reach exhibits a sinuous planform and was slightly entrenched. The riparian area was narrow and consisted of trees, shrubs, and grasses. Reeds were extensively encroaching the channel at the downstream reach break. A moderate density of woody debris was present. High bank angles at 60-90 degrees and undercutting up to 0.10 m was present. Average bankfull width and depth were 7.6 m and 0.6 m, respectively. No riffle-pool features were present. The bed and banks were composed of clay and silt.

Reach FD3 is straight, ditched, and unconfined channel with a low gradient. The reach was surrounded by a narrow riparian buffer dominated by grasses with scattered trees. Reeds were moderately encroaching the channel. The banks had high angles of 60-90 degrees and were highly entrenched. A large woody debris jam at the downstream portion of the reach was causing substantial backwatering. Undercutting was present upstream and downstream of a large woody debris jam. Average bankfull width and depth were 6.9 m and 0.5 m, respectively. The reach was absent of riffle-pool features. Bed and bank material consisted of clay, silt, and sand. Approximately 0.3 to 0.4 m deep of fines were present on the bed upstream of the woody debris jam.

4.4.3 O'Keefe Drain

Reach OKD1 is a previously straightened and ditched channel flowing between agricultural fields. The reach had a low gradient and was unconfined. Riparian vegetation was continuous and dominated by trees and grasses. The channel was highly entrenched, with high bank angles between 60-90 degrees. Fluvial entrainment and exposed tree roots were commonly observed, with an extent of 60-100% of the reach exhibiting erosion. Encroachment was minimal. Woody debris was high in density with two woody debris jams per 50 m. Average bankfull width and depth were 4.6 and 0.7 m, respectively. The reach had no riffle-pool features. Substrate of the bed and bank ranged between clay, silt, sand, and organics. At the time of assessment, approximately 0.2 – 0.3 m of loose bed material was present on the bed.

Reach OKD2 was previously straightened and ditched. Riparian vegetation was narrow and consisted of grasses. Reed encroachment was moderate. The banks were highly entrenched with high angles of 60-90 degrees. Erosion was present in 30-60% of the reach. Two erosion scars were observed along the right bank. Average bankfull width and depth were 4.4 m and 0.7 m, respectively. Riffle-pool features were not observed. Bed and bank material included clay and silt. A low density of woody debris was present in the channel.

General reach characteristics are summarized below in **Table 2**, and results from the rapid assessments are summarized in **Table 3**.

Table 2. General reach characteristics

Reach	Average Bankfull Width (m)	Average Bankfull Depth (m)	Substrate		Valley Type	Riparian Vegetation	Notes
			Riffle	Pool			
FCD2	N/A: wetland feature		No riffle-pool development: clay, silt, organics		Unconfined	Trees and grasses, fragmented	Wetland feature. Heavy reed encroachment. Soft bed materials.
FCD3	N/A: wetland feature		No riffle-pool development: clay, silt, organics		Unconfined	Trees and grasses, fragmented	Wetland feature. Heavy reed encroachment. No flow.
FCD3-1	N/A: swale feature		No riffle-pool development: clay, silt, organics		Unconfined	Trees and grasses, fragmented	Swale feature. Channel dry at time of assessment. Heavy reed encroachment.
FCD3-2	N/A: swale feature		No riffle-pool development: clay, silt, organics		Unconfined	Trees and grasses, fragmented	Swale feature. Channel dry at time of assessment. Heavy reed encroachment.
FCD3-3	N/A: no feature at the time of assessment						
FCD5	N/A: swale feature		No riffle pool development: clay, silt, sand		Unconfined	Trees and grasses, fragmented	Swale feature. Channel dry at time of assessment. Heavy reed encroachment.
FD1	4.3	0.4	No riffle pool development: clay, silt		Unconfined	Trees and grasses, fragmented	Sinuous and entrenched. Undercutting. Soft bed materials.
FD2	7.6*	0.4	No riffle pool development: clay, silt		Unconfined	Trees shrubs and grasses, continuous	Sinuous and slightly entrenched. Undercutting. Heavy reed encroachment.
FD3	6.9*	0.4	No riffle pool development: clay, silt, sand		Unconfined	Trees and grasses, fragmented	Straightened and ditch feature. Backwatering due to a large woody debris jam.
OKD1	4.6	1.0	No riffle pool development: clay, silt, sand, organics		Unconfined	Trees shrubs and grasses, fragmented	Straightened and ditch feature. Highly entrenched. Soft bed materials.
OKD2	4.4	0.7	No riffle pool development: clay, silt		Unconfined	Trees and grasses, fragmented	Straightened and ditch feature. Highly entrenched. Erosion scars observed.

*feature width

Table 3. Rapid assessment results

Reach	RGA (MOE, 2003)			RSAT (Galli, 1996)			Down's Channel Evolution Model (1995)	River Styles Framework (Brierley and Fryirs, 2005)
	Score	Condition	Dominant Systematic Adjustment	Score	Condition	Limiting Features		
FCD2	0	In Regime	N/A	31	Good	Riparian Habitat	S – stable	Straight, suspended load
FCD3	0	In Regime	N/A	29.5	Good	Riparian Habitat	S – stable	Straight, suspended load
FCD3-1	0	In Regime	N/A	N/A	N/A	N/A	S – stable	Meandering, suspended load
FCD3-2	0	In Regime	N/A	N/A	N/A	N/A	S – stable	Meandering, suspended load
FCD3-3	N/A, Channel non-existent at time of assessment.							
FCD5	0	In Regime	N/A	N/A	N/A	N/A	S – stable	Straight, suspended load
FD1	0.09	In Regime	Evidence of Aggradation	30.5	Good	Riparian Habitat	S – stable	Meandering, suspended load
FD2	0.12	In Regime	Evidence of Widening	31	Good	Riparian Habitat	S – stable	Meandering, suspended load
FD3	0.11	In Regime	Evidence of Widening	30	Good	Riparian Habitat	S – stable	Straight, suspended load
OKD1	0.12	In Regime	Evidence of Widening	30	Good	Channel Stability	e - enlarging	Straight, suspended load
OKD2	0	In Regime	N/A	29	Good	Riparian Habitat	C – Compound	Straight, suspended load

4.4.4 Jock River

Reach JR-2 is just downstream and east of the study site. Site reconnaissance was completed at the Borrisokane Road crossing at the reach break between JR-3 and JR-4. Photographs are provided in **Appendix C**. Both reaches are unconfined with narrow riparian buffer zones. Bank erosion was not observed in the vicinity of the crossing. This was consistent with Stantec's observations.

4.5 Detailed Geomorphological Assessments

A detailed geomorphological assessment was completed for each drain: OKD1, FD1, and FCD2 in June 2017. As these reaches are downstream of the proposed SWM facility, Wet Ponds, and Oil and Grit Separator. The extent of the detailed assessments areas are provided in **Appendix F**. As such, defining an erosion threshold is necessary to mitigate negative post-development impacts.

The detailed assessment includes the following:

- Longitudinal profile of the channel;
- Eight detailed cross-sectional surveys of the watercourse;
- Detailed instream measurements at each cross-section location including bankfull channel geometry, riparian conditions, bank material, bank height/angle, and bank root density;
- Bed material sampling at each cross-section following a modified Wolman's (1954) Pebble Count Technique or substrate sample; and
- Velocity, discharge and observations of active/inactive sediment transport at select representative cross-sections.

Bankfull characteristics, based on the results of the detailed assessments for each drain are presented in **Table 5** in **Section 6.1**. A summary of the detailed assessment results for Reach OKD1, FCD1, and FCD2 are provided in **Appendix G**.

5 Meander Belt Width Assessment

Most watercourses in southern Ontario have a natural tendency to develop and maintain a meandering planform, provided there are no spatial constraints. A meander belt width assessment estimates the lateral extent that a meandering channel has historically occupied and will likely occupy in the future. This assessment is therefore useful for determining the potential limit of development for proposed activities in the vicinity of a stream.

When defining the meander belt width for a creek system, the Ministry of Natural Resources and Forestry (MNRF) treats unconfined and confined systems differently. Unconfined systems are those with poorly defined valleys or slopes well-outside where the channel could realistically migrate. Confined systems are those where the watercourse in contained within a defined valley, where valley wall contact is possible.

In unconfined systems, the meander belt width can be graphically defined using orthorectified aerial imagery by determining the channel centreline and the channel's central tendency (i.e. meander belt axis). In cases where the channel has been previously modified or the location cannot be determined in the imagery – due to tree cover or poor photograph resolution, for example – a modelling approach is employed. More specifically, empirical models by Williams (1986). These models are scientifically-defensible and have been verified in past projects as suitable for use in southern Ontario. This modelling approach also serves as a preliminary, or planning level, meander belt width assessment.

All watercourses within the study site are within unconfined valley systems. Since the drainage features have been heavily modified, the meander belt width cannot be determined using orthorectified aerial imagery. Therefore, the modelling approach was used for all the drainage feature within the study site.

Meander belt widths were calculated using empirical models, as these reaches showed signs of previous modification. The results are outlined in **Table 4** and a map is provided in **Appendix H**.

Meander belt widths were proposed using a modified Williams (1986) model, based on field measurements of channel geometries. The modified model also accounts for the average bankfull width of a given reach and an additional 20% factor of safety. These empirical relations are outlined below:

$$B_w = 4.3{W_b}^{1.12} + W_b \quad \text{[Eq. 1]}$$

where B_w is meander belt width (m) and W_b is bankfull channel width (m).

Table 4. Meander belt width estimates

Reach	#CH2MHILL (2013)	##Stantec (2007)	GEO Morphix Ltd.	
			*Williams – Width (1986) (m)	Proposed Meander Belt Width (m)
FCD2	No previous meander belt widths given for the Fraser Clark Drain		N/A: wetland feature; no erosion hazard	
FCD3			N/A: wetland feature; no erosion hazard	
FCD3-1			N/A: wetland feature; no erosion hazard	
FCD3-2			N/A: wetland feature; no erosion hazard	
FCD3-3			N/A: wetland feature; no erosion hazard	
FCD5			N/A: wetland feature; no erosion hazard	
FD1	18.9	32.7	32	32
FD2	18.9		32^	32
FD3	Not determined		32^	32
OKD1	45.6	28.8	34	34
OKD2	45.6		32	32

*includes a 20% factor of safety

#O'Keefe and Foster Drain Report

##No reach specified, average given

^Using the bankfull width from reach FD1

The Fraser Clark Drain, reaches FCD2 and FCD3, consisted of a wetland feature with no channel centreline. Therefore, there is no erosion hazard associated with these features. The same applies to the swale features for reaches FCD3-1, FCD3-2, and FCD5.

Since the Foster Ditch was previously ditched, the bankfull dimensions are comprised. The detailed assessment completed at reach FD1 has more accurate bankfull dimension measurements. Therefore, the meander belt with calculation for reach FD1 are used for reaches FD2 and FD3.

The Jock River meander belt widths within the Subwatershed Study (Stantec, 2007) were reviewed to assess suitability. The meander belt widths provided by the Subwatershed Study for reaches JR-3 and JR-4 are 218 and 231 m, respectively (Stantec, 2007). These meander belt widths include a 10% buffer. We are generally in agreement with the scale of the meander belt widths. The central tendency of the watercourse generally follows the overall trend of the channel passing through riffles or runs. Although there may be an opportunity for minor adjustments to the central

tendencies for reaches JR-3 and JR-4. This does not fundamentally adjust the meander belt width from the location illustrated in the subwatershed study.

We have a minor refinement for the downstream reach, JR-2. The geologic feature at Half Moon bay is not technically a meander. Half Moon bay was formed by reworking the underlying glaciomarine deposits (OGS, 2010). Therefore, the meander belt width for reach JR-2 is 130 m plus a 10% buffer plus a 7 m setback. The proposed meander belt width for reach JR-2 is 150 m. This is smaller than that proposed in the subwatershed study.

6 Erosion Analysis

6.1 Erosion threshold Analysis

Erosion threshold analyses were completed for reaches OKD1, FD1, and FCD2 to determine the flow conditions under which channel bed and bank materials can potentially be entrained and transported. Erosion thresholds are established to provide targets for the proposed SWM facility, Wet Ponds, and Oil and Grit Separator discharges to ensure that post-development erosion rates into the receiving watercourses do not exceed natural pre-development rates.

The erosion threshold analysis provides a depth, velocity, or discharge at which sediments of a particular size may potentially be entrained. The results of the detailed geomorphic assessments were used to inform the erosion threshold analysis. Detailed geomorphic assessment locations were completed downstream of the proposed SWM facility, Wet Ponds, and Oil and Grit Separators. We note that even under the most typical conditions, due to natural variability of channel morphology and sediment characteristics within the reach, the computed flow characteristics would only provide first approximations of erosion thresholds.

Erosion thresholds are determined using different methods that are dependent on channel and sediment characteristics. For example, erosion thresholds for non-cohesive sediments may be estimated using either a shear stress or a velocity approach. An erosion threshold, in the form of a critical discharge, is then calculated based on the bed and bank materials and local channel geometry. Theoretically, above this discharge, entrainment and transport of sediment can occur.

Threshold targets are determined using different methods that are dependent on channel and sediment characteristics. An erosion threshold was quantified based on the bed and bank materials and local channel geometry in the form of a critical discharge. Theoretically, above this discharge, entrainment and transport of sediment can occur. The velocity, U (m/s) is iteratively calculated at various depths, until the average velocity in the cross section slightly exceeds the critical velocity of the bed material. The velocity is determined using a Manning's approach, where the Manning's n value is visually estimated, a method proposed by Cowan (1956). This is mathematically represented as

$$U = \frac{1}{n} d^{2/3} S^{1/2} \qquad \text{[Eq. 2]}$$

where, d is depth of water (m), S is channel slope, and n is the Manning's roughness. The discharge is then calculated using the area of a typical cross section at that depth. Results of the erosion threshold analysis are provided below in **Table 5**.

Table 5. Erosion thresholds for each drain

Channel parameter	O'Keefe Drain Reach OKD1	Foster Ditch Reach FD1	Fraser Clark Drain Reach FCD2
Measured			
Average bankfull channel width (m)	4.59	4.69	9.33
Average bankfull channel depth (m)	0.98	0.70	0.39
Bankfull channel gradient (%)	0.05	0.17	0.0001
D_{50} (m)	0.000002	0.000002	0.000002
Average bankfull velocity (m/s)	0.51	0.52	0.05
Bankfull discharge (m^3/s)	1.69	1.21	0.10
Bankfull shear stress (N/m^2)	3.53	8.33	1.46
Calculated for Bed Materials			
Critical velocity (m/s)	0.53*	0.53*	0.15
Critical discharge (m^3/s)	0.80	0.68	0.33
Apparent shear stress (N/m^2)	3.80	11.60	2.5
Conditions at Time of Assessment			
Water depth (m)	0.14	0.21	0.23
Average velocity (m/s)	0.26	0.20	0.05
Average discharge (m^3/s)	0.08	0.13	0.04
Sediment Transport Observations	No transport	No transport	No transport
Critical Discharges from Previous Reports			
Critical discharge (m^3/s)	1.86# (Stantec, 2007) 0.08## (CH2MHILL, 2013)	0.79# (Stantec, 2007) 0.82 (CH2MHILL, 2013)	1.70 (PARISH, 2013)

* Based on Fischenich (2001) for sandy loam
# Not given for a specific reach
calculated for reach OKD2

Since both bed and bank material are similar in all three reaches and bank erosion thresholds are a proportion of thresholds for bed material, erosion thresholds for bank materials would be higher. Therefore, using the thresholds for bed materials would keep the bank erosion thresholds values conservative.

The critical discharge of the bed and bank materials for the O'Keefe Drain at reach OKD1 is 0.80 m^3/s. The critical discharge of the bed and bank materials for the Foster Ditch at reach FD1 is 0.68 m^3/s. The critical discharge of the bed and bank materials for the Fraser Clark Drain at reach FCD2 is 0.33 m^3/s.

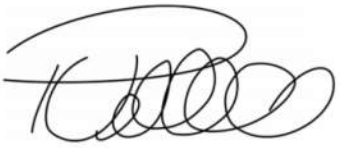
7 Summary and Conclusions

The purpose of this report was to provide support in addressing meander belt width requirements and erosion threshold analyses for the Frazer Clark drain, the Foster Ditch, and the O'Keefe Drain. To delineate the limit of development, the meander belt width was calculated for the 2 reaches of the O'Keefe Drain and the 3 reaches of the Foster Ditch. The Frazer Clark Drain does not have a centre line of channel as the drain consisted of a wetland feature and therefore does not require and meander belt width. The meander belt widths for the O'Keefe Drain are 34 m for reach OKD1 and 32 m for reach OKD2. The meander belt widths for the reaches within the Foster Ditch are 32 m. The meander belt widths for the Jock River reaches JR-2, JR-3, and JR-4 are 150 m, 218 m, and 231 m, respectively.

The erosion threshold analyses provide targets for the proposed SWM facility, Wet Ponds, and Oil and Grit Separator discharge to ensure that post-development erosion rates into the receiving drains do not exceed the natural pre-development rates. The critical discharge of the bed and bank materials for reach OKD1, FD1, and FCD2 are 0.80 m^3/s, 0.68 m^3/s, and 0.33 m^3/s respectively.

We trust this report meets your requirements. Should you have any questions please contact the undersigned.

Respectfully submitted,





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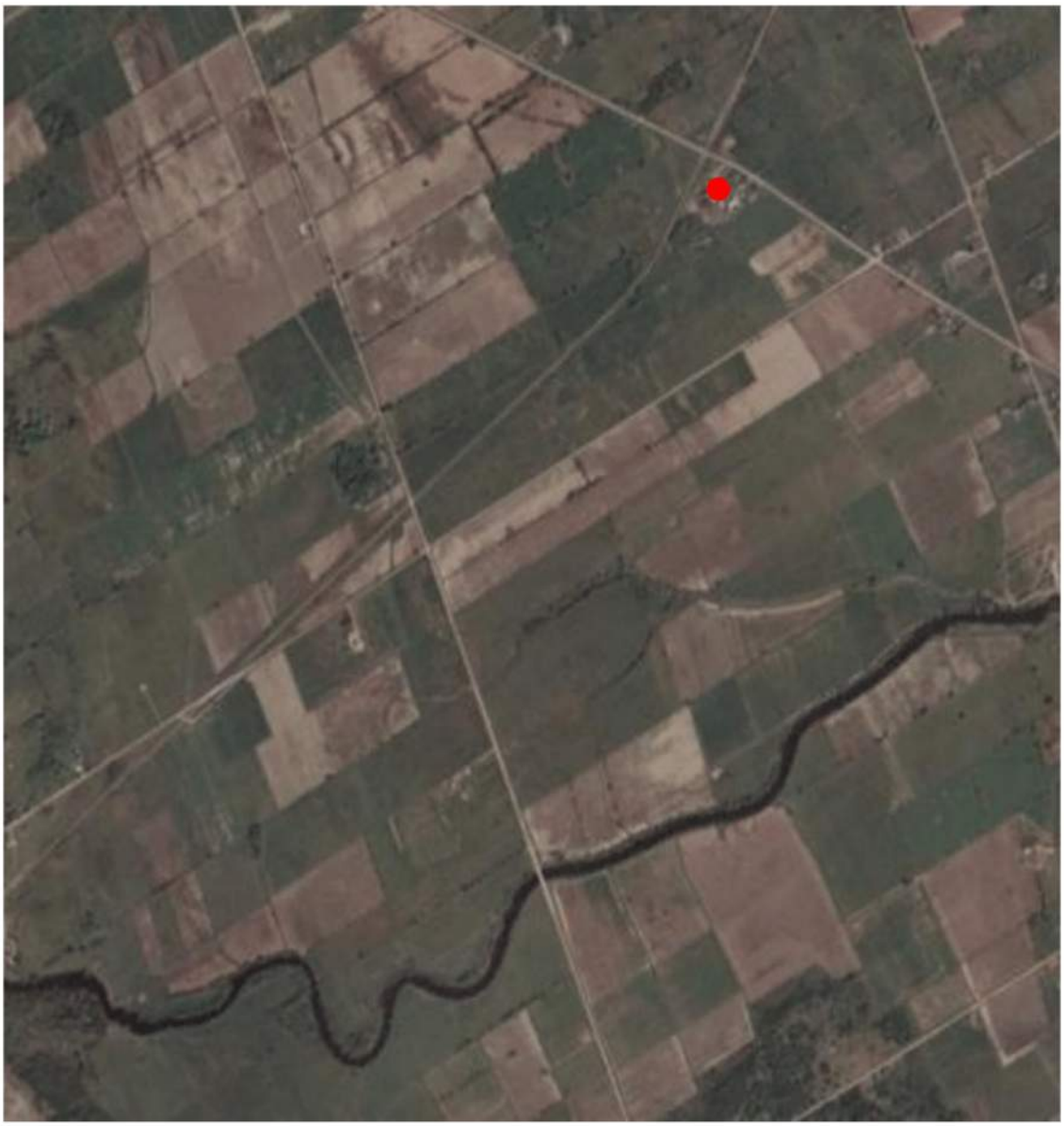
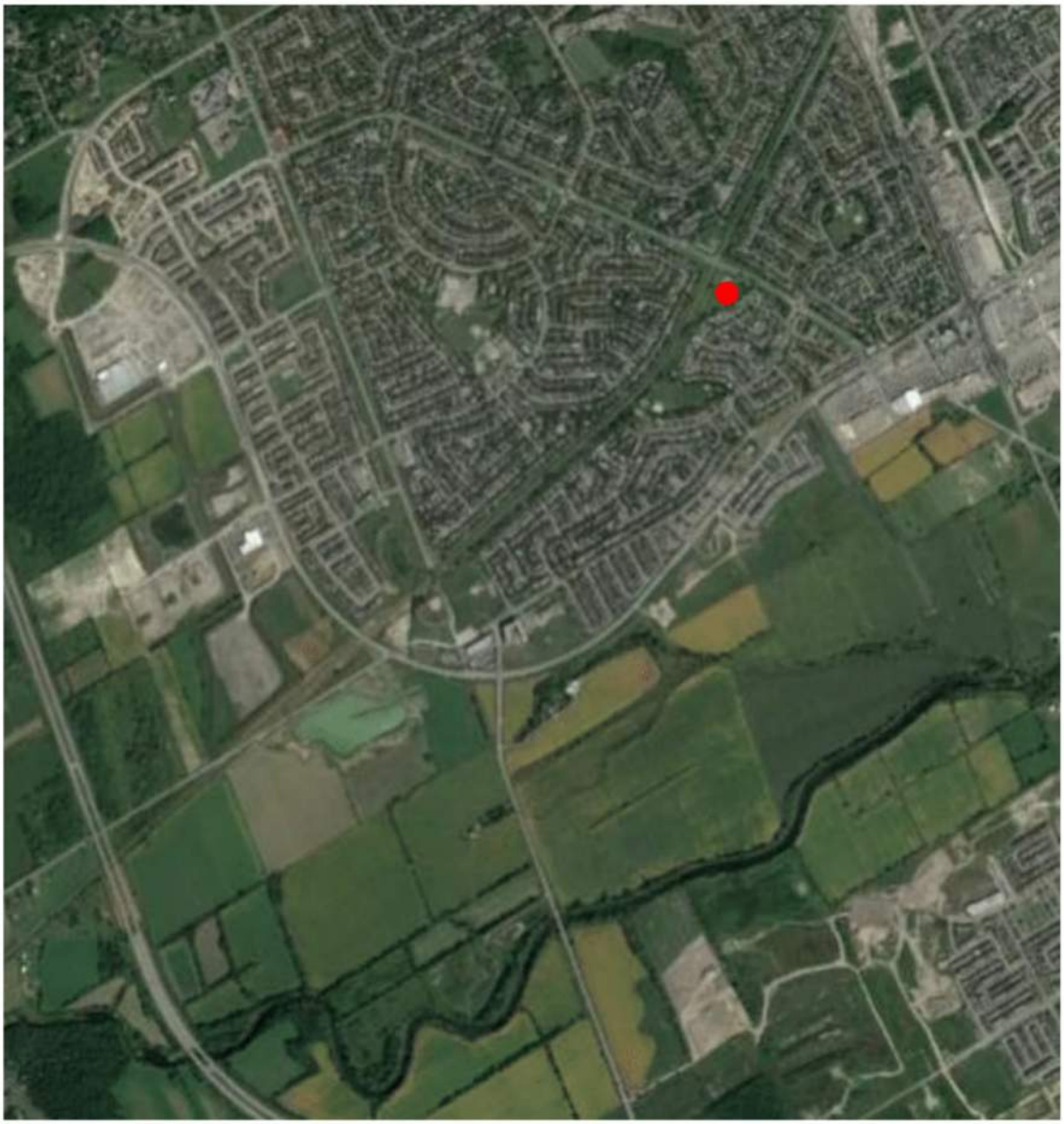
Appendix A Historical Aerial Photographs



Location: Barrhaven, ON (denoted by red circle)
Year: 1976
Source: City of Ottawa, Teranet



Location: Barrhaven, ON
Year: 1991
Source: City of Ottawa, Teranet



Location: Barrhaven, ON
Year: 2016
Source: Google Earth Pro

Appendix B Reach Delineation


GEO MORPHIX
Reach Delineation
Jock River,
O'Keefe Drain, Foster Drain,
and Fraser-Clarke Drain
Barrhaven, Ottawa
Legend
1:12,000
N
Reach break
Drainage Feature
O'Keefe Drain (OKD)
Foster Drain (FD)
Fraser-Clarke Drain (FCD)
Not present at time
of assessment
Jock River
JR-4
JR-3
JR-2
JR-1
OKD1
OKD2
OKD3
OKD4
FD1
FD2
FD3
FCD1
FCD2
FCD3
FCD4
FCD5
FCD6
FCD7
FCD8
FCD9
FCD10
FCD11
FCD12
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FCD28
FCD29
FCD30
FCD31
FCD32
FCD33
FCD34
FCD35
FCD36
FCD37
FCD38
FCD39
FCD40

Appendix C Photographic Record

Photo 1 Reach FCD2	
	Photograph taken facing west. Bed material was 30 to 40cm deep consisted of fines and organics.
Photo 2 Reach FCD2	
	Photograph taken facing east. Wetland feature fully encroached with reeds.

Photo 3 Reach FCD3	
	Photograph taken facing east. Heavily encroaching reeds in the wetland feature was observed.
Photo 4 Reach FCD3	
	Photograph taken facing east. Fragmented riparian buffer was dominated by grass.

Photo 5 Reach FCD3-1	
	Photograph taken facing east. Riparian buffer composed of trees, grasses and shrubs.
Photo 6 Reach FCD3-1	
	Photograph taken in the middle of the feature, facing east. Swale was primarily composed of reeds and was dry at the time of assessment.

Photo 7 Reach FCD3-2	
	Photograph taken facing south east. Center of swale was encroached with reeds, with a primarily grass buffer.
Photo 8 Reach FCD3-2	
	Photograph taken facing south east. No water was present in the feature at the time of assessment.

Photo 9 Reach FD3-3	
	Photograph taken facing south east. Feature not present at time of assessment.

Photo 10 Reach FCD5	
	Photograph taken facing downstream towards left bank. Channel dry at time of assessment.
Photo 11 Reach FCD5	
	Photograph taken facing upstream. Heavy encroachment of tall reeds was observed.

Photo 12 Reach FD1	
	Photograph taken facing downstream towards left bank. Channel was entrenched. Rip rap was observed along the banks in some areas.
Photo 13 Reach FD1	
	Photograph taken facing downstream towards right bank. Minor undercutting observed on right bank.

Photo 14 Storm -water Pond at FD1	
	Photograph taken facing south from Reach FD1.
Photo 15 Reach FD1-1	
	Photograph taken facing west from overflow channel FD1-1.

Photo 16 Reach FD2	
	Photograph taken facing upstream. The channel was slightly entrenched and large woody debris was observed.
Photo 17 Reach FD2	
	Photograph taken facing upstream from Reach FD1 break. Reeds heavily encroached the channel near the downstream reach break.

Photo 18 Reach FD3	
	Photograph taken facing upstream towards left bank. Channel was a straightened and ditched feature.
Photo 19 Reach FD3	
	Photograph taken facing downstream. Extensive backwatering observed upstream of large woody debris jam.

Photo 20 Reach OKD1	
	Photograph taken facing downstream. Channel was a straightened and ditched feature.
Photo 21 Reach OKD1	
	Photograph taken facing left bank. Channel was highly entrenched, woody debris was commonly observed.

Photo 22 Reach OKD2	
	Photograph taken facing upstream. Channel exists as a highly entrenched, straightened and ditched feature.
Photo 23 Reach OKD2	
	Photograph taken facing right bank. Erosion scarring was observed.

Photo 24 Reach JR-4	
	Photograph taken facing upstream, west, from Borrisokane Road.
Photo 25 Reach JR-4	
	Photograph taken facing right bank, south, from Borrisokane Road. The reach was unconfined.

Photo 26 Reach JR-3	
	Photograph taken facing downstream, east, from Borrisokane Road.
Photo 27 Reach JR-3	
	Photograph taken facing the left bank, north, from Borrisokane Road. The reach was unconfined with a narrow riparian buffer zones.

Appendix D Field Observations

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Dunrobin, Ontario, Canada K0A 1T0

T 613.979.7303

Project Number: PN17071

Reach Characteristics

Date:	2017-06-23	Reach:	FCD2
Field Staff:	LG BM2	Watercourse:	Foster Drain
Weather:	Rain 18C	Watershed:	Jock River

Location



lat=45.260226245331054, long=-75.75114652679375, alt=94.27012027340467, accuracy=48.0

General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	11 - Straight suspended load
Flow Type:	Perennial
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Trees, Grasses
Dominant Species:	Grass dominant in downstream portion, trees dominant upstream portion
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Moderate
Notes:	Fully encroached in downstream portion of reach.

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Emergent
Coverage of Reach (%):	70
Presence of Woody Debris:	Present in Channel
Density of Woody Debris:	Low
Number of WDJs per 50 m:	0
Notes:	

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	Low (>2.2)
Bank Failures (Brierley and Fryirs, 2005):	None
Downs Model of Channel Evolution (1995):	S - stable
Riffle Substrate:	N/A
Pool Substrate:	Clay, Silt, Organics
Bank Material:	Clay, Silt, Sand
Bank Angle:	0 - 30
Extent of Bank Erosion:	< 5%

Notes:

Channel Measurements

Additional Measurements

Is riffle-pool development absent?	yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	N/A

Notes:

Water Quality

Odour:	None
Turbidity:	Clear
Notes:	

GEO MORPHIX

General Site Characteristics

Project Code: 17071

Date:	June 21 2017	**Stream/Reach:**	FCD2
Weather:	Sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

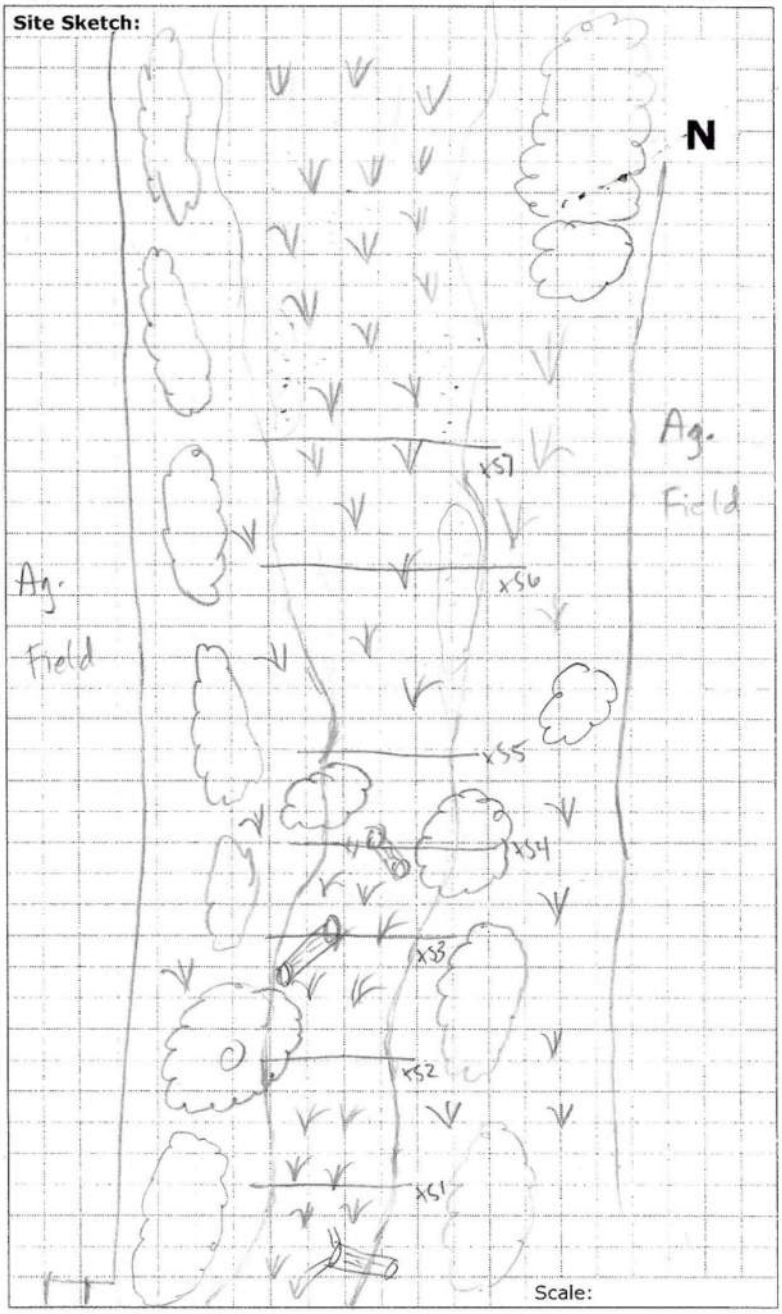
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

~40 cm of sediment/organics build up before bed

Completed by: BM2 Checked by: _____

GEO | MORPHIX

Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 22/17	**Stream/Reach:**	FCD2
Weather:	Sunny 25°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	0/4
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)			N/A
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms			
	7	Head cutting due to knick point migration		X	0/3
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	0	3	0
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.	X		2/7
	2	Occurrence of large organic debris	X		
	3	Exposed tree roots		X	
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		X	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		N/A	
		Sum of indices =	2	5	0.28
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	0/5
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form		N/A	
	7	Bar forms poorly formed / reworked / removed		X	
		Sum of indices =	0	5	0

- riffle pool absent
- point bars absent
- infrastructure absent
- bar forms absent

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0.07

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 21 / 17	**Stream/Reach:**	FCD2
Weather:	sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5	☐ 6 ☐ 7 ☐ 8	☒ 9 ☐ 10 ☐ 11
Channel Scouring/ Sediment Deposition	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8

Date:		Reach:		Project Code:	
Evaluation Category	**Poor**	**Fair**	**Good**	**Excellent**
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☐ 8
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☐ 1	☐ 2 ☐ 3	☐ 4 ☐ 5	☐ 6 ☐ 7

Total overall score (0–42) = 31	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LG Checked by: _____

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Project Number: PN17071

Reach Characteristics

Date:	2017-06-23	Reach:	FCD3
Field Staff:	LG BM2	Watercourse:	Frazer Clark Drain
Weather:	Rain 18C	Watershed:	Jock River

Location



lat=45.25976031175945, long=-75.75790180828797, alt=1.5463331083301004, accuracy=12.0

General Characteristics

Land Use:	Agricultural,Residential
Valley Type:	Unconfined
Channel Type:	11 - Straight suspended load
Flow Type:	Perennial
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Trees,Grasses
Dominant Species:	Grass
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Heavy
Notes:	

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Emergent
Coverage of Reach (%):	100
Presence of Woody Debris:	Present in Channel
Density of Woody Debris:	Low
Number of WDJs per 50 m:	0
Notes:	

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	Low (>2.2)
Bank Failures (Brierley and Fryirs, 2005):	None
Downs Model of Channel Evolution (1995):	S – stable
Riffle Substrate:	N/A
Pool Substrate:	Clay, Silt, Organics
Bank Material:	Clay, Silt, Sand
Bank Angle:	0 - 30
Extent of Bank Erosion:	< 5%

Notes:

Channel Measurements

Cross Section #1:

Bankfull Width (m):	11.5	**Wetted Width (m):**	4
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	0.12
Velocity (m/s):	0.02	**Measurement Type:**	Wiffle ball

Cross Section #2: Run

Bankfull Width (m):	12	**Wetted Width (m):**	3.5
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	0.11
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Cross Section #3:

Bankfull Width (m):	13.5	**Wetted Width (m):**	4
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	0.15
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Additional Measurements

Is riffle-pool development absent?	yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	N/A

Notes: Height of left bank: 0.60. No notable velocity at cross section 1.

Water Quality

Odour:	None
Turbidity:	Slightly Turbid
Notes:	

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General Site Characteristics

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FCD3
Weather:	rainy, 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

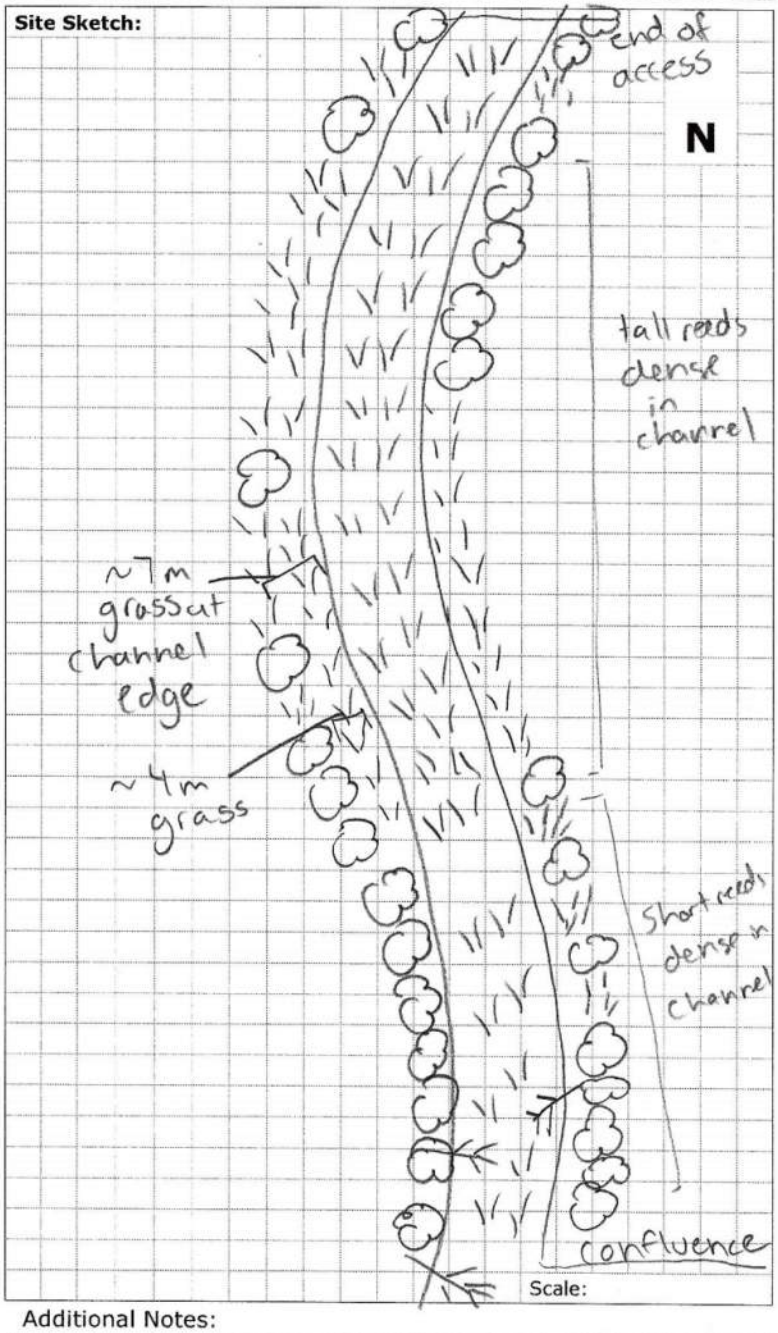
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 23/17	**Stream/Reach:**	FC03
Weather:	rainy 20°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG BM²	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	0/4
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0

- no bars
- riffle pool absent

Evidence of Degradation (DI)	1	Exposed bridge footing(s)			0/3
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s) N/A			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms			
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	0	3	0

- infrastructure absent

Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.		X	1/7
	2	Occurrence of large organic debris	X		
	3	Exposed tree roots		X	
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		N/A	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		X	
		Sum of indices =	1	6	0.14

Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	0/5
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form			
	7	Bar forms poorly formed / reworked / removed		X	
		Sum of indices =	0	5	0

- ask

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0.035

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

Rapid Stream Assessment Technique **Project Code:** 17071

Date:	June 23/17	**Stream/Reach:**	FCD3
Weather:	rainy 20°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability no root exposed	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5	☐ 6 ☐ 7 ☐ 8	☐ 9 ☐ 10 ☐ 11

Channel Scouring/ Sediment Deposition N/A	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
N/A	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8

Date:		Reach:		Project Code:	
Evaluation Category	**Poor**	**Fair**	**Good**	**Excellent**
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☒ **5** ☐ **6**	☐ **7** ☐ **8**
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☐ **5** ☒ **6**	☐ **7** ☐ **8**
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ **0** ☐ **1**	☒ **2** ☐ **3**	☐ **4** ☐ **5**	☐ **6** ☐ **7**

Total overall score (0–42) = 29.5	**Poor (<13)**	**Fair (13-24)**	**Good (25-34)**	**Excellent (>35)**

Completed by: LG Checked by: _____

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Project Number: PN17071

Reach Characteristics

Date:	2017-06-23	Reach:	FCD3-1
Field Staff:	LG BM2	Watercourse:	Frazer Clark Drain
Weather:	Rain 18C	Watershed:	Jock River

Location



lat=45.25719582508419, long=-75.76280598993611, alt=49.93364386812506, accuracy=12.0

General Characteristics

Land Use:	Agricultural,Residential
Valley Type:	Unconfined
Channel Type:	12 - Sinuous suspended load
Flow Type:	Intermittent
Groundwater:	No
Notes:	No flow . Channel fully encroached by reeds and grasses. Only small puddles of water found .

Riparian Vegetation

Dominant Vegetation Type:	Trees,Grasses
Dominant Species:	Reeds and grasses
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Heavy
Notes:	Grasses and reeds fully encroach channel . Scattered trees present , trees denser at the upstream confluence with FCD3-1 AND FCD4-1

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Emergent
Coverage of Reach (%):	100
Presence of Woody Debris:	Not Present
Density of Woody Debris:	None
Number of WDJs per 50 m:	0
Notes:	There may have been debris present , grasses to thick to see anything on the ground

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	Low (>2.2)
Bank Failures (Brierley and Fryirs, 2005):	None
Downs Model of Channel Evolution (1995):	S - stable
Riffle Substrate:	N/A
Pool Substrate:	Clay, silt
Bank Material:	Clay,Silt,Sand
Bank Angle:	0 - 30
Extent of Bank Erosion:	< 5%

Notes:

Channel Measurements

Cross Section #1:

Bankfull Width (m):	12	**Wetted Width (m):**	N/A
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	N/A
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Cross Section #2:

Bankfull Width (m):	8	**Wetted Width (m):**	N/A
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	N/A
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Additional Measurements

Is riffle-pool development absent?	yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	N/A

Notes:

Water Quality

Odour:	N/A
Turbidity:	N/A
Notes:	No flow

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General Site Characteristics

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FCD3-1
Weather:	rainy 20°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG, BM2	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

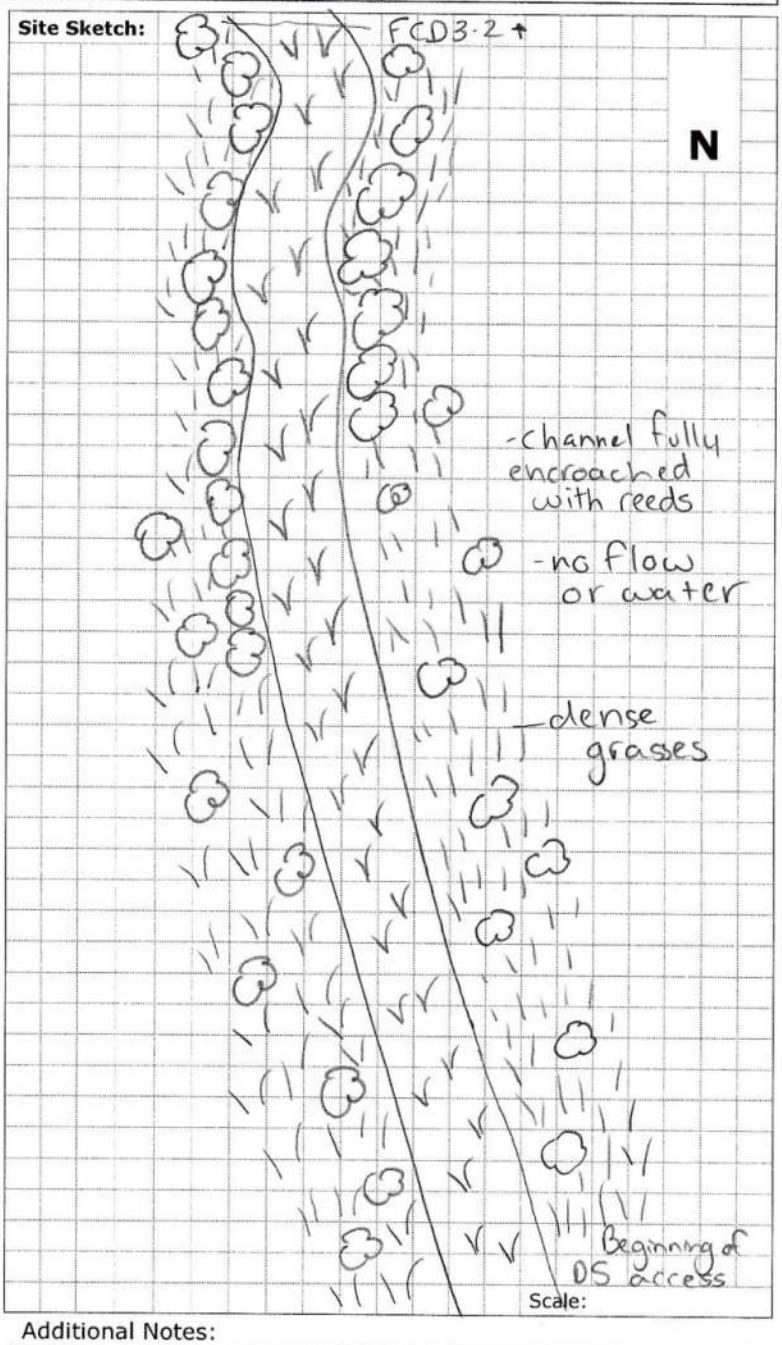
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 23 / 17	**Stream/Reach:**	FCD3-1
Weather:	cloudy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG, BM2	**Watershed/Subwatershed:**	

Process	Geomorphic Indicator		Present?		Factor Value
	No.	Description	Yes	No	
Evidence of Aggradation (AI)	1	Lobate bar		X	0/4
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)			0/3
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms			
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	0	3	0
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.		x	0/7
	2	Occurrence of large organic debris		x	
	3	Exposed tree roots		x	
	4	Basal scour on inside meander bends		x	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		x	
	8	Exposed length of previously buried pipe / cable / etc.		x	
	9	Fracture lines along top of bank		x	
	10	Exposed building foundation		N/A	
		Sum of indices =	0	7	0
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		x	0/4
	2	Single thread channel to multiple channel		x	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		x	
	5	Formation of island(s)		x	
	6	Thalweg alignment out of phase with meander form		N/A	
	7	Bar forms poorly formed / reworked / removed		N/A	
		Sum of indices =	0	4	0

- no flow
- reed / grass encroached
- no bars present
- riffle pool absent
- no infrastructure present

Additional notes:

- no flow
- heavy reed / grass encroachment

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

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Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 23 17	**Stream/Reach:**	FCD3-1
Weather:	cloudy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BMR	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile - no roots seen	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4** ☐ **5**	☐ **6** ☐ **7** ☐ **8**	☐ **9** ☒ **10** ☐ **11**

Channel Scouring/ Sediment Deposition	• > 75% embedded (> 85% embedded for large mainstem areas) N/A	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand N/A	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☐ **5** ☐ **6**	☐ **7** ☒ **8**

Date:	June 23/17	Reach:	FC03-1	Project Code:	17071

Evaluation Category	Poor	Fair	Good	Excellent
	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
Physical Instream Habitat	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ 0 ☐ 1 ☐ 2	☒ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☐ 8

Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8

Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☒ 1	☐ 2 ☐ 3	☐ 4 ☐ 5	☐ 6 ☐ 7

Total overall score (0–42) = 30	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LC Checked by: _____

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Project Number: PN17071

Reach Characteristics

Date:	2017-06-23	Reach:	FCD3-2
Field Staff:	LG BM2	Watercourse:	Frazer Clark Drain
Weather:	Rain 18C	Watershed:	Jock River

Location



lat=45.25550095657881, long=-75.76600135181351, alt=66.9408353150523, accuracy=24.0

General Characteristics

Land Use:	Agricultural, Residential
Valley Type:	Unconfined
Channel Type:	12 – Meandering suspended load
Flow Type:	Intermittent
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Grass, Trees
Dominant Species:	Grass
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Heavy
Notes:	

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Reeds
Coverage of Reach (%):	90%
Presence of Woody Debris:	None
Density of Woody Debris:	N/A
Number of WDJs per 50 m:	N/A
Notes:	

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Low sinuosity
Gradient:	Low
Number of Channels:	Single
Entrenchment:	Slightly
Bank Failures (Brierley and Fryirs, 2005):	N/A
Downs Model of Channel Evolution (1995):	S - stable
Riffle Substrate:	N/A
Pool Substrate:	Silt, organics
Bank Material:	Clay, Silt,
Bank Angle:	0 - 30
Extent of Bank Erosion:	<5%

Notes:

Channel Measurements

Cross Section #1:

Bankfull Width (m):	5.3	**Wetted Width (m):**	N/A
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	N/A
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Cross Section #2:

Bankfull Width (m):	4	**Wetted Width (m):**	N/A
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	N/A
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Cross Section #3:

Bankfull Width (m):	2.9	**Wetted Width (m):**	N/A
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	N/A
Velocity (m/s):	N/A	**Measurement Type:**	N/A

Additional Measurements

Is riffle-pool development absent?	Yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	N/A

Notes:

Water Quality

Odour:	N/A

Turbidity: N/A

Notes:

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General Site Characteristics

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FC302
Weather:	rainy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG, BM²	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

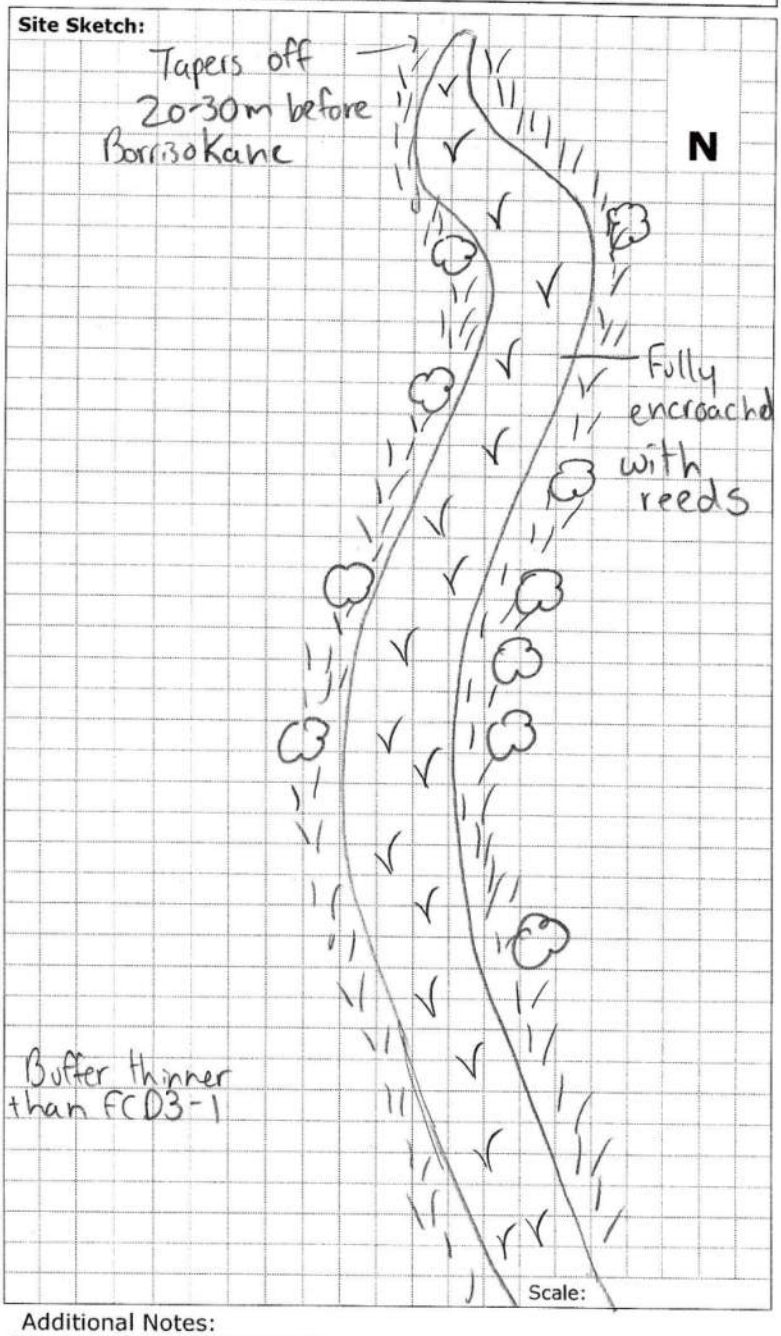
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FCD3-2
Weather:	rainy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator: Description	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	0.14
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)		N/A	0.14
	2	Exposed sanitary / storm sewer / pipeline / etc.		N/A	
	3	Elevated storm sewer outfall(s)		N/A	
	4	Undermined gabion baskets / concrete aprons / etc.		N/A	
	5	Scour pools downstream of culverts / storm sewer outlets		X	
	6	Cut face on bar forms		N/A	
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	6	4	6
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.		X	0.17
	2	Occurrence of large organic debris		X	
	3	Exposed tree roots		X	
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		X	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		N/A	
		Sum of indices =	0	7	6
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	0.16
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		X	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form		X	
	7	Bar forms poorly formed / reworked / removed		N/A	
		Sum of indices =	0	6	0

Additional notes:
- no flow
- reed / grass encroached

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FCD3-2
Weather:	rainy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BMZ	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
- no roots <cen in banks b/c high veg	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
reeds	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4** ☐ **5**	☐ **6** ☐ **7** ☐ **8**	☐ **9** ☐ **10** ☐ **11**

N/A	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
Channel Scouring/ Sediment Deposition	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☐ **5** ☐ **6**	☐ **7** ☒ **8**

Date:		Reach:		Project Code:	
Evaluation Category	**Poor**	**Fair**	**Good**	**Excellent**	
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)	
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)	
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble	
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas	
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure	
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement	
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1	
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C	
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☒ **4**	☐ **5** ☐ **6**	☐ **7** ☐ **8**	
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)	
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L	
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface	
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour	
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☐ **5** ☐ **6**	☐ **7** ☒ **8**	
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks	
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)	
Point range	☒ **0** ☐ **1**	☐ **2** ☐ **3**	☐ **4** ☐ **5**	☐ **6** ☐ **7**	

Total overall score (0–42) = 27	**Poor (<13)**	**Fair (13-24)**	**Good (25-34)**	**Excellent (>35)**

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Project Number: PN17071

Reach Characteristics

Date:	2017-06-23	Reach:	FCD5
Field Staff:	LG BM2	Watercourse:	Frazer Clark Drain
Weather:	Cloudy 20 degrees	Watershed:	Jock River

Location



General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	11 – Straight suspended load
Flow Type:	Intermittent
Groundwater:	No
Notes:	No water present.

Riparian Vegetation

Dominant Vegetation Type:	Grasses, Trees
Dominant Species:	Grass
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 – 4Widths
Riparian Age Class:	Established
Extent of Encroachment into channel:	Heavy

Notes:

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Reeds
Coverage of Reach (%):	100%
Presence of Woody Debris:	Not present
Density of Woody Debris:	None
Number of WDJs per 50 m:	0

Notes:

Channel Characteristics

Type of Sinuosity:	N/A
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	Slightly Entrenched
Bank Failures (Brierley and Fryirs, 2005):	N/A
Downs Model of Channel Evolution (1995):	S – stable
Riffle Substrate:	N/A
Pool Substrate:	N/A
Bank Material:	Clay, Silt, Sand
Bank Angle:	0 – 30
Extent of Bank Erosion:	<5%

Notes:

Channel Measurements

Additional Measurements

Is riffle-pool development absent?	Yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	N/A

Notes:

Water Quality

Odour:	N/A
Turbidity:	N/A
Notes:	

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General Site Characteristics

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FCD5
Weather:	cloudy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

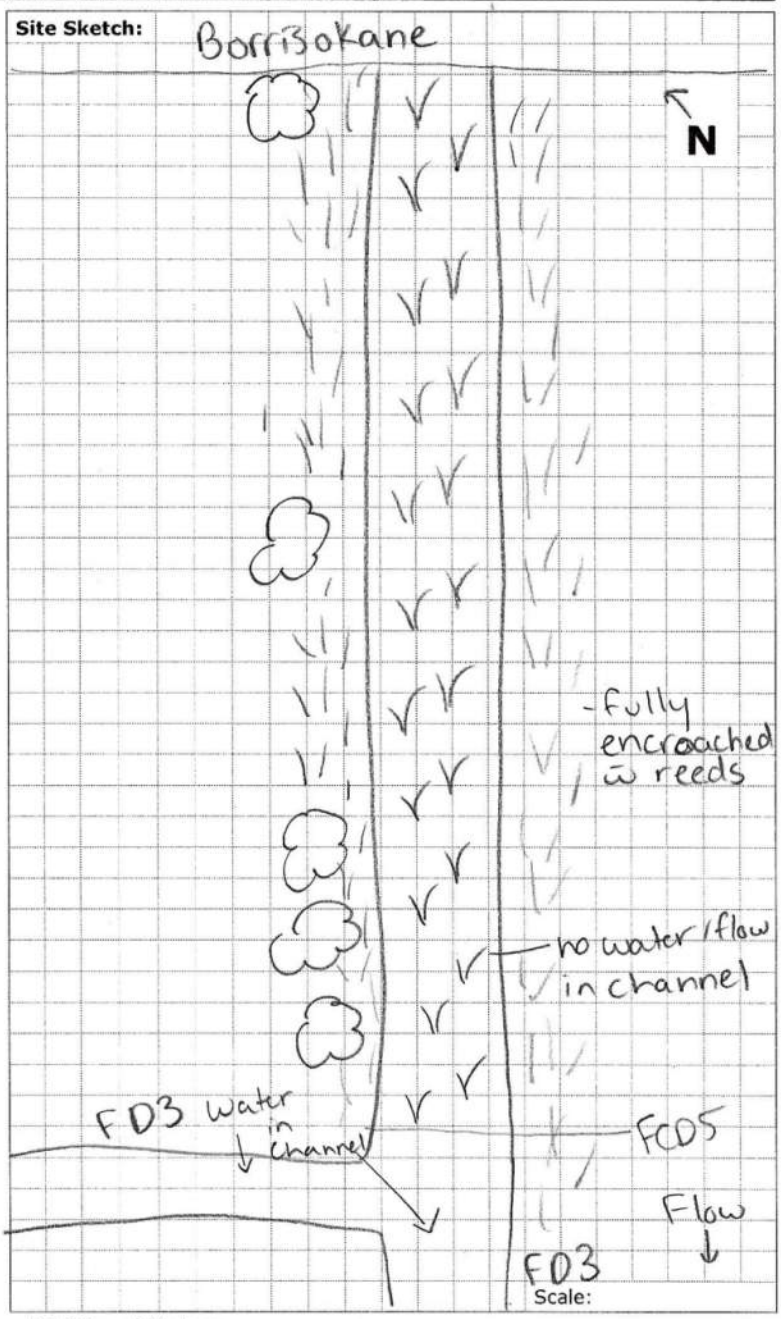
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 23/17	**Stream/Reach:**	FCD5
Weather:	cloudy 20°	**Location:**	Ottawa - Borrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		N/A	0/4
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		x	
	4	Medial bars		x	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		x	
	7	Deposition in the overbank zone		x	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)			0/3
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms			
	7	Head cutting due to knick point migration		x	
	8	Terrace cut through older bar material		x	
	9	Suspended armour layer visible in bank		N/A	
	10	Channel worn into undisturbed overburden / bedrock		x	
		Sum of indices =	0	3	0
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.		x	0/4
	2	Occurrence of large organic debris		x	
	3	Exposed tree roots		x	
	4	Basal scour on inside meander bends			
	5	Basal scour on both sides of channel through riffle			
	6	Outflanked gabion baskets / concrete walls / etc.			
	7	Length of basal scour >50% through subject reach			
	8	Exposed length of previously buried pipe / cable / etc.			
	9	Fracture lines along top of bank		x	
	10	Exposed building foundation		N/A	
		Sum of indices =	0	4	0
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		x	0/4
	2	Single thread channel to multiple channel		x	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		x	
	5	Formation of island(s)		x	
	6	Thalweg alignment out of phase with meander form		N/A	
	7	Bar forms poorly formed / reworked / removed		N/A	
		Sum of indices =	0	4	0

- no water
- riffle/pool absent
- no infrastructure
- no bars

Additional notes:

- no water
- reeds fully encroached

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

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Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FCD5
Weather:	cloudy 20°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG BM²	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4** ☐ **5**	☐ **6** ☐ **7** ☐ **8**	☒ **9** ☐ **10** ☐ **11**

N/A	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
N/A	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
Channel Scouring/ Sediment Deposition	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
N/A	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☐ **5** ☐ **6**	☐ **7** ☒ **8**

Date:	June 23/17	Reach:	FCD5	Project Code:	17071

Evaluation Category	Poor	Fair	Good	Excellent
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ 0 ☐ 1 ☐ 2	☒ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☐ 8
Water Quality (N/A)	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☐ 1	☐ 2 ☐ 3	☐ 4 ☐ 5	☐ 6 ☐ 7

Total overall score (0–42) = 28.5	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LG Checked by: _____

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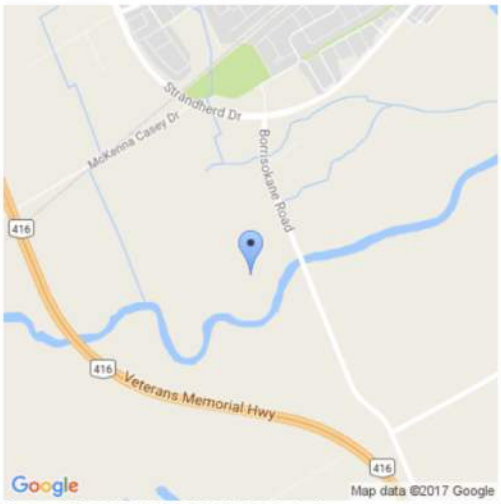
Project Number: PN17071

Reach Characteristics

Date:	2017-06-22	Reach:	FD1
Field Staff:	LG BM2	Watercourse:	Foster Drain
Weather:	Sunny 25 degrees	Watershed:	Jock River

Location



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General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	12 - Sinuous suspended load
Flow Type:	Perennial
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Trees,Grasses
Dominant Species:	Grasses
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Minimal
Notes:	

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Submergent
Coverage of Reach (%):	80
Presence of Woody Debris:	Present in Channel
Density of Woody Debris:	Low
Number of WDJs per 50 m:	0
Notes:	Rooted emergent and submergent veg.

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Straight
Gradient:	Low
Number of Channels:	Single
Entrenchment:	High (<1.4)
Bank Failures (Brierley and Fryirs, 2005):	Undercutting (Hydraulic Action)
Downs Model of Channel Evolution (1995):	S – Stable – no observable morphological change
Riffle Substrate:	N/A
Pool Substrate:	Clay, Silt
Bank Material:	Clay, Silt
Bank Angle:	60 - 90
Extent of Bank Erosion:	30 - 60%

Notes: Riffle pool sequence absent .

Channel Measurements

Additional Measurements

Is riffle-pool development absent?	Yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	0.20,

Notes: 50-75% erosion extent along reach .

Water Quality

Odour:	None
Turbidity:	Clear
Notes:	Slightly turbid to opaque, appears clear because of bed sediment being close to surface

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General Site Characteristics

Project Code: 17071

Date:	June 22/17	**Stream/Reach:**	FD1
Weather:	Cloudy 20°	**Location:**	
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

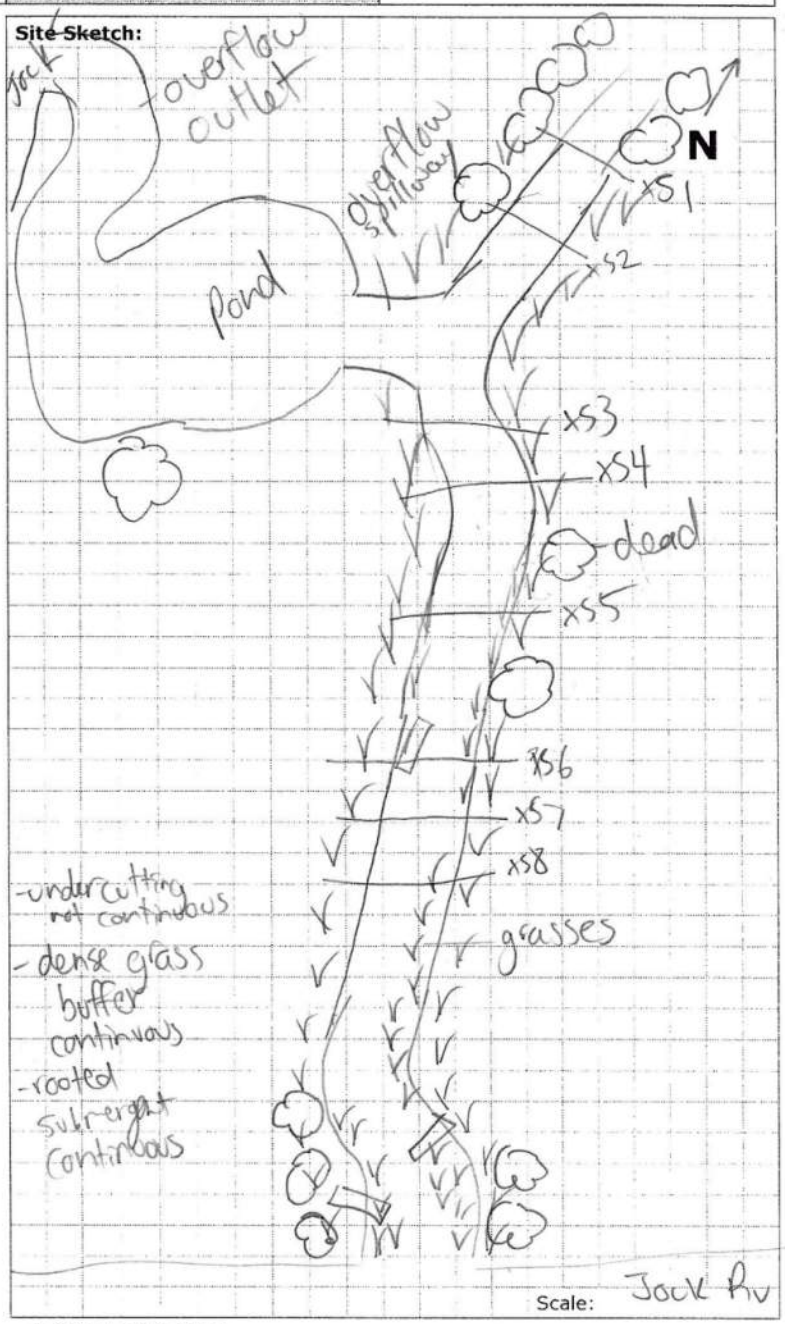
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment

Project Code: 17071

Date:	June 22 / 17	**Stream/Reach:**	FD1
Weather:	cloudy 20°	**Location:**	Nepean/Ottawa
Field Staff:	BM2 LG	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator: Description	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools	X		
	4	Medial bars		X	
	5	Accretion on point bars		X	
	6	Poor longitudinal sorting of bed materials	X		
	7	Deposition in the overbank zone		X	
		Sum of indices =			
Evidence of Degradation (DI)	1	Exposed bridge footing(s)		N/A	
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms		X	
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		X	
	9	Suspended armour layer visible in bank		N/A	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =			
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.		X	
	2	Occurrence of large organic debris	X		
	3	Exposed tree roots	N/A		no trees
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle			N/A
	6	Outflanked gabion baskets / concrete walls / etc.			N/A
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		X	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation			N/A
		Sum of indices =			
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		X	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form			check
	7	Bar forms poorly formed / reworked / removed		X	
		Sum of indices =			

b/c of riprap

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 =

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☐ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

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Rapid Stream Assessment Technique

Project Code: 1707

Date:	June 22/17	**Stream/Reach:**	FD1
Weather:	Cloudy 20°	**Location:**	Nepean/Ottawa
Field Staff:	BMZ LG	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure 10
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m 8
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
N/A No trees				
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material 10 clay in OS
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped 8	• Channel cross-section is generally V- or U-shaped
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5	☐ 6 ☐ 7 ☐ 8	☒ 9 ☐ 10 ☐ 11

N/A	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
N/A	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
Channel Scouring/ Sediment Deposition	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8

Date:		Reach:		Project Code:	
Evaluation Category	**Poor**	**Fair**	**Good**	**Excellent**	
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas) 8	
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low) 1	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)	
	N/A • Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble	
	N/A • Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas	
	N/A • Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure	
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement 8	
	N/A • Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1	
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C 8	
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6 (7)	☐ 7 ☐ 8	
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)	
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L	
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface	
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour	
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8	
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks	
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)	
Point range	☐ 0 ☒ 1	☐ 2 ☐ 3	☐ 4 ☐ 5	☐ 6 ☐ 7	

Total overall score (0–42) = 30.5	**Poor (<13)**	**Fair (13-24)**	**Good (25-34)**	**Excellent (>35)**

Completed by: LG Checked by: _____

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Project Number: PN17071

Reach Characteristics

Date:	2017-06-22	Reach:	FD2
Field Staff:	LG BM2	Watercourse:	Foster Drain
Weather:	Cloudy 20 degrees	Watershed:	Jock River

Location



lat=45.25212204614041, long=-75.7685473728085, alt=69.52584001778119, accuracy=16.0

General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	12 – Sinuous, suspended load
Flow Type:	Perennial
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Trees, Shrubs, Grasses
Dominant Species:	Grass
Riparian Coverage:	Continuous
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Minimal
Notes:	

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Emergent
Coverage of Reach (%):	55
Presence of Woody Debris:	Present in Cutbank, Present in Channel
Density of Woody Debris:	Moderate
Number of WDJs per 50 m:	2
Notes:	Extensive reed encroachment in channel, rooted submergent plants, algae

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Low sinuosity (1.06-1.30)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	Slightly
Bank Failures (Brierley and Fryirs, 2005):	Undercutting (hydraulic action)
Downs Model of Channel Evolution (1995):	S - Stable – no observable morphological change
Riffle Substrate:	N/A
Pool Substrate:	Clay, Silt
Bank Material:	Clay, Silt
Bank Angle:	60 - 90
Extent of Bank Erosion:	0 – 30%

Notes:

Channel Measurements

Cross Section #1: Run

Bankfull Width (m):	7.7	**Wetted Width (m):**	5.7
Bankfull Depth (m):	1.15	**Wetted Depth (m):**	0.14
Velocity (m/s):	0.2	**Measurement Type:**	Wiffle Ball

Cross Section #2: Run

Bankfull Width (m):	7.5	**Wetted Width (m):**	5
Bankfull Depth (m):	1.2	**Wetted Depth (m):**	0.11
Velocity (m/s):	0.14	**Measurement Type:**	Wiffle Ball

Additional Measurements

Is riffle-pool development absent?	yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	0.10

Notes: Cross Section 1 near culvert at upstream break.
Cross Section 2 downstream at bend near woody debris.

Water Quality

Odour:	None
Turbidity:	Clear
Notes:	Slightly organic smell

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General Site Characteristics

Project Code: 17071

Date:	June 22 17	**Stream/Reach:**	FD2
Weather:	cloudy 70°	**Location:**	Nepean, Ottawa
Field Staff:	BMZ LG	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

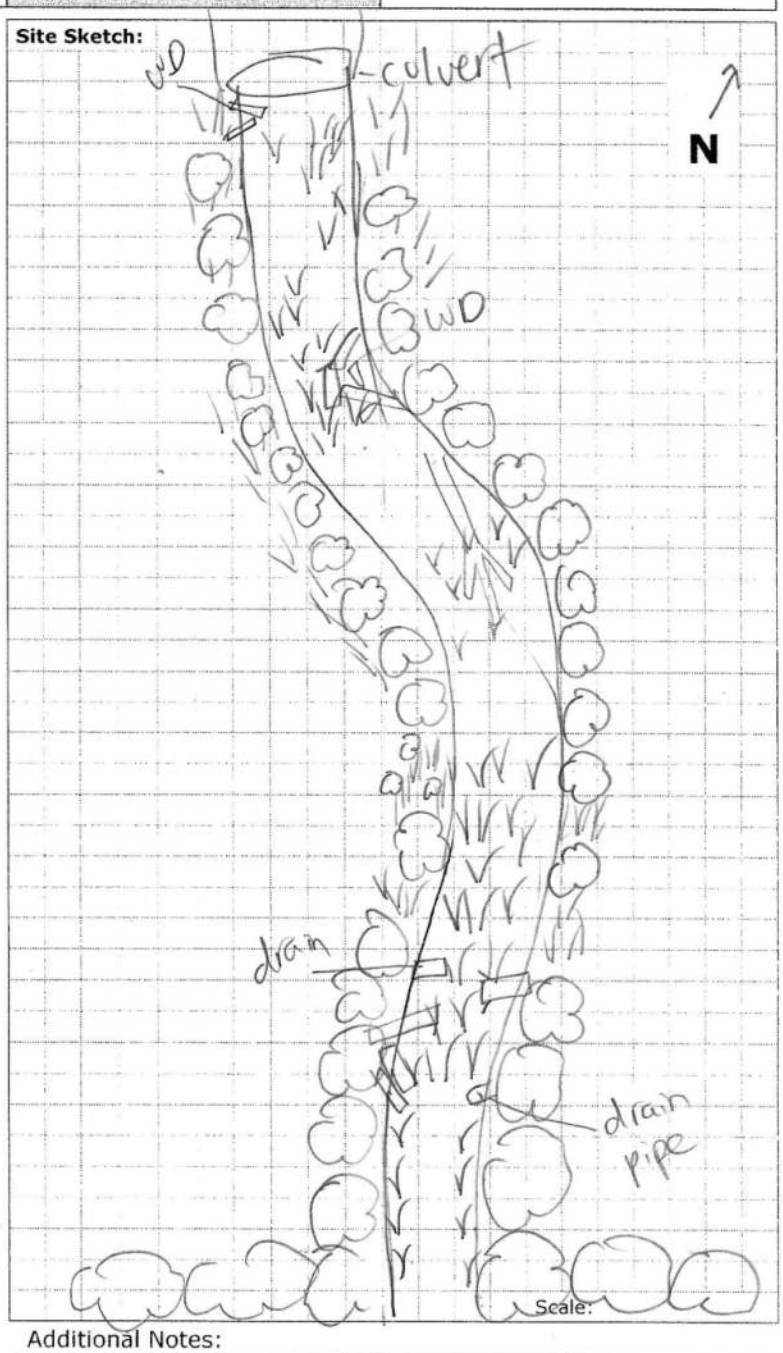
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

pic 379 start

last pic 403

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FD2
Weather:	cloudy 20	**Location:**	Ottawa-Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator: Description	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	0/4
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)			N/A
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets		X	0/4
	6	Cut face on bar forms		N/A	
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	0	4	0
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.	X		4/7
	2	Occurrence of large organic debris	X		
	3	Exposed tree roots	X		
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.	X		
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		N/A	
		Sum of indices =	4	3	0.57
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	0/4
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form			
	7	Bar forms poorly formed / reworked / removed		N/A	
		Sum of indices =	0	4	0

- riffle pool absent - bars absent

→ drain pipe but we think it was placed like that

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0.14

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

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Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	ED2
Weather:	Cloudy 20°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG, BM²	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5	☐ 6 ☐ 7 ☒ 8	☐ 9 ☐ 10 ☐ 11

Channel Scouring/ Sediment Deposition	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8

Date:	June 23/17	Reach:	FD2	Project Code:	17071

Evaluation Category	Poor	Fair	Good	Excellent
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☐ 1	☐ 2 ☒ 3	☐ 4 ☐ 5	☐ 6 ☐ 7

Total overall score (0–42) = 31	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LG Checked by: _____

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Project Number: PN17071

Reach Characteristics

Date:	2017-06-23	Reach:	FD3
Field Staff:	LG BM2	Watercourse:	Foster Drain
Weather:	Cloudy 20 degrees	Watershed:	Jock River

Location



lat=45.25255737724697, long=-75.76969411847692, alt=60.14974220112034, accuracy=6.0

General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	11 - Straight suspended load
Flow Type:	Perennial
Groundwater:	no
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Trees,Grasses
Dominant Species:	Grass
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Minimal
Notes:	

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Submergent
Coverage of Reach (%):	75
Presence of Woody Debris:	Present in Channel
Density of Woody Debris:	Low
Number of WDJs per 50 m:	0.25
Notes:	1 large WDJ causing extensive back watering Rooted submergent dominant, emergent also moderately present

Channel Characteristics

Type of Sinuosity:	N/A
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	High (<1.4)
Bank Failures (Brierley and Fryirs, 2005):	Undercutting (Hydraulic Action)
Downs Model of Channel Evolution (1995):	S – Stable – no observable morphological change
Riffle Substrate:	N/A
Pool Substrate:	N/A
Bank Material:	Clay, Silt, Sand
Bank Angle:	60 - 90, Undercut
Extent of Bank Erosion:	30 - 60%

Notes:

Channel Measurements

Cross Section #1: Run

Bankfull Width (m):	8.2	**Wetted Width (m):**	5.4
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	0.31
Velocity (m/s):	0.22	**Measurement Type:**	Wiffle Ball

Cross Section #2:

Bankfull Width (m):	5.5	**Wetted Width (m):**	4.3
Bankfull Depth (m):	N/A	**Wetted Depth (m):**	0.48
Velocity (m/s):	0.15	**Measurement Type:**	Wiffle Ball

Additional Measurements

Is riffle-pool development absent?	Yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	0.08 , most likely higher in some areas

Notes: Upstream of culvert bank height ~1.4

Water Quality

Odour:	None
Turbidity:	Opaque
Notes:	Turbid/ opaque

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Geomorphology Earth Science Observations

General Site Characteristics

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FD3
Weather:	cloudy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

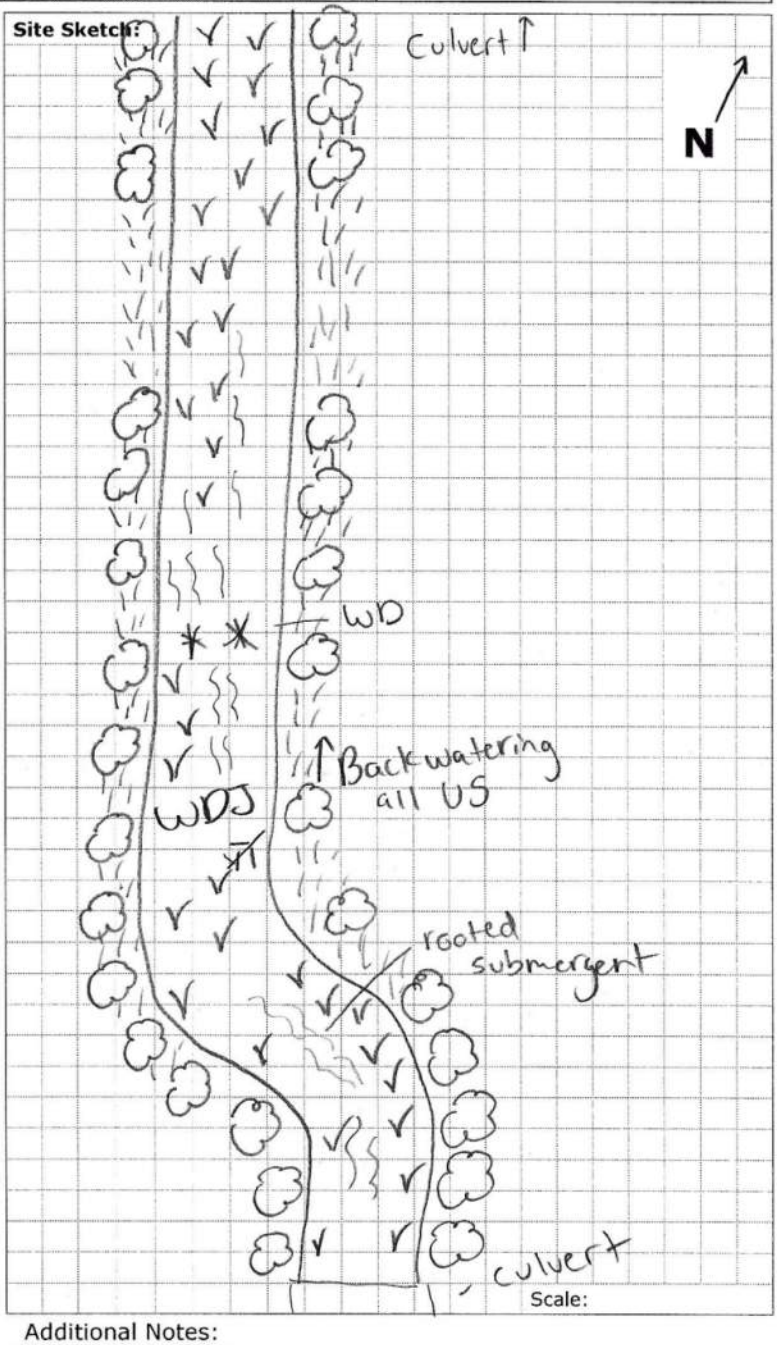
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

Completed by: LG Checked by: _____

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Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 23 / 17	**Stream/Reach:**	FD3
Weather:	cloudy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BMZ	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	0/4
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)		↓	N/A
	2	Exposed sanitary / storm sewer / pipeline / etc.		↓	
	3	Elevated storm sewer outfall(s)		↓	
	4	Undermined gabion baskets / concrete aprons / etc.		↓	
	5	Scour pools downstream of culverts / storm sewer outlets		✓	
	6	Cut face on bar forms		N/A	0/4
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	0	4	0
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.	X		3/7
	2	Occurrence of large organic debris	X		
	3	Exposed tree roots	X		
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		X	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		N/A	
		Sum of indices =	3	4	0.42
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	0/5
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form		N/A	
	7	Bar forms poorly formed / reworked / removed		X	
		Sum of indices =	0	5	0

- riffle pool absent
- bars absent

causing backwater

large LWD at lower end before backwater

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0.11

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☒ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

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Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 23/17	**Stream/Reach:**	FD3
Weather:	Cloudy 20°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability (Exposed Legginig)	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4** ☐ **5**	☐ **6** ☐ **7** ☐ **8**	☐ **9** ☐ **10** ☐ **11**

N/A	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
Channel Scouring/ Sediment Deposition	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
N/A	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ **0** ☐ **1** ☐ **2**	☐ **3** ☐ **4**	☐ **5** ☐ **6**	☐ **7** ☒ **8**

Date:	June 23/17	Reach:	FD3	Project Code:	17071

Evaluation Category	Poor	Fair	Good	Excellent
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☒ 1	☐ 2 ☐ 3	☐ 4 ☐ 5	☐ 6 ☐ 7

Total overall score (0–42) = 30	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LG Checked by: _____

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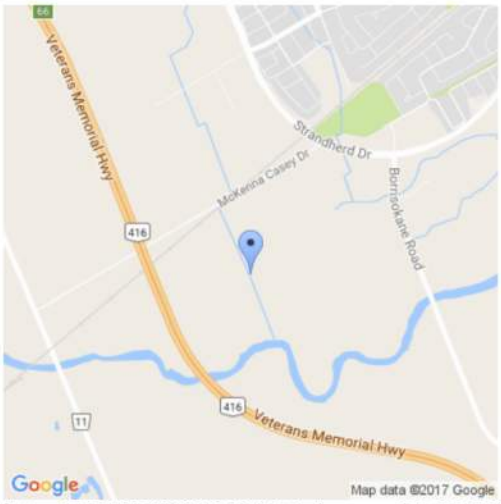
Project Number: PN17071

Reach Characteristics

Date:	2017-06-20	Reach:	OK D1
Field Staff:	BM2, LG	Watercourse:	O'Keefe Drain
Weather:	Sunny and cloudy 25 degrees	Watershed:	Jock River

Location



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General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	11 - Straight suspended load
Flow Type:	Perennial
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Trees,Shrubs,Grasses
Dominant Species:	Trees, shrubs, some grasses
Riparian Coverage:	Continuous
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Minimal
Notes:	

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Emergent
Coverage of Reach (%):	5
Presence of Woody Debris:	Present in Channel
Density of Woody Debris:	High
Number of WDJs per 50 m:	2
Notes:	

Channel Characteristics

Type of Sinuosity:	Sinuous
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	High (<1.4)
Bank Failures (Brierley and Fryirs, 2005):	Fluvial Entrainment (Hydraulic Action), Undercutting
Downs Model of Channel Evolution (1995):	e - intiation of continuous erosion
Riffle Substrate:	N/A
Pool Substrate:	Clay, Silt, Sand, Organics
Bank Material:	Clay, Silt
Bank Angle:	60 - 90, Undercut
Extent of Bank Erosion:	60 - 100%

Notes: Extensive undercutting and exposed roots.

Channel Measurements

Cross Section #1: Run

Bankfull Width (m):	N/A	**Wetted Width (m):**	2.5
Bankfull Depth (m):	1.4	**Wetted Depth (m):**	0.14
Velocity (m/s):	0.2	**Measurement Type:**	Wiffle ball

Cross Section #2: Run

Bankfull Width (m):	N/A	**Wetted Width (m):**	2.4
Bankfull Depth (m):	1.6	**Wetted Depth (m):**	0.19
Velocity (m/s):	0.14	**Measurement Type:**	Wiffle ball

Cross Section #3: Run

Bankfull Width (m):	N/A	**Wetted Width (m):**	1.5
Bankfull Depth (m):	2	**Wetted Depth (m):**	0.12
Velocity (m/s):	0.2	**Measurement Type:**	Wiffle ball

Additional Measurements

Is riffle-pool development absent?	yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	0.30, 0.80, 0.40,

Notes:

Water Quality

Odour:	None
Turbidity:	Turbid
Notes:	

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General Site Characteristics

Project Code: 17071

Date:	June 20/17	**Stream/Reach:**	OKD1
Weather:	Sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BMZ	**Watershed/Subwatershed:**	

Features

- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

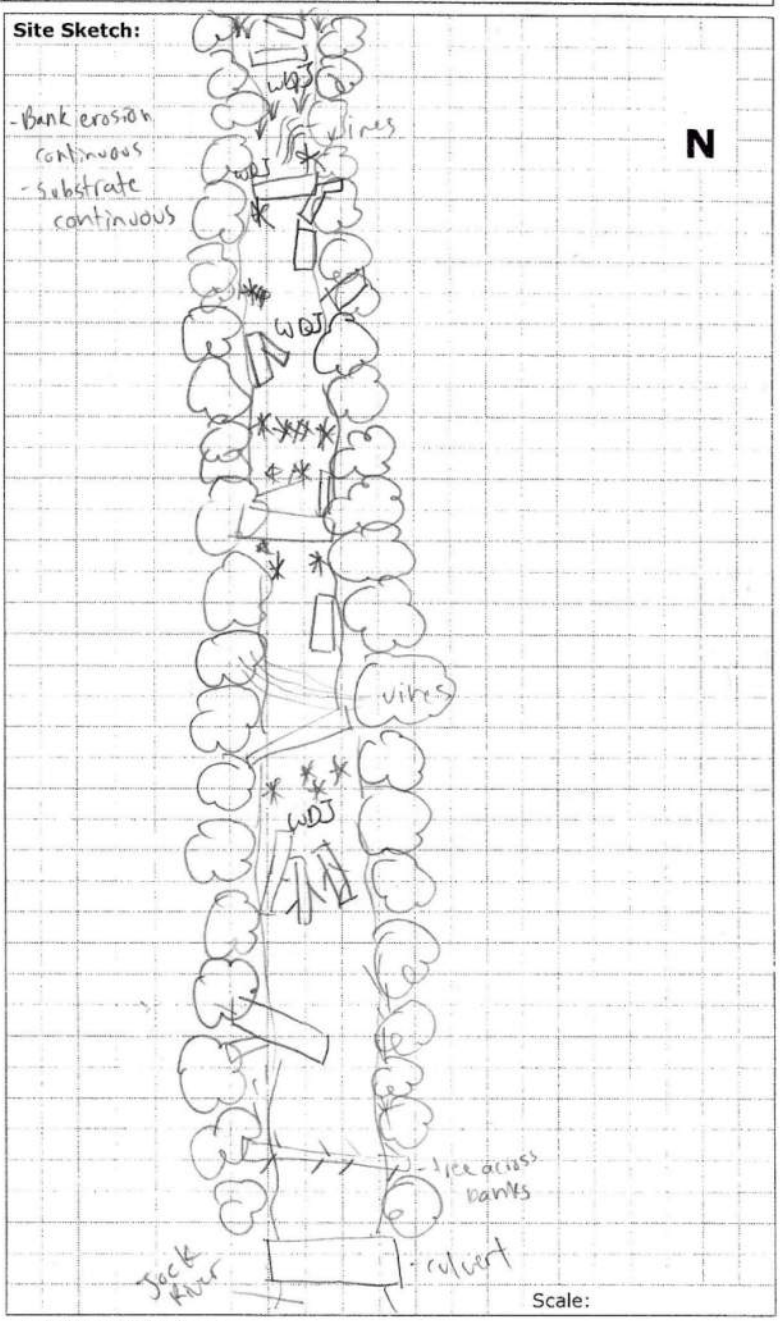
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

Site Sketch:



Additional Notes:

pictures 12 - 100 reach

Completed by: LG Checked by: _____

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Rapid Stream Assessment Technique

Project Code: 17071

Date:	Jun 2017	**Stream/Reach:**	OKD1
Weather:	Sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure	• > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped	• Channel cross-section is generally V- or U-shaped
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5	☐ 6 ☐ 7 ☐ 8	☐ 9 ☐ 10 ☐ 11

Channel Scouring/ Sediment Deposition	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank
	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☒ 8

Date:	June 2017	Reach:	OK01	Project Code:	17071

Evaluation Category	Poor	Fair	Good	Excellent
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas)
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low)	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☒ 6	☐ 7 ☐ 8
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☐ 8
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☐ 1	☐ 2 ☐ 3	☐ 4 ☒ 5	☐ 6 ☐ 7

Total overall score (0–42) = 30	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LG Checked by: _____

GEO | MORPHIX

Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 2017	**Stream/Reach:**	OK01
Weather:	Sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BMZ	**Watershed/Subwatershed:**	

Process	No.	Geomorphic Indicator: Description	Present? Yes	Present? No	Factor Value
Evidence of Aggradation (AI)	1	Lobate bar		X	0.14
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =	0	4	0
Evidence of Degradation (DI)	1	Exposed bridge footing(s)			N/A 0.13
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms			
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =	0	3	0
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.	X		straight channel 3.16
	2	Occurrence of large organic debris	X		
	3	Exposed tree roots	X		
	4	Basal scour on inside meander bends		N/A	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.		X	
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		N/A	
		Sum of indices =	3	3	0.5
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	0.4
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form		N/A	
	7	Bar forms poorly formed / reworked / removed		N/A	
		Sum of indices =	0	4	0

- riffle pool absent
- infrastructure absent
- bars absent

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 = 0.125

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☑ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: LG Checked by: _____

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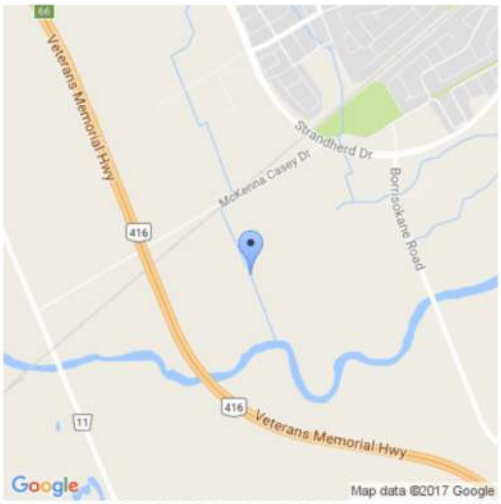
Project Number: PN17071

Reach Characteristics

Date:	2017-06-21	Reach:	OKD2
Field Staff:	LG BM2	Watercourse:	O'Keefe Drain
Weather:	Sun and cloud 18C	Watershed:	Jock River

Location



lat=45.253683882781495, long=-75.77752606140785, alt=57.03539215789929, accuracy=6.0

General Characteristics

Land Use:	Agricultural
Valley Type:	Unconfined
Channel Type:	11 - Straight suspended load
Flow Type:	Perennial
Groundwater:	No
Notes:	

Riparian Vegetation

Dominant Vegetation Type:	Grasses, trees
Dominant Species:	Grass
Riparian Coverage:	Fragmented
Width of Riparian Zone:	1 - 4 Channel Widths
Riparian Age Class:	Established (5-30 years)
Extent of Encroachment into channel:	Moderate
Notes:	A few trees scattered along banks.

Aquatic/Instream Vegetation

Type of Instream Vegetation:	Rooted Emergent
Coverage of Reach (%):	100
Presence of Woody Debris:	Not Present
Density of Woody Debris:	None
Number of WDJs per 50 m:	0
Notes:	Top half of reach heavily encroached with reeds.

Channel Characteristics

Type of Sinuosity:	N/A
Degree of Sinuosity:	Straight (1 - 1.05)
Gradient:	Low
Number of Channels:	Single
Entrenchment:	High (<1.4)
Bank Failures (Brierley and Fryirs, 2005):	Fall/Sloughing (Mass Failure)
Downs Model of Channel Evolution (1995):	C – Compound – aggradation of channel bed with erosion of channel banks
Riffle Substrate:	N/A
Pool Substrate:	Clay, Silt
Bank Material:	Clay, Silt
Bank Angle:	60 - 90,Undercut
Extent of Bank Erosion:	30 - 60%

Notes:	Two erosion scars, potentially from sloughing brought on by undercutting photos 191-192 Significant erosion on the sides of the upstream culvert photos 183-185

Channel Measurements

Additional Measurements

Is riffle-pool development absent?	Yes
Riffle-pool Spacing (m):	N/A
% Riffles:	N/A
% Pools:	N/A
Meander Amplitude (m):	N/A
Pool Depth (m):	N/A
Riffle Length (m):	N/A
Undercuts (m):	N/A

Notes:

Water Quality

Odour:	None
Turbidity:	Opaque
Notes:	

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General Site Characteristics

Project Code: 17071

Date:	June 21	**Stream/Reach:**	OK-D2
Weather:	cloudy 20°	**Location:**	Ottawa-Barrhaven
Field Staff:	LG BMP	**Watershed/Subwatershed:**	

Features
- Reach break
- Cross-section
- Flow direction
- Riffle
- Pool
- Medial bar
- Eroded bank
- Undercut bank
- Rip rap/stabilization/gabion
- Leaning tree
- Fence
- Culvert/outfall
- Swamp/wetland
- Grasses
- Tree
- Instream log/tree
- Woody debris
- Station location
- Vegetated island

Flow Type

H1	Standing water
H2	Scarcely perceptible flow
H3	Smooth surface flow
H4	Upwelling
H5	Rippled
H6	Unbroken standing wave
H7	Broken standing wave
H8	Chute
H9	Free fall

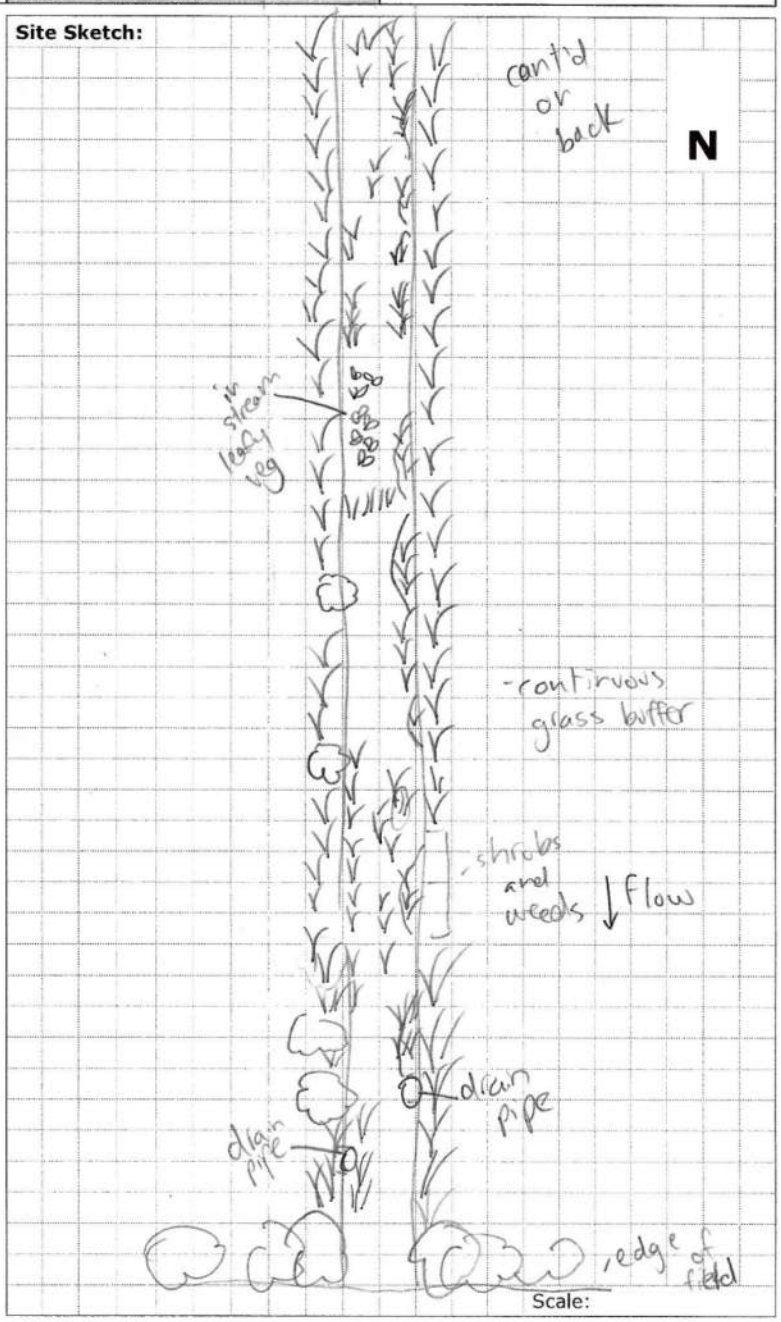
Substrate

S1	Silt	**S6**	Small boulder
S2	Sand	**S7**	Large boulder
S3	Gravel	**S8**	Bimodal
S4	Small cobble	**S9**	Bedrock/till
S5	Large cobble		

Other

BM	Benchmark	**EP**	Erosion pin
BS	Backsight	**RB**	Rebar
DS	Downstream	**US**	Upstream
WDJ	Woody debris jam	**TR**	Terrace
VWC	Valley wall contact	**FC**	Flood chute
BOS	Bottom of slope	**FP**	Flood plain
TOS	Top of slope	**KP**	Knick point

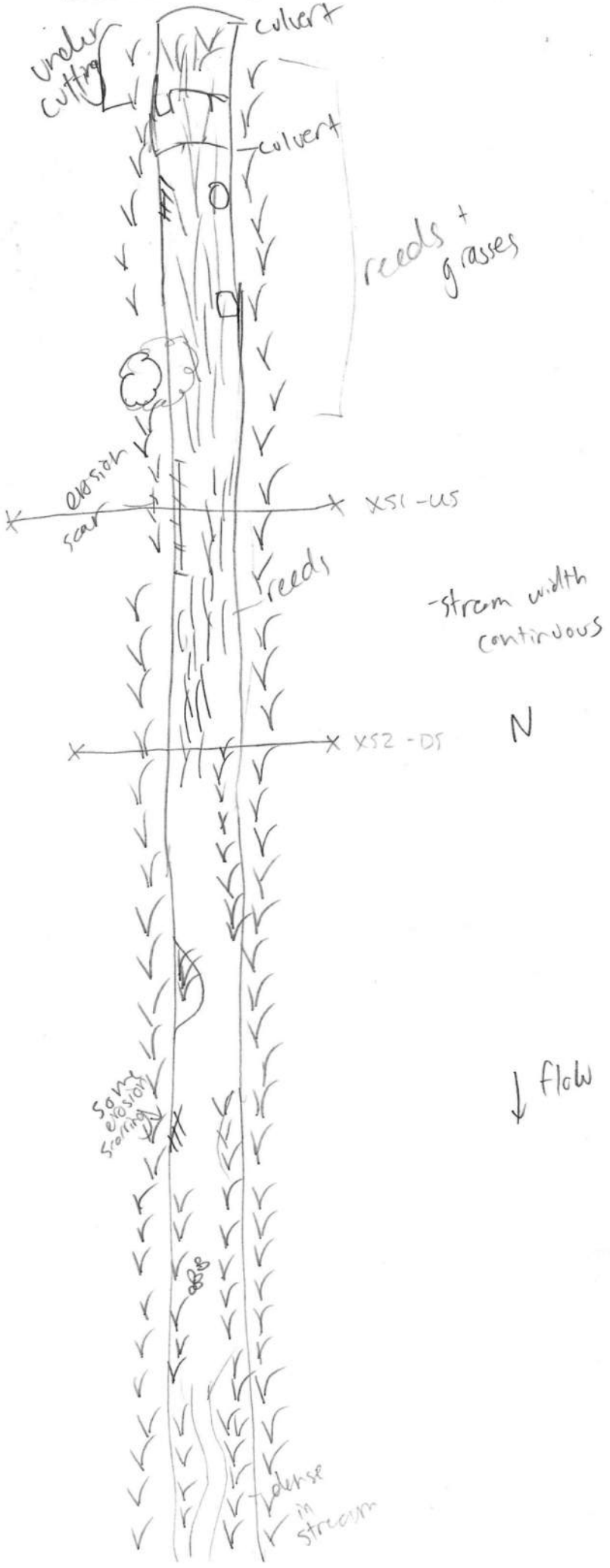
Site Sketch:



Additional Notes:

Photos #142 - 157

Completed by: LG Checked by: _____


culvert
Under cutting
culvert
reeds + grasses
erosion scar
XS1 - US
reeds
-stream width continuous
XS2 - DS
N
some erosion staining
flow
Tolerse in stream

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Rapid Stream Assessment Technique

Project Code: 17071

Date:	June 21/17	**Stream/Reach:**	OKD2
Weather:	sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM²	**Watershed/Subwatershed:**	

Evaluation Category	Poor	Fair	Good	Excellent
Channel Stability (N/A Straight)	• < 50% of bank network stable • Recent bank sloughing, slumping or failure frequently observed	• 50-70% of bank network stable • Recent signs of bank sloughing, slumping or failure fairly common	• 71-80% of bank network stable • Infrequent signs of bank sloughing, slumping or failure 7	→ erosion scars • > 80% of bank network stable • No evidence of bank sloughing, slumping or failure
	• Stream bend areas highly unstable • Outer bank height 1.2 m above stream bank (2.1 m above stream bank for large mainstem areas) • Bank overhang > 0.8-1.0 m	• Stream bend areas unstable • Outer bank height 0.9-1.2 m above stream bank (1.5-2.1 m above stream bank for large mainstem areas) • Bank overhang 0.8-0.9m	• Stream bend areas stable • Outer bank height 0.6-0.9 m above stream bank (1.2-1.5 m above stream bank for large mainstem areas) • Bank overhang 0.6-0.8 m	• Stream bend areas very stable • Height < 0.6 m above stream (< 1.2 m above stream bank for large mainstem areas) • Bank overhang < 0.6 m
(no roots seen)	• Young exposed tree roots abundant • > 6 recent large tree falls per stream mile	• Young exposed tree roots common • 4-5 recent large tree falls per stream mile	• Exposed tree roots predominantly old and large, smaller young roots scarce • 2-3 recent large tree falls per stream mile	• Exposed tree roots old, large and woody • Generally 0-1 recent large tree falls per stream mile 11
	• Bottom 1/3 of bank is highly erodible material • Plant/soil matrix severely compromised	• Bottom 1/3 of bank is generally highly erodible material • Plant/soil matrix compromised	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material 8	• Bottom 1/3 of bank is generally highly resistant plant/soil matrix or material
	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally trapezoidally-shaped	• Channel cross-section is generally V- or U-shaped 8	• Channel cross-section is generally V- or U-shaped
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4 ☐ 5	☐ 6 ☐ 7 ☐ 8	☐ 9 ☐ 10 ☐ 11

(N/A ↓)	• > 75% embedded (> 85% embedded for large mainstem areas)	• 50-75% embedded (60-85% embedded for large mainstem areas)	• 25-49% embedded (35-59% embedded for large mainstem areas)	• Riffle embeddedness < 25% sand-silt (< 35% embedded for large mainstem areas)
	• Few, if any, deep pools • Pool substrate composition >81% sand-silt	• Low to moderate number of deep pools • Pool substrate composition 60-80% sand-silt	• Moderate number of deep pools • Pool substrate composition 30-59% sand-silt	• High number of deep pools (> 61 cm deep) (> 122 cm deep for large mainstem areas) • Pool substrate composition <30% sand-silt
Channel Scouring/ Sediment Deposition	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits common	• Streambed streak marks and/or "banana"-shaped sediment deposits uncommon	• Streambed streak marks and/or "banana"-shaped sediment deposits absent 8
	• Fresh, large sand deposits very common in channel • Moderate to heavy sand deposition along major portion of overbank area	• Fresh, large sand deposits common in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits uncommon in channel • Small localized areas of fresh sand deposits along top of low banks	• Fresh, large sand deposits rare or absent from channel • No evidence of fresh sediment deposition on overbank 8
(N/A)	• Point bars present at most stream bends, moderate to large and unstable with high amount of fresh sand	• Point bars common, moderate to large and unstable with high amount of fresh sand	• Point bars small and stable, well-vegetated and/or armoured with little or no fresh sand	• Point bars few, small and stable, well-vegetated and/or armoured with little or no fresh sand
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☐ 8

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Date:		Reach:		Project Code:	

Evaluation Category	Poor	Fair	Good	Excellent
Physical Instream Habitat	• Wetted perimeter < 40% of bottom channel width (< 45% for large mainstem areas)	• Wetted perimeter 40-60% of bottom channel width (45-65% for large mainstem areas)	• Wetted perimeter 61-85% of bottom channel width (66-90% for large mainstem areas)	• Wetted perimeter > 85% of bottom channel width (> 90% for large mainstem areas) 8
	• Dominated by one habitat type (usually runs) and by one velocity and depth condition (slow and shallow) (for large mainstem areas, few riffles present, runs and pools dominant, velocity and depth diversity low) 1	• Few pools present, riffles and runs dominant. • Velocity and depth generally slow and shallow (for large mainstem areas, runs and pools dominant, velocity and depth diversity intermediate)	• Good mix between riffles, runs and pools • Relatively diverse velocity and depth of flow	• Riffles, runs and pool habitat present • Diverse velocity and depth of flow present (i.e., slow, fast, shallow and deep water)
	• Riffle substrate composition: predominantly gravel with high amount of sand • < 5% cobble	• Riffle substrate composition: predominantly small cobble, gravel and sand • 5-24% cobble	• Riffle substrate composition: good mix of gravel, cobble, and rubble material • 25-49% cobble	• Riffle substrate composition: cobble, gravel, rubble, boulder mix with little sand • > 50% cobble
	• Riffle depth < 10 cm for large mainstem areas	• Riffle depth 10-15 cm for large mainstem areas	• Riffle depth 15-20 cm for large mainstem areas	• Riffle depth > 20 cm for large mainstem areas
	• Large pools generally < 30 cm deep (< 61 cm for large mainstem areas) and devoid of overhead cover/structure	• Large pools generally 30-46 cm deep (61-91 cm for large mainstem areas) with little or no overhead cover/structure	• Large pools generally 46-61 cm deep (91-122 cm for large mainstem areas) with some overhead cover/structure	• Large pools generally > 61 cm deep (> 122 cm for large mainstem areas) with good overhead cover/structure
	• Extensive channel alteration and/or point bar formation/enlargement	• Moderate amount of channel alteration and/or moderate increase in point bar formation/enlargement	• Slight amount of channel alteration and/or slight increase in point bar formation/enlargement	• No channel alteration or significant point bar formation/enlargement 8
	• Riffle/Pool ratio 0.49:1 ; ≥1.51:1	• Riffle/Pool ratio 0.5-0.69:1 ; 1.31-1.5:1	• Riffle/Pool ratio 0.7-0.89:1 ; 1.11-1.3:1	• Riffle/Pool ratio 0.9-1.1:1
	• Summer afternoon water temperature > 27°C	• Summer afternoon water temperature 24-27°C	• Summer afternoon water temperature 20-24°C	• Summer afternoon water temperature < 20°C 8
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☐ 6	☐ 7 ☐ 8
Water Quality	• Substrate fouling level: High (> 50%)	• Substrate fouling level: Moderate (21-50%)	• Substrate fouling level: Very light (11-20%)	• Substrate fouling level: Rock underside (0-10%)
	• Brown colour • TDS: > 150 mg/L	• Grey colour • TDS: 101-150 mg/L	• Slightly grey colour • TDS: 50-100 mg/L	• Clear flow • TDS: < 50 mg/L
	• Objects visible to depth < 0.15m below surface	• Objects visible to depth 0.15-0.5m below surface	• Objects visible to depth 0.5-1.0m below surface	• Objects visible to depth > 1.0m below surface
	• Moderate to strong organic odour	• Slight to moderate organic odour	• Slight organic odour	• No odour
Point range	☐ 0 ☐ 1 ☐ 2	☐ 3 ☐ 4	☐ 5 ☑ 6	☐ 7 ☐ 8
Riparian Habitat Conditions	• Narrow riparian area of mostly non-woody vegetation	• Riparian area predominantly wooded but with major localized gaps	• Forested buffer generally > 31 m wide along major portion of both banks	• Wide (> 60 m) mature forested buffer along both banks
	• Canopy coverage: <50% shading (30% for large mainstem areas)	• Canopy coverage: 50-60% shading (30-44% for large mainstem areas)	• Canopy coverage: 60-79% shading (45-59% for large mainstem areas)	• Canopy coverage: >80% shading (> 60% for large mainstem areas)
Point range	☐ 0 ☐ 1	☐ 2 ☐ 3	☐ 4 ☐ 5	☐ 6 ☐ 7

Total overall score (0–42) = 29.5	Poor (<13)	Fair (13-24)	Good (25-34)	Excellent (>35)

Completed by: LG Checked by: _____

GEO | MORPHIX

Rapid Geomorphic Assessment **Project Code:** 17071

Date:	June 21 /17	**Stream/Reach:**	OKD2
Weather:	sunny 25°	**Location:**	Ottawa - Barrhaven
Field Staff:	LG BM2	**Watershed/Subwatershed:**	

Process	Geomorphic Indicator		Present?		Factor Value
	No.	Description	Yes	No	
Evidence of Aggradation (AI)	1	Lobate bar		X	
	2	Coarse materials in riffles embedded		N/A	
	3	Siltation in pools		N/A	
	4	Medial bars		X	
	5	Accretion on point bars		N/A	
	6	Poor longitudinal sorting of bed materials		X	
	7	Deposition in the overbank zone		X	
		Sum of indices =			
Evidence of Degradation (DI)	1	Exposed bridge footing(s)	N/A		
	2	Exposed sanitary / storm sewer / pipeline / etc.			
	3	Elevated storm sewer outfall(s)			
	4	Undermined gabion baskets / concrete aprons / etc.			
	5	Scour pools downstream of culverts / storm sewer outlets			
	6	Cut face on bar forms	N/A		
	7	Head cutting due to knick point migration		X	
	8	Terrace cut through older bar material		N/A	
	9	Suspended armour layer visible in bank		X	
	10	Channel worn into undisturbed overburden / bedrock		X	
		Sum of indices =			
Evidence of Widening (WI)	1	Fallen / leaning trees / fence posts / etc.		X	
	2	Occurrence of large organic debris		X	
	3	Exposed tree roots		X	
	4	Basal scour on inside meander bends		X	
	5	Basal scour on both sides of channel through riffle		N/A	
	6	Outflanked gabion baskets / concrete walls / etc.		N/A	
	7	Length of basal scour >50% through subject reach		X	
	8	Exposed length of previously buried pipe / cable / etc.	X		
	9	Fracture lines along top of bank		X	
	10	Exposed building foundation		N/A	
		Sum of indices =			
Evidence of Planimetric Form Adjustment (PI)	1	Formation of chute(s)		X	
	2	Single thread channel to multiple channel		X	
	3	Evolution of pool-riffle form to low bed relief form		N/A	
	4	Cut-off channel(s)		X	
	5	Formation of island(s)		X	
	6	Thalweg alignment out of phase with meander form			
	7	Bar forms poorly formed / reworked / removed		N/A	
		Sum of indices =			

- riffle pool absent
- bars absent
- infrastructure absent

erosion around culvert - its exposed now @ US break

-OSK

Additional notes:

Stability Index (SI) = (AI+DI+WI+PI)/4 =

Condition	In Regime	In Transition/Stress	In Adjustment
SI score =	☐ 0.00 - 0.20	☐ 0.21 - 0.40	☐ 0.41

Completed by: _____ Checked by: _____

Appendix E RGA and RSAT Results


GEO MORPHIX
RGA Results
O'Keefe Drain, Foster Drain, and Fraser-Clarke Drain
Barrhaven, Ottawa
Legend
1:12,000
N
Reach break
Drainage Feature
O'Keefe Drain (OKD)
Foster Drain (FD)
Fraser-Clarke Drain (FCD)
Not present at time of assessment
RGA Condition
In Regime
Jock River
JR-4


GEO MORPHIX
RSAT Results
O'Keefe Drain, Foster Drain, and Fraser-Clarke Drain
Barrhaven, Ottawa
Legend
1:12,000
N
Reach break
Drainage Feature
O'Keefe Drain (OKD)
Foster Drain (FD)
Fraser-Clarke Drain (FCD)
Not present at time of assessment
RSAT Condition
Good
N/A
Jock River
JR-4

Appendix F Detailed Assessments Locations


GEO MORPHIX
Detailed Assessments
O'Keefe Drain, Foster Drain, and Fraser-Clarke Drain
Barrhaven, Ottawa
Legend
1:12,000
N
Reach break
Drainage Feature
O'Keefe Drain (OKD)
Foster Drain (FD)
Fraser-Clarke Drain (FCD)
Not present at time of assessment
Detailed Assessment
GEO Morphix Ltd. (2017)
Jock River
JR-4
FCD2
FD1
OKD1

Appendix G Detailed Assessment Summaries

Detailed Geomorphological Assessment Summary

Reach FCD2

Project Number:	PN17071	**Date:**	June 20/ 2017
Client:	David Schaeffer Engineering Ltd.	**Length Surveyed (m):**	99.4
Location:	Barrhaven, Ottawa	**# of Cross-Sections:**	7

Reach Characteristics

Drainage Area:	Not measured	**Dominant Riparian Vegetation Type:**	Shrubs and grasses
Geology/Soils:	Clay Plains	**Extent of Riparian Cover:**	Fragmented
Surrounding Land Use:	Agricultural, Residential	**Width of Riparian Cover:**	1 - 4 Channel widths
Valley Type:	Unconfined	**Age Class of Riparian Vegetation:**	Established (5-30 years)
Dominant Instream Vegetation Type:	Rooted emergent	**Extent of Encroachment into Channel:**	Moderate
Portion of Reach with Vegetation:	70%	**Density of Woody Debris:**	Low

Hydrology

Measured Discharge (m^3/s):	0.04	**Calculated Bankfull Discharge (m^3/s):**	0.42
Modelled 2-year Discharge (m^3/s):	Not modelled	**Calculated Bankfull Velocity (m/s):**	0.19
Modelled 2-year Velocity (m/s):	Not modelled		

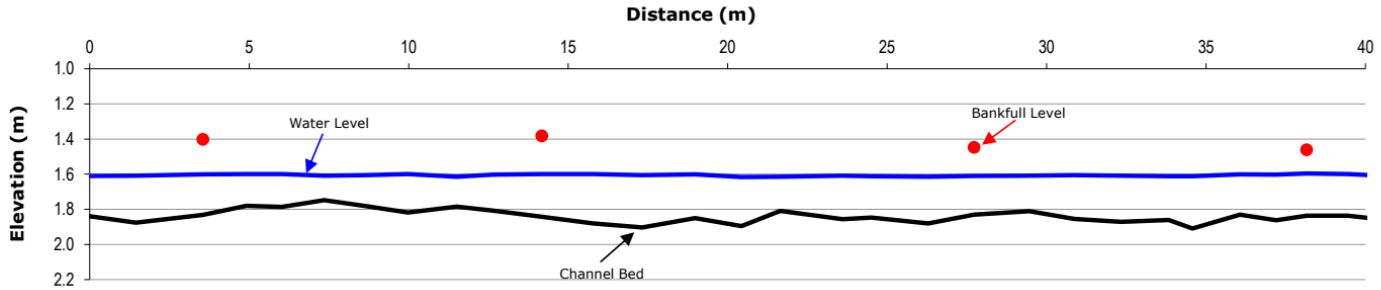
Profile Characteristics

Bankfull Gradient (%):	0.17
Channel Bed Gradient (%):	0.12
Riffle Gradient (%):	N/A: no riffles
Riffle Length (m):	N/A: no riffles
Riffle-Pool Spacing (m):	N/A: no riffle-pool spacing

Planform Characteristics

Sinuosity:	1.79
Meander Belt Width (m):	Not measured
Radius of Curvature (m):	Not measured
Meander Amplitude (m):	Not measured
Meander wavelength (m):	Not measured

Longitudinal Profile



Bank Characteristics

	Minimum	Maximum	Average		Minimum	Maximum	Average
Bank Height (m):	0.3	0.60	0.46				
Bank Angle (deg):	15	25	19	**Torvane Value (kg/cm^2):**		Not measured	
Root Depth (m):	0.10	0.10	0.10	**Penetrometer Value (kg/cm^3):**		Not measured	
Root Density (%):	50	100	90	**Bank Material (range):**		Sandy Loam	
Bank Undercut (m):		N/A: no undercuts					

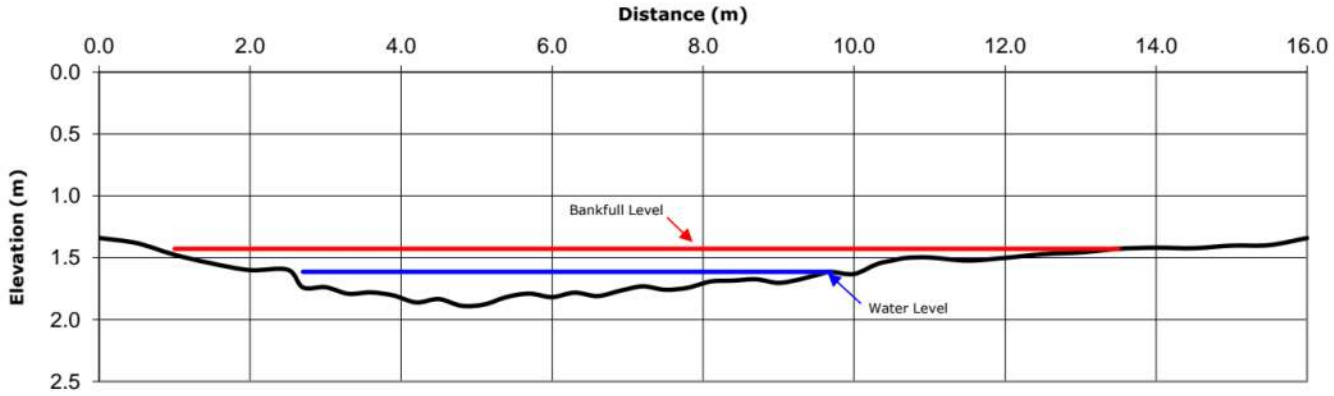
Cross-Sectional Characteristics

	Minimum	Maximum	Average
Bankfull Width (m):	5.10	12.50	9.33
Average Bankfull Depth (m):	0.19	0.26	0.23
Bankfull Width/Depth (m/m):	21	50	40
Wetted Width (m):	1.80	10.40	5.54
Average Water Depth (m):	0.02	0.22	0.13
Wetted Width/Depth (m/m):	19	86	54
Entrenchment (m):		Not measured	
Entrenchment Ratio (m/m):		Not measured	
Maximum Water Depth (m):	0.01	0.28	0.22
Manning's *n* :		0.080	



Photograph at cross section 2 (facing upstream)

Representative Cross-Section 2



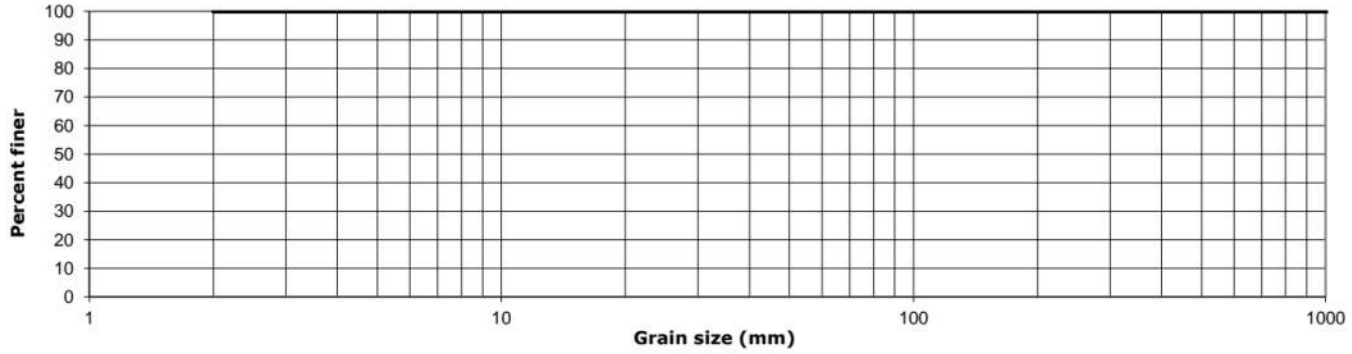
Substrate Characteristics

Particle Size (mm)

D_{10} :	<	2.0
D_{50} :	<	2.0
D_{84} :	<	2.0

Subpavement:	Clay
Particle shape:	N/A: fine sediment
Embeddedness (%):	N/A: fine sediment
Particle range (riffle):	N/A: riffle-pool sequence absent
Particle Range (pool):	N/A: riffle-pool sequence absent

Cumulative Particle Size Distribution



Channel Thresholds			
Flow Competency (m/s):		**Tractive Force at Bankfull (N/m^2):**	3.76
for D_{50}:	0.27	**Tractive Force at 2-year flow (N/m^2):**	Not modelled
for D_{84}:	0.27	**Critical Shear Stress (D_{50}) (N/m^2):**	1.46
Unit Stream Power at Bankfull (W/m^2):	0.72		

General Field Observations

Channel Description

This channel runs between agricultural fields before flowing into Jock River. The channel is straight, slightly entrenched, and has a low gradient. Riffle-pool sequences are absent within this reach, only run features are present. Bank erosion was not present. Woody debris is present in the channel at a low density. Average bankfull width and depth are 9.23 m and 0.23 m, respectively. Bank material consists of sandy loam, bed material consists of fine sediment and organics. Depth of fine sediment on the bed at the time of assessment was approximately 0.30 - 0.40 m.

Cross Section 4 - Facing Downstream



Detailed Geomorphological Assessment Summary

Reach FD1

Project Number:	PN 17071	**Date:**	June 22/ 2017
Client:	David Schaeffer Engineering Ltd.	**Length Surveyed (m):**	110.0
Location:	Barrhaven, Ottawa	**# of Cross-Sections:**	8

Reach Characteristics

Drainage Area:	Not measured	**Dominant Riparian Vegetation Type:**	Grasses
Geology/Soils:	Clay Plains	**Extent of Riparian Cover:**	Fragmented
Surrounding Land Use:	Agricultural	**Width of Riparian Cover:**	1 - 4 Channel widths
Valley Type:	Unconfined	**Age Class of Riparian Vegetation:**	Established (5-30 years)
Dominant Instream Vegetation Type:	Rooted submergent	**Extent of Encroachment into Channel:**	Minimal
Portion of Reach with Vegetation:	80%	**Density of Woody Debris:**	Low

Hydrology

Measured Discharge (m^3/s):	0.13	**Calculated Bankfull Discharge (m^3/s):**	0.77
Modelled 2-year Discharge (m^3/s):	Not modelled	**Calculated Bankfull Velocity (m/s):**	0.45
Modelled 2-year Velocity (m/s):	Not modelled		

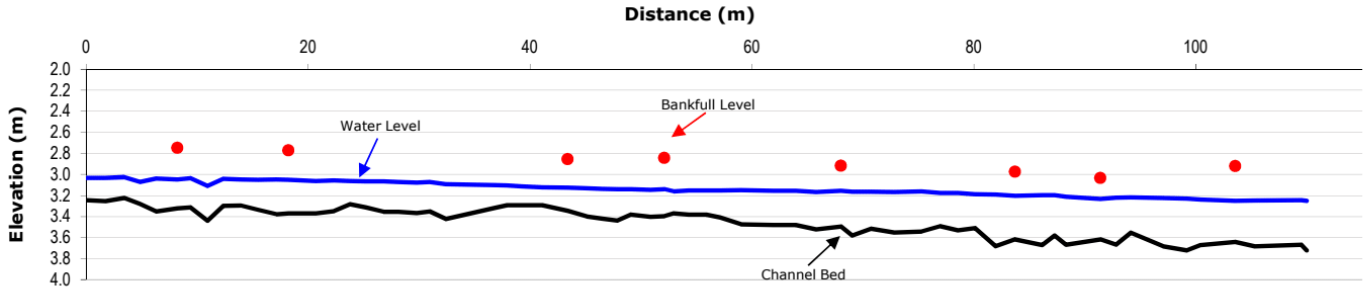
Profile Characteristics

Bankfull Gradient (%):	0.17
Channel Bed Gradient (%):	0.40
Riffle Gradient (%):	N/A: no riffles
Riffle Length (m):	N/A: no riffles
Riffle-Pool Spacing (m):	N/A: no riffle-pool spacing

Planform Characteristics

Sinuosity:	1.22
Meander Belt Width (m):	Not measured
Radius of Curvature (m):	Not measured
Meander Amplitude (m):	Not measured
Meander wavelength (m):	Not measured

Longitudinal Profile



Bank Characteristics

	Minimum	Maximum	Average
Bank Height (m):	1.3	1.75	1.48
Bank Angle (deg):	45	70	53
Root Depth (m):	0.10	0.10	0.10
Root Density (%):	40	90	84
Bank Undercut (m):	0.05	0.30	0.13

	Minimum	Maximum	Average
Torvane Value (kg/cm^2):		Not measured	
Penetrometer Value (kg/cm^3):		Not measured	
Bank Material (range):		Clay, Silt, Sand, some Rip-Rap present	

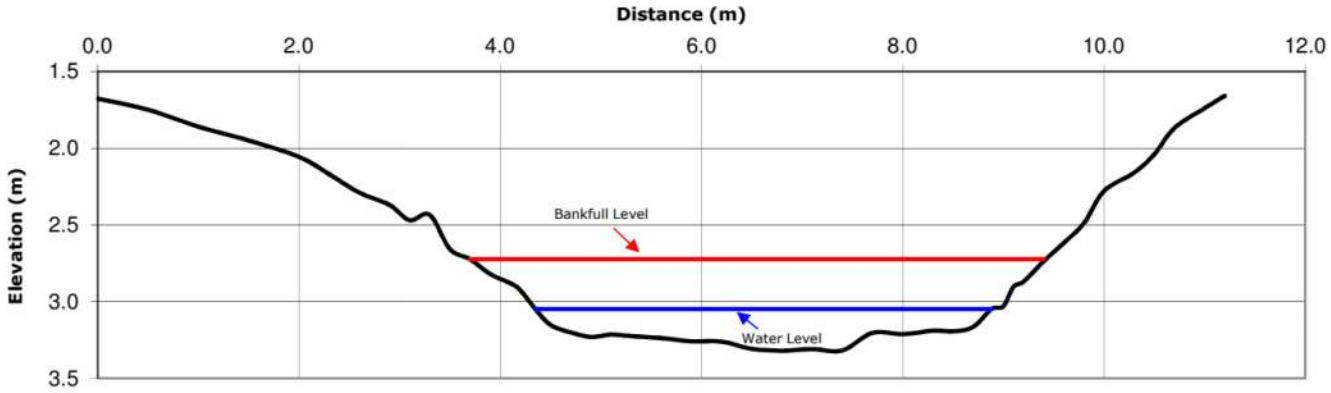
Cross-Sectional Characteristics

	Minimum	Maximum	Average
Bankfull Width (m):	3.30	5.70	4.29
Average Bankfull Depth (m):	0.34	0.48	0.40
Bankfull Width/Depth (m/m):	9	14	11
Wetted Width (m):	2.17	4.95	3.34
Average Water Depth (m):	0.15	0.27	0.21
Wetted Width/Depth (m/m):	11	24	16
Entrenchment (m):		Not measured	
Entrenchment Ratio (m/m):		Not measured	
Maximum Water Depth (m):	0.22	0.41	0.31
Manning's *n*:		0.050	



Photograph at cross section 6 (looking at the right bank)

Representative Cross-Section 2



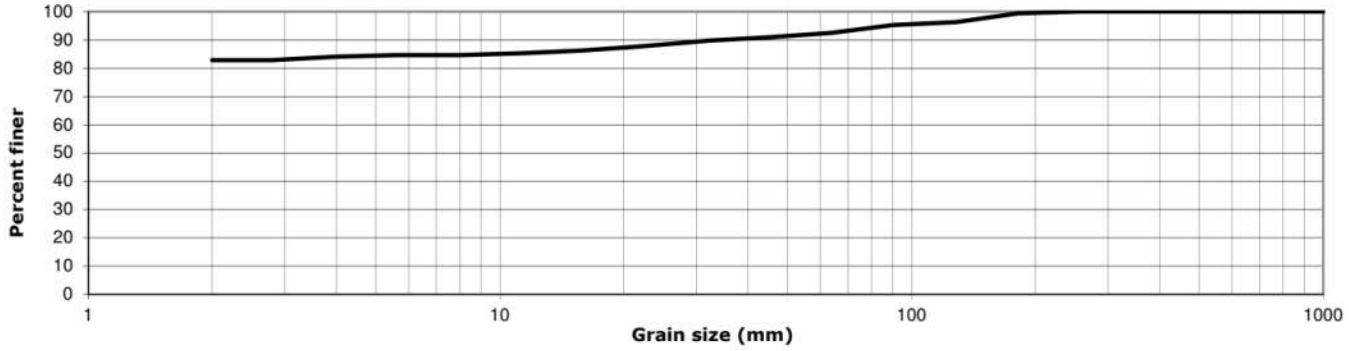
Substrate Characteristics

Particle Size (mm)

D_{10} :	<	2.0
D_{50} :	<	2.0
D_{84} :		4.0

Subpavement:	Clay
Particle shape:	Rip-rap: Subangular
Embeddedness (%):	Rip-rap: 0-50%
Particle range (riffle):	N/A: riffle-pool sequence absent
Particle Range (pool):	N/A: riffle-pool sequence absent

Cumulative Particle Size Distribution



Channel Thresholds

Flow Competency (m/s):		**Tractive Force at Bankfull (N/m^2):**	6.70
for D_{50}:	0.27	**Tractive Force at 2-year flow (N/m^2):**	Not modelled
for D_{84}:	0.37	**Critical Shear Stress (D_{50}) (N/m^2):**	1.46
Unit Stream Power at Bankfull (W/m^2):	3.01		

General Field Observations

Channel Description

This channel runs between agricultural fields before flowing into Jock River. The channel is sinuous with a low gradient, and highly entrenched. Riffle-pool sequences are absent within this reach, only run features are present. Undercutting is present in the downstream portion of the reach. A low density of woody debris is present in the channel. Average bankfull width and depth are 4.69 m and 0.50 m, respectively. Bank material consists of clay, silt and sand, with rip-rap between cross sections 2 and 5. Bed material consists of clay, and sporatic rip-rap. Depth of fine sediment on the bed at time of assessment was approximately 0.05 - 0.20 m.

Cross Section 4 - Facing Downstream



Detailed Geomorphological Assessment Summary

Reach OKD1

Project Number:	PN 17071	**Date:**	June 20, 2017
Client:	David Schaeffer Engineering Ltd.	**Length Surveyed (m):**	82.0
Location:	Barrhaven, Ottawa	**# of Cross-Sections:**	8

Reach Characteristics

Drainage Area:	Not measured	**Dominant Riparian Vegetation Type:**	Trees and Grasses
Geology/Soils:	Clay Plains	**Extent of Riparian Cover:**	Continuous
Surrounding Land Use:	Agricultural	**Width of Riparian Cover:**	1 - 4 Channel widths
Valley Type:	Unconfined	**Age Class of Riparian Vegetation:**	Established (5-30 Years)
Dominant Instream Vegetation Type:	Rooted emergent	**Extent of Encroachment into Channel:**	Minimal
Portion of Reach with Vegetation:	5%	**Density of Woody Debris:**	High

Hydrology

Measured Discharge (m^3/s):	0.08	**Calculated Bankfull Discharge (m^3/s):**	1.69
Modelled 2-year Discharge (m^3/s):	Not modelled	**Calculated Bankfull Velocity (m/s):**	0.51
Modelled 2-year Velocity (m/s):	Not modelled		

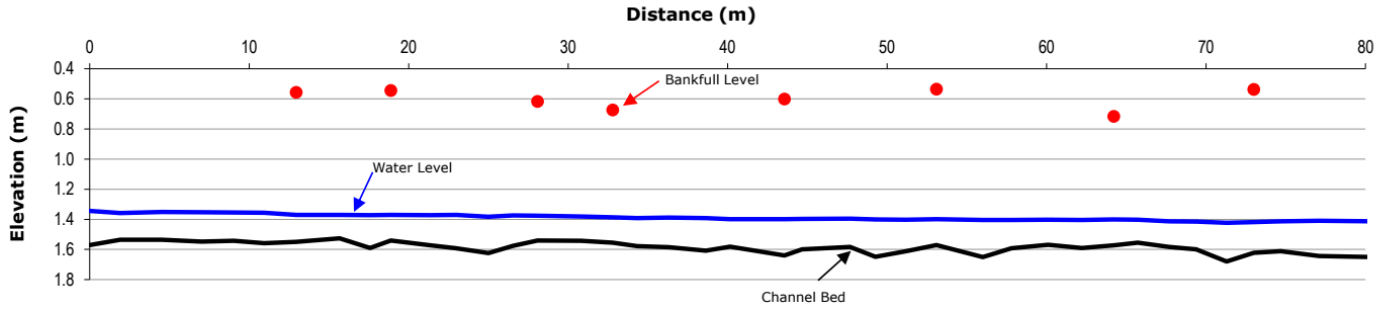
Profile Characteristics

Bankfull Gradient (%):	0.05
Channel Bed Gradient (%):	0.10
Riffle Gradient (%):	N/A: no riffles
Riffle Length (m):	N/A: no riffles
Riffle-Pool Spacing (m):	N/A: no riffle-pool spacing

Planform Characteristics

Sinuosity:	1.00
Meander Belt Width (m):	Not measured
Radius of Curvature (m):	Not measured
Meander Amplitude (m):	Not measured
Meander wavelength (m):	Not measured

Longitudinal Profile



Bank Characteristics

	Minimum	Maximum	Average
Bank Height (m):	1.4	1.70	1.59
Bank Angle (deg):	50	80	67
Root Depth (m):	0.20	1.00	0.53
Root Density (%):	5	25	13
Bank Undercut (m):		N/A: no undercuts	

	Minimum	Maximum	Average
Torvane Value (kg/cm^2):		Not measured	
Penetrometer Value (kg/cm^3):		Not measured	
Bank Material (range):		Clay, Silt	

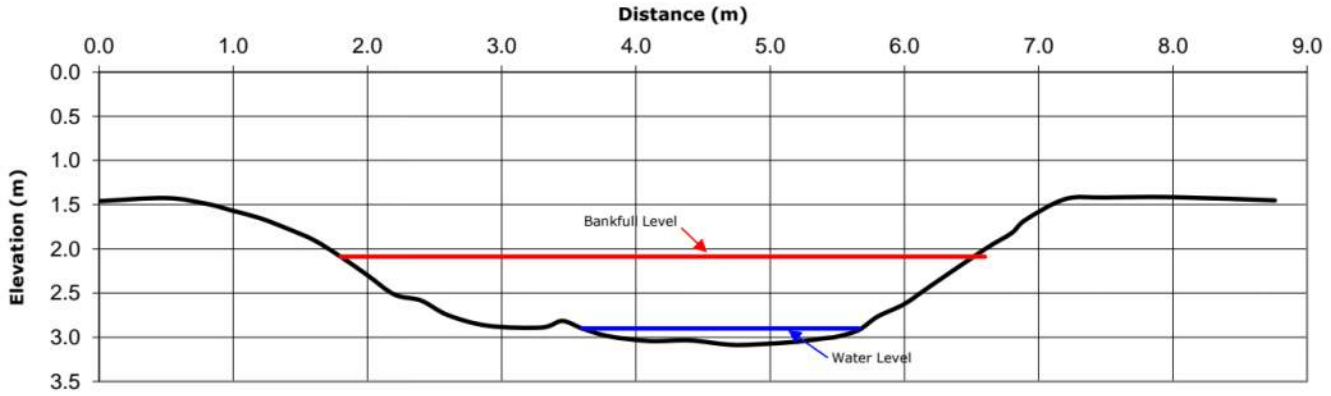
Cross-Sectional Characteristics

	Minimum	Maximum	Average
Bankfull Width (m):	4.30	4.83	4.59
Average Bankfull Depth (m):	0.62	0.81	0.72
Bankfull Width/Depth (m/m):	5	8	6
Wetted Width (m):	1.95	2.61	2.29
Average Water Depth (m):	0.13	0.16	0.14
Wetted Width/Depth (m/m):	14	20	16
Entrenchment (m):		Not measured	
Entrenchment Ratio (m/m):		Not measured	
Maximum Water Depth (m):	0.17	0.24	0.19
Manning's *n* :		0.035	



Photograph at cross section 6 (looking at the right bank)

Representative Cross-Section 2



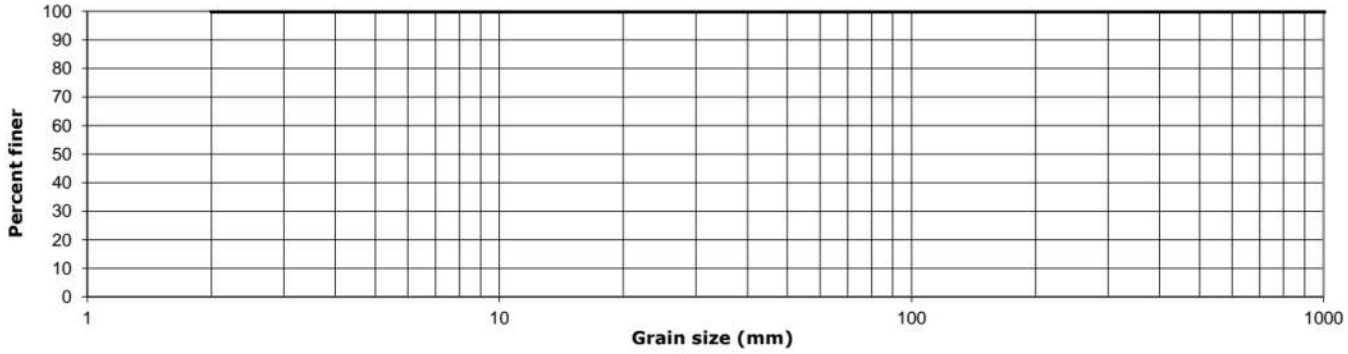
Substrate Characteristics

Particle Size (mm)

D_{10} :	0.002
D_{50} :	0.002
D_{84} :	0.002

Subpavement:	Clay
Particle shape:	N/A : Fine Sediment
Embeddedness (%):	N/A : Fine Sediment
Particle range (riffle):	N/A : Riffle pool sequence absent
Particle Range (pool):	N/A : Riffle pool sequence absent

Cumulative Particle Size Distribution



Channel Thresholds

Flow Competency (m/s):		**Tractive Force at Bankfull (N/m^2):**	3.53
for D_{50}:	0.01	**Tractive Force at 2-year flow (N/m^2):**	Not modelled
for D_{84}:	0.01	**Critical Shear Stress (D_{50}) (N/m^2):**	0.00
Unit Stream Power at Bankfull (W/m^2):	1.81		

General Field Observations

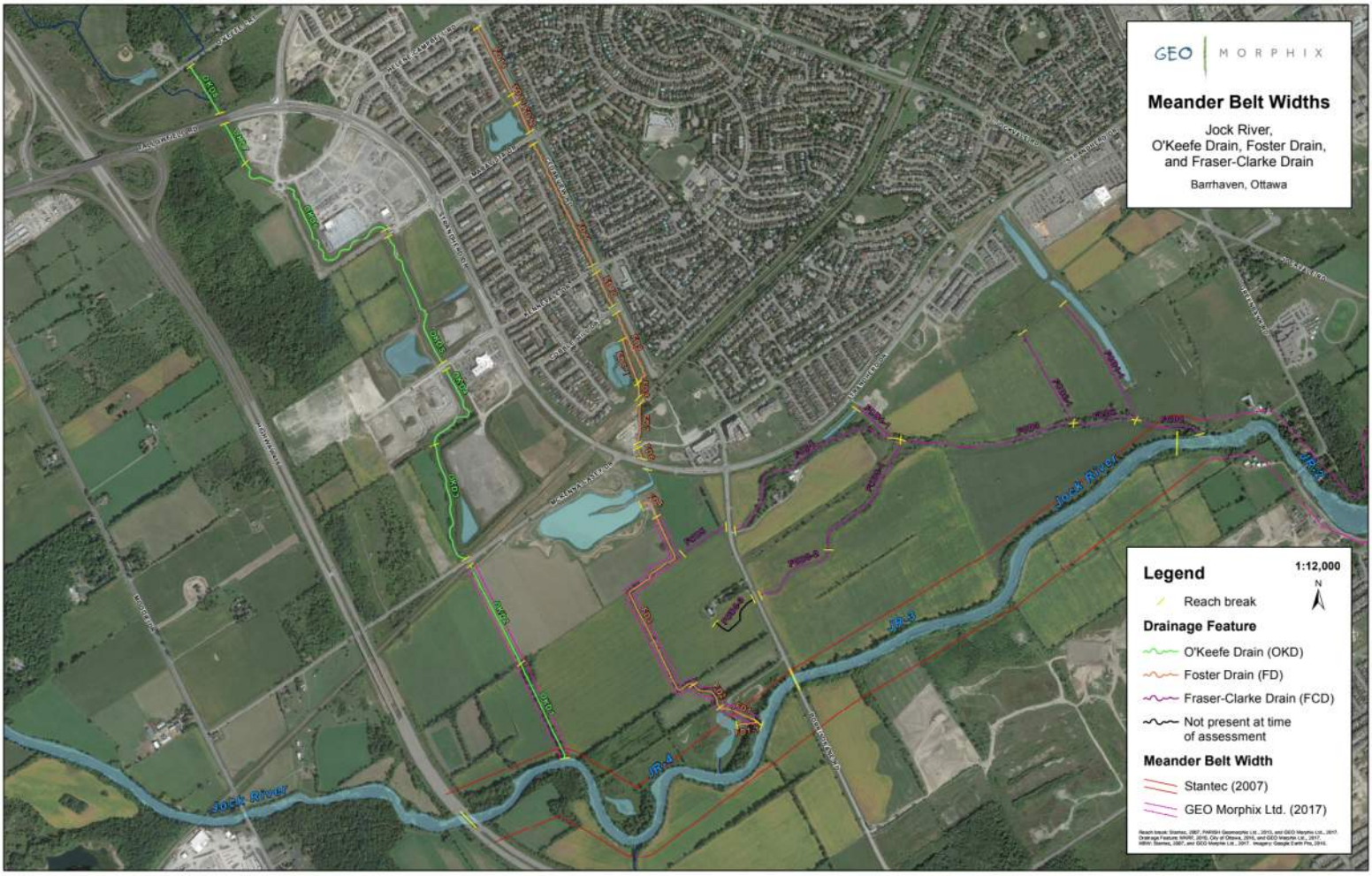
Channel Description

This channel runs between agricultural fields before flowing into Jock River. The channel is straight and highly entrenched, with a low gradient. This reach did not contain riffle-pool sequences, only run features were present. Average bankfull width and depth are 4.6 m and 0.7 m, respectively. Bank erosion was evident. Woody debris was commonly observed in the channel. Both bed and bank material consisted of a sandy loam. Depth of fines on the bed were approximately 0.2 - 0.3 m at time of assessment.

Cross Section 5 - Facing Upstream

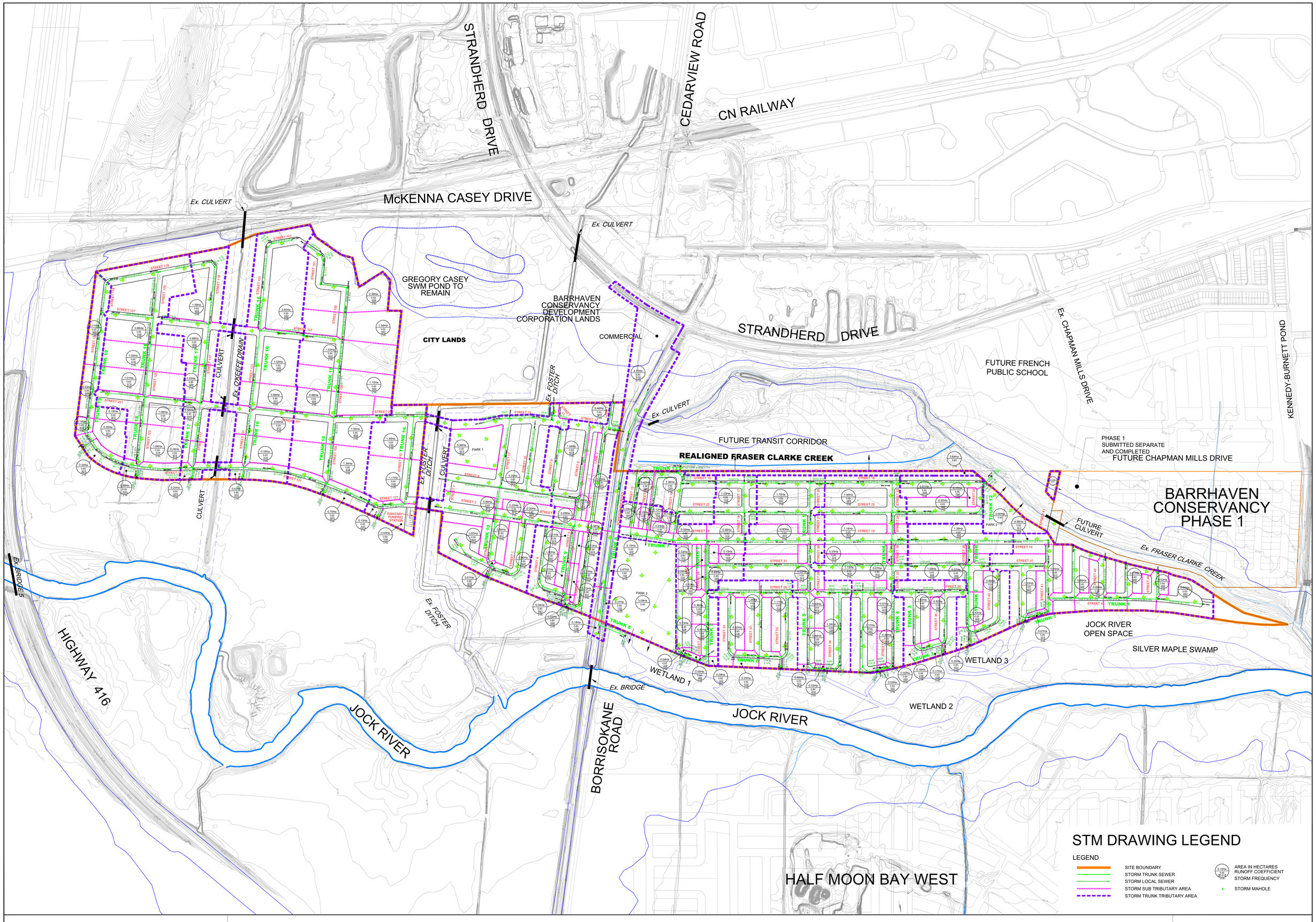


Appendix H Meander Belt Widths


GEO MORPHIX
Meander Belt Widths
Jock River,
O'Keefe Drain, Foster Drain,
and Fraser-Clarke Drain
Barrhaven, Ottawa
Legend
1:12,000
N
Reach break
Drainage Feature
O'Keefe Drain (OKD)
Foster Drain (FD)
Fraser-Clarke Drain (FCD)
Not present at time of assessment
Meander Belt Width
Stantec (2007)
GEO Morphix Ltd. (2017)
Jock River
JR-3
JR-4
JR-5

APPENDIX H

STORM SERVICING



STM DRAWING LEGEND

LEGEND

- SITE BOUNDARY
- STORM TRUNK SEWER
- STORM LOCAL SEWER
- STORM SUB TRIBUTARY AREA
- STORM TRUNK TRIBUTARY AREA
- AREA IN HECTARES / RUNOFF COEFFICIENT / STORM FREQUENCY
- STORM MAHOLE

DSEL
david schaeffer engineering ltd
120 Iber Road, Unit 103
Stittsville, ON K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

BARRHAVEN CONSERVANCY
STORM TRIBUTARY AREA
CITY OF OTTAWA

PROJECT No. :	16-891
SCALE:	1:2500
DATE:	MARCH 2021
DRAWING No.	3

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning — Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha) 2 YEAR				5 YEAR				10 YEAR				100 YEAR				FLOW						SEWER DATA								
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
																			Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
TRUNK 14																																	
			1.29	0.65	2.33	2.33			0.00	0.00			0.00	0.00			0.00	0.00	11.02														
	4103	4104			0.00	2.33			0.00	0.00			0.00	0.00			0.00	0.00	11.02	73.10	99.10	116.14	169.74	170	600	600	CONC	0.15	94.5	237.8056	0.8411	1.8726	0.717
	4104	4106	1.11	0.65	2.01	4.34			0.00	0.00			0.00	0.00			0.00	0.00	12.89	67.23	91.05	106.66	155.83	292	675	675	CONC	0.20	112.5	375.9224	1.0505	1.7848	0.776
	4106	4107	0.43	0.65	0.78	5.11	0.25	0.65	0.45	0.45			0.00	0.00			0.00	0.00	14.68	62.54	84.61	99.09	144.72	358	750	750	CONC	0.15	49.0	431.1703	0.9760	0.8368	0.830
	4107	HW 14	0.13	0.65	0.23	5.35			0.00	0.45			0.00	0.00			0.00	0.00	14.68	62.54	84.61	99.09	144.72	373	825	825	CONC	0.15	26.0	555.9418	1.0400	0.4167	0.670
TRUNK 15																																	
			2.09	0.65	3.78	3.78			0.00	0.00			0.00	0.00			0.00	0.00	13.10														
	4206	4207			0.00	3.78			0.00	0.00			0.00	0.00			0.00	0.00	13.10	66.65	90.24	105.72	154.44	252	825	825	CONC	0.10	56.5	453.9246	0.8492	1.1089	0.555
	4207	4216	1.34	0.65	2.42	6.20			0.00	0.00			0.00	0.00			0.00	0.00	14.21	63.70	86.20	100.96	147.46	395	900	900	CONC	0.10	59.5	572.4707	0.8999	1.1020	0.690
	4216	4220	1.43	0.65	2.58	8.78			0.00	0.00			0.00	0.00			0.00	0.00	15.31	61.04	82.57	96.69	141.18	536	900	900	CONC	0.15	64.5	701.1305	1.1021	0.9754	0.765
	4220	4224	1.10	0.65	1.99	10.77			0.00	0.00			0.00	0.00			0.00	0.00	15.31	61.04	82.57	96.69	141.18	657	975	975	CONC	0.15	51.0	867.9562	1.1625	0.7312	0.757
	4224	4226	0.88	0.65	1.59	12.36			0.00	0.00			0.00	0.00			0.00	0.00	15.31	61.04	82.57	96.69	141.18	754	975	975	CONC	0.15	58.0	867.9562	1.1625	0.8315	0.869
	4226	4228	1.35	0.65	2.44	14.80			0.00	0.00			0.00	0.00			0.00	0.00	16.14	59.20	80.04	93.71	136.82	876	975	975	CONC	0.20	59.0	1002.2295	1.3424	0.7325	0.874
	4228	4230	1.34	0.65	2.42	17.22			0.00	0.00			0.00	0.00			0.00	0.00	16.88	57.67	77.95	91.26	133.22	993	975	975	CONC	0.25	58.5	1120.5266	1.5008	0.6497	0.886
	4230	4237			0.00	17.22			0.00	0.00			0.00	0.00			0.00	0.00	16.88	57.67	77.95	91.26	133.22	993	975	975	CONC	0.25	29.5	1120.5266	1.5008	0.3276	0.886
	4237	HW 15	0.70	0.65	1.26	18.49			0.00	0.00			0.00	0.00			0.00	0.00	16.88	57.67	77.95	91.26	133.22	1066	1050	1050	CONC	0.20	26.5	1221.2174	1.4103	0.3132	0.873
TRUNK 16																																	
			2.65	0.65	4.79	4.79			0.00	0.00			0.00	0.00			0.00	0.00	13.05														
	4304	4305			0.00	4.79			0.00	0.00			0.00	0.00			0.00	0.00	13.05	66.79	90.44	105.95	154.77	320	825	825	CONC	0.15	90.5	555.9418	1.0400	1.4503	0.575
	4305	4312	1.53	0.65	2.76	7.55			0.00	0.00			0.00	0.00			0.00	0.00	14.50	62.97	85.21	99.79	145.74	476	825	825	CONC	0.15	115.5	555.9418	1.0400	1.8510	0.856
	4312	4314	0.68	0.65	1.23	8.78			0.00	0.00			0.00	0.00			0.00	0.00	16.35	58.75	79.43	93.00	135.78	516	825	825	CONC	0.20	58.5	641.9463	1.2009	0.8119	0.804
	4314	4316	0.85	0.65	1.54	10.32			0.00	0.00			0.00	0.00			0.00	0.00	16.35	58.75	79.43	93.00	135.78	606	975	975	CONC	0.10	58.5	708.6833	0.9492	1.0272	0.855
	4316	4318	0.78	0.65	1.41	11.73			0.00	0.00			0.00	0.00			0.00	0.00	17.38	56.67	76.59	89.65	130.87	665	1050	1050	CONC	0.10	72.5	863.5311	0.9973	1.2117	0.770
	4318	HW 16	0.52	0.65	0.94	12.67			0.00	0.00			0.00	0.00			0.00	0.00	18.59	54.42	73.51	86.03	125.56	689	1050	1050	CONC	0.20	27.0	1221.2174	1.4103	0.3191	0.564
TRUNK 17																																	
			1.38	0.65	2.49	2.49			0.00	0.00			0.00	0.00			0.00	0.00	11.66														
	5205	5206	0.98	0.65	1.77	4.26			0.00	0.00			0.00	0.00			0.00	0.00	11.66	70.97	96.17	112.70	164.69	303	825	825	CONC	0.15	88.5	555.9418	1.0400	1.4183	0.544
	5206	5214	0.50	0.65	0.90	5.17			0.00	0.00			0.00	0.00			0.00	0.00	13.08	66.71	90.33	105.82	154.59	345	825	825	CONC	0.15	87.0	555.9418	1.0400	1.3942	0.620
	5214	5215	0.56	0.65	1.01	6.18			0.00	0.00			0.00	0.00			0.00	0.00	14.47	63.04	85.30	99.90	145.90	390	900	900	CONC	0.15	85.0	701.1305	1.1021	1.2854	0.556
	5215	5216	0.24	0.65	0.43	6.61			0.00	0.00			0.00	0.00			0.00	0.00	15.76	60.03	81.19	95.06	138.80	397	975	975	CONC	0.15	58.5	867.9562	1.1625	0.8387	0.457
	5216	HW 17	0.23	0.65	0.42	7.03			0.00	0.00			0.00	0.00			0.00	0.00	16.60	58.24	78.73	92.18	134.57	409	975	975	CONC	0.15	26.5	867.9562	1.1625	0.3799	0.472
TRUNK 18																																	
			2.88	0.65	5.20	5.20			0.00	0.00			0.00	0.00			0.00	0.00	12.85														
	5106	5109			0.00	5.20			0.00	0.00			0.00	0.00			0.00	0.00	12.85	67.36	91.21	106.86	156.12	351	750	750	CONC	0.15	58.5	431.1703	0.9760	0.9990	0.813
	5109	5112	1.05	0.65	1.90	7.10			0.00	0.00			0.00	0.00			0.00	0.00	13.85	64.62	87.47	102.45	149.65	459	825	825	CONC	0.15	58.5	555.9418	1.0400	0.9375	0.826
	5112	5115	1.01	0.65	1.83	8.93			0.00	0.00			0.00	0.00			0.00	0.00	14.79	62.28	84.25	98.67	144.10	556	825	825	CONC	0.20	58.5	641.9463	1.2009	0.8119	0.866
	5115	5118	1.06	0.65	1.92	10.84			0.00	0.00			0.00	0.00			0.00	0.00	15.60	60.39	81.67	95.64	139.64	655	900	900	CONC	0.20	58.5	809.5958	1.2726	0.7661	0.809
	5118	5121	1.04	0.65	1.88	12.72			0.00	0.00			0.00	0.00			0.00	0.00	16.36	58.72	79.39	92.96	135.71	747	975	975	CONC	0.15	58.5	867.9562	1.1625	0.8387	0.861
	5121	5125			0.00	12.72			0.00	0.00			0.00	0.00			0.00	0.00	17.20	57.01	77.05	90.21	131.68	725	975	975	CONC	0.20	36.5	1002.2295	1.3424	0.4532	0.724
	5125	HW 18	0.48	0.65	0.87	13.59			0.00	0.00			0.00	0.00			0.00	0.00	17.66	56.13	75.85	88.79	129.61	763	1050	1050	CONC	0.20	26.5	1221.2174	1.4103	0.3132	0.625
TRUNK 19																																	
			0.71	0.65	1.28	1.28			0.00	0.00			0.00	0.00			0.00	0.00	10.98														
	5004	5006			0.00	1.28			0.00	0.00			0.00	0.00			0.00	0.00	10.98	73.24	99.29	116.36	170.07	94	450	450	CONC	0.20	58.5	127.5033	0.8017	1.2162	0.737
	5006	5008			0.00	1.28			0.00	0.00			0.00	0.00			0.00	0.00	12.20	69.29	93.87	109.98	160.70	89	600	600	CONC	0.15	58.5	237.8056	0.8411	1.1592	0.374
	5008	5010	0.43	0.65	0.78	2.06			0.00	0.00			0.00	0.00			0.00	0.00	13.36	65.94	89.28	104.58	152.77	136	600	600	CONC	0.15	58.5	237.8056	0.8411	1.1592	0.571
			0.14	0.65	0.25	2.31			0.00	0.00			0.00	0.00			0.00	0.00															
	5010	5012	0.19	0.65	0.34	2.66			0.00	0.00			0.00	0.00			0.00	0.00	14.51	62.94	85.16	99.74	145.66	167	600	600	CONC	0.15	33.5	237.8056	0.8411	0.6638	0.703
	5012	5013	0.55	0.65	0.99	3.65			0.00	0.00			0.00	0.00			0.00	0.00	15.18	61.35	82.98	97.18	141.91	224	675	675	CONC	0.15	21.5	325.5584	0.9098	0.3939	0.688
	5013	HW 19	0.34	0.65	0.61	4.26			0.00	0.00			0.00	0.00			0.00	0.00	15.57	60.45	81.75	95.73	139.78	258	975	975	CONC	0.15	26.5	867.9562	1.1625	0.3799	0.297

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: R.B.	PROJECT: BARRHAVEN COSERVANCY WEST	
Checked: D.A.	LOCATION: City of Ottawa	
Dwg. Reference: 3	File Ref: 16-891	Date: March 2021 — Sheet No. SHEET 1 OF 1

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha) 2 YEAR				AREA (Ha) 5 YEAR				AREA (Ha) 10 YEAR				AREA (Ha) 100 YEAR				FLOW						SEWER DATA								
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	Conc. (min)	2 Year (mm/h)	5 Year (mm/h)	10 Year (mm/h)	100 Year (mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
TRUNK 13																																
			0.42	0.80	0.93	0.93																										
	7504	HW 13	1.38	0.65	2.49	3.43			0.00	0.00			0.00	0.00			0.00	0.00	11.62	71.09	96.34	112.90	164.98	244	675	675	CONC	0.15	14.0	325.5584	0.9098	0.2565	0.749
TRUNK 10																																
			0.44	0.80	0.98	0.98			0.00	0.00			0.00	0.00			0.00	0.00	14.97														
			0.94	0.40	1.05	2.02			0.00	0.00			0.00	0.00			0.00	0.00														
	6215	6217	3.25	0.65	5.87	7.90			0.00	0.00			0.00	0.00			0.00	0.00	14.97	61.84	83.66	97.97	143.06	488	900	900	CONC	0.15	62.5	701.1305	1.1021	0.9452	0.696
					0.00	7.90	0.86	0.65	1.55	1.55			0.00	0.00			0.00	0.00	12.19														
					0.00	7.90	0.25	0.65	0.45	2.01			0.00	0.00			0.00	0.00	11.18														
	6217	6218	0.56	0.65	1.01	8.91			0.00	2.01			0.00	0.00			0.00	0.00	15.91	59.69	80.71	94.51	137.99	694	975	975	CONC	0.15	104.0	867.9562	1.1625	1.4910	0.799
	6218	6223	0.01	0.65	0.02	8.93			0.00	2.01			0.00	0.00			0.00	0.00	17.41	56.62	76.51	89.57	130.74	659	975	975	CONC	0.15	11.0	867.9562	1.1625	0.1577	0.759
			0.00	0.00	0.00	8.93			0.00	2.01			0.00	0.00			0.00	0.00	14.51														
					0.00	8.93	0.30	0.65	0.54	2.55			0.00	0.00			0.00	0.00															
			0.87	0.65	1.57	10.50			0.00	2.55			0.00	0.00			0.00	0.00	11.99														
	6223	HW 10	0.96	0.65	1.73	12.23			0.00	2.55			0.00	0.00			0.00	0.00	17.56	56.31	76.10	89.08	130.02	883	1050	1050	CONC	0.15	24.5	1057.6053	1.2214	0.3343	0.835
TRUNK 9																																
			0.46	0.80	1.02	1.02			0.00	0.00			0.00	0.00			0.00	0.00	14.05														
	6314	6316	1.54	0.65	2.78	3.81			0.00	0.00			0.00	0.00			0.00	0.00	14.05	64.11	86.76	101.62	148.42	244	675	675	CONC	0.15	62.5	325.5584	0.9098	1.1450	0.749
			0.13	0.80	0.29	4.09			0.00	0.00			0.00	0.00			0.00	0.00	10.87														
			0.21	0.65	0.38	4.47			0.00	0.00			0.00	0.00			0.00	0.00															
	6316	6317			0.00	4.47	0.28	0.65	0.51	0.51			0.00	0.00			0.00	0.00	15.19	61.31	82.93	97.12	141.82	316	750	750	CONC	0.15	81.5	431.1703	0.9760	1.3918	0.734
			0.13	0.80	0.29	4.76			0.00	0.51			0.00	0.00			0.00	0.00															
	6317	6321	0.17	0.65	0.31	5.07			0.00	0.51			0.00	0.00			0.00	0.00	16.59	58.26	78.76	92.21	134.62	335	750	750	CONC	0.15	69.5	431.1703	0.9760	1.1869	0.778
			0.04	0.80	0.09	5.16			0.00	0.51			0.00	0.00			0.00	0.00	13.73														
	6321	6322	1.02	0.65	1.84	7.00			0.00	0.51			0.00	0.00			0.00	0.00	17.77	55.91	75.55	88.44	129.08	430	825	825	CONC	0.15	15.0	555.9418	1.0400	0.2404	0.773
	6322	6323	0.02	0.80	0.04	7.05			0.00	0.51			0.00	0.00			0.00	0.00	18.01	55.46	74.94	87.72	128.02	429	825	825	CONC	0.15	11.5	555.9418	1.0400	0.1843	0.771
					0.00	7.05	0.08	0.65	0.14	0.65			0.00	0.00			0.00	0.00	19.57														
			0.73	0.80	1.62	8.67			0.00	0.65			0.00	0.00			0.00	0.00															
	6323	HW 9	1.03	0.80	2.29	10.96			0.00	0.65			0.00	0.00			0.00	0.00	19.57	52.73	71.21	83.34	121.60	624	975	975	CONC	0.15	5.5	867.9562	1.1625	0.0789	0.719
TRUNK 8																																
	1103	1104			0.00	0.00			0.00	0.00	3.15	0.80	7.01	7.01			0.00	0.00	12.88	67.26	91.09	106.71	155.90	748	1050	1050	CONC	0.15	111.5	1057.6053	1.2214	1.5215	0.707
	1104	1105			0.00	0.00			0.00	0.00	0.47	0.80	1.05	8.05			0.00	0.00	14.40	63.21	85.54	100.18	146.31	807	1050	1050	CONC	0.15	125.0	1057.6053	1.2214	1.7057	0.763
	1105	1106			0.00	0.00			0.00	0.00	0.27	0.80	0.60	8.65			0.00	0.00	16.11	59.27	80.14	93.83	136.99	812	1050	1050	CONC	0.15	83.5	1057.6053	1.2214	1.1394	0.768
	1106	HW 8			0.00	0.00			0.00	0.00	0.14	0.80	0.31	8.96			0.00	0.00	17.25	56.92	76.93	90.06	131.47	807	1050	1050	CONC	0.15	62.0	1057.6053	1.2214	0.8460	0.763
TRUNK 7																																
					0.00	0.00	0.15	0.65	0.27	0.27			0.00	0.00			0.00	0.00															
			0.22	0.80	0.49	0.49			0.00	0.27			0.00	0.00			0.00	0.00	13.31	66.07	89.45	104.78	153.06	57	450	450	CONC	0.20	36.5	127.5033	0.8017	0.7588	0.444
					0.00	0.49	0.23	0.65	0.42	0.69			0.00	0.00			0.00	0.00															
			0.10	0.80	0.22	0.71			0.00	0.69			0.00	0.00			0.00	0.00															
	1204	1210	0.12	0.65	0.22	0.93			0.00	0.69			0.00	0.00			0.00	0.00	14.07	64.06	86.69	101.54	148.30	119	675	675	CONC	0.15	58.5	325.5584	0.9098	1.0717	0.366
					0.00	0.93	0.00	0.00	0.00	0.69			0.00	0.00			0.00	0.00	14.00														
			0.22	0.80	0.49	1.42			0.00	0.69			0.00	0.00			0.00	0.00															
					0.00	1.42	0.32	0.65	0.58	1.26			0.00	0.00			0.00	0.00															
	1210	1218	0.13	0.65	0.23	1.65			0.00	1.26			0.00	0.00			0.00	0.00	15.14	61.44	83.11	97.32	142.12	207	825	825	CONC	0.15	74.5	555.9418	1.0400	1.1939	0.372

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY EAST	
Checked: D.A.	LOCATION: City of Ottawa	
Dwg. Reference: Storm Drainage Plan, Dwgs. No. 3	File Ref: 16-891	Date: March 2021
		Sheet No. SHEET 1 OF 3

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
			0.09	0.80	0.20	1.85			0.00	1.26			0.00	0.00			0.00	0.00	15.42														
			0.13	0.65	0.23	2.09			0.00	1.26			0.00	0.00			0.00	0.00															
					0.00	2.09	0.48	0.65	0.87	2.13			0.00	0.00			0.00	0.00															
	1218	1220	1.03	0.65	1.86	3.95			0.00	2.13			0.00	0.00			0.00	0.00	16.33	58.79	79.48	93.06	135.86	402	975	975	CONC	0.15	56.5	867.9562	1.1625	0.8100	0.463
			0.10	0.80	0.22	4.17			0.00	2.13			0.00	0.00			0.00	0.00	11.50														
	1220	1221	0.49	0.65	0.89	5.06			0.00	2.13			0.00	0.00			0.00	0.00	17.14	57.13	77.21	90.39	131.95	454	975	975	CONC	0.15	58.5	867.9562	1.1625	0.8387	0.523
	1221	1222	0.36	0.65	0.65	5.71			0.00	2.13			0.00	0.00			0.00	0.00	17.98	55.52	75.01	87.81	128.16	477	975	975	CONC	0.15	70.5	867.9562	1.1625	1.0107	0.549
	1222	1223	0.41	0.65	0.74	6.45			0.00	2.13			0.00	0.00			0.00	0.00	18.99	53.71	72.54	84.90	123.89	501	975	975	CONC	0.15	71.5	867.9562	1.1625	1.0251	0.577
	1223	1224	0.08	0.65	0.14	6.59			0.00	2.13			0.00	0.00			0.00	0.00	20.02	52.00	70.21	82.16	119.88	493	975	975	CONC	0.15	17.0	867.9562	1.1625	0.2437	0.567
	1224	1230	0.05	0.65	0.09	6.68			0.00	2.13			0.00	0.00			0.00	0.00	20.26	51.61	69.68	81.54	118.97	494	975	975	CONC	0.15	37.0	867.9562	1.1625	0.5305	0.569
			0.04	0.65	0.07	6.76			0.00	2.13			0.00	0.00			0.00	0.00	12.88														
	1230	HW 7	0.73	0.80	1.62	8.38			0.00	2.13			0.00	0.00			0.00	0.00	20.79	50.79	68.56	80.22	117.03	572	1050	1050	CONC	0.15	4.0	1057.6053	1.2214	0.0546	0.541
TRUNK 6																																	
	2106	2107	0.82	0.65	1.48	1.48			0.00	0.00			0.00	0.00			0.00	0.00	12.57	68.17	92.33	108.17	158.04	101	450	450	CONC	0.20	13.0	127.5033	0.8017	0.2703	0.792
	2107	2108	0.20	0.65	0.36	1.84			0.00	0.00			0.00	0.00			0.00	0.00	12.84	67.38	91.25	106.91	156.18	124	600	600	CONC	0.15	55.5	237.8056	0.8411	1.0998	0.522
	2108	2114	1.26	0.65	2.28	4.12			0.00	0.00			0.00	0.00			0.00	0.00	14.83	62.17	84.11	98.50	143.85	256	675	675	CONC	0.15	48.5	325.5584	0.9098	0.8885	0.787
			0.00	0.00	0.00	4.12			0.00	0.00			0.00	0.00			0.00	0.00	14.00														
	2114	HW 6	1.11	0.65	2.01	6.13			0.00	0.00			0.00	0.00			0.00	0.00	15.72	60.12	81.31	95.20	139.01	368	825	825	CONC	0.15	26.5	555.9418	1.0400	0.4247	0.662
TRUNK 5																																	
	2207	2210	1.70	0.65	3.07	3.07			0.00	0.00			0.00	0.00			0.00	0.00	13.61	65.25	88.32	103.46	151.12	200	600	600	CONC	0.15	62.5	237.8056	0.8411	1.2385	0.843
			0.00	0.00	0.00	3.07			0.00	0.00			0.00	0.00			0.00	0.00	12.85														
			0.25	0.65	0.45	3.52			0.00	0.00			0.00	0.00			0.00	0.00															
	2210	2213			0.00	3.52	0.90	0.65	1.63	1.63			0.00	0.00			0.00	0.00	14.85	62.12	84.04	98.42	143.73	356	750	750	CONC	0.15	56.5	431.1703	0.9760	0.9649	0.825
			0.00	0.00	0.00	3.52			0.00	1.63			0.00	0.00			0.00	0.00	12.84														
	2213	2215	1.00	0.65	1.81	5.33			0.00	1.63			0.00	0.00			0.00	0.00	15.82	59.91	81.01	94.86	138.50	451	825	825	CONC	0.15	58.5	555.9418	1.0400	0.9375	0.811
			0.00	0.00	0.00	5.33			0.00	1.63			0.00	0.00			0.00	0.00	10.70														
	2215	2216	0.49	0.65	0.89	6.22			0.00	1.63			0.00	0.00			0.00	0.00	16.75	57.92	78.29	91.66	133.80	487	900	900	CONC	0.15	79.5	701.1305	1.1021	1.2022	0.695
	2216	2217	0.46	0.65	0.83	7.05			0.00	1.63			0.00	0.00			0.00	0.00	17.96	55.57	75.08	87.89	128.27	514	900	900	CONC	0.15	79.5	701.1305	1.1021	1.2022	0.733
	2217	2218	0.05	0.65	0.09	7.14			0.00	1.63			0.00	0.00			0.00	0.00	19.16	53.43	72.15	84.45	123.23	499	900	900	CONC	0.15	13.0	701.1305	1.1021	0.1966	0.711
	2218	2225	0.03	0.65	0.05	7.19			0.00	1.63			0.00	0.00			0.00	0.00	19.36	53.09	71.70	83.91	122.45	498	900	900	CONC	0.15	23.5	701.1305	1.1021	0.3554	0.711
			0.00	0.00	0.00	7.19			0.00	1.63			0.00	0.00			0.00	0.00	14.59														
	2225	HW 5	1.24	0.65	2.24	9.43			0.00	1.63			0.00	0.00			0.00	0.00	19.71	52.50	70.89	82.96	121.06	611	975	975	CONC	0.15	4.0	867.9562	1.1625	0.0573	0.703
TRUNK 4																																	
	2308	2312	1.95	0.65	3.52	3.52			0.00	0.00			0.00	0.00			0.00	0.00	14.27	63.55	85.99	100.72	36.84	224	675	675	CONC	0.15	62.0	325.5584	0.9098	1.1358	0.688
			0.00	0.00	0.00	3.52			0.00	0.00			0.00	0.00			0.00	0.00	12.95														
			0.07	0.65	0.13	3.65			0.00	0.00			0.00	0.00			0.00	0.00															
	2312	2316			0.00	3.65	1.14	0.65	2.06	2.06			0.00	0.00			0.00	0.00	15.41	60.83	82.27	96.34	140.67	391	825	825	CONC	0.15	56.5	555.9418	1.0400	0.9055	0.704
			0.00	0.00	0.00	3.65			0.00	2.06			0.00	0.00			0.00	0.00	12.87														
	2316	2318	1.13	0.65	2.04	5.69			0.00	2.06			0.00	0.00			0.00	0.00	16.31	58.84	79.55	93.14	135.98	499	900	900	CONC	0.15	58.5	701.1305	1.1021	0.8847	0.711
			0.00	0.00	0.00	5.69			0.00	2.06			0.00	0.00			0.00	0.00	10.81														
	2318	2319	0.57	0.65	1.03	6.72			0.00	2.06			0.00	0.00			0.00	0.00	17.20	57.03	77.07	90.23	131.71	542	900	900	CONC	0.15	85.5	701.1305	1.1021	1.2930	0.773
	2319	2320	0.44	0.65	0.80	7.52			0.00	2.06			0.00	0.00			0.00	0.00	18.49	54.60	73.75	86.33	125.98	562	900	900	CONC	0.15	73.0	701.1305	1.1021	1.1039	0.802
	2320	2321	0.02	0.65	0.04	7.55			0.00	2.06			0.00	0.00			0.00	0.00	19.59	52.70	71.16	83.28	121.51	545	900	900	CONC	0.15	11.5	701.1305	1.1021	0.1739	0.777
	2321	2327	0.03	0.65	0.05	7.61			0.00	2.06			0.00	0.00			0.00	0.00	19.77	52.41	70.77	82.82	120.84	544	900	900	CONC	0.15	25.5	701.1305	1.1021	0.3856	0.777
			0.00	0.00	0.00	7.61			0.00	2.06			0.00	0.00			0.00	0.00	14.58														
	2327	HW 4	1.17	0.65	2.11	9.72			0.00	2.06			0.00	0.00			0.00	0.00	20.15	51.79	69.92	81.82	119.38	647	975	975	CONC	0.15	4.5	867.9562	1.1625	0.0645	0.746

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY EAST	
Checked: D.A.	LOCATION: City of Ottawa	
Dwg. Reference: Storm Drainage Plan, Dwgs. No. 3	File Ref: 16-891	Date: March 2021
		Sheet No. SHEET 2 OF 3

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

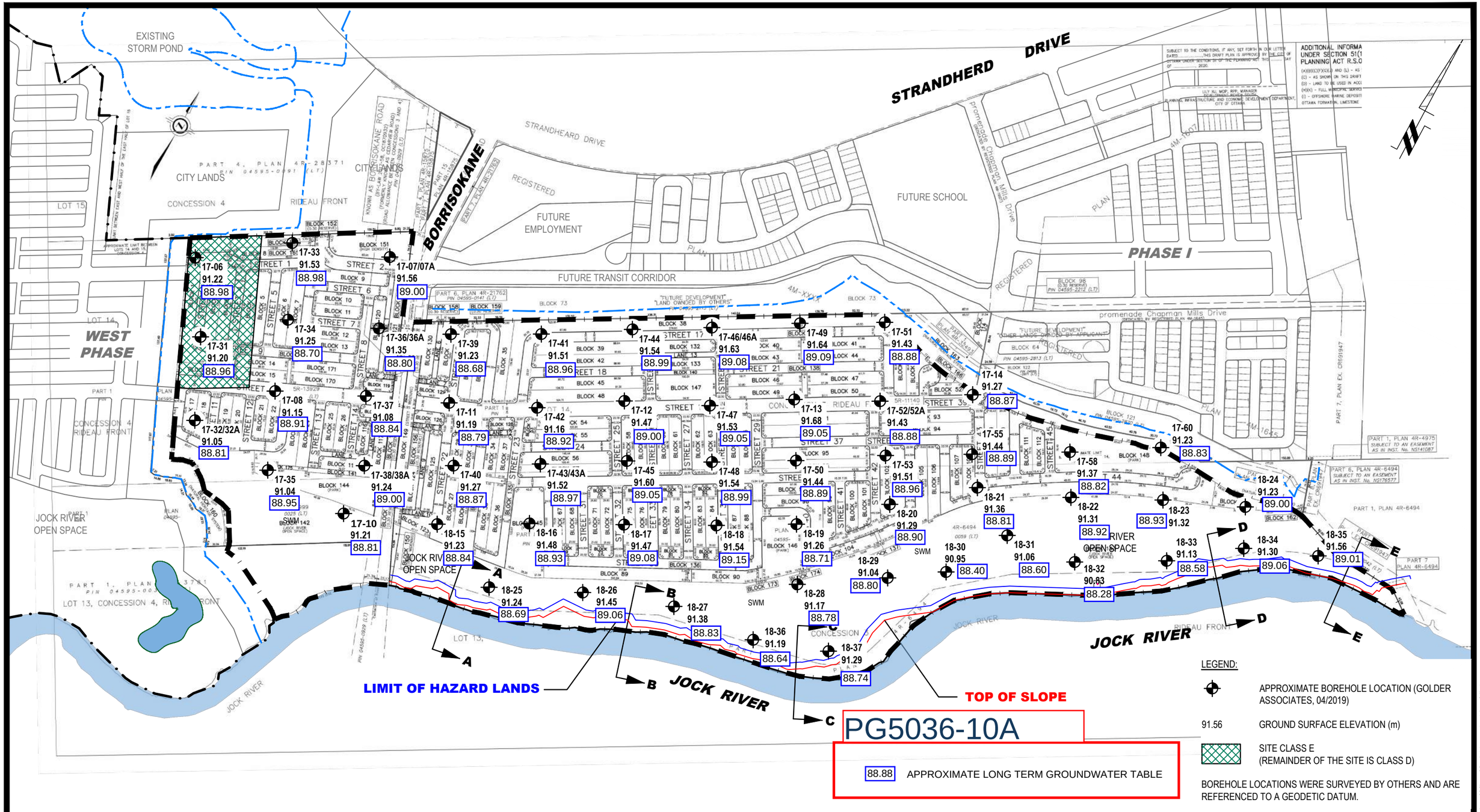
Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
TRUNK 3																																
	3107	3108	1.02	0.65	1.84	1.84			0.00	0.00			0.00	0.00			0.00	0.00	11.23	72.40	98.14	115.01	168.08	133	600	600	CONC	0.15	116.5	237.8056	0.8411	2.3086	0.561
	3108	3109	0.18	0.65	0.33	2.17			0.00	0.00			0.00	0.00			0.00	0.00	13.53	65.46	88.61	103.80	151.62	142	600	600	CONC	0.15	16.5	237.8056	0.8411	0.3270	0.597
	3109	3104	0.17	0.65	0.31	2.48			0.00	0.00			0.00	0.00			0.00	0.00	13.86	64.59	87.43	102.40	149.58	160	600	600	CONC	0.15	47.0	237.8056	0.8411	0.9314	0.672
			0.00	0.00	0.00	2.48			0.00	0.00			0.00	0.00			0.00	0.00	13.23														
	3104	HW 3	0.82	0.65	1.48	3.96			0.00	0.00			0.00	0.00			0.00	0.00	14.79	62.26	84.23	98.65	144.06	246	675	675	CONC	0.15	31.0	325.5584	0.9098	0.5679	0.757
TRUNK 2																																
			0.07	0.65	0.13	0.13			0.00	0.00			0.00	0.00			0.00	0.00	12.64														
	3204	3208			0.00	0.13	1.36	0.65	2.46	2.46			0.00	0.00			0.00	0.00	12.64	67.97	92.05	107.84	157.56	235	675	675	CONC	0.15	56.0	325.5584	0.9098	1.0259	0.721
			0.00	0.00	0.00	0.13			0.00	2.46			0.00	0.00			0.00	0.00	12.60														
	3208	3209	1.08	0.65	1.95	2.08			0.00	2.46			0.00	0.00			0.00	0.00	13.67	65.11	88.13	103.23	150.79	352	750	750	CONC	0.15	58.5	431.1703	0.9760	0.9990	0.816
	3209	3210	0.42	0.65	0.76	2.84			0.00	2.46			0.00	0.00			0.00	0.00	14.66	62.57	84.66	99.15	144.79	386	825	825	CONC	0.15	77.0	555.9418	1.0400	1.2340	0.694
	3210	3150	0.20	0.65	0.36	3.20			0.00	2.46			0.00	0.00			0.00	0.00	15.90	59.73	80.76	94.57	138.07	390	825	825	CONC	0.15	11.0	555.9418	1.0400	0.1763	0.701
	3150	HW 2	0.88	0.65	1.59	4.79			0.00	2.46			0.00	0.00			0.00	0.00	16.07	59.34	80.24	93.95	137.17	481	900	900	CONC	0.15	25.0	701.1305	1.1021	0.3781	0.687
TRUNK 1																																
	3301	3303	0.84	0.65	1.52	1.52			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	117	525	525	CONC	0.20	102.0	192.3297	0.8885	1.9134	0.606
			0.00	0.00	0.00	1.52			0.00	0.00			0.00	0.00			0.00	0.00	11.24														
	3303	3305	0.52	0.65	0.94	2.46			0.00	0.00			0.00	0.00			0.00	0.00	11.91	70.16	95.07	111.39	162.77	172	600	600	CONC	0.15	64.5	237.8056	0.8411	1.2781	0.725
			0.00	0.00	0.00	2.46			0.00	0.00			0.00	0.00			0.00	0.00	11.40														
	3305	3307	0.61	0.65	1.10	3.56			0.00	0.00			0.00	0.00			0.00	0.00	13.19	66.39	89.89	105.31	153.84	236	675	675	CONC	0.15	52.5	325.5584	0.9098	0.9618	0.726
			0.00	0.00	0.00	3.56			0.00	0.00			0.00	0.00			0.00	0.00	11.64														
	3307	3309	0.69	0.65	1.25	4.81			0.00	0.00			0.00	0.00			0.00	0.00	14.15	63.84	86.40	101.19	147.79	307	750	750	CONC	0.15	64.5	431.1703	0.9760	1.1015	0.712
			0.00	0.00	0.00	4.81			0.00	0.00			0.00	0.00			0.00	0.00	12.21														
	3309	3313	0.86	0.65	1.55	6.36			0.00	0.00			0.00	0.00			0.00	0.00	15.25	61.17	82.74	96.89	141.49	389	825	825	CONC	0.15	58.5	555.9418	1.0400	0.9375	0.700
			0.00	0.00	0.00	6.36			0.00	0.00			0.00	0.00			0.00	0.00	14.09														
					0.00	6.36	0.36	0.65	0.65	0.65			0.00	0.00			0.00	0.00															
	3313	3314	0.65	0.65	1.17	7.54			0.00	0.65			0.00	0.00			0.00	0.00	16.19	59.09	79.89	93.54	136.57	497	900	900	CONC	0.15	29.5	701.1305	1.1021	0.4461	0.709
	3314	3319	0.07	0.65	0.13	7.66			0.00	0.65			0.00	0.00			0.00	0.00	16.64	58.15	78.61	92.04	134.36	497	900	900	CONC	0.15	53.5	701.1305	1.1021	0.8091	0.708
			0.00	0.00	0.00	7.66			0.00	0.65			0.00	0.00			0.00	0.00	13.77														
	3319	HW 1	1.10	0.65	1.99	9.65			0.00	0.65			0.00	0.00			0.00	0.00	17.45	56.54	76.40	89.44	130.55	595	900	900	CONC	0.15	8.0	701.1305	1.1021	0.1210	0.849
TRUNK 12																																
	7003	7004	0.92	0.65	1.66	1.66			0.00	0.00			0.00	0.00			0.00	0.00	12.94	67.10	90.86	106.44	155.51	112	525	525	CONC	0.20	13.5	192.3297	0.8885	0.2532	0.580
	7004	7005	0.15	0.65	0.27	1.93			0.00	0.00			0.00	0.00			0.00	0.00	13.19	66.39	89.89	105.30	153.82	128	600	600	CONC	0.15	45.5	237.8056	0.8411	0.9016	0.540
	7005	7008			0.00	1.93			0.00	0.00			0.00	0.00			0.00	0.00	14.10	63.99	86.60	101.43	148.14	124	600	600	CONC	0.15	13.0	237.8056	0.8411	0.2576	0.520
			0.00	0.00	0.00	1.93			0.00	0.00			0.00	0.00			0.00	0.00	13.76														
	7008	HW 12	0.81	0.65	1.46	3.40			0.00	0.00			0.00	0.00			0.00	0.00	14.35	63.34	85.71	100.38	146.61	215	675	675	CONC	0.15	18.5	325.5584	0.9098	0.3389	0.661

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY EAST		
Checked: D.A.	LOCATION: City of Ottawa		
Dwg. Reference: Storm Drainage Plan, Dwgs. No. 3	File Ref: 16-891	Date: March 2021	Sheet No. SHEET 3 OF 3



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NO.	REVISIONS	DATE	INITIAL
1	CONCEPTUAL PLAN ADDED	09/01/2020	DJG

CAIVAN COMMUNITIES

GEOTECHNICAL INVESTIGATION
PROP. RESIDENTIAL DEVELOPMENT - CONSERVANCY LANDS EAST
OTTAWA, ONTARIO

Title:
TEST HOLE LOCATION PLAN

Scale: 1:6000	Date: 09/2019
Drawn by: MPG	Report No.: PG5036-1
Checked by: SD	Dwg. No.: PG5036-1
Approved by: DJG	Revision No.: 1

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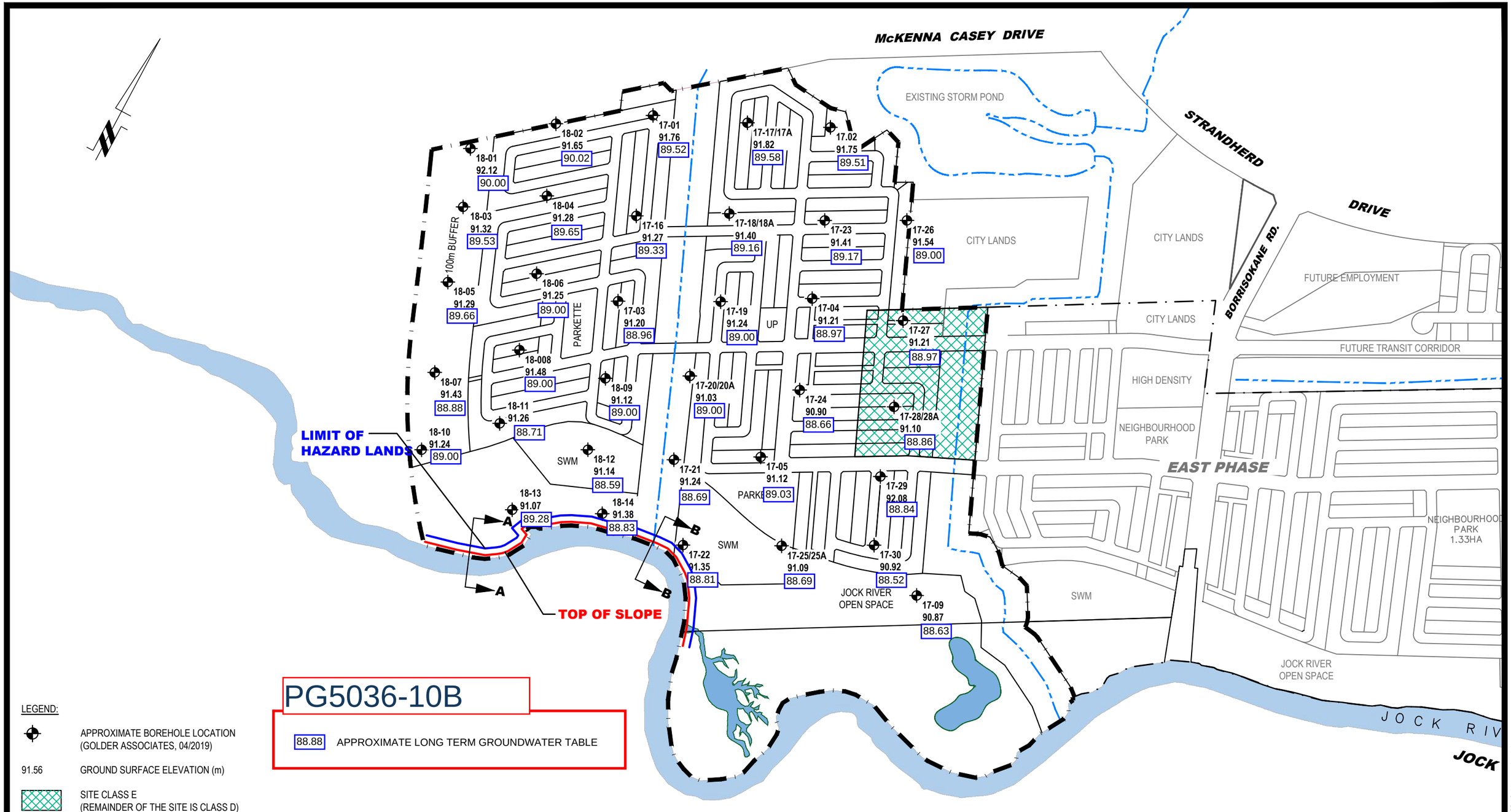

PG5036-10B

LEGEND:

- APPROXIMATE BOREHOLE LOCATION (GOLDER ASSOCIATES, 04/2019)
- 91.56 GROUND SURFACE ELEVATION (m)
- SITE CLASS E (REMAINDER OF THE SITE IS CLASS D)
- 88.88 APPROXIMATE LONG TERM GROUNDWATER TABLE

BOREHOLE LOCATIONS WERE SURVEYED BY OTHERS AND ARE REFERENCED TO A GEODETIC DATUM.

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NO.	REVISIONS	DATE	INITIAL
0			

CAIVAN COMMUNITIES

GEOTECHNICAL INVESTIGATION
PROP. RESIDENTIAL DEVELOPMENT - CONSERVANCY LANDS WEST
OTTAWA, ONTARIO

Title:

TEST HOLE LOCATION PLAN

Scale: 1:6000	Date: 09/2019
Drawn by: MPG	Report No.: PG5036-2
Checked by: SD	**PG5036-4**
Approved by: SD	Revision No.:

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Chapter 25

City of Etobicoke Exfiltration and Filtration Systems Pilot/Demonstration Project

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Man-Kit Koo
Works Department
City of Etobicoke
399 The West Mall
Etobicoke, Ontario, M9C 2Y2

The timely development of the Etobicoke Exfiltration System (EES) occurred at a period when engineers, biologists and scientists were actively investigating infiltration as a technique to manage stormwater.

In most areas which can be significantly impacted by urbanization, infiltration is a major component of the hydrologic cycle. Consequently, the reduction in pervious land cover due to urbanization has a direct and detrimental impact on fluvial geomorphology, erosion, water temperature, chemistry, aquatic environment (fisheries) and adjacent terrestrial environments.

Candaras, A.M., L. Carvalho and M-K. Koo. 1995. "City of Etobicoke Exfiltration and Filtration Systems Pilot/ Demonstration Project." *Journal of Water Management Modeling* R183-25. doi: 10.14796/JWMM.R183-25.
© CHI 1995 www.chijournal.org ISSN: 2292-6062 (Formerly in Modern Methods for Modeling the Management of Stormwater Impacts. ISBN: 0-9697422-4-X)

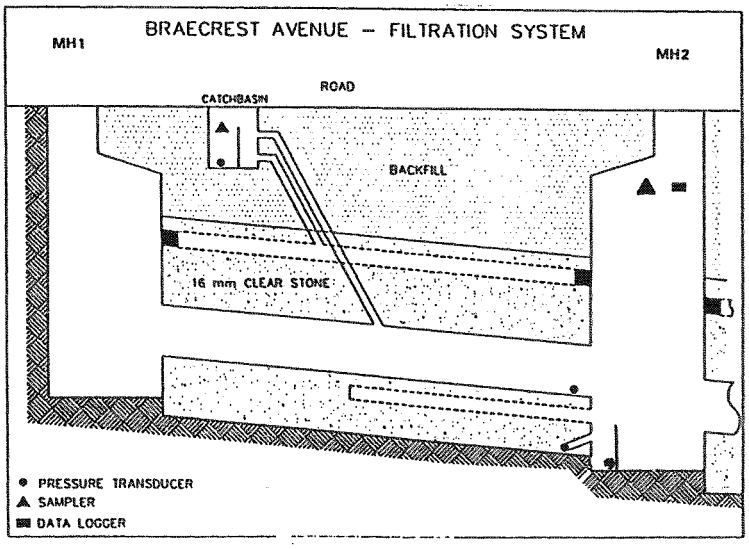


Figure 25.3
Braecrest Avenue filtration system - longitudinal section.

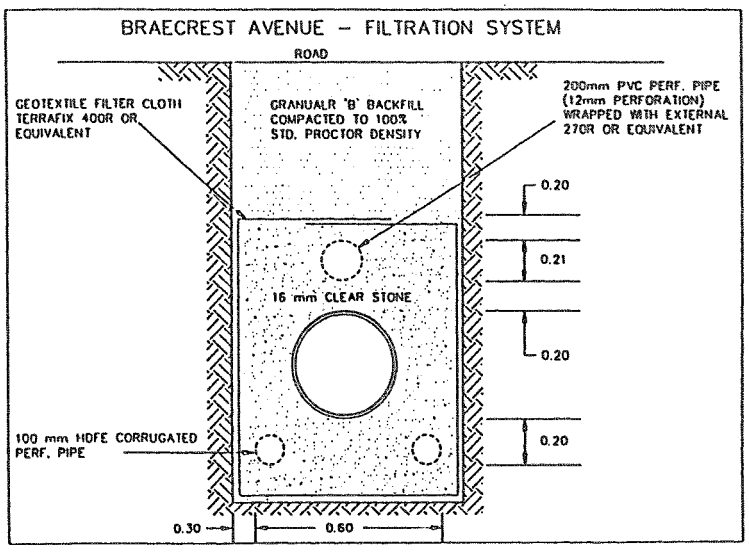


Figure 25.4
Braecrest Avenue filtration system - cross section.

geotechnical investigation was carried out in which seven boreholes were dug between January 18 to 20 1993. The borehole locations were chosen based on proximity to storm sewer and sanitary sewer crossings. The investigation confirmed that the subsurface soils were dominated by silty clay to clayey silt till underlain by silty sand till.

The underlying soils were observed to be very dense due to the geomorphological processes which created them. Thus the hydraulic conductivity of these soils were lower than would normally be expected for these soil types. Quantification of this characteristic was accomplished by carrying out falling-head tests on all of the boreholes. The hydraulic conductivity for the silty sand to sandy silt till ranged from $6x10^{-6}$ m/s to $1x10^{-7}$ m/s.

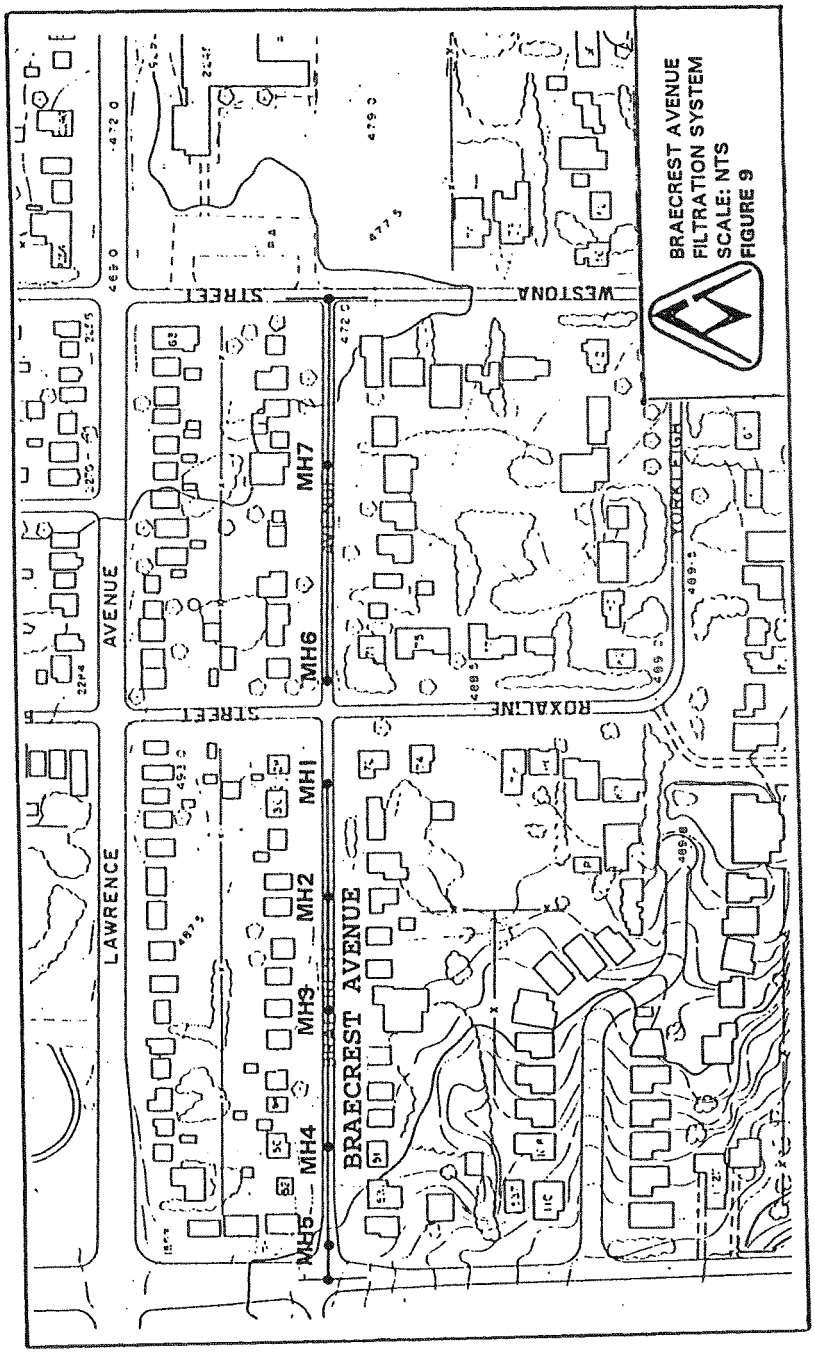
All boreholes were dry on completion of drilling. Depth of drilling ranged from approximately 4.5 m to 14.0 m below ground surface.

25.3.3 Braecrest Road - Filtration System

The Braecrest Road (Fig 25.7) study area has a tributary area of 2.38 ha of low-density residential housing. The site drains to the west, at approximately 2% to Royal York Road. The high point of Braecrest Road in this area is approximately at the intersection of Braecrest Avenue and Roxaline Street. East of this high point Braecrest drains to Westona Street. The similarity of the east and west draining areas is further discussed below in the monitoring section. The roadway is presently ditched, but will be "upgraded" to curb and gutter.

A geotechnical investigation was carried out during which two boreholes were drilled on Royal York Road. Study results suggested that the controlling soil types are brown silty clay and dark grey organic sand loam with organic matter. Additional soils records from the City of Etobicoke show that on Braecrest Avenue the dominant soils are clay loam. Local well records indicate that the upper soils in the area (up to 7 m deep) are brown clays. These studies corroborate the dominance of relatively impervious soils in the area of the proposed system.

Records of water table locations are not available for this site. However, this lack of information is not of significance since the filtration system will be used and the site is relatively high in relation to the adjacent lands. Exfiltration to the surrounding soil will not be a feasible method of transporting the stormwater due to the relatively impervious local soils.



25.7 Braecrest Avenue filtration system plan.

connect directly to the storm sewer between MH1 and MH2 at the upstream end of the local drainage system. The four catchbasins connecting to the storm sewer between MH2 and MH4 will be temporarily sealed to prevent runoff entering the monitored section. Only one runoff input source to the monitored section (at MH2) will be allowed, in order to simplify monitoring and increase equipment cost-effectiveness. Road grading will convey this surface runoff downstream of MH3 to the catchbasins between MH3 and MH4. Similar to the Queens Marys Drive site, the exfiltration system upstream of MH2 will be temporarily put offline by plugging the perforated PVC pipes between MH1 and MH2. System monitoring within the section will be essentially identical to that in the Queens Marys Drive site.

The major difference in monitoring between the two exfiltration sites is that piezometers will not be installed on Princess Margaret Boulevard. A geotechnical investigation suggests that groundwater in the area is located at depths exceeding 15 m below the ground surface. The exfiltration rate from this EES will therefore not be affected by local ground water conditions.

As in the Queen Marys Drive site, monitoring will also be carried out to ascertain the effectiveness of this system on a larger scale. Total flows and water quality will be monitored near the end of the EES at MH7 on Princess Anne Crescent.

25.4.3 The Etobicoke Filtration System

The exfiltration system is not appropriate for the Braecrest Avenue site due to the local low permeability soils. This condition will not permit the exfiltration of the first flush in less than 48 hours. Therefore, the Braecrest site will use the filtration system.

Braecrest Avenue

Monitoring of the EFS will be conducted at the upstream end of the drainage basin. A single catchbasin drains directly into the upstream maintenance hatch (MH1) and two others connect directly into the storm sewer between MH1 and MH2. The catchbasin connected to MH1 and the catchbasin north of the storm sewer between MH1 and MH2 will be temporarily plugged. This will ensure that the only input to the EFS at this section is the single catchbasin. The catchbasin south of the sewer was chosen over the one to the north as it drains a much greater area.

MEMORANDUM

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To: John Bougadis P.Eng.
Senior Project Manager, Infrastructure Planning
City of Ottawa

From: Bobby Pettigrew, P.Eng.

Re: BSUEA Infiltration System Maintenance Requirements

Date: June 22, 2017

Job No.: 26610

CC: Hugo Lalonde, MCIP, RPP
Land Development Manager
Minto Communities - Canada

Purpose of Undertaking

The future Barrhaven South Urban Expansion Area (BSUEA) will be developed as a standard suburb subdivision that will include the typical range of land usages; residential, commercial, institutional, parks and a Park and Ride facility. Based on the findings of the Study Area Existing Conditions Reports, the servicing of the Subdivision will need to be developed with measures that will promote infiltration to preserve the pre-infiltration levels. This Memorandum was prepared to address operation and maintenance requirements for a system that would be solely implemented on local roads and that has been described in previous Memoranda as capable to maintain pre-infiltration levels.

Background

On May 24, 2017, a meeting was held at the City of Ottawa (City) to discuss advantages and disadvantages associated with two (2) servicing systems that could be implemented within the BSUEA to promote infiltration of “clean runoff” to maintain pre-infiltration levels. The first part of the meeting consisted of a presentation that described both servicing systems promoting infiltration; the Etobicoke Exfiltration System (EES) and the Clear Water Collector (CWC) system that was implemented in the former City of Vaughan. During the latter part of the meeting, the advantages and disadvantages of both systems were discussed over with operation staff. Both of these systems have been discussed in a previous Modelling Memorandum and were presented to the City on May 24, 2017, a copy of the presentation has been attached.

During the May 24, 2017 meeting, the City has requested further information on the increased maintenance requirements for a stormwater conveyance system that would be designed with infiltration capabilities. From the Operation Staff, it was understood that the current maintenance program for traditional stormwater conveyance systems consist of cleaning of the storm sewers by jet flushing and, subsequently, proceeding with a closed circuit television (CCTV) inspection. This process is generally completed on a 20-year frequency. This Memorandum has, therefore, been prepared using as the baseline condition, the 20-year maintenance frequency.

Reported Maintenance Requirements of Infiltration Systems

The requirements of a maintenance program can be based on experience with previous installations of the EES or CWC systems. The EES was first designed in 1993 in the former City of Etobicoke, now part of the City of Toronto. The system was subsequently constructed later in 1993 and spanning until 1994 as part of the municipality’s road reconstruction projects, which included the installation of 2.1 km of the EES as a means to provide water quality enhancement for existing serviced areas. From the 2.1 km of EES installed, three (3) small sections were subject to monitoring and reporting post-construction; the Princess Margaret and Queen Mary’s Drive sites as well as the Braecrest site (refer to the Table below for details for each of the sites).

The first two (2) sites comprises of an EES with Goss traps similar to what is proposed for the BSUEA while the latter site, Braecrest, is closer to the CWC system with some minor modifications. Each system was designed with capacity to capture the runoff generated from the 15 mm - 1 hour AES rainfall event. For comparison purposes, the system now being proposed for the BSUEA is sized to capture, detain and infiltrate the runoff generated by the 22 mm - 4 hour rainfall event.

Monitoring Sites	Sewer Length (m)	Tributary Area (ha)
Princess Margaret	415	0.4
Queen Mary's Drive	443	13.3[1]
Braecrest	209	2.4

Post construction monitoring of the above-noted systems was initiated on completion of construction. Once completed, the systems were cleaned by jet flushing and subsequently inspected via CCTV. Follow up monitoring was undertaken for a two year period between 1996 and 1998 (SWAMP, 2004) and subsequently by the TRCA in 2013 (presentation slides attached). The 1996-1998 monitoring information was reported; however, the recent monitoring has not been formally reported other than the information attached to the presentation slides.

Prior to the 2013 monitoring, there was no further cleaning undertaken and the infiltration capability of the EES installations were found to be very similar to the original infiltration condition after 18 years of operation. At the Princess Margaret site, the infiltration capability was virtually found to be the same than the original one as the system's drawdown time was found to take approximately only ten (10) minutes longer than found during the 1998 monitoring program. At the Queen Mary site, the 2013 monitoring results were reported after the cleaning phase of the program occurred and it was found that the average water level drawdown rate approximately doubled following the clean out. The information presented by the TRCA (see attached) on the monitoring program suggested that the maintenance frequency would vary depending on design of the EES and catchment characteristics. As a result, inspections should be carried out preferably at least every 5 years to verify that drawdown time does not exceed 48 hours.

The Sustainable Technologies Evaluation Program, led by the TRCA, has prepared a publication entitled "Low Impact Development Stormwater Management Practice Inspection and Maintenance Guide" (PIMG), which includes a section devoted to underground infiltration systems; however, this section of the PIMG does not specifically address the EES or CWC. The PIMG (i.e., Table 7.28, with relative sections extracted below) suggests recommended frequencies for routine maintenance tasks including clean out of sediments (flushing and removal) once an accumulated depth of 100 mm has been reached. Based on inspection photographs of the EES during the 2013 monitoring (see the sewer inspection photographs in the attached TRCA presentation), approximately 100 mm of sediment or less had accumulated over the 20 year period; this accumulation excludes what was accumulated in the catch basins. In addition, the PIMG document recommends maintenance procedures such as removing accumulated trash and debris in the catch basins on a more regular basis, up to twice per year. This inspection work could evidently be combined with an inspection program.

The 2003 Stormwater Management Planning and Design Manual (SWMPDM),from the Ontario Ministry of the Environment and Climate Change (MOECC), provides some guidance on maintenance required for similar infiltration / pervious pipe systems such as the EES that is proposed. Table 6.1 in the Manual identifies the need for general inspection, removal of accumulated sediments, pipe flushing, catchbasin cleaning, trash removal and closing of the system for winter months when in a high salt / sand area. By installing the EES solely along local roads, the maintenance activity of closing the system for the winter months is not required.

According to the Manual, inspections should take place at a greater frequency for the first two years, after every significant storm event, to better understand the system's performance and to ensure that the perforated pipe system is operating as designed. After the first two years, the frequency of inspections could be reduced to annual inspections. In terms of frequency of sediment removal and cleaning, the Manual indicates that the system, including catchbasins, should be cleaned out if there is greater than one third the design depth of water in the catch basin sump 48 hours after a storm or if there is visible accumulation of sediment in the bottom of the catchbasin sump. Cleaning could be carried out by means of standard flushing, radial washing where the pipe is pressurized to force water through the perforations and cleaning out the sediment, or alternatively, jet flushing via a pressurized hose nozzle that directs water under high velocities into the perforations to remove the accumulated sediment.

[1] Of the 13.3 ha tributary area to the monitored section of the Queen Mary's Drive site, only 3.7 ha was immediately tributary to the EES sewers, the remaining area was from conventional sewer systems upstream of the site.

Measures to Reduce Maintenance Requirements

The design of the EES can be carried out by incorporating measures to reduce the maintenance frequency of the system. The measures include; i) using Goss traps in the upstream catchbasins as a pre-treatment measure, and ii) by rotating the angle of perforations to 45° in the perforated pipe

Goss traps are used as standard in some Ontario municipalities including the City of Windsor and the City of Hamilton. They were used in the original sites of the EES in Etobicoke including those subject to the monitoring discussed above. This measure was adopted by the designers to: i) prevent debris collected in the catch basins from entering the perforated pipes, and ii) minimize oil trapped in the catch basins from entering the perforated pipes.

The alignment of the perforated pipe on its longitudinal axis is important in maximizing the efficiency of the system between maintenance visits and reducing the maintenance required. By placing the perforated pipes so that the perforations are not on the bottom of the pipe and are closer to the 4:30 and 7:30 locations on the clock, the perforated pipe will continue to function at full exfiltration capacity while sediment is deposited on the bottom. The need to clean out the sediment can be extended until sufficient sediment has built up to close up the angled perforations.

Recommended Maintenance Procedures and Frequency

Based on historical notes collected during the EES monitoring work, the review of the PIMG document (TRCA), the review of MOECC's SWPDM, best practices in operating conventional storm sewer systems and recent discussions held with stormwater professionals (refer to attached E-Mails), the following maintenance schedule is recommended:

Maintenance Schedule

Task	Frequency	Compared to conventional systems
Inspection of the system to ensure adequate operation including full drawdown of the sumps to below the perforated pipe invert level and ensuring that the plug part of the Goss trap is functioning properly by only allowing water from the deeper column to enter the catch basin lead	Once or twice per year - 48 hours or more after a significant storm event	Not required in conventional systems although could be considered good practice and preventative
Removal of accumulated trash and debris from sumps and grates	Twice per year	Best practice in conventional systems, part completed annually on grates with spring street clearing
Monitoring of the accumulated sediment depth in catch basins	Once a year	Best practice in conventional systems
Jet pressure wash and CCTV inspection of sewer and perforated pipes	At least every 20 years or when sediment levels reach 150 mm depth	As per conventional systems but only one sewer in conventional systems

From the table above, the increase in the maintenance requirements for an EES would consist of the following:

1. Annual or bi-annual inspections of the system at the manholes to confirm that drawdown is occurring within 48 hours following a storm event. If drawdown is not fully achieved after 48 hours, this could be indicative of the need to schedule flushing of the system; and

2. Jet pressure washing of the conventional storm sewer as well as the two (2) perforated pipes, from manhole to manhole, every 20 years. The increase in maintenance would be associated with the time to remove the mechanical plugs at the downstream end of the perforated pipes and to flush the perforated pipes. The mobilization cost will remain the same when compared to the single conventional sewer.

The additional maintenance requirement associated with item 2 above would not incur a significant time or a significant increase in costs. As previously noted, the time for the crew to mobilize would remain the same as what is anticipated for

a conventional system. The additional cost will be associated with jet pressure washing the additional length of sewers (i.e., perforated pipes) and potential for removing additional accumulated sediments, which is likely to occur in the perforated pipes when compared to conventional systems where the sediments can be washed away under self-cleansing flows.

An annual or bi-annual inspection of the EES at manholes would be the more costly of the two increased maintenance requirements as this task (checking drawdown time) is not currently completed and would require additional man-power (i.e, travel time and inspection time).

Estimated Maintenance Costs

A cost analysis of the increased maintenance is summarized below. In the event that the City has more recent costs for these tasks, then these would prevail. It should be noted that the costs listed below are in 2017 dollars.

- Anticipated number of manholes / catch basins for inspection: 250
- Time per manhole / catchbasin: 5 minutes
- Time for site: 21 hours
- Cost per hour: $53
- Total Cost for inspections: $1,120
- Annual cost: $2,240

- Anticipated length of EES sewer: 8.6 km
- Total Combo unit time: 86 hours
- Average cost per hour: $195
- Estimated cleaning cost: $16,770
- Estimated disposal: $500
- Annual equivalent cost: $870

Overall, the annual increase in cost for the City to undertake maintenance of the EES over the conventional storm sewer system is ±$3,500 a year on average for the anticipated sewer length within the CDP, excluding the aggregate extraction areas. It is considered that the increase in maintenance costs of the EES would be considerably less than the maintenance costs incurred with two wet pond structures, which is the alternative to provide similar levels of water quality control.

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Table 6.1: Stormwater Management Practices Operation and Maintenance Activities

Item No.	Operation or Maintenance Activity	Type of Stormwater Management Practice											
		Wet Pond	Wetland	Dry Pond	Infiltration Basin	Infiltration Trench	Filter Strip	Superpipe Storage	Filters	Oil/Grit Separator	Soakaway Pit	Pervious Pipe	Grassed Swales
1	Inspection	■	■	■	■	■	■	■	■	■	■	■	■
2	Grass cutting	□	□	■	■	■			■				■
3	Weed Control	■	■	■	■		■		□				■
4	Upland vegetation replanting	□	□	□	□	□	□		□				
5	Shoreline Fringe and Flood Fringe vegetation replanting	□	□										
6	Aquatic vegetation replanting	□	□										
7	Removal of accumulated sediments	■	■	■	■	■	■		■	■		■**	■
8	Outlet valve adjustment	□	□	□									
9	Roof leader filter cleaning/replacement										■		
10	Pervious pipe flushing											■	
11	Oil/Grit separator or Catchbasin cleaning									■		■	
12	Closing of infiltration facility inlet for winter months				■g	■g			■g			■g	
13	Trash removal	■	■	■	■	■	■	■	■	■*	■***	■	■
14	Infiltration basin floor tilling				■								

■ Normally Required □ May be Required

* *Litter removal part of sediment removal.*
** *Sediment removal part of catchbasin cleaning.*
*** *Litter removal by a filter in the rain gutter.*

g *Based on municipality experience and practices (e.g., may not be required if used on a local road with no salting or sanding).*

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March 05, 2021 Project Number: 1474

David Schaeffer Engineering Ltd
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Attention: **Steve Pichette, P.Eng**

Subject: **BCDC Phase 2 – Preliminary HGL Analysis**

Introduction

Phase 2 of the Barrhaven Conservancy Development (aka Concervancy East) is located in Barrhaven, Ontario, north of the Jock River, south of the Fraser Clarke Creek and east of the Foster Creek. The proposed development is approximately 59.26 ha that will primarily comprise of single and townhouse residential lots. As a part of the City of Ottawa's review of the proposed development draft plan submitted in December 2020, it was requested that a preliminary hydraulic grade line (HGL) assessment be completed for the site to ensure that the proposed minor system within the development is adequately sized to safely convey flows to the Jock River under various conditions. As such the following memo outlines the approach taken in assessing the development's HGL and summarises the findings of this analysis.

Analysis Approach

Preliminary hydraulic grade line calculations for the proposed BCDC Phase 2 development were completed using PCSWMM modelling software. Pipe data, storm sewer layout and Rational Method flows in the storm sewer are as provided by DSEL. The Rational Method flows were calculated based on the 2-, 5- or 10-year level of service requirements, and the 100-year flows in the hydraulic grade line calculations were estimated as 14% greater than the Rational Method flows, to account for the additional flows captured by catchbasin grates, lead pipes and/or inlet control devices under the higher surface water depths of the 100-year storm. The proposed storm sewer infrastructure data was extracted from DSEL's detailed drawings and incorporated into a PCSWMM model, and flows derived by DSEL's rational method calculations were then applied to each Maintenance Hole (MH) in the model as steady flows (using the baseflow option). Exit losses were applied to all storm sewer pipes in the system based on the angle of the downstream connection.

As with BCDC Phase 1, the preliminary HGL analysis was completed under two conditions:

- 100-year rainfall event on the development and a 5-year spring water level on the Jock River
- 5-year rainfall event on the development and a 100-year spring water level on the Jock River

Note that the water level along the Jock River through the length of this development varies, and as such the nearest corresponding upstream water surface elevation calculated by RVCA's HEC-RAS floodplain mapping model of the Jock River was applied at each of the respective storm sewer outlets. Also, note that assuming a 5-year spring water level on the Jock River for a 100-year rainfall event on the development is an inherently conservative assumption, as the critical storm for the proposed development is a summer (intense rainfall) event while the critical storm for the Jock River is a Spring (snowmelt + rainfall) event. A preliminary Single Station Flood Frequency analysis was completed by JFSA using only summer flows (from May 15 to October 31) based on historical flow data recorded at the Moodie Drive Water Survey Canada gauge. This analysis found that the 100-year summer flow on the Jock River is around 99 m^3/s, while the 5-year spring flow is around 123 m^3/s.

Results

The maximum HGL obtained at each MH has been extracted from the 100-year event/5-year water level scenario and 5-year event/100-year water level scenario, with the results from this analysis provided in Tables 1 & 2, respectively. As all proposed units within this development will have sump pumps, the simulated HGL was compared against the top of MH elevation to ensure that all storm sewers infrastructure is sufficiently sized and is not surcharging to the major system during the assessed events.

From this analysis, it was found that the critical scenario for HGL within the development was the 5-year development event and 100-year water level on the Jock River scenario. Based on this scenario, no MHs will have an HGL elevation above the top of MH (minimum freeboard of 0.4 m at MH-6152), with an average freeboard of 0.76 m from the top of MH throughout the proposed development. For the 100-year event and 5-year water level on the Jock River, no MHs will have HGL elevations above the top of MH (minimum freeboard of 1.06 m at MH-6152), with an average freeboard of 1.39 m from the top of MH throughout the proposed development. As such it can be concluded that the proposed storm sewer infrastructure is sufficiently sized, to safely convey minor system flows from the development under various extreme conditions.

Conclusion

A preliminary HGL analysis for Phase 2 of the Barrhaven Conservancy Development was completed using PCSWMM based on storm sewer and flow details provided by DSEL. From this analysis, it was found that the proposed storm sewer infrastructure is sufficiently sized to convey all minor system flows to the Jock River and will not result in any MHs surcharging to the street under extreme events such as 100-year rainfall event on the development and a 5-year spring water level on the Jock River and, a 5-year rainfall event on the development and a 100-year spring water level on the Jock River. With the former being the more critical scenario for the HGL within the development.

Yours truly,
J.F Sabourin and Associates Inc.

Jonathon Burnett, P.Eng
Water Resources Engineer

cc: J.F Sabourin, M.Eng, P.Eng
Director of Water Resources Projects



Figures

Figure 1: PCSWMM Model Overview

Tables

Table 1: HGL Result Tables - 100-Year BCDC Development & 5-Year Jock River
Table 2: HGL Result Tables - 5-Year BCDC Development & 100-Year Jock River

Attachments

Attachment A: DSEL Rational Method Calculations
Attachment B: PCSWMM Model Results files


MH-7008
MH-3304
MH-3302
MH-3301
Legend
MH
Conduits
Outfalls
Development

Table 1: BCDC Phase 2 - Preliminary HGL Analysis
100-Year BCDC Development & 5-Year Jock River

MH ID		Invert Elevation		Top of MH		Max HGL		Freeboard	
Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
MH-1101	MH-1102	90.86	90.59	93.26	93.14	91.86	91.71	1.40	1.43
MH-1102	MH-1103	90.59	90.35	93.14	92.98	91.71	91.57	1.43	1.41
MH-1103	MH-1104	90.35	90.16	92.98	92.82	91.57	91.46	1.41	1.36
MH-1104	MH-1105	90.16	89.95	92.82	92.62	91.46	91.32	1.36	1.30
MH-1105	MH-1106	89.95	89.77	92.62	92.50	91.32	91.16	1.30	1.34
MH-1106	MH-HW101	89.77	89.67	92.50	92.50	91.16	91.09	1.34	1.41
MH-1201	MH-1202	91.44	91.13	93.39	93.21	92.03	91.87	1.36	1.34
MH-1202	MH-1204	91.13	90.84	93.21	93.16	91.87	91.82	1.34	1.34
MH-1203	MH-1204	91.40	90.84	93.34	93.16	92.02	91.82	1.32	1.34
MH-1204	MH-1210	90.84	90.60	93.16	93.07	91.82	91.77	1.34	1.30
MH-1205	MH-1207	91.49	91.20	93.36	93.25	92.02	91.93	1.34	1.32
MH-1206	MH-1207	91.47	91.20	93.27	93.25	91.93	91.93	1.34	1.32
MH-1207	MH-1209	91.20	90.92	93.25	93.16	91.93	91.84	1.32	1.32
MH-1208	MH-1209	91.41	90.92	93.28	93.16	92.00	91.84	1.28	1.32
MH-1209	MH-1210	90.92	90.60	93.16	93.07	91.84	91.77	1.32	1.30
MH-1210	MH-1218	90.60	90.28	93.07	92.96	91.77	91.62	1.30	1.34
MH-1211	MH-1213	91.57	91.21	93.36	93.27	92.03	91.87	1.33	1.40
MH-1212	MH-1213	91.51	91.21	93.31	93.27	91.89	91.87	1.42	1.40
MH-1213	MH-1216	91.21	90.93	93.27	93.19	91.87	91.83	1.40	1.36
MH-1214	MH-1216	91.41	90.93	93.28	93.19	91.92	91.83	1.36	1.36
MH-1215	MH-1216	91.42	90.93	93.22	93.19	91.84	91.83	1.38	1.36
MH-1216	MH-1217	90.93	90.78	93.19	93.09	91.83	91.78	1.36	1.31
MH-1217	MH-1218	90.78	90.28	93.09	92.96	91.78	91.62	1.31	1.34
MH-1218	MH-1220	90.28	90.17	92.96	92.87	91.62	91.56	1.34	1.31
MH-1219	MH-1220	91.11	90.17	92.98	92.87	91.67	91.56	1.31	1.31
MH-1220	MH-1221	90.17	90.07	92.87	92.78	91.56	91.49	1.31	1.29
MH-1221	MH-1222	90.07	89.94	92.78	92.68	91.49	91.41	1.29	1.27
MH-1222	MH-1223	89.94	89.77	92.68	92.57	91.41	91.28	1.27	1.29
MH-1223	MH-1224	89.77	89.69	92.57	92.55	91.28	91.22	1.29	1.33
MH-1224	MH-1230	89.69	89.56	92.55	92.50	91.22	91.09	1.33	1.41
MH-1227	MH-1228	90.61	90.39	92.71	92.53	91.19	91.13	1.52	1.40
MH-1228	MH-1229	90.39	90.34	92.53	92.51	91.13	91.12	1.40	1.39
MH-1229	MH-1230	90.34	89.56	92.51	92.50	91.12	91.09	1.39	1.41
MH-1230	MH-HW102	89.56	89.55	92.50	92.50	91.09	91.09	1.41	1.41
MH-2101	MH-2102	91.01	90.81	92.81	92.87	91.44	91.42	1.37	1.45
MH-2102	MH-2103	90.81	90.54	92.87	92.77	91.42	91.34	1.45	1.43
MH-2103	MH-2104	90.54	90.25	92.77	92.67	91.34	91.25	1.43	1.42
MH-2104	MH-2108	90.25	90.07	92.67	92.57	91.25	91.19	1.42	1.38
MH-2105	MH-2106	90.91	90.64	92.87	92.67	91.45	91.25	1.42	1.42
MH-2106	MH-2107	90.64	90.46	92.67	92.65	91.25	91.22	1.42	1.43
MH-2107	MH-2108	90.46	90.07	92.65	92.57	91.22	91.19	1.43	1.38
MH-2108	MH-2114	90.07	89.84	92.57	92.50	91.19	91.09	1.38	1.41
MH-2109	MH-2111	90.99	90.66	92.79	92.72	91.27	91.21	1.52	1.51
MH-2110	MH-2111	90.94	90.66	92.74	92.72	91.21	91.21	1.53	1.51
MH-2111	MH-2112	90.66	90.38	92.72	92.62	91.21	91.14	1.51	1.48
MH-2112	MH-2113	90.38	90.22	92.62	92.52	91.14	91.10	1.48	1.42
MH-2113	MH-2114	90.22	89.84	92.52	92.50	91.10	91.09	1.42	1.41
MH-2114	MH-HW201	89.84	89.80	92.50	92.50	91.09	91.06	1.41	1.44
MH-2201	MH-2202	91.51	91.21	93.31	93.22	91.72	91.68	1.59	1.54
MH-2202	MH-2204	91.21	90.99	93.22	93.05	91.68	91.61	1.54	1.44
MH-2203	MH-2204	91.35	90.99	93.24	93.05	91.61	91.61	1.63	1.44
MH-2204	MH-2207	90.99	90.78	93.05	92.96	91.61	91.55	1.44	1.41
MH-2205	MH-2206	91.42	91.12	93.22	93.13	91.71	91.64	1.51	1.49
MH-2206	MH-2207	91.12	90.78	93.13	92.96	91.64	91.55	1.49	1.41
MH-2207	MH-2210	90.78	90.54	92.96	92.86	91.55	91.46	1.41	1.40
MH-2208	MH-2209	91.14	90.85	93.09	92.99	91.63	91.56	1.46	1.43
MH-2209	MH-2210	90.85	90.54	92.99	92.86	91.56	91.46	1.43	1.40
MH-2210	MH-2213	90.54	90.31	92.86	92.77	91.46	91.39	1.40	1.38
MH-2211	MH-2212	91.11	90.82	92.98	92.88	91.64	91.52	1.34	1.36
MH-2212	MH-2213	90.82	90.31	92.88	92.77	91.52	91.39	1.36	1.38
MH-2213	MH-2215	90.31	90.14	92.77	92.68	91.39	91.31	1.38	1.37
MH-2214	MH-2215	90.94	90.14	92.73	92.68	91.32	91.31	1.41	1.37
MH-2215	MH-2216	90.14	90.00	92.68	92.57	91.31	91.24	1.37	1.33
MH-2216	MH-2217	90.00	89.86	92.57	92.45	91.24	91.16	1.33	1.29
MH-2217	MH-2218	89.86	89.81	92.45	92.44	91.16	91.13	1.29	1.31
MH-2218	MH-2225	89.81	89.69	92.44	92.40	91.13	91.06	1.31	1.34
MH-2219	MH-2221	90.92	90.67	92.72	92.57	91.32	91.29	1.40	1.28
MH-2220	MH-2221	90.92	90.67	92.72	92.57	91.30	91.29	1.42	1.28
MH-2221	MH-2222	90.67	90.36	92.57	92.56	91.29	91.19	1.28	1.37
MH-2222	MH-2223	90.36	90.18	92.56	92.44	91.19	91.12	1.37	1.32
MH-2223	MH-2224	90.18	90.10	92.44	92.43	91.12	91.10	1.32	1.33
MH-2224	MH-2225	90.10	89.69	92.43	92.40	91.10	91.06	1.33	1.34
MH-2225	MH-HW202	89.69	89.68	92.40	92.40	91.06	91.06	1.34	1.34

Table 1: BCDC Phase 2 - Preliminary HGL Analysis
100-Year BCDC Development & 5-Year Jock River

MH ID		Invert Elevation		Top of MH		Max HGL		Freeboard	
Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
MH-2301	MH-2302	91.37	91.08	93.25	93.14	91.93	91.85	1.32	1.29
MH-2302	MH-2304	91.08	90.87	93.14	93.03	91.85	91.73	1.29	1.30
MH-2303	MH-2304	91.26	90.87	93.06	93.03	91.73	91.73	1.33	1.30
MH-2304	MH-2308	90.87	90.52	93.03	92.94	91.73	91.62	1.30	1.32
MH-2305	MH-2306	91.21	90.99	93.15	93.05	91.76	91.71	1.39	1.34
MH-2306	MH-2308	90.99	90.52	93.05	92.94	91.71	91.62	1.34	1.32
MH-2307	MH-2308	91.26	90.52	93.11	92.94	91.65	91.62	1.46	1.32
MH-2308	MH-2312	90.52	90.28	92.94	92.85	91.62	91.55	1.32	1.30
MH-2309	MH-2310	91.11	90.82	93.07	92.96	91.75	91.65	1.32	1.31
MH-2310	MH-2312	90.82	90.28	92.96	92.85	91.65	91.55	1.31	1.30
MH-2311	MH-2312	91.10	90.28	92.90	92.85	91.64	91.55	1.26	1.30
MH-2312	MH-2316	90.28	90.12	92.85	92.75	91.55	91.48	1.30	1.27
MH-2313	MH-2314	91.02	90.80	92.96	92.86	91.63	91.57	1.33	1.29
MH-2314	MH-2316	90.80	90.12	92.86	92.75	91.57	91.48	1.29	1.27
MH-2315	MH-2316	91.01	90.12	92.80	92.75	91.52	91.48	1.28	1.27
MH-2316	MH-2318	90.12	90.01	92.75	92.67	91.48	91.40	1.27	1.27
MH-2317	MH-2318	90.92	90.01	92.72	92.67	91.36	91.40	1.36	1.27
MH-2317	MH-2323	90.92	90.68	92.72	92.69	91.36	91.32	1.36	1.37
MH-2318	MH-2319	90.01	89.86	92.67	92.55	91.40	91.30	1.27	1.25
MH-2319	MH-2320	89.86	89.72	92.55	92.45	91.30	91.20	1.25	1.25
MH-2320	MH-2321	89.72	89.67	92.45	92.44	91.20	91.16	1.25	1.28
MH-2321	MH-2327	89.67	89.56	92.44	92.40	91.16	91.07	1.28	1.33
MH-2322	MH-2323	90.92	90.68	92.72	92.69	91.33	91.32	1.39	1.37
MH-2323	MH-2324	90.68	90.37	92.69	92.57	91.32	91.20	1.37	1.37
MH-2324	MH-2325	90.37	90.19	92.57	92.45	91.20	91.13	1.37	1.32
MH-2325	MH-2326	90.19	90.10	92.45	92.43	91.13	91.11	1.32	1.32
MH-2326	MH-2327	90.10	89.56	92.43	92.40	91.11	91.07	1.32	1.33
MH-2327	MH-HW203	89.56	89.55	92.40	92.40	91.07	91.06	1.33	1.34
MH-3101	MH-3102	90.74	90.44	92.54	92.61	91.30	91.26	1.24	1.35
MH-3102	MH-3103	90.44	90.20	92.61	92.49	91.26	91.09	1.35	1.40
MH-3103	MH-3104	90.20	89.84	92.49	92.48	91.09	91.07	1.40	1.41
MH-3104	MH-HW301	89.84	89.79	92.48	92.48	91.07	91.03	1.41	1.45
MH-3105	MH-3107	90.81	90.30	92.61	92.58	91.34	91.24	1.27	1.34
MH-3106	MH-3107	90.85	90.30	92.65	92.58	91.28	91.24	1.37	1.34
MH-3107	MH-3108	90.30	90.07	92.58	92.41	91.24	91.16	1.34	1.25
MH-3108	MH-3109	90.07	89.98	92.41	92.41	91.16	91.14	1.25	1.27
MH-3109	MH-3104	89.98	89.84	92.41	92.48	91.14	91.07	1.27	1.41
MH-3150	MH-HW302	89.83	89.79	92.42	92.42	91.04	91.02	1.38	1.40
MH-3201	MH-3202	90.95	90.67	92.90	92.80	91.45	91.37	1.45	1.43
MH-3202	MH-3204	90.67	90.47	92.80	92.70	91.37	91.28	1.43	1.42
MH-3203	MH-3204	90.89	90.47	92.84	92.70	91.40	91.28	1.44	1.42
MH-3204	MH-3208	90.47	90.23	92.70	92.61	91.28	91.22	1.42	1.39
MH-3205	MH-3206	90.93	90.66	92.80	92.71	91.44	91.35	1.36	1.36
MH-3206	MH-3208	90.66	90.23	92.71	92.61	91.35	91.22	1.36	1.39
MH-3207	MH-3208	90.87	90.23	92.66	92.61	91.25	91.22	1.41	1.39
MH-3208	MH-3209	90.23	90.07	92.61	92.52	91.22	91.14	1.39	1.38
MH-3209	MH-3210	90.07	89.92	92.52	92.42	91.14	91.06	1.38	1.36
MH-3210	MH-3150	89.92	89.83	92.42	92.42	91.06	91.04	1.36	1.38
MH-3211	MH-3212	90.70	90.46	92.65	92.49	91.27	91.14	1.38	1.35
MH-3212	MH-3213	90.46	90.36	92.49	92.48	91.14	91.12	1.35	1.36
MH-3213	MH-3214	90.36	90.24	92.48	92.41	91.12	91.08	1.36	1.33
MH-3214	MH-3150	90.24	89.83	92.41	92.42	91.08	91.04	1.33	1.38
MH-3301	MH-3303	91.01	90.65	93.04	92.88	91.59	91.49	1.45	1.39
MH-3302	MH-3303	91.16	90.65	92.96	92.88	91.66	91.49	1.30	1.39
MH-3303	MH-3305	90.65	90.48	92.88	92.79	91.49	91.43	1.39	1.36
MH-3304	MH-3305	91.01	90.48	92.88	92.79	91.55	91.43	1.33	1.36
MH-3305	MH-3307	90.48	90.32	92.79	92.70	91.43	91.37	1.36	1.33
MH-3306	MH-3307	90.95	90.32	92.82	92.70	91.54	91.37	1.28	1.33
MH-3307	MH-3309	90.32	90.14	92.70	92.61	91.37	91.31	1.33	1.30
MH-3308	MH-3309	90.81	90.14	92.76	92.61	91.47	91.31	1.29	1.30
MH-3309	MH-3313	90.14	89.98	92.61	92.53	91.31	91.21	1.30	1.32
MH-3310	MH-3311	90.89	90.68	92.83	92.71	91.39	91.32	1.44	1.39
MH-3311	MH-3312	90.68	90.42	92.71	92.62	91.32	91.25	1.39	1.37
MH-3312	MH-3313	90.42	89.98	92.62	92.53	91.25	91.21	1.37	1.32
MH-3313	MH-3314	89.98	89.88	92.53	92.48	91.21	91.13	1.32	1.35
MH-3314	MH-3319	89.88	89.74	92.48	92.40	91.13	91.03	1.35	1.37
MH-3315	MH-3317	90.87	90.33	92.66	92.56	91.27	91.13	1.39	1.43
MH-3316	MH-3317	90.83	90.33	92.63	92.56	91.19	91.13	1.44	1.43
MH-3317	MH-3318	90.33	90.10	92.56	92.40	91.13	91.05	1.43	1.35
MH-3318	MH-3319	90.10	89.74	92.40	92.40	91.05	91.03	1.35	1.37
MH-3319	MH-HW303	89.74	89.72	92.40	92.40	91.03	91.02	1.37	1.38
MH-6101	MH-6106	90.35	90.22	92.55	92.55	91.37	91.30	1.18	1.25
MH-6102	MH-6103	90.82	90.55	92.70	92.77	91.57	91.49	1.13	1.28

Table 1: BCDC Phase 2 - Preliminary HGL Analysis
100-Year BCDC Development & 5-Year Jock River

MH ID		Invert Elevation		Top of MH		Max HGL		Freeboard	
Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
MH-6103	MH-6101	90.55	90.35	92.77	92.55	91.49	91.37	1.28	1.18
MH-6104	MH-6108	90.47	90.05	92.50	92.50	91.26	91.21	1.24	1.29
MH-6106	MH-6107	90.22	90.17	92.55	92.55	91.30	91.29	1.25	1.26
MH-6107	MH-6108	90.17	90.05	92.55	92.50	91.29	91.21	1.26	1.29
MH-6108	MH-HW601	90.05	90.01	92.50	92.50	91.21	91.16	1.29	1.34
MH-6150	MH-6104	90.62	90.47	92.50	92.50	91.35	91.26	1.15	1.24
MH-6152	MH-6150	90.83	90.62	92.50	92.50	91.44	91.35	1.06	1.15
MH-6201	MH-6202	91.24	91.11	93.20	93.14	91.74	91.67	1.46	1.47
MH-6202	MH-6250	91.11	90.97	93.14	93.07	91.67	91.58	1.47	1.49
MH-6204	MH-6205	90.93	90.84	93.09	93.03	91.44	91.44	1.65	1.59
MH-6205	MH-6206	90.84	90.54	93.03	93.00	91.44	91.43	1.59	1.57
MH-6206	MH-6207	90.54	90.34	93.00	92.88	91.43	91.40	1.57	1.48
MH-6207	MH-6215	90.34	90.16	92.88	92.78	91.40	91.36	1.48	1.42
MH-6210	MH-6213	91.14	90.62	92.93	92.86	91.49	91.43	1.44	1.43
MH-6211	MH-6212	91.19	90.90	93.08	92.96	91.72	91.59	1.36	1.37
MH-6212	MH-6213	90.90	90.62	92.96	92.86	91.59	91.43	1.37	1.43
MH-6213	MH-6215	90.62	90.16	92.86	92.78	91.43	91.36	1.43	1.42
MH-6214	MH-6215	90.97	90.16	92.93	92.78	91.55	91.36	1.38	1.42
MH-6215	MH-6217	90.16	90.00	92.78	92.68	91.36	91.29	1.42	1.39
MH-6216	MH-6217	90.95	90.00	92.76	92.68	91.51	91.29	1.25	1.39
MH-6217	MH-6218	90.00	89.81	92.68	92.52	91.29	91.19	1.39	1.33
MH-6218	MH-6223	89.81	89.72	92.52	92.50	91.19	91.16	1.33	1.34
MH-6219	MH-6220	90.96	90.57	92.83	92.74	91.43	91.33	1.40	1.41
MH-6220	MH-6221	90.57	90.34	92.74	92.57	91.33	91.25	1.41	1.32
MH-6221	MH-6222	90.34	90.26	92.57	92.56	91.25	91.23	1.32	1.33
MH-6222	MH-6223	90.26	89.72	92.56	92.50	91.23	91.16	1.33	1.34
MH-6223	MH-HW602	89.72	89.68	92.50	92.50	91.16	91.14	1.34	1.36
MH-6250	MH-6206	90.97	90.54	93.07	93.00	91.58	91.43	1.49	1.57
MH-6301	MH-6303	91.43	91.21	93.23	93.13	91.70	91.65	1.53	1.48
MH-6302	MH-6303	91.37	91.21	93.17	93.13	91.65	91.65	1.52	1.48
MH-6303	MH-6304	91.21	91.00	93.13	93.11	91.65	91.61	1.48	1.50
MH-6304	MH-6305	91.00	90.67	93.11	92.98	91.61	91.48	1.50	1.50
MH-6305	MH-6306	90.67	90.47	92.98	92.80	91.48	91.38	1.50	1.42
MH-6306	MH-6307	90.47	90.26	92.80	92.66	91.38	91.27	1.42	1.39
MH-6307	MH-6308	90.26	90.08	92.66	92.54	91.27	91.19	1.39	1.35
MH-6308	MH-6309	90.08	90.00	92.54	92.53	91.19	91.17	1.35	1.36
MH-6309	MH-6323	90.00	89.67	92.53	92.50	91.17	91.12	1.36	1.38
MH-6310	MH-6311	91.30	91.11	93.10	93.10	91.58	91.58	1.52	1.52
MH-6311	MH-6312	91.11	90.87	93.10	92.98	91.58	91.51	1.52	1.47
MH-6312	MH-6314	90.87	90.55	92.98	92.86	91.51	91.43	1.47	1.43
MH-6314	MH-6316	90.55	90.38	92.86	92.77	91.43	91.36	1.43	1.41
MH-6315	MH-6316	90.97	90.38	92.84	92.77	91.43	91.36	1.41	1.41
MH-6316	MH-6317	90.38	90.24	92.77	92.64	91.36	91.27	1.41	1.37
MH-6317	MH-6321	90.24	90.06	92.64	92.54	91.27	91.19	1.37	1.35
MH-6318	MH-6319	90.86	90.59	92.81	92.63	91.47	91.26	1.34	1.37
MH-6319	MH-6320	90.59	90.42	92.63	92.62	91.26	91.23	1.37	1.39
MH-6320	MH-6321	90.42	90.06	92.62	92.54	91.23	91.19	1.39	1.35
MH-6321	MH-6322	90.06	90.00	92.54	92.51	91.19	91.15	1.35	1.36
MH-6322	MH-6323	90.00	89.67	92.51	92.50	91.15	91.12	1.36	1.38
MH-6323	MH-HW603	89.67	89.67	92.50	92.50	91.12	91.11	1.38	1.39
MH-6345	MH-6314	90.71	90.55	92.95	92.86	91.48	91.43	1.47	1.43
MH-6346	MH-6345	91.00	90.71	93.05	92.95	91.64	91.48	1.41	1.47
MH-6347	MH-6346	91.28	91.00	93.17	93.05	91.78	91.64	1.39	1.41
MH-7001	MH-7002	91.24	90.92	93.12	93.03	91.45	91.25	1.67	1.78
MH-7002	MH-7003	90.92	90.66	93.03	92.86	91.25	91.09	1.78	1.77
MH-7003	MH-7004	90.66	90.56	92.86	92.86	91.09	91.07	1.77	1.79
MH-7004	MH-7005	90.56	90.46	92.86	92.80	91.07	91.05	1.79	1.75
MH-7005	MH-7008	90.46	90.37	92.80	92.80	91.05	91.04	1.75	1.76
MH-7006	MH-7007	91.18	90.88	93.06	92.95	91.39	91.25	1.67	1.70
MH-7007	MH-7008	90.88	90.37	92.95	92.80	91.25	91.04	1.70	1.76
MH-7008	MH-HW701	90.37	90.34	92.80	92.80	91.04	91.02	1.76	1.78

Table 2: BCDC Phase 2 - Preliminary HGL Analysis
5-Year BCDC Development & 100-Year Jock River

MH ID		Invert Elevation		Top of MH		Max HGL		Freeboard	
Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
MH-1101	MH-1102	90.86	90.59	93.26	93.14	92.37	92.25	0.89	0.89
MH-1102	MH-1103	90.59	90.35	93.14	92.98	92.25	92.15	0.89	0.83
MH-1103	MH-1104	90.35	90.16	92.98	92.82	92.15	92.07	0.83	0.75
MH-1104	MH-1105	90.16	89.95	92.82	92.62	92.07	91.96	0.75	0.66
MH-1105	MH-1106	89.95	89.77	92.62	92.50	91.96	91.83	0.66	0.67
MH-1106	MH-HW101	89.77	89.67	92.50	92.50	91.83	91.78	0.67	0.72
MH-1201	MH-1202	91.44	91.13	93.39	93.21	92.50	92.38	0.89	0.83
MH-1202	MH-1204	91.13	90.84	93.21	93.16	92.38	92.34	0.83	0.82
MH-1203	MH-1204	91.40	90.84	93.34	93.16	92.50	92.34	0.84	0.82
MH-1204	MH-1210	90.84	90.60	93.16	93.07	92.34	92.30	0.82	0.77
MH-1205	MH-1207	91.49	91.20	93.36	93.25	92.50	92.43	0.86	0.82
MH-1206	MH-1207	91.47	91.20	93.27	93.25	92.43	92.43	0.84	0.82
MH-1207	MH-1209	91.20	90.92	93.25	93.16	92.43	92.36	0.82	0.80
MH-1208	MH-1209	91.41	90.92	93.28	93.16	92.48	92.36	0.80	0.80
MH-1209	MH-1210	90.92	90.60	93.16	93.07	92.36	92.30	0.80	0.77
MH-1210	MH-1218	90.60	90.28	93.07	92.96	92.30	92.19	0.77	0.77
MH-1211	MH-1213	91.57	91.21	93.36	93.27	92.51	92.38	0.85	0.89
MH-1212	MH-1213	91.51	91.21	93.31	93.27	92.39	92.38	0.92	0.89
MH-1213	MH-1216	91.21	90.93	93.27	93.19	92.38	92.35	0.89	0.84
MH-1214	MH-1216	91.41	90.93	93.28	93.19	92.42	92.35	0.86	0.84
MH-1215	MH-1216	91.42	90.93	93.22	93.19	92.36	92.35	0.86	0.84
MH-1216	MH-1217	90.93	90.78	93.19	93.09	92.35	92.31	0.84	0.78
MH-1217	MH-1218	90.78	90.28	93.09	92.96	92.31	92.19	0.78	0.77
MH-1218	MH-1220	90.28	90.17	92.96	92.87	92.19	92.15	0.77	0.72
MH-1219	MH-1220	91.11	90.17	92.98	92.87	92.22	92.15	0.76	0.72
MH-1220	MH-1221	90.17	90.07	92.87	92.78	92.15	92.09	0.72	0.69
MH-1221	MH-1222	90.07	89.94	92.78	92.68	92.09	92.02	0.69	0.66
MH-1222	MH-1223	89.94	89.77	92.68	92.57	92.02	91.93	0.66	0.64
MH-1223	MH-1224	89.77	89.69	92.57	92.55	91.93	91.88	0.64	0.67
MH-1224	MH-1230	89.69	89.56	92.55	92.50	91.88	91.78	0.67	0.72
MH-1227	MH-1228	90.61	90.39	92.71	92.53	91.86	91.81	0.85	0.72
MH-1228	MH-1229	90.39	90.34	92.53	92.51	91.81	91.80	0.72	0.71
MH-1229	MH-1230	90.34	89.56	92.51	92.50	91.80	91.78	0.71	0.72
MH-1230	MH-HW102	89.56	89.55	92.50	92.50	91.78	91.78	0.72	0.72
MH-2101	MH-2102	91.01	90.81	92.81	92.87	92.04	92.03	0.77	0.84
MH-2102	MH-2103	90.81	90.54	92.87	92.77	92.03	91.97	0.84	0.80
MH-2103	MH-2104	90.54	90.25	92.77	92.67	91.97	91.89	0.80	0.78
MH-2104	MH-2108	90.25	90.07	92.67	92.57	91.89	91.85	0.78	0.72
MH-2105	MH-2106	90.91	90.64	92.87	92.67	92.05	91.90	0.82	0.77
MH-2106	MH-2107	90.64	90.46	92.67	92.65	91.90	91.87	0.77	0.78
MH-2107	MH-2108	90.46	90.07	92.65	92.57	91.87	91.85	0.78	0.72
MH-2108	MH-2114	90.07	89.84	92.57	92.50	91.85	91.77	0.72	0.73
MH-2109	MH-2111	90.99	90.66	92.79	92.72	91.92	91.86	0.87	0.86
MH-2110	MH-2111	90.94	90.66	92.74	92.72	91.87	91.86	0.87	0.86
MH-2111	MH-2112	90.66	90.38	92.72	92.62	91.86	91.81	0.86	0.81
MH-2112	MH-2113	90.38	90.22	92.62	92.52	91.81	91.78	0.81	0.74
MH-2113	MH-2114	90.22	89.84	92.52	92.50	91.78	91.77	0.74	0.73
MH-2114	MH-HW201	89.84	89.80	92.50	92.50	91.77	91.75	0.73	0.75
MH-2201	MH-2202	91.51	91.21	93.31	93.22	92.27	92.23	1.04	0.99
MH-2202	MH-2204	91.21	90.99	93.22	93.05	92.23	92.17	0.99	0.88
MH-2203	MH-2204	91.35	90.99	93.24	93.05	92.18	92.17	1.06	0.88
MH-2204	MH-2207	90.99	90.78	93.05	92.96	92.17	92.13	0.88	0.83
MH-2205	MH-2206	91.42	91.12	93.22	93.13	92.26	92.20	0.96	0.93
MH-2206	MH-2207	91.12	90.78	93.13	92.96	92.20	92.13	0.93	0.83
MH-2207	MH-2210	90.78	90.54	92.96	92.86	92.13	92.06	0.83	0.80
MH-2208	MH-2209	91.14	90.85	93.09	92.99	92.19	92.13	0.90	0.86
MH-2209	MH-2210	90.85	90.54	92.99	92.86	92.13	92.06	0.86	0.80
MH-2210	MH-2213	90.54	90.31	92.86	92.77	92.06	92.00	0.80	0.77
MH-2211	MH-2212	91.11	90.82	92.98	92.88	92.19	92.11	0.79	0.77
MH-2212	MH-2213	90.82	90.31	92.88	92.77	92.11	92.00	0.77	0.77
MH-2213	MH-2215	90.31	90.14	92.77	92.68	92.00	91.94	0.77	0.74
MH-2214	MH-2215	90.94	90.14	92.73	92.68	91.95	91.94	0.78	0.74
MH-2215	MH-2216	90.14	90.00	92.68	92.57	91.94	91.89	0.74	0.68
MH-2216	MH-2217	90.00	89.86	92.57	92.45	91.89	91.83	0.68	0.62
MH-2217	MH-2218	89.86	89.81	92.45	92.44	91.83	91.81	0.62	0.63
MH-2218	MH-2225	89.81	89.69	92.44	92.40	91.81	91.75	0.63	0.65
MH-2219	MH-2221	90.92	90.67	92.72	92.57	91.95	91.93	0.77	0.64
MH-2220	MH-2221	90.92	90.67	92.72	92.57	91.94	91.93	0.78	0.64
MH-2221	MH-2222	90.67	90.36	92.57	92.56	91.93	91.85	0.64	0.71
MH-2222	MH-2223	90.36	90.18	92.56	92.44	91.85	91.80	0.71	0.64
MH-2223	MH-2224	90.18	90.10	92.44	92.43	91.80	91.78	0.64	0.65
MH-2224	MH-2225	90.10	89.69	92.43	92.40	91.78	91.75	0.65	0.65
MH-2225	MH-HW202	89.69	89.68	92.40	92.40	91.75	91.75	0.65	0.65

Table 2: BCDC Phase 2 - Preliminary HGL Analysis
5-Year BCDC Development & 100-Year Jock River

MH ID		Invert Elevation		Top of MH		Max HGL		Freeboard	
Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
MH-2301	MH-2302	91.37	91.08	93.25	93.14	92.42	92.36	0.83	0.78
MH-2302	MH-2304	91.08	90.87	93.14	93.03	92.36	92.26	0.78	0.77
MH-2303	MH-2304	91.26	90.87	93.06	93.03	92.27	92.26	0.79	0.77
MH-2304	MH-2308	90.87	90.52	93.03	92.94	92.26	92.18	0.77	0.76
MH-2305	MH-2306	91.21	90.99	93.15	93.05	92.29	92.25	0.86	0.80
MH-2306	MH-2308	90.99	90.52	93.05	92.94	92.25	92.18	0.80	0.76
MH-2307	MH-2308	91.26	90.52	93.11	92.94	92.20	92.18	0.91	0.76
MH-2308	MH-2312	90.52	90.28	92.94	92.85	92.18	92.13	0.76	0.72
MH-2309	MH-2310	91.11	90.82	93.07	92.96	92.28	92.21	0.79	0.75
MH-2310	MH-2312	90.82	90.28	92.96	92.85	92.21	92.13	0.75	0.72
MH-2311	MH-2312	91.10	90.28	92.90	92.85	92.20	92.13	0.70	0.72
MH-2312	MH-2316	90.28	90.12	92.85	92.75	92.13	92.08	0.72	0.67
MH-2313	MH-2314	91.02	90.80	92.96	92.86	92.19	92.14	0.77	0.72
MH-2314	MH-2316	90.80	90.12	92.86	92.75	92.14	92.08	0.72	0.67
MH-2315	MH-2316	91.01	90.12	92.80	92.75	92.10	92.08	0.70	0.67
MH-2316	MH-2318	90.12	90.01	92.75	92.67	92.08	92.02	0.67	0.65
MH-2317	MH-2318	90.92	90.01	92.72	92.67	91.98	92.02	0.74	0.65
MH-2317	MH-2323	90.92	90.68	92.72	92.69	91.98	91.95	0.74	0.74
MH-2318	MH-2319	90.01	89.86	92.67	92.55	92.02	91.94	0.65	0.61
MH-2319	MH-2320	89.86	89.72	92.55	92.45	91.94	91.86	0.61	0.59
MH-2320	MH-2321	89.72	89.67	92.45	92.44	91.86	91.83	0.59	0.61
MH-2321	MH-2327	89.67	89.56	92.44	92.40	91.83	91.75	0.61	0.65
MH-2322	MH-2323	90.92	90.68	92.72	92.69	91.96	91.95	0.76	0.74
MH-2323	MH-2324	90.68	90.37	92.69	92.57	91.95	91.86	0.74	0.71
MH-2324	MH-2325	90.37	90.19	92.57	92.45	91.86	91.80	0.71	0.65
MH-2325	MH-2326	90.19	90.10	92.45	92.43	91.80	91.79	0.65	0.64
MH-2326	MH-2327	90.10	89.56	92.43	92.40	91.79	91.75	0.64	0.65
MH-2327	MH-HW203	89.56	89.55	92.40	92.40	91.75	91.75	0.65	0.65
MH-3101	MH-3102	90.74	90.44	92.54	92.61	91.94	91.91	0.60	0.70
MH-3102	MH-3103	90.44	90.20	92.61	92.49	91.91	91.78	0.70	0.71
MH-3103	MH-3104	90.20	89.84	92.49	92.48	91.78	91.76	0.71	0.72
MH-3104	MH-HW301	89.84	89.79	92.48	92.48	91.76	91.73	0.72	0.75
MH-3105	MH-3107	90.81	90.30	92.61	92.58	91.97	91.89	0.64	0.69
MH-3106	MH-3107	90.85	90.30	92.65	92.58	91.92	91.89	0.73	0.69
MH-3107	MH-3108	90.30	90.07	92.58	92.41	91.89	91.83	0.69	0.58
MH-3108	MH-3109	90.07	89.98	92.41	92.41	91.83	91.81	0.58	0.60
MH-3109	MH-3104	89.98	89.84	92.41	92.48	91.81	91.76	0.60	0.72
MH-3150	MH-HW302	89.83	89.79	92.42	92.42	91.73	91.71	0.69	0.71
MH-3201	MH-3202	90.95	90.67	92.90	92.80	92.04	91.98	0.86	0.82
MH-3202	MH-3204	90.67	90.47	92.80	92.70	91.98	91.91	0.82	0.79
MH-3203	MH-3204	90.89	90.47	92.84	92.70	92.00	91.91	0.84	0.79
MH-3204	MH-3208	90.47	90.23	92.70	92.61	91.91	91.86	0.79	0.75
MH-3205	MH-3206	90.93	90.66	92.80	92.71	92.03	91.96	0.77	0.75
MH-3206	MH-3208	90.66	90.23	92.71	92.61	91.96	91.86	0.75	0.75
MH-3207	MH-3208	90.87	90.23	92.66	92.61	91.88	91.86	0.78	0.75
MH-3208	MH-3209	90.23	90.07	92.61	92.52	91.86	91.80	0.75	0.72
MH-3209	MH-3210	90.07	89.92	92.52	92.42	91.80	91.74	0.72	0.68
MH-3210	MH-3150	89.92	89.83	92.42	92.42	91.74	91.73	0.68	0.69
MH-3211	MH-3212	90.70	90.46	92.65	92.49	91.90	91.80	0.75	0.69
MH-3212	MH-3213	90.46	90.36	92.49	92.48	91.80	91.79	0.69	0.69
MH-3213	MH-3214	90.36	90.24	92.48	92.41	91.79	91.75	0.69	0.66
MH-3214	MH-3150	90.24	89.83	92.41	92.42	91.75	91.73	0.66	0.69
MH-3301	MH-3303	91.01	90.65	93.04	92.88	92.15	92.07	0.89	0.81
MH-3302	MH-3303	91.16	90.65	92.96	92.88	92.20	92.07	0.76	0.81
MH-3303	MH-3305	90.65	90.48	92.88	92.79	92.07	92.02	0.81	0.77
MH-3304	MH-3305	91.01	90.48	92.88	92.79	92.12	92.02	0.76	0.77
MH-3305	MH-3307	90.48	90.32	92.79	92.70	92.02	91.98	0.77	0.72
MH-3306	MH-3307	90.95	90.32	92.82	92.70	92.11	91.98	0.71	0.72
MH-3307	MH-3309	90.32	90.14	92.70	92.61	91.98	91.93	0.72	0.68
MH-3308	MH-3309	90.81	90.14	92.76	92.61	92.06	91.93	0.70	0.68
MH-3309	MH-3313	90.14	89.98	92.61	92.53	91.93	91.86	0.68	0.67
MH-3310	MH-3311	90.89	90.68	92.83	92.71	91.99	91.94	0.84	0.77
MH-3311	MH-3312	90.68	90.42	92.71	92.62	91.94	91.89	0.77	0.73
MH-3312	MH-3313	90.42	89.98	92.62	92.53	91.89	91.86	0.73	0.67
MH-3313	MH-3314	89.98	89.88	92.53	92.48	91.86	91.80	0.67	0.68
MH-3314	MH-3319	89.88	89.74	92.48	92.40	91.80	91.72	0.68	0.68
MH-3315	MH-3317	90.87	90.33	92.66	92.56	91.90	91.79	0.76	0.77
MH-3316	MH-3317	90.83	90.33	92.63	92.56	91.84	91.79	0.79	0.77
MH-3317	MH-3318	90.33	90.10	92.56	92.40	91.79	91.73	0.77	0.67
MH-3318	MH-3319	90.10	89.74	92.40	92.40	91.73	91.72	0.67	0.68
MH-3319	MH-HW303	89.74	89.72	92.40	92.40	91.72	91.71	0.68	0.69
MH-6101	MH-6106	90.35	90.22	92.55	92.55	92.05	92.00	0.50	0.55
MH-6102	MH-6103	90.82	90.55	92.70	92.77	92.20	92.15	0.50	0.62

Table 2: BCDC Phase 2 - Preliminary HGL Analysis
5-Year BCDC Development & 100-Year Jock River

MH ID		Invert Elevation		Top of MH		Max HGL		Freeboard	
Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream	Upstream	Downstream
MH-6103	MH-6101	90.55	90.35	92.77	92.55	92.15	92.05	0.62	0.50
MH-6104	MH-6108	90.47	90.05	92.50	92.50	91.97	91.93	0.53	0.57
MH-6106	MH-6107	90.22	90.17	92.55	92.55	92.00	91.99	0.55	0.56
MH-6107	MH-6108	90.17	90.05	92.55	92.50	91.99	91.93	0.56	0.57
MH-6108	MH-HW601	90.05	90.01	92.50	92.50	91.93	91.89	0.57	0.61
MH-6150	MH-6104	90.62	90.47	92.50	92.50	92.03	91.97	0.47	0.53
MH-6152	MH-6150	90.83	90.62	92.50	92.50	92.10	92.03	0.40	0.47
MH-6201	MH-6202	91.24	91.11	93.20	93.14	92.33	92.28	0.87	0.86
MH-6202	MH-6250	91.11	90.97	93.14	93.07	92.28	92.21	0.86	0.86
MH-6204	MH-6205	90.93	90.84	93.09	93.03	92.10	92.10	0.99	0.93
MH-6205	MH-6206	90.84	90.54	93.03	93.00	92.10	92.10	0.93	0.90
MH-6206	MH-6207	90.54	90.34	93.00	92.88	92.10	92.07	0.90	0.81
MH-6207	MH-6215	90.34	90.16	92.88	92.78	92.07	92.04	0.81	0.74
MH-6210	MH-6213	91.14	90.62	92.93	92.86	92.14	92.09	0.79	0.77
MH-6211	MH-6212	91.19	90.90	93.08	92.96	92.32	92.21	0.76	0.75
MH-6212	MH-6213	90.90	90.62	92.96	92.86	92.21	92.09	0.75	0.77
MH-6213	MH-6215	90.62	90.16	92.86	92.78	92.09	92.04	0.77	0.74
MH-6214	MH-6215	90.97	90.16	92.93	92.78	92.19	92.04	0.74	0.74
MH-6215	MH-6217	90.16	90.00	92.78	92.68	92.04	91.99	0.74	0.69
MH-6216	MH-6217	90.95	90.00	92.76	92.68	92.16	91.99	0.60	0.69
MH-6217	MH-6218	90.00	89.81	92.68	92.52	91.99	91.91	0.69	0.61
MH-6218	MH-6223	89.81	89.72	92.52	92.50	91.91	91.89	0.61	0.61
MH-6219	MH-6220	90.96	90.57	92.83	92.74	92.09	92.02	0.74	0.72
MH-6220	MH-6221	90.57	90.34	92.74	92.57	92.02	91.96	0.72	0.61
MH-6221	MH-6222	90.34	90.26	92.57	92.56	91.96	91.94	0.61	0.62
MH-6222	MH-6223	90.26	89.72	92.56	92.50	91.94	91.89	0.62	0.61
MH-6223	MH-HW602	89.72	89.68	92.50	92.50	91.89	91.87	0.61	0.63
MH-6250	MH-6206	90.97	90.54	93.07	93.00	92.21	92.10	0.86	0.90
MH-6301	MH-6303	91.43	91.21	93.23	93.13	92.29	92.24	0.94	0.89
MH-6302	MH-6303	91.37	91.21	93.17	93.13	92.25	92.24	0.92	0.89
MH-6303	MH-6304	91.21	91.00	93.13	93.11	92.24	92.22	0.89	0.89
MH-6304	MH-6305	91.00	90.67	93.11	92.98	92.22	92.12	0.89	0.86
MH-6305	MH-6306	90.67	90.47	92.98	92.80	92.12	92.04	0.86	0.76
MH-6306	MH-6307	90.47	90.26	92.80	92.66	92.04	91.95	0.76	0.71
MH-6307	MH-6308	90.26	90.08	92.66	92.54	91.95	91.89	0.71	0.65
MH-6308	MH-6309	90.08	90.00	92.54	92.53	91.89	91.87	0.65	0.66
MH-6309	MH-6323	90.00	89.67	92.53	92.50	91.87	91.84	0.66	0.66
MH-6310	MH-6311	91.30	91.11	93.10	93.10	92.20	92.19	0.90	0.91
MH-6311	MH-6312	91.11	90.87	93.10	92.98	92.19	92.14	0.91	0.84
MH-6312	MH-6314	90.87	90.55	92.98	92.86	92.14	92.08	0.84	0.78
MH-6314	MH-6316	90.55	90.38	92.86	92.77	92.08	92.02	0.78	0.75
MH-6315	MH-6316	90.97	90.38	92.84	92.77	92.08	92.02	0.76	0.75
MH-6316	MH-6317	90.38	90.24	92.77	92.64	92.02	91.96	0.75	0.68
MH-6317	MH-6321	90.24	90.06	92.64	92.54	91.96	91.89	0.68	0.65
MH-6318	MH-6319	90.86	90.59	92.81	92.63	92.10	91.95	0.71	0.68
MH-6319	MH-6320	90.59	90.42	92.63	92.62	91.95	91.92	0.68	0.70
MH-6320	MH-6321	90.42	90.06	92.62	92.54	91.92	91.89	0.70	0.65
MH-6321	MH-6322	90.06	90.00	92.54	92.51	91.89	91.86	0.65	0.65
MH-6322	MH-6323	90.00	89.67	92.51	92.50	91.86	91.84	0.65	0.66
MH-6323	MH-HW603	89.67	89.67	92.50	92.50	91.84	91.83	0.66	0.67
MH-6345	MH-6314	90.71	90.55	92.95	92.86	92.11	92.08	0.84	0.78
MH-6346	MH-6345	91.00	90.71	93.05	92.95	92.24	92.11	0.81	0.84
MH-6347	MH-6346	91.28	91.00	93.17	93.05	92.34	92.24	0.83	0.81
MH-7001	MH-7002	91.24	90.92	93.12	93.03	91.89	91.85	1.23	1.18
MH-7002	MH-7003	90.92	90.66	93.03	92.86	91.85	91.77	1.18	1.09
MH-7003	MH-7004	90.66	90.56	92.86	92.86	91.77	91.75	1.09	1.11
MH-7004	MH-7005	90.56	90.46	92.86	92.80	91.75	91.73	1.11	1.07
MH-7005	MH-7008	90.46	90.37	92.80	92.80	91.73	91.72	1.07	1.08
MH-7006	MH-7007	91.18	90.88	93.06	92.95	91.95	91.89	1.11	1.06
MH-7007	MH-7008	90.88	90.37	92.95	92.80	91.89	91.72	1.06	1.08
MH-7008	MH-HW701	90.37	90.34	92.80	92.80	91.72	91.71	1.08	1.09

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Attachment A

DSEL Rational Method Calculations

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Unknown Road7 - 07																																
	1101	1102			5.05	5.05			0.00	0.00	2.27	0.80	5.05	5.05			0.00	0.00	10.00	76.81	104.19	122.14	178.56	1004	825	825	CONC	0.15	98.0	555.9418	1.0400	1.5705	1.807
	1102	1103			0.00	5.05			0.00	0.00	0.37	0.80	0.82	5.87			0.00	0.00	11.57	71.26	96.57	113.16	165.37	1024	825	825	CONC	0.15	111.5	555.9418	1.0400	1.7869	1.842
	1103	1104			0.00	5.05			0.00	0.00	0.51	0.80	1.13	7.01			0.00	0.00	13.36	65.94	89.27	104.57	152.76	1065	1050	1050	CONC	0.15	111.5	1057.6053	1.2214	1.5215	1.007
	1104	1105			0.00	5.05			0.00	0.00	0.47	0.80	1.05	8.05			0.00	0.00	14.88	62.05	83.95	98.31	143.57	1105	1050	1050	CONC	0.15	125.0	1057.6053	1.2214	1.7057	1.045
	1105	1106			0.00	5.05			0.00	0.00	0.27	0.80	0.60	8.65			0.00	0.00	16.58	58.26	78.76	92.22	134.62	1092	1050	1050	CONC	0.15	83.5	1057.6053	1.2214	1.1394	1.032
To Unknown Road11 - 101, Pipe 1106 - HW101						5.05				0.00				8.65				0.00	17.72														
Unknown Road11 - 101																																
Contribution From Unknown Road7 - 07, Pipe 1105 - 1106						5.05				0.00				8.65				0.00	17.72														
	1106	HW101 (TRUNK 8)			0.00	5.05			0.00	0.00	0.14	0.80	0.31	8.96			0.00	0.00	17.72	56.01	75.68	88.59	129.30	1077	1050	1050	CONC	0.15	62.0	1057.6053	1.2214	0.8460	1.018
Unknown Road22 - 14																																
Contribution From Unknown Road51 - 39, Pipe 1211 - 1213						0.52				0.00				0.00				0.00	11.20														
Contribution From Unknown Road51 - 39, Pipe 1212 - 1213						0.20				0.00				0.00				0.00	10.55														
	1213	1216	0.09	0.65	0.16	0.89			0.00	0.00			0.00	0.00			0.00	0.00	11.20	72.47	98.23	115.12	168.25	64	450	450	CONC	0.20	64.5	127.5033	0.8017	1.3409	0.503
Contribution From Unknown Road50 - 38, Pipe 1214 - 1216						0.65				0.00				0.00				0.00	11.20														
Contribution From Unknown Road50 - 38, Pipe 1215 - 1216						0.20				0.00				0.00				0.00	10.56														
	1216	1217	0.07	0.65	0.13	1.86			0.00	0.00			0.00	0.00			0.00	0.00	12.55	68.24	92.43	108.29	158.21	127	600	600	CONC	0.15	62.5	237.8056	0.8411	1.2385	0.534
To Unknown Road52 - 40, Pipe 1217 - 1218						1.86				0.00				0.00				0.00	13.78														
Unknown Road10 - 10																																
			0.26	0.80	0.58	0.58			0.00	0.00			0.00	0.00			0.00	0.00														
	1203	1204	0.35	0.65	0.63	1.21			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	93	450	450	CONC	0.20	127.5	127.5033	0.8017	2.6506	0.729
To Unknown Road52 - 40, Pipe 1204 - 1210						1.21				0.00				0.00				0.00	12.65														
Unknown Road9 - 09																																
	1201	1202	0.48	0.80	1.07	1.07			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	82	450	450	CONC	0.20	122.5	127.5033	0.8017	2.5467	0.643
To Unknown Road52 - 40, Pipe 1202 - 1204						1.07				0.00				0.00				0.00	12.55														
	1206	1207	0.09	0.65	0.16	0.16			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	12	300	300	PVC	0.35	14.0	57.2089	0.8093	0.2883	0.218
Contribution From Unknown Road51 - 39, Pipe 1205 - 1207						0.65				0.00				0.00				0.00	11.40														
	1207	1209	0.24	0.65	0.43	1.25			0.00	0.00			0.00	0.00			0.00	0.00	11.40	71.82	97.34	114.07	166.71	90	450	450	CONC	0.20	65.0	127.5033	0.8017	1.3513	0.702
Contribution From Unknown Road50 - 38, Pipe 1208 - 1209						0.81				0.00				0.00				0.00	11.50														
	1209	1210	0.13	0.65	0.23	2.29			0.00	0.00			0.00	0.00			0.00	0.00	12.75	67.64	91.61	107.32	156.80	155	600	600	CONC	0.15	63.0	237.8056	0.8411	1.2484	0.653
To Unknown Road52 - 40, Pipe 1210 - 1218						2.29				0.00				0.00				0.00	14.00														
Unknown Road37 - 27																																
Contribution From Unknown Road52 - 40, Pipe 1210 - 1218						5.06				1.26				0.00				0.00	15.57														
Contribution From Unknown Road52 - 40, Pipe 1217 - 1218						1.86				0.87				0.00				0.00	15.42														
			0.09	0.80	0.20	7.12			0.00	2.13			0.00	0.00			0.00	0.00														
	1218	1220	0.13	0.65	0.23	7.36			0.00	2.13			0.00	0.00			0.00	0.00	15.57	60.45	81.76	95.73	139.79	619	975	975	CONC	0.15	56.5	867.9562	1.1625	0.8100	0.713
Contribution From Unknown Road49 - 37, Pipe 1219 - 1220						0.65				0.00				0.00				0.00	11.50														
			0.10	0.80	0.22	8.23			0.00	2.13			0.00	0.00			0.00	0.00														
	1220	1221	0.13	0.65	0.23	8.47			0.00	2.13			0.00	0.00			0.00	0.00	16.38	58.69	79.35	92.90	135.63	666	975	975	CONC	0.15	58.5	867.9562	1.1625	0.8387	0.767
To Unknown Road36 - 26, Pipe 1221 - 1222						8.47				2.13				0.00				0.00	17.22														
Unknown Road36 - 26																																
	1227	1228	0.73	0.80	1.62	1.62			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	125	600	600	CONC	0.15	125.5	237.8056	0.8411	2.4869	0.524
	1228	1229	0.03	0.65	0.05	1.68			0.00	0.00			0.00	0.00			0.00	0.00	12.49	68.41	92.67	108.57	158.63	115	600	600	CONC	0.15	10.5	237.8056	0.8411	0.2081	0.483
	1229	1230	0.01	0.65	0.02	1.70			0.00	0.00			0.00	0.00			0.00	0.00	12.69	67.80	91.83	107.58	157.18	115	600	600	CONC	0.15	9.5	237.8056	0.8411	0.1883	0.484
To Unknown Road12 - 102, Pipe 1230 - HW102						1.70				0.00				0.00				0.00	12.88														
Contribution From Unknown Road37 - 27, Pipe 1220 - 1221						8.47				2.13				0.00				0.00	17.22														
	1221	1222	0.36	0.65	0.65	9.12			0.00	2.13			0.00	0.00			0.00	0.00	17.22	56.98	77.01	90.15	131.60	684	975	975	CONC	0.15	70.5	867.9562	1.1625	1.0107	0.788
	1222	1223	0.41	0.65	0.74	9.86			0.00	2.13			0.00	0.00			0.00	0.00	18.23	55.06	74.39	87.07	127.08	701	975	975	CONC	0.15	71.5	867.9562	1.1625	1.0251	0.808
	1223	1224	0.08	0.65	0.14	10.00			0.00	2.13			0.00	0.00			0.00	0.00	19.26	53.26	71.93	84.18	122.84	686	975	975	CONC	0.15	17.0	867.9562	1.1625	0.2437	0.790

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY		
Checked: D.A.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 1 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	1224	1230	0.05	0.65	0.09	10.09			0.00	2.13			0.00	0.00			0.00	0.00	19.50	52.85	71.37	83.52	121.88	686	975	975	CONC	0.15	37.0	867.9562	1.1625	0.5305	0.790
To Unknown Road12 - 102, Pipe 1230 - HW102						10.09				2.13				0.00				0.00	20.03														
Unknown Road12 - 102																																	
Contribution From Unknown Road36 - 26, Pipe 1224 - 1230						10.09				2.13				0.00				0.00	20.03														
Contribution From Unknown Road36 - 26, Pipe 1229 - 1230						1.70				0.00				0.00				0.00	12.88														
	1230	HW102 (TRUNK 7)			0.00	11.79			0.00	2.13			0.00	0.00			0.00	0.00	20.03	51.98	70.19	82.13	119.84	762	1050	1050	CONC	0.15	4.0	1057.6053	1.2214	0.0546	0.721
Unknown Road23 - 15																																	
Contribution From Unknown Road34 - 25, Pipe 2102 - 2103						0.65				0.00				0.00				0.00	11.97														
	2103	2104	0.36	0.65	0.65	1.30			0.00	0.00			0.00	0.00			0.00	0.00	11.97	70.00	94.84	111.12	162.37	91	450	450	CONC	0.20	70.5	127.5033	0.8017	1.4657	0.714
	2104	2108	0.36	0.65	0.65	1.95			0.00	0.00			0.00	0.00			0.00	0.00	13.43	65.73	88.99	104.24	152.27	128	600	600	CONC	0.15	70.5	237.8056	0.8411	1.3970	0.539
To Unknown Road21 - 13, Pipe 2108 - 2114						1.95				0.00				0.00				0.00	14.83														
Unknown Road21 - 13																																	
Contribution From Unknown Road34 - 25, Pipe 2109 - 2111						0.38				0.00				0.00				0.00	11.01														
Contribution From Unknown Road34 - 25, Pipe 2110 - 2111						0.09				0.00				0.00				0.00	10.22														
	2111	2112	0.33	0.65	0.60	1.07			0.00	0.00			0.00	0.00			0.00	0.00	11.01	73.14	99.15	116.20	169.83	78	450	450	CONC	0.20	66.5	127.5033	0.8017	1.3825	0.612
	2112	2113	0.39	0.65	0.70	1.77			0.00	0.00			0.00	0.00			0.00	0.00	12.39	68.70	93.06	109.03	159.30	122	600	600	CONC	0.15	67.0	237.8056	0.8411	1.3277	0.512
	2113	2114	0.13	0.65	0.23	2.01			0.00	0.00			0.00	0.00			0.00	0.00	13.72	64.97	87.94	103.00	150.46	130	600	600	CONC	0.15	14.0	237.8056	0.8411	0.2774	0.548
To Unknown Road13 - 103, Pipe 2114 - HW201						2.01				0.00				0.00				0.00	14.00														
	2105	2106	0.70	0.65	1.26	1.26			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	97	450	450	CONC	0.20	123.5	127.5033	0.8017	2.5675	0.762
	2106	2107	0.12	0.65	0.22	1.48			0.00	0.00			0.00	0.00			0.00	0.00	12.57	68.18	92.34	108.18	158.06	101	450	450	CONC	0.20	13.0	127.5033	0.8017	0.2703	0.792
	2107	2108	0.20	0.65	0.36	1.84			0.00	0.00			0.00	0.00			0.00	0.00	12.84	67.39	91.26	106.92	156.20	124	600	600	CONC	0.15	55.5	237.8056	0.8411	1.0998	0.522
Contribution From Unknown Road23 - 15, Pipe 2104 - 2108						1.95				0.00				0.00				0.00	14.83														
	2108	2114	0.18	0.65	0.33	4.12			0.00	0.00			0.00	0.00			0.00	0.00	14.83	62.17	84.11	98.50	143.85	256	675	675	CONC	0.15	48.5	325.5584	0.9098	0.8885	0.787
To Unknown Road13 - 103, Pipe 2114 - HW201						4.12				0.00				0.00				0.00	15.72														
Unknown Road13 - 103																																	
Contribution From Unknown Road21 - 13, Pipe 2108 - 2114						4.12				0.00				0.00				0.00	15.72														
Contribution From Unknown Road21 - 13, Pipe 2113 - 2114						2.01				0.00				0.00				0.00	14.00														
	2114	HW201 (TRUNK 6)			0.00	6.13			0.00	0.00			0.00	0.00			0.00	0.00	15.72	60.12	81.31	95.20	139.01	368	825	825	CONC	0.15	26.5	555.9418	1.0400	0.4247	0.662
Unknown Road43 - 31																																	
Contribution From Unknown Road51 - 39, Pipe 2202 - 2204						0.94				0.00				0.00				0.00	12.40														
Contribution From Unknown Road51 - 39, Pipe 2203 - 2204						0.16				0.00				0.00				0.00	10.66														
	2204	2207	0.27	0.65	0.49	1.59			0.00	0.00			0.00	0.00			0.00	0.00	12.40	68.66	93.01	108.97	159.22	109	525	525	CONC	0.20	64.5	192.3297	0.8885	1.2100	0.568
Contribution From Unknown Road50 - 38, Pipe 2206 - 2207						1.03				0.00				0.00				0.00	12.41														
	2207	2210	0.25	0.65	0.45	3.07			0.00	0.00			0.00	0.00			0.00	0.00	13.61	65.25	88.32	103.46	151.12	200	600	600	CONC	0.15	62.5	237.8056	0.8411	1.2385	0.843
Contribution From Unknown Road52 - 40, Pipe 2209 - 2210						0.00				1.63				0.00				0.00	12.85														
	2210	2213	0.25	0.65	0.45	3.52			0.00	1.63			0.00	0.00			0.00	0.00	14.85	62.12	84.04	98.42	143.73	356	750	750	CONC	0.15	56.5	431.1703	0.9760	0.9649	0.825
Contribution From Unknown Road49 - 37, Pipe 2212 - 2213						1.34				0.00				0.00				0.00	12.84														
	2213	2215	0.26	0.65	0.47	5.33			0.00	1.63			0.00	0.00			0.00	0.00	15.82	59.91	81.01	94.86	138.50	451	825	825	CONC	0.15	58.5	555.9418	1.0400	0.9375	0.811
To Unknown Road44 - 32, Pipe 2215 - 2216						5.33				1.63				0.00				0.00	16.75														
Unknown Road44 - 32																																	
Contribution From Unknown Road34 - 25, Pipe 2219 - 2221						0.29				0.00				0.00				0.00	10.61														
Contribution From Unknown Road34 - 25, Pipe 2220 - 2221						0.18				0.00				0.00				0.00	10.50														
	2221	2222	0.42	0.65	0.76	1.23			0.00	0.00			0.00	0.00			0.00	0.00	10.61	74.55	101.09	118.49	173.19	92	450	450	CONC	0.20	80.5	127.5033	0.8017	1.6735	0.718
	2222	2223	0.47	0.65	0.85	2.08			0.00	0.00			0.00	0.00			0.00	0.00	12.28	69.03	93.51	109.57	160.09	143	600	600	CONC	0.15	80.5	237.8056	0.8411	1.5952	0.603
	2223	2224	0.06	0.65	0.11	2.19			0.00	0.00			0.00	0.00			0.00	0.00	13.88	64.55	87.37	102.34	149.48	141	600	600	CONC	0.15	14.0	237.8056	0.8411	0.2774	0.594
	2224	2225	0.03	0.65	0.05	2.24			0.00	0.00			0.00	0.00			0.00	0.00	14.15	63.84	86.40	101.19	147.79	143	600	600	CONC	0.15	22.0	237.8056	0.8411	0.4360	0.602
To Unknown Road27 - 201, Pipe 2225 - HW202						2.24				0.00				0.00				0.00	14.59														
Contribution From Unknown Road43 - 31, Pipe 2213 - 2215						5.33				1.63				0.00				0.00	16.75														
Contribution From Unknown Road34 - 25, Pipe 2214 - 2215						0.14				0.00				0.00				0.00	10.70														
	2215	2216	0.41	0.65	0.74	6.22			0.00	1.63			0.00	0.00			0.00	0.00	16.75	57.92	78.29	91.66	133.80	487	900	900	CONC	0.15	79.5	701.1305	1.1021	1.2022	0.695

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY		
Checked: D.A.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 2 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	2216	2217	0.46	0.65	0.83	7.05			0.00	1.63			0.00	0.00			0.00	0.00	17.96	55.57	75.08	87.89	128.27	514	900	900	CONC	0.15	79.5	701.1305	1.1021	1.2022	0.733
	2217	2218	0.05	0.65	0.09	7.14			0.00	1.63			0.00	0.00			0.00	0.00	19.16	53.43	72.15	84.45	123.23	499	900	900	CONC	0.15	13.0	701.1305	1.1021	0.1966	0.711
	2218	2225	0.03	0.65	0.05	7.19			0.00	1.63			0.00	0.00			0.00	0.00	19.36	53.09	71.70	83.91	122.45	498	900	900	CONC	0.15	23.5	701.1305	1.1021	0.3554	0.711
To Unknown Road27 - 201, Pipe 2225 - HW202						7.19				1.63				0.00				0.00	19.71														
Unknown Road27 - 201																																	
Contribution From Unknown Road44 - 32, Pipe 2218 - 2225						7.19				1.63				0.00				0.00	19.71														
Contribution From Unknown Road44 - 32, Pipe 2224 - 2225						2.24				0.00				0.00				0.00	14.59														
	2225	HW202 (TRUNK 5)			0.00	9.43			0.00	1.63			0.00	0.00			0.00	0.00	19.71	52.50	70.89	82.96	121.06	611	975	975	CONC	0.15	4.0	867.9562	1.1625	0.0573	0.703
Unknown Road46 - 34																																	
Contribution From Unknown Road51 - 39, Pipe 2302 - 2304						1.25				0.00				0.00				0.00	12.93														
Contribution From Unknown Road51 - 39, Pipe 2303 - 2304						0.13				0.00				0.00				0.00	10.31														
	2304	2308	0.09	0.65	0.16	1.54			0.00	0.00			0.00	0.00			0.00	0.00	12.93	67.13	90.91	106.50	155.58	103	450	450	CONC	0.20	64.5	127.5033	0.8017	1.3409	0.809
Contribution From Unknown Road50 - 38, Pipe 2306 - 2308						1.57				0.00				0.00				0.00	12.85														
Contribution From Unknown Road50 - 38, Pipe 2307 - 2308						0.29				0.00				0.00				0.00	10.63														
	2308	2312	0.07	0.65	0.13	3.52			0.00	0.00			0.00	0.00			0.00	0.00	14.27	63.55	85.99	100.72	147.10	224	675	675	CONC	0.15	62.0	325.5584	0.9098	1.1358	0.688
Contribution From Unknown Road52 - 40, Pipe 2310 - 2312						0.00				1.70				0.00				0.00	12.95														
Contribution From Unknown Road52 - 40, Pipe 2311 - 2312						0.00				0.36				0.00				0.00	10.64														
	2312	2316	0.07	0.65	0.13	3.65			0.00	2.06			0.00	0.00			0.00	0.00	15.41	60.83	82.27	96.34	140.67	391	825	825	CONC	0.15	56.5	555.9418	1.0400	0.9055	0.704
Contribution From Unknown Road49 - 37, Pipe 2314 - 2316						1.57				0.00				0.00				0.00	12.87														
Contribution From Unknown Road49 - 37, Pipe 2315 - 2316						0.33				0.00				0.00				0.00	10.64														
	2316	2318	0.08	0.65	0.14	5.69			0.00	2.06			0.00	0.00			0.00	0.00	16.31	58.84	79.55	93.14	135.98	499	900	900	CONC	0.15	58.5	701.1305	1.1021	0.8847	0.711
To Unknown Road45 - 33, Pipe 2318 - 2319						5.69				2.06				0.00				0.00	17.20														
Unknown Road45 - 33																																	
Contribution From Unknown Road34 - 25, Pipe 2317 - 2323						0.16				0.00				0.00				0.00	10.51														
Contribution From Unknown Road34 - 25, Pipe 2322 - 2323						0.16				0.00				0.00				0.00	10.41														
	2323	2324	0.43	0.65	0.78	1.10			0.00	0.00			0.00	0.00			0.00	0.00	10.51	74.88	101.55	119.03	173.99	83	450	450	CONC	0.20	82.5	127.5033	0.8017	1.7151	0.647
	2324	2325	0.48	0.65	0.87	1.97			0.00	0.00			0.00	0.00			0.00	0.00	12.23	69.19	93.73	109.82	160.46	136	600	600	CONC	0.15	82.5	237.8056	0.8411	1.6348	0.573
	2325	2326	0.05	0.65	0.09	2.06			0.00	0.00			0.00	0.00			0.00	0.00	13.86	64.58	87.41	102.39	149.55	133	600	600	CONC	0.15	14.5	237.8056	0.8411	0.2873	0.559
	2326	2327	0.03	0.65	0.05	2.11			0.00	0.00			0.00	0.00			0.00	0.00	14.15	63.84	86.40	101.20	147.80	135	600	600	CONC	0.15	21.5	237.8056	0.8411	0.4260	0.568
To Unknown Road28 - 202, Pipe 2327 - HW203						2.11				0.00				0.00				0.00	14.58														
Contribution From Unknown Road46 - 34, Pipe 2316 - 2318						5.69				2.06				0.00				0.00	17.20														
Contribution From Unknown Road34 - 25, Pipe 2317 - 2318						0.22				0.00				0.00				0.00	10.81														
	2318	2319	0.45	0.65	0.81	6.72			0.00	2.06			0.00	0.00			0.00	0.00	17.20	57.03	77.07	90.23	131.71	542	900	900	CONC	0.15	85.5	701.1305	1.1021	1.2930	0.773
	2319	2320	0.44	0.65	0.80	7.52			0.00	2.06			0.00	0.00			0.00	0.00	18.49	54.60	73.75	86.33	125.98	562	900	900	CONC	0.15	73.0	701.1305	1.1021	1.1039	0.802
	2320	2321	0.02	0.65	0.04	7.55			0.00	2.06			0.00	0.00			0.00	0.00	19.59	52.70	71.16	83.28	121.51	545	900	900	CONC	0.15	11.5	701.1305	1.1021	0.1739	0.777
	2321	2327	0.03	0.65	0.05	7.61			0.00	2.06			0.00	0.00			0.00	0.00	19.77	52.41	70.77	82.82	120.84	544	900	900	CONC	0.15	25.5	701.1305	1.1021	0.3856	0.777
To Unknown Road28 - 202, Pipe 2327 - HW203						7.61				2.06				0.00				0.00	20.15														
Unknown Road28 - 202																																	
Contribution From Unknown Road45 - 33, Pipe 2321 - 2327						7.61				2.06				0.00				0.00	20.15														
Contribution From Unknown Road45 - 33, Pipe 2326 - 2327						2.11				0.00				0.00				0.00	14.58														
	2327	HW203 (TRUNK 4)			0.00	9.72			0.00	2.06			0.00	0.00			0.00	0.00	20.15	51.79	69.92	81.82	119.38	647	975	975	CONC	0.15	4.5	867.9562	1.1625	0.0645	0.746
Unknown Road34 - 25																																	
	2109	2111	0.21	0.65	0.38	0.38			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	29	300	300	PVC	0.35	49.0	57.2089	0.8093	1.0091	0.509
To Unknown Road21 - 13, Pipe 2111 - 2112						0.38				0.00				0.00				0.00	11.01														
	2110	2111	0.05	0.65	0.09	0.09			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	7	300	300	PVC	0.35	10.5	57.2089	0.8093	0.2162	0.121
To Unknown Road21 - 13, Pipe 2111 - 2112						0.09				0.00				0.00				0.00	10.22														
	2214	2215	0.08	0.65	0.14	0.14			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	11	300	300	PVC	0.35	34.0	57.2089	0.8093	0.7002	0.194
To Unknown Road44 - 32, Pipe 2215 - 2216						0.14				0.00				0.00				0.00	10.70														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY	
Checked: D.A.	LOCATION: City of Ottawa	
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021
		Sheet No. SHEET 3 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	2219	2221	0.16	0.65	0.29	0.29			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	22	300	300	PVC	0.35	29.5	57.2089	0.8093	0.6075	0.388
To Unknown Road44 - 32, Pipe 2221 - 2222						0.29				0.00				0.00				0.00	10.61														
	2220	2221	0.10	0.65	0.18	0.18			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	14	300	300	PVC	0.35	24.5	57.2089	0.8093	0.5045	0.243
To Unknown Road44 - 32, Pipe 2221 - 2222						0.18				0.00				0.00				0.00	10.50														
	2317	2318	0.12	0.65	0.22	0.22			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	17	300	300	PVC	0.35	39.5	57.2089	0.8093	0.8134	0.291
To Unknown Road45 - 33, Pipe 2318 - 2319						0.22				0.00				0.00				0.00	10.81														
	2317	2323	0.09	0.65	0.16	0.16			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	12	300	300	PVC	0.35	25.0	57.2089	0.8093	0.5148	0.218
To Unknown Road45 - 33, Pipe 2323 - 2324						0.16				0.00				0.00				0.00	10.51														
	2322	2323	0.09	0.65	0.16	0.16			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	12	300	300	PVC	0.35	20.0	57.2089	0.8093	0.4119	0.218
To Unknown Road45 - 33, Pipe 2323 - 2324						0.16				0.00				0.00				0.00	10.41														
	3101	3102	0.18	0.65	0.33	0.33			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	25	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.437
To Unknown Road47 - 35, Pipe 3102 - 3103						0.33				0.00				0.00				0.00	10.86														
	3105	3107	0.23	0.65	0.42	0.42			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	32	300	300	PVC	0.35	59.5	57.2089	0.8093	1.2253	0.558
To Unknown Road47 - 35, Pipe 3107 - 3108						0.42				0.00				0.00				0.00	11.23														
	3106	3107	0.17	0.65	0.31	0.31			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	24	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.412
To Unknown Road47 - 35, Pipe 3107 - 3108						0.31				0.00				0.00				0.00	10.86														
	2101	2102	0.13	0.65	0.23	0.23			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	18	300	300	PVC	0.35	35.5	57.2089	0.8093	0.7310	0.315
	2102	2103	0.23	0.65	0.42	0.65			0.00	0.00			0.00	0.00			0.00	0.00	10.73	74.11	100.48	117.77	172.14	48	375	375	PVC	0.30	64.5	96.0323	0.8695	1.2364	0.502
To Unknown Road23 - 15, Pipe 2103 - 2104						0.65				0.00				0.00				0.00	11.97														
Unknown Road47 - 35																																
Contribution From Unknown Road34 - 25, Pipe 3101 - 3102						0.33				0.00				0.00				0.00	10.86														
	3102	3103	0.55	0.65	0.99	1.32			0.00	0.00			0.00	0.00			0.00	0.00	10.86	73.64	99.84	117.01	171.02	97	450	450	CONC	0.20	103.5	127.5033	0.8017	2.1517	0.762
	3103	3104	0.09	0.65	0.16	1.48			0.00	0.00			0.00	0.00			0.00	0.00	13.02	66.88	90.57	106.10	155.00	99	450	450	CONC	0.20	10.5	127.5033	0.8017	0.2183	0.777
To Unknown Road29 - 203, Pipe 3104 - HW301						1.48				0.00				0.00				0.00	13.23														
Contribution From Unknown Road34 - 25, Pipe 3105 - 3107						0.42				0.00				0.00				0.00	11.23														
Contribution From Unknown Road34 - 25, Pipe 3106 - 3107						0.31				0.00				0.00				0.00	10.86														
	3107	3108	0.62	0.65	1.12	1.84			0.00	0.00			0.00	0.00			0.00	0.00	11.23	72.40	98.14	115.01	168.08	133	600	600	CONC	0.15	116.5	237.8056	0.8411	2.3086	0.561
	3108	3109	0.18	0.65	0.33	2.17			0.00	0.00			0.00	0.00			0.00	0.00	13.53	65.46	88.61	103.80	151.62	142	600	600	CONC	0.15	16.5	237.8056	0.8411	0.3270	0.597
	3109	3104	0.17	0.65	0.31	2.48			0.00	0.00			0.00	0.00			0.00	0.00	13.86	64.59	87.43	102.40	149.58	160	600	600	CONC	0.15	47.0	237.8056	0.8411	0.9314	0.672
To Unknown Road29 - 203, Pipe 3104 - HW301						2.48				0.00				0.00				0.00	14.79														
Unknown Road29 - 203																																
Contribution From Unknown Road47 - 35, Pipe 3103 - 3104						1.48				0.00				0.00				0.00	13.23														
Contribution From Unknown Road47 - 35, Pipe 3109 - 3104						2.48				0.00				0.00				0.00	14.79														
	3104	HW301 (TRUNK 3)			0.00	3.96			0.00	0.00			0.00	0.00			0.00	0.00	14.79	62.26	84.23	98.65	144.06	246	675	675	CONC	0.15	31.0	325.5584	0.9098	0.5679	0.757
Unknown Road24 - 16																																
	3211	3212	0.62	0.65	1.12	1.12			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	86	450	450	CONC	0.20	103.0	127.5033	0.8017	2.1413	0.675
	3212	3213	0.08	0.65	0.14	1.26			0.00	0.00			0.00	0.00			0.00	0.00	12.14	69.46	94.10	110.25	161.10	88	450	450	CONC	0.20	10.5	127.5033	0.8017	0.2183	0.689
	3213	3214	0.18	0.65	0.33	1.59			0.00	0.00			0.00	0.00			0.00	0.00	12.36	68.79	93.19	109.18	159.53	109	525	525	CONC	0.20	49.0	192.3297	0.8885	0.9192	0.569
	3214	3150			0.00	1.59			0.00	0.00			0.00	0.00			0.00	0.00	13.28	66.15	89.56	104.92	153.27	105	525	525	CONC	0.20	12.0	192.3297	0.8885	0.2251	0.547
To Unknown Road41 - 301, Pipe 3150 - HW302						1.59				0.00				0.00				0.00	13.50														
Contribution From Unknown Road52 - 40, Pipe 3202 - 3204						0.00				1.70				0.00				0.00	12.64														
Contribution From Unknown Road52 - 40, Pipe 3203 - 3204						0.00				0.76				0.00				0.00	11.96														
	3204	3208	0.07	0.65	0.13	0.13			0.00	2.46			0.00	0.00			0.00	0.00	12.64	67.97	92.05	107.84	157.56	235	675	675	CONC	0.15	56.0	325.5584	0.9098	1.0259	0.721

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY		
Checked: D.A.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 4 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Contribution From Unknown Road49 - 37, Pipe 3206 - 3208						1.36				0.00				0.00				0.00	12.60													
Contribution From Unknown Road49 - 37, Pipe 3207 - 3208						0.25				0.00				0.00				0.00	10.89													
	3208	3209	0.19	0.65	0.34	2.08			0.00	2.46			0.00	0.00			0.00	0.00	13.67	65.11	88.13	103.23	150.79	352	750	750	CONC	0.15	58.5	431.1703	0.9760	0.9990	0.816
	3209	3210	0.42	0.65	0.76	2.84			0.00	2.46			0.00	0.00			0.00	0.00	14.66	62.57	84.66	99.15	144.79	386	825	825	CONC	0.15	77.0	555.9418	1.0400	1.2340	0.694
To Unknown Road41 - 301, Pipe 3210 - 3150						2.84				2.46				0.00				0.00	15.90													
Unknown Road41 - 301																																
Contribution From Unknown Road24 - 16, Pipe 3209 - 3210						2.84				2.46				0.00				0.00	15.90													
	3210	3150	0.20	0.65	0.36	3.20			0.00	2.46			0.00	0.00			0.00	0.00	15.90	59.73	80.76	94.57	138.07	390	825	825	CONC	0.15	11.0	555.9418	1.0400	0.1763	0.701
Contribution From Unknown Road24 - 16, Pipe 3214 - 3150						1.59				0.00				0.00				0.00	13.50													
	3150	HW302 (TRUNK 2)			0.00	4.79			0.00	2.46			0.00	0.00			0.00	0.00	16.07	59.34	80.24	93.95	137.17	481	900	900	CONC	0.15	25.0	701.1305	1.1021	0.3781	0.687
Unknown Road26 - 20																																
	3306	3307	0.45	0.65	0.81	0.81			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	62	375	375	PVC	0.30	85.5	96.0323	0.8695	1.6389	0.650
To Unknown Road25 - 19, Pipe 3307 - 3309						0.81				0.00				0.00				0.00	11.64													
	3308	3309	0.64	0.65	1.16	1.16			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	89	450	450	CONC	0.20	106.5	127.5033	0.8017	2.2141	0.697
To Unknown Road25 - 19, Pipe 3309 - 3313						1.16				0.00				0.00				0.00	12.21													
Unknown Road30 - 21																																
	3302	3303	0.29	0.65	0.52	0.52			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	40	300	300	PVC	0.35	60.0	57.2089	0.8093	1.2356	0.704
To Unknown Road25 - 19, Pipe 3303 - 3305						0.52				0.00				0.00				0.00	11.24													
	3304	3305	0.42	0.65	0.76	0.76			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	58	375	375	PVC	0.30	73.0	96.0323	0.8695	1.3993	0.607
To Unknown Road25 - 19, Pipe 3305 - 3307						0.76				0.00				0.00				0.00	11.40													
Unknown Road25 - 19																																
	3301	3303	0.84	0.65	1.52	1.52			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	117	525	525	CONC	0.20	102.0	192.3297	0.8885	1.9134	0.606
Contribution From Unknown Road30 - 21, Pipe 3302 - 3303						0.52				0.00				0.00				0.00	11.24													
	3303	3305	0.23	0.65	0.42	2.46			0.00	0.00			0.00	0.00			0.00	0.00	11.91	70.16	95.07	111.39	162.77	172	600	600	CONC	0.15	64.5	237.8056	0.8411	1.2781	0.725
Contribution From Unknown Road30 - 21, Pipe 3304 - 3305						0.76				0.00				0.00				0.00	11.40													
	3305	3307	0.19	0.65	0.34	3.56			0.00	0.00			0.00	0.00			0.00	0.00	13.19	66.39	89.89	105.31	153.84	236	675	675	CONC	0.15	52.5	325.5584	0.9098	0.9618	0.726
Contribution From Unknown Road26 - 20, Pipe 3306 - 3307						0.81				0.00				0.00				0.00	11.64													
	3307	3309	0.24	0.65	0.43	4.81			0.00	0.00			0.00	0.00			0.00	0.00	14.15	63.84	86.40	101.19	147.79	307	750	750	CONC	0.15	64.5	431.1703	0.9760	1.1015	0.712
Contribution From Unknown Road26 - 20, Pipe 3308 - 3309						1.16				0.00				0.00				0.00	12.21													
	3309	3313	0.22	0.65	0.40	6.36			0.00	0.00			0.00	0.00			0.00	0.00	15.25	61.17	82.74	96.89	141.49	389	825	825	CONC	0.15	58.5	555.9418	1.0400	0.9375	0.700
To Unknown Road48 - 36, Pipe 3313 - 3314						6.36				0.00				0.00				0.00	16.19													
Unknown Road49 - 37																																
	1219	1220	0.36	0.65	0.65	0.65			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	50	375	375	PVC	0.30	78.0	96.0323	0.8695	1.4951	0.520
To Unknown Road37 - 27, Pipe 1220 - 1221						0.65				0.00				0.00				0.00	11.50													
	2315	2316	0.18	0.65	0.33	0.33			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	25	300	300	PVC	0.35	31.0	57.2089	0.8093	0.6384	0.437
To Unknown Road46 - 34, Pipe 2316 - 2318						0.33				0.00				0.00				0.00	10.64													
	3207	3208	0.14	0.65	0.25	0.25			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	19	300	300	PVC	0.35	43.0	57.2089	0.8093	0.8855	0.340
To Unknown Road24 - 16, Pipe 3208 - 3209						0.25				0.00				0.00				0.00	10.89													
	3315	3317	0.26	0.65	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	300	300	PVC	0.35	66.0	57.2089	0.8093	1.3591	0.631
To Unknown Road48 - 36, Pipe 3317 - 3318						0.47				0.00				0.00				0.00	11.36													
	3316	3317	0.19	0.65	0.34	0.34			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	26	300	300	PVC	0.35	49.0	57.2089	0.8093	1.0091	0.461
To Unknown Road48 - 36, Pipe 3317 - 3318						0.34				0.00				0.00				0.00	11.01													
	2211	2212	0.44	0.65	0.80	0.80			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	61	375	375	PVC	0.30	71.0	96.0323	0.8695	1.3610	0.636
	2212	2213	0.30	0.65	0.54	1.34			0.00	0.00			0.00	0.00			0.00	0.00	11.36	71.95	97.51	114.28	167.01	96	450	450	CONC	0.20	71.0	127.5033	0.8017	1.4760	0.755
To Unknown Road43 - 31, Pipe 2213 - 2215						1.34				0.00				0.00				0.00	12.84													

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY	
Checked: D.A.	LOCATION: City of Ottawa	
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021
		Sheet No. SHEET 5 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	2313	2314	0.50	0.65	0.90	0.90			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	69	450	450	CONC	0.20	72.5	127.5033	0.8017	1.5072	0.544
	2314	2316	0.37	0.65	0.67	1.57			0.00	0.00			0.00	0.00			0.00	0.00	11.51	71.46	96.85	113.50	165.86	112	525	525	CONC	0.20	72.5	192.3297	0.8885	1.3600	0.584
To Unknown Road46 - 34, Pipe 2316 - 2318						1.57				0.00				0.00				0.00	12.87														
	3205	3206	0.40	0.65	0.72	0.72			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	56	375	375	PVC	0.30	65.0	96.0323	0.8695	1.2459	0.578
	3206	3208	0.35	0.65	0.63	1.36			0.00	0.00			0.00	0.00			0.00	0.00	11.25	72.33	98.04	114.90	167.92	98	450	450	CONC	0.20	65.0	127.5033	0.8017	1.3513	0.769
To Unknown Road24 - 16, Pipe 3208 - 3209						1.36				0.00				0.00				0.00	12.60														
Unknown Road48 - 36																																	
Contribution From Unknown Road49 - 37, Pipe 3315 - 3317						0.47				0.00				0.00				0.00	11.36														
Contribution From Unknown Road49 - 37, Pipe 3316 - 3317						0.34				0.00				0.00				0.00	11.01														
	3317	3318	0.58	0.65	1.05	1.86			0.00	0.00			0.00	0.00			0.00	0.00	11.36	71.95	97.52	114.29	167.02	134	600	600	CONC	0.15	113.0	237.8056	0.8411	2.2392	0.563
To Unknown Road42 - 302, Pipe 3318 - 3319						1.86				0.00				0.00				0.00	13.60														
Contribution From Unknown Road52 - 40, Pipe 3310 - 3311						0.00				0.65				0.00				0.00	11.51														
	3311	3312	0.18	0.65	0.33	0.33			0.00	0.65			0.00	0.00			0.00	0.00	11.51	71.46	96.85	113.50	165.86	86	450	450	CONC	0.20	56.5	127.5033	0.8017	1.1746	0.676
	3312	3313	0.37	0.65	0.67	0.99			0.00	0.65			0.00	0.00			0.00	0.00	12.68	67.84	91.88	107.64	157.27	127	600	600	CONC	0.15	71.0	237.8056	0.8411	1.4069	0.535
Contribution From Unknown Road25 - 19, Pipe 3309 - 3313						6.36				0.00				0.00				0.00	16.19														
	3313	3314	0.10	0.65	0.18	7.54			0.00	0.65			0.00	0.00			0.00	0.00	16.19	59.09	79.89	93.54	136.57	497	900	900	CONC	0.15	29.5	701.1305	1.1021	0.4461	0.709
	3314	3319	0.07	0.65	0.13	7.66			0.00	0.65			0.00	0.00			0.00	0.00	16.64	58.15	78.61	92.04	134.36	497	900	900	CONC	0.15	53.5	701.1305	1.1021	0.8091	0.708
To Unknown Road42 - 302, Pipe 3319 - HW303						7.66				0.65				0.00				0.00	17.45														
Unknown Road42 - 302																																	
Contribution From Unknown Road48 - 36, Pipe 3317 - 3318						1.86				0.00				0.00				0.00	13.60														
	3318	3319	0.07	0.65	0.13	1.99			0.00	0.00			0.00	0.00			0.00	0.00	13.60	65.29	88.38	103.52	151.22	130	600	600	CONC	0.15	8.5	237.8056	0.8411	0.1684	0.546
Contribution From Unknown Road48 - 36, Pipe 3314 - 3319						7.66				0.65				0.00				0.00	17.45														
	3319	HW303 (TRUNK 1)			0.00	9.65			0.00	0.65			0.00	0.00			0.00	0.00	17.45	56.54	76.40	89.44	130.55	595	900	900	CONC	0.15	8.0	701.1305	1.1021	0.1210	0.849
Unknown Road1 - 01																																	
	6152	6150	0.26	0.65	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	300	300	PVC	0.35	42.0	57.2089	0.8093	0.8649	0.631
	6150	6104	0.07	0.65	0.13	0.60			0.00	0.00			0.00	0.00			0.00	0.00	10.86	73.64	99.84	117.01	171.02	44	300	300	PVC	0.35	22.0	57.2089	0.8093	0.4530	0.768
	6104	6108	0.20	0.65	0.36	0.96			0.00	0.00			0.00	0.00			0.00	0.00	11.32	72.09	97.71	114.51	167.35	69	375	375	PVC	0.30	22.0	96.0323	0.8695	0.4217	0.719
To Unknown Road53 - 601, Pipe 6108 - HW601						0.96				0.00				0.00				0.00	11.74														
Contribution From Unknown Road52 - 40, Pipe 6103 - 6101						0.00				1.39				0.00				0.00	11.93														
			0.07	0.65	0.13	0.13			0.00	1.39			0.00	0.00			0.00	0.00															
	6101	6106			0.00	0.13	0.15	0.65	0.27	1.66			0.00	0.00			0.00	0.00	11.93	70.11	95.00	111.31	162.65	167	600	600	CONC	0.15	66.0	237.8056	0.8411	1.3079	0.701
	6106	6107	0.02	0.65	0.04	0.16			0.00	1.66			0.00	0.00			0.00	0.00	13.24	66.27	89.72	105.10	153.53	160	600	600	CONC	0.15	10.0	237.8056	0.8411	0.1982	0.673
	6107	6108	0.16	0.65	0.29	0.45			0.00	1.66			0.00	0.00			0.00	0.00	13.44	65.72	88.98	104.23	152.25	178	600	600	CONC	0.15	40.0	237.8056	0.8411	0.7926	0.747
To Unknown Road53 - 601, Pipe 6108 - HW601						0.45				1.66				0.00				0.00	14.23														
Unknown Road53 - 601																																	
Contribution From Unknown Road1 - 01, Pipe 6104 - 6108						0.96				0.00				0.00				0.00	11.74														
Contribution From Unknown Road1 - 01, Pipe 6107 - 6108						0.45				1.66				0.00				0.00	14.23														
	6108	HW601			0.00	1.41			0.00	1.66			0.00	0.00			0.00	0.00	14.23	63.65	86.13	100.88	147.34	233	600	600	CONC	0.20	23.5	274.5943	0.9712	0.4033	0.848
Unknown Road3 - 03																																	
	6211	6212	0.48	0.65	0.87	0.87			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	67	375	375	PVC	0.30	72.5	96.0323	0.8695	1.3897	0.694
	6212	6213	0.33	0.65	0.60	1.46			0.00	0.00			0.00	0.00			0.00	0.00	11.39	71.85	97.38	114.12	166.78	105	450	450	CONC	0.20	65.5	127.5033	0.8017	1.3617	0.825
To Unknown Road2 - 02, Pipe 6213 - 6215						1.46				0.00				0.00				0.00	12.75														
Unknown Road38 - 28																																	
	6201	6202	0.52	0.80	1.16	1.16			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	89	450	450	CONC	0.20	31.5	127.5033	0.8017	0.6549	0.697
To Unknown Road4 - 04, Pipe 6202 - 6250						1.16				0.00				0.00				0.00	10.65														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT:	BARRHAVEN CONSERVANCY	
Checked: D.A.	LOCATION:	City of Ottawa	
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 6 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Unknown Road39 - 29																																
Contribution From Unknown Road4 - 04, Pipe 6205 - 6206						0.65				0.00				0.00				0.00	11.16													
Contribution From Unknown Road4 - 04, Pipe 6250 - 6206						1.64				0.00				0.00				0.00	12.42													
	6206	6207	0.29	0.65	0.52	2.82			0.00	0.00			0.00	0.00			0.00	0.00	12.42	68.61	92.93	108.88	159.09	193	750	750	CONC	0.15	84.0	431.1703	0.9760	1.4345	0.449
			0.23	0.65	0.42	3.23			0.00	0.00			0.00	0.00			0.00	0.00														
	6207	6215	1.07	0.40	1.19	4.42			0.00	0.00			0.00	0.00			0.00	0.00	13.86	64.61	87.45	102.43	149.61	286	825	825	CONC	0.15	69.5	555.9418	1.0400	1.1138	0.514
Contribution From Unknown Road2 - 02, Pipe 6213 - 6215						2.17				0.00				0.00				0.00	13.91													
Contribution From Unknown Road2 - 02, Pipe 6214 - 6215						1.21				0.00				0.00				0.00	12.40													
	6215	6217	0.07	0.65	0.13	7.93			0.00	0.00			0.00	0.00			0.00	0.00	14.97	61.84	83.66	97.97	143.06	490	900	900	CONC	0.15	62.5	701.1305	1.1021	0.9452	0.699
To Unknown Road40 - 30, Pipe 6217 - 6218						7.93				0.00				0.00				0.00	15.91													
Unknown Road40 - 30																																
Contribution From Unknown Road52 - 40, Pipe 6219 - 6220						0.00				0.54				0.00				0.00	11.01													
	6220	6221	0.61	0.65	1.10	1.10			0.00	0.54			0.00	0.00			0.00	0.00	11.01	73.15	99.16	116.22	169.85	134	600	600	CONC	0.15	114.5	237.8056	0.8411	2.2689	0.565
	6221	6222	0.17	0.65	0.31	1.41			0.00	0.54			0.00	0.00			0.00	0.00	13.28	66.16	89.58	104.93	153.29	142	600	600	CONC	0.15	16.0	237.8056	0.8411	0.3171	0.596
	6222	6223	0.18	0.65	0.33	1.73			0.00	0.54			0.00	0.00			0.00	0.00	13.59	65.30	88.40	103.55	151.25	161	600	600	CONC	0.15	46.5	237.8056	0.8411	0.9215	0.678
To Unknown Road54 - 602, Pipe 6223 - HW602						1.73				0.54				0.00				0.00	14.51													
Contribution From Unknown Road39 - 29, Pipe 6215 - 6217						7.93				0.00				0.00				0.00	15.91													
Contribution From Unknown Road52 - 40, Pipe 6216 - 6217						0.00				0.45				0.00				0.00	11.18													
	6217	6218	0.56	0.65	1.01	8.94			0.00	0.45			0.00	0.00			0.00	0.00	15.91	59.69	80.71	94.51	137.99	570	975	975	CONC	0.15	104.0	867.9562	1.1625	1.4910	0.657
	6218	6223	0.09	0.65	0.16	9.10			0.00	0.45			0.00	0.00			0.00	0.00	17.41	56.62	76.51	89.57	130.74	550	975	975	CONC	0.15	11.0	867.9562	1.1625	0.1577	0.634
To Unknown Road54 - 602, Pipe 6223 - HW602						9.10				0.45				0.00				0.00	17.56													
Unknown Road54 - 602																																
Contribution From Unknown Road40 - 30, Pipe 6218 - 6223						9.10				0.45				0.00				0.00	17.56													
Contribution From Unknown Road40 - 30, Pipe 6222 - 6223						1.73				0.54				0.00				0.00	14.51													
	6223	HW602			0.00	10.84			0.00	0.99			0.00	0.00			0.00	0.00	17.56	56.31	76.10	89.08	130.02	686	1050	1050	CONC	0.15	24.5	1057.6053	1.2214	0.3343	0.649
Unknown Road4 - 04																																
	6302	6303	0.04	0.80	0.09	0.09			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	7	300	300	PVC	0.35	21.0	57.2089	0.8093	0.4325	0.119
To Unknown Road33 - 24, Pipe 6303 - 6304						0.09				0.00				0.00				0.00	10.43													
	6204	6205	0.33	0.65	0.60	0.60			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	46	600	600	CONC	0.15	39.0	237.8056	0.8411	0.7728	0.193
	6205	6206	0.03	0.65	0.05	0.65			0.00	0.00			0.00	0.00			0.00	0.00	10.77	73.96	100.28	117.53	171.79	48	600	600	CONC	0.15	19.5	237.8056	0.8411	0.3864	0.202
To Unknown Road39 - 29, Pipe 6206 - 6207						0.65				0.00				0.00				0.00	11.16													
Contribution From Unknown Road38 - 28, Pipe 6201 - 6202						1.16				0.00				0.00				0.00	10.65													
	6202	6250	0.18	0.65	0.33	1.48			0.00	0.00			0.00	0.00			0.00	0.00	10.65	74.38	100.86	118.21	172.79	110	450	450	CONC	0.25	46.0	142.5531	0.8963	0.8554	0.773
	6250	6206	0.09	0.65	0.16	1.64			0.00	0.00			0.00	0.00			0.00	0.00	11.51	71.46	96.84	113.48	165.84	117	450	450	CONC	0.25	49.0	142.5531	0.8963	0.9111	0.824
To Unknown Road39 - 29, Pipe 6206 - 6207						1.64				0.00				0.00				0.00	12.42													
Unknown Road8 - 08																																
	6301	6303	0.16	0.80	0.36	0.36			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	27	300	300	PVC	0.35	55.5	57.2089	0.8093	1.1429	0.478
To Unknown Road33 - 24, Pipe 6303 - 6304						0.36				0.00				0.00				0.00	11.14													
Unknown Road33 - 24																																
Contribution From Unknown Road8 - 08, Pipe 6301 - 6303						0.36				0.00				0.00				0.00	11.14													
Contribution From Unknown Road4 - 04, Pipe 6302 - 6303						0.09				0.00				0.00				0.00	10.43													
	6303	6304	0.03	0.80	0.07	0.51			0.00	0.00			0.00	0.00			0.00	0.00	11.14	72.68	98.52	115.46	168.75	37	300	300	PVC	0.35	16.0	57.2089	0.8093	0.3295	0.650
	6304	6305	0.37	0.80	0.82	1.33			0.00	0.00			0.00	0.00			0.00	0.00	11.47	71.58	97.01	113.68	166.13	96	450	450	CONC	0.20	90.5	127.5033	0.8017	1.8814	0.749
	6305	6306	0.43	0.80	0.96	2.29			0.00	0.00			0.00	0.00			0.00	0.00	13.35	65.95	89.28	104.59	152.78	151	600	600	CONC	0.15	122.0	237.8056	0.8411	2.4176	0.635
To Unknown Road32 - 23, Pipe 6306 - 6307						2.29				0.00				0.00				0.00	15.77													
Unknown Road5 - 05																																
	6318	6319	0.73	0.65	1.32	1.32			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	101	450	450	CONC	0.20	118.5	127.5033	0.8017	2.4635	0.795
	6319	6320	0.10	0.65	0.18	1.50			0.00	0.00			0.00	0.00			0.00	0.00	12.46	68.48	92.76	108.68	158.79	103	450	450	CONC	0.20	12.0	127.5033	0.8017	0.2495	0.806
	6320	6321	0.19	0.65	0.34	1.84			0.00	0.00			0.00	0.00			0.00	0.00	12.71	67.75	91.76	107.50	157.05	125	600	600	CONC	0.15	51.5	237.8056	0.8411	1.0205	0.525
To Unknown Road32 - 23, Pipe 6321 - 6322						1.84				0.00				0.00				0.00	13.73													

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: **BARRHAVEN CONSERVANCY**	
Checked: D.A.	LOCATION: **City of Ottawa**	
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021
		Sheet No. SHEET 7 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Unknown Road52 - 40																																
					0.00	0.00	0.06	0.65	0.11	0.11			0.00	0.00			0.00	0.00														
					0.00	0.00	0.06	0.65	0.11	0.22			0.00	0.00			0.00	0.00														
	2311	2312			0.00	0.00	0.08	0.65	0.14	0.36			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	38	300	300	PVC	0.35	31.0	57.2089	0.8093	0.6384	0.658
To Unknown Road	46 - 34, Pipe 2312 - 2316					0.00				0.36				0.00				0.00	10.64														
					0.00	0.00	0.18	0.65	0.33	0.33			0.00	0.00			0.00	0.00														
	3203	3204			0.00	0.00	0.24	0.65	0.43	0.76			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	79	450	450	CONC	0.20	94.5	127.5033	0.8017	1.9646	0.620
To Unknown Road	24 - 16, Pipe 3204 - 3208					0.00				0.76				0.00				0.00	11.96														
					0.00	0.00	0.15	0.65	0.27	0.27			0.00	0.00			0.00	0.00														
	3310	3311			0.00	0.00	0.21	0.65	0.38	0.65			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	68	450	450	CONC	0.20	72.5	127.5033	0.8017	1.5072	0.532
To Unknown Road	48 - 36, Pipe 3311 - 3312					0.00				0.65				0.00				0.00	11.51														
					0.00	0.00	0.10	0.65	0.18	0.18			0.00	0.00			0.00	0.00														
	6216	6217			0.00	0.00	0.15	0.65	0.27	0.45			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	47	300	300	PVC	0.35	57.5	57.2089	0.8093	1.1841	0.823
To Unknown Road	40 - 30, Pipe 6217 - 6218					0.00				0.45				0.00				0.00	11.18														
					0.00	0.00	0.14	0.65	0.25	0.25			0.00	0.00			0.00	0.00														
	6219	6220			0.00	0.00	0.16	0.65	0.29	0.54			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	56	375	375	PVC	0.30	52.5	96.0323	0.8695	1.0063	0.588
To Unknown Road	40 - 30, Pipe 6220 - 6221					0.00				0.54				0.00				0.00	11.01														
					0.00	0.00	0.09	0.65	0.16	0.16			0.00	0.00			0.00	0.00														
	6315	6316			0.00	0.00	0.19	0.65	0.34	0.51			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	53	375	375	PVC	0.30	45.5	96.0323	0.8695	0.8722	0.549
To Unknown Road	32 - 23, Pipe 6316 - 6317					0.00				0.51				0.00				0.00	10.87														
					0.00	0.00	0.13	0.65	0.23	0.23			0.00	0.00			0.00	0.00														
					0.00	0.00	0.15	0.65	0.27	0.51			0.00	0.00			0.00	0.00														
	2208	2209			0.00	0.00	0.17	0.65	0.31	0.81			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	85	450	450	CONC	0.20	68.0	127.5033	0.8017	1.4137	0.664
					0.00	0.00	0.10	0.65	0.18	0.99			0.00	0.00			0.00	0.00														
					0.00	0.00	0.10	0.65	0.18	1.17			0.00	0.00			0.00	0.00														
	2209	2210			0.00	0.00	0.25	0.65	0.45	1.63			0.00	0.00			0.00	0.00	11.41	71.77	97.28	113.99	166.59	158	600	600	CONC	0.15	72.5	237.8056	0.8411	1.4367	0.665
To Unknown Road	43 - 31, Pipe 2210 - 2213					0.00				1.63				0.00				0.00	12.85														
					0.00	0.00	0.16	0.65	0.29	0.29			0.00	0.00			0.00	0.00														
					0.00	0.00	0.16	0.65	0.29	0.58			0.00	0.00			0.00	0.00														
	2309	2310			0.00	0.00	0.18	0.65	0.33	0.90			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	94	450	450	CONC	0.20	71.0	127.5033	0.8017	1.4760	0.738
					0.00	0.00	0.13	0.65	0.23	1.14			0.00	0.00			0.00	0.00														
					0.00	0.00	0.13	0.65	0.23	1.37			0.00	0.00			0.00	0.00														
	2310	2312			0.00	0.00	0.18	0.65	0.33	1.70			0.00	0.00			0.00	0.00	11.48	71.57	96.99	113.66	166.11	165	600	600	CONC	0.15	74.5	237.8056	0.8411	1.4763	0.693
To Unknown Road	46 - 34, Pipe 2312 - 2316					0.00				1.70				0.00				0.00	12.95														
					0.00	0.00	0.14	0.65	0.25	0.25			0.00	0.00			0.00	0.00														
					0.00	0.00	0.15	0.65	0.27	0.52			0.00	0.00			0.00	0.00														
	3201	3202			0.00	0.00	0.17	0.65	0.31	0.83			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	87	450	450	CONC	0.20	65.0	127.5033	0.8017	1.3513	0.679
					0.00	0.00	0.12	0.65	0.22	1.05			0.00	0.00			0.00	0.00														
					0.00	0.00	0.16	0.65	0.29	1.34			0.00	0.00			0.00	0.00														
	3202	3204			0.00	0.00	0.20	0.65	0.36	1.70			0.00	0.00			0.00	0.00	11.35	71.98	97.56	114.33	167.08	166	600	600	CONC	0.15	65.0	237.8056	0.8411	1.2880	0.697
To Unknown Road	24 - 16, Pipe 3204 - 3208					0.00				1.70				0.00				0.00	12.64														
					0.00	0.00	0.10	0.65	0.18	0.18			0.00	0.00			0.00	0.00														
					0.00	0.00	0.12	0.65	0.22	0.40			0.00	0.00			0.00	0.00														
	6102	6103			0.00	0.00	0.12	0.65	0.22	0.61			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	64	375	375	PVC	0.30	40.5	96.0323	0.8695	0.7763	0.667

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT:	BARRHAVEN CONSERVANCY	
Checked: D.A.	LOCATION:	City of Ottawa	
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 8 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
					0.00	0.00	0.14	0.65	0.25	0.87			0.00	0.00			0.00	0.00															
					0.00	0.00	0.14	0.65	0.25	1.12			0.00	0.00			0.00	0.00															
	6103	6101			0.00	0.00	0.15	0.65	0.27	1.39			0.00	0.00			0.00	0.00	10.78	73.95	100.26	117.51	171.76	140	525	525	CONC	0.20	61.5	192.3297	0.8885	1.1537	0.725
To Unknown Road1 - 01, Pipe 6101 - 6106						0.00				1.39				0.00				0.00	11.93														
Contribution From Unknown Road9 - 09, Pipe 1201 - 1202						1.07				0.00				0.00				0.00	12.55														
	1202	1204			0.00	1.07	0.15	0.65	0.27	0.27			0.00	0.00			0.00	0.00	12.55	68.24	92.42	108.28	158.21	98	450	450	CONC	0.20	36.5	127.5033	0.8017	0.7588	0.768
Contribution From Unknown Road10 - 10, Pipe 1203 - 1204						1.21				0.00				0.00				0.00	12.65														
					0.00	2.28	0.09	0.65	0.16	0.43			0.00	0.00			0.00	0.00															
	1204	1210			0.00	2.28	0.14	0.65	0.25	0.69			0.00	0.00			0.00	0.00	13.31	66.08	89.46	104.80	153.09	212	675	675	CONC	0.15	58.5	325.5584	0.9098	1.0717	0.651
Contribution From Unknown Road9 - 09, Pipe 1209 - 1210						2.29				0.00				0.00				0.00	14.00														
					0.00	4.57	0.14	0.65	0.25	0.94			0.00	0.00			0.00	0.00															
					0.00	4.57	0.18	0.65	0.33	1.26			0.00	0.00			0.00	0.00															
	1210	1218	0.22	0.80	0.49	5.06			0.00	1.26			0.00	0.00			0.00	0.00	14.38	63.28	85.62	100.28	146.46	429	825	825	CONC	0.15	74.5	555.9418	1.0400	1.1939	0.771
To Unknown Road37 - 27, Pipe 1218 - 1220						5.06				1.26				0.00				0.00	15.57														
Contribution From Unknown Road22 - 14, Pipe 1216 - 1217						1.86				0.00				0.00				0.00	13.78														
					0.00	1.86	0.12	0.65	0.22	0.22			0.00	0.00			0.00	0.00															
					0.00	1.86	0.16	0.65	0.29	0.51			0.00	0.00			0.00	0.00															
	1217	1218			0.00	1.86	0.20	0.65	0.36	0.87			0.00	0.00			0.00	0.00	13.78	64.79	87.70	102.73	150.05	197	600	600	CONC	0.15	82.5	237.8056	0.8411	1.6348	0.827
To Unknown Road37 - 27, Pipe 1218 - 1220						1.86				0.87				0.00				0.00	15.42														
Unknown Road6 - 06																																	
	6347	6346	0.47	0.65	0.85	0.85			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	65	375	375	PVC	0.30	76.5	96.0323	0.8695	1.4664	0.679
	6346	6345	0.35	0.65	0.63	1.48			0.00	0.00			0.00	0.00			0.00	0.00	11.47	71.60	97.04	113.71	166.18	106	450	450	CONC	0.20	68.5	127.5033	0.8017	1.4241	0.832
To Unknown Road2 - 02, Pipe 6345 - 6314						1.48				0.00				0.00				0.00	12.89														
Unknown Road2 - 02																																	
	6214	6215	0.67	0.65	1.21	1.21			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	93	450	450	CONC	0.20	115.5	127.5033	0.8017	2.4012	0.729
To Unknown Road39 - 29, Pipe 6215 - 6217						1.21				0.00				0.00				0.00	12.40														
	6210	6213	0.21	0.65	0.38	0.38			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	29	300	300	PVC	0.35	48.5	57.2089	0.8093	0.9988	0.509
Contribution From Unknown Road3 - 03, Pipe 6212 - 6213						1.46				0.00				0.00				0.00	12.75														
	6213	6215	0.18	0.65	0.33	2.17			0.00	0.00			0.00	0.00			0.00	0.00	12.75	67.64	91.60	107.32	156.79	147	600	600	CONC	0.15	58.5	237.8056	0.8411	1.1592	0.617
To Unknown Road39 - 29, Pipe 6215 - 6217						2.17				0.00				0.00				0.00	13.91														
Contribution From Unknown Road6 - 06, Pipe 6346 - 6345						1.48				0.00				0.00				0.00	12.89														
	6345	6314	0.20	0.65	0.36	1.84			0.00	0.00			0.00	0.00			0.00	0.00	12.89	67.24	91.06	106.67	155.84	124	600	600	CONC	0.15	58.5	237.8056	0.8411	1.1592	0.521
To Unknown Road31 - 22, Pipe 6314 - 6316						1.84				0.00				0.00				0.00	14.05														
Unknown Road31 - 22																																	
			0.05	0.80	0.11	0.11			0.00	0.00			0.00	0.00			0.00	0.00															
	6310	6311	0.09	0.65	0.16	0.27			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	21	300	300	PVC	0.35	12.0	57.2089	0.8093	0.2471	0.368
			0.13	0.80	0.29	0.56			0.00	0.00			0.00	0.00			0.00	0.00															
	6311	6312	0.21	0.65	0.38	0.94			0.00	0.00			0.00	0.00			0.00	0.00	10.25	75.87	102.91	120.63	176.33	72	450	450	CONC	0.20	82.0	127.5033	0.8017	1.7047	0.561
			0.15	0.80	0.33	1.28			0.00	0.00			0.00	0.00			0.00	0.00															
	6312	6314	0.22	0.65	0.40	1.67			0.00	0.00			0.00	0.00			0.00	0.00	11.95	70.04	94.90	111.20	162.49	117	525	525	CONC	0.20	82.0	192.3297	0.8885	1.5382	0.609
Contribution From Unknown Road2 - 02, Pipe 6345 - 6314						1.84				0.00				0.00				0.00	14.05														
	6314	6316	0.13	0.80	0.29	3.81			0.00	0.00			0.00	0.00			0.00	0.00	14.05	64.11	86.76	101.62	148.42	244	675	675	CONC	0.15	62.5	325.5584	0.9098	1.1450	0.749
To Unknown Road32 - 23, Pipe 6316 - 6317						3.81				0.00				0.00				0.00	15.19														
Unknown Road32 - 23																																	
Contribution From Unknown Road33 - 24, Pipe 6305 - 6306						2.29				0.00				0.00				0.00	15.77														
					0.00	2.29	0.08	0.65	0.14	0.14			0.00	0.00			0.00	0.00															
	6306	6307	0.32	0.80	0.71	3.00			0.00	0.14			0.00	0.00			0.00	0.00	15.77	60.00	81.15	95.02	138.73	192	600	600	CONC	0.15	90.0	237.8056	0.8411	1.7835	0.807
	6307	6308	0.31	0.80	0.69	3.69			0.00	0.14			0.00	0.00			0.00	0.00	17.55	56.33	76.12	89.11	130.06	219	675	675	CONC	0.15	78.5	325.5584	0.9098	1.4381	0.673
	6308	6309	0.07	0.80	0.16	3.85			0.00	0.14			0.00	0.00			0.00	0.00	18.99	53.71	72.54	84.90	123.90	217	675	675	CONC	0.15	12.0	325.5584	0.9098	0.2198	0.667
	6309	6323	0.03	0.80	0.07	3.91			0.00	0.14			0.00	0.00			0.00	0.00	19.21	53.33	72.03	84.30	123.01	219	675	675	CONC	0.15	19.5	325.5584	0.9098	0.3572	0.673
To Unknown Road55 - 603, Pipe 6323 - HW603						3.91				0.14				0.00				0.00	19.57														

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT:	BARRHAVEN CONSERVANCY	
Checked: D.A.	LOCATION:	City of Ottawa	
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 9 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Contribution From Unknown Road31 - 22, Pipe 6314 - 6316						3.81				0.00				0.00				0.00	15.19													
Contribution From Unknown Road52 - 40, Pipe 6315 - 6316						0.00				0.51				0.00				0.00	10.87													
			0.13	0.80	0.29	4.09			0.00	0.51			0.00	0.00			0.00	0.00														
	6316	6317	0.21	0.65	0.38	4.47			0.00	0.51			0.00	0.00			0.00	0.00	15.19	61.31	82.93	97.12	141.82	316	750	750	CONC	0.15	81.5	431.1703	0.9760	1.3918	0.734
			0.13	0.80	0.29	4.76			0.00	0.51			0.00	0.00			0.00	0.00														
	6317	6321	0.17	0.65	0.31	5.07			0.00	0.51			0.00	0.00			0.00	0.00	16.59	58.26	78.76	92.21	134.62	335	750	750	CONC	0.15	69.5	431.1703	0.9760	1.1869	0.778
Contribution From Unknown Road5 - 05, Pipe 6320 - 6321						1.84				0.00				0.00				0.00	13.73													
	6321	6322	0.04	0.80	0.09	7.00			0.00	0.51			0.00	0.00			0.00	0.00	17.77	55.91	75.55	88.44	129.08	430	825	825	CONC	0.15	15.0	555.9418	1.0400	0.2404	0.773
	6322	6323	0.02	0.80	0.04	7.05			0.00	0.51			0.00	0.00			0.00	0.00	18.01	55.46	74.94	87.72	128.02	429	825	825	CONC	0.15	11.5	555.9418	1.0400	0.1843	0.771
To Unknown Road55 - 603, Pipe 6323 - HW603						7.05				0.51				0.00				0.00	18.20													
Unknown Road55 - 603																																
Contribution From Unknown Road32 - 23, Pipe 6309 - 6323						3.91				0.14				0.00				0.00	19.57													
Contribution From Unknown Road32 - 23, Pipe 6322 - 6323						7.05				0.51				0.00				0.00	18.20													
	6323	HW603 (Trunk 9)			0.00	10.96			0.00	0.65			0.00	0.00			0.00	0.00	19.57	52.73	71.21	83.34	121.60	624	975	975	CONC	0.15	5.5	867.9562	1.1625	0.0789	0.719
Unknown Road50 - 38																																
	1208	1209	0.45	0.65	0.81	0.81			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	62	375	375	PVC	0.30	78.0	96.0323	0.8695	1.4951	0.650
To Unknown Road9 - 09, Pipe 1209 - 1210						0.81				0.00				0.00				0.00	11.50													
	1214	1216	0.36	0.65	0.65	0.65			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	50	375	375	PVC	0.30	62.5	96.0323	0.8695	1.1980	0.520
To Unknown Road22 - 14, Pipe 1216 - 1217						0.65				0.00				0.00				0.00	11.20													
	1215	1216	0.11	0.65	0.20	0.20			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	15	300	300	PVC	0.35	27.0	57.2089	0.8093	0.5560	0.267
To Unknown Road22 - 14, Pipe 1216 - 1217						0.20				0.00				0.00				0.00	10.56													
	2307	2308	0.16	0.65	0.29	0.29			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	22	300	300	PVC	0.35	30.5	57.2089	0.8093	0.6281	0.388
To Unknown Road46 - 34, Pipe 2308 - 2312						0.29				0.00				0.00				0.00	10.63													
	2205	2206	0.26	0.65	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	300	300	PVC	0.35	43.5	57.2089	0.8093	0.8958	0.631
	2206	2207	0.31	0.65	0.56	1.03			0.00	0.00			0.00	0.00			0.00	0.00	10.90	73.53	99.69	116.84	170.76	76	450	450	CONC	0.20	73.0	127.5033	0.8017	1.5176	0.594
To Unknown Road43 - 31, Pipe 2207 - 2210						1.03				0.00				0.00				0.00	12.41													
	2305	2306	0.50	0.65	0.90	0.90			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	69	450	450	CONC	0.20	72.0	127.5033	0.8017	1.4968	0.544
	2306	2308	0.37	0.65	0.67	1.57			0.00	0.00			0.00	0.00			0.00	0.00	11.50	71.50	96.90	113.55	165.94	112	525	525	CONC	0.20	72.0	192.3297	0.8885	1.3507	0.584
To Unknown Road46 - 34, Pipe 2308 - 2312						1.57				0.00				0.00				0.00	12.85													
	7001	7002	0.35	0.65	0.63	0.63			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	49	375	375	PVC	0.30	57.5	96.0323	0.8695	1.1022	0.506
	7002	7003	0.52	0.65	0.94	1.57			0.00	0.00			0.00	0.00			0.00	0.00	11.10	72.82	98.71	115.68	169.07	114	525	525	CONC	0.20	98.0	192.3297	0.8885	1.8384	0.595
To Unknown Road51 - 39, Pipe 7003 - 7004						1.57				0.00				0.00				0.00	12.94													
Unknown Road51 - 39																																
	1205	1207	0.36	0.65	0.65	0.65			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	50	375	375	PVC	0.30	73.0	96.0323	0.8695	1.3993	0.520
To Unknown Road9 - 09, Pipe 1207 - 1209						0.65				0.00				0.00				0.00	11.40													
	1211	1213	0.29	0.65	0.52	0.52			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	40	300	300	PVC	0.35	58.5	57.2089	0.8093	1.2047	0.704
To Unknown Road22 - 14, Pipe 1213 - 1216						0.52				0.00				0.00				0.00	11.20													
	1212	1213	0.11	0.65	0.20	0.20			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	15	300	300	PVC	0.35	26.5	57.2089	0.8093	0.5457	0.267
To Unknown Road22 - 14, Pipe 1213 - 1216						0.20				0.00				0.00				0.00	10.55													
	2203	2204	0.09	0.65	0.16	0.16			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	12	300	300	PVC	0.35	32.0	57.2089	0.8093	0.6590	0.218
To Unknown Road43 - 31, Pipe 2204 - 2207						0.16				0.00				0.00				0.00	10.66													
	2303	2304	0.07	0.65	0.13	0.13			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	10	300	300	PVC	0.35	15.0	57.2089	0.8093	0.3089	0.170
To Unknown Road46 - 34, Pipe 2304 - 2308						0.13				0.00				0.00				0.00	10.31													

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY		
Checked: D.A.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 10 OF 11

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)														FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	2201	2202	0.22	0.65	0.40	0.40			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	31	300	300	PVC	0.35	43.0	57.2089	0.8093	0.8855	0.534
	2202	2204	0.30	0.65	0.54	0.94			0.00	0.00			0.00	0.00			0.00	0.00	10.89	73.56	99.74	116.89	170.85	69	450	450	CONC	0.20	73.0	127.5033	0.8017	1.5176	0.542
To Unknown Road43 - 31, Pipe 2204 - 2207						0.94				0.00				0.00				0.00	12.40													
	2301	2302	0.36	0.65	0.65	0.65			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	50	375	375	PVC	0.30	72.0	96.0323	0.8695	1.3801	0.520
	2302	2304	0.33	0.65	0.60	1.25			0.00	0.00			0.00	0.00			0.00	0.00	11.38	71.88	97.43	114.17	166.86	90	450	450	CONC	0.20	74.5	127.5033	0.8017	1.5488	0.703
To Unknown Road46 - 34, Pipe 2304 - 2308						1.25				0.00				0.00				0.00	12.93													
	7006	7007	0.37	0.65	0.67	0.67			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	51	375	375	PVC	0.30	74.5	96.0323	0.8695	1.4280	0.535
	7007	7008	0.44	0.65	0.80	1.46			0.00	0.00			0.00	0.00			0.00	0.00	11.43	71.72	97.21	113.92	166.48	105	450	450	CONC	0.20	112.0	127.5033	0.8017	2.3284	0.823
To Unknown Road56 - 701, Pipe 7008 - HW701						1.46				0.00				0.00				0.00	13.76													
Contribution From Unknown Road50 - 38, Pipe 7002 - 7003						1.57				0.00				0.00				0.00	12.94													
	7003	7004	0.05	0.65	0.09	1.66			0.00	0.00			0.00	0.00			0.00	0.00	12.94	67.10	90.86	106.44	155.51	112	525	525	CONC	0.20	13.5	192.3297	0.8885	0.2532	0.580
	7004	7005	0.15	0.65	0.27	1.93			0.00	0.00			0.00	0.00			0.00	0.00	13.19	66.39	89.89	105.30	153.82	128	600	600	CONC	0.15	45.5	237.8056	0.8411	0.9016	0.540
To Unknown Road56 - 701, Pipe 7005 - 7008						1.93				0.00				0.00				0.00	14.10													
Unknown Road56 - 701																																
Contribution From Unknown Road51 - 39, Pipe 7004 - 7005						1.93				0.00				0.00				0.00	14.10													
	7005	7008			0.00	1.93			0.00	0.00			0.00	0.00			0.00	0.00	14.10	63.99	86.60	101.43	148.14	124	600	600	CONC	0.15	13.0	237.8056	0.8411	0.2576	0.520
Contribution From Unknown Road51 - 39, Pipe 7007 - 7008						1.46				0.00				0.00				0.00	13.76													
	7008	HW701 (Trunk 12)			0.00	3.40			0.00	0.00			0.00	0.00			0.00	0.00	14.35	63.34	85.71	100.38	146.61	215	675	675	CONC	0.15	18.5	325.5584	0.9098	0.3389	0.661

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/s

Designed: H.L.	PROJECT: BARRHAVEN CONSERVANCY		
Checked: D.A.	LOCATION: City of Ottawa		
Dwg. Reference:	File Ref: 16-891	Date: MARCH 2021	Sheet No. SHEET 11 OF 11

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment B

PCSWMM Model Result files

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 0
Number of subcatchments ... 0
Number of nodes 218
Number of links 207
Number of pollutants 0
Number of land uses 0

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
MH-1101	JUNCTION	90.86	2.40	0.0	Yes
MH-1102	JUNCTION	90.59	2.55	0.0	Yes
MH-1103	JUNCTION	90.35	2.63	0.0	Yes
MH-1104	JUNCTION	90.16	2.66	0.0	Yes
MH-1105	JUNCTION	89.95	2.67	0.0	Yes
MH-1106	JUNCTION	89.77	2.73	0.0	
MH-1201	JUNCTION	91.44	1.95	0.0	Yes
MH-1202	JUNCTION	91.13	2.08	0.0	Yes
MH-1203	JUNCTION	91.39	1.94	0.0	Yes
MH-1204	JUNCTION	90.83	2.33	0.0	Yes
MH-1205	JUNCTION	91.49	1.87	0.0	Yes
MH-1206	JUNCTION	91.47	1.80	0.0	Yes
MH-1207	JUNCTION	91.20	2.05	0.0	Yes
MH-1208	JUNCTION	91.41	1.87	0.0	Yes
MH-1209	JUNCTION	90.92	2.24	0.0	Yes
MH-1210	JUNCTION	90.60	2.47	0.0	Yes
MH-1211	JUNCTION	91.57	1.79	0.0	Yes
MH-1212	JUNCTION	91.51	1.80	0.0	Yes
MH-1213	JUNCTION	91.21	2.06	0.0	Yes
MH-1214	JUNCTION	91.41	1.87	0.0	Yes
MH-1215	JUNCTION	91.42	1.80	0.0	Yes
MH-1216	JUNCTION	90.93	2.26	0.0	
MH-1217	JUNCTION	90.78	2.31	0.0	Yes
MH-1218	JUNCTION	90.28	2.68	0.0	
MH-1219	JUNCTION	91.11	1.87	0.0	Yes
MH-1220	JUNCTION	90.17	2.70	0.0	
MH-1221	JUNCTION	90.07	2.71	0.0	Yes
MH-1222	JUNCTION	89.94	2.74	0.0	Yes
MH-1223	JUNCTION	89.77	2.80	0.0	
MH-1224	JUNCTION	89.69	2.86	0.0	
MH-1227	JUNCTION	90.61	2.10	0.0	Yes
MH-1228	JUNCTION	90.39	2.14	0.0	
MH-1229	JUNCTION	90.34	2.17	0.0	
MH-1230	JUNCTION	89.56	2.94	0.0	
MH-2101	JUNCTION	91.01	1.80	0.0	Yes
MH-2102	JUNCTION	90.81	2.06	0.0	Yes
MH-2103	JUNCTION	90.54	2.23	0.0	Yes
MH-2104	JUNCTION	90.25	2.42	0.0	Yes
MH-2105	JUNCTION	90.91	1.96	0.0	Yes
MH-2106	JUNCTION	90.63	2.04	0.0	Yes
MH-2107	JUNCTION	90.46	2.19	0.0	Yes
MH-2108	JUNCTION	90.07	2.50	0.0	Yes
MH-2109	JUNCTION	90.98	1.80	0.0	Yes
MH-2110	JUNCTION	90.94	1.80	0.0	

67	MH-2111	JUNCTION	90.66	2.06	0.0	Yes
68	MH-2112	JUNCTION	90.38	2.24	0.0	Yes
69	MH-2113	JUNCTION	90.22	2.30	0.0	Yes
70	MH-2114	JUNCTION	89.84	2.66	0.0	
71	MH-2201	JUNCTION	91.51	1.80	0.0	Yes
72	MH-2202	JUNCTION	91.21	2.01	0.0	Yes
73	MH-2203	JUNCTION	91.35	1.89	0.0	Yes
74	MH-2204	JUNCTION	90.98	2.06	0.0	Yes
75	MH-2205	JUNCTION	91.42	1.80	0.0	Yes
76	MH-2206	JUNCTION	91.12	2.01	0.0	Yes
77	MH-2207	JUNCTION	90.78	2.18	0.0	Yes
78	MH-2208	JUNCTION	91.14	1.95	0.0	Yes
79	MH-2209	JUNCTION	90.85	2.14	0.0	Yes
80	MH-2210	JUNCTION	90.54	2.32	0.0	
81	MH-2211	JUNCTION	91.11	1.87	0.0	Yes
82	MH-2212	JUNCTION	90.82	2.06	0.0	Yes
83	MH-2213	JUNCTION	90.31	2.46	0.0	
84	MH-2214	JUNCTION	90.94	1.79	0.0	Yes
85	MH-2215	JUNCTION	90.14	2.54	0.0	Yes
86	MH-2216	JUNCTION	90.00	2.57	0.0	
87	MH-2217	JUNCTION	89.86	2.60	0.0	
88	MH-2218	JUNCTION	89.81	2.63	0.0	
89	MH-2219	JUNCTION	90.92	1.80	0.0	Yes
90	MH-2220	JUNCTION	90.92	1.80	0.0	Yes
91	MH-2221	JUNCTION	90.67	1.90	0.0	Yes
92	MH-2222	JUNCTION	90.36	2.20	0.0	Yes
93	MH-2223	JUNCTION	90.18	2.26	0.0	
94	MH-2224	JUNCTION	90.09	2.33	0.0	
95	MH-2225	JUNCTION	89.69	2.71	0.0	
96	MH-2301	JUNCTION	91.37	1.88	0.0	Yes
97	MH-2302	JUNCTION	91.08	2.06	0.0	Yes
98	MH-2303	JUNCTION	91.26	1.80	0.0	Yes
99	MH-2304	JUNCTION	90.87	2.16	0.0	Yes
100	MH-2305	JUNCTION	91.21	1.94	0.0	Yes
101	MH-2306	JUNCTION	90.99	2.06	0.0	Yes
102	MH-2307	JUNCTION	91.26	1.85	0.0	Yes
103	MH-2308	JUNCTION	90.52	2.42	0.0	
104	MH-2309	JUNCTION	91.11	1.96	0.0	Yes
105	MH-2310	JUNCTION	90.82	2.14	0.0	Yes
106	MH-2311	JUNCTION	91.10	1.80	0.0	Yes
107	MH-2312	JUNCTION	90.28	2.57	0.0	
108	MH-2313	JUNCTION	91.02	1.94	0.0	Yes
109	MH-2314	JUNCTION	90.80	2.06	0.0	Yes
110	MH-2315	JUNCTION	91.01	1.79	0.0	Yes
111	MH-2316	JUNCTION	90.11	2.63	0.0	
112	MH-2317	JUNCTION	90.92	1.80	0.0	
113	MH-2318	JUNCTION	90.01	2.66	0.0	
114	MH-2319	JUNCTION	89.86	2.69	0.0	
115	MH-2320	JUNCTION	89.72	2.73	0.0	
116	MH-2321	JUNCTION	89.67	2.77	0.0	
117	MH-2322	JUNCTION	90.92	1.80	0.0	Yes
118	MH-2323	JUNCTION	90.68	2.01	0.0	Yes
119	MH-2324	JUNCTION	90.37	2.20	0.0	Yes
120	MH-2325	JUNCTION	90.19	2.27	0.0	
121	MH-2326	JUNCTION	90.10	2.33	0.0	
122	MH-2327	JUNCTION	89.56	2.84	0.0	
123	MH-3101	JUNCTION	90.74	1.80	0.0	Yes
124	MH-3102	JUNCTION	90.44	2.17	0.0	Yes
125	MH-3103	JUNCTION	90.20	2.29	0.0	Yes
126	MH-3104	JUNCTION	89.83	2.65	0.0	
127	MH-3105	JUNCTION	90.81	1.80	0.0	Yes
128	MH-3106	JUNCTION	90.85	1.80	0.0	Yes
129	MH-3107	JUNCTION	90.30	2.28	0.0	Yes
130	MH-3108	JUNCTION	90.07	2.34	0.0	Yes
131	MH-3109	JUNCTION	89.98	2.43	0.0	Yes
132	MH-3150	JUNCTION	89.83	2.59	0.0	

133	MH-3201	JUNCTION	90.95	1.95	0.0	Yes
134	MH-3202	JUNCTION	90.67	2.13	0.0	Yes
135	MH-3203	JUNCTION	90.89	1.95	0.0	Yes
136	MH-3204	JUNCTION	90.47	2.23	0.0	
137	MH-3205	JUNCTION	90.93	1.87	0.0	Yes
138	MH-3206	JUNCTION	90.66	2.05	0.0	Yes
139	MH-3207	JUNCTION	90.87	1.79	0.0	Yes
140	MH-3208	JUNCTION	90.23	2.38	0.0	
141	MH-3209	JUNCTION	90.07	2.45	0.0	Yes
142	MH-3210	JUNCTION	89.92	2.50	0.0	Yes
143	MH-3211	JUNCTION	90.70	1.96	0.0	Yes
144	MH-3212	JUNCTION	90.46	2.03	0.0	Yes
145	MH-3213	JUNCTION	90.36	2.12	0.0	Yes
146	MH-3214	JUNCTION	90.23	2.17	0.0	
147	MH-3301	JUNCTION	91.01	2.03	0.0	Yes
148	MH-3302	JUNCTION	91.16	1.80	0.0	Yes
149	MH-3303	JUNCTION	90.65	2.23	0.0	Yes
150	MH-3304	JUNCTION	91.01	1.87	0.0	Yes
151	MH-3305	JUNCTION	90.47	2.31	0.0	Yes
152	MH-3306	JUNCTION	90.95	1.87	0.0	Yes
153	MH-3307	JUNCTION	90.31	2.38	0.0	
154	MH-3308	JUNCTION	90.81	1.95	0.0	Yes
155	MH-3309	JUNCTION	90.14	2.47	0.0	
156	MH-3310	JUNCTION	90.89	1.94	0.0	Yes
157	MH-3311	JUNCTION	90.68	2.03	0.0	Yes
158	MH-3312	JUNCTION	90.42	2.20	0.0	Yes
159	MH-3313	JUNCTION	89.98	2.55	0.0	
160	MH-3314	JUNCTION	89.88	2.60	0.0	
161	MH-3315	JUNCTION	90.86	1.79	0.0	Yes
162	MH-3316	JUNCTION	90.83	1.80	0.0	Yes
163	MH-3317	JUNCTION	90.33	2.23	0.0	Yes
164	MH-3318	JUNCTION	90.10	2.30	0.0	
165	MH-3319	JUNCTION	89.74	2.66	0.0	
166	MH-6101	JUNCTION	90.35	2.20	0.0	Yes
167	MH-6102	JUNCTION	90.82	1.88	0.0	Yes
168	MH-6103	JUNCTION	90.55	2.22	0.0	Yes
169	MH-6104	JUNCTION	90.47	2.03	0.0	Yes
170	MH-6106	JUNCTION	90.22	2.33	0.0	
171	MH-6107	JUNCTION	90.17	2.38	0.0	Yes
172	MH-6108	JUNCTION	90.05	2.45	0.0	
173	MH-6150	JUNCTION	90.62	1.88	0.0	Yes
174	MH-6152	JUNCTION	90.83	1.67	0.0	Yes
175	MH-6201	JUNCTION	91.23	1.97	0.0	Yes
176	MH-6202	JUNCTION	91.11	2.03	0.0	Yes
177	MH-6204	JUNCTION	90.93	2.16	0.0	Yes
178	MH-6205	JUNCTION	90.84	2.19	0.0	Yes
179	MH-6206	JUNCTION	90.54	2.46	0.0	Yes
180	MH-6207	JUNCTION	90.34	2.54	0.0	Yes
181	MH-6210	JUNCTION	91.14	1.79	0.0	Yes
182	MH-6211	JUNCTION	91.19	1.89	0.0	Yes
183	MH-6212	JUNCTION	90.90	2.06	0.0	Yes
184	MH-6213	JUNCTION	90.62	2.24	0.0	Yes
185	MH-6214	JUNCTION	90.97	1.97	0.0	Yes
186	MH-6215	JUNCTION	90.16	2.62	0.0	
187	MH-6216	JUNCTION	90.95	1.81	0.0	Yes
188	MH-6217	JUNCTION	90.00	2.69	0.0	
189	MH-6218	JUNCTION	89.81	2.71	0.0	
190	MH-6219	JUNCTION	90.96	1.87	0.0	Yes
191	MH-6220	JUNCTION	90.57	2.17	0.0	Yes
192	MH-6221	JUNCTION	90.34	2.23	0.0	Yes
193	MH-6222	JUNCTION	90.26	2.30	0.0	Yes
194	MH-6223	JUNCTION	89.72	2.78	0.0	
195	MH-6250	JUNCTION	90.97	2.10	0.0	Yes
196	MH-6301	JUNCTION	91.43	1.80	0.0	Yes
197	MH-6302	JUNCTION	91.37	1.80	0.0	Yes
198	MH-6303	JUNCTION	91.21	1.92	0.0	Yes

MH-6304	JUNCTION	91.00	2.11	0.0	Yes	
MH-6305	JUNCTION	90.67	2.31	0.0	Yes	
MH-6306	JUNCTION	90.47	2.33	0.0	Yes	
MH-6307	JUNCTION	90.26	2.40	0.0	Yes	
MH-6308	JUNCTION	90.08	2.46	0.0		
MH-6309	JUNCTION	90.00	2.53	0.0		
MH-6310	JUNCTION	91.30	1.80	0.0	Yes	
MH-6311	JUNCTION	91.11	1.99	0.0	Yes	
MH-6312	JUNCTION	90.87	2.11	0.0	Yes	
MH-6314	JUNCTION	90.55	2.31	0.0	Yes	
MH-6315	JUNCTION	90.97	1.87	0.0	Yes	
MH-6316	JUNCTION	90.38	2.39	0.0	Yes	
MH-6317	JUNCTION	90.23	2.40	0.0	Yes	
MH-6318	JUNCTION	90.86	1.95	0.0	Yes	
MH-6319	JUNCTION	90.59	2.04	0.0	Yes	
MH-6320	JUNCTION	90.42	2.20	0.0	Yes	
MH-6321	JUNCTION	90.06	2.48	0.0		
MH-6322	JUNCTION	90.00	2.51	0.0		
MH-6323	JUNCTION	89.67	2.83	0.0		
MH-6345	JUNCTION	90.71	2.24	0.0	Yes	
MH-6346	JUNCTION	91.00	2.05	0.0	Yes	
MH-6347	JUNCTION	91.28	1.89	0.0	Yes	
MH-7001	JUNCTION	91.24	1.88	0.0	Yes	
MH-7002	JUNCTION	90.92	2.11	0.0	Yes	
MH-7003	JUNCTION	90.66	2.20	0.0		
MH-7004	JUNCTION	90.56	2.30	0.0	Yes	
MH-7005	JUNCTION	90.46	2.34	0.0		
MH-7006	JUNCTION	91.18	1.88	0.0	Yes	
MH-7007	JUNCTION	90.88	2.07	0.0	Yes	
MH-7008	JUNCTION	90.37	2.43	0.0		
MH-HW101	OUTFALL	89.67	1.05	0.0		
MH-HW102	OUTFALL	89.55	1.05	0.0		
MH-HW201	OUTFALL	89.80	0.82	0.0		
MH-HW202	OUTFALL	89.68	0.97	0.0		
MH-HW203	OUTFALL	89.55	0.97	0.0		
MH-HW301	OUTFALL	89.79	0.68	0.0		
MH-HW302	OUTFALL	89.79	0.90	0.0		
MH-HW303	OUTFALL	89.72	0.90	0.0		
MH-HW601	OUTFALL	90.01	0.60	0.0		
MH-HW602	OUTFALL	89.68	1.05	0.0		
MH-HW603	OUTFALL	89.67	0.97	0.0		
MH-HW701	OUTFALL	90.34	0.68	0.0		

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Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
STM-1101-1102	MH-1101	MH-1102	CONDUIT	98.0	0.2000	0.0130
STM-1102-1103	MH-1102	MH-1103	CONDUIT	111.5	0.1498	0.0130
STM-1103-1104	MH-1103	MH-1104	CONDUIT	111.5	0.1498	0.0130
STM-1104-1105	MH-1104	MH-1105	CONDUIT	125.0	0.1504	0.0130
STM-1105-1106	MH-1105	MH-1106	CONDUIT	83.5	0.1497	0.0130
STM-1106-HW101	MH-1106	MH-HW101	CONDUIT	62.0	0.1500	0.0130
STM-1201-1202	MH-1201	MH-1202	CONDUIT	122.5	0.2000	0.0130

255	STM-1202-1204	MH-1202	MH-1204	CONDUIT	36.5	
	0.2000	0.0130				
256	STM-1203-1204	MH-1203	MH-1204	CONDUIT	127.5	
	0.2000	0.0130				
257	STM-1204-1210	MH-1204	MH-1210	CONDUIT	58.5	
	0.1504	0.0130				
258	STM-1205-1207	MH-1205	MH-1207	CONDUIT	73.0	
	0.3000	0.0130				
259	STM-1206-1207	MH-1206	MH-1207	CONDUIT	14.0	
	0.3500	0.0130				
260	STM-1207-1209	MH-1207	MH-1209	CONDUIT	65.0	
	0.2000	0.0130				
261	STM-1208-1209	MH-1208	MH-1209	CONDUIT	78.0	
	0.3000	0.0130				
262	STM-1209-1210	MH-1209	MH-1210	CONDUIT	63.0	
	0.1508	0.0130				
263	STM-1210-1218	MH-1210	MH-1218	CONDUIT	74.5	
	0.1503	0.0130				
264	STM-1211-1213	MH-1211	MH-1213	CONDUIT	58.5	
	0.3504	0.0130				
265	STM-1212-1213	MH-1212	MH-1213	CONDUIT	26.5	
	0.3509	0.0130				
266	STM-1213-1216	MH-1213	MH-1216	CONDUIT	64.5	
	0.2000	0.0130				
267	STM-1214-1216	MH-1214	MH-1216	CONDUIT	62.5	
	0.3008	0.0130				
268	STM-1215-1216	MH-1215	MH-1216	CONDUIT	27.0	
	0.3519	0.0130				
269	STM-1216-1217	MH-1216	MH-1217	CONDUIT	62.5	
	0.1504	0.0130				
270	STM-1217-1218	MH-1217	MH-1218	CONDUIT	82.5	
	0.1503	0.0130				
271	STM-1218-1220	MH-1218	MH-1220	CONDUIT	56.5	
	0.1504	0.0130				
272	STM-1219-1220	MH-1219	MH-1220	CONDUIT	78.0	
	0.3000	0.0130				
273	STM-1220-1221	MH-1220	MH-1221	CONDUIT	58.5	
	0.1504	0.0130				
274	STM-1221-1222	MH-1221	MH-1222	CONDUIT	70.5	
	0.1504	0.0130				
275	STM-1222-1223	MH-1222	MH-1223	CONDUIT	71.5	
	0.1497	0.0130				
276	STM-1223-1224	MH-1223	MH-1224	CONDUIT	17.0	
	0.1529	0.0130				
277	STM-1224-1230	MH-1224	MH-1230	CONDUIT	37.0	
	0.1514	0.0130				
278	STM-1227-1228	MH-1227	MH-1228	CONDUIT	125.5	
	0.1498	0.0130				
279	STM-1228-1229	MH-1228	MH-1229	CONDUIT	10.5	
	0.1524	0.0130				
280	STM-1229-1230	MH-1229	MH-1230	CONDUIT	9.5	
	0.1474	0.0130				
281	STM-1230-HW102	MH-1230	MH-HW102	CONDUIT	4.0	
	0.1500	0.0130				
282	STM-2101-2102	MH-2101	MH-2102	CONDUIT	35.5	
	0.3493	0.0130				
283	STM-2102-2103	MH-2102	MH-2103	CONDUIT	64.5	
	0.3008	0.0130				
284	STM-2103-2104	MH-2103	MH-2104	CONDUIT	70.5	
	0.2000	0.0130				
285	STM-2104-2108	MH-2104	MH-2108	CONDUIT	70.5	
	0.1504	0.0130				
286	STM-2105-2106	MH-2105	MH-2106	CONDUIT	123.5	
	0.2000	0.0130				
287	STM-2106-2107	MH-2106	MH-2107	CONDUIT	13.0	
	0.2000	0.0130				

288	STM-2107-2108	MH-2107	MH-2108	CONDUIT	55.5
	0.1495	0.0130			
289	STM-2108-2114	MH-2108	MH-2114	CONDUIT	48.5
	0.1505	0.0130			
290	STM-2109-2111	MH-2109	MH-2111	CONDUIT	49.0
	0.3510	0.0130			
291	STM-2110-2111	MH-2110	MH-2111	CONDUIT	10.5
	0.3524	0.0130			
292	STM-2111-2112	MH-2111	MH-2112	CONDUIT	66.5
	0.2000	0.0130			
293	STM-2112-2113	MH-2112	MH-2113	CONDUIT	67.0
	0.1507	0.0130			
294	STM-2113-2114	MH-2113	MH-2114	CONDUIT	14.0
	0.1500	0.0130			
295	STM-2114-HW201	MH-2114	MH-HW201	CONDUIT	26.5
	0.1509	0.0130			
296	STM-2201-2202	MH-2201	MH-2202	CONDUIT	43.0
	0.3512	0.0130			
297	STM-2202-2204	MH-2202	MH-2204	CONDUIT	73.0
	0.2000	0.0130			
298	STM-2203-2204	MH-2203	MH-2204	CONDUIT	32.0
	0.3500	0.0130			
299	STM-2204-2207	MH-2204	MH-2207	CONDUIT	64.5
	0.2000	0.0130			
300	STM-2205-2206	MH-2205	MH-2206	CONDUIT	43.5
	0.3494	0.0130			
301	STM-2206-2207	MH-2206	MH-2207	CONDUIT	73.0
	0.2000	0.0130			
302	STM-2207-2210	MH-2207	MH-2210	CONDUIT	62.5
	0.1504	0.0130			
303	STM-2208-2209	MH-2208	MH-2209	CONDUIT	68.0
	0.2000	0.0130			
304	STM-2209-2210	MH-2209	MH-2210	CONDUIT	72.5
	0.1503	0.0130			
305	STM-2210-2213	MH-2210	MH-2213	CONDUIT	56.5
	0.1504	0.0130			
306	STM-2211-2212	MH-2211	MH-2212	CONDUIT	71.0
	0.3000	0.0130			
307	STM-2212-2213	MH-2212	MH-2213	CONDUIT	71.0
	0.2000	0.0130			
308	STM-2213-2215	MH-2213	MH-2215	CONDUIT	58.5
	0.1504	0.0130			
309	STM-2214-2215	MH-2214	MH-2215	CONDUIT	34.0
	0.3500	0.0130			
310	STM-2215-2216	MH-2215	MH-2216	CONDUIT	79.5
	0.1497	0.0130			
311	STM-2216-2217	MH-2216	MH-2217	CONDUIT	79.5
	0.1497	0.0130			
312	STM-2217-2218	MH-2217	MH-2218	CONDUIT	13.0
	0.1538	0.0130			
313	STM-2218-2225	MH-2218	MH-2225	CONDUIT	23.5
	0.1489	0.0130			
314	STM-2219-2221	MH-2219	MH-2221	CONDUIT	29.5
	0.3492	0.0130			
315	STM-2220-2221	MH-2220	MH-2221	CONDUIT	24.5
	0.3510	0.0130			
316	STM-2221-2222	MH-2221	MH-2222	CONDUIT	80.5
	0.2000	0.0130			
317	STM-2222-2223	MH-2222	MH-2223	CONDUIT	80.5
	0.1503	0.0130			
318	STM-2223-2224	MH-2223	MH-2224	CONDUIT	14.0
	0.1500	0.0130			
319	STM-2224-2225	MH-2224	MH-2225	CONDUIT	22.0
	0.1500	0.0130			
320	STM-2225-HW202	MH-2225	MH-HW202	CONDUIT	4.0
	0.1500	0.0130			

321	STM-2301-2302	MH-2301	MH-2302	CONDUIT	72.0	
	0.3000	0.0130				
322	STM-2302-2304	MH-2302	MH-2304	CONDUIT	74.5	
	0.2000	0.0130				
323	STM-2303-2304	MH-2303	MH-2304	CONDUIT	15.0	
	0.3533	0.0130				
324	STM-2304-2308	MH-2304	MH-2308	CONDUIT	64.5	
	0.2000	0.0130				
325	STM-2305-2306	MH-2305	MH-2306	CONDUIT	72.0	
	0.2000	0.0130				
326	STM-2306-2308	MH-2306	MH-2308	CONDUIT	72.0	
	0.2000	0.0130				
327	STM-2307-2308	MH-2307	MH-2308	CONDUIT	30.5	
	0.3508	0.0130				
328	STM-2308-2312	MH-2308	MH-2312	CONDUIT	62.0	
	0.1500	0.0130				
329	STM-2309-2310	MH-2309	MH-2310	CONDUIT	71.0	
	0.2000	0.0130				
330	STM-2310-2312	MH-2310	MH-2312	CONDUIT	74.5	
	0.1503	0.0130				
331	STM-2311-2312	MH-2311	MH-2312	CONDUIT	31.0	
	0.3516	0.0130				
332	STM-2312-2316	MH-2312	MH-2316	CONDUIT	56.5	
	0.1504	0.0130				
333	STM-2313-2314	MH-2313	MH-2314	CONDUIT	72.5	
	0.2000	0.0130				
334	STM-2314-2316	MH-2314	MH-2316	CONDUIT	72.5	
	0.2000	0.0130				
335	STM-2315-2316	MH-2315	MH-2316	CONDUIT	31.0	
	0.3516	0.0130				
336	STM-2316-2318	MH-2316	MH-2318	CONDUIT	58.5	
	0.1504	0.0130				
337	STM-2317-2318	MH-2317	MH-2318	CONDUIT	39.5	
	0.3494	0.0130				
338	STM-2317-2323	MH-2317	MH-2323	CONDUIT	25.0	
	0.3520	0.0130				
339	STM-2318-2319	MH-2318	MH-2319	CONDUIT	85.5	
	0.1497	0.0130				
340	STM-2319-2320	MH-2319	MH-2320	CONDUIT	73.0	
	0.1507	0.0130				
341	STM-2320-2321	MH-2320	MH-2321	CONDUIT	11.5	
	0.1478	0.0130				
342	STM-2321-2327	MH-2321	MH-2327	CONDUIT	25.5	
	0.1490	0.0130				
343	STM-2322-2323	MH-2322	MH-2323	CONDUIT	20.0	
	0.3500	0.0130				
344	STM-2323-2324	MH-2323	MH-2324	CONDUIT	82.5	
	0.2000	0.0130				
345	STM-2324-2325	MH-2324	MH-2325	CONDUIT	82.5	
	0.1503	0.0130				
346	STM-2325-2326	MH-2325	MH-2326	CONDUIT	14.5	
	0.1517	0.0130				
347	STM-2326-2327	MH-2326	MH-2327	CONDUIT	21.5	
	0.1488	0.0130				
348	STM-2327-HW203	MH-2327	MH-HW203	CONDUIT	4.5	
	0.1556	0.0130				
349	STM-3101-3102	MH-3101	MH-3102	CONDUIT	42.0	
	0.3500	0.0130				
350	STM-3102-3103	MH-3102	MH-3103	CONDUIT	103.5	
	0.2000	0.0130				
351	STM-3103-3104	MH-3103	MH-3104	CONDUIT	10.5	
	0.2000	0.0130				
352	STM-3104-HW301	MH-3104	MH-HW301	CONDUIT	31.0	
	0.1516	0.0130				
353	STM-3105-3107	MH-3105	MH-3107	CONDUIT	59.5	
	0.3496	0.0130				

354	STM-3106-3107	MH-3106	MH-3107	CONDUIT	42.0
	0.3500	0.0130			
355	STM-3107-3108	MH-3107	MH-3108	CONDUIT	116.5
	0.1502	0.0130			
356	STM-3108-3109	MH-3108	MH-3109	CONDUIT	16.5
	0.1515	0.0130			
357	STM-3109-3104	MH-3109	MH-3104	CONDUIT	47.0
	0.1511	0.0130			
358	STM-3150-HW302	MH-3150	MH-HW302	CONDUIT	25.0
	0.1520	0.0130			
359	STM-3201-3202	MH-3201	MH-3202	CONDUIT	65.0
	0.2000	0.0130			
360	STM-3202-3204	MH-3202	MH-3204	CONDUIT	65.0
	0.1508	0.0130			
361	STM-3203-3204	MH-3203	MH-3204	CONDUIT	94.5
	0.2000	0.0130			
362	STM-3204-3208	MH-3204	MH-3208	CONDUIT	56.0
	0.1500	0.0130			
363	STM-3205-3206	MH-3205	MH-3206	CONDUIT	65.0
	0.3000	0.0130			
364	STM-3206-3208	MH-3206	MH-3208	CONDUIT	65.0
	0.2000	0.0130			
365	STM-3207-3208	MH-3207	MH-3208	CONDUIT	43.0
	0.3512	0.0130			
366	STM-3208-3209	MH-3208	MH-3209	CONDUIT	58.5
	0.1504	0.0130			
367	STM-3209-3210	MH-3209	MH-3210	CONDUIT	77.0
	0.1506	0.0130			
368	STM-3210-3150	MH-3210	MH-3150	CONDUIT	11.0
	0.1545	0.0130			
369	STM-3211-3212	MH-3211	MH-3212	CONDUIT	103.0
	0.2000	0.0130			
370	STM-3212-3213	MH-3212	MH-3213	CONDUIT	10.5
	0.2000	0.0130			
371	STM-3213-3214	MH-3213	MH-3214	CONDUIT	49.0
	0.2000	0.0130			
372	STM-3214-3150	MH-3214	MH-3150	CONDUIT	12.0
	0.2000	0.0130			
373	STM-3301-3303	MH-3301	MH-3303	CONDUIT	102.0
	0.2000	0.0130			
374	STM-3302-3303	MH-3302	MH-3303	CONDUIT	60.0
	0.3500	0.0130			
375	STM-3303-3305	MH-3303	MH-3305	CONDUIT	64.5
	0.1504	0.0130			
376	STM-3304-3305	MH-3304	MH-3305	CONDUIT	73.0
	0.3000	0.0130			
377	STM-3305-3307	MH-3305	MH-3307	CONDUIT	52.5
	0.1505	0.0130			
378	STM-3306-3307	MH-3306	MH-3307	CONDUIT	85.5
	0.3006	0.0130			
379	STM-3307-3309	MH-3307	MH-3309	CONDUIT	64.5
	0.1504	0.0130			
380	STM-3308-3309	MH-3308	MH-3309	CONDUIT	106.5
	0.2000	0.0130			
381	STM-3309-3313	MH-3309	MH-3313	CONDUIT	58.5
	0.1504	0.0130			
382	STM-3310-3311	MH-3310	MH-3311	CONDUIT	72.5
	0.2000	0.0130			
383	STM-3311-3312	MH-3311	MH-3312	CONDUIT	56.5
	0.2000	0.0130			
384	STM-3312-3313	MH-3312	MH-3313	CONDUIT	71.0
	0.1507	0.0130			
385	STM-3313-3314	MH-3313	MH-3314	CONDUIT	29.5
	0.1492	0.0130			
386	STM-3314-3319	MH-3314	MH-3319	CONDUIT	53.5
	0.1495	0.0130			

387	STM-3315-3317	MH-3315	MH-3317	CONDUIT	66.0	
	0.3500	0.0130				
388	STM-3316-3317	MH-3316	MH-3317	CONDUIT	49.0	
	0.3510	0.0130				
389	STM-3317-3318	MH-3317	MH-3318	CONDUIT	113.0	
	0.1504	0.0130				
390	STM-3318-3319	MH-3318	MH-3319	CONDUIT	8.5	
	0.1529	0.0130				
391	STM-3319-HW303	MH-3319	MH-HW303	CONDUIT	8.0	
	0.1500	0.0130				
392	STM-6101-6106	MH-6101	MH-6106	CONDUIT	66.0	
	0.1500	0.0130				
393	STM-6102-6103	MH-6102	MH-6103	CONDUIT	40.5	
	0.3012	0.0130				
394	STM-6103-6101	MH-6103	MH-6101	CONDUIT	61.5	
	0.2000	0.0130				
395	STM-6104-6108	MH-6104	MH-6108	CONDUIT	22.0	
	0.3000	0.0130				
396	STM-6106-6107	MH-6106	MH-6107	CONDUIT	10.0	
	0.1500	0.0130				
397	STM-6107-6108	MH-6107	MH-6108	CONDUIT	40.0	
	0.1500	0.0130				
398	STM-6108-HW601	MH-6108	MH-HW601	CONDUIT	23.5	
	0.2000	0.0130				
399	STM-6150-6104	MH-6150	MH-6104	CONDUIT	22.0	
	0.3500	0.0130				
400	STM-6152-6150	MH-6152	MH-6150	CONDUIT	42.0	
	0.3500	0.0130				
401	STM-6201-6202	MH-6201	MH-6202	CONDUIT	31.5	
	0.2000	0.0130				
402	STM-6202-6250	MH-6202	MH-6250	CONDUIT	46.0	
	0.2500	0.0130				
403	STM-6204-6205	MH-6204	MH-6205	CONDUIT	39.0	
	0.1513	0.0130				
404	STM-6205-6206	MH-6205	MH-6206	CONDUIT	19.5	
	0.1487	0.0130				
405	STM-6206-6207	MH-6206	MH-6207	CONDUIT	84.0	
	0.1500	0.0130				
406	STM-6207-6215	MH-6207	MH-6215	CONDUIT	69.5	
	0.1496	0.0130				
407	STM-6210-6213	MH-6210	MH-6213	CONDUIT	48.5	
	0.3505	0.0130				
408	STM-6211-6212	MH-6211	MH-6212	CONDUIT	72.5	
	0.3007	0.0130				
409	STM-6212-6213	MH-6212	MH-6213	CONDUIT	65.5	
	0.2000	0.0130				
410	STM-6213-6215	MH-6213	MH-6215	CONDUIT	58.5	
	0.1504	0.0130				
411	STM-6214-6215	MH-6214	MH-6215	CONDUIT	115.5	
	0.2000	0.0130				
412	STM-6215-6217	MH-6215	MH-6217	CONDUIT	62.5	
	0.1504	0.0130				
413	STM-6216-6217	MH-6216	MH-6217	CONDUIT	57.5	
	0.3496	0.0130				
414	STM-6217-6218	MH-6217	MH-6218	CONDUIT	104.0	
	0.1500	0.0130				
415	STM-6218-6223	MH-6218	MH-6223	CONDUIT	11.0	
	0.1545	0.0130				
416	STM-6219-6220	MH-6219	MH-6220	CONDUIT	52.5	
	0.3010	0.0130				
417	STM-6220-6221	MH-6220	MH-6221	CONDUIT	114.5	
	0.1502	0.0130				
418	STM-6221-6222	MH-6221	MH-6222	CONDUIT	16.0	
	0.1500	0.0130				
419	STM-6222-6223	MH-6222	MH-6223	CONDUIT	46.5	
	0.1505	0.0130				

420	STM-6223-HW602	MH-6223	MH-HW602	CONDUIT	24.5
	0.1510	0.0130			
421	STM-6250-6206	MH-6250	MH-6206	CONDUIT	49.0
	0.2510	0.0130			
422	STM-6301-6303	MH-6301	MH-6303	CONDUIT	55.5
	0.3496	0.0130			
423	STM-6302-6303	MH-6302	MH-6303	CONDUIT	21.0
	0.3524	0.0130			
424	STM-6303-6304	MH-6303	MH-6304	CONDUIT	16.0
	0.3500	0.0130			
425	STM-6304-6305	MH-6304	MH-6305	CONDUIT	90.5
	0.2000	0.0130			
426	STM-6305-6306	MH-6305	MH-6306	CONDUIT	122.0
	0.1500	0.0130			
427	STM-6306-6307	MH-6306	MH-6307	CONDUIT	90.0
	0.1500	0.0130			
428	STM-6307-6308	MH-6307	MH-6308	CONDUIT	78.5
	0.1503	0.0130			
429	STM-6308-6309	MH-6308	MH-6309	CONDUIT	12.0
	0.1500	0.0130			
430	STM-6309-6323	MH-6309	MH-6323	CONDUIT	19.5
	0.1487	0.0130			
431	STM-6310-6311	MH-6310	MH-6311	CONDUIT	12.0
	0.3500	0.0130			
432	STM-6311-6312	MH-6311	MH-6312	CONDUIT	82.0
	0.2000	0.0130			
433	STM-6312-6314	MH-6312	MH-6314	CONDUIT	82.0
	0.2000	0.0130			
434	STM-6314-6316	MH-6314	MH-6316	CONDUIT	62.5
	0.1504	0.0130			
435	STM-6315-6316	MH-6315	MH-6316	CONDUIT	45.5
	0.3011	0.0130			
436	STM-6316-6317	MH-6316	MH-6317	CONDUIT	81.5
	0.1497	0.0130			
437	STM-6317-6321	MH-6317	MH-6321	CONDUIT	69.5
	0.1496	0.0130			
438	STM-6318-6319	MH-6318	MH-6319	CONDUIT	118.5
	0.2000	0.0130			
439	STM-6319-6320	MH-6319	MH-6320	CONDUIT	12.0
	0.2000	0.0130			
440	STM-6320-6321	MH-6320	MH-6321	CONDUIT	51.5
	0.1495	0.0130			
441	STM-6321-6322	MH-6321	MH-6322	CONDUIT	15.0
	0.1533	0.0130			
442	STM-6322-6323	MH-6322	MH-6323	CONDUIT	11.5
	0.1478	0.0130			
443	STM-6323-HW603	MH-6323	MH-HW603	CONDUIT	5.5
	0.1455	0.0130			
444	STM-6345-6314	MH-6345	MH-6314	CONDUIT	58.5
	0.1504	0.0130			
445	STM-6346-6345	MH-6346	MH-6345	CONDUIT	68.5
	0.2000	0.0130			
446	STM-6347-6346	MH-6347	MH-6346	CONDUIT	76.5
	0.2693	0.0130			
447	STM-7001-7002	MH-7001	MH-7002	CONDUIT	57.5
	0.3009	0.0130			
448	STM-7002-7003	MH-7002	MH-7003	CONDUIT	98.0
	0.2000	0.0130			
449	STM-7003-7004	MH-7003	MH-7004	CONDUIT	13.5
	0.2000	0.0130			
450	STM-7004-7005	MH-7004	MH-7005	CONDUIT	45.5
	0.1495	0.0130			
451	STM-7005-7008	MH-7005	MH-7008	CONDUIT	13.0
	0.1538	0.0130			
452	STM-7006-7007	MH-7006	MH-7007	CONDUIT	74.5
	0.3007	0.0130			

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STM-7007-7008    MH-7007          MH-7008          CONDUIT          112.0
0.2000    0.0130
STM-7008-HW701   MH-7008          MH-HW701         CONDUIT           18.5
0.1514    0.0130


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Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
STM-1101-1102	CIRCULAR	0.90	0.64	0.23	0.90	1	809.65
STM-1102-1103	CIRCULAR	0.97	0.75	0.24	0.97	1	867.36
STM-1103-1104	CIRCULAR	1.05	0.87	0.26	1.05	1	1056.88
STM-1104-1105	CIRCULAR	1.05	0.87	0.26	1.05	1	1059.08
STM-1105-1106	CIRCULAR	1.05	0.87	0.26	1.05	1	1056.61
STM-1106-HW101	CIRCULAR	1.05	0.87	0.26	1.05	1	1057.67
STM-1201-1202	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-1202-1204	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-1203-1204	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-1204-1210	CIRCULAR	0.68	0.36	0.17	0.68	1	326.04
STM-1205-1207	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
STM-1206-1207	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
STM-1207-1209	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-1208-1209	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
STM-1209-1210	CIRCULAR	0.60	0.28	0.15	0.60	1	238.45
STM-1210-1218	CIRCULAR	0.82	0.53	0.21	0.82	1	556.60
STM-1211-1213	CIRCULAR	0.30	0.07	0.07	0.30	1	57.25
STM-1212-1213	CIRCULAR	0.30	0.07	0.07	0.30	1	57.29
STM-1213-1216	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-1214-1216	CIRCULAR	0.38	0.11	0.09	0.38	1	96.17
STM-1215-1216	CIRCULAR	0.30	0.07	0.07	0.30	1	57.36
STM-1216-1217	CIRCULAR	0.60	0.28	0.15	0.60	1	238.14
STM-1217-1218	CIRCULAR	0.60	0.28	0.15	0.60	1	238.06
STM-1218-1220	CIRCULAR	0.97	0.75	0.24	0.97	1	869.29
STM-1219-1220	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
STM-1220-1221	CIRCULAR	0.97	0.75	0.24	0.97	1	869.24
STM-1221-1222	CIRCULAR	0.97	0.75	0.24	0.97	1	869.03
STM-1222-1223	CIRCULAR	0.97	0.75	0.24	0.97	1	867.00
STM-1223-1224	CIRCULAR	0.97	0.75	0.24	0.97	1	876.48
STM-1224-1230	CIRCULAR	0.97	0.75	0.24	0.97	1	871.91
STM-1227-1228	CIRCULAR	0.60	0.28	0.15	0.60	1	237.66
STM-1228-1229	CIRCULAR	0.60	0.28	0.15	0.60	1	239.70
STM-1229-1230	CIRCULAR	0.60	0.28	0.15	0.60	1	235.72
STM-1230-HW102	CIRCULAR	1.05	0.87	0.26	1.05	1	1057.67
STM-2101-2102	CIRCULAR	0.30	0.07	0.07	0.30	1	57.15
STM-2102-2103	CIRCULAR	0.38	0.11	0.09	0.38	1	96.16
STM-2103-2104	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-2104-2108	CIRCULAR	0.60	0.28	0.15	0.60	1	238.10
STM-2105-2106	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-2106-2107	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-2107-2108	CIRCULAR	0.60	0.28	0.15	0.60	1	237.46
STM-2108-2114	CIRCULAR	0.68	0.36	0.17	0.68	1	326.14
STM-2109-2111	CIRCULAR	0.30	0.07	0.07	0.30	1	57.30
STM-2110-2111	CIRCULAR	0.30	0.07	0.07	0.30	1	57.41
STM-2111-2112	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-2112-2113	CIRCULAR	0.60	0.28	0.15	0.60	1	238.41
STM-2113-2114	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
STM-2114-HW201	CIRCULAR	0.82	0.53	0.21	0.82	1	557.72
STM-2201-2202	CIRCULAR	0.30	0.07	0.07	0.30	1	57.31
STM-2202-2204	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-2203-2204	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
STM-2204-2207	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
STM-2205-2206	CIRCULAR	0.30	0.07	0.07	0.30	1	57.17
STM-2206-2207	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51

517	STM-2207-2210	CIRCULAR	0.60	0.28	0.15	0.60	1	238.14
518	STM-2208-2209	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
519	STM-2209-2210	CIRCULAR	0.60	0.28	0.15	0.60	1	238.09
520	STM-2210-2213	CIRCULAR	0.75	0.44	0.19	0.75	1	431.83
521	STM-2211-2212	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
522	STM-2212-2213	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
523	STM-2213-2215	CIRCULAR	0.82	0.53	0.21	0.82	1	556.77
524	STM-2214-2215	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
525	STM-2215-2216	CIRCULAR	0.90	0.64	0.23	0.90	1	700.44
526	STM-2216-2217	CIRCULAR	0.90	0.64	0.23	0.90	1	700.44
527	STM-2217-2218	CIRCULAR	0.90	0.64	0.23	0.90	1	710.11
528	STM-2218-2225	CIRCULAR	0.90	0.64	0.23	0.90	1	698.68
529	STM-2219-2221	CIRCULAR	0.30	0.07	0.07	0.30	1	57.14
530	STM-2220-2221	CIRCULAR	0.30	0.07	0.07	0.30	1	57.30
531	STM-2221-2222	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
532	STM-2222-2223	CIRCULAR	0.60	0.28	0.15	0.60	1	238.07
533	STM-2223-2224	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
534	STM-2224-2225	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
535	STM-2225-HW202	CIRCULAR	0.97	0.75	0.24	0.97	1	868.01
536	STM-2301-2302	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
537	STM-2302-2304	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
538	STM-2303-2304	CIRCULAR	0.30	0.07	0.07	0.30	1	57.48
539	STM-2304-2308	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
540	STM-2305-2306	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
541	STM-2306-2308	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
542	STM-2307-2308	CIRCULAR	0.30	0.07	0.07	0.30	1	57.28
543	STM-2308-2312	CIRCULAR	0.68	0.36	0.17	0.68	1	325.58
544	STM-2309-2310	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
545	STM-2310-2312	CIRCULAR	0.60	0.28	0.15	0.60	1	238.09
546	STM-2311-2312	CIRCULAR	0.30	0.07	0.07	0.30	1	57.34
547	STM-2312-2316	CIRCULAR	0.82	0.53	0.21	0.82	1	556.80
548	STM-2313-2314	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
549	STM-2314-2316	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
550	STM-2315-2316	CIRCULAR	0.30	0.07	0.07	0.30	1	57.34
551	STM-2316-2318	CIRCULAR	0.90	0.64	0.23	0.90	1	702.17
552	STM-2317-2318	CIRCULAR	0.30	0.07	0.07	0.30	1	57.16
553	STM-2317-2323	CIRCULAR	0.30	0.07	0.07	0.30	1	57.38
554	STM-2318-2319	CIRCULAR	0.90	0.64	0.23	0.90	1	700.49
555	STM-2319-2320	CIRCULAR	0.90	0.64	0.23	0.90	1	702.77
556	STM-2320-2321	CIRCULAR	0.90	0.64	0.23	0.90	1	696.07
557	STM-2321-2327	CIRCULAR	0.90	0.64	0.23	0.90	1	698.88
558	STM-2322-2323	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
559	STM-2323-2324	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
560	STM-2324-2325	CIRCULAR	0.60	0.28	0.15	0.60	1	238.06
561	STM-2325-2326	CIRCULAR	0.60	0.28	0.15	0.60	1	239.18
562	STM-2326-2327	CIRCULAR	0.60	0.28	0.15	0.60	1	236.90
563	STM-2327-HW203	CIRCULAR	0.97	0.75	0.24	0.97	1	883.94
564	STM-3101-3102	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
565	STM-3102-3103	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
566	STM-3103-3104	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
567	STM-3104-HW301	CIRCULAR	0.68	0.36	0.17	0.68	1	327.32
568	STM-3105-3107	CIRCULAR	0.30	0.07	0.07	0.30	1	57.18
569	STM-3106-3107	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
570	STM-3107-3108	CIRCULAR	0.60	0.28	0.15	0.60	1	237.99
571	STM-3108-3109	CIRCULAR	0.60	0.28	0.15	0.60	1	239.02
572	STM-3109-3104	CIRCULAR	0.60	0.28	0.15	0.60	1	238.66
573	STM-3150-HW302	CIRCULAR	0.90	0.64	0.23	0.90	1	705.83
574	STM-3201-3202	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
575	STM-3202-3204	CIRCULAR	0.60	0.28	0.15	0.60	1	238.43
576	STM-3203-3204	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
577	STM-3204-3208	CIRCULAR	0.68	0.36	0.17	0.68	1	325.58
578	STM-3205-3206	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
579	STM-3206-3208	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
580	STM-3207-3208	CIRCULAR	0.30	0.07	0.07	0.30	1	57.31
581	STM-3208-3209	CIRCULAR	0.75	0.44	0.19	0.75	1	431.81
582	STM-3209-3210	CIRCULAR	0.82	0.53	0.21	0.82	1	557.18

583	STM-3210-3150	CIRCULAR	0.82	0.53	0.21	0.82	1	564.34
584	STM-3211-3212	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
585	STM-3212-3213	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
586	STM-3213-3214	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
587	STM-3214-3150	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
588	STM-3301-3303	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
589	STM-3302-3303	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
590	STM-3303-3305	CIRCULAR	0.60	0.28	0.15	0.60	1	238.13
591	STM-3304-3305	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
592	STM-3305-3307	CIRCULAR	0.68	0.36	0.17	0.68	1	326.09
593	STM-3306-3307	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
594	STM-3307-3309	CIRCULAR	0.75	0.44	0.19	0.75	1	431.75
595	STM-3308-3309	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
596	STM-3309-3313	CIRCULAR	0.82	0.53	0.21	0.82	1	556.77
597	STM-3310-3311	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
598	STM-3311-3312	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
599	STM-3312-3313	CIRCULAR	0.60	0.28	0.15	0.60	1	238.38
600	STM-3313-3314	CIRCULAR	0.90	0.64	0.23	0.90	1	699.19
601	STM-3314-3319	CIRCULAR	0.90	0.64	0.23	0.90	1	700.08
602	STM-3315-3317	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
603	STM-3316-3317	CIRCULAR	0.30	0.07	0.07	0.30	1	57.30
604	STM-3317-3318	CIRCULAR	0.60	0.28	0.15	0.60	1	238.17
605	STM-3318-3319	CIRCULAR	0.60	0.28	0.15	0.60	1	240.14
606	STM-3319-HW303	CIRCULAR	0.90	0.64	0.23	0.90	1	701.17
607	STM-6101-6106	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
608	STM-6102-6103	CIRCULAR	0.38	0.11	0.09	0.38	1	96.24
609	STM-6103-6101	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
610	STM-6104-6108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
611	STM-6106-6107	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
612	STM-6107-6108	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
613	STM-6108-HW601	CIRCULAR	0.60	0.28	0.15	0.60	1	274.61
614	STM-6150-6104	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
615	STM-6152-6150	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
616	STM-6201-6202	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
617	STM-6202-6250	CIRCULAR	0.45	0.16	0.11	0.45	1	142.56
618	STM-6204-6205	CIRCULAR	0.60	0.28	0.15	0.60	1	238.83
619	STM-6205-6206	CIRCULAR	0.60	0.28	0.15	0.60	1	236.80
620	STM-6206-6207	CIRCULAR	0.75	0.44	0.19	0.75	1	431.20
621	STM-6207-6215	CIRCULAR	0.82	0.53	0.21	0.82	1	555.31
622	STM-6210-6213	CIRCULAR	0.30	0.07	0.07	0.30	1	57.25
623	STM-6211-6212	CIRCULAR	0.38	0.11	0.09	0.38	1	96.15
624	STM-6212-6213	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
625	STM-6213-6215	CIRCULAR	0.60	0.28	0.15	0.60	1	238.16
626	STM-6214-6215	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
627	STM-6215-6217	CIRCULAR	0.90	0.64	0.23	0.90	1	702.11
628	STM-6216-6217	CIRCULAR	0.30	0.07	0.07	0.30	1	57.18
629	STM-6217-6218	CIRCULAR	0.97	0.75	0.24	0.97	1	868.01
630	STM-6218-6223	CIRCULAR	0.97	0.75	0.24	0.97	1	881.06
631	STM-6219-6220	CIRCULAR	0.38	0.11	0.09	0.38	1	96.19
632	STM-6220-6221	CIRCULAR	0.60	0.28	0.15	0.60	1	237.99
633	STM-6221-6222	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
634	STM-6222-6223	CIRCULAR	0.60	0.28	0.15	0.60	1	238.25
635	STM-6223-HW602	CIRCULAR	1.05	0.87	0.26	1.05	1	1061.26
636	STM-6250-6206	CIRCULAR	0.45	0.16	0.11	0.45	1	142.85
637	STM-6301-6303	CIRCULAR	0.30	0.07	0.07	0.30	1	57.18
638	STM-6302-6303	CIRCULAR	0.30	0.07	0.07	0.30	1	57.41
639	STM-6303-6304	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
640	STM-6304-6305	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
641	STM-6305-6306	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
642	STM-6306-6307	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
643	STM-6307-6308	CIRCULAR	0.68	0.36	0.17	0.68	1	325.92
644	STM-6308-6309	CIRCULAR	0.68	0.36	0.17	0.68	1	325.58
645	STM-6309-6323	CIRCULAR	0.68	0.36	0.17	0.68	1	324.18
646	STM-6310-6311	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
647	STM-6311-6312	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
648	STM-6312-6314	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34

STM-6314-6316	CIRCULAR	0.68	0.36	0.17	0.68	1	326.01
STM-6315-6316	CIRCULAR	0.38	0.11	0.09	0.38	1	96.21
STM-6316-6317	CIRCULAR	0.75	0.44	0.19	0.75	1	430.76
STM-6317-6321	CIRCULAR	0.75	0.44	0.19	0.75	1	430.68
STM-6318-6319	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6319-6320	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6320-6321	CIRCULAR	0.60	0.28	0.15	0.60	1	237.43
STM-6321-6322	CIRCULAR	0.82	0.53	0.21	0.82	1	562.12
STM-6322-6323	CIRCULAR	0.82	0.53	0.21	0.82	1	551.93
STM-6323-HW603	CIRCULAR	0.97	0.75	0.24	0.97	1	854.76
STM-6345-6314	CIRCULAR	0.60	0.28	0.15	0.60	1	238.16
STM-6346-6345	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6347-6346	CIRCULAR	0.38	0.11	0.09	0.38	1	90.99
STM-7001-7002	CIRCULAR	0.38	0.11	0.09	0.38	1	96.18
STM-7002-7003	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
STM-7003-7004	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
STM-7004-7005	CIRCULAR	0.60	0.28	0.15	0.60	1	237.38
STM-7005-7008	CIRCULAR	0.60	0.28	0.15	0.60	1	240.85
STM-7006-7007	CIRCULAR	0.38	0.11	0.09	0.38	1	96.15
STM-7007-7008	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-7008-HW701	CIRCULAR	0.68	0.36	0.17	0.68	1	327.04

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... LPS
Process Models:
  Rainfall/Runoff ..... NO
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 02/16/2021 00:00:00
Ending Date 02/16/2021 12:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Routing Time Step ..... 0.50 sec
Variable Time Step ..... YES
Maximum Trials 41
Number of Threads 6
Head Tolerance ..... 0.000010 m

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---	---
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	32.674	326.743
External Outflow	32.674	326.743
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000

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  Exfiltration Loss ........          0.000          0.000
  Initial Stored Volume ....          0.330          3.302
  Final Stored Volume ......          0.330          3.301
  Continuity Error (%) .....          0.000


  ***************************
  Time-Step Critical Elements
  ***************************
  None


  *******************************
  Highest Flow Instability Indexes
  *******************************
  All links are stable.


  ************************
  Routing Time Step Summary
  ************************
  Minimum Time Step           :     0.40 sec
  Average Time Step           :     0.50 sec
  Maximum Time Step           :     0.50 sec
  Percent in Steady State     :     0.00
  Average Iterations per Step :     9.71
  Percent Not Converging      :     0.01
  Time Step Frequencies       :
      0.500 -  0.362 sec      :   100.00 %
      0.362 -  0.263 sec      :     0.00 %
      0.263 -  0.190 sec      :     0.00 %
      0.190 -  0.138 sec      :     0.00 %
      0.138 -  0.100 sec      :     0.00 %


  ******************
  Node Depth Summary
  ******************

  ------------------------------------------------------------------------------
                                Average  Maximum  Maximum  Time of Max    Reported
                                  Depth    Depth      HGL   Occurrence   Max Depth
  Node                  Type      Meters   Meters   Meters  days hr:min      Meters
  ------------------------------------------------------------------------------
  MH-1101               JUNCTION    1.00     1.00    91.86     0  00:00        1.00
  MH-1102               JUNCTION    1.12     1.12    91.71     0  00:00        1.12
  MH-1103               JUNCTION    1.23     1.23    91.57     0  00:00        1.23
  MH-1104               JUNCTION    1.30     1.30    91.46     0  07:25        1.30
  MH-1105               JUNCTION    1.37     1.37    91.32     0  00:00        1.37
  MH-1106               JUNCTION    1.39     1.39    91.16     0  01:50        1.39
  MH-1201               JUNCTION    0.59     0.59    92.03     0  00:00        0.59
  MH-1202               JUNCTION    0.74     0.74    91.87     0  01:26        0.74
  MH-1203               JUNCTION    0.63     0.63    92.02     0  00:00        0.63
  MH-1204               JUNCTION    0.98     0.98    91.82     0  00:00        0.98
  MH-1205               JUNCTION    0.53     0.53    92.02     0  00:00        0.53
  MH-1206               JUNCTION    0.46     0.46    91.93     0  01:04        0.46
  MH-1207               JUNCTION    0.73     0.73    91.93     0  00:00        0.73
  MH-1208               JUNCTION    0.59     0.59    92.00     0  00:00        0.59
  MH-1209               JUNCTION    0.93     0.93    91.84     0  00:00        0.93
  MH-1210               JUNCTION    1.17     1.17    91.77     0  00:00        1.17
  MH-1211               JUNCTION    0.47     0.47    92.03     0  00:00        0.47
  MH-1212               JUNCTION    0.38     0.38    91.89     0  00:00        0.38
  MH-1213               JUNCTION    0.66     0.66    91.87     0  00:00        0.66
  MH-1214               JUNCTION    0.51     0.51    91.92     0  00:00        0.51
  MH-1215               JUNCTION    0.42     0.42    91.84     0  00:00        0.42
  MH-1216               JUNCTION    0.90     0.90    91.83     0  00:00        0.90
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781	MH-1217	JUNCTION	1.00	1.00	91.78	0	00:00	1.00
782	MH-1218	JUNCTION	1.34	1.34	91.62	0	06:19	1.34
783	MH-1219	JUNCTION	0.55	0.55	91.67	0	00:00	0.55
784	MH-1220	JUNCTION	1.39	1.39	91.56	0	07:37	1.39
785	MH-1221	JUNCTION	1.43	1.43	91.49	0	00:00	1.43
786	MH-1222	JUNCTION	1.47	1.47	91.41	0	06:40	1.47
787	MH-1223	JUNCTION	1.51	1.51	91.28	0	00:00	1.51
788	MH-1224	JUNCTION	1.53	1.53	91.22	0	00:00	1.53
789	MH-1227	JUNCTION	0.58	0.58	91.19	0	02:44	0.58
790	MH-1228	JUNCTION	0.74	0.74	91.13	0	00:00	0.74
791	MH-1229	JUNCTION	0.77	0.77	91.12	0	00:00	0.77
792	MH-1230	JUNCTION	1.54	1.54	91.09	0	04:42	1.54
793	MH-2101	JUNCTION	0.43	0.43	91.44	0	02:18	0.43
794	MH-2102	JUNCTION	0.61	0.61	91.42	0	00:00	0.61
795	MH-2103	JUNCTION	0.80	0.80	91.34	0	00:00	0.80
796	MH-2104	JUNCTION	1.00	1.00	91.25	0	00:00	1.00
797	MH-2105	JUNCTION	0.53	0.53	91.45	0	02:01	0.53
798	MH-2106	JUNCTION	0.61	0.62	91.25	0	03:24	0.62
799	MH-2107	JUNCTION	0.76	0.76	91.22	0	05:38	0.76
800	MH-2108	JUNCTION	1.12	1.12	91.19	0	02:18	1.12
801	MH-2109	JUNCTION	0.29	0.29	91.27	0	00:00	0.29
802	MH-2110	JUNCTION	0.27	0.27	91.21	0	00:00	0.27
803	MH-2111	JUNCTION	0.54	0.54	91.21	0	00:00	0.54
804	MH-2112	JUNCTION	0.76	0.76	91.14	0	00:00	0.76
805	MH-2113	JUNCTION	0.88	0.88	91.10	0	00:00	0.88
806	MH-2114	JUNCTION	1.24	1.24	91.09	0	00:00	1.24
807	MH-2201	JUNCTION	0.22	0.22	91.72	0	08:06	0.22
808	MH-2202	JUNCTION	0.47	0.47	91.68	0	04:12	0.47
809	MH-2203	JUNCTION	0.27	0.27	91.61	0	08:18	0.27
810	MH-2204	JUNCTION	0.62	0.62	91.61	0	10:11	0.62
811	MH-2205	JUNCTION	0.29	0.29	91.71	0	08:06	0.29
812	MH-2206	JUNCTION	0.52	0.52	91.64	0	00:00	0.52
813	MH-2207	JUNCTION	0.77	0.77	91.55	0	00:00	0.77
814	MH-2208	JUNCTION	0.49	0.49	91.63	0	00:00	0.49
815	MH-2209	JUNCTION	0.70	0.70	91.56	0	00:00	0.70
816	MH-2210	JUNCTION	0.93	0.93	91.46	0	00:00	0.93
817	MH-2211	JUNCTION	0.53	0.53	91.64	0	00:00	0.53
818	MH-2212	JUNCTION	0.70	0.70	91.52	0	03:52	0.70
819	MH-2213	JUNCTION	1.08	1.08	91.39	0	10:11	1.08
820	MH-2214	JUNCTION	0.38	0.38	91.32	0	08:23	0.38
821	MH-2215	JUNCTION	1.17	1.17	91.31	0	00:00	1.17
822	MH-2216	JUNCTION	1.24	1.24	91.24	0	00:00	1.24
823	MH-2217	JUNCTION	1.30	1.30	91.16	0	04:38	1.30
824	MH-2218	JUNCTION	1.33	1.33	91.13	0	03:24	1.33
825	MH-2219	JUNCTION	0.40	0.40	91.32	0	00:00	0.40
826	MH-2220	JUNCTION	0.38	0.38	91.30	0	00:00	0.38
827	MH-2221	JUNCTION	0.63	0.63	91.29	0	06:33	0.63
828	MH-2222	JUNCTION	0.83	0.83	91.19	0	02:01	0.83
829	MH-2223	JUNCTION	0.94	0.94	91.12	0	04:15	0.94
830	MH-2224	JUNCTION	1.01	1.01	91.10	0	00:00	1.01
831	MH-2225	JUNCTION	1.38	1.38	91.06	0	00:00	1.38
832	MH-2301	JUNCTION	0.56	0.56	91.93	0	00:00	0.56
833	MH-2302	JUNCTION	0.77	0.77	91.85	0	09:27	0.77
834	MH-2303	JUNCTION	0.47	0.47	91.73	0	11:13	0.47
835	MH-2304	JUNCTION	0.86	0.86	91.73	0	00:00	0.86
836	MH-2305	JUNCTION	0.56	0.56	91.76	0	02:38	0.56
837	MH-2306	JUNCTION	0.72	0.72	91.71	0	03:53	0.72
838	MH-2307	JUNCTION	0.38	0.38	91.65	0	00:00	0.38
839	MH-2308	JUNCTION	1.10	1.10	91.62	0	11:13	1.10
840	MH-2309	JUNCTION	0.64	0.64	91.75	0	00:00	0.64
841	MH-2310	JUNCTION	0.83	0.83	91.65	0	11:13	0.83
842	MH-2311	JUNCTION	0.54	0.54	91.64	0	00:00	0.54
843	MH-2312	JUNCTION	1.28	1.28	91.55	0	00:00	1.28
844	MH-2313	JUNCTION	0.61	0.61	91.63	0	11:13	0.61
845	MH-2314	JUNCTION	0.77	0.77	91.57	0	00:00	0.77
846	MH-2315	JUNCTION	0.51	0.51	91.52	0	00:00	0.51

847	MH-2316	JUNCTION	1.37	1.37	91.48	0	00:00	1.37
848	MH-2317	JUNCTION	0.43	0.43	91.36	0	10:11	0.43
849	MH-2318	JUNCTION	1.40	1.40	91.40	0	03:24	1.40
850	MH-2319	JUNCTION	1.44	1.44	91.30	0	00:00	1.44
851	MH-2320	JUNCTION	1.48	1.48	91.20	0	01:59	1.48
852	MH-2321	JUNCTION	1.49	1.49	91.16	0	02:01	1.49
853	MH-2322	JUNCTION	0.41	0.41	91.33	0	00:00	0.41
854	MH-2323	JUNCTION	0.64	0.64	91.32	0	00:00	0.64
855	MH-2324	JUNCTION	0.83	0.83	91.20	0	02:18	0.83
856	MH-2325	JUNCTION	0.94	0.94	91.13	0	00:00	0.94
857	MH-2326	JUNCTION	1.00	1.00	91.11	0	02:01	1.00
858	MH-2327	JUNCTION	1.51	1.51	91.07	0	05:04	1.51
859	MH-3101	JUNCTION	0.57	0.57	91.30	0	00:00	0.57
860	MH-3102	JUNCTION	0.82	0.82	91.26	0	03:24	0.82
861	MH-3103	JUNCTION	0.89	0.89	91.09	0	08:23	0.89
862	MH-3104	JUNCTION	1.23	1.23	91.07	0	06:29	1.23
863	MH-3105	JUNCTION	0.53	0.53	91.34	0	04:38	0.53
864	MH-3106	JUNCTION	0.43	0.43	91.28	0	04:38	0.43
865	MH-3107	JUNCTION	0.94	0.94	91.24	0	00:00	0.94
866	MH-3108	JUNCTION	1.09	1.09	91.16	0	00:00	1.09
867	MH-3109	JUNCTION	1.16	1.16	91.14	0	00:00	1.16
868	MH-3150	JUNCTION	1.21	1.21	91.04	0	11:54	1.21
869	MH-3201	JUNCTION	0.50	0.50	91.45	0	00:00	0.50
870	MH-3202	JUNCTION	0.70	0.70	91.37	0	09:27	0.70
871	MH-3203	JUNCTION	0.51	0.51	91.40	0	10:11	0.51
872	MH-3204	JUNCTION	0.81	0.81	91.28	0	00:00	0.81
873	MH-3205	JUNCTION	0.50	0.50	91.44	0	02:01	0.50
874	MH-3206	JUNCTION	0.69	0.69	91.35	0	06:40	0.69
875	MH-3207	JUNCTION	0.38	0.38	91.25	0	00:00	0.38
876	MH-3208	JUNCTION	0.99	0.99	91.22	0	00:00	0.99
877	MH-3209	JUNCTION	1.07	1.07	91.14	0	00:00	1.07
878	MH-3210	JUNCTION	1.14	1.14	91.06	0	00:00	1.14
879	MH-3211	JUNCTION	0.57	0.57	91.27	0	06:33	0.57
880	MH-3212	JUNCTION	0.68	0.68	91.14	0	06:19	0.68
881	MH-3213	JUNCTION	0.76	0.76	91.12	0	06:04	0.76
882	MH-3214	JUNCTION	0.84	0.84	91.08	0	04:38	0.84
883	MH-3301	JUNCTION	0.58	0.58	91.59	0	00:00	0.58
884	MH-3302	JUNCTION	0.50	0.50	91.66	0	00:00	0.50
885	MH-3303	JUNCTION	0.85	0.85	91.49	0	04:38	0.85
886	MH-3304	JUNCTION	0.55	0.55	91.55	0	04:31	0.55
887	MH-3305	JUNCTION	0.95	0.95	91.43	0	02:52	0.95
888	MH-3306	JUNCTION	0.59	0.59	91.54	0	00:00	0.59
889	MH-3307	JUNCTION	1.06	1.06	91.37	0	00:00	1.06
890	MH-3308	JUNCTION	0.67	0.67	91.47	0	10:15	0.67
891	MH-3309	JUNCTION	1.17	1.17	91.31	0	08:23	1.17
892	MH-3310	JUNCTION	0.50	0.50	91.39	0	02:01	0.50
893	MH-3311	JUNCTION	0.63	0.63	91.32	0	00:00	0.63
894	MH-3312	JUNCTION	0.83	0.83	91.25	0	02:01	0.83
895	MH-3313	JUNCTION	1.23	1.23	91.21	0	00:00	1.23
896	MH-3314	JUNCTION	1.25	1.25	91.13	0	00:00	1.25
897	MH-3315	JUNCTION	0.41	0.41	91.27	0	00:00	0.41
898	MH-3316	JUNCTION	0.36	0.36	91.19	0	00:00	0.36
899	MH-3317	JUNCTION	0.80	0.80	91.13	0	03:24	0.80
900	MH-3318	JUNCTION	0.95	0.95	91.05	0	00:00	0.95
901	MH-3319	JUNCTION	1.30	1.30	91.03	0	08:02	1.30
902	MH-6101	JUNCTION	1.03	1.03	91.37	0	00:00	1.03
903	MH-6102	JUNCTION	0.75	0.75	91.57	0	04:38	0.75
904	MH-6103	JUNCTION	0.95	0.95	91.49	0	00:00	0.95
905	MH-6104	JUNCTION	0.79	0.79	91.26	0	10:20	0.79
906	MH-6106	JUNCTION	1.08	1.08	91.30	0	01:04	1.08
907	MH-6107	JUNCTION	1.11	1.11	91.29	0	00:00	1.11
908	MH-6108	JUNCTION	1.16	1.16	91.21	0	04:59	1.16
909	MH-6150	JUNCTION	0.72	0.72	91.35	0	00:00	0.72
910	MH-6152	JUNCTION	0.61	0.61	91.44	0	00:00	0.61
911	MH-6201	JUNCTION	0.50	0.50	91.74	0	00:00	0.50
912	MH-6202	JUNCTION	0.56	0.56	91.67	0	01:05	0.56

MH-6204	JUNCTION	0.51	0.51	91.44	0	05:29	0.51
MH-6205	JUNCTION	0.59	0.59	91.44	0	05:29	0.59
MH-6206	JUNCTION	0.89	0.89	91.43	0	00:00	0.89
MH-6207	JUNCTION	1.06	1.06	91.40	0	00:00	1.06
MH-6210	JUNCTION	0.35	0.35	91.49	0	00:00	0.35
MH-6211	JUNCTION	0.53	0.53	91.72	0	00:00	0.53
MH-6212	JUNCTION	0.68	0.68	91.59	0	00:00	0.68
MH-6213	JUNCTION	0.81	0.81	91.43	0	00:00	0.81
MH-6214	JUNCTION	0.59	0.59	91.55	0	00:00	0.59
MH-6215	JUNCTION	1.20	1.20	91.36	0	00:00	1.20
MH-6216	JUNCTION	0.56	0.56	91.51	0	09:08	0.56
MH-6217	JUNCTION	1.30	1.30	91.29	0	11:51	1.30
MH-6218	JUNCTION	1.38	1.38	91.19	0	08:23	1.38
MH-6219	JUNCTION	0.47	0.47	91.43	0	00:00	0.47
MH-6220	JUNCTION	0.76	0.76	91.33	0	00:00	0.76
MH-6221	JUNCTION	0.91	0.91	91.25	0	00:45	0.91
MH-6222	JUNCTION	0.98	0.98	91.23	0	00:00	0.98
MH-6223	JUNCTION	1.45	1.45	91.16	0	04:54	1.45
MH-6250	JUNCTION	0.61	0.61	91.58	0	00:00	0.61
MH-6301	JUNCTION	0.27	0.27	91.70	0	01:44	0.27
MH-6302	JUNCTION	0.28	0.28	91.65	0	10:13	0.28
MH-6303	JUNCTION	0.44	0.44	91.65	0	00:00	0.44
MH-6304	JUNCTION	0.61	0.61	91.61	0	06:40	0.61
MH-6305	JUNCTION	0.81	0.81	91.48	0	04:38	0.81
MH-6306	JUNCTION	0.92	0.92	91.38	0	00:00	0.92
MH-6307	JUNCTION	1.01	1.01	91.27	0	00:00	1.01
MH-6308	JUNCTION	1.11	1.11	91.19	0	06:11	1.11
MH-6309	JUNCTION	1.16	1.16	91.17	0	00:00	1.16
MH-6310	JUNCTION	0.28	0.28	91.58	0	06:03	0.28
MH-6311	JUNCTION	0.47	0.47	91.58	0	00:00	0.47
MH-6312	JUNCTION	0.64	0.64	91.51	0	06:40	0.64
MH-6314	JUNCTION	0.88	0.88	91.43	0	00:00	0.88
MH-6315	JUNCTION	0.47	0.47	91.43	0	00:00	0.47
MH-6316	JUNCTION	0.98	0.98	91.36	0	00:00	0.98
MH-6317	JUNCTION	1.04	1.04	91.27	0	00:00	1.04
MH-6318	JUNCTION	0.61	0.61	91.47	0	00:00	0.61
MH-6319	JUNCTION	0.67	0.67	91.26	0	03:24	0.67
MH-6320	JUNCTION	0.81	0.81	91.23	0	02:40	0.81
MH-6321	JUNCTION	1.13	1.13	91.19	0	02:47	1.13
MH-6322	JUNCTION	1.15	1.15	91.15	0	00:00	1.15
MH-6323	JUNCTION	1.44	1.44	91.12	0	08:37	1.44
MH-6345	JUNCTION	0.77	0.77	91.48	0	00:00	0.77
MH-6346	JUNCTION	0.64	0.64	91.64	0	00:00	0.64
MH-6347	JUNCTION	0.50	0.50	91.78	0	00:00	0.50
MH-7001	JUNCTION	0.21	0.21	91.45	0	00:00	0.21
MH-7002	JUNCTION	0.33	0.33	91.25	0	00:00	0.33
MH-7003	JUNCTION	0.43	0.43	91.09	0	00:01	0.43
MH-7004	JUNCTION	0.51	0.51	91.07	0	00:01	0.51
MH-7005	JUNCTION	0.58	0.58	91.05	0	00:00	0.58
MH-7006	JUNCTION	0.21	0.21	91.39	0	00:05	0.21
MH-7007	JUNCTION	0.36	0.36	91.25	0	00:00	0.36
MH-7008	JUNCTION	0.67	0.67	91.04	0	00:00	0.67
MH-HW101	OUTFALL	1.42	1.42	91.09	0	00:00	1.42
MH-HW102	OUTFALL	1.54	1.54	91.09	0	00:00	1.54
MH-HW201	OUTFALL	1.26	1.26	91.06	0	00:00	1.26
MH-HW202	OUTFALL	1.38	1.38	91.06	0	00:00	1.38
MH-HW203	OUTFALL	1.51	1.51	91.06	0	00:00	1.51
MH-HW301	OUTFALL	1.24	1.24	91.03	0	00:00	1.24
MH-HW302	OUTFALL	1.23	1.23	91.02	0	00:00	1.23
MH-HW303	OUTFALL	1.30	1.30	91.02	0	00:00	1.30
MH-HW601	OUTFALL	1.15	1.15	91.16	0	00:00	1.15
MH-HW602	OUTFALL	1.46	1.46	91.14	0	00:00	1.46
MH-HW603	OUTFALL	1.44	1.44	91.11	0	00:00	1.45
MH-HW701	OUTFALL	0.68	0.68	91.02	0	00:00	0.68

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Node Inflow Summary
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                                 Maximum  Maximum                  Lateral
                                 Total        Flow
                                 Lateral    Total  Time of Max      Inflow
                                 Inflow     Balance
                                  Inflow   Inflow   Occurrence      Volume
                                  Volume       Error
Node                 Type           LPS      LPS  days hr:min    10^6 ltr    10^6
ltr     Percent

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MH-1101              JUNCTION    703.00   703.00     0  00:00        30.4
30.4      -0.000
MH-1102              JUNCTION     65.00   768.00     0  08:52        2.81
33.2      -0.000
MH-1103              JUNCTION     85.00   853.00     0  05:10        3.67
36.8       0.000
MH-1104              JUNCTION     67.00   920.00     0  08:52        2.89
39.7      -0.000
MH-1105              JUNCTION      6.00   926.00     0  01:44       0.259
40        0.000
MH-1106              JUNCTION      0.00   926.00     0  00:59           0
40        0.000
MH-1201              JUNCTION     93.47    93.47     0  00:00        4.04
4.04       0.000
MH-1202              JUNCTION     18.13   111.60     0  11:41       0.783
4.82      -0.000
MH-1203              JUNCTION    106.01   106.01     0  00:00        4.58
4.58       0.000
MH-1204              JUNCTION     24.04   241.65     0  00:32        1.04
10.4       0.000
MH-1205              JUNCTION     56.96    56.96     0  00:00        2.46
2.46       0.000
MH-1206              JUNCTION     14.24    14.24     0  00:00       0.615
0.615       0.000
MH-1207              JUNCTION     30.89   102.08     0  01:16        1.33
4.41      -0.000
MH-1208              JUNCTION     71.20    71.20     0  00:00        3.08
3.08       0.000
MH-1209              JUNCTION      3.68   176.97     0  04:54       0.159
7.64      -0.000
MH-1210              JUNCTION     70.04   488.65     0  06:14        3.03
21.1       0.000
MH-1211              JUNCTION     45.88    45.88     0  00:00        1.98
1.98       0.000
MH-1212              JUNCTION     17.40    17.40     0  00:00       0.752
0.752       0.000
MH-1213              JUNCTION      9.86    73.15     0  02:33       0.426
3.16      -0.000
MH-1214              JUNCTION     56.96    56.96     0  00:00        2.46
2.46      -0.000
MH-1215              JUNCTION     17.40    17.40     0  00:00       0.752
0.752      -0.000
MH-1216              JUNCTION      0.00   147.51     0  05:13           0
6.37       0.000
MH-1217              JUNCTION     77.52   225.03     0  02:56        3.35
9.72      -0.000
MH-1218              JUNCTION      0.00   713.69     0  07:11           0
30.8      -0.000
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1013	MH-1219	JUNCTION	56.96	56.96	0	00:00	2.46	2.46
	0.000							
1014	MH-1220	JUNCTION	0.00	770.64	0	02:56	0	33.3
	0.000							
1015	MH-1221	JUNCTION	10.26	780.90	0	07:11	0.443	33.7
	0.000							
1016	MH-1222	JUNCTION	20.21	801.12	0	07:11	0.873	34.6
	-0.000							
1017	MH-1223	JUNCTION	0.00	801.12	0	07:11	0	34.6
	0.000							
1018	MH-1224	JUNCTION	0.00	801.12	0	02:26	0	34.6
	-0.000							
1019	MH-1227	JUNCTION	142.15	142.15	0	00:00	6.14	6.14
	0.000							
1020	MH-1228	JUNCTION	0.00	142.15	0	02:03	0	6.14
	-0.000							
1021	MH-1229	JUNCTION	0.00	142.15	0	09:02	0	6.14
	-0.000							
1022	MH-1230	JUNCTION	0.00	943.27	0	06:04	0	40.7
	-0.000							
1023	MH-2101	JUNCTION	20.57	20.57	0	00:00	0.889	0.889
	-0.000							
1024	MH-2102	JUNCTION	34.39	54.96	0	00:00	1.49	2.37
	0.000							
1025	MH-2103	JUNCTION	48.86	103.82	0	04:43	2.11	4.48
	-0.000							
1026	MH-2104	JUNCTION	42.42	146.24	0	06:40	1.83	6.32
	-0.000							
1027	MH-2105	JUNCTION	110.75	110.75	0	00:00	4.78	4.78
	-0.000							
1028	MH-2106	JUNCTION	4.41	115.16	0	02:13	0.191	4.98
	-0.000							
1029	MH-2107	JUNCTION	26.44	141.60	0	04:47	1.14	6.12
	-0.000							
1030	MH-2108	JUNCTION	4.16	292.01	0	00:00	0.18	12.6
	0.000							
1031	MH-2109	JUNCTION	33.23	33.23	0	00:00	1.44	1.44
	-0.000							
1032	MH-2110	JUNCTION	0.00	0.18	0	00:00	0	4.55e-05
	0.090							
1033	MH-2111	JUNCTION	55.66	89.15	0	00:00	2.4	3.84
	-0.000							
1034	MH-2112	JUNCTION	49.80	138.71	0	00:00	2.15	5.99
	-0.000							
1035	MH-2113	JUNCTION	9.86	148.57	0	00:00	0.426	6.42
	0.000							
1036	MH-2114	JUNCTION	0.00	440.57	0	00:00	0	19
	0.000							
1037	MH-2201	JUNCTION	34.81	34.81	0	00:00	1.5	1.5
	0.000							
1038	MH-2202	JUNCTION	43.99	78.80	0	11:44	1.9	3.4
	-0.000							
1039	MH-2203	JUNCTION	14.24	14.24	0	00:00	0.615	0.615
	-0.000							
1040	MH-2204	JUNCTION	31.43	124.47	0	03:48	1.36	5.38
	0.000							
1041	MH-2205	JUNCTION	41.14	41.14	0	00:00	1.78	1.78
	0.000							
1042	MH-2206	JUNCTION	45.20	86.34	0	06:44	1.95	3.73
	-0.000							
1043	MH-2207	JUNCTION	17.68	228.50	0	01:31	0.764	9.87
	-0.000							
1044	MH-2208	JUNCTION	96.59	96.59	0	00:00	4.17	4.17
	0.000							
1045	MH-2209	JUNCTION	83.76	180.35	0	02:53	3.62	7.79
	-0.000							

1046	MH-2210	JUNCTION	0.00	408.84	0	01:31	0	
	17.7	0.000						
1047	MH-2211	JUNCTION	69.62	69.62	0	00:00	3.01	
	3.01	0.000						
1048	MH-2212	JUNCTION	40.06	109.67	0	01:17	1.73	
	4.74	-0.000						
1049	MH-2213	JUNCTION	0.00	518.52	0	10:10	0	
	22.4	0.000						
1050	MH-2214	JUNCTION	12.66	12.66	0	00:00	0.547	
	0.547	0.000						
1051	MH-2215	JUNCTION	2.28	533.45	0	06:11	0.0985	
	23	-0.000						
1052	MH-2216	JUNCTION	0.00	533.45	0	01:31	0	
	23	-0.000						
1053	MH-2217	JUNCTION	0.00	533.45	0	01:31	0	
	23	-0.000						
1054	MH-2218	JUNCTION	0.00	533.46	0	01:44	0	
	23	-0.000						
1055	MH-2219	JUNCTION	25.31	25.31	0	00:00	1.09	
	1.09	-0.000						
1056	MH-2220	JUNCTION	15.82	15.82	0	00:00	0.683	
	0.683	-0.000						
1057	MH-2221	JUNCTION	63.29	104.43	0	05:47	2.73	
	4.51	0.000						
1058	MH-2222	JUNCTION	59.11	163.53	0	08:48	2.55	
	7.06	0.000						
1059	MH-2223	JUNCTION	0.00	163.53	0	03:04	0	
	7.06	0.000						
1060	MH-2224	JUNCTION	0.00	163.54	0	09:18	0	
	7.06	0.000						
1061	MH-2225	JUNCTION	0.00	696.99	0	01:21	0	
	30.1	0.000						
1062	MH-2301	JUNCTION	56.96	56.96	0	00:00	2.46	
	2.46	-0.000						
1063	MH-2302	JUNCTION	45.22	102.17	0	03:25	1.95	
	4.41	0.000						
1064	MH-2303	JUNCTION	11.08	11.08	0	00:00	0.478	
	0.478	0.000						
1065	MH-2304	JUNCTION	4.30	117.55	0	07:01	0.186	
	5.08	-0.000						
1066	MH-2305	JUNCTION	79.11	79.11	0	00:00	3.42	
	3.42	0.000						
1067	MH-2306	JUNCTION	49.03	128.14	0	09:59	2.12	
	5.54	-0.000						
1068	MH-2307	JUNCTION	25.31	25.31	0	00:00	1.09	
	1.09	-0.000						
1069	MH-2308	JUNCTION	0.00	271.00	0	06:25	0	
	11.7	0.000						
1070	MH-2309	JUNCTION	107.32	107.32	0	00:00	4.64	
	4.64	-0.000						
1071	MH-2310	JUNCTION	80.50	187.82	0	04:19	3.48	
	8.11	0.000						
1072	MH-2311	JUNCTION	42.93	42.93	0	00:00	1.85	
	1.85	0.000						
1073	MH-2312	JUNCTION	0.00	501.74	0	06:25	0	
	21.7	0.000						
1074	MH-2313	JUNCTION	79.11	79.11	0	00:00	3.42	
	3.42	-0.000						
1075	MH-2314	JUNCTION	48.97	128.08	0	11:23	2.12	
	5.53	0.000						
1076	MH-2315	JUNCTION	28.48	28.48	0	00:00	1.23	
	1.23	0.000						
1077	MH-2316	JUNCTION	0.00	658.30	0	06:25	0	
	28.4	-0.000						
1078	MH-2317	JUNCTION	0.00	29.31	0	03:41	0	
	1.27	0.000						

1079	MH-2318	JUNCTION	0.00	658.30	0	06:25	0	28.4	0.000
1080	MH-2319	JUNCTION	0.00	628.99	0	06:25	0	27.2	-0.000
1081	MH-2320	JUNCTION	0.00	628.99	0	06:25	0	27.2	0.000
1082	MH-2321	JUNCTION	0.00	628.99	0	04:36	0	27.2	-0.000
1083	MH-2322	JUNCTION	14.24	14.24	0	00:00	0.615	0.615	0.000
1084	MH-2323	JUNCTION	65.62	109.17	0	02:16	2.83	4.72	-0.000
1085	MH-2324	JUNCTION	61.25	170.42	0	03:41	2.65	7.36	0.000
1086	MH-2325	JUNCTION	0.00	170.42	0	03:41	0	7.36	-0.000
1087	MH-2326	JUNCTION	0.00	170.42	0	02:16	0	7.36	0.000
1088	MH-2327	JUNCTION	0.00	799.42	0	06:25	0	34.5	-0.000
1089	MH-3101	JUNCTION	28.48	28.48	0	00:00	1.23	1.23	-0.000
1090	MH-3102	JUNCTION	82.25	110.73	0	11:51	3.55	4.78	0.000
1091	MH-3103	JUNCTION	2.24	112.98	0	06:43	0.097	4.88	0.000
1092	MH-3104	JUNCTION	0.00	295.27	0	02:00	0	12.8	0.000
1093	MH-3105	JUNCTION	36.39	36.39	0	00:00	1.57	1.57	-0.000
1094	MH-3106	JUNCTION	26.90	26.90	0	00:00	1.16	1.16	-0.000
1095	MH-3107	JUNCTION	88.84	152.13	0	05:31	3.84	6.57	0.000
1096	MH-3108	JUNCTION	9.69	161.81	0	04:43	0.419	6.99	0.000
1097	MH-3109	JUNCTION	20.48	182.30	0	00:16	0.885	7.88	-0.000
1098	MH-3150	JUNCTION	0.00	569.53	0	02:59	0	24.6	-0.000
1099	MH-3201	JUNCTION	98.73	98.73	0	00:00	4.27	4.27	-0.000
1100	MH-3202	JUNCTION	90.18	188.91	0	05:25	3.9	8.16	0.000
1101	MH-3203	JUNCTION	90.15	90.15	0	00:00	3.89	3.89	0.000
1102	MH-3204	JUNCTION	0.00	279.06	0	09:29	0	12.1	0.000
1103	MH-3205	JUNCTION	63.29	63.29	0	00:00	2.73	2.73	-0.000
1104	MH-3206	JUNCTION	48.46	111.75	0	02:08	2.09	4.83	0.000
1105	MH-3207	JUNCTION	22.15	22.15	0	00:00	0.957	0.957	0.000
1106	MH-3208	JUNCTION	0.00	412.96	0	00:32	0	17.8	0.000
1107	MH-3209	JUNCTION	27.36	440.32	0	09:11	1.18	19	-0.000
1108	MH-3210	JUNCTION	4.49	444.81	0	02:38	0.194	19.2	0.000
1109	MH-3211	JUNCTION	98.09	98.09	0	00:00	4.24	4.24	0.000
1110	MH-3212	JUNCTION	2.06	100.16	0	03:28	0.0891	4.33	-0.000
1111	MH-3213	JUNCTION	24.55	124.71	0	02:13	1.06	5.39	0.000

1112	MH-3214	JUNCTION	0.00	124.71	0	04:38	0	
	5.39	-0.000						
1113	MH-3301	JUNCTION	132.90	132.90	0	00:00	5.74	
	5.74	0.000						
1114	MH-3302	JUNCTION	45.88	45.88	0	00:00	1.98	
	1.98	-0.000						
1115	MH-3303	JUNCTION	17.78	196.57	0	06:56	0.768	
	8.49	0.000						
1116	MH-3304	JUNCTION	66.45	66.45	0	00:00	2.87	
	2.87	-0.000						
1117	MH-3305	JUNCTION	6.42	269.44	0	03:40	0.277	
	11.6	0.000						
1118	MH-3306	JUNCTION	71.20	71.20	0	00:00	3.08	
	3.08	0.000						
1119	MH-3307	JUNCTION	0.00	340.64	0	10:07	0	
	14.7	0.000						
1120	MH-3308	JUNCTION	101.26	101.26	0	00:00	4.37	
	4.37	0.000						
1121	MH-3309	JUNCTION	0.00	441.89	0	09:04	0	
	19.1	-0.000						
1122	MH-3310	JUNCTION	77.27	77.27	0	00:00	3.34	
	3.34	0.000						
1123	MH-3311	JUNCTION	21.06	98.32	0	01:33	0.91	
	4.25	-0.000						
1124	MH-3312	JUNCTION	46.68	145.00	0	10:56	2.02	
	6.26	-0.000						
1125	MH-3313	JUNCTION	0.00	586.90	0	00:39	0	
	25.4	-0.000						
1126	MH-3314	JUNCTION	0.00	586.90	0	00:39	0	
	25.4	0.000						
1127	MH-3315	JUNCTION	41.14	41.14	0	00:00	1.78	
	1.78	-0.000						
1128	MH-3316	JUNCTION	30.06	30.06	0	00:00	1.3	
	1.3	-0.000						
1129	MH-3317	JUNCTION	76.38	147.58	0	06:09	3.3	
	6.38	0.000						
1130	MH-3318	JUNCTION	0.00	147.58	0	08:42	0	
	6.38	-0.000						
1131	MH-3319	JUNCTION	0.00	734.48	0	05:32	0	
	31.7	-0.000						
1132	MH-6101	JUNCTION	31.11	190.14	0	07:37	1.34	
	8.21	0.000						
1133	MH-6102	JUNCTION	72.98	72.98	0	00:00	3.15	
	3.15	0.000						
1134	MH-6103	JUNCTION	86.06	159.04	0	10:51	3.72	
	6.87	-0.000						
1135	MH-6104	JUNCTION	28.65	78.71	0	09:59	1.24	
	3.4	-0.000						
1136	MH-6106	JUNCTION	0.00	190.14	0	01:57	0	
	8.21	0.000						
1137	MH-6107	JUNCTION	12.33	202.48	0	01:57	0.533	
	8.75	-0.000						
1138	MH-6108	JUNCTION	0.00	281.18	0	01:26	0	
	12.1	0.000						
1139	MH-6150	JUNCTION	8.92	50.06	0	02:42	0.385	
	2.16	0.000						
1140	MH-6152	JUNCTION	41.14	41.14	0	00:00	1.78	
	1.78	0.000						
1141	MH-6201	JUNCTION	101.26	101.26	0	00:00	4.37	
	4.37	-0.000						
1142	MH-6202	JUNCTION	24.38	125.64	0	08:54	1.05	
	5.43	0.000						
1143	MH-6204	JUNCTION	52.21	52.21	0	00:00	2.26	
	2.26	0.000						
1144	MH-6205	JUNCTION	2.64	54.85	0	03:52	0.114	
	2.37	-0.000						

1145	MH-6206	JUNCTION	31.69	220.49	0	02:38	1.37	
	9.52	-0.000						
1146	MH-6207	JUNCTION	105.38	325.87	0	05:00	4.55	
	14.1	-0.000						
1147	MH-6210	JUNCTION	33.23	33.23	0	00:00	1.44	
	1.44	0.000						
1148	MH-6211	JUNCTION	75.94	75.94	0	00:00	3.28	
	3.28	0.000						
1149	MH-6212	JUNCTION	43.95	119.89	0	08:16	1.9	
	5.18	0.000						
1150	MH-6213	JUNCTION	14.09	167.20	0	05:12	0.609	
	7.22	-0.000						
1151	MH-6214	JUNCTION	106.01	106.01	0	00:00	4.58	
	4.58	-0.000						
1152	MH-6215	JUNCTION	0.00	599.08	0	05:00	0	
	25.9	0.000						
1153	MH-6216	JUNCTION	53.66	53.66	0	00:00	2.32	
	2.32	0.000						
1154	MH-6217	JUNCTION	0.00	652.74	0	02:38	0	
	28.2	0.000						
1155	MH-6218	JUNCTION	0.00	652.73	0	05:00	0	
	28.2	-0.000						
1156	MH-6219	JUNCTION	64.39	64.39	0	00:00	2.78	
	2.78	-0.000						
1157	MH-6220	JUNCTION	88.80	153.20	0	09:59	3.84	
	6.62	0.000						
1158	MH-6221	JUNCTION	8.47	161.67	0	01:41	0.366	
	6.98	-0.000						
1159	MH-6222	JUNCTION	22.10	183.77	0	09:14	0.955	
	7.94	0.000						
1160	MH-6223	JUNCTION	0.00	836.51	0	07:49	0	
	36.1	0.000						
1161	MH-6250	JUNCTION	8.31	133.95	0	02:35	0.359	
	5.79	0.000						
1162	MH-6301	JUNCTION	31.16	31.16	0	00:00	1.35	
	1.35	0.000						
1163	MH-6302	JUNCTION	7.79	7.79	0	00:00	0.336	
	0.336	0.000						
1164	MH-6303	JUNCTION	3.44	42.38	0	11:08	0.148	
	1.83	0.000						
1165	MH-6304	JUNCTION	66.51	108.89	0	07:20	2.87	
	4.7	-0.000						
1166	MH-6305	JUNCTION	63.33	172.22	0	07:20	2.74	
	7.44	-0.000						
1167	MH-6306	JUNCTION	46.54	218.75	0	07:20	2.01	
	9.45	0.000						
1168	MH-6307	JUNCTION	30.86	249.62	0	07:20	1.33	
	10.8	0.000						
1169	MH-6308	JUNCTION	0.00	249.62	0	07:20	0	
	10.8	-0.000						
1170	MH-6309	JUNCTION	0.00	249.62	0	04:49	0	
	10.8	-0.000						
1171	MH-6310	JUNCTION	23.98	23.98	0	00:00	1.04	
	1.04	-0.000						
1172	MH-6311	JUNCTION	57.53	81.51	0	02:12	2.49	
	3.52	-0.000						
1173	MH-6312	JUNCTION	52.12	133.63	0	02:32	2.25	
	5.77	0.000						
1174	MH-6314	JUNCTION	3.21	278.13	0	00:07	0.139	
	12	0.000						
1175	MH-6315	JUNCTION	60.10	60.10	0	00:00	2.6	
	2.6	-0.000						
1176	MH-6316	JUNCTION	22.35	360.58	0	10:20	0.965	
	15.6	0.000						
1177	MH-6317	JUNCTION	21.63	382.21	0	00:07	0.934	
	16.5	-0.000						

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1178     MH-6318             JUNCTION    115.50   115.50     0  00:00        4.99
         4.99      -0.000
1179     MH-6319             JUNCTION      1.59   117.09     0  04:40      0.0689
         5.06       0.000
1180     MH-6320             JUNCTION     25.26   142.36     0  00:06        1.09
         6.15      -0.000
1181     MH-6321             JUNCTION      0.00   524.57     0  00:07           0
         22.7       0.000
1182     MH-6322             JUNCTION      0.00   524.57     0  11:20           0
         22.7      -0.000
1183     MH-6323             JUNCTION      0.00   774.19     0  09:42           0
         33.4      -0.000
1184     MH-6345             JUNCTION     20.34   141.29     0  02:23       0.879
         6.1      -0.000
1185     MH-6346             JUNCTION     46.58   120.94     0  00:01        2.01
         5.22      -0.000
1186     MH-6347             JUNCTION     74.36    74.36     0  00:00        3.21
         3.21       0.000
1187     MH-7001             JUNCTION     55.38    55.38     0  00:00        2.39
         2.39      -0.000
1188     MH-7002             JUNCTION     75.13   130.50     0  00:00        3.25
         5.64      -0.000
1189     MH-7003             JUNCTION      0.00   130.50     0  00:01           0
         5.64      -0.000
1190     MH-7004             JUNCTION     15.96   146.46     0  00:00       0.689
         6.33       0.000
1191     MH-7005             JUNCTION      0.00   146.46     0  00:02           0
         6.33       0.000
1192     MH-7006             JUNCTION     58.54    58.54     0  00:00        2.53
         2.53       0.000
1193     MH-7007             JUNCTION     61.14   119.68     0  00:05        2.64
         5.17      -0.000
1194     MH-7008             JUNCTION      0.00   266.14     0  00:00           0
         11.5       0.000
1195     MH-HW101            OUTFALL       0.00   926.00     0  00:59           0
         40       0.000
1196     MH-HW102            OUTFALL       0.00   943.27     0  01:22           0
         40.7       0.000
1197     MH-HW201            OUTFALL       0.00   440.57     0  00:00           0
         19       0.000
1198     MH-HW202            OUTFALL       0.00   696.99     0  04:34           0
         30.1       0.000
1199     MH-HW203            OUTFALL       0.00   799.42     0  10:06           0
         34.5       0.000
1200     MH-HW301            OUTFALL       0.00   295.27     0  02:00           0
         12.8       0.000
1201     MH-HW302            OUTFALL       0.00   569.53     0  02:59           0
         24.6       0.000
1202     MH-HW303            OUTFALL       0.00   734.48     0  05:32           0
         31.7       0.000
1203     MH-HW601            OUTFALL       0.00   281.18     0  05:16           0
         12.1       0.000
1204     MH-HW602            OUTFALL       0.00   836.51     0  03:24           0
         36.1       0.000
1205     MH-HW603            OUTFALL       0.00   774.19     0  09:42           0
         33.4       0.000
1206     MH-HW701            OUTFALL       0.00   266.14     0  00:02           0
         11.5       0.000
1207
1208
1209     **********************
1210     Node Surcharge Summary
1211     **********************
1212
1213     Surcharging occurs when water rises above the top of the highest conduit.
1214     -------------------------------------------------------------------
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Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters
MH-1101	JUNCTION	12.00	0.099	1.401
MH-1102	JUNCTION	12.00	0.142	1.434
MH-1103	JUNCTION	12.00	0.177	1.406
MH-1104	JUNCTION	12.00	0.234	1.356
MH-1105	JUNCTION	12.00	0.298	1.300
MH-1106	JUNCTION	12.00	0.284	1.339
MH-1201	JUNCTION	12.00	0.139	1.363
MH-1202	JUNCTION	12.00	0.229	1.338
MH-1203	JUNCTION	12.00	0.177	1.318
MH-1204	JUNCTION	12.00	0.226	1.344
MH-1205	JUNCTION	12.00	0.155	1.338
MH-1206	JUNCTION	12.00	0.158	1.338
MH-1207	JUNCTION	12.00	0.204	1.321
MH-1208	JUNCTION	12.00	0.215	1.281
MH-1209	JUNCTION	12.00	0.295	1.315
MH-1210	JUNCTION	12.00	0.343	1.304
MH-1211	JUNCTION	12.00	0.168	1.326
MH-1212	JUNCTION	12.00	0.078	1.423
MH-1213	JUNCTION	12.00	0.158	1.396
MH-1214	JUNCTION	12.00	0.131	1.365
MH-1215	JUNCTION	12.00	0.123	1.376
MH-1216	JUNCTION	12.00	0.205	1.359
MH-1217	JUNCTION	12.00	0.339	1.313
MH-1218	JUNCTION	12.00	0.313	1.337
MH-1219	JUNCTION	12.00	0.179	1.315
MH-1220	JUNCTION	12.00	0.313	1.305
MH-1221	JUNCTION	12.00	0.434	1.285
MH-1222	JUNCTION	12.00	0.473	1.272
MH-1223	JUNCTION	12.00	0.471	1.291
MH-1224	JUNCTION	12.00	0.498	1.330
MH-1228	JUNCTION	12.00	0.106	1.404
MH-1229	JUNCTION	12.00	0.143	1.393
MH-1230	JUNCTION	12.00	0.165	1.405
MH-2101	JUNCTION	12.00	0.130	1.373
MH-2102	JUNCTION	12.00	0.238	1.449
MH-2103	JUNCTION	12.00	0.352	1.429
MH-2104	JUNCTION	12.00	0.399	1.423
MH-2105	JUNCTION	12.00	0.084	1.424
MH-2106	JUNCTION	12.00	0.135	1.420
MH-2107	JUNCTION	12.00	0.160	1.431
MH-2108	JUNCTION	12.00	0.213	1.381
MH-2111	JUNCTION	12.00	0.007	1.514
MH-2112	JUNCTION	12.00	0.160	1.480
MH-2113	JUNCTION	12.00	0.221	1.420
MH-2114	JUNCTION	12.00	0.287	1.415
MH-2202	JUNCTION	12.00	0.023	1.541
MH-2204	JUNCTION	12.00	0.072	1.444
MH-2206	JUNCTION	12.00	0.071	1.491
MH-2207	JUNCTION	12.00	0.130	1.408
MH-2208	JUNCTION	12.00	0.045	1.456
MH-2209	JUNCTION	12.00	0.102	1.435
MH-2210	JUNCTION	12.00	0.121	1.395
MH-2211	JUNCTION	12.00	0.151	1.343
MH-2212	JUNCTION	12.00	0.252	1.355
MH-2213	JUNCTION	12.00	0.185	1.383
MH-2214	JUNCTION	12.00	0.082	1.412
MH-2215	JUNCTION	12.00	0.193	1.370
MH-2216	JUNCTION	12.00	0.316	1.330
MH-2217	JUNCTION	12.00	0.372	1.293
MH-2218	JUNCTION	12.00	0.397	1.308
MH-2219	JUNCTION	12.00	0.102	1.397
MH-2220	JUNCTION	12.00	0.081	1.416

1281	MH-2221	JUNCTION	12.00	0.157	1.276
1282	MH-2222	JUNCTION	12.00	0.228	1.375
1283	MH-2223	JUNCTION	12.00	0.284	1.320
1284	MH-2224	JUNCTION	12.00	0.348	1.327
1285	MH-2225	JUNCTION	12.00	0.394	1.336
1286	MH-2301	JUNCTION	12.00	0.181	1.322
1287	MH-2302	JUNCTION	12.00	0.321	1.288
1288	MH-2303	JUNCTION	12.00	0.174	1.328
1289	MH-2304	JUNCTION	12.00	0.223	1.302
1290	MH-2305	JUNCTION	12.00	0.106	1.389
1291	MH-2306	JUNCTION	12.00	0.195	1.344
1292	MH-2307	JUNCTION	12.00	0.084	1.462
1293	MH-2308	JUNCTION	12.00	0.161	1.322
1294	MH-2309	JUNCTION	12.00	0.191	1.316
1295	MH-2310	JUNCTION	12.00	0.232	1.307
1296	MH-2311	JUNCTION	12.00	0.238	1.261
1297	MH-2312	JUNCTION	12.00	0.244	1.297
1298	MH-2313	JUNCTION	12.00	0.160	1.333
1299	MH-2314	JUNCTION	12.00	0.249	1.289
1300	MH-2315	JUNCTION	12.00	0.215	1.279
1301	MH-2316	JUNCTION	12.00	0.286	1.267
1302	MH-2317	JUNCTION	12.00	0.135	1.363
1303	MH-2318	JUNCTION	12.00	0.321	1.265
1304	MH-2319	JUNCTION	12.00	0.521	1.250
1305	MH-2320	JUNCTION	12.00	0.547	1.254
1306	MH-2321	JUNCTION	12.00	0.561	1.277
1307	MH-2322	JUNCTION	12.00	0.107	1.391
1308	MH-2323	JUNCTION	12.00	0.170	1.368
1309	MH-2324	JUNCTION	12.00	0.232	1.369
1310	MH-2325	JUNCTION	12.00	0.283	1.322
1311	MH-2326	JUNCTION	12.00	0.344	1.323
1312	MH-2327	JUNCTION	12.00	0.395	1.334
1313	MH-3101	JUNCTION	12.00	0.267	1.235
1314	MH-3102	JUNCTION	12.00	0.366	1.353
1315	MH-3103	JUNCTION	12.00	0.409	1.397
1316	MH-3104	JUNCTION	12.00	0.435	1.412
1317	MH-3105	JUNCTION	12.00	0.231	1.270
1318	MH-3106	JUNCTION	12.00	0.134	1.370
1319	MH-3107	JUNCTION	12.00	0.239	1.342
1320	MH-3108	JUNCTION	12.00	0.433	1.251
1321	MH-3109	JUNCTION	12.00	0.497	1.272
1322	MH-3150	JUNCTION	12.00	0.309	1.375
1323	MH-3201	JUNCTION	12.00	0.050	1.450
1324	MH-3202	JUNCTION	12.00	0.101	1.429
1325	MH-3203	JUNCTION	12.00	0.059	1.444
1326	MH-3204	JUNCTION	12.00	0.107	1.421
1327	MH-3205	JUNCTION	12.00	0.130	1.364
1328	MH-3206	JUNCTION	12.00	0.239	1.360
1329	MH-3207	JUNCTION	12.00	0.080	1.414
1330	MH-3208	JUNCTION	12.00	0.153	1.393
1331	MH-3209	JUNCTION	12.00	0.243	1.384
1332	MH-3210	JUNCTION	12.00	0.283	1.360
1333	MH-3211	JUNCTION	12.00	0.121	1.384
1334	MH-3212	JUNCTION	12.00	0.200	1.351
1335	MH-3213	JUNCTION	12.00	0.233	1.359
1336	MH-3214	JUNCTION	12.00	0.288	1.332
1337	MH-3301	JUNCTION	12.00	0.056	1.449
1338	MH-3302	JUNCTION	12.00	0.199	1.304
1339	MH-3303	JUNCTION	12.00	0.161	1.388
1340	MH-3304	JUNCTION	12.00	0.174	1.325
1341	MH-3305	JUNCTION	12.00	0.263	1.365
1342	MH-3306	JUNCTION	12.00	0.218	1.280
1343	MH-3307	JUNCTION	12.00	0.300	1.329
1344	MH-3308	JUNCTION	12.00	0.216	1.288
1345	MH-3309	JUNCTION	12.00	0.267	1.300
1346	MH-3310	JUNCTION	12.00	0.049	1.445

MH-3311	JUNCTION	12.00	0.125	1.394	
MH-3312	JUNCTION	12.00	0.230	1.372	
MH-3313	JUNCTION	12.00	0.297	1.322	
MH-3314	JUNCTION	12.00	0.295	1.349	
MH-3315	JUNCTION	12.00	0.107	1.388	
MH-3316	JUNCTION	12.00	0.060	1.440	
MH-3317	JUNCTION	12.00	0.172	1.430	
MH-3318	JUNCTION	12.00	0.288	1.348	
MH-3319	JUNCTION	12.00	0.337	1.367	
MH-6101	JUNCTION	12.00	0.426	1.176	
MH-6102	JUNCTION	12.00	0.372	1.135	
MH-6103	JUNCTION	12.00	0.424	1.275	
MH-6104	JUNCTION	12.00	0.418	1.238	
MH-6106	JUNCTION	12.00	0.454	1.247	
MH-6107	JUNCTION	12.00	0.484	1.262	
MH-6108	JUNCTION	12.00	0.431	1.291	
MH-6150	JUNCTION	12.00	0.364	1.155	
MH-6152	JUNCTION	12.00	0.310	1.062	
MH-6201	JUNCTION	12.00	0.054	1.461	
MH-6202	JUNCTION	12.00	0.050	1.468	
MH-6206	JUNCTION	12.00	0.020	1.566	
MH-6207	JUNCTION	12.00	0.233	1.479	
MH-6210	JUNCTION	12.00	0.047	1.441	
MH-6211	JUNCTION	12.00	0.153	1.358	
MH-6212	JUNCTION	12.00	0.235	1.374	
MH-6213	JUNCTION	12.00	0.160	1.428	
MH-6214	JUNCTION	12.00	0.139	1.376	
MH-6215	JUNCTION	12.00	0.180	1.416	
MH-6216	JUNCTION	12.00	0.257	1.250	
MH-6217	JUNCTION	12.00	0.242	1.386	
MH-6218	JUNCTION	12.00	0.380	1.326	
MH-6219	JUNCTION	12.00	0.096	1.403	
MH-6220	JUNCTION	12.00	0.160	1.407	
MH-6221	JUNCTION	12.00	0.253	1.316	
MH-6222	JUNCTION	12.00	0.317	1.326	
MH-6223	JUNCTION	12.00	0.376	1.337	
MH-6250	JUNCTION	12.00	0.134	1.489	
MH-6303	JUNCTION	12.00	0.052	1.481	
MH-6304	JUNCTION	12.00	0.162	1.496	
MH-6305	JUNCTION	12.00	0.211	1.498	
MH-6306	JUNCTION	12.00	0.297	1.415	
MH-6307	JUNCTION	12.00	0.337	1.390	
MH-6308	JUNCTION	12.00	0.374	1.351	
MH-6309	JUNCTION	12.00	0.430	1.363	
MH-6311	JUNCTION	12.00	0.020	1.523	
MH-6312	JUNCTION	12.00	0.116	1.471	
MH-6314	JUNCTION	12.00	0.200	1.431	
MH-6315	JUNCTION	12.00	0.092	1.407	
MH-6316	JUNCTION	12.00	0.156	1.410	
MH-6317	JUNCTION	12.00	0.269	1.366	
MH-6318	JUNCTION	12.00	0.157	1.344	
MH-6319	JUNCTION	12.00	0.191	1.367	
MH-6320	JUNCTION	12.00	0.214	1.388	
MH-6321	JUNCTION	12.00	0.249	1.350	
MH-6322	JUNCTION	12.00	0.293	1.359	
MH-6323	JUNCTION	12.00	0.306	1.383	
MH-6345	JUNCTION	12.00	0.168	1.473	
MH-6346	JUNCTION	12.00	0.194	1.410	
MH-6347	JUNCTION	12.00	0.126	1.392	

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Node Flooding Summary
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No nodes were flooded.

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Outfall Loading Summary
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Outfall Node	Flow Freq Pcnt	Avg Flow LPS	Max Flow LPS	Total Volume 10^6 ltr
MH-HW101	100.00	926.00	926.00	40.003
MH-HW102	100.00	943.27	943.27	40.749
MH-HW201	100.00	440.55	440.57	19.032
MH-HW202	100.00	696.99	696.99	30.110
MH-HW203	100.00	799.41	799.42	34.534
MH-HW301	100.00	295.27	295.27	12.756
MH-HW302	100.00	569.52	569.53	24.603
MH-HW303	100.00	734.47	734.48	31.729
MH-HW601	100.00	281.18	281.18	12.147
MH-HW602	100.00	836.50	836.51	36.137
MH-HW603	100.00	774.18	774.19	33.445
MH-HW701	100.00	266.14	266.14	11.497
System	100.00	7563.48	7563.50	326.742

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Link Flow Summary
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Link	Type	Maximum |Flow| LPS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
STM-1101-1102	CONDUIT	703.00	0 08:52	1.11	0.87	1.00
STM-1102-1103	CONDUIT	768.00	0 05:10	1.03	0.89	1.00
STM-1103-1104	CONDUIT	853.00	0 08:52	0.99	0.81	1.00
STM-1104-1105	CONDUIT	920.00	0 01:44	1.06	0.87	1.00
STM-1105-1106	CONDUIT	926.00	0 00:59	1.07	0.88	1.00
STM-1106-HW101	CONDUIT	926.00	0 00:59	1.07	0.88	1.00
STM-1201-1202	CONDUIT	93.47	0 11:41	0.59	0.73	1.00
STM-1202-1204	CONDUIT	111.60	0 10:07	0.70	0.88	1.00
STM-1203-1204	CONDUIT	106.01	0 07:18	0.67	0.83	1.00
STM-1204-1210	CONDUIT	241.65	0 03:08	0.68	0.74	1.00
STM-1205-1207	CONDUIT	56.96	0 00:12	0.52	0.59	1.00
STM-1206-1207	CONDUIT	14.24	0 00:37	0.20	0.25	1.00
STM-1207-1209	CONDUIT	102.08	0 04:54	0.64	0.80	1.00
STM-1208-1209	CONDUIT	71.20	0 04:06	0.64	0.74	1.00
STM-1209-1210	CONDUIT	176.97	0 07:41	0.63	0.74	1.00
STM-1210-1218	CONDUIT	488.65	0 07:11	0.91	0.88	1.00
STM-1211-1213	CONDUIT	45.88	0 02:33	0.65	0.80	1.00
STM-1212-1213	CONDUIT	17.40	0 01:19	0.25	0.30	1.00
STM-1213-1216	CONDUIT	73.15	0 07:55	0.46	0.57	1.00
STM-1214-1216	CONDUIT	56.96	0 10:26	0.52	0.59	1.00
STM-1215-1216	CONDUIT	17.40	0 06:29	0.25	0.30	1.00
STM-1216-1217	CONDUIT	147.51	0 02:56	0.52	0.62	1.00
STM-1217-1218	CONDUIT	225.03	0 02:56	0.80	0.95	1.00
STM-1218-1220	CONDUIT	713.69	0 02:56	0.96	0.82	1.00
STM-1219-1220	CONDUIT	56.96	0 03:38	0.52	0.59	1.00
STM-1220-1221	CONDUIT	770.64	0 07:11	1.03	0.89	1.00
STM-1221-1222	CONDUIT	780.90	0 07:11	1.05	0.90	1.00
STM-1222-1223	CONDUIT	801.12	0 07:11	1.07	0.92	1.00
STM-1223-1224	CONDUIT	801.12	0 02:26	1.07	0.91	1.00
STM-1224-1230	CONDUIT	801.12	0 07:11	1.07	0.92	1.00

1479	STM-1227-1228	CONDUIT	142.15	0	02:03	0.50	0.60	0.99
1480	STM-1228-1229	CONDUIT	142.15	0	09:02	0.50	0.59	1.00
1481	STM-1229-1230	CONDUIT	142.16	0	08:55	0.50	0.60	1.00
1482	STM-1230-HW102	CONDUIT	943.27	0	01:22	1.09	0.89	1.00
1483	STM-2101-2102	CONDUIT	20.57	0	00:00	0.29	0.36	1.00
1484	STM-2102-2103	CONDUIT	54.96	0	04:43	0.50	0.57	1.00
1485	STM-2103-2104	CONDUIT	103.82	0	06:40	0.65	0.81	1.00
1486	STM-2104-2108	CONDUIT	146.24	0	06:40	0.52	0.61	1.00
1487	STM-2105-2106	CONDUIT	110.75	0	02:13	0.70	0.87	1.00
1488	STM-2106-2107	CONDUIT	115.16	0	04:47	0.72	0.90	1.00
1489	STM-2107-2108	CONDUIT	141.60	0	00:00	0.50	0.60	1.00
1490	STM-2108-2114	CONDUIT	292.01	0	00:00	0.82	0.90	1.00
1491	STM-2109-2111	CONDUIT	33.27	0	00:00	0.47	0.58	0.98
1492	STM-2110-2111	CONDUIT	0.22	0	00:00	0.00	0.00	0.95
1493	STM-2111-2112	CONDUIT	88.91	0	00:00	0.56	0.70	1.00
1494	STM-2112-2113	CONDUIT	138.71	0	00:00	0.49	0.58	1.00
1495	STM-2113-2114	CONDUIT	148.57	0	00:00	0.53	0.62	1.00
1496	STM-2114-HW201	CONDUIT	440.57	0	00:00	0.82	0.79	1.00
1497	STM-2201-2202	CONDUIT	34.81	0	11:44	0.54	0.61	0.86
1498	STM-2202-2204	CONDUIT	78.80	0	11:44	0.50	0.62	1.00
1499	STM-2203-2204	CONDUIT	14.24	0	02:17	0.21	0.25	0.95
1500	STM-2204-2207	CONDUIT	124.47	0	07:25	0.58	0.65	1.00
1501	STM-2205-2206	CONDUIT	41.14	0	06:44	0.58	0.72	0.98
1502	STM-2206-2207	CONDUIT	86.34	0	06:44	0.54	0.68	1.00
1503	STM-2207-2210	CONDUIT	228.50	0	01:21	0.81	0.96	1.00
1504	STM-2208-2209	CONDUIT	96.59	0	02:53	0.61	0.76	1.00
1505	STM-2209-2210	CONDUIT	180.35	0	00:00	0.64	0.76	1.00
1506	STM-2210-2213	CONDUIT	408.84	0	10:10	0.93	0.95	1.00
1507	STM-2211-2212	CONDUIT	69.62	0	01:17	0.63	0.72	1.00
1508	STM-2212-2213	CONDUIT	109.67	0	03:24	0.69	0.86	1.00
1509	STM-2213-2215	CONDUIT	518.52	0	01:31	0.97	0.93	1.00
1510	STM-2214-2215	CONDUIT	12.66	0	04:09	0.18	0.22	1.00
1511	STM-2215-2216	CONDUIT	533.45	0	01:31	0.84	0.76	1.00
1512	STM-2216-2217	CONDUIT	533.45	0	01:31	0.84	0.76	1.00
1513	STM-2217-2218	CONDUIT	533.46	0	01:44	0.84	0.75	1.00
1514	STM-2218-2225	CONDUIT	533.46	0	00:00	0.84	0.76	1.00
1515	STM-2219-2221	CONDUIT	25.31	0	08:12	0.36	0.44	1.00
1516	STM-2220-2221	CONDUIT	15.82	0	10:15	0.22	0.28	1.00
1517	STM-2221-2222	CONDUIT	104.43	0	08:48	0.66	0.82	1.00
1518	STM-2222-2223	CONDUIT	163.53	0	03:04	0.58	0.69	1.00
1519	STM-2223-2224	CONDUIT	163.54	0	09:18	0.58	0.69	1.00
1520	STM-2224-2225	CONDUIT	163.54	0	08:12	0.58	0.69	1.00
1521	STM-2225-HW202	CONDUIT	696.99	0	04:34	0.93	0.80	1.00
1522	STM-2301-2302	CONDUIT	56.96	0	03:25	0.52	0.59	1.00
1523	STM-2302-2304	CONDUIT	102.17	0	00:43	0.64	0.80	1.00
1524	STM-2303-2304	CONDUIT	11.08	0	01:11	0.16	0.19	1.00
1525	STM-2304-2308	CONDUIT	117.55	0	07:01	0.74	0.92	1.00
1526	STM-2305-2306	CONDUIT	79.11	0	09:59	0.50	0.62	1.00
1527	STM-2306-2308	CONDUIT	128.14	0	10:58	0.59	0.67	1.00
1528	STM-2307-2308	CONDUIT	25.31	0	03:27	0.36	0.44	1.00
1529	STM-2308-2312	CONDUIT	271.00	0	06:50	0.76	0.83	1.00
1530	STM-2309-2310	CONDUIT	107.32	0	04:19	0.67	0.84	1.00
1531	STM-2310-2312	CONDUIT	187.82	0	08:45	0.66	0.79	1.00
1532	STM-2311-2312	CONDUIT	42.93	0	02:14	0.61	0.75	1.00
1533	STM-2312-2316	CONDUIT	501.75	0	06:25	0.94	0.90	1.00
1534	STM-2313-2314	CONDUIT	79.11	0	11:23	0.50	0.62	1.00
1535	STM-2314-2316	CONDUIT	128.08	0	00:04	0.59	0.67	1.00
1536	STM-2315-2316	CONDUIT	28.48	0	11:45	0.40	0.50	1.00
1537	STM-2316-2318	CONDUIT	658.30	0	06:25	1.03	0.94	1.00
1538	STM-2317-2318	CONDUIT	29.31	0	03:41	0.41	0.51	1.00
1539	STM-2317-2323	CONDUIT	29.31	0	03:41	0.41	0.51	1.00
1540	STM-2318-2319	CONDUIT	628.99	0	06:25	0.99	0.90	1.00
1541	STM-2319-2320	CONDUIT	628.99	0	06:25	0.99	0.90	1.00
1542	STM-2320-2321	CONDUIT	628.99	0	04:36	0.99	0.90	1.00
1543	STM-2321-2327	CONDUIT	628.99	0	11:16	0.99	0.90	1.00
1544	STM-2322-2323	CONDUIT	14.24	0	06:56	0.20	0.25	1.00

1545	STM-2323-2324	CONDUIT	109.17	0	03:41	0.69	0.86	1.00
1546	STM-2324-2325	CONDUIT	170.42	0	03:41	0.60	0.72	1.00
1547	STM-2325-2326	CONDUIT	170.42	0	02:16	0.60	0.71	1.00
1548	STM-2326-2327	CONDUIT	170.42	0	03:41	0.60	0.72	1.00
1549	STM-2327-HW203	CONDUIT	799.42	0	10:06	1.07	0.90	1.00
1550	STM-3101-3102	CONDUIT	28.48	0	11:51	0.40	0.50	1.00
1551	STM-3102-3103	CONDUIT	110.73	0	06:43	0.70	0.87	1.00
1552	STM-3103-3104	CONDUIT	112.98	0	04:42	0.71	0.89	1.00
1553	STM-3104-HW301	CONDUIT	295.27	0	02:00	0.83	0.90	1.00
1554	STM-3105-3107	CONDUIT	36.39	0	08:29	0.51	0.64	1.00
1555	STM-3106-3107	CONDUIT	26.90	0	05:31	0.38	0.47	1.00
1556	STM-3107-3108	CONDUIT	152.13	0	04:43	0.54	0.64	1.00
1557	STM-3108-3109	CONDUIT	161.82	0	00:16	0.57	0.68	1.00
1558	STM-3109-3104	CONDUIT	182.30	0	03:54	0.64	0.76	1.00
1559	STM-3150-HW302	CONDUIT	569.53	0	02:59	0.90	0.81	1.00
1560	STM-3201-3202	CONDUIT	98.73	0	05:25	0.62	0.77	1.00
1561	STM-3202-3204	CONDUIT	188.91	0	10:56	0.67	0.79	1.00
1562	STM-3203-3204	CONDUIT	90.15	0	02:22	0.57	0.71	1.00
1563	STM-3204-3208	CONDUIT	279.06	0	03:18	0.78	0.86	1.00
1564	STM-3205-3206	CONDUIT	63.29	0	02:08	0.57	0.66	1.00
1565	STM-3206-3208	CONDUIT	111.75	0	09:33	0.70	0.88	1.00
1566	STM-3207-3208	CONDUIT	22.15	0	02:30	0.31	0.39	1.00
1567	STM-3208-3209	CONDUIT	412.96	0	09:11	0.93	0.96	1.00
1568	STM-3209-3210	CONDUIT	440.32	0	02:38	0.82	0.79	1.00
1569	STM-3210-3150	CONDUIT	444.81	0	07:43	0.83	0.79	1.00
1570	STM-3211-3212	CONDUIT	98.09	0	03:28	0.62	0.77	1.00
1571	STM-3212-3213	CONDUIT	100.16	0	02:13	0.63	0.79	1.00
1572	STM-3213-3214	CONDUIT	124.71	0	04:38	0.58	0.65	1.00
1573	STM-3214-3150	CONDUIT	124.71	0	07:36	0.58	0.65	1.00
1574	STM-3301-3303	CONDUIT	132.90	0	09:21	0.61	0.69	1.00
1575	STM-3302-3303	CONDUIT	45.88	0	03:17	0.65	0.80	1.00
1576	STM-3303-3305	CONDUIT	196.57	0	03:40	0.70	0.83	1.00
1577	STM-3304-3305	CONDUIT	66.45	0	04:43	0.60	0.69	1.00
1578	STM-3305-3307	CONDUIT	269.44	0	10:07	0.75	0.83	1.00
1579	STM-3306-3307	CONDUIT	71.20	0	09:57	0.64	0.74	1.00
1580	STM-3307-3309	CONDUIT	340.64	0	11:29	0.77	0.79	1.00
1581	STM-3308-3309	CONDUIT	101.26	0	07:28	0.64	0.79	1.00
1582	STM-3309-3313	CONDUIT	441.89	0	08:32	0.83	0.79	1.00
1583	STM-3310-3311	CONDUIT	77.27	0	01:33	0.49	0.61	1.00
1584	STM-3311-3312	CONDUIT	98.32	0	10:56	0.62	0.77	1.00
1585	STM-3312-3313	CONDUIT	145.00	0	03:27	0.51	0.61	1.00
1586	STM-3313-3314	CONDUIT	586.90	0	00:39	0.92	0.84	1.00
1587	STM-3314-3319	CONDUIT	586.90	0	02:10	0.92	0.84	1.00
1588	STM-3315-3317	CONDUIT	41.14	0	04:14	0.58	0.72	1.00
1589	STM-3316-3317	CONDUIT	30.06	0	07:25	0.43	0.52	1.00
1590	STM-3317-3318	CONDUIT	147.58	0	08:42	0.52	0.62	1.00
1591	STM-3318-3319	CONDUIT	147.58	0	03:11	0.52	0.61	1.00
1592	STM-3319-HW303	CONDUIT	734.48	0	05:32	1.15	1.05	1.00
1593	STM-6101-6106	CONDUIT	190.14	0	01:57	0.67	0.80	1.00
1594	STM-6102-6103	CONDUIT	72.98	0	10:51	0.66	0.76	1.00
1595	STM-6103-6101	CONDUIT	159.04	0	07:37	0.73	0.83	1.00
1596	STM-6104-6108	CONDUIT	78.71	0	00:18	0.71	0.82	1.00
1597	STM-6106-6107	CONDUIT	190.15	0	01:57	0.67	0.80	1.00
1598	STM-6107-6108	CONDUIT	202.48	0	05:16	0.72	0.85	1.00
1599	STM-6108-HW601	CONDUIT	281.18	0	05:16	0.99	1.02	1.00
1600	STM-6150-6104	CONDUIT	50.06	0	09:59	0.71	0.87	1.00
1601	STM-6152-6150	CONDUIT	41.14	0	02:42	0.58	0.72	1.00
1602	STM-6201-6202	CONDUIT	101.26	0	08:54	0.64	0.79	1.00
1603	STM-6202-6250	CONDUIT	125.64	0	02:35	0.79	0.88	1.00
1604	STM-6204-6205	CONDUIT	52.22	0	03:52	0.20	0.22	0.89
1605	STM-6205-6206	CONDUIT	54.85	0	05:00	0.19	0.23	1.00
1606	STM-6206-6207	CONDUIT	220.49	0	05:00	0.50	0.51	1.00
1607	STM-6207-6215	CONDUIT	325.87	0	05:00	0.61	0.59	1.00
1608	STM-6210-6213	CONDUIT	33.23	0	09:46	0.47	0.58	1.00
1609	STM-6211-6212	CONDUIT	75.94	0	08:16	0.69	0.79	1.00
1610	STM-6212-6213	CONDUIT	119.89	0	05:51	0.75	0.94	1.00

STM-6213-6215	CONDUIT	167.21	0	09:17	0.59	0.70	1.00		
STM-6214-6215	CONDUIT	106.01	0	02:52	0.67	0.83	1.00		
STM-6215-6217	CONDUIT	599.08	0	02:38	0.94	0.85	1.00		
STM-6216-6217	CONDUIT	53.66	0	05:55	0.76	0.94	1.00		
STM-6217-6218	CONDUIT	652.73	0	05:00	0.87	0.75	1.00		
STM-6218-6223	CONDUIT	652.74	0	08:29	0.87	0.74	1.00		
STM-6219-6220	CONDUIT	64.39	0	09:59	0.58	0.67	1.00		
STM-6220-6221	CONDUIT	153.20	0	01:41	0.54	0.64	1.00		
STM-6221-6222	CONDUIT	161.67	0	09:14	0.57	0.68	1.00		
STM-6222-6223	CONDUIT	183.77	0	02:55	0.65	0.77	1.00		
STM-6223-HW602	CONDUIT	836.51	0	03:24	0.97	0.79	1.00		
STM-6250-6206	CONDUIT	133.95	0	11:34	0.84	0.94	1.00		
STM-6301-6303	CONDUIT	31.16	0	07:20	0.45	0.54	0.95		
STM-6302-6303	CONDUIT	7.79	0	10:13	0.11	0.14	0.97		
STM-6303-6304	CONDUIT	42.38	0	07:20	0.60	0.74	1.00		
STM-6304-6305	CONDUIT	108.89	0	07:20	0.68	0.85	1.00		
STM-6305-6306	CONDUIT	172.22	0	07:20	0.61	0.72	1.00		
STM-6306-6307	CONDUIT	218.75	0	07:20	0.77	0.92	1.00		
STM-6307-6308	CONDUIT	249.62	0	07:20	0.70	0.77	1.00		
STM-6308-6309	CONDUIT	249.62	0	04:49	0.70	0.77	1.00		
STM-6309-6323	CONDUIT	249.62	0	11:07	0.70	0.77	1.00		
STM-6310-6311	CONDUIT	23.98	0	02:12	0.34	0.42	0.97		
STM-6311-6312	CONDUIT	81.51	0	02:32	0.51	0.64	1.00		
STM-6312-6314	CONDUIT	133.64	0	00:07	0.62	0.69	1.00		
STM-6314-6316	CONDUIT	278.13	0	10:20	0.78	0.85	1.00		
STM-6315-6316	CONDUIT	60.10	0	02:51	0.54	0.62	1.00		
STM-6316-6317	CONDUIT	360.58	0	00:07	0.82	0.84	1.00		
STM-6317-6321	CONDUIT	382.21	0	00:07	0.87	0.89	1.00		
STM-6318-6319	CONDUIT	115.50	0	04:40	0.73	0.91	1.00		
STM-6319-6320	CONDUIT	117.09	0	00:06	0.74	0.92	1.00		
STM-6320-6321	CONDUIT	142.36	0	09:17	0.50	0.60	1.00		
STM-6321-6322	CONDUIT	524.57	0	11:20	0.98	0.93	1.00		
STM-6322-6323	CONDUIT	524.57	0	09:42	0.98	0.95	1.00		
STM-6323-HW603	CONDUIT	774.19	0	09:42	1.04	0.91	1.00		
STM-6345-6314	CONDUIT	141.29	0	04:15	0.50	0.59	1.00		
STM-6346-6345	CONDUIT	120.94	0	02:23	0.76	0.95	1.00		
STM-6347-6346	CONDUIT	74.36	0	00:01	0.67	0.82	1.00		
STM-7001-7002	CONDUIT	55.38	0	00:00	0.97	0.58	0.51		
STM-7002-7003	CONDUIT	130.50	0	00:01	0.85	0.68	0.67		
STM-7003-7004	CONDUIT	130.50	0	00:00	0.68	0.68	0.83		
STM-7004-7005	CONDUIT	146.46	0	00:02	0.55	0.62	0.89		
STM-7005-7008	CONDUIT	146.46	0	00:02	0.52	0.61	0.98		
STM-7006-7007	CONDUIT	58.54	0	00:05	0.75	0.61	0.67		
STM-7007-7008	CONDUIT	119.68	0	00:00	0.85	0.94	0.83		
STM-7008-HW701	CONDUIT	266.14	0	00:02	0.74	0.81	1.00		

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
STM-1101-1102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1102-1103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1103-1104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1104-1105	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1105-1106	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1106-HW101	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1201-1202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1202-1204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1203-1204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1204-1210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

1677	STM-1205-1207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1678	STM-1206-1207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1679	STM-1207-1209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1680	STM-1208-1209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1681	STM-1209-1210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1682	STM-1210-1218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1683	STM-1211-1213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1684	STM-1212-1213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1685	STM-1213-1216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1686	STM-1214-1216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1687	STM-1215-1216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1688	STM-1216-1217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1689	STM-1217-1218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1690	STM-1218-1220	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1691	STM-1219-1220	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1692	STM-1220-1221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1693	STM-1221-1222	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1694	STM-1222-1223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1695	STM-1223-1224	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1696	STM-1224-1230	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1697	STM-1227-1228	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1698	STM-1228-1229	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1699	STM-1229-1230	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1700	STM-1230-HW102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1701	STM-2101-2102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1702	STM-2102-2103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1703	STM-2103-2104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1704	STM-2104-2108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1705	STM-2105-2106	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1706	STM-2106-2107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1707	STM-2107-2108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1708	STM-2108-2114	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1709	STM-2109-2111	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1710	STM-2110-2111	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1711	STM-2111-2112	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1712	STM-2112-2113	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1713	STM-2113-2114	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1714	STM-2114-HW201	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1715	STM-2201-2202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1716	STM-2202-2204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1717	STM-2203-2204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1718	STM-2204-2207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1719	STM-2205-2206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1720	STM-2206-2207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1721	STM-2207-2210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1722	STM-2208-2209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1723	STM-2209-2210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1724	STM-2210-2213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1725	STM-2211-2212	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1726	STM-2212-2213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1727	STM-2213-2215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1728	STM-2214-2215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1729	STM-2215-2216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1730	STM-2216-2217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1731	STM-2217-2218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1732	STM-2218-2225	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1733	STM-2219-2221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1734	STM-2220-2221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1735	STM-2221-2222	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1736	STM-2222-2223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1737	STM-2223-2224	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1738	STM-2224-2225	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1739	STM-2225-HW202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1740	STM-2301-2302	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1741	STM-2302-2304	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1742	STM-2303-2304	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

1743	STM-2304-2308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1744	STM-2305-2306	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1745	STM-2306-2308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1746	STM-2307-2308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1747	STM-2308-2312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1748	STM-2309-2310	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1749	STM-2310-2312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1750	STM-2311-2312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1751	STM-2312-2316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1752	STM-2313-2314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1753	STM-2314-2316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1754	STM-2315-2316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1755	STM-2316-2318	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1756	STM-2317-2318	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1757	STM-2317-2323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1758	STM-2318-2319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1759	STM-2319-2320	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1760	STM-2320-2321	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1761	STM-2321-2327	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1762	STM-2322-2323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1763	STM-2323-2324	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1764	STM-2324-2325	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1765	STM-2325-2326	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1766	STM-2326-2327	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1767	STM-2327-HW203	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1768	STM-3101-3102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1769	STM-3102-3103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1770	STM-3103-3104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1771	STM-3104-HW301	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1772	STM-3105-3107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1773	STM-3106-3107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1774	STM-3107-3108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1775	STM-3108-3109	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1776	STM-3109-3104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1777	STM-3150-HW302	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1778	STM-3201-3202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1779	STM-3202-3204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1780	STM-3203-3204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1781	STM-3204-3208	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1782	STM-3205-3206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1783	STM-3206-3208	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1784	STM-3207-3208	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1785	STM-3208-3209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1786	STM-3209-3210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1787	STM-3210-3150	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1788	STM-3211-3212	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1789	STM-3212-3213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1790	STM-3213-3214	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1791	STM-3214-3150	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1792	STM-3301-3303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1793	STM-3302-3303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1794	STM-3303-3305	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1795	STM-3304-3305	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1796	STM-3305-3307	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1797	STM-3306-3307	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1798	STM-3307-3309	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1799	STM-3308-3309	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1800	STM-3309-3313	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1801	STM-3310-3311	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1802	STM-3311-3312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1803	STM-3312-3313	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1804	STM-3313-3314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1805	STM-3314-3319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1806	STM-3315-3317	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1807	STM-3316-3317	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1808	STM-3317-3318	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

1809	STM-3318-3319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1810	STM-3319-HW303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1811	STM-6101-6106	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1812	STM-6102-6103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1813	STM-6103-6101	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1814	STM-6104-6108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1815	STM-6106-6107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1816	STM-6107-6108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1817	STM-6108-HW601	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1818	STM-6150-6104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1819	STM-6152-6150	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1820	STM-6201-6202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1821	STM-6202-6250	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1822	STM-6204-6205	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1823	STM-6205-6206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1824	STM-6206-6207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1825	STM-6207-6215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1826	STM-6210-6213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1827	STM-6211-6212	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1828	STM-6212-6213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1829	STM-6213-6215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1830	STM-6214-6215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1831	STM-6215-6217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1832	STM-6216-6217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1833	STM-6217-6218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1834	STM-6218-6223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1835	STM-6219-6220	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1836	STM-6220-6221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1837	STM-6221-6222	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1838	STM-6222-6223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1839	STM-6223-HW602	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1840	STM-6250-6206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1841	STM-6301-6303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1842	STM-6302-6303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1843	STM-6303-6304	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1844	STM-6304-6305	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1845	STM-6305-6306	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1846	STM-6306-6307	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1847	STM-6307-6308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1848	STM-6308-6309	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1849	STM-6309-6323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1850	STM-6310-6311	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1851	STM-6311-6312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1852	STM-6312-6314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1853	STM-6314-6316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1854	STM-6315-6316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1855	STM-6316-6317	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1856	STM-6317-6321	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1857	STM-6318-6319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1858	STM-6319-6320	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1859	STM-6320-6321	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1860	STM-6321-6322	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1861	STM-6322-6323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1862	STM-6323-HW603	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1863	STM-6345-6314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1864	STM-6346-6345	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1865	STM-6347-6346	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1866	STM-7001-7002	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1867	STM-7002-7003	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1868	STM-7003-7004	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1869	STM-7004-7005	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1870	STM-7005-7008	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1871	STM-7006-7007	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
1872	STM-7007-7008	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1873	STM-7008-HW701	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1874											

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Conduit Surcharge Summary
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Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
STM-1101-1102	12.00	12.00	12.00	0.01	0.01
STM-1102-1103	12.00	12.00	12.00	0.01	0.01
STM-1103-1104	12.00	12.00	12.00	0.01	0.01
STM-1104-1105	12.00	12.00	12.00	0.01	0.01
STM-1105-1106	12.00	12.00	12.00	0.01	12.00
STM-1106-HW101	12.00	12.00	12.00	0.01	0.01
STM-1201-1202	12.00	12.00	12.00	0.01	0.01
STM-1202-1204	12.00	12.00	12.00	0.01	0.01
STM-1203-1204	12.00	12.00	12.00	0.01	0.01
STM-1204-1210	12.00	12.00	12.00	0.01	0.01
STM-1205-1207	12.00	12.00	12.00	0.01	0.01
STM-1206-1207	12.00	12.00	12.00	0.01	0.01
STM-1207-1209	12.00	12.00	12.00	0.01	0.01
STM-1208-1209	12.00	12.00	12.00	0.01	0.01
STM-1209-1210	12.00	12.00	12.00	0.01	0.01
STM-1210-1218	12.00	12.00	12.00	0.01	12.00
STM-1211-1213	12.00	12.00	12.00	0.01	0.01
STM-1212-1213	12.00	12.00	12.00	0.01	0.01
STM-1213-1216	12.00	12.00	12.00	0.01	0.01
STM-1214-1216	12.00	12.00	12.00	0.01	0.01
STM-1215-1216	12.00	12.00	12.00	0.01	0.01
STM-1216-1217	12.00	12.00	12.00	0.01	0.01
STM-1217-1218	12.00	12.00	12.00	0.01	12.00
STM-1218-1220	12.00	12.00	12.00	0.01	0.01
STM-1219-1220	12.00	12.00	12.00	0.01	0.01
STM-1220-1221	12.00	12.00	12.00	0.01	0.01
STM-1221-1222	12.00	12.00	12.00	0.01	0.01
STM-1222-1223	12.00	12.00	12.00	0.01	12.00
STM-1223-1224	12.00	12.00	12.00	0.01	12.00
STM-1224-1230	12.00	12.00	12.00	0.01	12.00
STM-1227-1228	0.01	0.01	12.00	0.01	0.01
STM-1228-1229	12.00	12.00	12.00	0.01	0.01
STM-1229-1230	12.00	12.00	12.00	0.01	12.00
STM-1230-HW102	12.00	12.00	12.00	0.01	0.01
STM-2101-2102	12.00	12.00	12.00	0.01	0.01
STM-2102-2103	12.00	12.00	12.00	0.01	0.01
STM-2103-2104	12.00	12.00	12.00	0.01	0.01
STM-2104-2108	12.00	12.00	12.00	0.01	0.01
STM-2105-2106	12.00	12.00	12.00	0.01	0.01
STM-2106-2107	12.00	12.00	12.00	0.01	12.00
STM-2107-2108	12.00	12.00	12.00	0.01	0.01
STM-2108-2114	12.00	12.00	12.00	0.01	12.00
STM-2109-2111	0.01	0.01	12.00	0.01	0.01
STM-2110-2111	0.01	0.01	12.00	0.01	0.01
STM-2111-2112	12.00	12.00	12.00	0.01	0.01
STM-2112-2113	12.00	12.00	12.00	0.01	0.01
STM-2113-2114	12.00	12.00	12.00	0.01	0.01
STM-2114-HW201	12.00	12.00	12.00	0.01	0.01
STM-2201-2202	0.01	0.01	12.00	0.01	0.01
STM-2202-2204	12.00	12.00	12.00	0.01	0.01
STM-2203-2204	0.01	0.01	12.00	0.01	0.01
STM-2204-2207	12.00	12.00	12.00	0.01	0.01
STM-2205-2206	0.01	0.01	12.00	0.01	0.01
STM-2206-2207	12.00	12.00	12.00	0.01	0.01
STM-2207-2210	12.00	12.00	12.00	0.01	0.01
STM-2208-2209	12.00	12.00	12.00	0.01	0.01

1941	STM-2209-2210	12.00	12.00	12.00	0.01	0.01
1942	STM-2210-2213	12.00	12.00	12.00	0.01	0.01
1943	STM-2211-2212	12.00	12.00	12.00	0.01	0.01
1944	STM-2212-2213	12.00	12.00	12.00	0.01	0.01
1945	STM-2213-2215	12.00	12.00	12.00	0.01	0.01
1946	STM-2214-2215	12.00	12.00	12.00	0.01	0.01
1947	STM-2215-2216	12.00	12.00	12.00	0.01	0.01
1948	STM-2216-2217	12.00	12.00	12.00	0.01	0.01
1949	STM-2217-2218	12.00	12.00	12.00	0.01	12.00
1950	STM-2218-2225	12.00	12.00	12.00	0.01	12.00
1951	STM-2219-2221	12.00	12.00	12.00	0.01	0.01
1952	STM-2220-2221	12.00	12.00	12.00	0.01	0.01
1953	STM-2221-2222	12.00	12.00	12.00	0.01	0.01
1954	STM-2222-2223	12.00	12.00	12.00	0.01	0.01
1955	STM-2223-2224	12.00	12.00	12.00	0.01	0.01
1956	STM-2224-2225	12.00	12.00	12.00	0.01	12.00
1957	STM-2225-HW202	12.00	12.00	12.00	0.01	0.01
1958	STM-2301-2302	12.00	12.00	12.00	0.01	0.01
1959	STM-2302-2304	12.00	12.00	12.00	0.01	0.01
1960	STM-2303-2304	12.00	12.00	12.00	0.01	0.01
1961	STM-2304-2308	12.00	12.00	12.00	0.01	0.01
1962	STM-2305-2306	12.00	12.00	12.00	0.01	0.01
1963	STM-2306-2308	12.00	12.00	12.00	0.01	0.01
1964	STM-2307-2308	12.00	12.00	12.00	0.01	0.01
1965	STM-2308-2312	12.00	12.00	12.00	0.01	0.01
1966	STM-2309-2310	12.00	12.00	12.00	0.01	0.01
1967	STM-2310-2312	12.00	12.00	12.00	0.01	0.01
1968	STM-2311-2312	12.00	12.00	12.00	0.01	0.01
1969	STM-2312-2316	12.00	12.00	12.00	0.01	0.01
1970	STM-2313-2314	12.00	12.00	12.00	0.01	0.01
1971	STM-2314-2316	12.00	12.00	12.00	0.01	0.01
1972	STM-2315-2316	12.00	12.00	12.00	0.01	0.01
1973	STM-2316-2318	12.00	12.00	12.00	0.01	0.01
1974	STM-2317-2318	12.00	12.00	12.00	0.01	0.01
1975	STM-2317-2323	12.00	12.00	12.00	0.01	0.01
1976	STM-2318-2319	12.00	12.00	12.00	0.01	0.01
1977	STM-2319-2320	12.00	12.00	12.00	0.01	0.01
1978	STM-2320-2321	12.00	12.00	12.00	0.01	12.00
1979	STM-2321-2327	12.00	12.00	12.00	0.01	12.00
1980	STM-2322-2323	12.00	12.00	12.00	0.01	0.01
1981	STM-2323-2324	12.00	12.00	12.00	0.01	0.01
1982	STM-2324-2325	12.00	12.00	12.00	0.01	0.01
1983	STM-2325-2326	12.00	12.00	12.00	0.01	0.01
1984	STM-2326-2327	12.00	12.00	12.00	0.01	12.00
1985	STM-2327-HW203	12.00	12.00	12.00	0.01	0.01
1986	STM-3101-3102	12.00	12.00	12.00	0.01	0.01
1987	STM-3102-3103	12.00	12.00	12.00	0.01	0.01
1988	STM-3103-3104	12.00	12.00	12.00	0.01	12.00
1989	STM-3104-HW301	12.00	12.00	12.00	0.01	0.01
1990	STM-3105-3107	12.00	12.00	12.00	0.01	0.01
1991	STM-3106-3107	12.00	12.00	12.00	0.01	0.01
1992	STM-3107-3108	12.00	12.00	12.00	0.01	0.01
1993	STM-3108-3109	12.00	12.00	12.00	0.01	0.01
1994	STM-3109-3104	12.00	12.00	12.00	0.01	0.01
1995	STM-3150-HW302	12.00	12.00	12.00	0.01	0.01
1996	STM-3201-3202	12.00	12.00	12.00	0.01	0.01
1997	STM-3202-3204	12.00	12.00	12.00	0.01	0.01
1998	STM-3203-3204	12.00	12.00	12.00	0.01	0.01
1999	STM-3204-3208	12.00	12.00	12.00	0.01	0.01
2000	STM-3205-3206	12.00	12.00	12.00	0.01	0.01
2001	STM-3206-3208	12.00	12.00	12.00	0.01	12.00
2002	STM-3207-3208	12.00	12.00	12.00	0.01	0.01
2003	STM-3208-3209	12.00	12.00	12.00	0.01	0.01
2004	STM-3209-3210	12.00	12.00	12.00	0.01	0.01
2005	STM-3210-3150	12.00	12.00	12.00	0.01	0.01
2006	STM-3211-3212	12.00	12.00	12.00	0.01	0.01

2007	STM-3212-3213	12.00	12.00	12.00	0.01	0.01
2008	STM-3213-3214	12.00	12.00	12.00	0.01	0.01
2009	STM-3214-3150	12.00	12.00	12.00	0.01	12.00
2010	STM-3301-3303	12.00	12.00	12.00	0.01	0.01
2011	STM-3302-3303	12.00	12.00	12.00	0.01	0.01
2012	STM-3303-3305	12.00	12.00	12.00	0.01	0.01
2013	STM-3304-3305	12.00	12.00	12.00	0.01	0.01
2014	STM-3305-3307	12.00	12.00	12.00	0.01	0.01
2015	STM-3306-3307	12.00	12.00	12.00	0.01	0.01
2016	STM-3307-3309	12.00	12.00	12.00	0.01	0.01
2017	STM-3308-3309	12.00	12.00	12.00	0.01	0.01
2018	STM-3309-3313	12.00	12.00	12.00	0.01	12.00
2019	STM-3310-3311	12.00	12.00	12.00	0.01	0.01
2020	STM-3311-3312	12.00	12.00	12.00	0.01	0.01
2021	STM-3312-3313	12.00	12.00	12.00	0.01	0.01
2022	STM-3313-3314	12.00	12.00	12.00	0.01	12.00
2023	STM-3314-3319	12.00	12.00	12.00	0.01	12.00
2024	STM-3315-3317	12.00	12.00	12.00	0.01	0.01
2025	STM-3316-3317	12.00	12.00	12.00	0.01	0.01
2026	STM-3317-3318	12.00	12.00	12.00	0.01	0.01
2027	STM-3318-3319	12.00	12.00	12.00	0.01	12.00
2028	STM-3319-HW303	12.00	12.00	12.00	12.00	12.00
2029	STM-6101-6106	12.00	12.00	12.00	0.01	0.01
2030	STM-6102-6103	12.00	12.00	12.00	0.01	0.01
2031	STM-6103-6101	12.00	12.00	12.00	0.01	0.01
2032	STM-6104-6108	12.00	12.00	12.00	0.01	0.01
2033	STM-6106-6107	12.00	12.00	12.00	0.01	12.00
2034	STM-6107-6108	12.00	12.00	12.00	0.01	12.00
2035	STM-6108-HW601	12.00	12.00	12.00	12.00	12.00
2036	STM-6150-6104	12.00	12.00	12.00	0.01	12.00
2037	STM-6152-6150	12.00	12.00	12.00	0.01	0.01
2038	STM-6201-6202	12.00	12.00	12.00	0.01	12.00
2039	STM-6202-6250	12.00	12.00	12.00	0.01	0.01
2040	STM-6205-6206	0.01	0.01	12.00	0.01	0.01
2041	STM-6206-6207	12.00	12.00	12.00	0.01	0.01
2042	STM-6207-6215	12.00	12.00	12.00	0.01	0.01
2043	STM-6210-6213	12.00	12.00	12.00	0.01	0.01
2044	STM-6211-6212	12.00	12.00	12.00	0.01	0.01
2045	STM-6212-6213	12.00	12.00	12.00	0.01	12.00
2046	STM-6213-6215	12.00	12.00	12.00	0.01	0.01
2047	STM-6214-6215	12.00	12.00	12.00	0.01	0.01
2048	STM-6215-6217	12.00	12.00	12.00	0.01	0.01
2049	STM-6216-6217	12.00	12.00	12.00	0.01	12.00
2050	STM-6217-6218	12.00	12.00	12.00	0.01	0.01
2051	STM-6218-6223	12.00	12.00	12.00	0.01	12.00
2052	STM-6219-6220	12.00	12.00	12.00	0.01	0.01
2053	STM-6220-6221	12.00	12.00	12.00	0.01	0.01
2054	STM-6221-6222	12.00	12.00	12.00	0.01	0.01
2055	STM-6222-6223	12.00	12.00	12.00	0.01	12.00
2056	STM-6223-HW602	12.00	12.00	12.00	0.01	0.01
2057	STM-6250-6206	12.00	12.00	12.00	0.01	12.00
2058	STM-6301-6303	0.01	0.01	12.00	0.01	0.01
2059	STM-6302-6303	0.01	0.01	12.00	0.01	0.01
2060	STM-6303-6304	12.00	12.00	12.00	0.01	0.01
2061	STM-6304-6305	12.00	12.00	12.00	0.01	0.01
2062	STM-6305-6306	12.00	12.00	12.00	0.01	0.01
2063	STM-6306-6307	12.00	12.00	12.00	0.01	0.01
2064	STM-6307-6308	12.00	12.00	12.00	0.01	0.01
2065	STM-6308-6309	12.00	12.00	12.00	0.01	12.00
2066	STM-6309-6323	12.00	12.00	12.00	0.01	12.00
2067	STM-6310-6311	0.01	0.01	12.00	0.01	0.01
2068	STM-6311-6312	12.00	12.00	12.00	0.01	0.01
2069	STM-6312-6314	12.00	12.00	12.00	0.01	0.01
2070	STM-6314-6316	12.00	12.00	12.00	0.01	0.01
2071	STM-6315-6316	12.00	12.00	12.00	0.01	0.01
2072	STM-6316-6317	12.00	12.00	12.00	0.01	0.01

2073	STM-6317-6321	12.00	12.00	12.00	0.01	0.01
2074	STM-6318-6319	12.00	12.00	12.00	0.01	0.01
2075	STM-6319-6320	12.00	12.00	12.00	0.01	12.00
2076	STM-6320-6321	12.00	12.00	12.00	0.01	0.01
2077	STM-6321-6322	12.00	12.00	12.00	0.01	12.00
2078	STM-6322-6323	12.00	12.00	12.00	0.01	12.00
2079	STM-6323-HW603	12.00	12.00	12.00	0.01	0.01
2080	STM-6345-6314	12.00	12.00	12.00	0.01	0.01
2081	STM-6346-6345	12.00	12.00	12.00	0.01	12.00
2082	STM-6347-6346	12.00	12.00	12.00	0.01	0.01
2083	STM-7008-HW701	0.01	0.01	12.00	0.01	0.01
2084						
2085						
2086	Analysis begun on: Fri Feb 19 16:48:01 2021					
2087	Analysis ended on: Fri Feb 19 16:48:40 2021					
2088	Total elapsed time: 00:00:39					

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

5-Year flow in the storm sewers, 100 Year water level on the Jock River

****
Element Count
****
Number of rain gages 0
Number of subcatchments ... 0
Number of nodes 218
Number of links 207
Number of pollutants 0
Number of land uses 0

****
Node Summary
****

Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
MH-1101	JUNCTION	90.86	2.40	0.0	Yes
MH-1102	JUNCTION	90.59	2.55	0.0	Yes
MH-1103	JUNCTION	90.35	2.63	0.0	Yes
MH-1104	JUNCTION	90.16	2.66	0.0	Yes
MH-1105	JUNCTION	89.95	2.67	0.0	Yes
MH-1106	JUNCTION	89.77	2.73	0.0	
MH-1201	JUNCTION	91.44	1.95	0.0	Yes
MH-1202	JUNCTION	91.13	2.08	0.0	Yes
MH-1203	JUNCTION	91.39	1.94	0.0	Yes
MH-1204	JUNCTION	90.83	2.33	0.0	Yes
MH-1205	JUNCTION	91.49	1.87	0.0	Yes
MH-1206	JUNCTION	91.47	1.80	0.0	Yes
MH-1207	JUNCTION	91.20	2.05	0.0	Yes
MH-1208	JUNCTION	91.41	1.87	0.0	Yes
MH-1209	JUNCTION	90.92	2.24	0.0	Yes
MH-1210	JUNCTION	90.60	2.47	0.0	Yes
MH-1211	JUNCTION	91.57	1.79	0.0	Yes
MH-1212	JUNCTION	91.51	1.80	0.0	Yes
MH-1213	JUNCTION	91.21	2.06	0.0	Yes
MH-1214	JUNCTION	91.41	1.87	0.0	Yes
MH-1215	JUNCTION	91.42	1.80	0.0	Yes
MH-1216	JUNCTION	90.93	2.26	0.0	
MH-1217	JUNCTION	90.78	2.31	0.0	Yes
MH-1218	JUNCTION	90.28	2.68	0.0	
MH-1219	JUNCTION	91.11	1.87	0.0	Yes
MH-1220	JUNCTION	90.17	2.70	0.0	
MH-1221	JUNCTION	90.07	2.71	0.0	Yes
MH-1222	JUNCTION	89.94	2.74	0.0	Yes
MH-1223	JUNCTION	89.77	2.80	0.0	
MH-1224	JUNCTION	89.69	2.86	0.0	
MH-1227	JUNCTION	90.61	2.10	0.0	Yes
MH-1228	JUNCTION	90.39	2.14	0.0	
MH-1229	JUNCTION	90.34	2.17	0.0	
MH-1230	JUNCTION	89.56	2.94	0.0	
MH-2101	JUNCTION	91.01	1.80	0.0	Yes
MH-2102	JUNCTION	90.81	2.06	0.0	Yes
MH-2103	JUNCTION	90.54	2.23	0.0	Yes
MH-2104	JUNCTION	90.25	2.42	0.0	Yes
MH-2105	JUNCTION	90.91	1.96	0.0	Yes
MH-2106	JUNCTION	90.63	2.04	0.0	Yes
MH-2107	JUNCTION	90.46	2.19	0.0	Yes
MH-2108	JUNCTION	90.07	2.50	0.0	Yes

67	MH-2109	JUNCTION	90.98	1.80	0.0	Yes
68	MH-2110	JUNCTION	90.94	1.80	0.0	
69	MH-2111	JUNCTION	90.66	2.06	0.0	Yes
70	MH-2112	JUNCTION	90.38	2.24	0.0	Yes
71	MH-2113	JUNCTION	90.22	2.30	0.0	Yes
72	MH-2114	JUNCTION	89.84	2.66	0.0	
73	MH-2201	JUNCTION	91.51	1.80	0.0	Yes
74	MH-2202	JUNCTION	91.21	2.01	0.0	Yes
75	MH-2203	JUNCTION	91.35	1.89	0.0	Yes
76	MH-2204	JUNCTION	90.98	2.06	0.0	Yes
77	MH-2205	JUNCTION	91.42	1.80	0.0	Yes
78	MH-2206	JUNCTION	91.12	2.01	0.0	Yes
79	MH-2207	JUNCTION	90.78	2.18	0.0	Yes
80	MH-2208	JUNCTION	91.14	1.95	0.0	Yes
81	MH-2209	JUNCTION	90.85	2.14	0.0	Yes
82	MH-2210	JUNCTION	90.54	2.32	0.0	
83	MH-2211	JUNCTION	91.11	1.87	0.0	Yes
84	MH-2212	JUNCTION	90.82	2.06	0.0	Yes
85	MH-2213	JUNCTION	90.31	2.46	0.0	
86	MH-2214	JUNCTION	90.94	1.79	0.0	Yes
87	MH-2215	JUNCTION	90.14	2.54	0.0	Yes
88	MH-2216	JUNCTION	90.00	2.57	0.0	
89	MH-2217	JUNCTION	89.86	2.60	0.0	
90	MH-2218	JUNCTION	89.81	2.63	0.0	
91	MH-2219	JUNCTION	90.92	1.80	0.0	Yes
92	MH-2220	JUNCTION	90.92	1.80	0.0	Yes
93	MH-2221	JUNCTION	90.67	1.90	0.0	Yes
94	MH-2222	JUNCTION	90.36	2.20	0.0	Yes
95	MH-2223	JUNCTION	90.18	2.26	0.0	
96	MH-2224	JUNCTION	90.09	2.33	0.0	
97	MH-2225	JUNCTION	89.69	2.71	0.0	
98	MH-2301	JUNCTION	91.37	1.88	0.0	Yes
99	MH-2302	JUNCTION	91.08	2.06	0.0	Yes
100	MH-2303	JUNCTION	91.26	1.80	0.0	Yes
101	MH-2304	JUNCTION	90.87	2.16	0.0	Yes
102	MH-2305	JUNCTION	91.21	1.94	0.0	Yes
103	MH-2306	JUNCTION	90.99	2.06	0.0	Yes
104	MH-2307	JUNCTION	91.26	1.85	0.0	Yes
105	MH-2308	JUNCTION	90.52	2.42	0.0	
106	MH-2309	JUNCTION	91.11	1.96	0.0	Yes
107	MH-2310	JUNCTION	90.82	2.14	0.0	Yes
108	MH-2311	JUNCTION	91.10	1.80	0.0	Yes
109	MH-2312	JUNCTION	90.28	2.57	0.0	
110	MH-2313	JUNCTION	91.02	1.94	0.0	Yes
111	MH-2314	JUNCTION	90.80	2.06	0.0	Yes
112	MH-2315	JUNCTION	91.01	1.79	0.0	Yes
113	MH-2316	JUNCTION	90.11	2.63	0.0	
114	MH-2317	JUNCTION	90.92	1.80	0.0	
115	MH-2318	JUNCTION	90.01	2.66	0.0	
116	MH-2319	JUNCTION	89.86	2.69	0.0	
117	MH-2320	JUNCTION	89.72	2.73	0.0	
118	MH-2321	JUNCTION	89.67	2.77	0.0	
119	MH-2322	JUNCTION	90.92	1.80	0.0	Yes
120	MH-2323	JUNCTION	90.68	2.01	0.0	Yes
121	MH-2324	JUNCTION	90.37	2.20	0.0	Yes
122	MH-2325	JUNCTION	90.19	2.27	0.0	
123	MH-2326	JUNCTION	90.10	2.33	0.0	
124	MH-2327	JUNCTION	89.56	2.84	0.0	
125	MH-3101	JUNCTION	90.74	1.80	0.0	Yes
126	MH-3102	JUNCTION	90.44	2.17	0.0	Yes
127	MH-3103	JUNCTION	90.20	2.29	0.0	Yes
128	MH-3104	JUNCTION	89.83	2.65	0.0	
129	MH-3105	JUNCTION	90.81	1.80	0.0	Yes
130	MH-3106	JUNCTION	90.85	1.80	0.0	Yes
131	MH-3107	JUNCTION	90.30	2.28	0.0	Yes
132	MH-3108	JUNCTION	90.07	2.34	0.0	Yes

133	MH-3109	JUNCTION	89.98	2.43	0.0	Yes
134	MH-3150	JUNCTION	89.83	2.59	0.0	
135	MH-3201	JUNCTION	90.95	1.95	0.0	Yes
136	MH-3202	JUNCTION	90.67	2.13	0.0	Yes
137	MH-3203	JUNCTION	90.89	1.95	0.0	Yes
138	MH-3204	JUNCTION	90.47	2.23	0.0	
139	MH-3205	JUNCTION	90.93	1.87	0.0	Yes
140	MH-3206	JUNCTION	90.66	2.05	0.0	Yes
141	MH-3207	JUNCTION	90.87	1.79	0.0	Yes
142	MH-3208	JUNCTION	90.23	2.38	0.0	
143	MH-3209	JUNCTION	90.07	2.45	0.0	Yes
144	MH-3210	JUNCTION	89.92	2.50	0.0	Yes
145	MH-3211	JUNCTION	90.70	1.96	0.0	Yes
146	MH-3212	JUNCTION	90.46	2.03	0.0	Yes
147	MH-3213	JUNCTION	90.36	2.12	0.0	Yes
148	MH-3214	JUNCTION	90.23	2.17	0.0	
149	MH-3301	JUNCTION	91.01	2.03	0.0	Yes
150	MH-3302	JUNCTION	91.16	1.80	0.0	Yes
151	MH-3303	JUNCTION	90.65	2.23	0.0	Yes
152	MH-3304	JUNCTION	91.01	1.87	0.0	Yes
153	MH-3305	JUNCTION	90.47	2.31	0.0	Yes
154	MH-3306	JUNCTION	90.95	1.87	0.0	Yes
155	MH-3307	JUNCTION	90.31	2.38	0.0	
156	MH-3308	JUNCTION	90.81	1.95	0.0	Yes
157	MH-3309	JUNCTION	90.14	2.47	0.0	
158	MH-3310	JUNCTION	90.89	1.94	0.0	Yes
159	MH-3311	JUNCTION	90.68	2.03	0.0	Yes
160	MH-3312	JUNCTION	90.42	2.20	0.0	Yes
161	MH-3313	JUNCTION	89.98	2.55	0.0	
162	MH-3314	JUNCTION	89.88	2.60	0.0	
163	MH-3315	JUNCTION	90.86	1.79	0.0	Yes
164	MH-3316	JUNCTION	90.83	1.80	0.0	Yes
165	MH-3317	JUNCTION	90.33	2.23	0.0	Yes
166	MH-3318	JUNCTION	90.10	2.30	0.0	
167	MH-3319	JUNCTION	89.74	2.66	0.0	
168	MH-6101	JUNCTION	90.35	2.20	0.0	Yes
169	MH-6102	JUNCTION	90.82	1.88	0.0	Yes
170	MH-6103	JUNCTION	90.55	2.22	0.0	Yes
171	MH-6104	JUNCTION	90.47	2.03	0.0	Yes
172	MH-6106	JUNCTION	90.22	2.33	0.0	
173	MH-6107	JUNCTION	90.17	2.38	0.0	Yes
174	MH-6108	JUNCTION	90.05	2.45	0.0	
175	MH-6150	JUNCTION	90.62	1.88	0.0	Yes
176	MH-6152	JUNCTION	90.83	1.67	0.0	Yes
177	MH-6201	JUNCTION	91.23	1.97	0.0	Yes
178	MH-6202	JUNCTION	91.11	2.03	0.0	Yes
179	MH-6204	JUNCTION	90.93	2.16	0.0	Yes
180	MH-6205	JUNCTION	90.84	2.19	0.0	Yes
181	MH-6206	JUNCTION	90.54	2.46	0.0	Yes
182	MH-6207	JUNCTION	90.34	2.54	0.0	Yes
183	MH-6210	JUNCTION	91.14	1.79	0.0	Yes
184	MH-6211	JUNCTION	91.19	1.89	0.0	Yes
185	MH-6212	JUNCTION	90.90	2.06	0.0	Yes
186	MH-6213	JUNCTION	90.62	2.24	0.0	Yes
187	MH-6214	JUNCTION	90.97	1.97	0.0	Yes
188	MH-6215	JUNCTION	90.16	2.62	0.0	
189	MH-6216	JUNCTION	90.95	1.81	0.0	Yes
190	MH-6217	JUNCTION	90.00	2.69	0.0	
191	MH-6218	JUNCTION	89.81	2.71	0.0	
192	MH-6219	JUNCTION	90.96	1.87	0.0	Yes
193	MH-6220	JUNCTION	90.57	2.17	0.0	Yes
194	MH-6221	JUNCTION	90.34	2.23	0.0	Yes
195	MH-6222	JUNCTION	90.26	2.30	0.0	Yes
196	MH-6223	JUNCTION	89.72	2.78	0.0	
197	MH-6250	JUNCTION	90.97	2.10	0.0	Yes
198	MH-6301	JUNCTION	91.43	1.80	0.0	Yes

MH-6302	JUNCTION	91.37	1.80	0.0	Yes	
MH-6303	JUNCTION	91.21	1.92	0.0	Yes	
MH-6304	JUNCTION	91.00	2.11	0.0	Yes	
MH-6305	JUNCTION	90.67	2.31	0.0	Yes	
MH-6306	JUNCTION	90.47	2.33	0.0	Yes	
MH-6307	JUNCTION	90.26	2.40	0.0	Yes	
MH-6308	JUNCTION	90.08	2.46	0.0		
MH-6309	JUNCTION	90.00	2.53	0.0		
MH-6310	JUNCTION	91.30	1.80	0.0	Yes	
MH-6311	JUNCTION	91.11	1.99	0.0	Yes	
MH-6312	JUNCTION	90.87	2.11	0.0	Yes	
MH-6314	JUNCTION	90.55	2.31	0.0	Yes	
MH-6315	JUNCTION	90.97	1.87	0.0	Yes	
MH-6316	JUNCTION	90.38	2.39	0.0	Yes	
MH-6317	JUNCTION	90.23	2.40	0.0	Yes	
MH-6318	JUNCTION	90.86	1.95	0.0	Yes	
MH-6319	JUNCTION	90.59	2.04	0.0	Yes	
MH-6320	JUNCTION	90.42	2.20	0.0	Yes	
MH-6321	JUNCTION	90.06	2.48	0.0		
MH-6322	JUNCTION	90.00	2.51	0.0		
MH-6323	JUNCTION	89.67	2.83	0.0		
MH-6345	JUNCTION	90.71	2.24	0.0	Yes	
MH-6346	JUNCTION	91.00	2.05	0.0	Yes	
MH-6347	JUNCTION	91.28	1.89	0.0	Yes	
MH-7001	JUNCTION	91.24	1.88	0.0	Yes	
MH-7002	JUNCTION	90.92	2.11	0.0	Yes	
MH-7003	JUNCTION	90.66	2.20	0.0		
MH-7004	JUNCTION	90.56	2.30	0.0	Yes	
MH-7005	JUNCTION	90.46	2.34	0.0		
MH-7006	JUNCTION	91.18	1.88	0.0	Yes	
MH-7007	JUNCTION	90.88	2.07	0.0	Yes	
MH-7008	JUNCTION	90.37	2.43	0.0		
MH-HW101	OUTFALL	89.67	1.05	0.0		
MH-HW102	OUTFALL	89.55	1.05	0.0		
MH-HW201	OUTFALL	89.80	0.82	0.0		
MH-HW202	OUTFALL	89.68	0.97	0.0		
MH-HW203	OUTFALL	89.55	0.97	0.0		
MH-HW301	OUTFALL	89.79	0.68	0.0		
MH-HW302	OUTFALL	89.79	0.90	0.0		
MH-HW303	OUTFALL	89.72	0.90	0.0		
MH-HW601	OUTFALL	90.01	0.60	0.0		
MH-HW602	OUTFALL	89.68	1.05	0.0		
MH-HW603	OUTFALL	89.67	0.97	0.0		
MH-HW701	OUTFALL	90.34	0.68	0.0		

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Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
STM-1101-1102	MH-1101	MH-1102	CONDUIT	98.0	0.2000	0.0130
STM-1102-1103	MH-1102	MH-1103	CONDUIT	111.5	0.1498	0.0130
STM-1103-1104	MH-1103	MH-1104	CONDUIT	111.5	0.1498	0.0130
STM-1104-1105	MH-1104	MH-1105	CONDUIT	125.0	0.1504	0.0130
STM-1105-1106	MH-1105	MH-1106	CONDUIT	83.5	0.1497	0.0130
STM-1106-HW101	MH-1106	MH-HW101	CONDUIT	62.0	0.1500	0.0130

256	STM-1201-1202	MH-1201	MH-1202	CONDUIT	122.5
	0.2000	0.0130			
257	STM-1202-1204	MH-1202	MH-1204	CONDUIT	36.5
	0.2000	0.0130			
258	STM-1203-1204	MH-1203	MH-1204	CONDUIT	127.5
	0.2000	0.0130			
259	STM-1204-1210	MH-1204	MH-1210	CONDUIT	58.5
	0.1504	0.0130			
260	STM-1205-1207	MH-1205	MH-1207	CONDUIT	73.0
	0.3000	0.0130			
261	STM-1206-1207	MH-1206	MH-1207	CONDUIT	14.0
	0.3500	0.0130			
262	STM-1207-1209	MH-1207	MH-1209	CONDUIT	65.0
	0.2000	0.0130			
263	STM-1208-1209	MH-1208	MH-1209	CONDUIT	78.0
	0.3000	0.0130			
264	STM-1209-1210	MH-1209	MH-1210	CONDUIT	63.0
	0.1508	0.0130			
265	STM-1210-1218	MH-1210	MH-1218	CONDUIT	74.5
	0.1503	0.0130			
266	STM-1211-1213	MH-1211	MH-1213	CONDUIT	58.5
	0.3504	0.0130			
267	STM-1212-1213	MH-1212	MH-1213	CONDUIT	26.5
	0.3509	0.0130			
268	STM-1213-1216	MH-1213	MH-1216	CONDUIT	64.5
	0.2000	0.0130			
269	STM-1214-1216	MH-1214	MH-1216	CONDUIT	62.5
	0.3008	0.0130			
270	STM-1215-1216	MH-1215	MH-1216	CONDUIT	27.0
	0.3519	0.0130			
271	STM-1216-1217	MH-1216	MH-1217	CONDUIT	62.5
	0.1504	0.0130			
272	STM-1217-1218	MH-1217	MH-1218	CONDUIT	82.5
	0.1503	0.0130			
273	STM-1218-1220	MH-1218	MH-1220	CONDUIT	56.5
	0.1504	0.0130			
274	STM-1219-1220	MH-1219	MH-1220	CONDUIT	78.0
	0.3000	0.0130			
275	STM-1220-1221	MH-1220	MH-1221	CONDUIT	58.5
	0.1504	0.0130			
276	STM-1221-1222	MH-1221	MH-1222	CONDUIT	70.5
	0.1504	0.0130			
277	STM-1222-1223	MH-1222	MH-1223	CONDUIT	71.5
	0.1497	0.0130			
278	STM-1223-1224	MH-1223	MH-1224	CONDUIT	17.0
	0.1529	0.0130			
279	STM-1224-1230	MH-1224	MH-1230	CONDUIT	37.0
	0.1514	0.0130			
280	STM-1227-1228	MH-1227	MH-1228	CONDUIT	125.5
	0.1498	0.0130			
281	STM-1228-1229	MH-1228	MH-1229	CONDUIT	10.5
	0.1524	0.0130			
282	STM-1229-1230	MH-1229	MH-1230	CONDUIT	9.5
	0.1474	0.0130			
283	STM-1230-HW102	MH-1230	MH-HW102	CONDUIT	4.0
	0.1500	0.0130			
284	STM-2101-2102	MH-2101	MH-2102	CONDUIT	35.5
	0.3493	0.0130			
285	STM-2102-2103	MH-2102	MH-2103	CONDUIT	64.5
	0.3008	0.0130			
286	STM-2103-2104	MH-2103	MH-2104	CONDUIT	70.5
	0.2000	0.0130			
287	STM-2104-2108	MH-2104	MH-2108	CONDUIT	70.5
	0.1504	0.0130			
288	STM-2105-2106	MH-2105	MH-2106	CONDUIT	123.5
	0.2000	0.0130			

289	STM-2106-2107	MH-2106	MH-2107	CONDUIT	13.0	0.2000 0.0130
290	STM-2107-2108	MH-2107	MH-2108	CONDUIT	55.5	0.1495 0.0130
291	STM-2108-2114	MH-2108	MH-2114	CONDUIT	48.5	0.1505 0.0130
292	STM-2109-2111	MH-2109	MH-2111	CONDUIT	49.0	0.3510 0.0130
293	STM-2110-2111	MH-2110	MH-2111	CONDUIT	10.5	0.3524 0.0130
294	STM-2111-2112	MH-2111	MH-2112	CONDUIT	66.5	0.2000 0.0130
295	STM-2112-2113	MH-2112	MH-2113	CONDUIT	67.0	0.1507 0.0130
296	STM-2113-2114	MH-2113	MH-2114	CONDUIT	14.0	0.1500 0.0130
297	STM-2114-HW201	MH-2114	MH-HW201	CONDUIT	26.5	0.1509 0.0130
298	STM-2201-2202	MH-2201	MH-2202	CONDUIT	43.0	0.3512 0.0130
299	STM-2202-2204	MH-2202	MH-2204	CONDUIT	73.0	0.2000 0.0130
300	STM-2203-2204	MH-2203	MH-2204	CONDUIT	32.0	0.3500 0.0130
301	STM-2204-2207	MH-2204	MH-2207	CONDUIT	64.5	0.2000 0.0130
302	STM-2205-2206	MH-2205	MH-2206	CONDUIT	43.5	0.3494 0.0130
303	STM-2206-2207	MH-2206	MH-2207	CONDUIT	73.0	0.2000 0.0130
304	STM-2207-2210	MH-2207	MH-2210	CONDUIT	62.5	0.1504 0.0130
305	STM-2208-2209	MH-2208	MH-2209	CONDUIT	68.0	0.2000 0.0130
306	STM-2209-2210	MH-2209	MH-2210	CONDUIT	72.5	0.1503 0.0130
307	STM-2210-2213	MH-2210	MH-2213	CONDUIT	56.5	0.1504 0.0130
308	STM-2211-2212	MH-2211	MH-2212	CONDUIT	71.0	0.3000 0.0130
309	STM-2212-2213	MH-2212	MH-2213	CONDUIT	71.0	0.2000 0.0130
310	STM-2213-2215	MH-2213	MH-2215	CONDUIT	58.5	0.1504 0.0130
311	STM-2214-2215	MH-2214	MH-2215	CONDUIT	34.0	0.3500 0.0130
312	STM-2215-2216	MH-2215	MH-2216	CONDUIT	79.5	0.1497 0.0130
313	STM-2216-2217	MH-2216	MH-2217	CONDUIT	79.5	0.1497 0.0130
314	STM-2217-2218	MH-2217	MH-2218	CONDUIT	13.0	0.1538 0.0130
315	STM-2218-2225	MH-2218	MH-2225	CONDUIT	23.5	0.1489 0.0130
316	STM-2219-2221	MH-2219	MH-2221	CONDUIT	29.5	0.3492 0.0130
317	STM-2220-2221	MH-2220	MH-2221	CONDUIT	24.5	0.3510 0.0130
318	STM-2221-2222	MH-2221	MH-2222	CONDUIT	80.5	0.2000 0.0130
319	STM-2222-2223	MH-2222	MH-2223	CONDUIT	80.5	0.1503 0.0130
320	STM-2223-2224	MH-2223	MH-2224	CONDUIT	14.0	0.1500 0.0130
321	STM-2224-2225	MH-2224	MH-2225	CONDUIT	22.0	0.1500 0.0130

322	STM-2225-HW202	MH-2225	MH-HW202	CONDUIT	4.0
	0.1500	0.0130			
323	STM-2301-2302	MH-2301	MH-2302	CONDUIT	72.0
	0.3000	0.0130			
324	STM-2302-2304	MH-2302	MH-2304	CONDUIT	74.5
	0.2000	0.0130			
325	STM-2303-2304	MH-2303	MH-2304	CONDUIT	15.0
	0.3533	0.0130			
326	STM-2304-2308	MH-2304	MH-2308	CONDUIT	64.5
	0.2000	0.0130			
327	STM-2305-2306	MH-2305	MH-2306	CONDUIT	72.0
	0.2000	0.0130			
328	STM-2306-2308	MH-2306	MH-2308	CONDUIT	72.0
	0.2000	0.0130			
329	STM-2307-2308	MH-2307	MH-2308	CONDUIT	30.5
	0.3508	0.0130			
330	STM-2308-2312	MH-2308	MH-2312	CONDUIT	62.0
	0.1500	0.0130			
331	STM-2309-2310	MH-2309	MH-2310	CONDUIT	71.0
	0.2000	0.0130			
332	STM-2310-2312	MH-2310	MH-2312	CONDUIT	74.5
	0.1503	0.0130			
333	STM-2311-2312	MH-2311	MH-2312	CONDUIT	31.0
	0.3516	0.0130			
334	STM-2312-2316	MH-2312	MH-2316	CONDUIT	56.5
	0.1504	0.0130			
335	STM-2313-2314	MH-2313	MH-2314	CONDUIT	72.5
	0.2000	0.0130			
336	STM-2314-2316	MH-2314	MH-2316	CONDUIT	72.5
	0.2000	0.0130			
337	STM-2315-2316	MH-2315	MH-2316	CONDUIT	31.0
	0.3516	0.0130			
338	STM-2316-2318	MH-2316	MH-2318	CONDUIT	58.5
	0.1504	0.0130			
339	STM-2317-2318	MH-2317	MH-2318	CONDUIT	39.5
	0.3494	0.0130			
340	STM-2317-2323	MH-2317	MH-2323	CONDUIT	25.0
	0.3520	0.0130			
341	STM-2318-2319	MH-2318	MH-2319	CONDUIT	85.5
	0.1497	0.0130			
342	STM-2319-2320	MH-2319	MH-2320	CONDUIT	73.0
	0.1507	0.0130			
343	STM-2320-2321	MH-2320	MH-2321	CONDUIT	11.5
	0.1478	0.0130			
344	STM-2321-2327	MH-2321	MH-2327	CONDUIT	25.5
	0.1490	0.0130			
345	STM-2322-2323	MH-2322	MH-2323	CONDUIT	20.0
	0.3500	0.0130			
346	STM-2323-2324	MH-2323	MH-2324	CONDUIT	82.5
	0.2000	0.0130			
347	STM-2324-2325	MH-2324	MH-2325	CONDUIT	82.5
	0.1503	0.0130			
348	STM-2325-2326	MH-2325	MH-2326	CONDUIT	14.5
	0.1517	0.0130			
349	STM-2326-2327	MH-2326	MH-2327	CONDUIT	21.5
	0.1488	0.0130			
350	STM-2327-HW203	MH-2327	MH-HW203	CONDUIT	4.5
	0.1556	0.0130			
351	STM-3101-3102	MH-3101	MH-3102	CONDUIT	42.0
	0.3500	0.0130			
352	STM-3102-3103	MH-3102	MH-3103	CONDUIT	103.5
	0.2000	0.0130			
353	STM-3103-3104	MH-3103	MH-3104	CONDUIT	10.5
	0.2000	0.0130			
354	STM-3104-HW301	MH-3104	MH-HW301	CONDUIT	31.0
	0.1516	0.0130			

355	STM-3105-3107	MH-3105	MH-3107	CONDUIT	59.5
	0.3496	0.0130			
356	STM-3106-3107	MH-3106	MH-3107	CONDUIT	42.0
	0.3500	0.0130			
357	STM-3107-3108	MH-3107	MH-3108	CONDUIT	116.5
	0.1502	0.0130			
358	STM-3108-3109	MH-3108	MH-3109	CONDUIT	16.5
	0.1515	0.0130			
359	STM-3109-3104	MH-3109	MH-3104	CONDUIT	47.0
	0.1511	0.0130			
360	STM-3150-HW302	MH-3150	MH-HW302	CONDUIT	25.0
	0.1520	0.0130			
361	STM-3201-3202	MH-3201	MH-3202	CONDUIT	65.0
	0.2000	0.0130			
362	STM-3202-3204	MH-3202	MH-3204	CONDUIT	65.0
	0.1508	0.0130			
363	STM-3203-3204	MH-3203	MH-3204	CONDUIT	94.5
	0.2000	0.0130			
364	STM-3204-3208	MH-3204	MH-3208	CONDUIT	56.0
	0.1500	0.0130			
365	STM-3205-3206	MH-3205	MH-3206	CONDUIT	65.0
	0.3000	0.0130			
366	STM-3206-3208	MH-3206	MH-3208	CONDUIT	65.0
	0.2000	0.0130			
367	STM-3207-3208	MH-3207	MH-3208	CONDUIT	43.0
	0.3512	0.0130			
368	STM-3208-3209	MH-3208	MH-3209	CONDUIT	58.5
	0.1504	0.0130			
369	STM-3209-3210	MH-3209	MH-3210	CONDUIT	77.0
	0.1506	0.0130			
370	STM-3210-3150	MH-3210	MH-3150	CONDUIT	11.0
	0.1545	0.0130			
371	STM-3211-3212	MH-3211	MH-3212	CONDUIT	103.0
	0.2000	0.0130			
372	STM-3212-3213	MH-3212	MH-3213	CONDUIT	10.5
	0.2000	0.0130			
373	STM-3213-3214	MH-3213	MH-3214	CONDUIT	49.0
	0.2000	0.0130			
374	STM-3214-3150	MH-3214	MH-3150	CONDUIT	12.0
	0.2000	0.0130			
375	STM-3301-3303	MH-3301	MH-3303	CONDUIT	102.0
	0.2000	0.0130			
376	STM-3302-3303	MH-3302	MH-3303	CONDUIT	60.0
	0.3500	0.0130			
377	STM-3303-3305	MH-3303	MH-3305	CONDUIT	64.5
	0.1504	0.0130			
378	STM-3304-3305	MH-3304	MH-3305	CONDUIT	73.0
	0.3000	0.0130			
379	STM-3305-3307	MH-3305	MH-3307	CONDUIT	52.5
	0.1505	0.0130			
380	STM-3306-3307	MH-3306	MH-3307	CONDUIT	85.5
	0.3006	0.0130			
381	STM-3307-3309	MH-3307	MH-3309	CONDUIT	64.5
	0.1504	0.0130			
382	STM-3308-3309	MH-3308	MH-3309	CONDUIT	106.5
	0.2000	0.0130			
383	STM-3309-3313	MH-3309	MH-3313	CONDUIT	58.5
	0.1504	0.0130			
384	STM-3310-3311	MH-3310	MH-3311	CONDUIT	72.5
	0.2000	0.0130			
385	STM-3311-3312	MH-3311	MH-3312	CONDUIT	56.5
	0.2000	0.0130			
386	STM-3312-3313	MH-3312	MH-3313	CONDUIT	71.0
	0.1507	0.0130			
387	STM-3313-3314	MH-3313	MH-3314	CONDUIT	29.5
	0.1492	0.0130			

388	STM-3314-3319	MH-3314	MH-3319	CONDUIT	53.5	
	0.1495	0.0130				
389	STM-3315-3317	MH-3315	MH-3317	CONDUIT	66.0	
	0.3500	0.0130				
390	STM-3316-3317	MH-3316	MH-3317	CONDUIT	49.0	
	0.3510	0.0130				
391	STM-3317-3318	MH-3317	MH-3318	CONDUIT	113.0	
	0.1504	0.0130				
392	STM-3318-3319	MH-3318	MH-3319	CONDUIT	8.5	
	0.1529	0.0130				
393	STM-3319-HW303	MH-3319	MH-HW303	CONDUIT	8.0	
	0.1500	0.0130				
394	STM-6101-6106	MH-6101	MH-6106	CONDUIT	66.0	
	0.1500	0.0130				
395	STM-6102-6103	MH-6102	MH-6103	CONDUIT	40.5	
	0.3012	0.0130				
396	STM-6103-6101	MH-6103	MH-6101	CONDUIT	61.5	
	0.2000	0.0130				
397	STM-6104-6108	MH-6104	MH-6108	CONDUIT	22.0	
	0.3000	0.0130				
398	STM-6106-6107	MH-6106	MH-6107	CONDUIT	10.0	
	0.1500	0.0130				
399	STM-6107-6108	MH-6107	MH-6108	CONDUIT	40.0	
	0.1500	0.0130				
400	STM-6108-HW601	MH-6108	MH-HW601	CONDUIT	23.5	
	0.2000	0.0130				
401	STM-6150-6104	MH-6150	MH-6104	CONDUIT	22.0	
	0.3500	0.0130				
402	STM-6152-6150	MH-6152	MH-6150	CONDUIT	42.0	
	0.3500	0.0130				
403	STM-6201-6202	MH-6201	MH-6202	CONDUIT	31.5	
	0.2000	0.0130				
404	STM-6202-6250	MH-6202	MH-6250	CONDUIT	46.0	
	0.2500	0.0130				
405	STM-6204-6205	MH-6204	MH-6205	CONDUIT	39.0	
	0.1513	0.0130				
406	STM-6205-6206	MH-6205	MH-6206	CONDUIT	19.5	
	0.1487	0.0130				
407	STM-6206-6207	MH-6206	MH-6207	CONDUIT	84.0	
	0.1500	0.0130				
408	STM-6207-6215	MH-6207	MH-6215	CONDUIT	69.5	
	0.1496	0.0130				
409	STM-6210-6213	MH-6210	MH-6213	CONDUIT	48.5	
	0.3505	0.0130				
410	STM-6211-6212	MH-6211	MH-6212	CONDUIT	72.5	
	0.3007	0.0130				
411	STM-6212-6213	MH-6212	MH-6213	CONDUIT	65.5	
	0.2000	0.0130				
412	STM-6213-6215	MH-6213	MH-6215	CONDUIT	58.5	
	0.1504	0.0130				
413	STM-6214-6215	MH-6214	MH-6215	CONDUIT	115.5	
	0.2000	0.0130				
414	STM-6215-6217	MH-6215	MH-6217	CONDUIT	62.5	
	0.1504	0.0130				
415	STM-6216-6217	MH-6216	MH-6217	CONDUIT	57.5	
	0.3496	0.0130				
416	STM-6217-6218	MH-6217	MH-6218	CONDUIT	104.0	
	0.1500	0.0130				
417	STM-6218-6223	MH-6218	MH-6223	CONDUIT	11.0	
	0.1545	0.0130				
418	STM-6219-6220	MH-6219	MH-6220	CONDUIT	52.5	
	0.3010	0.0130				
419	STM-6220-6221	MH-6220	MH-6221	CONDUIT	114.5	
	0.1502	0.0130				
420	STM-6221-6222	MH-6221	MH-6222	CONDUIT	16.0	
	0.1500	0.0130				

421	STM-6222-6223	MH-6222	MH-6223	CONDUIT	46.5
	0.1505	0.0130			
422	STM-6223-HW602	MH-6223	MH-HW602	CONDUIT	24.5
	0.1510	0.0130			
423	STM-6250-6206	MH-6250	MH-6206	CONDUIT	49.0
	0.2510	0.0130			
424	STM-6301-6303	MH-6301	MH-6303	CONDUIT	55.5
	0.3496	0.0130			
425	STM-6302-6303	MH-6302	MH-6303	CONDUIT	21.0
	0.3524	0.0130			
426	STM-6303-6304	MH-6303	MH-6304	CONDUIT	16.0
	0.3500	0.0130			
427	STM-6304-6305	MH-6304	MH-6305	CONDUIT	90.5
	0.2000	0.0130			
428	STM-6305-6306	MH-6305	MH-6306	CONDUIT	122.0
	0.1500	0.0130			
429	STM-6306-6307	MH-6306	MH-6307	CONDUIT	90.0
	0.1500	0.0130			
430	STM-6307-6308	MH-6307	MH-6308	CONDUIT	78.5
	0.1503	0.0130			
431	STM-6308-6309	MH-6308	MH-6309	CONDUIT	12.0
	0.1500	0.0130			
432	STM-6309-6323	MH-6309	MH-6323	CONDUIT	19.5
	0.1487	0.0130			
433	STM-6310-6311	MH-6310	MH-6311	CONDUIT	12.0
	0.3500	0.0130			
434	STM-6311-6312	MH-6311	MH-6312	CONDUIT	82.0
	0.2000	0.0130			
435	STM-6312-6314	MH-6312	MH-6314	CONDUIT	82.0
	0.2000	0.0130			
436	STM-6314-6316	MH-6314	MH-6316	CONDUIT	62.5
	0.1504	0.0130			
437	STM-6315-6316	MH-6315	MH-6316	CONDUIT	45.5
	0.3011	0.0130			
438	STM-6316-6317	MH-6316	MH-6317	CONDUIT	81.5
	0.1497	0.0130			
439	STM-6317-6321	MH-6317	MH-6321	CONDUIT	69.5
	0.1496	0.0130			
440	STM-6318-6319	MH-6318	MH-6319	CONDUIT	118.5
	0.2000	0.0130			
441	STM-6319-6320	MH-6319	MH-6320	CONDUIT	12.0
	0.2000	0.0130			
442	STM-6320-6321	MH-6320	MH-6321	CONDUIT	51.5
	0.1495	0.0130			
443	STM-6321-6322	MH-6321	MH-6322	CONDUIT	15.0
	0.1533	0.0130			
444	STM-6322-6323	MH-6322	MH-6323	CONDUIT	11.5
	0.1478	0.0130			
445	STM-6323-HW603	MH-6323	MH-HW603	CONDUIT	5.5
	0.1455	0.0130			
446	STM-6345-6314	MH-6345	MH-6314	CONDUIT	58.5
	0.1504	0.0130			
447	STM-6346-6345	MH-6346	MH-6345	CONDUIT	68.5
	0.2000	0.0130			
448	STM-6347-6346	MH-6347	MH-6346	CONDUIT	76.5
	0.2693	0.0130			
449	STM-7001-7002	MH-7001	MH-7002	CONDUIT	57.5
	0.3009	0.0130			
450	STM-7002-7003	MH-7002	MH-7003	CONDUIT	98.0
	0.2000	0.0130			
451	STM-7003-7004	MH-7003	MH-7004	CONDUIT	13.5
	0.2000	0.0130			
452	STM-7004-7005	MH-7004	MH-7005	CONDUIT	45.5
	0.1495	0.0130			
453	STM-7005-7008	MH-7005	MH-7008	CONDUIT	13.0
	0.1538	0.0130			

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  STM-7006-7007    MH-7006          MH-7007          CONDUIT           74.5
  0.3007    0.0130
  STM-7007-7008    MH-7007          MH-7008          CONDUIT          112.0
  0.2000    0.0130
  STM-7008-HW701   MH-7008          MH-HW701         CONDUIT           18.5
  0.1514    0.0130


  **********************
  Cross Section Summary
  **********************
                                      Full     Full     Hyd.     Max.   No. of     Full
  Conduit          Shape              Depth     Area     Rad.    Width  Barrels     Flow
  ---------------------------------------------------------------------------------------
  STM-1101-1102    CIRCULAR            0.90     0.64     0.23     0.90        1   809.65
  STM-1102-1103    CIRCULAR            0.97     0.75     0.24     0.97        1   867.36
  STM-1103-1104    CIRCULAR            1.05     0.87     0.26     1.05        1  1056.88
  STM-1104-1105    CIRCULAR            1.05     0.87     0.26     1.05        1  1059.08
  STM-1105-1106    CIRCULAR            1.05     0.87     0.26     1.05        1  1056.61
  STM-1106-HW101   CIRCULAR            1.05     0.87     0.26     1.05        1  1057.67
  STM-1201-1202    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-1202-1204    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-1203-1204    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-1204-1210    CIRCULAR            0.68     0.36     0.17     0.68        1   326.04
  STM-1205-1207    CIRCULAR            0.38     0.11     0.09     0.38        1    96.04
  STM-1206-1207    CIRCULAR            0.30     0.07     0.07     0.30        1    57.21
  STM-1207-1209    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-1208-1209    CIRCULAR            0.38     0.11     0.09     0.38        1    96.04
  STM-1209-1210    CIRCULAR            0.60     0.28     0.15     0.60        1   238.45
  STM-1210-1218    CIRCULAR            0.82     0.53     0.21     0.82        1   556.60
  STM-1211-1213    CIRCULAR            0.30     0.07     0.07     0.30        1    57.25
  STM-1212-1213    CIRCULAR            0.30     0.07     0.07     0.30        1    57.29
  STM-1213-1216    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-1214-1216    CIRCULAR            0.38     0.11     0.09     0.38        1    96.17
  STM-1215-1216    CIRCULAR            0.30     0.07     0.07     0.30        1    57.36
  STM-1216-1217    CIRCULAR            0.60     0.28     0.15     0.60        1   238.14
  STM-1217-1218    CIRCULAR            0.60     0.28     0.15     0.60        1   238.06
  STM-1218-1220    CIRCULAR            0.97     0.75     0.24     0.97        1   869.29
  STM-1219-1220    CIRCULAR            0.38     0.11     0.09     0.38        1    96.04
  STM-1220-1221    CIRCULAR            0.97     0.75     0.24     0.97        1   869.24
  STM-1221-1222    CIRCULAR            0.97     0.75     0.24     0.97        1   869.03
  STM-1222-1223    CIRCULAR            0.97     0.75     0.24     0.97        1   867.00
  STM-1223-1224    CIRCULAR            0.97     0.75     0.24     0.97        1   876.48
  STM-1224-1230    CIRCULAR            0.97     0.75     0.24     0.97        1   871.91
  STM-1227-1228    CIRCULAR            0.60     0.28     0.15     0.60        1   237.66
  STM-1228-1229    CIRCULAR            0.60     0.28     0.15     0.60        1   239.70
  STM-1229-1230    CIRCULAR            0.60     0.28     0.15     0.60        1   235.72
  STM-1230-HW102   CIRCULAR            1.05     0.87     0.26     1.05        1  1057.67
  STM-2101-2102    CIRCULAR            0.30     0.07     0.07     0.30        1    57.15
  STM-2102-2103    CIRCULAR            0.38     0.11     0.09     0.38        1    96.16
  STM-2103-2104    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-2104-2108    CIRCULAR            0.60     0.28     0.15     0.60        1   238.10
  STM-2105-2106    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-2106-2107    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-2107-2108    CIRCULAR            0.60     0.28     0.15     0.60        1   237.46
  STM-2108-2114    CIRCULAR            0.68     0.36     0.17     0.68        1   326.14
  STM-2109-2111    CIRCULAR            0.30     0.07     0.07     0.30        1    57.30
  STM-2110-2111    CIRCULAR            0.30     0.07     0.07     0.30        1    57.41
  STM-2111-2112    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-2112-2113    CIRCULAR            0.60     0.28     0.15     0.60        1   238.41
  STM-2113-2114    CIRCULAR            0.60     0.28     0.15     0.60        1   237.82
  STM-2114-HW201   CIRCULAR            0.82     0.53     0.21     0.82        1   557.72
  STM-2201-2202    CIRCULAR            0.30     0.07     0.07     0.30        1    57.31
  STM-2202-2204    CIRCULAR            0.45     0.16     0.11     0.45        1   127.51
  STM-2203-2204    CIRCULAR            0.30     0.07     0.07     0.30        1    57.21
  STM-2204-2207    CIRCULAR            0.53     0.22     0.13     0.53        1   192.34
```

517	STM-2205-2206	CIRCULAR	0.30	0.07	0.07	0.30	1	57.17
518	STM-2206-2207	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
519	STM-2207-2210	CIRCULAR	0.60	0.28	0.15	0.60	1	238.14
520	STM-2208-2209	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
521	STM-2209-2210	CIRCULAR	0.60	0.28	0.15	0.60	1	238.09
522	STM-2210-2213	CIRCULAR	0.75	0.44	0.19	0.75	1	431.83
523	STM-2211-2212	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
524	STM-2212-2213	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
525	STM-2213-2215	CIRCULAR	0.82	0.53	0.21	0.82	1	556.77
526	STM-2214-2215	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
527	STM-2215-2216	CIRCULAR	0.90	0.64	0.23	0.90	1	700.44
528	STM-2216-2217	CIRCULAR	0.90	0.64	0.23	0.90	1	700.44
529	STM-2217-2218	CIRCULAR	0.90	0.64	0.23	0.90	1	710.11
530	STM-2218-2225	CIRCULAR	0.90	0.64	0.23	0.90	1	698.68
531	STM-2219-2221	CIRCULAR	0.30	0.07	0.07	0.30	1	57.14
532	STM-2220-2221	CIRCULAR	0.30	0.07	0.07	0.30	1	57.30
533	STM-2221-2222	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
534	STM-2222-2223	CIRCULAR	0.60	0.28	0.15	0.60	1	238.07
535	STM-2223-2224	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
536	STM-2224-2225	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
537	STM-2225-HW202	CIRCULAR	0.97	0.75	0.24	0.97	1	868.01
538	STM-2301-2302	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
539	STM-2302-2304	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
540	STM-2303-2304	CIRCULAR	0.30	0.07	0.07	0.30	1	57.48
541	STM-2304-2308	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
542	STM-2305-2306	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
543	STM-2306-2308	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
544	STM-2307-2308	CIRCULAR	0.30	0.07	0.07	0.30	1	57.28
545	STM-2308-2312	CIRCULAR	0.68	0.36	0.17	0.68	1	325.58
546	STM-2309-2310	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
547	STM-2310-2312	CIRCULAR	0.60	0.28	0.15	0.60	1	238.09
548	STM-2311-2312	CIRCULAR	0.30	0.07	0.07	0.30	1	57.34
549	STM-2312-2316	CIRCULAR	0.82	0.53	0.21	0.82	1	556.80
550	STM-2313-2314	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
551	STM-2314-2316	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
552	STM-2315-2316	CIRCULAR	0.30	0.07	0.07	0.30	1	57.34
553	STM-2316-2318	CIRCULAR	0.90	0.64	0.23	0.90	1	702.17
554	STM-2317-2318	CIRCULAR	0.30	0.07	0.07	0.30	1	57.16
555	STM-2317-2323	CIRCULAR	0.30	0.07	0.07	0.30	1	57.38
556	STM-2318-2319	CIRCULAR	0.90	0.64	0.23	0.90	1	700.49
557	STM-2319-2320	CIRCULAR	0.90	0.64	0.23	0.90	1	702.77
558	STM-2320-2321	CIRCULAR	0.90	0.64	0.23	0.90	1	696.07
559	STM-2321-2327	CIRCULAR	0.90	0.64	0.23	0.90	1	698.88
560	STM-2322-2323	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
561	STM-2323-2324	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
562	STM-2324-2325	CIRCULAR	0.60	0.28	0.15	0.60	1	238.06
563	STM-2325-2326	CIRCULAR	0.60	0.28	0.15	0.60	1	239.18
564	STM-2326-2327	CIRCULAR	0.60	0.28	0.15	0.60	1	236.90
565	STM-2327-HW203	CIRCULAR	0.97	0.75	0.24	0.97	1	883.94
566	STM-3101-3102	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
567	STM-3102-3103	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
568	STM-3103-3104	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
569	STM-3104-HW301	CIRCULAR	0.68	0.36	0.17	0.68	1	327.32
570	STM-3105-3107	CIRCULAR	0.30	0.07	0.07	0.30	1	57.18
571	STM-3106-3107	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
572	STM-3107-3108	CIRCULAR	0.60	0.28	0.15	0.60	1	237.99
573	STM-3108-3109	CIRCULAR	0.60	0.28	0.15	0.60	1	239.02
574	STM-3109-3104	CIRCULAR	0.60	0.28	0.15	0.60	1	238.66
575	STM-3150-HW302	CIRCULAR	0.90	0.64	0.23	0.90	1	705.83
576	STM-3201-3202	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
577	STM-3202-3204	CIRCULAR	0.60	0.28	0.15	0.60	1	238.43
578	STM-3203-3204	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
579	STM-3204-3208	CIRCULAR	0.68	0.36	0.17	0.68	1	325.58
580	STM-3205-3206	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
581	STM-3206-3208	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
582	STM-3207-3208	CIRCULAR	0.30	0.07	0.07	0.30	1	57.31

583	STM-3208-3209	CIRCULAR	0.75	0.44	0.19	0.75	1	431.81
584	STM-3209-3210	CIRCULAR	0.82	0.53	0.21	0.82	1	557.18
585	STM-3210-3150	CIRCULAR	0.82	0.53	0.21	0.82	1	564.34
586	STM-3211-3212	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
587	STM-3212-3213	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
588	STM-3213-3214	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
589	STM-3214-3150	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
590	STM-3301-3303	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
591	STM-3302-3303	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
592	STM-3303-3305	CIRCULAR	0.60	0.28	0.15	0.60	1	238.13
593	STM-3304-3305	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
594	STM-3305-3307	CIRCULAR	0.68	0.36	0.17	0.68	1	326.09
595	STM-3306-3307	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
596	STM-3307-3309	CIRCULAR	0.75	0.44	0.19	0.75	1	431.75
597	STM-3308-3309	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
598	STM-3309-3313	CIRCULAR	0.82	0.53	0.21	0.82	1	556.77
599	STM-3310-3311	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
600	STM-3311-3312	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
601	STM-3312-3313	CIRCULAR	0.60	0.28	0.15	0.60	1	238.38
602	STM-3313-3314	CIRCULAR	0.90	0.64	0.23	0.90	1	699.19
603	STM-3314-3319	CIRCULAR	0.90	0.64	0.23	0.90	1	700.08
604	STM-3315-3317	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
605	STM-3316-3317	CIRCULAR	0.30	0.07	0.07	0.30	1	57.30
606	STM-3317-3318	CIRCULAR	0.60	0.28	0.15	0.60	1	238.17
607	STM-3318-3319	CIRCULAR	0.60	0.28	0.15	0.60	1	240.14
608	STM-3319-HW303	CIRCULAR	0.90	0.64	0.23	0.90	1	701.17
609	STM-6101-6106	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
610	STM-6102-6103	CIRCULAR	0.38	0.11	0.09	0.38	1	96.24
611	STM-6103-6101	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
612	STM-6104-6108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.04
613	STM-6106-6107	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
614	STM-6107-6108	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
615	STM-6108-HW601	CIRCULAR	0.60	0.28	0.15	0.60	1	274.61
616	STM-6150-6104	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
617	STM-6152-6150	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
618	STM-6201-6202	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
619	STM-6202-6250	CIRCULAR	0.45	0.16	0.11	0.45	1	142.56
620	STM-6204-6205	CIRCULAR	0.60	0.28	0.15	0.60	1	238.83
621	STM-6205-6206	CIRCULAR	0.60	0.28	0.15	0.60	1	236.80
622	STM-6206-6207	CIRCULAR	0.75	0.44	0.19	0.75	1	431.20
623	STM-6207-6215	CIRCULAR	0.82	0.53	0.21	0.82	1	555.31
624	STM-6210-6213	CIRCULAR	0.30	0.07	0.07	0.30	1	57.25
625	STM-6211-6212	CIRCULAR	0.38	0.11	0.09	0.38	1	96.15
626	STM-6212-6213	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
627	STM-6213-6215	CIRCULAR	0.60	0.28	0.15	0.60	1	238.16
628	STM-6214-6215	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
629	STM-6215-6217	CIRCULAR	0.90	0.64	0.23	0.90	1	702.11
630	STM-6216-6217	CIRCULAR	0.30	0.07	0.07	0.30	1	57.18
631	STM-6217-6218	CIRCULAR	0.97	0.75	0.24	0.97	1	868.01
632	STM-6218-6223	CIRCULAR	0.97	0.75	0.24	0.97	1	881.06
633	STM-6219-6220	CIRCULAR	0.38	0.11	0.09	0.38	1	96.19
634	STM-6220-6221	CIRCULAR	0.60	0.28	0.15	0.60	1	237.99
635	STM-6221-6222	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
636	STM-6222-6223	CIRCULAR	0.60	0.28	0.15	0.60	1	238.25
637	STM-6223-HW602	CIRCULAR	1.05	0.87	0.26	1.05	1	1061.26
638	STM-6250-6206	CIRCULAR	0.45	0.16	0.11	0.45	1	142.85
639	STM-6301-6303	CIRCULAR	0.30	0.07	0.07	0.30	1	57.18
640	STM-6302-6303	CIRCULAR	0.30	0.07	0.07	0.30	1	57.41
641	STM-6303-6304	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21
642	STM-6304-6305	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
643	STM-6305-6306	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
644	STM-6306-6307	CIRCULAR	0.60	0.28	0.15	0.60	1	237.82
645	STM-6307-6308	CIRCULAR	0.68	0.36	0.17	0.68	1	325.92
646	STM-6308-6309	CIRCULAR	0.68	0.36	0.17	0.68	1	325.58
647	STM-6309-6323	CIRCULAR	0.68	0.36	0.17	0.68	1	324.18
648	STM-6310-6311	CIRCULAR	0.30	0.07	0.07	0.30	1	57.21

STM-6311-6312	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6312-6314	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
STM-6314-6316	CIRCULAR	0.68	0.36	0.17	0.68	1	326.01
STM-6315-6316	CIRCULAR	0.38	0.11	0.09	0.38	1	96.21
STM-6316-6317	CIRCULAR	0.75	0.44	0.19	0.75	1	430.76
STM-6317-6321	CIRCULAR	0.75	0.44	0.19	0.75	1	430.68
STM-6318-6319	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6319-6320	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6320-6321	CIRCULAR	0.60	0.28	0.15	0.60	1	237.43
STM-6321-6322	CIRCULAR	0.82	0.53	0.21	0.82	1	562.12
STM-6322-6323	CIRCULAR	0.82	0.53	0.21	0.82	1	551.93
STM-6323-HW603	CIRCULAR	0.97	0.75	0.24	0.97	1	854.76
STM-6345-6314	CIRCULAR	0.60	0.28	0.15	0.60	1	238.16
STM-6346-6345	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-6347-6346	CIRCULAR	0.38	0.11	0.09	0.38	1	90.99
STM-7001-7002	CIRCULAR	0.38	0.11	0.09	0.38	1	96.18
STM-7002-7003	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
STM-7003-7004	CIRCULAR	0.53	0.22	0.13	0.53	1	192.34
STM-7004-7005	CIRCULAR	0.60	0.28	0.15	0.60	1	237.38
STM-7005-7008	CIRCULAR	0.60	0.28	0.15	0.60	1	240.85
STM-7006-7007	CIRCULAR	0.38	0.11	0.09	0.38	1	96.15
STM-7007-7008	CIRCULAR	0.45	0.16	0.11	0.45	1	127.51
STM-7008-HW701	CIRCULAR	0.68	0.36	0.17	0.68	1	327.04

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
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****
Analysis Options
****
Flow Units ..... LPS
Process Models:
  Rainfall/Runoff ..... NO
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... NO
  Water Quality ..... NO
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 02/16/2021 00:00:00
Ending Date 02/16/2021 02:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Routing Time Step ..... 0.50 sec
Variable Time Step ..... YES
Maximum Trials 41
Number of Threads 6
Head Tolerance ..... 0.000010 m

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.000	0.000
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	4.777	47.769
External Outflow	4.777	47.769

```
  Flooding Loss ............          0.000          0.000
  Evaporation Loss .........          0.000          0.000
  Exfiltration Loss ........          0.000          0.000
  Initial Stored Volume ....          0.332          3.318
  Final Stored Volume ......          0.332          3.318
  Continuity Error (%) .....          0.000


  ***************************
  Time-Step Critical Elements
  ***************************
  None


  *******************************
  Highest Flow Instability Indexes
  *******************************
  All links are stable.


  *************************
  Routing Time Step Summary
  *************************
  Minimum Time Step           :     0.40 sec
  Average Time Step           :     0.50 sec
  Maximum Time Step           :     0.50 sec
  Percent in Steady State     :     0.00
  Average Iterations per Step :    41.00
  Percent Not Converging      :   100.00
  Time Step Frequencies       :
      0.500 -  0.362 sec      :   100.00 %
      0.362 -  0.263 sec      :     0.00 %
      0.263 -  0.190 sec      :     0.00 %
      0.190 -  0.138 sec      :     0.00 %
      0.138 -  0.100 sec      :     0.00 %


  ******************
  Node Depth Summary
  ******************

  ------------------------------------------------------------------------------
                                Average  Maximum  Maximum  Time of Max    Reported
                                  Depth    Depth      HGL   Occurrence   Max Depth
  Node                  Type      Meters   Meters   Meters  days hr:min      Meters
  ------------------------------------------------------------------------------
  MH-1101               JUNCTION    1.51     1.51    92.37     0  01:44        1.51
  MH-1102               JUNCTION    1.67     1.67    92.25     0  01:22        1.67
  MH-1103               JUNCTION    1.80     1.81    92.15     0  00:31        1.81
  MH-1104               JUNCTION    1.91     1.91    92.07     0  00:18        1.91
  MH-1105               JUNCTION    2.00     2.01    91.96     0  01:25        2.00
  MH-1106               JUNCTION    2.07     2.07    91.83     0  01:24        2.07
  MH-1201               JUNCTION    1.06     1.06    92.50     0  00:05        1.06
  MH-1202               JUNCTION    1.25     1.25    92.38     0  01:19        1.25
  MH-1203               JUNCTION    1.10     1.10    92.50     0  00:40        1.10
  MH-1204               JUNCTION    1.50     1.50    92.34     0  00:51        1.50
  MH-1205               JUNCTION    1.00     1.01    92.50     0  01:29        1.01
  MH-1206               JUNCTION    0.95     0.95    92.43     0  00:24        0.95
  MH-1207               JUNCTION    1.23     1.23    92.43     0  00:55        1.23
  MH-1208               JUNCTION    1.07     1.07    92.48     0  01:59        1.07
  MH-1209               JUNCTION    1.44     1.44    92.36     0  00:28        1.44
  MH-1210               JUNCTION    1.70     1.70    92.30     0  01:47        1.70
  MH-1211               JUNCTION    0.94     0.94    92.51     0  00:27        0.94
  MH-1212               JUNCTION    0.88     0.88    92.39     0  01:19        0.88
  MH-1213               JUNCTION    1.17     1.17    92.38     0  01:53        1.17
  MH-1214               JUNCTION    1.01     1.01    92.42     0  01:19        1.01
```

781	MH-1215	JUNCTION	0.94	0.94	92.36	0	01:19	0.94
782	MH-1216	JUNCTION	1.42	1.42	92.35	0	00:30	1.42
783	MH-1217	JUNCTION	1.53	1.53	92.31	0	00:27	1.53
784	MH-1218	JUNCTION	1.91	1.91	92.19	0	00:51	1.91
785	MH-1219	JUNCTION	1.11	1.11	92.22	0	01:20	1.11
786	MH-1220	JUNCTION	1.97	1.97	92.15	0	01:05	1.97
787	MH-1221	JUNCTION	2.03	2.03	92.09	0	00:54	2.03
788	MH-1222	JUNCTION	2.08	2.08	92.02	0	00:09	2.08
789	MH-1223	JUNCTION	2.15	2.15	91.93	0	00:06	2.15
790	MH-1224	JUNCTION	2.19	2.19	91.88	0	01:15	2.19
791	MH-1227	JUNCTION	1.25	1.25	91.86	0	01:17	1.25
792	MH-1228	JUNCTION	1.42	1.42	91.81	0	01:28	1.42
793	MH-1229	JUNCTION	1.46	1.46	91.80	0	01:23	1.46
794	MH-1230	JUNCTION	2.23	2.23	91.78	0	01:26	2.23
795	MH-2101	JUNCTION	1.03	1.03	92.04	0	01:39	1.03
796	MH-2102	JUNCTION	1.22	1.22	92.03	0	00:44	1.22
797	MH-2103	JUNCTION	1.43	1.43	91.97	0	01:08	1.43
798	MH-2104	JUNCTION	1.65	1.65	91.89	0	01:59	1.65
799	MH-2105	JUNCTION	1.13	1.14	92.05	0	01:24	1.14
800	MH-2106	JUNCTION	1.26	1.26	91.90	0	01:24	1.26
801	MH-2107	JUNCTION	1.41	1.41	91.87	0	00:22	1.41
802	MH-2108	JUNCTION	1.78	1.78	91.85	0	01:46	1.78
803	MH-2109	JUNCTION	0.93	0.93	91.92	0	00:00	0.93
804	MH-2110	JUNCTION	0.93	0.93	91.87	0	00:00	0.93
805	MH-2111	JUNCTION	1.20	1.20	91.86	0	00:28	1.20
806	MH-2112	JUNCTION	1.43	1.43	91.81	0	00:00	1.43
807	MH-2113	JUNCTION	1.56	1.56	91.78	0	01:01	1.56
808	MH-2114	JUNCTION	1.93	1.93	91.77	0	00:57	1.93
809	MH-2201	JUNCTION	0.76	0.76	92.27	0	01:24	0.76
810	MH-2202	JUNCTION	1.02	1.02	92.23	0	01:36	1.02
811	MH-2203	JUNCTION	0.83	0.83	92.18	0	01:35	0.83
812	MH-2204	JUNCTION	1.18	1.19	92.17	0	01:58	1.19
813	MH-2205	JUNCTION	0.84	0.84	92.26	0	01:36	0.84
814	MH-2206	JUNCTION	1.08	1.08	92.20	0	00:33	1.08
815	MH-2207	JUNCTION	1.35	1.35	92.13	0	01:41	1.35
816	MH-2208	JUNCTION	1.05	1.05	92.19	0	00:46	1.05
817	MH-2209	JUNCTION	1.28	1.28	92.13	0	01:52	1.28
818	MH-2210	JUNCTION	1.52	1.52	92.06	0	01:06	1.52
819	MH-2211	JUNCTION	1.08	1.08	92.19	0	00:25	1.08
820	MH-2212	JUNCTION	1.28	1.28	92.11	0	00:31	1.28
821	MH-2213	JUNCTION	1.70	1.70	92.00	0	00:00	1.70
822	MH-2214	JUNCTION	1.01	1.01	91.95	0	01:47	1.01
823	MH-2215	JUNCTION	1.80	1.80	91.94	0	00:24	1.80
824	MH-2216	JUNCTION	1.88	1.89	91.89	0	00:22	1.88
825	MH-2217	JUNCTION	1.97	1.97	91.83	0	00:57	1.97
826	MH-2218	JUNCTION	2.00	2.00	91.81	0	00:51	2.00
827	MH-2219	JUNCTION	1.03	1.03	91.95	0	00:49	1.03
828	MH-2220	JUNCTION	1.01	1.01	91.94	0	00:49	1.01
829	MH-2221	JUNCTION	1.26	1.26	91.93	0	00:42	1.26
830	MH-2222	JUNCTION	1.49	1.49	91.85	0	01:58	1.49
831	MH-2223	JUNCTION	1.62	1.62	91.80	0	00:57	1.62
832	MH-2224	JUNCTION	1.69	1.69	91.78	0	01:06	1.69
833	MH-2225	JUNCTION	2.07	2.07	91.75	0	01:56	2.07
834	MH-2301	JUNCTION	1.05	1.05	92.42	0	01:26	1.05
835	MH-2302	JUNCTION	1.28	1.28	92.36	0	00:28	1.28
836	MH-2303	JUNCTION	1.01	1.01	92.27	0	01:24	1.01
837	MH-2304	JUNCTION	1.39	1.39	92.26	0	00:28	1.39
838	MH-2305	JUNCTION	1.08	1.08	92.29	0	01:53	1.08
839	MH-2306	JUNCTION	1.26	1.26	92.25	0	00:28	1.26
840	MH-2307	JUNCTION	0.94	0.94	92.20	0	00:53	0.94
841	MH-2308	JUNCTION	1.66	1.66	92.18	0	01:22	1.66
842	MH-2309	JUNCTION	1.17	1.17	92.28	0	00:48	1.17
843	MH-2310	JUNCTION	1.38	1.39	92.21	0	00:23	1.38
844	MH-2311	JUNCTION	1.09	1.09	92.20	0	01:43	1.09
845	MH-2312	JUNCTION	1.85	1.85	92.13	0	00:05	1.85
846	MH-2313	JUNCTION	1.17	1.17	92.19	0	00:28	1.17

847	MH-2314	JUNCTION	1.35	1.35	92.14	0	00:10	1.35
848	MH-2315	JUNCTION	1.10	1.10	92.10	0	01:36	1.10
849	MH-2316	JUNCTION	1.96	1.96	92.08	0	01:22	1.96
850	MH-2317	JUNCTION	1.06	1.06	91.98	0	01:32	1.06
851	MH-2318	JUNCTION	2.01	2.01	92.02	0	01:35	2.01
852	MH-2319	JUNCTION	2.08	2.08	91.94	0	00:40	2.08
853	MH-2320	JUNCTION	2.14	2.14	91.86	0	00:40	2.14
854	MH-2321	JUNCTION	2.16	2.16	91.83	0	00:25	2.16
855	MH-2322	JUNCTION	1.03	1.04	91.96	0	01:59	1.04
856	MH-2323	JUNCTION	1.27	1.27	91.95	0	00:07	1.27
857	MH-2324	JUNCTION	1.49	1.49	91.86	0	00:14	1.49
858	MH-2325	JUNCTION	1.62	1.62	91.80	0	00:36	1.62
859	MH-2326	JUNCTION	1.68	1.68	91.79	0	00:25	1.68
860	MH-2327	JUNCTION	2.20	2.20	91.75	0	01:22	2.20
861	MH-3101	JUNCTION	1.20	1.20	91.94	0	01:32	1.20
862	MH-3102	JUNCTION	1.46	1.46	91.91	0	00:41	1.46
863	MH-3103	JUNCTION	1.57	1.57	91.78	0	01:44	1.57
864	MH-3104	JUNCTION	1.92	1.92	91.76	0	01:05	1.92
865	MH-3105	JUNCTION	1.16	1.16	91.97	0	00:15	1.16
866	MH-3106	JUNCTION	1.08	1.08	91.92	0	00:53	1.08
867	MH-3107	JUNCTION	1.59	1.59	91.89	0	01:35	1.59
868	MH-3108	JUNCTION	1.76	1.76	91.83	0	00:03	1.76
869	MH-3109	JUNCTION	1.83	1.83	91.81	0	01:51	1.83
870	MH-3150	JUNCTION	1.90	1.90	91.73	0	00:07	1.90
871	MH-3201	JUNCTION	1.09	1.09	92.04	0	00:30	1.09
872	MH-3202	JUNCTION	1.31	1.31	91.98	0	01:20	1.31
873	MH-3203	JUNCTION	1.11	1.11	92.00	0	01:17	1.11
874	MH-3204	JUNCTION	1.44	1.44	91.91	0	00:45	1.44
875	MH-3205	JUNCTION	1.10	1.10	92.03	0	01:35	1.10
876	MH-3206	JUNCTION	1.30	1.30	91.96	0	01:24	1.30
877	MH-3207	JUNCTION	1.02	1.02	91.88	0	01:51	1.02
878	MH-3208	JUNCTION	1.63	1.63	91.86	0	01:55	1.63
879	MH-3209	JUNCTION	1.73	1.73	91.80	0	00:23	1.73
880	MH-3210	JUNCTION	1.82	1.82	91.74	0	00:15	1.82
881	MH-3211	JUNCTION	1.20	1.20	91.90	0	00:34	1.20
882	MH-3212	JUNCTION	1.34	1.34	91.80	0	00:33	1.34
883	MH-3213	JUNCTION	1.42	1.42	91.79	0	01:31	1.42
884	MH-3214	JUNCTION	1.52	1.52	91.75	0	01:23	1.52
885	MH-3301	JUNCTION	1.14	1.14	92.15	0	01:02	1.14
886	MH-3302	JUNCTION	1.04	1.04	92.20	0	01:47	1.04
887	MH-3303	JUNCTION	1.43	1.43	92.07	0	01:56	1.43
888	MH-3304	JUNCTION	1.12	1.12	92.12	0	01:35	1.12
889	MH-3305	JUNCTION	1.55	1.55	92.02	0	00:24	1.55
890	MH-3306	JUNCTION	1.16	1.16	92.11	0	01:20	1.16
891	MH-3307	JUNCTION	1.66	1.67	91.98	0	01:40	1.67
892	MH-3308	JUNCTION	1.25	1.25	92.06	0	01:47	1.25
893	MH-3309	JUNCTION	1.79	1.79	91.93	0	00:38	1.79
894	MH-3310	JUNCTION	1.10	1.11	91.99	0	01:05	1.10
895	MH-3311	JUNCTION	1.26	1.26	91.94	0	00:28	1.26
896	MH-3312	JUNCTION	1.47	1.47	91.89	0	01:49	1.47
897	MH-3313	JUNCTION	1.87	1.88	91.86	0	00:20	1.87
898	MH-3314	JUNCTION	1.92	1.92	91.80	0	01:30	1.92
899	MH-3315	JUNCTION	1.04	1.04	91.90	0	00:06	1.04
900	MH-3316	JUNCTION	1.01	1.01	91.84	0	01:06	1.01
901	MH-3317	JUNCTION	1.46	1.46	91.79	0	00:07	1.46
902	MH-3318	JUNCTION	1.63	1.63	91.73	0	01:58	1.63
903	MH-3319	JUNCTION	1.98	1.98	91.72	0	00:51	1.98
904	MH-6101	JUNCTION	1.71	1.71	92.05	0	01:43	1.71
905	MH-6102	JUNCTION	1.38	1.38	92.20	0	01:20	1.38
906	MH-6103	JUNCTION	1.60	1.60	92.15	0	01:38	1.60
907	MH-6104	JUNCTION	1.50	1.50	91.97	0	01:50	1.50
908	MH-6106	JUNCTION	1.78	1.78	92.00	0	01:20	1.78
909	MH-6107	JUNCTION	1.81	1.81	91.99	0	01:57	1.81
910	MH-6108	JUNCTION	1.87	1.87	91.93	0	01:20	1.87
911	MH-6150	JUNCTION	1.41	1.41	92.03	0	01:34	1.41
912	MH-6152	JUNCTION	1.28	1.28	92.10	0	00:41	1.28

913	MH-6201	JUNCTION	1.10	1.10	92.33	0	00:24	1.10
914	MH-6202	JUNCTION	1.17	1.17	92.28	0	00:00	1.17
915	MH-6204	JUNCTION	1.17	1.17	92.10	0	01:59	1.17
916	MH-6205	JUNCTION	1.26	1.26	92.10	0	00:13	1.26
917	MH-6206	JUNCTION	1.55	1.55	92.10	0	00:10	1.55
918	MH-6207	JUNCTION	1.73	1.73	92.07	0	01:34	1.73
919	MH-6210	JUNCTION	1.00	1.00	92.14	0	00:10	1.00
920	MH-6211	JUNCTION	1.12	1.12	92.32	0	00:26	1.12
921	MH-6212	JUNCTION	1.31	1.31	92.21	0	01:21	1.31
922	MH-6213	JUNCTION	1.47	1.47	92.09	0	00:04	1.47
923	MH-6214	JUNCTION	1.22	1.22	92.19	0	01:35	1.22
924	MH-6215	JUNCTION	1.88	1.88	92.04	0	00:54	1.88
925	MH-6216	JUNCTION	1.20	1.20	92.16	0	00:38	1.20
926	MH-6217	JUNCTION	1.99	1.99	91.99	0	00:59	1.99
927	MH-6218	JUNCTION	2.10	2.10	91.91	0	01:20	2.10
928	MH-6219	JUNCTION	1.13	1.14	92.09	0	01:36	1.13
929	MH-6220	JUNCTION	1.45	1.45	92.02	0	01:51	1.45
930	MH-6221	JUNCTION	1.62	1.62	91.96	0	00:12	1.62
931	MH-6222	JUNCTION	1.68	1.69	91.94	0	00:58	1.69
932	MH-6223	JUNCTION	2.17	2.17	91.89	0	00:31	2.17
933	MH-6250	JUNCTION	1.24	1.24	92.21	0	00:57	1.24
934	MH-6301	JUNCTION	0.86	0.86	92.29	0	00:00	0.86
935	MH-6302	JUNCTION	0.87	0.88	92.25	0	00:27	0.88
936	MH-6303	JUNCTION	1.04	1.04	92.24	0	01:05	1.04
937	MH-6304	JUNCTION	1.22	1.22	92.22	0	00:43	1.22
938	MH-6305	JUNCTION	1.44	1.45	92.12	0	01:38	1.44
939	MH-6306	JUNCTION	1.57	1.57	92.04	0	01:48	1.57
940	MH-6307	JUNCTION	1.69	1.70	91.95	0	01:14	1.70
941	MH-6308	JUNCTION	1.81	1.81	91.89	0	01:14	1.81
942	MH-6309	JUNCTION	1.87	1.87	91.87	0	00:29	1.87
943	MH-6310	JUNCTION	0.90	0.90	92.20	0	01:23	0.90
944	MH-6311	JUNCTION	1.08	1.08	92.19	0	01:29	1.08
945	MH-6312	JUNCTION	1.27	1.27	92.14	0	00:53	1.27
946	MH-6314	JUNCTION	1.53	1.53	92.08	0	01:49	1.53
947	MH-6315	JUNCTION	1.11	1.11	92.08	0	00:05	1.11
948	MH-6316	JUNCTION	1.65	1.65	92.02	0	00:11	1.65
949	MH-6317	JUNCTION	1.72	1.72	91.96	0	00:57	1.72
950	MH-6318	JUNCTION	1.24	1.25	92.10	0	01:15	1.25
951	MH-6319	JUNCTION	1.36	1.36	91.95	0	00:19	1.36
952	MH-6320	JUNCTION	1.51	1.51	91.92	0	01:01	1.51
953	MH-6321	JUNCTION	1.84	1.84	91.89	0	00:49	1.84
954	MH-6322	JUNCTION	1.86	1.86	91.86	0	01:27	1.86
955	MH-6323	JUNCTION	2.16	2.16	91.84	0	00:05	2.16
956	MH-6345	JUNCTION	1.40	1.40	92.11	0	01:12	1.40
957	MH-6346	JUNCTION	1.24	1.24	92.24	0	01:46	1.24
958	MH-6347	JUNCTION	1.07	1.07	92.34	0	00:57	1.07
959	MH-7001	JUNCTION	0.65	0.65	91.89	0	00:52	0.65
960	MH-7002	JUNCTION	0.93	0.93	91.85	0	01:12	0.93
961	MH-7003	JUNCTION	1.11	1.11	91.77	0	01:38	1.11
962	MH-7004	JUNCTION	1.20	1.20	91.75	0	00:18	1.20
963	MH-7005	JUNCTION	1.27	1.27	91.73	0	00:44	1.27
964	MH-7006	JUNCTION	0.77	0.77	91.95	0	01:23	0.77
965	MH-7007	JUNCTION	1.00	1.00	91.89	0	00:24	1.00
966	MH-7008	JUNCTION	1.36	1.36	91.72	0	00:00	1.36
967	MH-HW101	OUTFALL	2.11	2.11	91.78	0	00:00	2.11
968	MH-HW102	OUTFALL	2.23	2.23	91.78	0	00:00	2.23
969	MH-HW201	OUTFALL	1.95	1.95	91.75	0	00:00	1.95
970	MH-HW202	OUTFALL	2.07	2.07	91.75	0	00:00	2.07
971	MH-HW203	OUTFALL	2.20	2.20	91.75	0	00:00	2.20
972	MH-HW301	OUTFALL	1.94	1.94	91.73	0	00:00	1.94
973	MH-HW302	OUTFALL	1.92	1.92	91.71	0	00:00	1.92
974	MH-HW303	OUTFALL	1.99	1.99	91.71	0	00:00	1.99
975	MH-HW601	OUTFALL	1.88	1.88	91.89	0	00:00	1.88
976	MH-HW602	OUTFALL	2.19	2.19	91.87	0	00:00	2.19
977	MH-HW603	OUTFALL	2.16	2.16	91.83	0	00:00	2.16
978	MH-HW701	OUTFALL	1.37	1.37	91.71	0	00:00	1.37

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Node Inflow Summary
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Node	Type	Maximum Total Lateral Inflow Volume LPS	Maximum Flow Total Lateral Inflow LPS	Time of Max Occurrence days hr:min	Inflow Balance Error Volume 10^6 ltr	Lateral Inflow Volume 10^6 ltr	Percent
MH-1101	JUNCTION	616.67	616.67	0 00:00	4.44	4.44	-0.000
MH-1102	JUNCTION	57.02	673.68	0 01:48	0.411	4.85	-0.000
MH-1103	JUNCTION	74.56	748.25	0 00:57	0.537	5.39	0.000
MH-1104	JUNCTION	58.77	807.02	0 01:39	0.423	5.81	0.000
MH-1105	JUNCTION	5.26	812.28	0 01:09	0.0379	5.85	-0.000
MH-1106	JUNCTION	0.00	812.28	0 00:47	0	5.85	-0.000
MH-1201	JUNCTION	81.99	81.99	0 00:00	0.59	0.59	-0.000
MH-1202	JUNCTION	15.91	97.90	0 00:55	0.115	0.705	-0.000
MH-1203	JUNCTION	92.99	92.99	0 00:00	0.67	0.67	0.000
MH-1204	JUNCTION	21.09	211.97	0 00:56	0.152	1.53	-0.000
MH-1205	JUNCTION	49.96	49.96	0 00:00	0.36	0.36	-0.000
MH-1206	JUNCTION	12.49	12.49	0 00:00	0.0899	0.0899	0.000
MH-1207	JUNCTION	27.09	89.55	0 00:21	0.195	0.645	0.000
MH-1208	JUNCTION	62.45	62.45	0 00:00	0.45	0.45	-0.000
MH-1209	JUNCTION	3.23	155.23	0 01:31	0.0233	1.12	0.000
MH-1210	JUNCTION	61.44	428.64	0 01:19	0.442	3.09	-0.000
MH-1211	JUNCTION	40.25	40.25	0 00:00	0.29	0.29	-0.000
MH-1212	JUNCTION	15.27	15.27	0 00:00	0.11	0.11	-0.000
MH-1213	JUNCTION	8.65	64.17	0 00:17	0.0623	0.462	-0.000
MH-1214	JUNCTION	49.96	49.96	0 00:00	0.36	0.36	-0.000
MH-1215	JUNCTION	15.27	15.27	0 00:00	0.11	0.11	-0.000
MH-1216	JUNCTION	0.00	129.40	0 01:00	0	0.932	0.000
MH-1217	JUNCTION	68.00	197.40	0 00:57	0.49	1.42	0.000

1014	MH-1218	JUNCTION	0.00	626.04	0	01:19	0	4.51	0.000
1015	MH-1219	JUNCTION	49.96	49.96	0	00:00	0.36	0.36	0.000
1016	MH-1220	JUNCTION	0.00	676.00	0	01:19	0	4.87	-0.000
1017	MH-1221	JUNCTION	9.00	685.00	0	01:47	0.0648	4.93	0.000
1018	MH-1222	JUNCTION	17.73	702.74	0	00:27	0.128	5.06	-0.000
1019	MH-1223	JUNCTION	0.00	702.74	0	00:27	0	5.06	-0.000
1020	MH-1224	JUNCTION	0.00	702.74	0	00:15	0	5.06	0.000
1021	MH-1227	JUNCTION	124.69	124.69	0	00:00	0.898	0.898	0.000
1022	MH-1228	JUNCTION	0.00	124.69	0	00:26	0	0.898	-0.000
1023	MH-1229	JUNCTION	0.00	124.70	0	01:51	0	0.898	0.000
1024	MH-1230	JUNCTION	0.00	827.44	0	01:54	0	5.96	-0.000
1025	MH-2101	JUNCTION	18.04	18.04	0	00:00	0.13	0.13	0.000
1026	MH-2102	JUNCTION	30.17	48.21	0	01:35	0.217	0.347	0.000
1027	MH-2103	JUNCTION	42.86	91.07	0	01:30	0.309	0.656	-0.000
1028	MH-2104	JUNCTION	37.21	128.28	0	01:32	0.268	0.924	-0.000
1029	MH-2105	JUNCTION	97.15	97.15	0	00:00	0.699	0.699	0.000
1030	MH-2106	JUNCTION	3.87	101.02	0	01:17	0.0279	0.727	0.000
1031	MH-2107	JUNCTION	23.19	124.22	0	00:35	0.167	0.894	-0.000
1032	MH-2108	JUNCTION	3.65	256.15	0	01:32	0.0263	1.84	-0.000
1033	MH-2109	JUNCTION	29.15	29.15	0	00:00	0.21	0.21	0.000
1034	MH-2110	JUNCTION	0.00	0.03	0	00:00	0	6.36e-05	0.004
1035	MH-2111	JUNCTION	48.83	78.00	0	00:00	0.352	0.561	0.000
1036	MH-2112	JUNCTION	43.68	121.66	0	01:01	0.315	0.876	-0.000
1037	MH-2113	JUNCTION	8.65	130.31	0	00:00	0.0623	0.938	0.000
1038	MH-2114	JUNCTION	0.00	386.45	0	01:31	0	2.78	0.000
1039	MH-2201	JUNCTION	30.53	30.53	0	00:00	0.22	0.22	0.000
1040	MH-2202	JUNCTION	38.59	69.12	0	01:40	0.278	0.498	0.000
1041	MH-2203	JUNCTION	12.49	12.49	0	00:00	0.0899	0.0899	-0.000
1042	MH-2204	JUNCTION	27.57	109.19	0	01:14	0.199	0.786	-0.000
1043	MH-2205	JUNCTION	36.08	36.08	0	00:00	0.26	0.26	-0.000
1044	MH-2206	JUNCTION	39.65	75.73	0	01:57	0.285	0.545	0.000
1045	MH-2207	JUNCTION	15.51	200.43	0	01:36	0.112	1.44	0.000
1046	MH-2208	JUNCTION	84.72	84.72	0	00:00	0.61	0.61	-0.000

1047	MH-2209	JUNCTION	73.47	158.20	0	00:29	0.529	1.14	0.000
1048	MH-2210	JUNCTION	0.00	358.63	0	01:59	0	2.58	-0.000
1049	MH-2211	JUNCTION	61.07	61.07	0	00:00	0.44	0.44	0.000
1050	MH-2212	JUNCTION	35.14	96.21	0	01:05	0.253	0.693	-0.000
1051	MH-2213	JUNCTION	0.00	454.84	0	01:22	0	3.27	0.000
1052	MH-2214	JUNCTION	11.10	11.10	0	00:00	0.0799	0.0799	-0.000
1053	MH-2215	JUNCTION	2.00	467.94	0	01:36	0.0144	3.37	-0.000
1054	MH-2216	JUNCTION	0.00	467.94	0	01:28	0	3.37	0.000
1055	MH-2217	JUNCTION	0.00	467.94	0	01:59	0	3.37	-0.000
1056	MH-2218	JUNCTION	0.00	467.94	0	00:47	0	3.37	0.000
1057	MH-2219	JUNCTION	22.21	22.21	0	00:00	0.16	0.16	-0.000
1058	MH-2220	JUNCTION	13.88	13.88	0	00:00	0.0999	0.0999	0.000
1059	MH-2221	JUNCTION	55.52	91.60	0	00:07	0.4	0.66	0.000
1060	MH-2222	JUNCTION	51.85	143.45	0	01:26	0.373	1.03	-0.000
1061	MH-2223	JUNCTION	0.00	143.45	0	01:26	0	1.03	-0.000
1062	MH-2224	JUNCTION	0.00	143.45	0	00:21	0	1.03	-0.000
1063	MH-2225	JUNCTION	0.00	611.40	0	00:19	0	4.4	0.000
1064	MH-2301	JUNCTION	49.96	49.96	0	00:00	0.36	0.36	-0.000
1065	MH-2302	JUNCTION	39.66	89.63	0	00:56	0.286	0.645	0.000
1066	MH-2303	JUNCTION	9.72	9.72	0	00:00	0.0699	0.0699	-0.000
1067	MH-2304	JUNCTION	3.77	103.11	0	01:24	0.0271	0.742	0.000
1068	MH-2305	JUNCTION	69.39	69.39	0	00:00	0.5	0.5	-0.000
1069	MH-2306	JUNCTION	43.01	112.40	0	00:27	0.31	0.809	0.000
1070	MH-2307	JUNCTION	22.21	22.21	0	00:00	0.16	0.16	0.000
1071	MH-2308	JUNCTION	0.00	237.72	0	01:08	0	1.71	0.000
1072	MH-2309	JUNCTION	94.14	94.14	0	00:00	0.678	0.678	0.000
1073	MH-2310	JUNCTION	70.61	164.75	0	01:23	0.508	1.19	-0.000
1074	MH-2311	JUNCTION	37.66	37.66	0	00:00	0.271	0.271	-0.000
1075	MH-2312	JUNCTION	0.00	440.13	0	01:25	0	3.17	-0.000
1076	MH-2313	JUNCTION	69.39	69.39	0	00:00	0.5	0.5	-0.000
1077	MH-2314	JUNCTION	42.96	112.35	0	01:33	0.309	0.809	-0.000
1078	MH-2315	JUNCTION	24.98	24.98	0	00:00	0.18	0.18	0.000
1079	MH-2316	JUNCTION	0.00	577.46	0	00:28	0	4.16	0.000

1080	MH-2317	JUNCTION	0.00	25.71	0	01:00	0	
	0.185	0.000						
1081	MH-2318	JUNCTION	0.00	577.46	0	00:28	0	
	4.16	-0.000						
1082	MH-2319	JUNCTION	0.00	551.75	0	00:51	0	
	3.97	0.000						
1083	MH-2320	JUNCTION	0.00	551.75	0	01:48	0	
	3.97	0.000						
1084	MH-2321	JUNCTION	0.00	551.75	0	00:51	0	
	3.97	-0.000						
1085	MH-2322	JUNCTION	12.49	12.49	0	00:00	0.0899	
	0.0899	0.000						
1086	MH-2323	JUNCTION	57.56	95.76	0	01:00	0.414	
	0.689	-0.000						
1087	MH-2324	JUNCTION	53.73	149.49	0	01:00	0.387	
	1.08	0.000						
1088	MH-2325	JUNCTION	0.00	149.49	0	01:00	0	
	1.08	0.000						
1089	MH-2326	JUNCTION	0.00	149.50	0	01:00	0	
	1.08	-0.000						
1090	MH-2327	JUNCTION	0.00	701.24	0	01:10	0	
	5.05	-0.000						
1091	MH-3101	JUNCTION	24.98	24.98	0	00:00	0.18	
	0.18	-0.000						
1092	MH-3102	JUNCTION	72.15	97.13	0	00:11	0.519	
	0.699	0.000						
1093	MH-3103	JUNCTION	1.97	99.10	0	01:38	0.0142	
	0.714	-0.000						
1094	MH-3104	JUNCTION	0.00	259.01	0	01:44	0	
	1.86	-0.000						
1095	MH-3105	JUNCTION	31.92	31.92	0	00:00	0.23	
	0.23	-0.000						
1096	MH-3106	JUNCTION	23.59	23.59	0	00:00	0.17	
	0.17	-0.000						
1097	MH-3107	JUNCTION	77.93	133.44	0	00:28	0.561	
	0.961	-0.000						
1098	MH-3108	JUNCTION	8.50	141.94	0	00:32	0.0612	
	1.02	-0.000						
1099	MH-3109	JUNCTION	17.97	159.91	0	00:32	0.129	
	1.15	0.000						
1100	MH-3150	JUNCTION	0.00	499.58	0	01:25	0	
	3.6	-0.000						
1101	MH-3201	JUNCTION	86.61	86.61	0	00:00	0.624	
	0.624	-0.000						
1102	MH-3202	JUNCTION	79.10	165.71	0	01:18	0.57	
	1.19	-0.000						
1103	MH-3203	JUNCTION	79.08	79.08	0	00:00	0.569	
	0.569	0.000						
1104	MH-3204	JUNCTION	0.00	244.79	0	00:05	0	
	1.76	0.000						
1105	MH-3205	JUNCTION	55.51	55.51	0	00:00	0.4	
	0.4	0.000						
1106	MH-3206	JUNCTION	42.51	98.03	0	01:36	0.306	
	0.706	0.000						
1107	MH-3207	JUNCTION	19.43	19.43	0	00:00	0.14	
	0.14	-0.000						
1108	MH-3208	JUNCTION	0.00	362.25	0	01:00	0	
	2.61	-0.000						
1109	MH-3209	JUNCTION	24.00	386.25	0	01:02	0.173	
	2.78	-0.000						
1110	MH-3210	JUNCTION	3.94	390.19	0	00:17	0.0284	
	2.81	0.000						
1111	MH-3211	JUNCTION	86.05	86.05	0	00:00	0.62	
	0.62	-0.000						
1112	MH-3212	JUNCTION	1.81	87.86	0	00:24	0.013	
	0.633	0.000						

1113	MH-3213	JUNCTION	21.54	109.40	0	00:09	0.155	
	0.788	-0.000						
1114	MH-3214	JUNCTION	0.00	109.40	0	00:09	0	
	0.788	0.000						
1115	MH-3301	JUNCTION	116.58	116.58	0	00:00	0.839	
	0.839	-0.000						
1116	MH-3302	JUNCTION	40.25	40.25	0	00:00	0.29	
	0.29	0.000						
1117	MH-3303	JUNCTION	15.60	172.43	0	00:17	0.112	
	1.24	-0.000						
1118	MH-3304	JUNCTION	58.29	58.29	0	00:00	0.42	
	0.42	0.000						
1119	MH-3305	JUNCTION	5.63	236.35	0	00:10	0.0405	
	1.7	-0.000						
1120	MH-3306	JUNCTION	62.45	62.45	0	00:00	0.45	
	0.45	-0.000						
1121	MH-3307	JUNCTION	0.00	298.80	0	00:58	0	
	2.15	0.000						
1122	MH-3308	JUNCTION	88.82	88.82	0	00:00	0.64	
	0.64	0.000						
1123	MH-3309	JUNCTION	0.00	387.63	0	01:29	0	
	2.79	-0.000						
1124	MH-3310	JUNCTION	67.78	67.78	0	00:00	0.488	
	0.488	0.000						
1125	MH-3311	JUNCTION	18.47	86.25	0	01:57	0.133	
	0.621	0.000						
1126	MH-3312	JUNCTION	40.95	127.20	0	01:34	0.295	
	0.916	0.000						
1127	MH-3313	JUNCTION	0.00	514.82	0	00:20	0	
	3.71	-0.000						
1128	MH-3314	JUNCTION	0.00	514.82	0	01:05	0	
	3.71	-0.000						
1129	MH-3315	JUNCTION	36.08	36.08	0	00:00	0.26	
	0.26	-0.000						
1130	MH-3316	JUNCTION	26.37	26.37	0	00:00	0.19	
	0.19	-0.000						
1131	MH-3317	JUNCTION	67.00	129.45	0	00:14	0.482	
	0.932	0.000						
1132	MH-3318	JUNCTION	0.00	129.45	0	01:40	0	
	0.932	0.000						
1133	MH-3319	JUNCTION	0.00	644.28	0	01:20	0	
	4.64	-0.000						
1134	MH-6101	JUNCTION	27.29	166.79	0	00:25	0.196	
	1.2	0.000						
1135	MH-6102	JUNCTION	64.01	64.01	0	00:00	0.461	
	0.461	-0.000						
1136	MH-6103	JUNCTION	75.49	139.51	0	00:01	0.544	
	1	-0.000						
1137	MH-6104	JUNCTION	25.13	69.04	0	00:54	0.181	
	0.497	-0.000						
1138	MH-6106	JUNCTION	0.00	166.79	0	01:24	0	
	1.2	-0.000						
1139	MH-6107	JUNCTION	10.81	177.61	0	00:28	0.0779	
	1.28	0.000						
1140	MH-6108	JUNCTION	0.00	246.65	0	00:47	0	
	1.78	-0.000						
1141	MH-6150	JUNCTION	7.83	43.91	0	00:57	0.0563	
	0.316	0.000						
1142	MH-6152	JUNCTION	36.08	36.08	0	00:00	0.26	
	0.26	-0.000						
1143	MH-6201	JUNCTION	88.82	88.82	0	00:00	0.64	
	0.64	-0.000						
1144	MH-6202	JUNCTION	21.39	110.21	0	00:50	0.154	
	0.794	-0.000						
1145	MH-6204	JUNCTION	45.80	45.80	0	00:00	0.33	
	0.33	0.000						

1146	MH-6205	JUNCTION	2.31	48.11	0	01:31	0.0167	
	0.346	-0.000						
1147	MH-6206	JUNCTION	27.79	193.41	0	00:31	0.2	
	1.39	0.000						
1148	MH-6207	JUNCTION	92.44	285.85	0	00:00	0.666	
	2.06	-0.000						
1149	MH-6210	JUNCTION	29.15	29.15	0	00:00	0.21	
	0.21	0.000						
1150	MH-6211	JUNCTION	66.62	66.62	0	00:00	0.48	
	0.48	-0.000						
1151	MH-6212	JUNCTION	38.55	105.17	0	01:48	0.278	
	0.757	0.000						
1152	MH-6213	JUNCTION	12.36	146.67	0	00:02	0.089	
	1.06	-0.000						
1153	MH-6214	JUNCTION	92.99	92.99	0	00:00	0.67	
	0.67	-0.000						
1154	MH-6215	JUNCTION	0.00	525.51	0	00:00	0	
	3.78	0.000						
1155	MH-6216	JUNCTION	47.07	47.07	0	00:00	0.339	
	0.339	-0.000						
1156	MH-6217	JUNCTION	0.00	572.57	0	00:00	0	
	4.12	-0.000						
1157	MH-6218	JUNCTION	0.00	572.57	0	00:00	0	
	4.12	0.000						
1158	MH-6219	JUNCTION	56.48	56.48	0	00:00	0.407	
	0.407	0.000						
1159	MH-6220	JUNCTION	77.90	134.38	0	00:55	0.561	
	0.968	-0.000						
1160	MH-6221	JUNCTION	7.43	141.81	0	00:16	0.0535	
	1.02	0.000						
1161	MH-6222	JUNCTION	19.39	161.20	0	00:16	0.14	
	1.16	-0.000						
1162	MH-6223	JUNCTION	0.00	733.78	0	00:00	0	
	5.28	-0.000						
1163	MH-6250	JUNCTION	7.29	117.50	0	00:59	0.0525	
	0.846	0.000						
1164	MH-6301	JUNCTION	27.33	27.33	0	00:00	0.197	
	0.197	0.000						
1165	MH-6302	JUNCTION	6.83	6.83	0	00:00	0.0492	
	0.0492	-0.000						
1166	MH-6303	JUNCTION	3.01	37.18	0	01:22	0.0217	
	0.268	0.000						
1167	MH-6304	JUNCTION	58.34	95.52	0	00:11	0.42	
	0.688	0.000						
1168	MH-6305	JUNCTION	55.55	151.07	0	01:32	0.4	
	1.09	-0.000						
1169	MH-6306	JUNCTION	40.82	191.89	0	01:32	0.294	
	1.38	0.000						
1170	MH-6307	JUNCTION	27.07	218.96	0	00:00	0.195	
	1.58	-0.000						
1171	MH-6308	JUNCTION	0.00	218.96	0	00:00	0	
	1.58	-0.000						
1172	MH-6309	JUNCTION	0.00	218.96	0	01:38	0	
	1.58	0.000						
1173	MH-6310	JUNCTION	21.03	21.03	0	00:00	0.151	
	0.151	0.000						
1174	MH-6311	JUNCTION	50.47	71.50	0	00:19	0.363	
	0.515	-0.000						
1175	MH-6312	JUNCTION	45.72	117.22	0	00:31	0.329	
	0.844	-0.000						
1176	MH-6314	JUNCTION	2.82	243.97	0	00:08	0.0203	
	1.76	-0.000						
1177	MH-6315	JUNCTION	52.72	52.72	0	00:00	0.38	
	0.38	-0.000						
1178	MH-6316	JUNCTION	19.60	316.30	0	00:25	0.141	
	2.28	-0.000						

MH-6317	JUNCTION	18.98	335.27	0	01:02	0.137	2.41	0.000
MH-6318	JUNCTION	101.31	101.31	0	00:00	0.729	0.729	0.000
MH-6319	JUNCTION	1.40	102.71	0	01:27	0.0101	0.74	-0.000
MH-6320	JUNCTION	22.16	124.88	0	01:28	0.16	0.899	0.000
MH-6321	JUNCTION	0.00	460.15	0	00:51	0	3.31	0.000
MH-6322	JUNCTION	0.00	460.15	0	00:51	0	3.31	-0.000
MH-6323	JUNCTION	0.00	679.11	0	01:41	0	4.89	0.000
MH-6345	JUNCTION	17.84	123.93	0	00:54	0.128	0.892	0.000
MH-6346	JUNCTION	40.86	106.09	0	00:17	0.294	0.764	-0.000
MH-6347	JUNCTION	65.23	65.23	0	00:00	0.47	0.47	0.000
MH-7001	JUNCTION	48.58	48.58	0	00:00	0.35	0.35	0.000
MH-7002	JUNCTION	65.90	114.48	0	00:44	0.474	0.824	-0.000
MH-7003	JUNCTION	0.00	114.48	0	00:44	0	0.824	-0.000
MH-7004	JUNCTION	14.00	128.48	0	00:42	0.101	0.925	-0.000
MH-7005	JUNCTION	0.00	128.48	0	00:42	0	0.925	0.000
MH-7006	JUNCTION	51.35	51.35	0	00:00	0.37	0.37	-0.000
MH-7007	JUNCTION	53.63	104.98	0	01:15	0.386	0.756	0.000
MH-7008	JUNCTION	0.00	233.46	0	01:15	0	1.68	0.000
MH-HW101	OUTFALL	0.00	812.28	0	00:47	0	5.85	0.000
MH-HW102	OUTFALL	0.00	827.44	0	01:54	0	5.96	0.000
MH-HW201	OUTFALL	0.00	386.45	0	01:12	0	2.78	0.000
MH-HW202	OUTFALL	0.00	611.40	0	00:19	0	4.4	0.000
MH-HW203	OUTFALL	0.00	701.24	0	01:10	0	5.05	0.000
MH-HW301	OUTFALL	0.00	259.01	0	01:44	0	1.86	0.000
MH-HW302	OUTFALL	0.00	499.58	0	01:25	0	3.6	0.000
MH-HW303	OUTFALL	0.00	644.28	0	01:20	0	4.64	0.000
MH-HW601	OUTFALL	0.00	246.65	0	00:47	0	1.78	0.000
MH-HW602	OUTFALL	0.00	733.78	0	00:00	0	5.28	0.000
MH-HW603	OUTFALL	0.00	679.11	0	01:41	0	4.89	0.000
MH-HW701	OUTFALL	0.00	233.46	0	01:15	0	1.68	0.000

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Node Surcharge Summary
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Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters
MH-1101	JUNCTION	2.00	0.612	0.888
MH-1102	JUNCTION	2.00	0.691	0.885
MH-1103	JUNCTION	2.00	0.755	0.828
MH-1104	JUNCTION	2.00	0.838	0.752
MH-1105	JUNCTION	2.00	0.935	0.663
MH-1106	JUNCTION	2.00	0.958	0.665
MH-1201	JUNCTION	2.00	0.613	0.889
MH-1202	JUNCTION	2.00	0.739	0.828
MH-1203	JUNCTION	2.00	0.652	0.843
MH-1204	JUNCTION	2.00	0.749	0.821
MH-1205	JUNCTION	2.00	0.630	0.863
MH-1206	JUNCTION	2.00	0.654	0.842
MH-1207	JUNCTION	2.00	0.701	0.824
MH-1208	JUNCTION	2.00	0.696	0.800
MH-1209	JUNCTION	2.00	0.811	0.799
MH-1210	JUNCTION	2.00	0.877	0.770
MH-1211	JUNCTION	2.00	0.641	0.853
MH-1212	JUNCTION	2.00	0.584	0.917
MH-1213	JUNCTION	2.00	0.668	0.886
MH-1214	JUNCTION	2.00	0.631	0.865
MH-1215	JUNCTION	2.00	0.640	0.859
MH-1216	JUNCTION	2.00	0.725	0.839
MH-1217	JUNCTION	2.00	0.871	0.781
MH-1218	JUNCTION	2.00	0.880	0.770
MH-1219	JUNCTION	2.00	0.737	0.757
MH-1220	JUNCTION	2.00	0.894	0.724
MH-1221	JUNCTION	2.00	1.031	0.688
MH-1222	JUNCTION	2.00	1.090	0.655
MH-1223	JUNCTION	2.00	1.118	0.644
MH-1224	JUNCTION	2.00	1.159	0.669
MH-1227	JUNCTION	2.00	0.655	0.847
MH-1228	JUNCTION	2.00	0.788	0.722
MH-1229	JUNCTION	2.00	0.827	0.709
MH-1230	JUNCTION	2.00	0.854	0.716
MH-2101	JUNCTION	2.00	0.734	0.769
MH-2102	JUNCTION	2.00	0.845	0.842
MH-2103	JUNCTION	2.00	0.977	0.804
MH-2104	JUNCTION	2.00	1.046	0.776
MH-2105	JUNCTION	2.00	0.686	0.822
MH-2106	JUNCTION	2.00	0.782	0.773
MH-2107	JUNCTION	2.00	0.813	0.778
MH-2108	JUNCTION	2.00	0.873	0.721
MH-2109	JUNCTION	2.00	0.633	0.872
MH-2110	JUNCTION	2.00	0.629	0.875
MH-2111	JUNCTION	2.00	0.663	0.858
MH-2112	JUNCTION	2.00	0.832	0.808
MH-2113	JUNCTION	2.00	0.902	0.739
MH-2114	JUNCTION	2.00	0.971	0.731
MH-2201	JUNCTION	2.00	0.462	1.041
MH-2202	JUNCTION	2.00	0.570	0.994
MH-2203	JUNCTION	2.00	0.532	1.062
MH-2204	JUNCTION	2.00	0.636	0.880
MH-2205	JUNCTION	2.00	0.536	0.964
MH-2206	JUNCTION	2.00	0.628	0.934
MH-2207	JUNCTION	2.00	0.707	0.831
MH-2208	JUNCTION	2.00	0.602	0.899
MH-2209	JUNCTION	2.00	0.678	0.859
MH-2210	JUNCTION	2.00	0.718	0.798
MH-2211	JUNCTION	2.00	0.708	0.786
MH-2212	JUNCTION	2.00	0.835	0.772

1281	MH-2213	JUNCTION	2.00	0.800	0.768
1282	MH-2214	JUNCTION	2.00	0.713	0.781
1283	MH-2215	JUNCTION	2.00	0.826	0.737
1284	MH-2216	JUNCTION	2.00	0.965	0.681
1285	MH-2217	JUNCTION	2.00	1.040	0.625
1286	MH-2218	JUNCTION	2.00	1.071	0.634
1287	MH-2219	JUNCTION	2.00	0.732	0.767
1288	MH-2220	JUNCTION	2.00	0.715	0.782
1289	MH-2221	JUNCTION	2.00	0.793	0.640
1290	MH-2222	JUNCTION	2.00	0.890	0.713
1291	MH-2223	JUNCTION	2.00	0.961	0.643
1292	MH-2224	JUNCTION	2.00	1.028	0.647
1293	MH-2225	JUNCTION	2.00	1.083	0.647
1294	MH-2301	JUNCTION	2.00	0.671	0.832
1295	MH-2302	JUNCTION	2.00	0.829	0.780
1296	MH-2303	JUNCTION	2.00	0.709	0.793
1297	MH-2304	JUNCTION	2.00	0.759	0.766
1298	MH-2305	JUNCTION	2.00	0.635	0.860
1299	MH-2306	JUNCTION	2.00	0.736	0.803
1300	MH-2307	JUNCTION	2.00	0.638	0.908
1301	MH-2308	JUNCTION	2.00	0.723	0.760
1302	MH-2309	JUNCTION	2.00	0.721	0.786
1303	MH-2310	JUNCTION	2.00	0.785	0.754
1304	MH-2311	JUNCTION	2.00	0.795	0.704
1305	MH-2312	JUNCTION	2.00	0.821	0.720
1306	MH-2313	JUNCTION	2.00	0.720	0.773
1307	MH-2314	JUNCTION	2.00	0.821	0.717
1308	MH-2315	JUNCTION	2.00	0.799	0.695
1309	MH-2316	JUNCTION	2.00	0.879	0.674
1310	MH-2317	JUNCTION	2.00	0.756	0.742
1311	MH-2318	JUNCTION	2.00	0.931	0.655
1312	MH-2319	JUNCTION	2.00	1.156	0.615
1313	MH-2320	JUNCTION	2.00	1.206	0.595
1314	MH-2321	JUNCTION	2.00	1.228	0.610
1315	MH-2322	JUNCTION	2.00	0.735	0.763
1316	MH-2323	JUNCTION	2.00	0.800	0.738
1317	MH-2324	JUNCTION	2.00	0.889	0.712
1318	MH-2325	JUNCTION	2.00	0.958	0.647
1319	MH-2326	JUNCTION	2.00	1.024	0.643
1320	MH-2327	JUNCTION	2.00	1.083	0.646
1321	MH-3101	JUNCTION	2.00	0.904	0.598
1322	MH-3102	JUNCTION	2.00	1.014	0.705
1323	MH-3103	JUNCTION	2.00	1.095	0.711
1324	MH-3104	JUNCTION	2.00	1.126	0.721
1325	MH-3105	JUNCTION	2.00	0.860	0.641
1326	MH-3106	JUNCTION	2.00	0.777	0.727
1327	MH-3107	JUNCTION	2.00	0.891	0.690
1328	MH-3108	JUNCTION	2.00	1.103	0.581
1329	MH-3109	JUNCTION	2.00	1.172	0.597
1330	MH-3150	JUNCTION	2.00	0.993	0.691
1331	MH-3201	JUNCTION	2.00	0.641	0.859
1332	MH-3202	JUNCTION	2.00	0.711	0.819
1333	MH-3203	JUNCTION	2.00	0.662	0.841
1334	MH-3204	JUNCTION	2.00	0.738	0.790
1335	MH-3205	JUNCTION	2.00	0.724	0.770
1336	MH-3206	JUNCTION	2.00	0.854	0.745
1337	MH-3207	JUNCTION	2.00	0.718	0.776
1338	MH-3208	JUNCTION	2.00	0.798	0.748
1339	MH-3209	JUNCTION	2.00	0.906	0.721
1340	MH-3210	JUNCTION	2.00	0.964	0.679
1341	MH-3211	JUNCTION	2.00	0.754	0.751
1342	MH-3212	JUNCTION	2.00	0.863	0.688
1343	MH-3213	JUNCTION	2.00	0.900	0.692
1344	MH-3214	JUNCTION	2.00	0.965	0.655
1345	MH-3301	JUNCTION	2.00	0.614	0.891
1346	MH-3302	JUNCTION	2.00	0.743	0.760

1347	MH-3303	JUNCTION	2.00	0.743	0.806
1348	MH-3304	JUNCTION	2.00	0.741	0.758
1349	MH-3305	JUNCTION	2.00	0.860	0.768
1350	MH-3306	JUNCTION	2.00	0.789	0.709
1351	MH-3307	JUNCTION	2.00	0.909	0.720
1352	MH-3308	JUNCTION	2.00	0.802	0.702
1353	MH-3309	JUNCTION	2.00	0.890	0.677
1354	MH-3310	JUNCTION	2.00	0.655	0.839
1355	MH-3311	JUNCTION	2.00	0.747	0.772
1356	MH-3312	JUNCTION	2.00	0.868	0.734
1357	MH-3313	JUNCTION	2.00	0.944	0.675
1358	MH-3314	JUNCTION	2.00	0.960	0.684
1359	MH-3315	JUNCTION	2.00	0.739	0.756
1360	MH-3316	JUNCTION	2.00	0.711	0.789
1361	MH-3317	JUNCTION	2.00	0.837	0.765
1362	MH-3318	JUNCTION	2.00	0.970	0.666
1363	MH-3319	JUNCTION	2.00	1.024	0.680
1364	MH-6101	JUNCTION	2.00	1.107	0.495
1365	MH-6102	JUNCTION	2.00	1.009	0.498
1366	MH-6103	JUNCTION	2.00	1.077	0.622
1367	MH-6104	JUNCTION	2.00	1.125	0.531
1368	MH-6106	JUNCTION	2.00	1.152	0.549
1369	MH-6107	JUNCTION	2.00	1.185	0.561
1370	MH-6108	JUNCTION	2.00	1.150	0.572
1371	MH-6150	JUNCTION	2.00	1.052	0.467
1372	MH-6152	JUNCTION	2.00	0.976	0.396
1373	MH-6201	JUNCTION	2.00	0.646	0.869
1374	MH-6202	JUNCTION	2.00	0.658	0.860
1375	MH-6204	JUNCTION	2.00	0.570	0.988
1376	MH-6205	JUNCTION	2.00	0.627	0.930
1377	MH-6206	JUNCTION	2.00	0.682	0.904
1378	MH-6207	JUNCTION	2.00	0.903	0.809
1379	MH-6210	JUNCTION	2.00	0.697	0.791
1380	MH-6211	JUNCTION	2.00	0.749	0.762
1381	MH-6212	JUNCTION	2.00	0.862	0.747
1382	MH-6213	JUNCTION	2.00	0.822	0.766
1383	MH-6214	JUNCTION	2.00	0.774	0.741
1384	MH-6215	JUNCTION	2.00	0.859	0.737
1385	MH-6216	JUNCTION	2.00	0.902	0.605
1386	MH-6217	JUNCTION	2.00	0.937	0.691
1387	MH-6218	JUNCTION	2.00	1.097	0.609
1388	MH-6219	JUNCTION	2.00	0.760	0.739
1389	MH-6220	JUNCTION	2.00	0.846	0.721
1390	MH-6221	JUNCTION	2.00	0.957	0.612
1391	MH-6222	JUNCTION	2.00	1.025	0.618
1392	MH-6223	JUNCTION	2.00	1.101	0.612
1393	MH-6250	JUNCTION	2.00	0.762	0.861
1394	MH-6301	JUNCTION	2.00	0.559	0.939
1395	MH-6302	JUNCTION	2.00	0.575	0.924
1396	MH-6303	JUNCTION	2.00	0.648	0.885
1397	MH-6304	JUNCTION	2.00	0.766	0.892
1398	MH-6305	JUNCTION	2.00	0.845	0.864
1399	MH-6306	JUNCTION	2.00	0.954	0.758
1400	MH-6307	JUNCTION	2.00	1.020	0.707
1401	MH-6308	JUNCTION	2.00	1.076	0.649
1402	MH-6309	JUNCTION	2.00	1.137	0.656
1403	MH-6310	JUNCTION	2.00	0.596	0.905
1404	MH-6311	JUNCTION	2.00	0.632	0.911
1405	MH-6312	JUNCTION	2.00	0.744	0.843
1406	MH-6314	JUNCTION	2.00	0.847	0.784
1407	MH-6315	JUNCTION	2.00	0.738	0.761
1408	MH-6316	JUNCTION	2.00	0.819	0.747
1409	MH-6317	JUNCTION	2.00	0.951	0.684
1410	MH-6318	JUNCTION	2.00	0.795	0.706
1411	MH-6319	JUNCTION	2.00	0.876	0.682
1412	MH-6320	JUNCTION	2.00	0.906	0.696

MH-6321	JUNCTION	2.00	0.951	0.648
MH-6322	JUNCTION	2.00	1.004	0.648
MH-6323	JUNCTION	2.00	1.024	0.665
MH-6345	JUNCTION	2.00	0.804	0.837
MH-6346	JUNCTION	2.00	0.792	0.812
MH-6347	JUNCTION	2.00	0.692	0.826
MH-7001	JUNCTION	2.00	0.275	1.230
MH-7002	JUNCTION	2.00	0.404	1.184
MH-7003	JUNCTION	2.00	0.524	1.090
MH-7004	JUNCTION	2.00	0.596	1.105
MH-7005	JUNCTION	2.00	0.640	1.069
MH-7006	JUNCTION	2.00	0.394	1.109
MH-7007	JUNCTION	2.00	0.554	1.063
MH-7008	JUNCTION	2.00	0.615	1.076

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Node Flooding Summary
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No nodes were flooded.

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Outfall Loading Summary
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Outfall Node	Flow Freq Pcnt	Avg Flow LPS	Max Flow LPS	Total Volume 10^6 ltr
MH-HW101	100.00	812.28	812.28	5.848
MH-HW102	100.00	827.43	827.44	5.957
MH-HW201	100.00	386.45	386.45	2.782
MH-HW202	100.00	611.39	611.40	4.402
MH-HW203	100.00	701.24	701.24	5.049
MH-HW301	100.00	259.01	259.01	1.865
MH-HW302	100.00	499.58	499.58	3.597
MH-HW303	100.00	644.27	644.28	4.639
MH-HW601	100.00	246.65	246.65	1.776
MH-HW602	100.00	733.77	733.78	5.283
MH-HW603	100.00	679.11	679.11	4.890
MH-HW701	100.00	233.46	233.46	1.681
System	100.00	6634.63	6634.65	47.769

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Link Flow Summary
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Link	Type	Maximum |Flow| LPS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
STM-1101-1102	CONDUIT	616.67	0 01:48	0.97	0.76	1.00
STM-1102-1103	CONDUIT	673.69	0 00:57	0.90	0.78	1.00
STM-1103-1104	CONDUIT	748.25	0 01:39	0.86	0.71	1.00
STM-1104-1105	CONDUIT	807.02	0 01:09	0.93	0.76	1.00
STM-1105-1106	CONDUIT	812.28	0 00:47	0.94	0.77	1.00
STM-1106-HW101	CONDUIT	812.28	0 00:47	0.94	0.77	1.00
STM-1201-1202	CONDUIT	81.99	0 00:55	0.52	0.64	1.00
STM-1202-1204	CONDUIT	97.90	0 00:26	0.62	0.77	1.00
STM-1203-1204	CONDUIT	92.99	0 01:45	0.58	0.73	1.00

1479	STM-1204-1210	CONDUIT	211.97	0	00:26	0.59	0.65	1.00
1480	STM-1205-1207	CONDUIT	49.96	0	01:17	0.45	0.52	1.00
1481	STM-1206-1207	CONDUIT	12.49	0	01:54	0.18	0.22	1.00
1482	STM-1207-1209	CONDUIT	89.55	0	00:20	0.56	0.70	1.00
1483	STM-1208-1209	CONDUIT	62.45	0	00:08	0.57	0.65	1.00
1484	STM-1209-1210	CONDUIT	155.23	0	00:38	0.55	0.65	1.00
1485	STM-1210-1218	CONDUIT	428.64	0	01:19	0.80	0.77	1.00
1486	STM-1211-1213	CONDUIT	40.25	0	01:54	0.57	0.70	1.00
1487	STM-1212-1213	CONDUIT	15.27	0	00:39	0.22	0.27	1.00
1488	STM-1213-1216	CONDUIT	64.17	0	01:42	0.40	0.50	1.00
1489	STM-1214-1216	CONDUIT	49.96	0	00:35	0.45	0.52	1.00
1490	STM-1215-1216	CONDUIT	15.27	0	01:18	0.22	0.27	1.00
1491	STM-1216-1217	CONDUIT	129.40	0	00:57	0.46	0.54	1.00
1492	STM-1217-1218	CONDUIT	197.40	0	00:54	0.70	0.83	1.00
1493	STM-1218-1220	CONDUIT	626.04	0	01:19	0.84	0.72	1.00
1494	STM-1219-1220	CONDUIT	49.96	0	01:43	0.45	0.52	1.00
1495	STM-1220-1221	CONDUIT	676.00	0	01:47	0.91	0.78	1.00
1496	STM-1221-1222	CONDUIT	685.00	0	00:27	0.92	0.79	1.00
1497	STM-1222-1223	CONDUIT	702.74	0	00:27	0.94	0.81	1.00
1498	STM-1223-1224	CONDUIT	702.74	0	00:15	0.94	0.80	1.00
1499	STM-1224-1230	CONDUIT	702.74	0	01:19	0.94	0.81	1.00
1500	STM-1227-1228	CONDUIT	124.69	0	00:26	0.44	0.52	1.00
1501	STM-1228-1229	CONDUIT	124.70	0	01:51	0.44	0.52	1.00
1502	STM-1229-1230	CONDUIT	124.70	0	00:58	0.44	0.53	1.00
1503	STM-1230-HW102	CONDUIT	827.44	0	01:54	0.96	0.78	1.00
1504	STM-2101-2102	CONDUIT	18.04	0	01:35	0.26	0.32	1.00
1505	STM-2102-2103	CONDUIT	48.21	0	01:30	0.44	0.50	1.00
1506	STM-2103-2104	CONDUIT	91.07	0	01:32	0.57	0.71	1.00
1507	STM-2104-2108	CONDUIT	128.28	0	01:46	0.45	0.54	1.00
1508	STM-2105-2106	CONDUIT	97.15	0	01:17	0.61	0.76	1.00
1509	STM-2106-2107	CONDUIT	101.03	0	00:35	0.64	0.79	1.00
1510	STM-2107-2108	CONDUIT	124.22	0	00:55	0.44	0.52	1.00
1511	STM-2108-2114	CONDUIT	256.15	0	01:31	0.72	0.79	1.00
1512	STM-2109-2111	CONDUIT	29.15	0	00:00	0.41	0.51	1.00
1513	STM-2110-2111	CONDUIT	0.03	0	00:00	0.00	0.00	1.00
1514	STM-2111-2112	CONDUIT	77.98	0	01:01	0.49	0.61	1.00
1515	STM-2112-2113	CONDUIT	121.66	0	00:00	0.43	0.51	1.00
1516	STM-2113-2114	CONDUIT	130.31	0	01:01	0.46	0.55	1.00
1517	STM-2114-HW201	CONDUIT	386.45	0	01:12	0.72	0.69	1.00
1518	STM-2201-2202	CONDUIT	30.53	0	01:40	0.43	0.53	1.00
1519	STM-2202-2204	CONDUIT	69.12	0	00:57	0.43	0.54	1.00
1520	STM-2203-2204	CONDUIT	12.49	0	00:31	0.18	0.22	1.00
1521	STM-2204-2207	CONDUIT	109.19	0	01:30	0.50	0.57	1.00
1522	STM-2205-2206	CONDUIT	36.08	0	01:57	0.51	0.63	1.00
1523	STM-2206-2207	CONDUIT	75.73	0	01:21	0.48	0.59	1.00
1524	STM-2207-2210	CONDUIT	200.43	0	01:36	0.71	0.84	1.00
1525	STM-2208-2209	CONDUIT	84.72	0	00:29	0.53	0.66	1.00
1526	STM-2209-2210	CONDUIT	158.20	0	01:05	0.56	0.66	1.00
1527	STM-2210-2213	CONDUIT	358.63	0	00:47	0.81	0.83	1.00
1528	STM-2211-2212	CONDUIT	61.07	0	01:05	0.55	0.64	1.00
1529	STM-2212-2213	CONDUIT	96.21	0	00:08	0.60	0.75	1.00
1530	STM-2213-2215	CONDUIT	454.84	0	01:36	0.85	0.82	1.00
1531	STM-2214-2215	CONDUIT	11.10	0	01:43	0.16	0.19	1.00
1532	STM-2215-2216	CONDUIT	467.94	0	01:28	0.74	0.67	1.00
1533	STM-2216-2217	CONDUIT	467.94	0	01:59	0.74	0.67	1.00
1534	STM-2217-2218	CONDUIT	467.94	0	00:47	0.74	0.66	1.00
1535	STM-2218-2225	CONDUIT	467.95	0	01:36	0.74	0.67	1.00
1536	STM-2219-2221	CONDUIT	22.21	0	01:14	0.31	0.39	1.00
1537	STM-2220-2221	CONDUIT	13.88	0	01:55	0.20	0.24	1.00
1538	STM-2221-2222	CONDUIT	91.60	0	01:26	0.58	0.72	1.00
1539	STM-2222-2223	CONDUIT	143.45	0	01:26	0.51	0.60	1.00
1540	STM-2223-2224	CONDUIT	143.45	0	00:21	0.51	0.60	1.00
1541	STM-2224-2225	CONDUIT	143.45	0	01:30	0.51	0.60	1.00
1542	STM-2225-HW202	CONDUIT	611.40	0	00:19	0.82	0.70	1.00
1543	STM-2301-2302	CONDUIT	49.96	0	00:56	0.45	0.52	1.00
1544	STM-2302-2304	CONDUIT	89.63	0	01:22	0.56	0.70	1.00

1545	STM-2303-2304	CONDUIT	9.72	0	01:48	0.14	0.17	1.00
1546	STM-2304-2308	CONDUIT	103.11	0	01:38	0.65	0.81	1.00
1547	STM-2305-2306	CONDUIT	69.39	0	00:27	0.44	0.54	1.00
1548	STM-2306-2308	CONDUIT	112.40	0	01:45	0.52	0.58	1.00
1549	STM-2307-2308	CONDUIT	22.21	0	00:56	0.31	0.39	1.00
1550	STM-2308-2312	CONDUIT	237.72	0	01:22	0.66	0.73	1.00
1551	STM-2309-2310	CONDUIT	94.14	0	01:23	0.59	0.74	1.00
1552	STM-2310-2312	CONDUIT	164.75	0	01:08	0.58	0.69	1.00
1553	STM-2311-2312	CONDUIT	37.66	0	00:45	0.53	0.66	1.00
1554	STM-2312-2316	CONDUIT	440.13	0	00:28	0.82	0.79	1.00
1555	STM-2313-2314	CONDUIT	69.39	0	01:33	0.44	0.54	1.00
1556	STM-2314-2316	CONDUIT	112.35	0	01:21	0.52	0.58	1.00
1557	STM-2315-2316	CONDUIT	24.98	0	01:28	0.35	0.44	1.00
1558	STM-2316-2318	CONDUIT	577.46	0	00:28	0.91	0.82	1.00
1559	STM-2317-2318	CONDUIT	25.71	0	01:00	0.36	0.45	1.00
1560	STM-2317-2323	CONDUIT	25.71	0	01:00	0.36	0.45	1.00
1561	STM-2318-2319	CONDUIT	551.75	0	00:51	0.87	0.79	1.00
1562	STM-2319-2320	CONDUIT	551.75	0	01:48	0.87	0.79	1.00
1563	STM-2320-2321	CONDUIT	551.75	0	00:51	0.87	0.79	1.00
1564	STM-2321-2327	CONDUIT	551.75	0	01:23	0.87	0.79	1.00
1565	STM-2322-2323	CONDUIT	12.49	0	01:33	0.18	0.22	1.00
1566	STM-2323-2324	CONDUIT	95.76	0	01:00	0.60	0.75	1.00
1567	STM-2324-2325	CONDUIT	149.49	0	01:00	0.53	0.63	1.00
1568	STM-2325-2326	CONDUIT	149.50	0	01:00	0.53	0.63	1.00
1569	STM-2326-2327	CONDUIT	149.50	0	01:00	0.53	0.63	1.00
1570	STM-2327-HW203	CONDUIT	701.24	0	01:10	0.94	0.79	1.00
1571	STM-3101-3102	CONDUIT	24.98	0	00:11	0.35	0.44	1.00
1572	STM-3102-3103	CONDUIT	97.13	0	01:38	0.61	0.76	1.00
1573	STM-3103-3104	CONDUIT	99.10	0	01:00	0.62	0.78	1.00
1574	STM-3104-HW301	CONDUIT	259.01	0	01:44	0.72	0.79	1.00
1575	STM-3105-3107	CONDUIT	31.92	0	00:07	0.45	0.56	1.00
1576	STM-3106-3107	CONDUIT	23.59	0	00:24	0.33	0.41	1.00
1577	STM-3107-3108	CONDUIT	133.44	0	00:32	0.47	0.56	1.00
1578	STM-3108-3109	CONDUIT	141.94	0	00:32	0.50	0.59	1.00
1579	STM-3109-3104	CONDUIT	159.91	0	00:45	0.57	0.67	1.00
1580	STM-3150-HW302	CONDUIT	499.58	0	01:25	0.79	0.71	1.00
1581	STM-3201-3202	CONDUIT	86.61	0	01:18	0.54	0.68	1.00
1582	STM-3202-3204	CONDUIT	165.71	0	01:45	0.59	0.70	1.00
1583	STM-3203-3204	CONDUIT	79.08	0	00:06	0.50	0.62	1.00
1584	STM-3204-3208	CONDUIT	244.79	0	01:00	0.68	0.75	1.00
1585	STM-3205-3206	CONDUIT	55.51	0	01:36	0.50	0.58	1.00
1586	STM-3206-3208	CONDUIT	98.03	0	00:30	0.62	0.77	1.00
1587	STM-3207-3208	CONDUIT	19.43	0	00:02	0.27	0.34	1.00
1588	STM-3208-3209	CONDUIT	362.25	0	01:02	0.82	0.84	1.00
1589	STM-3209-3210	CONDUIT	386.25	0	00:17	0.72	0.69	1.00
1590	STM-3210-3150	CONDUIT	390.19	0	00:59	0.73	0.69	1.00
1591	STM-3211-3212	CONDUIT	86.05	0	00:24	0.54	0.67	1.00
1592	STM-3212-3213	CONDUIT	87.86	0	00:09	0.55	0.69	1.00
1593	STM-3213-3214	CONDUIT	109.40	0	00:09	0.51	0.57	1.00
1594	STM-3214-3150	CONDUIT	109.40	0	00:54	0.51	0.57	1.00
1595	STM-3301-3303	CONDUIT	116.58	0	01:24	0.54	0.61	1.00
1596	STM-3302-3303	CONDUIT	40.25	0	01:20	0.57	0.70	1.00
1597	STM-3303-3305	CONDUIT	172.43	0	01:53	0.61	0.72	1.00
1598	STM-3304-3305	CONDUIT	58.29	0	01:59	0.53	0.61	1.00
1599	STM-3305-3307	CONDUIT	236.35	0	00:58	0.66	0.72	1.00
1600	STM-3306-3307	CONDUIT	62.45	0	01:19	0.57	0.65	1.00
1601	STM-3307-3309	CONDUIT	298.80	0	01:29	0.68	0.69	1.00
1602	STM-3308-3309	CONDUIT	88.82	0	00:21	0.56	0.70	1.00
1603	STM-3309-3313	CONDUIT	387.63	0	00:13	0.73	0.70	1.00
1604	STM-3310-3311	CONDUIT	67.78	0	01:57	0.43	0.53	1.00
1605	STM-3311-3312	CONDUIT	86.25	0	01:34	0.54	0.68	1.00
1606	STM-3312-3313	CONDUIT	127.20	0	01:34	0.45	0.53	1.00
1607	STM-3313-3314	CONDUIT	514.82	0	01:05	0.81	0.74	1.00
1608	STM-3314-3319	CONDUIT	514.82	0	01:20	0.81	0.74	1.00
1609	STM-3315-3317	CONDUIT	36.08	0	00:07	0.51	0.63	1.00
1610	STM-3316-3317	CONDUIT	26.37	0	01:49	0.37	0.46	1.00

1611	STM-3317-3318	CONDUIT	129.45	0	01:40	0.46	0.54	1.00
1612	STM-3318-3319	CONDUIT	129.46	0	00:01	0.46	0.54	1.00
1613	STM-3319-HW303	CONDUIT	644.28	0	01:20	1.01	0.92	1.00
1614	STM-6101-6106	CONDUIT	166.79	0	01:24	0.59	0.70	1.00
1615	STM-6102-6103	CONDUIT	64.01	0	00:01	0.58	0.67	1.00
1616	STM-6103-6101	CONDUIT	139.51	0	00:25	0.64	0.73	1.00
1617	STM-6104-6108	CONDUIT	69.04	0	01:37	0.63	0.72	1.00
1618	STM-6106-6107	CONDUIT	166.80	0	00:28	0.59	0.70	1.00
1619	STM-6107-6108	CONDUIT	177.61	0	00:47	0.63	0.75	1.00
1620	STM-6108-HW601	CONDUIT	246.65	0	00:47	0.87	0.90	1.00
1621	STM-6150-6104	CONDUIT	43.91	0	00:54	0.62	0.77	1.00
1622	STM-6152-6150	CONDUIT	36.08	0	00:57	0.51	0.63	1.00
1623	STM-6201-6202	CONDUIT	88.82	0	00:50	0.56	0.70	1.00
1624	STM-6202-6250	CONDUIT	110.21	0	00:59	0.69	0.77	1.00
1625	STM-6204-6205	CONDUIT	45.80	0	01:31	0.16	0.19	1.00
1626	STM-6205-6206	CONDUIT	48.11	0	01:56	0.17	0.20	1.00
1627	STM-6206-6207	CONDUIT	193.41	0	00:00	0.44	0.45	1.00
1628	STM-6207-6215	CONDUIT	285.85	0	00:00	0.53	0.51	1.00
1629	STM-6210-6213	CONDUIT	29.15	0	00:56	0.41	0.51	1.00
1630	STM-6211-6212	CONDUIT	66.62	0	01:48	0.60	0.69	1.00
1631	STM-6212-6213	CONDUIT	105.17	0	01:30	0.66	0.82	1.00
1632	STM-6213-6215	CONDUIT	146.67	0	01:22	0.52	0.62	1.00
1633	STM-6214-6215	CONDUIT	92.99	0	00:02	0.58	0.73	1.00
1634	STM-6215-6217	CONDUIT	525.51	0	00:00	0.83	0.75	1.00
1635	STM-6216-6217	CONDUIT	47.07	0	00:51	0.67	0.82	1.00
1636	STM-6217-6218	CONDUIT	572.57	0	00:00	0.77	0.66	1.00
1637	STM-6218-6223	CONDUIT	572.58	0	00:00	0.77	0.65	1.00
1638	STM-6219-6220	CONDUIT	56.48	0	00:55	0.51	0.59	1.00
1639	STM-6220-6221	CONDUIT	134.38	0	00:16	0.48	0.56	1.00
1640	STM-6221-6222	CONDUIT	141.81	0	00:16	0.50	0.60	1.00
1641	STM-6222-6223	CONDUIT	161.21	0	01:34	0.57	0.68	1.00
1642	STM-6223-HW602	CONDUIT	733.78	0	00:00	0.85	0.69	1.00
1643	STM-6250-6206	CONDUIT	117.50	0	01:36	0.74	0.82	1.00
1644	STM-6301-6303	CONDUIT	27.33	0	01:36	0.39	0.48	1.00
1645	STM-6302-6303	CONDUIT	6.83	0	00:43	0.10	0.12	1.00
1646	STM-6303-6304	CONDUIT	37.18	0	00:11	0.53	0.65	1.00
1647	STM-6304-6305	CONDUIT	95.52	0	01:32	0.60	0.75	1.00
1648	STM-6305-6306	CONDUIT	151.07	0	01:32	0.53	0.64	1.00
1649	STM-6306-6307	CONDUIT	191.89	0	00:00	0.68	0.81	1.00
1650	STM-6307-6308	CONDUIT	218.96	0	00:00	0.61	0.67	1.00
1651	STM-6308-6309	CONDUIT	218.96	0	01:38	0.61	0.67	1.00
1652	STM-6309-6323	CONDUIT	218.97	0	00:29	0.61	0.68	1.00
1653	STM-6310-6311	CONDUIT	21.03	0	00:19	0.30	0.37	1.00
1654	STM-6311-6312	CONDUIT	71.50	0	00:31	0.45	0.56	1.00
1655	STM-6312-6314	CONDUIT	117.22	0	00:31	0.54	0.61	1.00
1656	STM-6314-6316	CONDUIT	243.97	0	01:02	0.68	0.75	1.00
1657	STM-6315-6316	CONDUIT	52.72	0	00:06	0.48	0.55	1.00
1658	STM-6316-6317	CONDUIT	316.30	0	01:02	0.72	0.73	1.00
1659	STM-6317-6321	CONDUIT	335.27	0	00:51	0.76	0.78	1.00
1660	STM-6318-6319	CONDUIT	101.31	0	01:27	0.64	0.79	1.00
1661	STM-6319-6320	CONDUIT	102.71	0	01:28	0.65	0.81	1.00
1662	STM-6320-6321	CONDUIT	124.88	0	01:47	0.44	0.53	1.00
1663	STM-6321-6322	CONDUIT	460.15	0	00:51	0.86	0.82	1.00
1664	STM-6322-6323	CONDUIT	460.15	0	01:14	0.86	0.83	1.00
1665	STM-6323-HW603	CONDUIT	679.11	0	01:41	0.91	0.79	1.00
1666	STM-6345-6314	CONDUIT	123.93	0	00:54	0.44	0.52	1.00
1667	STM-6346-6345	CONDUIT	106.09	0	00:54	0.67	0.83	1.00
1668	STM-6347-6346	CONDUIT	65.23	0	00:17	0.59	0.72	1.00
1669	STM-7001-7002	CONDUIT	48.58	0	00:44	0.44	0.51	1.00
1670	STM-7002-7003	CONDUIT	114.48	0	00:44	0.53	0.60	1.00
1671	STM-7003-7004	CONDUIT	114.48	0	00:42	0.53	0.60	1.00
1672	STM-7004-7005	CONDUIT	128.48	0	00:42	0.45	0.54	1.00
1673	STM-7005-7008	CONDUIT	128.48	0	01:15	0.45	0.53	1.00
1674	STM-7006-7007	CONDUIT	51.35	0	01:15	0.46	0.53	1.00
1675	STM-7007-7008	CONDUIT	104.98	0	00:36	0.66	0.82	1.00
1676	STM-7008-HW701	CONDUIT	233.46	0	01:15	0.65	0.71	1.00

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
STM-1101-1102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1102-1103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1103-1104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1104-1105	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1105-1106	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1106-HW101	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1201-1202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1202-1204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1203-1204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1204-1210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1205-1207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1206-1207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1207-1209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1208-1209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1209-1210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1210-1218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1211-1213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1212-1213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1213-1216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1214-1216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1215-1216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1216-1217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1217-1218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1218-1220	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1219-1220	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1220-1221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1221-1222	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1222-1223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1223-1224	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1224-1230	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1227-1228	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1228-1229	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1229-1230	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-1230-HW102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2101-2102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2102-2103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2103-2104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2104-2108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2105-2106	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2106-2107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2107-2108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2108-2114	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2109-2111	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2110-2111	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2111-2112	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2112-2113	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2113-2114	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2114-HW201	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2201-2202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2202-2204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2203-2204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2204-2207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2205-2206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2206-2207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-2207-2210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

1743	STM-2208-2209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1744	STM-2209-2210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1745	STM-2210-2213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1746	STM-2211-2212	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1747	STM-2212-2213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1748	STM-2213-2215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1749	STM-2214-2215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1750	STM-2215-2216	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1751	STM-2216-2217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1752	STM-2217-2218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1753	STM-2218-2225	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1754	STM-2219-2221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1755	STM-2220-2221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1756	STM-2221-2222	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1757	STM-2222-2223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1758	STM-2223-2224	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1759	STM-2224-2225	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1760	STM-2225-HW202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1761	STM-2301-2302	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1762	STM-2302-2304	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1763	STM-2303-2304	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1764	STM-2304-2308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1765	STM-2305-2306	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1766	STM-2306-2308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1767	STM-2307-2308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1768	STM-2308-2312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1769	STM-2309-2310	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1770	STM-2310-2312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1771	STM-2311-2312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1772	STM-2312-2316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1773	STM-2313-2314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1774	STM-2314-2316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1775	STM-2315-2316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1776	STM-2316-2318	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1777	STM-2317-2318	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1778	STM-2317-2323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1779	STM-2318-2319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1780	STM-2319-2320	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1781	STM-2320-2321	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1782	STM-2321-2327	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1783	STM-2322-2323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1784	STM-2323-2324	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1785	STM-2324-2325	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1786	STM-2325-2326	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1787	STM-2326-2327	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1788	STM-2327-HW203	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1789	STM-3101-3102	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1790	STM-3102-3103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1791	STM-3103-3104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1792	STM-3104-HW301	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1793	STM-3105-3107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1794	STM-3106-3107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1795	STM-3107-3108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1796	STM-3108-3109	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1797	STM-3109-3104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1798	STM-3150-HW302	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1799	STM-3201-3202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1800	STM-3202-3204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1801	STM-3203-3204	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1802	STM-3204-3208	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1803	STM-3205-3206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1804	STM-3206-3208	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1805	STM-3207-3208	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1806	STM-3208-3209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1807	STM-3209-3210	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1808	STM-3210-3150	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

1809	STM-3211-3212	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1810	STM-3212-3213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1811	STM-3213-3214	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1812	STM-3214-3150	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1813	STM-3301-3303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1814	STM-3302-3303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1815	STM-3303-3305	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1816	STM-3304-3305	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1817	STM-3305-3307	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1818	STM-3306-3307	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1819	STM-3307-3309	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1820	STM-3308-3309	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1821	STM-3309-3313	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1822	STM-3310-3311	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1823	STM-3311-3312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1824	STM-3312-3313	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1825	STM-3313-3314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1826	STM-3314-3319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1827	STM-3315-3317	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1828	STM-3316-3317	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1829	STM-3317-3318	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1830	STM-3318-3319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1831	STM-3319-HW303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1832	STM-6101-6106	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1833	STM-6102-6103	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1834	STM-6103-6101	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1835	STM-6104-6108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1836	STM-6106-6107	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1837	STM-6107-6108	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1838	STM-6108-HW601	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1839	STM-6150-6104	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1840	STM-6152-6150	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1841	STM-6201-6202	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1842	STM-6202-6250	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1843	STM-6204-6205	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1844	STM-6205-6206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1845	STM-6206-6207	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1846	STM-6207-6215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1847	STM-6210-6213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1848	STM-6211-6212	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1849	STM-6212-6213	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1850	STM-6213-6215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1851	STM-6214-6215	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1852	STM-6215-6217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1853	STM-6216-6217	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1854	STM-6217-6218	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1855	STM-6218-6223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1856	STM-6219-6220	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1857	STM-6220-6221	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1858	STM-6221-6222	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1859	STM-6222-6223	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1860	STM-6223-HW602	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1861	STM-6250-6206	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1862	STM-6301-6303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1863	STM-6302-6303	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1864	STM-6303-6304	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1865	STM-6304-6305	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1866	STM-6305-6306	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1867	STM-6306-6307	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1868	STM-6307-6308	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1869	STM-6308-6309	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1870	STM-6309-6323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1871	STM-6310-6311	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1872	STM-6311-6312	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1873	STM-6312-6314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
1874	STM-6314-6316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

STM-6315-6316	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6316-6317	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6317-6321	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6318-6319	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6319-6320	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6320-6321	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6321-6322	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6322-6323	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6323-HW603	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6345-6314	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6346-6345	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-6347-6346	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7001-7002	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7002-7003	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7003-7004	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7004-7005	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7005-7008	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7006-7007	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7007-7008	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
STM-7008-HW701	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00

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Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
STM-1101-1102	2.00	2.00	2.00	0.01	0.01
STM-1102-1103	2.00	2.00	2.00	0.01	0.01
STM-1103-1104	2.00	2.00	2.00	0.01	0.01
STM-1104-1105	2.00	2.00	2.00	0.01	0.01
STM-1105-1106	2.00	2.00	2.00	0.01	0.01
STM-1106-HW101	2.00	2.00	2.00	0.01	0.01
STM-1201-1202	2.00	2.00	2.00	0.01	0.01
STM-1202-1204	2.00	2.00	2.00	0.01	0.01
STM-1203-1204	2.00	2.00	2.00	0.01	0.01
STM-1204-1210	2.00	2.00	2.00	0.01	0.01
STM-1205-1207	2.00	2.00	2.00	0.01	0.01
STM-1206-1207	2.00	2.00	2.00	0.01	0.01
STM-1207-1209	2.00	2.00	2.00	0.01	0.01
STM-1208-1209	2.00	2.00	2.00	0.01	0.01
STM-1209-1210	2.00	2.00	2.00	0.01	0.01
STM-1210-1218	2.00	2.00	2.00	0.01	0.01
STM-1211-1213	2.00	2.00	2.00	0.01	0.01
STM-1212-1213	2.00	2.00	2.00	0.01	0.01
STM-1213-1216	2.00	2.00	2.00	0.01	0.01
STM-1214-1216	2.00	2.00	2.00	0.01	0.01
STM-1215-1216	2.00	2.00	2.00	0.01	0.01
STM-1216-1217	2.00	2.00	2.00	0.01	0.01
STM-1217-1218	2.00	2.00	2.00	0.01	0.01
STM-1218-1220	2.00	2.00	2.00	0.01	0.01
STM-1219-1220	2.00	2.00	2.00	0.01	0.01
STM-1220-1221	2.00	2.00	2.00	0.01	0.01
STM-1221-1222	2.00	2.00	2.00	0.01	0.01
STM-1222-1223	2.00	2.00	2.00	0.01	0.01
STM-1223-1224	2.00	2.00	2.00	0.01	2.00
STM-1224-1230	2.00	2.00	2.00	0.01	2.00
STM-1227-1228	2.00	2.00	2.00	0.01	0.01
STM-1228-1229	2.00	2.00	2.00	0.01	0.01
STM-1229-1230	2.00	2.00	2.00	0.01	2.00
STM-1230-HW102	2.00	2.00	2.00	0.01	0.01
STM-2101-2102	2.00	2.00	2.00	0.01	0.01

1941	STM-2102-2103	2.00	2.00	2.00	0.01	0.01
1942	STM-2103-2104	2.00	2.00	2.00	0.01	0.01
1943	STM-2104-2108	2.00	2.00	2.00	0.01	0.01
1944	STM-2105-2106	2.00	2.00	2.00	0.01	0.01
1945	STM-2106-2107	2.00	2.00	2.00	0.01	0.01
1946	STM-2107-2108	2.00	2.00	2.00	0.01	0.01
1947	STM-2108-2114	2.00	2.00	2.00	0.01	2.00
1948	STM-2109-2111	2.00	2.00	2.00	0.01	0.01
1949	STM-2110-2111	2.00	2.00	2.00	0.01	0.01
1950	STM-2111-2112	2.00	2.00	2.00	0.01	0.01
1951	STM-2112-2113	2.00	2.00	2.00	0.01	0.01
1952	STM-2113-2114	2.00	2.00	2.00	0.01	0.01
1953	STM-2114-HW201	2.00	2.00	2.00	0.01	0.01
1954	STM-2201-2202	2.00	2.00	2.00	0.01	0.01
1955	STM-2202-2204	2.00	2.00	2.00	0.01	0.01
1956	STM-2203-2204	2.00	2.00	2.00	0.01	0.01
1957	STM-2204-2207	2.00	2.00	2.00	0.01	0.01
1958	STM-2205-2206	2.00	2.00	2.00	0.01	0.01
1959	STM-2206-2207	2.00	2.00	2.00	0.01	0.01
1960	STM-2207-2210	2.00	2.00	2.00	0.01	0.01
1961	STM-2208-2209	2.00	2.00	2.00	0.01	0.01
1962	STM-2209-2210	2.00	2.00	2.00	0.01	0.01
1963	STM-2210-2213	2.00	2.00	2.00	0.01	0.01
1964	STM-2211-2212	2.00	2.00	2.00	0.01	0.01
1965	STM-2212-2213	2.00	2.00	2.00	0.01	0.01
1966	STM-2213-2215	2.00	2.00	2.00	0.01	0.01
1967	STM-2214-2215	2.00	2.00	2.00	0.01	0.01
1968	STM-2215-2216	2.00	2.00	2.00	0.01	0.01
1969	STM-2216-2217	2.00	2.00	2.00	0.01	0.01
1970	STM-2217-2218	2.00	2.00	2.00	0.01	0.02
1971	STM-2218-2225	2.00	2.00	2.00	0.01	2.00
1972	STM-2219-2221	2.00	2.00	2.00	0.01	0.01
1973	STM-2220-2221	2.00	2.00	2.00	0.01	0.01
1974	STM-2221-2222	2.00	2.00	2.00	0.01	0.01
1975	STM-2222-2223	2.00	2.00	2.00	0.01	0.01
1976	STM-2223-2224	2.00	2.00	2.00	0.01	0.01
1977	STM-2224-2225	2.00	2.00	2.00	0.01	0.01
1978	STM-2225-HW202	2.00	2.00	2.00	0.01	0.01
1979	STM-2301-2302	2.00	2.00	2.00	0.01	0.01
1980	STM-2302-2304	2.00	2.00	2.00	0.01	0.01
1981	STM-2303-2304	2.00	2.00	2.00	0.01	0.01
1982	STM-2304-2308	2.00	2.00	2.00	0.01	0.01
1983	STM-2305-2306	2.00	2.00	2.00	0.01	0.01
1984	STM-2306-2308	2.00	2.00	2.00	0.01	0.01
1985	STM-2307-2308	2.00	2.00	2.00	0.01	0.01
1986	STM-2308-2312	2.00	2.00	2.00	0.01	0.01
1987	STM-2309-2310	2.00	2.00	2.00	0.01	0.01
1988	STM-2310-2312	2.00	2.00	2.00	0.01	0.01
1989	STM-2311-2312	2.00	2.00	2.00	0.01	0.01
1990	STM-2312-2316	2.00	2.00	2.00	0.01	0.01
1991	STM-2313-2314	2.00	2.00	2.00	0.01	0.01
1992	STM-2314-2316	2.00	2.00	2.00	0.01	0.01
1993	STM-2315-2316	2.00	2.00	2.00	0.01	0.01
1994	STM-2316-2318	2.00	2.00	2.00	0.01	0.01
1995	STM-2317-2318	2.00	2.00	2.00	0.01	0.01
1996	STM-2317-2323	2.00	2.00	2.00	0.01	0.01
1997	STM-2318-2319	2.00	2.00	2.00	0.01	0.01
1998	STM-2319-2320	2.00	2.00	2.00	0.01	0.01
1999	STM-2320-2321	2.00	2.00	2.00	0.01	2.00
2000	STM-2321-2327	2.00	2.00	2.00	0.01	2.00
2001	STM-2322-2323	2.00	2.00	2.00	0.01	0.01
2002	STM-2323-2324	2.00	2.00	2.00	0.01	0.01
2003	STM-2324-2325	2.00	2.00	2.00	0.01	0.01
2004	STM-2325-2326	2.00	2.00	2.00	0.01	0.01
2005	STM-2326-2327	2.00	2.00	2.00	0.01	0.02
2006	STM-2327-HW203	2.00	2.00	2.00	0.01	0.01

2007	STM-3101-3102	2.00	2.00	2.00	0.01	0.01
2008	STM-3102-3103	2.00	2.00	2.00	0.01	0.01
2009	STM-3103-3104	2.00	2.00	2.00	0.01	0.01
2010	STM-3104-HW301	2.00	2.00	2.00	0.01	0.01
2011	STM-3105-3107	2.00	2.00	2.00	0.01	0.01
2012	STM-3106-3107	2.00	2.00	2.00	0.01	0.01
2013	STM-3107-3108	2.00	2.00	2.00	0.01	0.01
2014	STM-3108-3109	2.00	2.00	2.00	0.01	0.01
2015	STM-3109-3104	2.00	2.00	2.00	0.01	0.01
2016	STM-3150-HW302	2.00	2.00	2.00	0.01	0.01
2017	STM-3201-3202	2.00	2.00	2.00	0.01	0.01
2018	STM-3202-3204	2.00	2.00	2.00	0.01	0.01
2019	STM-3203-3204	2.00	2.00	2.00	0.01	0.01
2020	STM-3204-3208	2.00	2.00	2.00	0.01	0.01
2021	STM-3205-3206	2.00	2.00	2.00	0.01	0.01
2022	STM-3206-3208	2.00	2.00	2.00	0.01	0.01
2023	STM-3207-3208	2.00	2.00	2.00	0.01	0.01
2024	STM-3208-3209	2.00	2.00	2.00	0.01	0.01
2025	STM-3209-3210	2.00	2.00	2.00	0.01	0.01
2026	STM-3210-3150	2.00	2.00	2.00	0.01	0.01
2027	STM-3211-3212	2.00	2.00	2.00	0.01	0.01
2028	STM-3212-3213	2.00	2.00	2.00	0.01	0.01
2029	STM-3213-3214	2.00	2.00	2.00	0.01	0.01
2030	STM-3214-3150	2.00	2.00	2.00	0.01	2.00
2031	STM-3301-3303	2.00	2.00	2.00	0.01	0.01
2032	STM-3302-3303	2.00	2.00	2.00	0.01	0.01
2033	STM-3303-3305	2.00	2.00	2.00	0.01	0.01
2034	STM-3304-3305	2.00	2.00	2.00	0.01	0.01
2035	STM-3305-3307	2.00	2.00	2.00	0.01	0.01
2036	STM-3306-3307	2.00	2.00	2.00	0.01	0.01
2037	STM-3307-3309	2.00	2.00	2.00	0.01	0.01
2038	STM-3308-3309	2.00	2.00	2.00	0.01	0.01
2039	STM-3309-3313	2.00	2.00	2.00	0.01	0.01
2040	STM-3310-3311	2.00	2.00	2.00	0.01	0.01
2041	STM-3311-3312	2.00	2.00	2.00	0.01	0.01
2042	STM-3312-3313	2.00	2.00	2.00	0.01	0.01
2043	STM-3313-3314	2.00	2.00	2.00	0.01	2.00
2044	STM-3314-3319	2.00	2.00	2.00	0.01	0.01
2045	STM-3315-3317	2.00	2.00	2.00	0.01	0.01
2046	STM-3316-3317	2.00	2.00	2.00	0.01	0.01
2047	STM-3317-3318	2.00	2.00	2.00	0.01	0.01
2048	STM-3318-3319	2.00	2.00	2.00	0.01	2.00
2049	STM-3319-HW303	2.00	2.00	2.00	0.01	0.01
2050	STM-6101-6106	2.00	2.00	2.00	0.01	0.01
2051	STM-6102-6103	2.00	2.00	2.00	0.01	0.01
2052	STM-6103-6101	2.00	2.00	2.00	0.01	0.01
2053	STM-6104-6108	2.00	2.00	2.00	0.01	0.01
2054	STM-6106-6107	2.00	2.00	2.00	0.01	0.01
2055	STM-6107-6108	2.00	2.00	2.00	0.01	1.83
2056	STM-6108-HW601	2.00	2.00	2.00	0.01	0.01
2057	STM-6150-6104	2.00	2.00	2.00	0.01	0.01
2058	STM-6152-6150	2.00	2.00	2.00	0.01	0.01
2059	STM-6201-6202	2.00	2.00	2.00	0.01	0.01
2060	STM-6202-6250	2.00	2.00	2.00	0.01	0.01
2061	STM-6204-6205	2.00	2.00	2.00	0.01	0.01
2062	STM-6205-6206	2.00	2.00	2.00	0.01	0.01
2063	STM-6206-6207	2.00	2.00	2.00	0.01	0.01
2064	STM-6207-6215	2.00	2.00	2.00	0.01	0.01
2065	STM-6210-6213	2.00	2.00	2.00	0.01	0.01
2066	STM-6211-6212	2.00	2.00	2.00	0.01	0.01
2067	STM-6212-6213	2.00	2.00	2.00	0.01	0.01
2068	STM-6213-6215	2.00	2.00	2.00	0.01	0.01
2069	STM-6214-6215	2.00	2.00	2.00	0.01	0.01
2070	STM-6215-6217	2.00	2.00	2.00	0.01	0.01
2071	STM-6216-6217	2.00	2.00	2.00	0.01	0.01
2072	STM-6217-6218	2.00	2.00	2.00	0.01	0.01

2073	STM-6218-6223	2.00	2.00	2.00	0.01	2.00
2074	STM-6219-6220	2.00	2.00	2.00	0.01	0.01
2075	STM-6220-6221	2.00	2.00	2.00	0.01	0.01
2076	STM-6221-6222	2.00	2.00	2.00	0.01	0.01
2077	STM-6222-6223	2.00	2.00	2.00	0.01	0.01
2078	STM-6223-HW602	2.00	2.00	2.00	0.01	0.01
2079	STM-6250-6206	2.00	2.00	2.00	0.01	0.01
2080	STM-6301-6303	2.00	2.00	2.00	0.01	0.01
2081	STM-6302-6303	2.00	2.00	2.00	0.01	0.01
2082	STM-6303-6304	2.00	2.00	2.00	0.01	0.01
2083	STM-6304-6305	2.00	2.00	2.00	0.01	0.01
2084	STM-6305-6306	2.00	2.00	2.00	0.01	0.01
2085	STM-6306-6307	2.00	2.00	2.00	0.01	0.01
2086	STM-6307-6308	2.00	2.00	2.00	0.01	0.01
2087	STM-6308-6309	2.00	2.00	2.00	0.01	0.01
2088	STM-6309-6323	2.00	2.00	2.00	0.01	2.00
2089	STM-6310-6311	2.00	2.00	2.00	0.01	0.01
2090	STM-6311-6312	2.00	2.00	2.00	0.01	0.01
2091	STM-6312-6314	2.00	2.00	2.00	0.01	0.01
2092	STM-6314-6316	2.00	2.00	2.00	0.01	0.01
2093	STM-6315-6316	2.00	2.00	2.00	0.01	0.01
2094	STM-6316-6317	2.00	2.00	2.00	0.01	0.01
2095	STM-6317-6321	2.00	2.00	2.00	0.01	0.01
2096	STM-6318-6319	2.00	2.00	2.00	0.01	0.01
2097	STM-6319-6320	2.00	2.00	2.00	0.01	0.64
2098	STM-6320-6321	2.00	2.00	2.00	0.01	0.01
2099	STM-6321-6322	2.00	2.00	2.00	0.01	2.00
2100	STM-6322-6323	2.00	2.00	2.00	0.01	2.00
2101	STM-6323-HW603	2.00	2.00	2.00	0.01	0.01
2102	STM-6345-6314	2.00	2.00	2.00	0.01	0.01
2103	STM-6346-6345	2.00	2.00	2.00	0.01	0.01
2104	STM-6347-6346	2.00	2.00	2.00	0.01	0.01
2105	STM-7001-7002	2.00	2.00	2.00	0.01	0.01
2106	STM-7002-7003	2.00	2.00	2.00	0.01	0.01
2107	STM-7003-7004	2.00	2.00	2.00	0.01	0.01
2108	STM-7004-7005	2.00	2.00	2.00	0.01	0.01
2109	STM-7005-7008	2.00	2.00	2.00	0.01	0.01
2110	STM-7006-7007	2.00	2.00	2.00	0.01	0.01
2111	STM-7007-7008	2.00	2.00	2.00	0.01	0.01
2112	STM-7008-HW701	2.00	2.00	2.00	0.01	0.01
2113						
2114						
2115	Analysis begun on: Thu Mar 4 12:35:41 2021					
2116	Analysis ended on: Thu Mar 4 12:36:05 2021					
2117	Total elapsed time: 00:00:24					

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March 05, 2021 Project Number: 1474

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Attention: **Steve Pichette, P.Eng**

Subject: **BCDC Phase 2 – Preliminary Water Balance & Water Quality Controls**

Introduction

Phase 2 of the Barrhaven Conservancy Development (aka Conservancy East) is located in Barrhaven, Ontario, north of the Jock River, south of the Fraser Clarke Creek and east of the Foster Creek. The proposed development is approximately 59.26 ha that will primarily comprise of single and townhouse residential lots. As a part of the City of Ottawa's review of the proposed development draft plan submitted in December 2020, it was requested that a preliminary water balance for the site be completed, and that additional information is provided to show how the development will meet the water quality requirements (80% TSS removal). As such the following memo outlines how the proposed development will match/exceed the existing water budget and meet the water quality requirements for the site; both of which will be achieved through the use of LIDs.

Modified Etobicoke Filtration Systems (MEFS)

It is proposed that Modified Etobicoke Filtration Systems (MEFS) will be implemented on all roads within the development. The MEFS takes the idea of using the right of way (ROW) to implement Low Impact Developments (LID) solutions, a concept originally proposed by James Li and John Tran in the development of the Etobicoke Exfiltration Systems (EES), but with some modifications made to the design to better suit the conditions observed at the proposed BCDC Phase 2 site. Figure 1 provides detailed drawings of the proposed MEFS.

The primary difference between the EES and the MEFS is that the EES provide storage volume solely below the proposed storm sewer, which then exfiltrates to the soils underneath the system, while the MEFS filters runoff through the granular storage volume around (above, below and beside) the storm sewer before it is conveyed to the downstream Maintenance Hole (MH). One other major difference between the EES and MEFS is that while the MEFS does provide some stormwater infiltration it is primarily a stormwater filtration solution. This is due to the BCDC Phase 2 development site consisting primarily of tight clay soils, providing low infiltration potential.

As shown in Figure 1, the MEFS will consist of catch basins with deep sumps (1 m) and will have two lead pipes, located at different elevations, with both equipped with goss traps. The lower lead pipe, a 150 mm non-ridged PVC pipe, will direct the first flush flows to a perforated 200 mm PVC pipe located near the top of the 2.5 m wide by 1.35 m deep, clear stone MEFS trench, which will then disperse and filter the runoff throughout the granular material in the trench. Once this filtered water reaches the bottom of the trench it can exfiltrate back to the surrounding soils or be collected by another 200 mm perforated pipe that drains to a downstream stormwater maintenance hole which then directs the flow into the stormwater sewer system. The second (higher) catch basin lead pipe, is a typical and conventional 200 mm pipe and will connect directly to the storm sewer.

Under this configuration, the first lead pipe will capture the first flush runoff from the development and direct it to the MEFS trench, where it will percolate and filter through the granular, with a portion of this volume retained within the trench to infiltrate. During high flow events (100-year storm) or when the filtration trench volume is already utilized, water will slightly back up in the catchbasin before reaching the second lead pipe, at which point it will pass flows directly to the storm sewer. Refer to Figure 1, for the detailed drawings of the proposed filtration system.

Water Quality Treatment

An analysis of various potential stormwater quality treatment options was investigated for this site. These included options and combinations of options such as street sweeping, curb cuts with grass swales, curb cuts with infiltration trenches, catch basin inserts, deep sump catch basins, below ground infiltration/ filtration trenches such as the Etobicoke systems or variations of it, and end of pipe alternatives such as oil and grit separators, and JellyFish filters. Each of these options has an expected total suspended sediment (TSS) removal capability, varying from 5% to 88%. When used in a treatment train approach the combination of TSS removal methods improves the overall performance. A summary of quality control options is provided in Attachment A.

Table 1 provides a summary of the TSS removal methods that were considered. Various options and combinations of options have been assessed and shown to meet or exceed the required 80% TSS target. However, with the proposed use of the MEFS which will provide a combination of filtration and infiltration (which is a vital component to meet the site's water budget requirements - further discussion below), Option 6 was selected for this project.

As such, stormwater quality treatment will be provided through the combined use of deep sump catch basins, goss traps on the lead pipes and MEFS. As per the available literature, deep sump catch basins can remove/ retain 25% of the total suspended sediments (TSS) and the MEFS can remove at least 80% of TSS. While it may be argued that the objective to remove 80% TSS could be achieved solely by the MEFS, the use of deep sump catch basins will provide pre-treatment to the MEFS, especially from being overloaded during construction periods and will reduce cleanout/maintenance frequency, further increasing its longevity. In addition to this, it is proposed that the catch basin lead pipes, both the upper and lower pipes, be protected with goss traps. This will prevent floatable pollutants, including oils, from being discharged to the stormwater collection system. The characteristics of the MEFS are described in the previous section of this memo and presented in Figure 1.

Table 1: Quality Control Options - Treatment Train to get 80% TSS Removal

Selection and comparison of Options

Method	TSS Removal	Opt. 1	Opt. 2	Opt. 3	Opt. 4	Opt. 5	Opt. 6	Opt. 7	Opt. 8
Street Sweeping (Monthly)	5%								
Street Sweeping (Weekly)	10%								
Street Sweeping (Weekly with Elgin Eagle)*	88%	X							
Curb Cut with Grass Swales	75%			X					
Curb Cut with Infiltration Trenches	80%		X						
Catch basin Inserts (CB Shield)*	27%				X	X		X	X
Deep Sump Catch Basin	25%				X		X		X
Infiltration/ Filtration Trenches**	80%				X	X	X		
OGS*	50%			X					X
JellyFish*	85%							X	
Overall Performance		**88.00%**	**80.00%**	**87.50%**	**89.10%**	**85.40%**	**85.00%**	**89.10%**	**72.60%**

Treatment Train Overall Performance = 1 - (1- TSS Removal Rate Method 1) x (1- TSS Removal Rate Method 2) x (1- TSS Removal Rate Method 3 x …)

*) TSS Removal as documented by ETV Canada

**) includes the use of Etobicoke infiltration or filtration systems or other permutations of the same

Water Balance

A pre-and post-development water balance has been completed for the site based on the Ministry of the Environment, Conservation and Parks (MECP) SWM design guidelines; the following section outlines the approach and results of this analysis for the various site conditions.

Pre-Development

Based on the Soil Survey Complex mapping from the Ontario Ministry of Agriculture, Food, and Rural Affairs (OMAFRA) the site primarily consists of Carsonby - Silty Clay (Type C) Soils. This was confirmed through onsite field investigations and boreholes which also reported Silty Clays through the majority of the site, refer to Paterson Groups report title "Geotechnical Investigation – Proposed Residential development – Conservancy Lands East", 24 September 2019, for full details. The existing site's water budget parameters have been based on Table 3.1 - Hydrologic Cycle Component Values of the MECP's SWM Manual, assuming Pasture and shrub conditions and a Type C hydrologic soil type, with a soil infiltration factor of 0.1 (tight clays) applied. Under pre-development conditions, the site has a total imperviousness of approximately 2%.

To determine the total water budget for the site, the proposed development lands have been broken into pervious and impervious areas. The annual evaporation, runoff and infiltration volumes were calculated for the impervious and pervious lands separately and summated to provide the overall water balance for the site. Based on continuous hydrologic SWMHYMO model simulations using 39 years of historical rainfall data from the Ottawa Airport, City default impervious Initial Abstraction parameters and an impervious drying time of 45 minutes, it was found that for 100% impervious surfaces, on average, 26% of the annual precipitation will be lost due to evaporation with runoff making up the remaining 74%, these values have been adopted in the water balance calculations for impervious surfaces.

Tables B1-1 to B1-3 outline the calculations of each of these components. Based on this analysis it was found that this site on average, 57.5% of the annual precipitation will return to the atmosphere through evaporation and evapotranspiration, 16.4% will infiltrate and 26.1% will runoff. For the total site drainage area of 59.26 ha, the site will infiltrate 91,518 m³/yr. or 154 mm/yr. of the total annual precipitation of 940 mm/yr.

Post-Development-Without LIDs

Under post-development conditions, the site has been broken into 3 subcomponents based on the proposed land use type: Town Homes, Single Homes and Park Lands. Note that the impervious area associated with the proposed roads has been included in the various development types outlined above. Based on the development conceptual plan, the 59.26 ha site will have a total imperviousness of 64%. The site's water budget parameters have been updated based on Table 3.1 - Hydrologic Cycle Component Values of the MECP's SWM Manual, assuming Urban Lawns and Type C hydrologic soil type. This analysis also assumes that the pervious surfaces within the development will be covered with imported topsoil, and as such a soil infiltration factor of 0.2 (reflective of a mix of clay and loam) was applied.

As completed under pre-development conditions, each of the land use types have been broken into pervious and impervious areas, and these resulting values summated. Tables B2-1 to B2-3 outline the calculations of each of these components. Based on this analysis it was found that, under post-development conditions (without any LID measures in place), this site on average will evaporate 37.0% of its annual precipitation while 7.6% will infiltrate and 55.4% will runoff. Based on the total development area of 59.26 ha, the site will infiltrate 42,561 m³/yr. or 71.8 mm/yr. of the total annual rainfall of 940 mm/yr.: 48,957 m³/yr. or 82.6 mm/yr. short of the pre-development conditions.

Post-Development – With LIDs

As indicated above, the increase in the impervious area due to the proposed development will result in a decrease in annual infiltration volume. To offset this deficit, it is proposed that LID measures will be implemented throughout the site to capture a portion of the additional runoff and allow it to infiltrate back into the soil. As indicated above, the Modified Etobicoke Filtration Systems (MEFS) are proposed to be implemented throughout this site in all locations physically and practically possible.

As a part of the "Barrhaven South Urban Expansion Area Master Servicing Study" completed by J.L. Richards and Associates Inc. (JLR), a detailed historical rainfall analysis was completed to correlate the volume of a single rainfall event to an annual event percentile; for example, based on JLR's study a 22 mm rainfall event correlates to the 95th percentile of all annual rainfall events in the Ottawa region. Similarly, the 85th, 75th and 65th percentile events correspond to 11.4 mm, 7.5 mm and 5.1 mm rainfall events. Using JLR's data, further extrapolation/interpolation can be applied to determine the annual percentiles for particular rainfall events. JLR's analysis helps determine how much of the annual rainfall volume will be dealt with but is missing a key piece of information; the runoff volume (in mm) generated by such rainfall events, which then can be used to conceptually size LID measures. To provide this missing information, a series of conceptual SWMHYMO models were prepared for various total imperviousness (TIMP) ranging from 40% to 95% with various degrees of directly connected imperviousness (XIMP), all with City Standard parameters. These models were run for the 5 mm, 10 mm, 15 mm, 20 mm, 22 mm, 25 mm and 30 mm design storms. From the results obtained (provided in Attachment C) it is possible to determine the runoff (in mm) generated from a given TIMP and XIMP, for any of these storms. For events with less than 5 mm of rainfall, the runoff volume can be computed by simply removing the initial abstraction (IA), from the total rainfall, over the impervious surfaces as the pervious surfaces will not generate any runoff.

It is noted that for the proposed development, with 65% total imperviousness (TIMP) and 52% directly connected imperviousness (XIMP), a 5 mm event would generate approximately 1.78 mm of runoff volume. For a typical ROW of 20 m and 30 m deep residential lots, this represents a volume of 0.142 m³/m (1.78 mm * 80 m²/m). Noting that for the current application, 16.5 m ROW widths and 21 m deep lots are being proposed, the runoff generated per linear meter of roads is reduced to 0.104 m³/m (1.78 mm * 58.5 m²/m). With the proposed 2.5 m wide MEFS clear stone trenches (40% porosity) either of these volumes can be retained within the vertical space between the bottom of the trench and the invert of the lower perforated pipe. For the larger of the two-volume to exfiltrate to the soils underneath the trench within a 48-to-72-hour period, the soils' effective infiltration rates would need to be 0.8 mm/hr to 1.2 mm/hr. These required rates are much lower than those reported by Paterson Group of 9 mm/hr - 25 mm/hr, based on the soil types observed on site.

As a part of this preliminary water budget analysis, it is assumed that 100% of the total drainage area within the development will be treated via MEFS. Interpolating the values in the tables derived by JLR (Table B2-5), combined with the SWMHYMO results provided in Appendix C, it is found that if the MEFS is designed to capture and infiltrate the runoff for storms up to the 5 mm event (64th percentile) a runoff volume of 1.78 mm, the MEFS would provide the means to maintain and exceed the existing on-site infiltration. The results of this analysis are summarized in Appendix B Table B2-4 and show that if LIDs were designed to retain and infiltrate the runoff from 5 mm storms or less, some additional 70,703 m³/yr. (119 mm/yr.) of runoff volume would be infiltrated. This volume offsets the deficit of 48,957 m³/yr. (82.6 mm/yr.) that was calculated under post-development conditions without any LIDs implemented, shown above.

Note that this analysis assumes that these LID measures will infiltrate the runoff volume for storms up to a 5 mm event, this does not mean that these LIDs will only be sized to capture and treat the 5 mm event. These measures will be sized to filter events greater than the 5 mm event, but only need to capture and infiltrate up to the 5 mm event to meet the existing water budget. It is important to note that the relatively low capture (retention/infiltration) rate of up to the 5 mm event is driven by the naturally low infiltration rates of the existing underlying soils (Silty Clays). The design capture event could be further increased but this would also greatly increase the drawdown times within the MEFS; these details can be refined at detailed design.

Water Budget Scenario Summary

Tables 2-4 summarize the annual average water balance under existing conditions and post-development conditions with and without LID measures in place, as m³/year, mm/year and % of total annual rainfall.

Table 2:Pre-Development Water Balance

Drainage Area (ha)		59.26	Imperviousness:	2%
Annual Average Volume	Precipitation	Evapotranspira-tion	Infiltration	Runoff
m³	556,997	319,958	91,518	145,521
mm	940	540	154	246
%	100%	57.5%	16.4%	26.1%

Table 3:Post Development Water Balance – Without LIDs

Drainage Area (ha)		59.26	Imperviousness:	64%
Annual Average Volume	Precipitation	Evapotranspira-tion	Infiltration	Runoff
m³	556,997	206,259	42,561	308,177
mm	940	348	72	520
%	100%	37.1%	7.6%	55.3%

Table 4:Post Development Water Balance – With LIDs

Drainage Area (ha)		59.26	Imperviousness:	64%
Annual Average Volume	Precipitation	Evapotranspira-tion	Infiltration	Runoff
m³	556,997	206,259	113,264	237,474
mm	940	348	191	401
%	100%	37.1%	20.3%	42.6%

Based on this analysis of pre-development conditions this site will evaporate 57.4%, infiltrate 16.4% and runoff 26.1% of all annual rainfall. Under Post-development conditions without LID, this site will evaporate 37.1%, infiltrate 7.6% and runoff 55.3% of all annual rainfall. Under post-development conditions with LIDs, this site will evaporate 37.1%, infiltrate 20.3% and runoff 42.6% of all annual rainfall, exceeding existing pre-development infiltration rates.

Conclusion

Phase 2 of the Barrhaven Conservancy Development will meet and exceed the quality control requirements of 80% TSS removal, through the implementation of a stormwater quality treatment train, which will combine the use of deep sump catch basins, goss traps on the lead pipes and MEFS. This combined treatment train approach is expected to provide 85% TSS removal, exceeding the site's water quality requirements.

A preliminary water balance analysis of the existing site was completed to determine pre-development infiltration rates. A post-development analysis, where no LIDs were implemented, showed that the percentage of annual rainfall infiltrated would decrease by 8.8%. Implementing LIDs in the way of Modified Etobicoke Filtration Systems that are designed to capture and infiltrate up to the 5 mm event would offset this deficit and exceed pre-development conditions. Based on this analysis it has been shown that the proposed development will be able to meet and exceed the existing annual infiltration volumes through the use of MEFS.

Yours truly,
J.F Sabourin and Associates Inc.



Jonathon Burnett, P.Eng
Water Resources Engineer

cc: J.F Sabourin, M.Eng, P.Eng
Director of Water Resources Projects

Figures

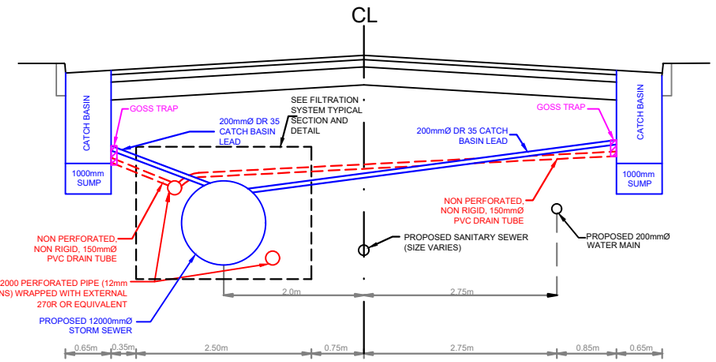
Figure 1: Modified Etobicoke Filtration Systems Drawing Details

Tables

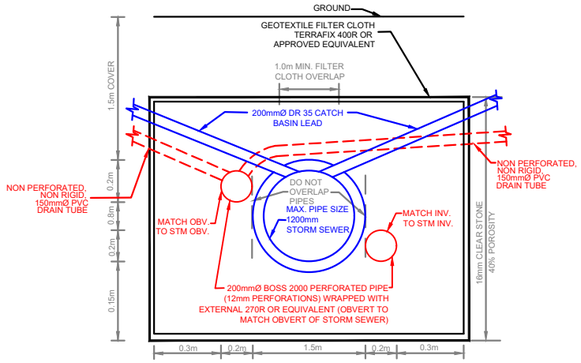
Table 1: Pre-Development Water Balance
Table 2: Post Development Water Balance – Without LIDs
Table 3: Post Development Water Balance – With LIDs

Attachments

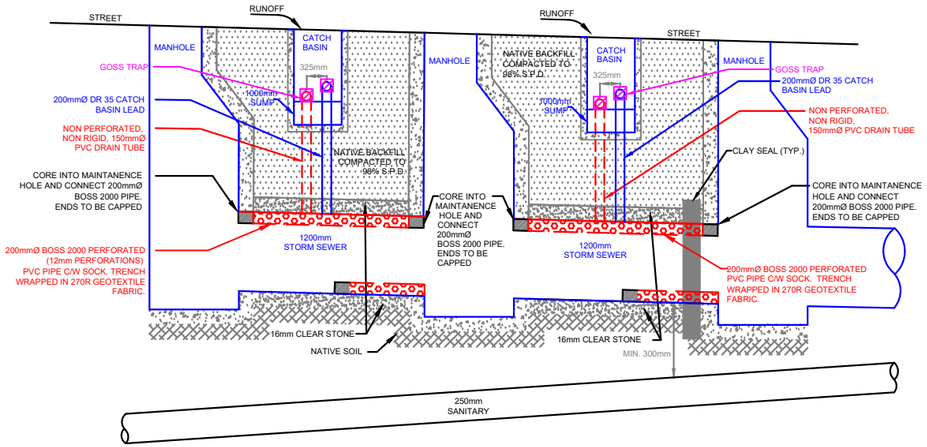
Attachment A: Quality Control Alternatives – Summary
Attachment B: Water Budget Calculations
Attachment C: TIMP vs Runoff Volume Summary Tables



FILTRATION SYSTEM
LOCATION CROSS SECTION (TYP)
N.T.S.

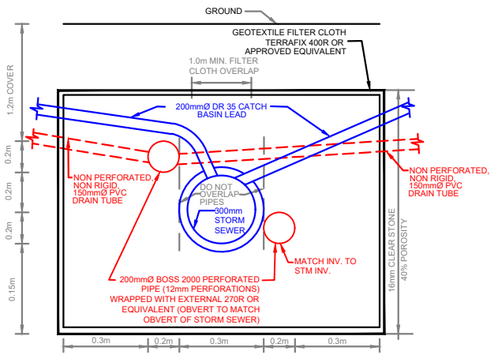


FILTRATION SYSTEM DETAIL
TYPICAL SECTION
N.T.S.

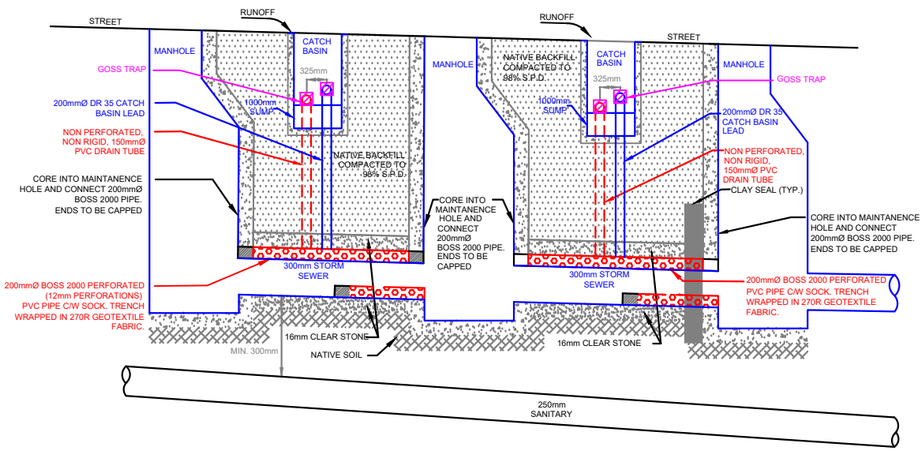


FILTRATION SYSTEM DETAIL
TYPICAL PROFILE
N.T.S.

SCENARIO 1 - DOWNSTREAM FILTRATION SYSTEM



FILTRATION SYSTEM DETAIL
TYPICAL SECTION
N.T.S.



FILTRATION SYSTEM DETAIL
TYPICAL PROFILE
N.T.S.

SCENARIO 2 - UPSTREAM FILTRATION SYSTEM

david schaeffer engineering ltd

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BARRHAVEN CONSERVANCY
FILTRATION SYSTEM DETAILS
CITY OF OTTAWA

PROJECT No.:	16-891
SCALE:	NTS
DATE:	FEBRUARY 2021
FIGURE:	5

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Attachment A

Quality Control Alternatives – Summary

P1474(05)-20: Quality Control Alternatives - Summary of Technologies/ Methods

Prepared by: JFSA (J.F. Sabourin), January 28, 2021

Method/ Approach	TSS Removal (%)	Notes
Street Sweeping (Monthly)	0-10%	Depends on method and frequency (ref Massachusetts, 2008)
Street Sweeping (Weekly)	88%	Elgin Eagle Waterless Sweeper (per pass as tested by ETV Canada)
Street Sweeping (Weekly with Elgin Eagle)*		



Curb Cut with Grass Swales	+/- 75%	Based on several references
	80%+	if combined with with infiltration trench





Catchbasin Inserts	11% to 90%	(1) Cartrige Type, disposible



FIGURE 2.2 Cartridge type CBI (Contech Engineered Solutions, 2017).

(2) Bag Type,

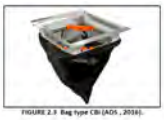


FIGURE 2.3 Bag type CBI (AOS , 2016).

(3) Basket Type

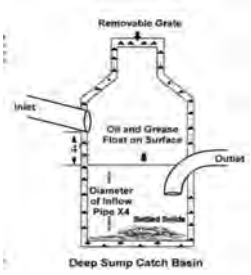


FIGURE 2.4 Basket type CBI (Environmental XPRT, n.d.).

Catchbasin Inserts (CB Shield)*	27%	CB Shield (as tested by ETV Canada)



Deep Sump Catch Basin	25%	if sump deep enough and goss trap added to outlet



Deep Sump Catch Basin

Infiltration/ Filtration Trenches**	82% to 85%	as per LSRCA and other references
OGS*	50%	
JellyFish*	85%	

*) TSS Removal as documented by ETV Canada

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Attachment B

Water Budget Calculations

BCDC Phase 2 - Pre Development Water Balance

Table B1-1: Pre Development Conditions - Pervious Areas

Condition	Land Use	Total Area (ha)	Total Imp (%)	Pervious Area (ha)	Impervious Area (ha)	Soil Type	Hydrologic Soil Group	Precipitation (mm/Year)	Evapo-transpiration (mm/Year)	Surplus (mm/Year)	Infiltration Factor*				Infiltration (mm/yr.)	Runoff (mm/yr.)	Infiltration Volume (m^3/yr.)	Runoff Volume (m^3/yr.)
											Topography Factor	Soils Factor	Cover Factor	Total				
Pre-Development	Natural	59.26	2%	58.07	1.19	Silty Clay	C	940	546	394	0.2	0.1	0.1	0.4	157.6	236	91,518	137,277
Total		**59.26**		**58.07**	**1.19**												**91,518**	**137,277**

Table B1-2: Pre Development Conditions - Impervious Areas

Condition	Land Use	Total Area (ha)	Total Imp (%)	Pervious Area (ha)	Impervious Area (ha)	Precipitation (mm/Year)	Evaporation (mm/Year)	Surplus (mm/Year)	Infiltration (mm/yr.)	Runoff (mm/yr.)	Infiltration Volume (m^3/yr.)	Runoff Volume (m^3/yr.)
Pre-Development	Natural	59.26	2%	58.07	1.19	940	244	696	0	696	0	8,244
Total		**59.26**		**58.07**	**1.19**						**0**	**8,244**

Table B1-3: Pre Development Conditions - Water Budget Summary

Condition	Land Use	Total Area (ha)	Total Imp (%)	Pervious Area (ha)	Impervious Area (ha)	Pervious Runoff Volume (m^3/yr.)	Impervious Runoff Volume (m^3/yr.)	Runoff Volume (m^3/yr.)	Infiltration Volume (m^3/yr.)
Pre-Development	Natural	59.26	2%	58.07	1.19	137,277	8,244	145,521	**91,518**
Total		**59.26**		**58.07**	**1.19**		**Total**	**145,521**	**91,518**

BCDC Phase 2 - Post Development Water Balance

Table B2-1: Post Development Conditions - Pervious Areas

Condition	Land Use	Total Area (ha)	Total Imp (%)	Pervious Area (ha)	Impervious Area (ha)	Soil Type	Hydrologic Soil Group	Precipitation (mm/Year)	Evapo-transpiration (mm/Year)	Surplus (mm/Year)	Infiltration Factor*				Infiltration (mm/yr.)	Runoff (mm/yr.)	Infiltration Volume (m^3/yr.)	Runoff Volume (m^3/yr.)
											Topography Factor	Soils Factor	Cover Factor	Total				
Post Development	Town Homes	3.924	86%	0.56	3.36	Silty Clay	C	940	536	404	0.2	0.2	0.1	0.5	202	202	1,133	1,133
	Park	4.967	29%	3.55	1.42	Silty Clay	C	940	536	404	0.2	0.2	0.1	0.5	202	202	7,164	7,164
	Single Homes	50.364	66%	16.96	33.40	Silty Clay	C	940	536	404	0.2	0.2	0.1	0.5	202	202	34,264	34,264
Total		**59.26**		**21.07**	**38.19**												**42,561**	**42,561**

Table B2-2: Post Development Conditions - Impervious Areas

Condition	Land Use	Total Area (ha)	Total Imp (%)	Pervious Area (ha)	Impervious Area (ha)	Precipitation (mm/Year)	Evaporation (mm/Year)	Surplus (mm/Year)	Infiltration (mm/yr.)	Runoff (mm/yr.)	Infiltration Volume (m^3/yr.)	Runoff Volume (m^3/yr.)
Post Development	Town Homes	3.924	86%	0.56	3.36	940	244	696	0	696	0	23,392
	Park	4.967	29%	3.55	1.42	940	244	696	0	696	0	9,881
	Single Homes	50.364	66%	16.96	33.40	940	244	696	0	696	0	232,343
Total		**59.26**		**21.07**	**38.19**						**0**	**265,616**

Table B2-3: Post Development Conditions - Water Budget Summary

Condition	Land Use	Total Area (ha)	Total Imp (%)	Pervious Area (ha)	Impervious Area (ha)	Pervious Runoff Volume (m^3/yr.)	Impervious Runoff Volume (m^3/yr.)	Runoff Volume (m^3/yr.)	Infiltration Volume (m^3/yr.)
Post Development	Town Homes	3.924	86%	0.56	3.36	1133	23392	24526	1133
	Park	4.967	29%	3.55	1.42	7164	9881	17045	7164
	Single Homes	50.364	66%	16.96	33.40	34264	232343	266606	34264
Total		**59.26**		**21.07**	**38.19**			**308,177**	**42,561**

Table B2-4: Post Development Conditions - LID Infiltration Requirements

Description	Total Runoff Area (ha)	Area treated by LID (%)	Total Treated Area (ha)	Average Site Runoff (mm/yr.)	LID Storm Design Capacity (mm)	LID Runoff Capture Capacity[1] (mm)	Annual Rainfall Percentile Capture[2]	Captured Runoff (mm/yr.)	LID Infiltrated Volume (m^3/yr.)	Site Infiltration Surplus (m^3/yr.)
Post Development LID System	59.3	100%	59.26	520	5.0	1.78	64%	119	70,703	21,746

1 Refer to "TIMP vs Runoff Volume Summary Tables" in Attachment C

2 Refer table B2-5 Ottawa Airport Annual Rainfall Percentiles J.L. Richard - Barrhaven South MSS (2021)

Table B2-5: Ottawa Airport Annual Rainfall Percentiles
J.L. Richard - Barrhaven South MSS (2021)

Event Percentile	Rainfall Depth (mm)
0	0
50	2.9
55	3.4
60	4.2
65	5.1
70	6.2
75	7.5
80	9.1
85	11.4
90	15.1
95	21.6
99	37.1

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Attachment C

TIMP vs Runoff Volume Summary Tables

TIMP vs Runoff Volume Summary Tables

Runoff Volume (mm) Generated for 5 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	3.26	2.93	2.63	2.50	2.42	2.39	2.39	2.43	2.48	2.54	2.62
90.0%	3.09	2.78	2.47	2.16	1.86	1.69	1.60	1.51	1.43	1.38	1.36
85.0%	2.91	2.62	2.33	2.04	1.75	1.46	1.17	0.97	0.82	0.73	0.66
80.0%	2.74	2.47	2.19	1.92	1.65	1.37	1.10	0.82	0.55	0.30	0.15
75.0%	2.57	2.31	2.06	1.80	1.54	1.29	1.03	0.77	0.51	0.26	0.03
70.0%	2.40	2.16	1.92	1.68	1.44	1.20	0.96	0.72	0.48	0.24	0.02
65.0%	2.23	2.01	1.78	1.56	1.34	1.11	0.89	0.67	0.45	0.22	0.02
60.0%	2.06	1.85	1.65	1.44	1.23	1.03	0.82	0.62	0.41	0.21	0.02
55.0%	1.89	1.70	1.51	1.32	1.13	0.94	0.75	0.57	0.38	0.19	0.02
50.0%	1.71	1.54	1.37	1.20	1.03	0.86	0.69	0.51	0.34	0.17	0.02
45.0%	1.54	1.39	1.23	1.08	0.93	0.77	0.62	0.46	0.31	0.15	0.02
40.0%	1.37	1.23	1.10	0.96	0.82	0.69	0.55	0.41	0.27	0.14	0.01

Runoff Volume (mm) Generated for 22 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	19.41	18.62	18.40	18.36	18.41	18.52	18.63	18.75	18.87	19.00	19.12
90.0%	18.39	17.40	16.86	16.55	16.39	16.32	16.29	16.30	16.34	16.43	16.53
85.0%	17.37	16.35	15.63	15.15	14.81	14.56	14.41	14.32	14.26	14.23	14.22
80.0%	16.34	15.33	14.53	13.94	13.47	13.12	12.84	12.62	12.47	12.35	12.29
75.0%	15.32	14.30	13.55	12.86	12.32	11.87	11.51	11.21	10.95	10.73	10.58
70.0%	14.30	13.27	12.58	11.89	11.26	10.76	10.32	9.95	9.64	9.37	9.14
65.0%	13.28	12.30	11.60	10.95	10.31	9.75	9.27	8.85	8.48	8.14	7.88
60.0%	12.26	11.34	10.62	10.03	9.43	8.84	8.31	7.84	7.46	7.08	6.78
55.0%	11.24	10.38	9.64	9.10	8.55	8.01	7.46	6.96	6.53	6.13	5.81
50.0%	10.21	9.42	8.72	8.17	7.68	7.18	6.68	6.19	5.69	5.29	4.93
45.0%	9.19	8.46	7.83	7.24	6.79	6.34	5.90	5.45	5.02	4.56	4.16
40.0%	8.17	7.50	6.93	6.38	5.91	5.52	5.13	4.73	4.33	3.93	3.58

Runoff Volume (mm) Generated for 10 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	8.01	7.32	7.02	6.88	6.83	6.85	6.90	6.97	7.06	7.16	7.28
90.0%	7.59	6.83	6.24	5.92	5.65	5.48	5.36	5.29	5.24	5.24	5.25
85.0%	7.17	6.45	5.73	5.20	4.90	4.58	4.34	4.15	3.99	3.88	3.80
80.0%	6.74	6.07	5.39	4.72	4.24	3.91	3.62	3.33	3.08	2.87	2.72
75.0%	6.32	5.69	5.06	4.43	3.79	3.33	2.96	2.69	2.42	2.15	1.90
70.0%	5.90	5.31	4.72	4.13	3.54	2.95	2.48	2.09	1.80	1.54	1.32
65.0%	5.48	4.93	4.38	3.84	3.29	2.74	2.19	1.68	1.32	0.96	0.73
60.0%	5.06	4.55	4.05	3.54	3.03	2.53	2.02	1.52	1.01	0.61	0.31
55.0%	4.64	4.17	3.71	3.25	2.78	2.32	1.85	1.39	0.93	0.46	0.05
50.0%	4.21	3.79	3.37	2.95	2.53	2.11	1.69	1.26	0.84	0.42	0.04
45.0%	3.79	3.41	3.03	2.66	2.28	1.90	1.52	1.14	0.76	0.38	0.04
40.0%	3.37	3.03	2.70	2.36	2.02	1.69	1.35	1.01	0.67	0.34	0.03

Runoff Volume (mm) Generated for 25 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	22.29	21.52	21.32	21.30	21.38	21.49	21.60	21.72	21.85	21.98	22.10
90.0%	21.16	20.17	19.65	19.37	19.23	19.18	19.16	19.19	19.28	19.39	19.48
85.0%	20.02	18.99	18.29	17.83	17.50	17.29	17.17	17.09	17.05	17.03	17.04
80.0%	18.88	17.89	17.07	16.49	16.05	15.72	15.45	15.26	15.14	15.04	14.98
75.0%	17.75	16.79	15.94	15.29	14.75	14.33	13.99	13.69	13.45	13.27	13.14
70.0%	16.61	15.69	14.89	14.16	13.58	13.08	12.67	12.31	12.01	11.75	11.53
65.0%	15.47	14.59	13.84	13.10	12.48	11.95	11.47	11.07	10.70	10.41	10.16
60.0%	14.33	13.49	12.81	12.12	11.44	10.89	10.40	9.95	9.55	9.19	8.89
55.0%	13.20	12.40	11.77	11.14	10.50	9.89	9.40	8.91	8.51	8.11	7.79
50.0%	12.06	11.29	10.72	10.16	9.58	9.00	8.45	7.98	7.52	7.14	6.79
45.0%	10.92	10.20	9.68	9.17	8.65	8.13	7.62	7.10	6.67	6.26	5.88
40.0%	9.79	9.13	8.64	8.18	7.72	7.27	6.81	6.34	5.88	5.45	5.11

Runoff Volume (mm) Generated for 15 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	12.76	11.96	11.67	11.58	11.58	11.62	11.71	11.83	11.95	12.08	12.19
90.0%	12.09	11.08	10.54	10.18	9.96	9.81	9.74	9.72	9.72	9.75	9.78
85.0%	11.42	10.31	9.68	9.16	8.78	8.49	8.28	8.12	8.00	7.93	7.88
80.0%	10.74	9.67	8.85	8.35	7.85	7.44	7.14	6.87	6.66	6.49	6.36
75.0%	10.07	9.06	8.16	7.54	7.08	6.61	6.20	5.85	5.56	5.30	5.11
70.0%	9.40	8.46	7.52	6.83	6.31	5.87	5.43	5.00	4.65	4.33	4.08
65.0%	8.73	7.86	6.98	6.18	5.59	5.13	4.72	4.32	3.91	3.52	3.22
60.0%	8.06	7.25	6.45	5.64	4.99	4.44	4.01	3.64	3.27	2.89	2.55
55.0%	7.39	6.65	5.91	5.17	4.43	3.89	3.39	2.97	2.62	2.28	1.97
50.0%	6.71	6.04	5.37	4.70	4.03	3.36	2.88	2.43	1.97	1.66	1.38
45.0%	6.04	5.44	4.83	4.23	3.63	3.02	2.42	1.97	1.55	1.15	0.79
40.0%	5.37	4.83	4.30	3.76	3.22	2.69	2.15	1.61	1.14	0.78	0.45

Runoff Volume (mm) Generated for 30 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	27.14	26.38	26.22	26.24	26.34	26.45	26.57	26.69	26.82	26.95	27.08
90.0%	25.86	24.85	24.36	24.14	24.03	23.99	24.03	24.12	24.21	24.31	24.39
85.0%	24.57	23.49	22.82	22.39	22.12	21.96	21.86	21.80	21.77	21.79	21.85
80.0%	23.28	22.20	21.43	20.87	20.47	20.16	19.95	19.81	19.70	19.63	19.58
75.0%	22.00	20.94	20.12	19.48	18.98	18.59	18.26	18.02	17.83	17.70	17.59
70.0%	20.71	19.73	18.86	18.19	17.62	17.16	16.77	16.43	16.14	15.93	15.77
65.0%	19.42	18.51	17.64	16.94	16.34	15.82	15.39	15.02	14.67	14.38	14.14
60.0%	18.14	17.29	16.45	15.74	15.14	14.59	14.11	13.70	13.31	13.01	12.71
55.0%	16.85	16.08	15.30	14.58	13.96	13.43	12.92	12.48	12.06	11.72	11.41
50.0%	15.56	14.86	14.16	13.45	12.86	12.29	11.81	11.36	10.94	10.53	10.21
45.0%	14.28	13.64	13.01	12.39	11.74	11.24	10.73	10.29	9.87	9.45	9.12
40.0%	12.99	12.44	11.88	11.31	10.74	10.20	9.75	9.29	8.87	8.49	8.14

Runoff Volume (mm) Generated for 20 mm event

TIMP	XIMP = % of TIMP										
	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.01
95.0%	17.51	16.70	16.46	16.41	16.44	16.53	16.65	16.76	16.89	17.02	17.14
90.0%	16.59	15.58	15.02	14.70	14.51	14.43	14.39	14.40	14.42	14.48	14.57
85.0%	15.67	14.60	13.89	13.39	13.04	12.79	12.60	12.49	12.43	12.39	12.37
80.0%	14.74	13.62	12.91	12.28	11.81	11.44	11.16	10.92	10.73	10.60	10.51
75.0%	13.82	12.68	11.98	11.31	10.74	10.30	9.91	9.59	9.35	9.11	8.93
70.0%	12.90	11.79	11.04	10.42	9.80	9.28	8.84	8.44	8.11	7.83	7.61
65.0%	11.98	10.89	10.10	9.52	8.95	8.37	7.87	7.44	7.06	6.72	6.44
60.0%	11.06	9.99	9.24	8.63	8.10	7.57	7.03	6.55	6.13	5.75	5.44
55.0%	10.14	9.12	8.40	7.74	7.25	6.76	6.28	5.79	5.30	4.91	4.56
50.0%	9.21	8.29	7.57	6.94	6.40	5.96	5.52	5.08	4.63	4.19	3.79
45.0%	8.29	7.46	6.73	6.17	5.60	5.15	4.76	4.36	3.97	3.57	3.21
40.0%	7.37	6.63	5.90	5.40	4.89	4.38	3.99	3.65	3.29	2.94	2.62

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March 08, 2021 Project Number: 1474

David Schaeffer Engineering Ltd
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Attention: **Steve Pichette, P.Eng.**

Subject: **Review of Quantity Control Requirement for Jock River-Reach One**

Introduction

Phase 2 of the Barrhaven Conservancy Development (aka Conservancy East) is located in Barrhaven, Ontario, north of the Jock River, south of the Fraser Clarke Creek and east of the Foster Creek. The proposed development is approximately 59.26 ha that will primarily comprise of single and townhouse residential lots. As a part of the City of Ottawa's review of the proposed development draft plan of Phase 2 of the Barrhaven Conservancy Development, submitted in December 2020, it is proposed that flood quantity control measures will not need to be implemented as a part of this development. This assumption is based on the work completed by Stantec in June 2007 in the "Jock River Reach One Subwatershed Study" which concluded that for future developments within Reach 1 of the Jock River: "No quantity control storage is required for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River" and that "No erosion control storage is required to maintain the predevelopment in-stream erosion condition". Although this study did not consider the future development of the Barrhaven Conservancy Lands, and as such the modelling completed by Stantec has been updated by JFSA to reflect these changes. The following memo outlines data sources, assessed scenarios, assumptions, and conclusions of this independent Jock River Reach One study.

It is noted that RVCA is currently engaging in a formal update/review of the Jock River Reach One Subwatershed Study, with the findings of this study having the potential to affect the above-noted design criteria. While that study is underway J.F. Sabourin and Associates Inc. (JFSA) has completed an independent Jock River - Reach One study to re-assess/confirm that the assumptions presented in the original 2007 study by Stantec are still valid, as any changes to this conclusion could greatly impact the current BCDC Phase 2 development plan.

Background Data

The following outlines all the model and data sources used in this analysis:

- *"Jock River Floodplain Mapping Report"*, (2005 - PSR Group Ltd. & JFSA)
- *"Jock River Reach One Subwatershed Study Final Report",* (2007 – Stantec)
- *"Corrigan Stormwater Management Facility Stormwater Management Report and Design Brief"*, (2010 - IBI Group)
- *"Citi Gate, Highway 416 Employment Lands, Servicing Study and Stormwater Management Report (O'Keefe SWM)",* (2012 – Novatech)
- *"Foster Stormwater Management Facility, Environmental Study Report",* (2013 - CH2MHill)
- *"Todd Pond Model Keeper Analysis (Re-Assessment of Existing System Capacity)"*, (2015 – JFSA)

- *"CitiGate 416 Corporate Campus Detailed Servicing and Stormwater Management Report (Phase 1)"*, (2015 – Novatech)
- *"Kennedy-Burnett Stormwater Management Facility Retrofit, Detailed Design Report"*, (2020 – Novatech)
- *"Half Moon Bay South / Addendum to April 2015 Todd Pond Model Keeper Analysis, Re-Assessment of Existing System Capacity Report" (2020 - JFSA).*

Model Development/Scenarios

The following section outlines the various hydrologic model scenarios developed as a part of this work, with a brief description of the data sources used for each scenario and how they have been incorporated into the existing Jock River subwatershed hydrologic model.

Model 1 - Jock River Floodplain Model – JFSA, 2005

This hydrologic model was developed as a part of the floodplain mapping study of the Jock River completed in 2005. The hydrologic model of the Jock River was developed by JFSA using SWMHYMO, with independent models developed to simulate both summer and spring events. Both models were calibrated to field measured flows, recorded at the Water Survey Canada Flow Gauge at Moodie Drive. These models function as the basis for which all future models (both by JFSA and others) have been built on. Refer to Figure 1 (JFSA, 2005) for an overview of the subcatchments for reach one in this model, with full SWMHYMO input and summary files provided in Attachment A.

Model 2 – Jock River Reach One Model – Stantec, 2007

The hydrologic analysis completed by Stantec in 2007 built upon the JFSA 2005 floodplain mapping modelling. As a part of the Stantec work, the lower reach of the Jock River (3,176 ha) which was represented as a single subcatchment in the 2005 study was subdivided into thirteen (13) subcatchments to better delineate the drainage areas to the various tributaries (O'Keefe, Fraser, Foster, Todd, Corrigan and Clarke) and to also provide a better representation of the existing development areas (Kennedy Burnett, Chapman Mills, Jockvale and Hearts Desire). The remaining natural/undeveloped areas within the Jock River corridor were subdivided into three smaller (3) sub-catchments. Refer to Figure 2 (Stantec, 2007) for an overview of the subcatchments for reach one in this model, with full SWMHYMO input and summary files provided in Attachment B.

As mentioned above from this study, it was concluded that developments located in the lower reaches of the Jock River do not require any quantity control storage for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River and that no erosion control storage is required to maintain the pre-development in-stream erosion conditions.

Model 3 – Jock River Reach One Model Update – JFSA, 2021

As a part of the study outlined in this report, the 2007 Stantec SWMHYMO model of the Jock River was updated to reflect (as best as possible with the available information) proposed, approved and potential future developments, since the 2007 study.

At the time of the 2007 study, it was assumed that the floodplain of reach one of the Jock River (from Highway 416 to Greenbank Road) would not be filled and developed. Furthermore, the assumptions that were made in 2007 for the total imperviousness of future developments are not reflective of the actual constructed conditions observed in 2021; for example, the total impervious area for the Todd drainage area was assumed to be 43% in the 2007 study, while based on latest aerial photography it appears that the imperviousness for this area is closer to 58.5%). Additionally, SWM quantity controls were implemented in some tributaries within Reach One (e.g., O'Keefe, Foster and Kennedy-Burnett) to respect the hydraulic capacity of the local watercourses or other existing hydraulic constraints.

As outlined in the Background Data section of this memo, data from various reports and studies were collected and used to update Stantec's 2007 model, to best reflect existing conditions and known approved and planned development projects. As such, the thirteen (13) subcatchments of the 2007 Stantec model have been further discretized into one hundred ten (110) subcatchments, with numerous additional major system storage, SWM Ponds, and channel routing commands added. This updated existing condition model is reflective of current 2021 conditions, which assumes that the lower Jock River floodplain is undeveloped. It should also be noted that only subcatchments downstream of Highway 416 have been updated as a part of this analysis. Updates to other catchments of the Jock River further upstream, such as the Monahan Drain, Hobbs Creek, King Creek, and development areas in Richmond, where additional new information may be available, have not been included in the model updates at this time. Refer to Figure 3 for an overview of the subcatchments for reach one in this model, with full SWMHYMO input and summary files been provided in Attachment C, detailed schematics of the subcatchments updated as a part of this study have been provided in Attachment F.

Note that Novatech's PCSWMM model of the Kennedy-Burnett area was used to create a detailed SWMHYMO model of the same area. In creating this SWMHYMO model it was found that the 100-year peak outflows from the Kennedy Burnett facility were 1.4 times higher than that reported in the Novatech PCSWMM model. While it is expected that different modelling software will produce slightly different results, this difference is significant and should be investigated further; although it is unlikely that this difference is expected to change the fundamental conclusions of this analysis.

Model 4A & 4B – Jock River Reach One Future Conditions (without and with quantity SWM controls) – JFSA, 2021

Two additional models (4A and 4B) were created (which built on model 3) to evaluate the impacts of developing portions of the lower Jock River floodplain (from Highway 416 to Greenbank Road). These lands make up approximately 156 ha and would include BCDC and other properties on the south side of the Jock River. Model 4A assumes that these lands would be developed without any SWM quantity controls and Model 4B assumes that the lands would be developed with SWM Post to Pre-development quantity controls. Refer to Figure 4 for an overview of the subcatchments for reach one in these models, with full SWMHYMO input and summary files for scenarios 4A and 4B provided in Attachment D & E, respectively.

Results

All hydrologic models were run using a 24 hours SCS storm for the 2-to-100-year events. Note that this analysis focuses on this particular rainfall event as for developed areas the summer rainfall events are more critical than the spring rainfall plus snowmelt conditions. Hence, only the summer peak flows have been summarized and compared for the various scenarios below, as the flow contributions from the developments in the lower Jock River under the spring rainfall + snowmelt event are negligible compared to the flows upstream from the greater Jock River. It is further noted that the same design storms were used in all models.

Peak flows at key locations along Reach One of the Jock River have been extracted from the various hydrologic models and provided in the following section. As a part of this analysis, 5 key locations on the Jock River have been selected to compare the simulated peak flows and are as follows: Highway 416, Borrisokane Road, Greenbank Road, Jockvale Road and the Jock River's confluence with the Rideau River. Note that for the older models (JFSA 2005 & Stantec 2007) results have only been provided at some locations, as these original models were not discretized to this higher level of detail. Additionally, the Stantec 2007 model did not assess flows on the Jock River for the 10- and 50-year events at any locations.

Table 1: Comparison of Summer Peak Flows (m^3/s) at Highway 416 (52483.00 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	45.676	66.292	82.076	104.643	122.469	141.415
Model 2: Stantec 2007 Reach One Analysis	45.789	66.413	n/a	104.834	n/a	141.853
Model 3: Updated Model 2 to current/ approved conditions	46.294	67.222	83.235	106.109	124.249	143.580
Model 4A: Model 3 with BCDC & others w/o SWM	46.294	67.222	83.235	106.109	124.249	143.580
Model 4B: Model 3 with BCDC & others with SWM	46.294	67.222	83.235	106.109	124.249	143.580

From Table 1 above it is seen that the peak flows on the Jock River at Highway 416 for Models 3, 4A and 4B are higher than in Models 1 and 2. This is because the computational time step in the updated models was reduced from 5 - 10 minutes to 1 minute. This change was necessary to provide stable results in the various models, especially with the additional ROUTE CHANNEL commands that have been added to the updated models. There were no other changes made to the models upstream of Highway 416.

Table 2: Comparison of Summer Peak Flows (m^3/s) at Borrisokane Road (53577.82 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	n/a	n/a	n/a	n/a	n/a	n/a
Model 2: Stantec 2007 Reach One Analysis	46.817	68.124	n/a	107.402	n/a	144.892
Model 3: Updated Model 2 to current/ approved conditions	47.379	69.117	85.613	108.988	127.740	147.849
Model 4A: Model 3 with BCDC & others w/o SWM	47.426	68.998	85.561	109.064	127.650	147.535
Model 4B: Model 3 with BCDC & others with SWM	47.599	69.319	85.870	109.449	128.055	147.939

From Table 2 it is seen that the peak flows on the Jock River at Borrisokane are generally lower in model 4A (developed without SWM controls) than under existing conditions (Model 3). The inclusion of SWM controls for these future developments results in the peak flows increasing from existing conditions for all return periods at this location. Note that the increase in flows at this location between the Stantec model (model 2) and the JFSA existing conditions model (model 3) again is due to the greater discretization of subcatchments at Borrisokane Road in the JFSA model. For example, in the Stantec model, the subcatchment that represents the currently undeveloped lands along the Jock River is represented as a single subcatchment (S-1). Where the JFSA updated model represents these lands as 14 individual subcatchments, all discharging to their respective locations within the Jock River (e.g. O'Keefe Creek, Foster Creek & Borrisokane Road).

Table 3: Comparison of Summer Peak Flows (m^3/s) at Greenbank Road (54717.80 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	n/a	n/a	n/a	n/a	n/a	n/a
Model 2: Stantec 2007 Reach One Analysis	49.195	71.220	n/a	111.172	n/a	149.236
Model 3: Updated Model 2 to current/ approved conditions	49.055	70.826	86.895	110.282	128.564	147.488
Model 4A: Model 3 with BCDC & others w/o SWM	48.599	69.773	85.389	103.842	126.050	144.531
Model 4B: Model 3 with BCDC & others with SWM	48.982	70.171	85.928	103.651	126.537	144.894

From Table 3 it is seen that peak flows on the Jock River at Greenbank Road are the lowest without SWM controls in place (Model 4A). With SWM controls in place, the peak flows are lower than the existing conditions, but not as low as when SWM controls are not implemented. Note that the JFSA existing conditions model (model 3) is presenting peak flows lower than the Stantec model (model 2) at this location, again this is due to the greater discretization in the JFSA model as discussed above.

Table 4: Comparison of Summer Peak Flows (m^3/s) at Jockvale Road (55476.26 ha)

Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	n/a	n/a	n/a	n/a	n/a	n/a
Model 2: Stantec 2007 Reach One Analysis	49.870	72.143	n/a	112.074	n/a	150.033
Model 3: Updated Model 2 to current/ approved conditions	49.619	72.224	88.294	111.989	130.865	149.819
Model 4A: Model 3 with BCDC & others w/o SWM	49.482	71.017	86.165	105.082	128.174	146.840
Model 4B: Model 3 with BCDC & others with SWM	49.606	71.408	86.690	104.765	128.229	147.027

From Table 4 is seen that the peak flows at Jockvale Road are generally at their lowest without SWM controls in place, and that either implementing or not implementing SWM controls for future developments results in peak flows at this location being less than existing conditions.

Table 5: Comparison of Summer Peak Flows (m^3/s) at Outlet of Jock River (55579.20 ha)

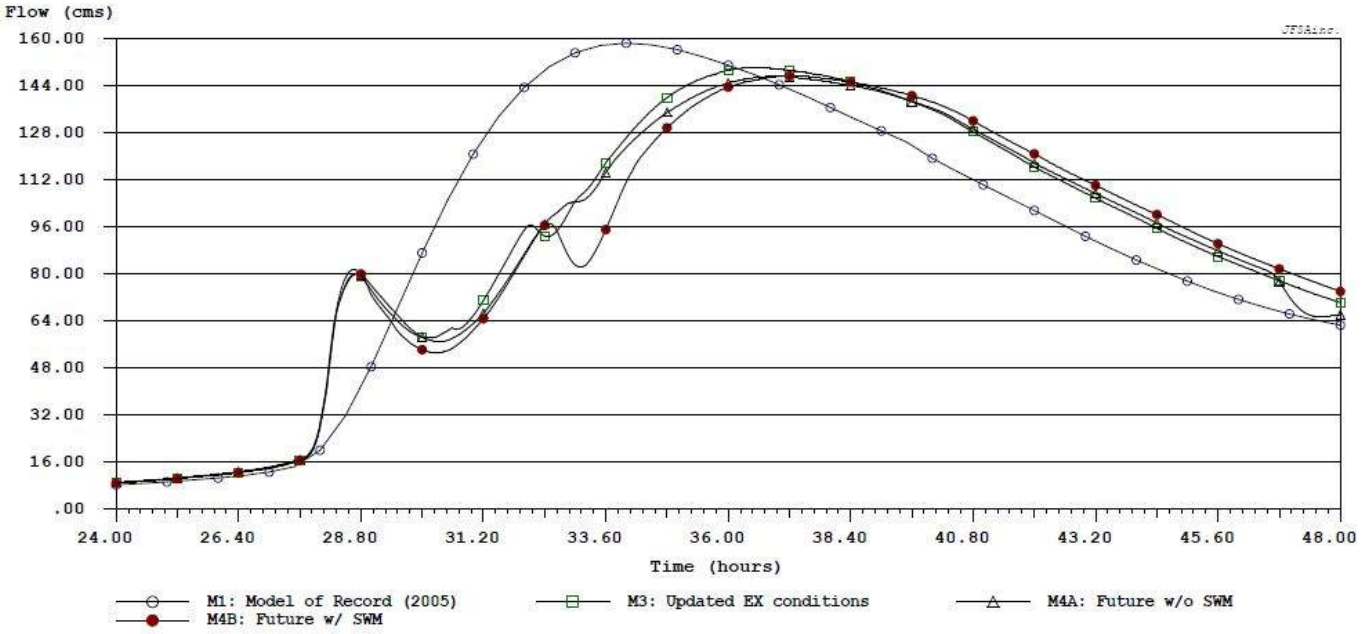
Scenario	Return Period					
	2-Year	5- Year	10-Year	25-Year	50-Year	100-Year
Model 1: 2005 Floodplain Study	49.16	72.08	89.96	115.84	136.46	158.42
Model 2: Stantec 2007 Reach One Analysis	50.78	73.65	n/a	113.97	n/a	157.69
Model 3: Updated Model 2 to current/ approved conditions	49.72	72.36	88.45	112.2	131.12	150.12
Model 4A: Model 3 with BCDC & others w/o SWM	49.58	71.17	86.35	105.27	128.42	147.10
Model 4B: Model 3 with BCDC & others with SWM	49.70	71.54	86.85	104.96	128.45	147.28

From Table 5 it is seen that the peak flows on the Jock River at the confluence with the Rideau River are generally at their lowest without SWM controls in place, and that either implementing or not implementing SWM controls for future developments results in peak flows at this location to be less than existing conditions.

Discussion

Although not initially obvious, the reason that future urban developments within Reach One of the Jock River are decreasing peak flows on the Jock River is because developing land not only affects the peak of the hydrograph but also the overall shape. Figure A below provides a comparison of the simulated hydrographs at the Jock River's confluence with the Rideau River from the various model scenarios. During any rainfall event, the runoff from the existing and future developments within Reach One will have already peaked and decayed before the peak flows arrive at this location from the upstream drainage area. For the 100-Year SCS storm, the peak from the development in Reach One can be seen in the figure below at around 28 hours, while the peak flow on the Jock River from the upstream drainage areas occurs at around 36-37 hours, this is approximately a 9-hour difference in timing. As such, implementing SWM measures for developments in the lower portions of the Jock River will decrease peak flows from the development, but would also prolong the period of time during which they discharge into the Jock River, thus coinciding with flows from the greater Jock River, ultimately resulting in potential increases in peak flows on the Jock River. This is seen in the figure below with the future condition with SWM controls (Model 4B - Red Circles) having a higher flow in the tail than future conditions without SWM controls (Model 4A – Black Triangles). Note that the difference between Model 1 and all other scenarios is simply due to further discretization of subcatchments within Reach One.

Figure A: Comparison of simulated 100 yr Jock River hyrographs at the confluence with the Rideau River



Hydrograph Statistics:

Legend	Filename & Comment	Time Step (min)	Drainage Area (ha)	Peak Flow (cms)	Time to Peak (hrs)	Runoff Volume (mm)	Runoff Volume (cu.m)	Duration of flow (hrs)	Average flow (cms)
—○—	N1.0100 : M1: Model of Record (2005)	30.00	55659.00	158.420	34.000	14.52	8.082E+06	24.000	93.538
—□—	SN_N1.0100 : M3: Updated EX conditions	1.00	55579.20	150.120	36.533	14.24	7.914E+06	24.000	91.603
—△—	SN_N1.0100 : M4A: Future w/o SWM	1.00	55579.20	147.102	36.917	14.12	7.848E+06	24.000	90.831
—●—	SN_N1.0100 : M4B: Future w/ SWM	1.00	55579.19	147.276	37.250	14.03	7.798E+06	24.000	90.252

Conclusion

The hydrologic model developed as a part of the Jock River Reach One Subwatershed Study (Stantec 2007) has been updated to provide additional refinements in the lower reaches of the Jock River (downstream of Highway 416) and assumes the development of lands that were previously not considered in the 2007 analysis (e.g. Barrhaven Conservancy). Future development condition models were created with and without SWM controls assumed, and the peak flows extracted from these models at key locations along the lower Jock River. From this analysis, it was found that with these additional developments in the lower Jock River peak flows are generally less than existing conditions without SWM controls in place. Implementing SWM controls for these developments has also been found to generally decrease peak flows on the Jock River, but not at all locations and not to the same degree as without SWM controls. Ultimately these findings are consistent with the fundamental conclusions drawn in Stantec's 2007 Jock River Reach One study, which initially determined that for future developments within Reach One of the Jock River "No quantity control storage is required for flood control purposes as the hydrograph from the subwatershed will peak before the upstream peak in the Jock River" and that "No erosion control storage is required to maintain the pre-development in-stream erosion condition". Based on the results of the updated analysis outlined in this memo, it can confirm that the fundamental conclusions drawn in Stantec's 2007 for developments in reach one of the Jock River remain valid.

Yours truly,
J.F Sabourin and Associates Inc.



Jonathon Burnett, P.Eng
Water Resources Engineer

cc: J.F Sabourin, M.Eng, P.Eng
Director of Water Resources Projects

Figures

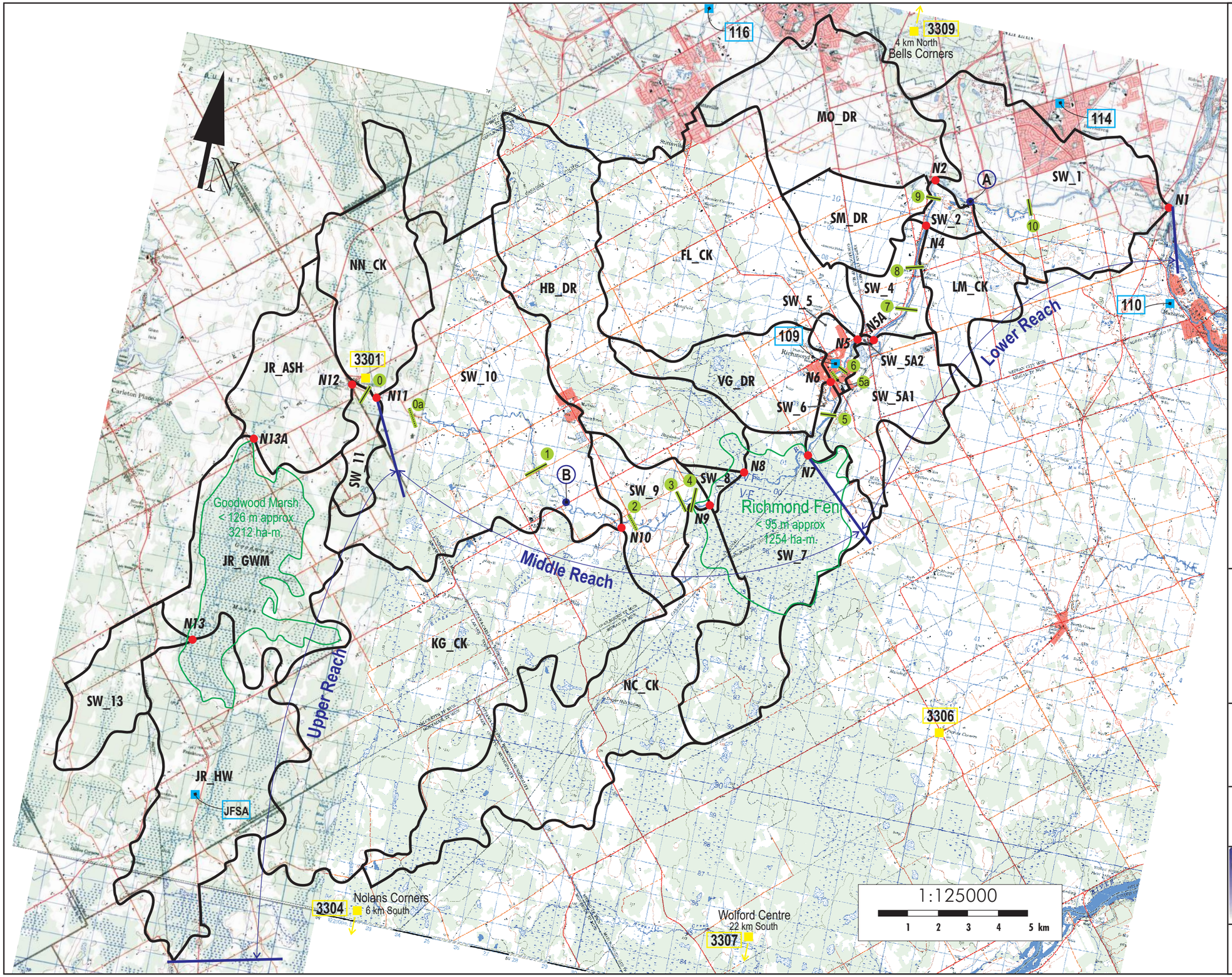
Figure 1: Model 1 – Jock River Floodplain Model – JFSA, 2005
Figure 2: Model 2 – Jock River Reach One Model – Stantec, 2007
Figure 3: Model 3 – Jock River Reach One Model Update - JFSA, 2021
Figure 4: Model 4A & 4B – Jock River Reach One Future Conditions - JFSA, 2021

Tables

Table 1: Summer Peak Flows at Highway 416
Table 2: Summer Peak Flows at Borrisokane Road.
Table 3: Summer Peak Flows at Greenbank Road
Table 4: Summer Peak Flows at Jockvale Road
Table 5: Summer Peak Flows at Outlet of Jock River

Attachments

Attachment A: Model 1 - SWMHYMO Input & Summary files
Attachment B: Model 2 - SWMHYMO Input & Summary files
Attachment C: Model 3 - SWMHYMO Input & Summary files
Attachment D: Model 4A - SWMHYMO Input & Summary files
Attachment E: Model 4B - SWMHYMO Input & Summary files
Attachment F: Updated Subcatchment Schematics & Tables



Legend:

- Watershed
- Bogs (Reservoir)
- Nodes
- Flow gauges
- Rain gauges
- Snow course stations
- River Cross-Sections (based on topo. maps)
- River Cross-Sections adjusted with field data
- Reaches limits

Flow gauges ID

- (A) 02LA007- Jock River near Richmond
- (B) Jock River at Franktown Rd

Rain gauges ID

- 109 Richmond
- 110 Manotick
- 114 Barrhaven
- 116 Maple Grove
- JFSA JFSA Inc, Temporary Rain Gauge 2003

Snow course stations ID

- 3301 Ashton
- 3304 Nolans Corners
- 3306 Pierces Corners
- 3307 Bells Corners
- 3309 Wolford Centre

Client:

RIDEAU VALLEY CONSERVATION AUTHORITY

Project:

Jock River Flood Plain Mapping Study

Title:

Watershed Delineation

J.F. Sabourin & Associates Inc.
WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS
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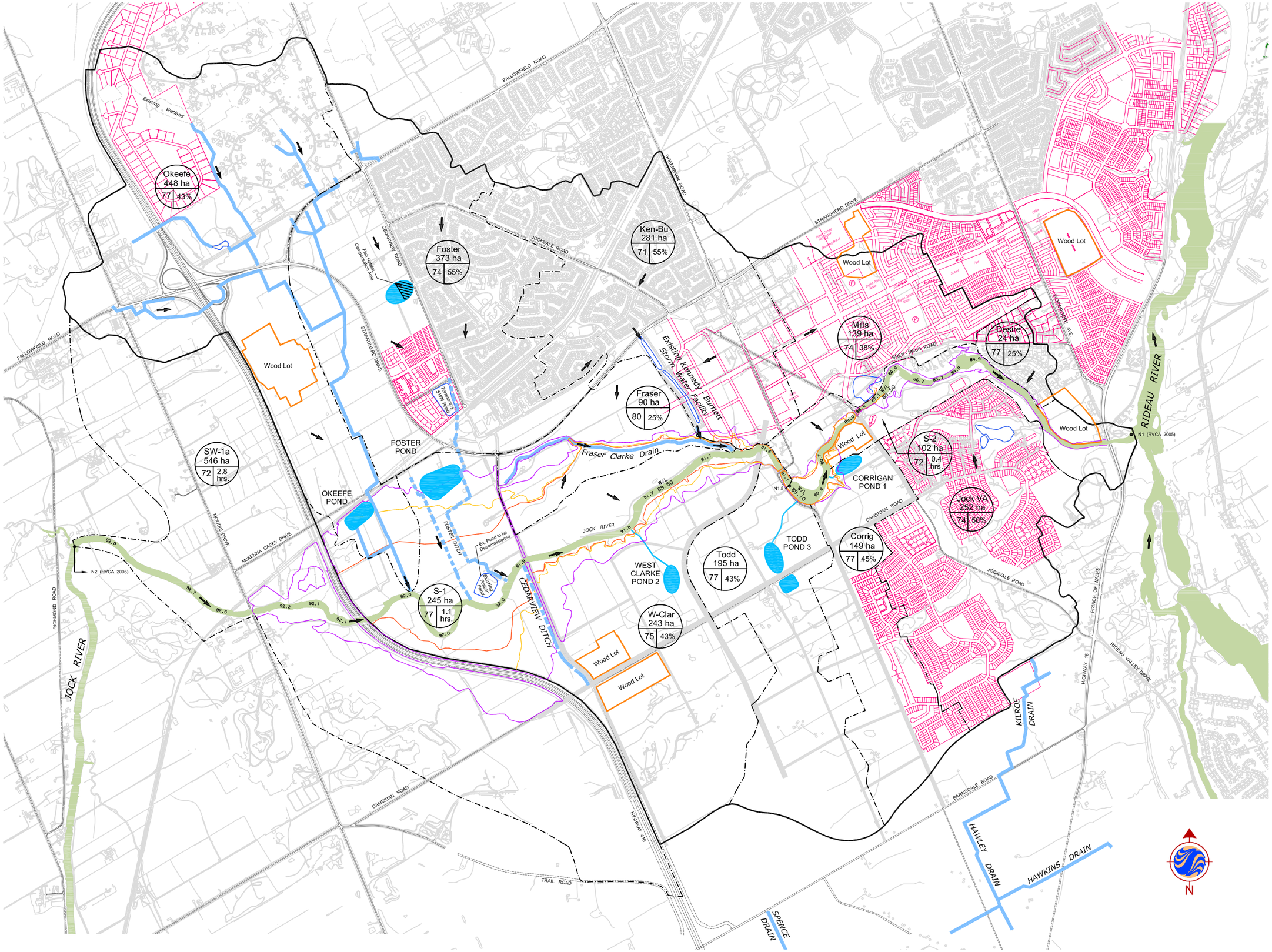
GATINEAU (819) 243-6858

Figure 1

Ref. File: Base Map Jock River B.cdr



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Legend

- Existing SWM Facility
- Proposed Stormwater Facility
- Proposed Pond Outlet
- Jock River Tributary (Municipal Drain)
- Jock River Tributary (Non-Municipal Drain)
- Watershed Boundary
- 91.7 — Regulatory Flood Level
- W/L 89.50 — Normal Water Level
- Woodlot Limits
- Sub-drainage Area Limit
- Desire / 24 ha / 77 / 50% / hrs. — Sub-drainage Area Name; Sub-drainage Area Size; % Impervious or Time to Peak (hours); SCS Curve Number
- Application Plans Under Review
- 10 Year Flood Line
- 25 Year Flood Line
- 100 Year Flood Line

1	FINAL REPORT	BCB	N.G.	JUNE 2007
	Revision	By	Appd.	YY.MM.DD

File Name: Dwn. Chkd. Dsgn. YY.MM.DD

Seal

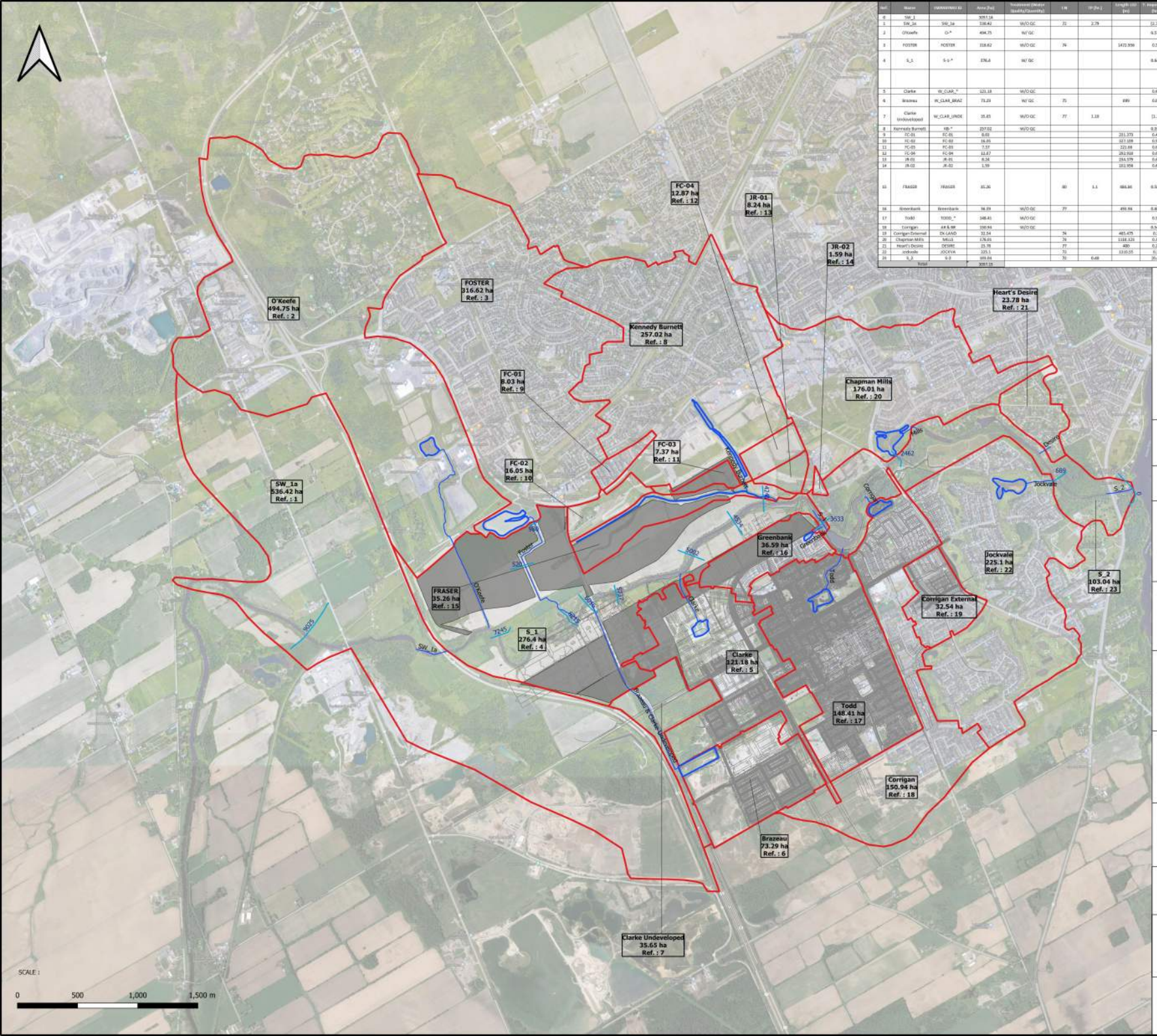
Client/Project

JOCK RIVER REACH ONE SUB-WATERSHED STUDY
Ottawa ON Canada

Title

PROPOSED CONDITIONS HYDROLOGIC MODEL DRAINAGE BOUNDARIES

Project No. 60400414
Scale 1:10,000 (0, 100, 300, 500m)
Drawing No. Figure 2
Sheet 1 of 1
Revision 1



Ref	Name	SWMM5 ID	Area (ha)	Imperviousness (Modify (Lumped) Quality/Quantity)	I/A	I/P (ha.)	Length (m)	% Imperv. (%)	RGDF	Type	Major System To	Minor System To	Figure	Table	Schematic
0	SW_1		3057.14												
1	SW_1a	SW_1a	536.42	W/O QC	72	2.79		12.79		NASHYD	Jock River at Station 7245				
2	O'Keefe	O-*	494.75	W/ QC				9.575		STANDHYD	Jock River at Station 8255		Figure F1 - O'Keefe Sub-catchments	Table F1 - O'Keefe Sub-catchments	Schematic F1 - O'Keefe Sub-catchments
3	FOSTER	FOSTER	316.62	W/O QC	74		1472.936	0.55	0.55	STANDHYD	Jock River at Station 8036		Figure F2 - Foster Sub-catchment	Table F2 - Foster Sub-catchment	
4	S_1	S-1-*	276.4	W/ QC				0.846		STANDHYD	Jock River at Station 5803		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
5	Clarke	W_CLAR_*	121.18	W/O QC				0.61		STANDHYD	Jock River at Station 3002				
6	Brazeau	W_CLAR_BRAZ	73.29	W/ QC	75		889	0.65	0.6	STANDHYD	Jock River at Station 8016		Figure F3 - Clarke & Brazeau Sub-catchments	Table F3-1 - Clarke Sub-catchments Figure F3-2 - Brazeau Sub-catchment	
7	Clarke Undeveloped	W_CLAR_UNDE	35.65	W/O QC	77	1.18		[1.1]		NASHYD	Jock River at Station 9002				
8	Kennedy Burnett	KB-*	257.02	W/O QC				0.357		STANDHYD	Jock River at Station 3033				
9		FC-01	8.03				201.373	0.47	0.47	STANDHYD	Jock River at Station 3035				
10		FC-02	16.05				327.109	0.59	0.59	STANDHYD	Jock River at Station 3023		Figure F4 - Kennedy Burnett Sub-catchments	Table F4 - Kennedy Burnett Sub-catchments	
11		FC-03	7.37				221.88	0.64	0.64	STANDHYD	Jock River at Station 3033				
12		FC-04	12.87				282.918	0.64	0.64	STANDHYD	Jock River at Station 3035				
13		JR-01	8.24				234.579	0.64	0.64	STANDHYD	Jock River at Station 3033				
14		JR-02	1.59				102.958	0.64	0.64	STANDHYD	Jock River at Station 3033				
15	FRASER	FRASER	35.26				986.84	0.565	0.565	STANDHYD	Jock River at Station 3033		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
16	Greenbank	Greenbank	36.59	W/O QC	77		499.94	0.802	0.639	STANDHYD	Jock River at Station 2462				
17	Todd	TODD_*	148.41	W/O QC				0.59		STANDHYD	Jock River at Station 2462		Figure F5 - Todd Sub-catchments	Table F5 - Todd Sub-catchments	
18	Corrigan	AR & RR	150.94	W/O QC				0.541		STANDHYD	Jock River at Station 2462		Figure F6 - Corrigan Sub-catchments	Table F6 - Corrigan Sub-catchments	
19	Corrigan External	EX-LAND	32.54		74		485.475	0.5	0.5	STANDHYD	Jock River at Station 2462				
20	Chapman Mills	MILLS	176.01		74		1118.125	0.58	0.58	STANDHYD	Jock River at Station 909				
21	Heart's Desire	DESIRE	23.78		77		400	0.25	0.25	STANDHYD	Jock River at Station 0				
22	Jockvale	JOCKVA	225.1		70		1310.55	0.5	0.5	STANDHYD	Jock River at Station 0				
24	S_2	S-2	103.04		70	0.68		[0.6]		NASHYD	Rideau River				
	Total		3057.14												

Legend

- Channel Cross Section
- Sub-catchments
  - SW_1
- SWMF Drains
- SWMF ponds

File name:

Figure 3 - Overall Jock River Lower Reach one Sub-catchments.pdf

XS 4534 — Cross Section at station 4534

SW_1a
536.42 ha
Ref. 1

- Area ID
- Area (ha)
- Reference Number

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure 3 - Overall Jock River Lower Reach one Sub-catchments

Table 3 - Overall Jock River Lower Reach one Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021



Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1-A
- S-1-B
- S-1-D1
- S-1-D2
- S-1-D3
- S-1-D4
- S-1-D5
- S-1-D6
- S-1-D7
- S-1-D8
- S-1-FO-D1
- S-1-FO-D2
- S-1-FO-F-D
- S-1-Okeefe
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

20210304_S-1_Fraser_Schematic-Model4A.pdf

XS 3633 Cross Section at station 3633

S-1-A
90.84 ha
Ref. 1
→ Area ID
→ Area (ha)
→ Reference Number

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

S-1 Sub-catchment and Fraser Clarke Sub-catchment Schematic

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021



Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1-A
- S-1-B
- S-1-D1
- S-1-D2
- S-1-D3
- S-1-D4
- S-1-D5
- S-1-D6
- S-1-D7
- S-1-D8
- S-1-FO-D1
- S-1-FO-D2
- S-1-FO-F-D
- S-1-Okeefe
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

20210304_S-1_Fraser_Schematic-Model4B.pdf

XS 3633 Cross Section at station 3633

S-1-A
90.84 ha
Ref. 1
→ Area ID
→ Area (ha)
→ Reference Number

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BCDC - Quantity Control Study

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S-1 Sub-catchment and Fraser Clarke Sub-catchment Schematic

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

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Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment A

Model 1 – Jock River Floodplain Model

JFSA, 2005

SWMHYMO Input & Summary files

```
20    Metric units / ID numbers OFF
*#*****************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*****************************************************************************
*#  Project Name: [Jock River]    Project Number: [411-02]
*#  Date        : 06-06-2003
*#  Modeller    : [JoF]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*****************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
*%                   ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------------|
MODIFY STORM        ICASEms=[1],  NSHIFT=[96],
                    RedFACT=[1],
*%-----------------|-------------------------------------------------------------|
COMPUTE API         APII=[50], APIK=[.85]/day
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_HW"], DT=[30]min, AREA=[3680](ha),
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                    N=[3.0], TP=[7.13]hrs,
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                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
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                    InterEventTime=[12](hrs)
```

```
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
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                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
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                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
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                    N=[3.0], TP=[3.91]hrs,
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                    Baseflow simulation parameters:
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                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
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                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
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*# of 1.80
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                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
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*# of 1.52
*%-----------------|-------------------------------------------------------------|
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```

```
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
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                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
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*%-----------------|-------------------------------------------------------------|
*#
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*# of 1.75
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                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
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                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NC_CK"], DT=[30]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"], DT=[30]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"], DT=[30]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"], DT=[30]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"], DT=[30]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["VG_DR"], DT=[30]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
```

```
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5"], DT=[30]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["FL_CK"], DT=[30]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5A2"], DT=[30]min, AREA=[20](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5A1"], DT=[30]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_4"], DT=[30]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["LM_CK"], DT=[30]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_2"], DT=[30]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SM_DR"], DT=[30]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["MO_DR"], DT=[30]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_1"], DT=[30]min, AREA=[3176](ha),
                    DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
                    N=[3.0], TP=[3.56]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
```

```
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL       NHYDout=["N13A"] ,NHYDin=["S_N13"],
                    RDT=[30](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR     NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [1.991, 2.144    ]
                                  [2.693, 39.826   ]
                                  [3.509, 81.697   ]
                                  [4.578, 318.774  ]
                                  [5.647, 594.947  ]
                                  [7.109, 910.219  ]
                                  [8.616, 1264.589  ]
                                  [10.371, 1658.057  ]
                                  [12.402, 2090.622 ]
                                  [22.056, 3462.487 ]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf["      "] ,
*%-----------------|-------------------------------------------------------------|
*#
```

```
SAVE HYD            NHYD=["RES_GM"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                    RDT=[30](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD            NHYD=["S_N12"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=["N11"] ,NHYDin=["S_N12"] ,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
                                        FPSLOPE=[0.0514](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
```

```
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                    RDT=[30](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|---------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|---------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                    RDT=[30](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
                          [-167.50 ,111.50]
                          [-106.81 ,111.00]
                          [-92.37 ,110.00]
                          [-52.82 ,109.00]
                          [-24.90, 109.00]
                          [-17.02, 108.50]
                          [-6.47, 108.00]
                          [6.47, 108.00]
                          [15.67, 108.50]
                          [18.95, 109.00]
                          [45.36, 109.50]
                          [120.79, 110.00]
                          [145.72, 111.00]
                          [181.56, 111.50]
                          [423.88, 112.50]
*%-----------------|---------------------------------------------------------|
```

```
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N10"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|-------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                    RDT=[30](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-446.74, 106.00]
                         [-415.68, 105.50]
                         [-285.40, 105.00]
                         [-173.77, 104.50]
                         [-144.95, 104.00]
                         [-111.18, 103.50]
                         [-94.06, 103.00]
                         [-71.02, 102.50]
                         [-30.27, 102.00]
                         [-19.33, 100.00]
                         [-18.42, 99.50]
                         [18.42, 99.50]
                         [20.77, 100.00]
                         [27.93, 101.00]
                         [52.29, 101.00]
                         [68.80, 101.50]
                         [79.66, 103.00]
                         [91.50, 103.50]
                         [131.58, 104.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
*#
ADD HYD             NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                    RDT=[30](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                         [-201.19,100.50]
                         [-135.21, 100.00]
                         [-94.83, 99.50]
                         [-67.05, 99.00]
                         [-17.99, 98.50]
                         [-16.02, 98.00]
                         [-13.95, 97.50]
                         [13.95, 97.50]
                         [15.64, 98.00]
                         [17.31, 98.50]
                         [162.02, 98.50]
                         [172.89 ,99.00]
                         [314.38, 99.00]
                         [343.78, 99.50]
                         [365.67, 100.00]
                         [376.68, 100.00 ]
                         [393.11, 99.50]
                         [404.97, 99.50]
                         [431.70, 100.00]
                         [456.58, 100.50 ]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout=["N7"] ,NHYDin=["S_N8"],
                    RDT=[30](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-433.21, 102.00]
                         [-425.34, 101.50]
                         [-377.56, 101.50]
                         [-366.23, 101.00]
                         [-202.60, 100.50]
                         [-96.25, 99.50]
                         [-68.36 99.00]
                         [-18.11, 98.50]
                         [-13.81, 97.50]
                         [13.81, 97.50]
                         [17.22, 98.50]
                         [161.95, 98.50]
                         [173.11, 99.00]
                         [314.05, 99.00]
                         [365.52, 100.00]
                         [404.70, 99.50]
                         [476.74, 100.50]
                         [502.31, 101.00]
                         [584.69, 101.00]
                         [585.79, 101.00]
                         [590.05, 102.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
```

```
ADD HYD             NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                    RDT=[30](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,     0.0 ]
                                   [0.9051,    2.40]
                                   [2.907,     4.13]
                                   [9.744,     9.18]
                                   [20.304,   14.96]
                                   [34.167,  310.21]
                                   [74.993,  605.46]
                                   [104.876, 900.71]
                                   [140.56, 2892.00]
                                   [225.00, 3615.63]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf["      "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                    RDT=[30](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                     [-100.8, 97.00]
                                     [-70.8, 96.50]
                                     [-52.0, 96.00]
                                     [-35.1, 95.50]
                                     [-30.6, 95.00]
                                     [-23.9, 94.54]
                                     [23.9, 94.54]
                                     [39.8, 95.00]
                                     [50.4, 95.50]
                                     [93.5, 96.00]
                                     [94.9, 96.50]
                                     [96.3, 97.00]
*%-----------------|-------------------------------------------------------------|
*#
```

```
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                    RDT=[30](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-686.30, 94.50]
                                       [-675.70, 94.00]
                                       [-492.52, 93.00]
                                       [-467.28, 94.00]
                                       [-131.59, 94.00]
                                       [-92.79, 92.50]
                                       [-18.06, 91.00]
                                       [18.06, 91.00]
                                       [43.47, 92.50]
                                       [48.96, 94.00]
                                       [177.43, 94.00]
                                       [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD             NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                    RDT=[30](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                       [-275.8, 93.00]
                                       [-248.6, 92.50]
                                       [-237.0, 92.00]
                                       [-219.3, 91.50]
                                       [-202.1, 91.50]
                                       [-186.0, 92.00]
                                       [-129.2, 92.00]
                                       [-117.6, 91.50]
                                       [-100.6, 91.00]
                                       [-41.5, 91.00]
                                       [-20.0, 91.00]
                                       [-14.0, 90.54]
                                       [14.0, 90.54]
                                       [15.3, 91.00]
                                       [17.3, 91.50]
```

```
                                    [38.4, 92.00]
                                    [39.8, 92.50]
                                    [41.1, 93.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                    RDT=[30](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-38.9, 92.00]
                                    [-35.8, 91.50]
                                    [-33.3, 91.00]
                                    [-28.2, 90.50]
                                    [-15.0, 87.48]
                                    [-5.0, 88.34]
                                    [5.0, 86.20]
                                    [15.0, 88.55]
                                    [28.2, 90.50]
                                    [29.7, 91.00]
                                    [46.5, 91.00]
                                    [127.8, 91.00]
                                    [148.7, 91.50]
                                    [173.1, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout=["N2"] ,NHYDin=["S_N4"] ,
                    RDT=[30](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-36.3, 92.00]
                          [-32.6, 91.50]
                          [-30.2, 91.00]
                          [-28.0, 90.45]
                          [-15.0, 87.48]
                          [-5.0, 88.34]
```

```
                          [5.0, 86.20]
                          [15.0, 88.55]
                          [28.0, 90.45]
                          [28.4, 90.50]
                          [30.4, 91.00]
                          [31.7, 91.50]
                          [80.2, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N2"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
ROUTE CHANNEL       NHYDout=["N1"] ,NHYDin=["S_N2"] ,
                    RDT=[30](min),
                    CHLGTH=[10046](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-27.6
                      0.06,-15.0
                      -0.045,15.0
                      0.06,25.4
                      0.04,122.6] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                      [-87.0, 91.50]
                                      [-32.4, 91.00]
                                      [-27.6, 90.50]
                                      [-25.0, 90.00]
                                      [-22.9, 89.57]
                                      [-15.0, 86.20]
                                      [-5.0, 84.83]
                                      [5.0, 84.83]
                                      [15.0, 88.11]
                                      [22.9, 89.57]
                                      [25.4, 90.00]
                                      [27.9, 90.50]
                                      [38.0, 91.00]
                                      [112.5, 91.00]
                                      [114.3, 90.50]
                                      [115.1, 90.26]
                                      [116.3, 90.50]
                                      [119.0, 91.00]
                                      [121.0, 91.50]
                                      [122.6, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 1 to Node 1
*#
ADD HYD             NHYDsum=["N1"], NHYDs to add=["N1"+"SW_1"]
SAVE HYD            NHYD=["N1"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["total outflow of Jock River"]
*%-----------------|-------------------------------------------------------------|
*#############################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
```

```
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                   ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|------------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                   ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|------------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                   ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|------------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
FINISH

```

```
 ===============================================================================================

 SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO          222     000    11   5555   =========
 S       W W W   MM MM   H   H    Y Y    MM MM   O   O           2    0   0   11   5
 SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O           2    0   0   11   5      Ver 5.500
     S    W W    M   M   H   H     Y     M   M   O   O         222    0   0   11   555    FEB  2015
 SSSSS    W W    M   M   H   H     Y     M   M    OOO          2      0   0   11     5   =========
                                                               2      0   0   11     5   # 2549237
       StormWater Management HYdrologic Model                  222     000    11   555    =========

 ***********************************************************************************************
 **************************************  SWMHYMO Ver 5.500  *************************************
 ******************  A single event and continuous hydrologic simulation model  *****************
 ******************     based on the principles of HYMO and its successors      *****************
 ******************                OTTHYMO-83 and OTTHYMO-89.                   *****************
 ***********************************************************************************************
 ****************** Distributed by:  J.F. Sabourin and Associates Inc.          *****************
 ******************                  Ottawa,  Ontario: (613) 836-3884           *****************
 ******************                  Gatineau, Quebec: (819) 243-6858           *****************
 ******************                  E-Mail: swmhymo@jfsa.Com                   *****************
 ***********************************************************************************************

 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 ++++++++++++++++++ Licensed user: JFSAinc.                                     +++++++++++++++++
 ++++++++++++++++++                Ottawa              SERIAL#:2549237          +++++++++++++++++
 +++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

 ***********************************************************************************************
 ******************            ++++++ PROGRAM ARRAY DIMENSIONS ++++++           *****************
 ******************            Maximum value for ID numbers  :     11           *****************
 ******************            Max. number of rainfall points: 105408           *****************
 ******************            Max. number of flow points    : 105408           *****************
 ***********************************************************************************************


 ********************************   S U M M A R Y   O U T P U T   *****************************
 ***********************************************************************************************
 *                 RUN DATE: 2021-02-22     TIME: 15:43:08     RUN COUNTER: 001996             *
 ***********************************************************************************************
 * Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\summer.*
 *               DAT                                                                             *
 * Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\summer.*
 *               out                                                                             *
 * Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\summer.*
 *               sum                                                                             *
 * User comments:                                                                                *
 * 1:____________________________________________________________________________________________*
 * 2:____________________________________________________________________________________________*
 * 3:____________________________________________________________________________________________*
 ***********************************************************************************************


#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------------
  ** END OF RUN :    1

 ***********************************************************************************************





 RUN#:COMMAND#
R0002:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0002 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# -----------------------------------------------------------------------------
R0002:C00002-------------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003-------------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00005-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00    6.065 No_date   37:00   11.44 .251     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
      [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_13        971.00    2.154 No_date   32:30   10.72 .236     .000
      [CN= 61.0: N= 3.00: Tp= 3.76]
      [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    3.115 No_date   39:30    9.41 .207     .000
      [CN= 55.0: N= 3.00: Tp=11.33]
      [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
      [InterEventTime=  12.00]
R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00    5.417 No_date   32:30   13.91 .306     .000
      [CN= 72.0: N= 3.00: Tp= 3.91]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_11        500.00    2.663 No_date   29:00   11.95 .263     .000
      [CN= 66.0: N= 3.00: Tp= 1.24]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00    3.966 No_date   34:30   11.95 .263     .000
      [CN= 66.0: N= 3.00: Tp= 5.29]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   10.936 No_date   38:00   13.91 .306     .000
      [CN= 72.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   10.656 No_date   39:30   11.95 .263     .000
      [CN= 66.0: N= 3.00: Tp=11.66]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_9        1132.00    4.365 No_date   30:30   13.32 .293     .000
      [CN= 70.0: N= 3.00: Tp= 2.51]
      [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00    5.312 No_date   39:30   10.96 .241     .000
      [CN= 62.0: N= 3.00: Tp=11.32]
      [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00     .770 No_date   28:30   11.20 .246     .000
      [CN= 63.0: N= 3.00: Tp=  .90]
      [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00    6.083 No_date   38:30   11.95 .263     .000
      [CN= 66.0: N= 3.00: Tp= 8.42]
      [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_7        3197.00    4.557 No_date   36:30    9.83 .216     .000
      [CN= 57.0: N= 3.00: Tp= 6.65]
      [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_6         165.00     .407 No_date   33:00   12.21 .268     .000
      [CN= 67.0: N= 3.00: Tp= 4.18]
      [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    3.083 No_date   35:00   13.91 .306     .000
      [CN= 72.0: N= 3.00: Tp= 5.95]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    2.527 No_date   28:30   15.88 .349     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   14.579 No_date   33:00   14.54 .319     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00     .287 No_date   28:30   17.76 .390     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    3.007 No_date   38:00   15.19 .334     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_4         585.00    4.232 No_date   29:30   17.76 .390     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00    5.667 No_date   30:30   17.36 .382     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    1.996 No_date   28:30   15.88 .349     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00    5.257 No_date   31:30   17.76 .390     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:MO_DR       2737.00   11.338 No_date   31:30   15.53 .341     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   12.490 No_date   32:00   16.23 .357     .000
      [CN= 78.0: N= 3.00: Tp= 3.56]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:JR_HW       3680.00    6.065 No_date   37:00   11.44  n/a     .000
                    +    30.0 02:SW_13        971.00    2.154 No_date   32:30   10.72  n/a     .000
                 SUM=    30.0 01:S_N13       4651.00    7.713 No_date   35:30   11.29  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00    7.713 No_date   35:30   11.29  n/a     .000
     [RDT=30.00] out<-   30.0 01:N13A        4651.00    6.154 No_date   39:30   11.29  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .427:Dmax= 2.537}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N13A        4651.00    6.154 No_date   39:30   11.29  n/a     .000
                    +    30.0 02:JR_GWM      3074.00    3.115 No_date   39:30    9.41  n/a     .000
                 SUM=    30.0 01:SN13A       7725.00    9.269 No_date   39:30   10.54  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00    9.269 No_date   39:30   10.54  n/a     .000
                out <=   30.0 01:RES_GM      7725.00    2.603 No_date   55:30   10.54  n/a     .000
     {MxStoUsed=.3498E+02  m3}
#
R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:RES_GM      7725.00    2.603 No_date   55:30   10.54  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    2.603 No_date   55:30   10.54  n/a     .000
     [RDT=30.00] out<-   30.0 01:N12         7725.00    2.594 No_date   58:00   10.54  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .501:Dmax= 1.326}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N12         7725.00    2.594 No_date   58:00   10.54  n/a     .000
                    +    30.0 02:JR_ASH      1781.00    5.417 No_date   32:30   13.91  n/a     .000
                 SUM=    30.0 01:S_N12       9506.00    7.371 No_date   32:30   11.17  n/a     .000
R0002:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N12       9506.00    7.371 No_date   32:30   11.17  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00    7.371 No_date   32:30   11.17  n/a     .000
     [RDT=30.00] out<-   30.0 01:N11         9506.00    7.317 No_date   33:00   11.17  n/a     .000
      [L/S/n=  972./ .051/.040]
      {Vmax=  .580:Dmax= 2.119}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00    7.371 No_date   32:30   11.17  n/a     .000
     [RDT=30.00] out<-   30.0 01:Dum11       9506.00    7.320 No_date   33:00   11.17  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .589:Dmax= 2.098}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0002:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:Dum11       9506.00    7.320 No_date   33:00   11.17  n/a     .000
                    +    30.0 02:SW_11        500.00    2.663 No_date   29:00   11.95  n/a     .000
                    +    30.0 02:NN_CK       1917.00    3.966 No_date   34:30   11.95  n/a     .000
                 SUM=    30.0 01:S_N11      11923.00   11.951 No_date   33:00   11.33  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0002:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N11      11923.00   11.951 No_date   33:00   11.33  n/a     .000
     [RDT=30.00] out<-   30.0 01:N10        11923.00    8.216 No_date   39:30   11.33  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .460:Dmax=  .881}
#
# Addition of Subwatershed 10 to Node 10
#
R0002:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N10        11923.00    8.216 No_date   39:30   11.33  n/a     .000
```

```
00375>                    +    30.0 02:SW_10       5666.00   10.936 No_date   38:00   13.91  n/a     .000
00376>                SUM=     30.0 01:S_N10      17589.00   19.098 No_date   38:30   12.16  n/a     .000
00377> R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00378>     SAVE HYD              30.0 01:S_N10      17589.00   19.098 No_date   38:30   12.16  n/a     .000
00379>       fname :H_SN10
00380>       remark:flow at S_N10: N10 + SW_10
00381> # Addition of Kings Creek to S_N10
00382> #
00383> R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00384>     ADD HYD               30.0 02:S_N10      17589.00   19.098 No_date   38:30   12.16  n/a     .000
00385>                    +     30.0 02:KG_CK       8376.00   10.656 No_date   39:30   11.95  n/a     .000
00386>                SUM=      30.0 01:S_N10A     25965.00   29.622 No_date   39:30   12.09  n/a     .000
00387> #
00388> # Sum of hydrographs from Node 10 routed to Node 9
00389> # Section 2
00390> #
00391> R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00392>     ROUTE CHANNEL    ->    30.0 02:S_N10A     25965.00   29.622 No_date   39:30   12.09  n/a     .000
00393>       [RDT=30.00] out<-   30.0 01:N9         25965.00   28.881 No_date   39:30   12.09  n/a     .000
00394>        [L/S/n= 3982./ .075/.040]
00395>        {Vmax=  .591:Dmax= 1.193}
00396> #
00397> # Addition of Subwatershed 9 and Nichols Creek to Node 9
00398> #
00399> R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00400>     ADD HYD               30.0 02:N9         25965.00   28.881 No_date   39:30   12.09  n/a     .000
00401>                    +     30.0 02:SW_9        1132.00    4.365 No_date   30:30   13.32  n/a     .000
00402>                    +     30.0 02:NC_CK       4464.00    5.312 No_date   39:30   10.96  n/a     .000
00403>                SUM=      30.0 01:S_N9       31561.00   35.488 No_date   39:30   11.98  n/a     .000
00404> #
00405> # Sum of hydrographs from Node 9 routed to Node 8
00406> # Section 3
00407> #
00408> R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00409>     ROUTE CHANNEL    ->    30.0 02:S_N9       31561.00   35.488 No_date   39:30   11.98  n/a     .000
00410>       [RDT=30.00] out<-   30.0 01:N8         31561.00   33.301 No_date   40:00   11.98  n/a     .000
00411>        [L/S/n= 2269./ .088/.045]
00412>        {Vmax=  .420:Dmax= 1.270}
00413> #
00414> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
00415> #
00416> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00417>     ADD HYD               30.0 02:N8         31561.00   33.301 No_date   40:00   11.98  n/a     .000
00418>                    +     30.0 02:SW_8         131.00     .770 No_date   28:30   11.20  n/a     .000
00419>                    +     30.0 02:HB_DR       3854.00    6.083 No_date   38:30   11.95  n/a     .000
00420>                SUM=      30.0 01:S_N8       35546.00   39.356 No_date   39:30   11.97  n/a     .000
00421> #
00422> # Sum of hydrographs from Node 8 routed to Node 7
00423> # Section 4
00424> #
00425> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00426>     ROUTE CHANNEL    ->    30.0 02:S_N8       35546.00   39.356 No_date   39:30   11.97  n/a     .000
00427>       [RDT=30.00] out<-   30.0 01:N7         35546.00   32.170 No_date   44:00   11.97  n/a     .000
00428>        [L/S/n= 3750./ .053/.070]
00429>        {Vmax=  .209:Dmax= 1.635}
00430> #
00431> # Addition of Subwatershed 7 to Node 7
00432> #
00433> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00434>     ADD HYD               30.0 02:N7         35546.00   32.170 No_date   44:00   11.97  n/a     .000
00435>                    +     30.0 02:SW_7        3197.00    4.557 No_date   36:30    9.83  n/a     .000
00436>                SUM=      30.0 01:S_N7       38743.00   34.345 No_date   43:00   11.79  n/a     .000
00437> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00438>     SAVE HYD              30.0 01:S_N7       38743.00   34.345 No_date   43:00   11.79  n/a     .000
00439>       fname :H_SN7
00440>       remark:flow at S_N7: N7 + SW_7
00441> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
00442> # Storage area and volumes were estimated from available topo maps.
00443> # Release rate from fen was assumed to be controlled by the downstream
00444> # river cross-section for summer conditions.  It is was assumed that for up to
00445> # 0.75 m of water, the main channel of the river provided the storage.  Above
00446> # this depth, the wetland starts to signigicantly store water.
00447> #
00448> R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00449>     ROUTE RESERVOIR ->    30.0 02:S_N7       38743.00   34.345 No_date   43:00   11.79  n/a     .000
00450>                  out <=   30.0 01:RES_RF     38743.00   23.075 No_date   54:30   11.79  n/a     .000
00451>       (MxStoUsed=.7399E+02  m3)
00452> R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00453>     SAVE HYD              30.0 01:RES_RF     38743.00   23.075 No_date   54:30   11.79  n/a     .000
00454>       fname :H_ResRF
00455>       remark:outflow of Richmond Fen
00456> #
00457> # Sum of hydrographs from Node 7 routed to Node 6
00458> # Section 5
00459> #
00460> R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00461>     ROUTE CHANNEL    ->    30.0 02:RES_RF     38743.00   23.075 No_date   54:30   11.79  n/a     .000
00462>       [RDT=30.00] out<-   30.0 01:N6         38743.00   23.052 No_date   56:00   11.79  n/a     .000
00463>        [L/S/n= 3056./ .082/.025]
00464>        {Vmax=  .431:Dmax= .805}
00465> #
00466> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
00467> #
00468> R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>     ADD HYD               30.0 02:N6         38743.00   23.052 No_date   56:00   11.79  n/a     .000
00470>                    +     30.0 02:SW_6         165.00     .407 No_date   33:00   12.21  n/a     .000
00471>                    +     30.0 02:VG_DR       1332.00    3.083 No_date   35:00   13.91  n/a     .000
00472>                SUM=      30.0 01:S_N6       40240.01   23.225 No_date   39:30   11.87  n/a     .000
00473> #
00474> # Sum of hydrographs from Node 6 routed to Node 5
00475> # Section 6
00476> #
00477> R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00478>     ROUTE CHANNEL    ->    30.0 02:S_N6       40240.01   23.225 No_date   39:30   11.87  n/a     .000
00479>       [RDT=30.00] out<-   30.0 01:N5         40240.01   23.171 No_date   55:00   11.87  n/a     .000
00480>        [L/S/n= 1852./ .054/.035]
00481>        {Vmax=  .378:Dmax=  .915}
00482> #
00483> # Addition of Subwatershed 5 and Flowing Creek to Node 5
00484> #
00485> R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00486>     ADD HYD               30.0 02:N5         40240.01   23.171 No_date   55:00   11.87  n/a     .000
00487>                    +     30.0 02:SW_5          224.00    2.527 No_date   28:30   15.88  n/a     .000
00488>                    +     30.0 02:FL_CK        4945.00   14.579 No_date   33:00   14.54  n/a     .000
00489>                SUM=      30.0 01:S_N5       45409.01   32.974 No_date   37:00   12.18  n/a     .000
00490> #
00491> # Sum of hydrographs from Node 5 routed to Node 5A
00492> # Section 7
00493> #
00494> R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00495>     ROUTE CHANNEL    ->    30.0 02:S_N5       45409.01   32.974 No_date   37:00   12.18  n/a     .000
00496>       [RDT=30.00] out<-   30.0 01:N5A        45409.01   32.921 No_date   37:00   12.18  n/a     .000
00497>        [L/S/n=  556./ .090/.040]
00498>        {Vmax=  .443:Dmax=  .935}
00499> #
00500> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
00501> #
00502> R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00503>     ADD HYD               30.0 02:N5A        45409.01   32.921 No_date   37:00   12.18  n/a     .000
00504>                    +     30.0 02:SW_5A2         20.00     .287 No_date   28:30   17.76  n/a     .000
00505>                    +     30.0 02:SW_5A1        412.00    3.007 No_date   30:00   15.19  n/a     .000
00506>                SUM=      30.0 01:S_N5A      46841.01   35.939 No_date   37:00   12.27  n/a     .000
00507> #
00508> # Sum of hydrographs from Node 5A routed to Node 4
00509> # Section 8
00510> #
00511> R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00512>     ROUTE CHANNEL    ->    30.0 02:S_N5A      46841.01   35.939 No_date   37:00   12.27  n/a     .000
00513>       [RDT=30.00] out<-   30.0 01:N4         46841.01   35.066 No_date   39:00   12.27  n/a     .000
00514>        [L/S/n= 4630./ .043/.035]
00515>        {Vmax=  .693:Dmax= 2.836}
00516> #
00517> # Addition of Subwatershed 4 and Leamy Creek to Node 4
00518> #
00519> R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00520>     ADD HYD               30.0 02:N4         46841.01   35.066 No_date   39:00   12.27  n/a     .000
00521>                    +     30.0 02:SW_4         585.00    4.232 No_date   29:30   17.76  n/a     .000
00522>                    +     30.0 02:LM_CK       1021.00    5.667 No_date   30:30   17.36  n/a     .000
00523>                SUM=      30.0 01:S_N4       48447.00   37.399 No_date   38:30   12.44  n/a     .000
00524> R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00525>     SAVE HYD              30.0 01:S_N4       48447.00   37.399 No_date   38:30   12.44  n/a     .000
00526>       fname :S_N4.0002
00527>       remark:flow at S_N4
00528> #
00529> # Sum of hydrographs from Node 4 routed to Node 2
00530> # Section 9
00531> #
00532> R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00533>     ROUTE CHANNEL    ->    30.0 02:S_N4       48447.00   37.399 No_date   38:30   12.44  n/a     .000
00534>       [RDT=30.00] out<-   30.0 01:N2         48447.00   37.299 No_date   39:00   12.44  n/a     .000
00535>        [L/S/n= 1667./ .060/.040]
00536>        {Vmax=  .714:Dmax= 2.841}
00537> #
00538> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
00539> #
00540> R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00541>     ADD HYD               30.0 02:N2         48447.00   37.299 No_date   39:00   12.44  n/a     .000
00542>                    +     30.0 02:SW_2         177.00    1.996 No_date   28:30   15.88  n/a     .000
00543>                    +     30.0 02:SM_DR       1122.00    5.257 No_date   31:30   17.76  n/a     .000
00544>                    +     30.0 02:MD_DR       2737.00   11.338 No_date   31:30   15.53  n/a     .000
00545>                SUM=      30.0 01:S_N2       52483.00   45.676 No_date   33:30   12.73  n/a     .000
00546> R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00547>     SAVE HYD              30.0 01:S_N2       52483.00   45.676 No_date   33:30   12.73  n/a     .000
00548>       fname :H_SN2
00549>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
00550> #
00551> # Sum of hydrographs from Node 2 routed to Node 1
00552> # Section 10
00553> #
00554> R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00555>     ROUTE CHANNEL    ->    30.0 02:S_N2       52483.00   45.676 No_date   33:30   12.73  n/a     .000
00556>       [RDT=30.00] out<-   30.0 01:N1         52483.00   42.605 No_date   39:30   12.73  n/a     .000
00557>        [L/S/n=10046./ .050/.040]
00558>        {Vmax=  .767:Dmax= 2.662}
00559> #
00560> # Addition of Subwatershed 1 to Node 1
00561> #
00562> R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00563>     ADD HYD              30.0 02:N1         52483.00   42.605 No_date   39:30   12.73  n/a     .000
00564>                    +     30.0 02:SW_1         3176.00   12.490 No_date   32:00   16.23  n/a     .000
00565>                SUM=      30.0 01:N1         55659.00   49.164 No_date   36:30   12.93  n/a     .000
00566> R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00567>     SAVE HYD              30.0 01:N1         55659.00   49.164 No_date   36:30   12.93  n/a     .000
00568>       fname :N1.0002
00569>       remark:total outflow of Jock River
00570> ##########################################################################
00571>  ** END OF RUN :     4
00572>
00573> ************************************************************************************************
00574>
00575>
00576>
00577>
00578>
00579>  RUN#:COMMAND#
00580> R0005:C00001------------------------------------------------------------------------------------
00581>      START
00582>       [TZERO =    .00 hrs on        0]
00583>       [METOUT=   2   (1=imperial, 2=metric output)]
00584>       [NSTORM=    1 ]
00585>       [NRUN  = 0005 ]
00586> #*************************************************************************
00587> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
00588> #*************************************************************************
00589> #  Project Name: [Jock River]    Project Number: [411-02]
00590> #  Date       : 06-06-2003
00591> #  Modeller   : [JoF]
00592> #  Company    : JFSAinc.
00593> #  License #  :  2549237
00594> #*************************************************************************
00595> # CALIBRATION OF SUMMER MODEL PARAMETERS
00596> # USING CONTINUOUS SIMULATIONS
00597> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
00598> # Use data collected from May 1st to July 14, 2003
00599> # ---------------------------------------------------------------------------
00600> R0005:C00002------------------------------------------------------------------------------------
00601>      READ STORM
00602>       Filename = storm.001
00603>       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
00604>       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
00605> R0005:C00003------------------------------------------------------------------------------------
00606>      MODIFY STORM
00607>       [RFACT=  1.00:TSHIFT= 960.00 min]
00608>       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
00609> R0005:C00004------------------------------------------------------------------------------------
00610>      COMPUTE API
00611>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9980]
00612>       [APImax= 90.83: APIavg= 60.09: APImin= 44.87]
00613> #
00614> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00615> # of 1.32
00616> R0005:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00617>     CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00    9.169 No_date   37:00   16.38 .287     .000
00618>       [CN= 64.0: N= 3.00: Tp= 7.13]
00619>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
00620>       [InterEventTime=  12.00]
00621> #
00622> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00623> # of 1.32
00624> R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00625>     CONTINUOUS NASHYD    30.0 01:SW_13        971.00    3.350 No_date   32:30   15.27 .267     .000
00626>       [CN= 61.0: N= 3.00: Tp= 3.76]
00627>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
00628>       [InterEventTime=  12.00]
00629> #
00630> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00631> # of 1.80
00632> R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00633>     CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    4.511 No_date   39:30   13.20 .231     .000
00634>       [CN= 55.0: N= 3.00: Tp=11.33]
00635>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
00636>       [InterEventTime=  12.00]
00637> R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00638>     CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00    8.382 No_date   32:30   20.09 .352     .000
00639>       [CN= 72.0: N= 3.00: Tp= 3.91]
00640>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00641>       [InterEventTime=  12.00]
00642> R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00643>     CONTINUOUS NASHYD    30.0 01:SW_11        500.00    4.260 No_date   29:00   17.15 .300     .000
00644>       [CN= 66.0: N= 3.00: Tp= 1.24]
00645>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
00646>       [InterEventTime=  12.00]
00647> #
00648> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00649> # of 1.80
00650> R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00651>     CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00    6.085 No_date   34:00   17.15 .300     .000
00652>       [CN= 66.0: N= 3.00: Tp= 5.29]
00653>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
00654>       [InterEventTime=  12.00]
00655> #
00656> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00657> # of 1.52
00658> R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00659>     CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   16.454 No_date   38:00   20.09 .352     .000
00660>       [CN= 72.0: N= 3.00: Tp= 8.00]
00661>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00662>       [InterEventTime=  12.00]
00663> #
00664> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00665> # of 1.75
00666> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00667>     CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   15.668 No_date   39:30   17.15 .300     .000
00668>       [CN= 66.0: N= 3.00: Tp=11.66]
00669>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
00670>       [InterEventTime=  12.00]
00671> #
00672> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00673> # of 1.68
00674> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00675>     CONTINUOUS NASHYD    30.0 01:SW_9        1132.00    6.854 No_date   30:30   19.22 .336     .000
00676>       [CN= 70.0: N= 3.00: Tp= 2.51]
00677>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
00678>       [InterEventTime=  12.00]
00679> #
00680> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00681> # of 1.82
00682> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00683>     CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00    7.795 No_date   39:30   15.63 .274     .000
00684>       [CN= 62.0: N= 3.00: Tp=11.32]
00685>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
00686>       [InterEventTime=  12.00]
00687> #
00688> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00689> # of 1.80
00690> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00691> *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00    1.239 No_date   28:30   16.00 .280     .000
00692>       [CN= 63.0: N= 3.00: Tp=  .90]
00693>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
00694>       [InterEventTime=  12.00]
00695> #
00696> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00697> # of 1.65
00698> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00699>     CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00    9.126 No_date   38:30   17.15 .300     .000
00700>       [CN= 66.0: N= 3.00: Tp= 8.42]
00701>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
00702>       [InterEventTime=  12.00]
00703> #
00704> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00705> # of 1.82
00706> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00707>     CONTINUOUS NASHYD    30.0 01:SW_7        3197.00    6.873 No_date   36:00   13.87 .243     .000
00708>       [CN= 57.0: N= 3.00: Tp= 6.65]
00709>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
00710>       [InterEventTime=  12.00]
00711> #
00712> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00713> # of 1.75
00714> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00715>     CONTINUOUS NASHYD    30.0 01:SW_6         165.00     .630 No_date   33:00   17.55 .307     .000
00716>       [CN= 67.0: N= 3.00: Tp= 4.18]
00717>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
00718>       [InterEventTime=  12.00]
00719> #
00720> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00721> # of 1.67
00722> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00723>     CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    4.700 No_date   35:00   20.09 .352     .000
00724>       [CN= 72.0: N= 3.00: Tp= 5.95]
00725>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00726>       [InterEventTime=  12.00]
00727> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00728> *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    3.985 No_date   28:30   22.94 .402     .000
00729>       [CN= 77.0: N= 3.00: Tp=  .75]
00730>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
00731>       [InterEventTime=  12.00]
00732> #
00733> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00734> # of 1.20
00735> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00736>     CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   22.432 No_date   33:00   21.01 .368     .000
00737>       [CN= 74.0: N= 3.00: Tp= 4.45]
00738>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
00739>       [InterEventTime=  12.00]
00740> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00741> *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00     .448 No_date   28:30   25.59 .448     .000
00742>       [CN= 81.0: N= 3.00: Tp=  .62]
00743>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
00744>       [InterEventTime=  12.00]
00745> #
00746> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
00747> # of 1.61
00748> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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```
    CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    4.515 No_date   37:30   21.96 .384     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_4         585.00    6.551 No_date   29:30   25.59 .448     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00    8.738 No_date   30:30   25.04 .438     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    3.149 No_date   28:30   22.94 .402     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00    8.043 No_date   31:30   25.59 .448     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:MO_DR       2737.00   17.548 No_date   31:30   22.44 .393     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   19.206 No_date   32:00   23.45 .411     .000
      [CN= 78.0: N= 3.00: Tp= 3.56]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:JR_HW       3680.00    9.169 No_date   37:00   16.38  n/a     .000
                    +    30.0 02:SW_13        971.00    3.350 No_date   32:30   15.27  n/a     .000
                 SUM=    30.0 01:S_N13       4651.00   11.688 No_date   35:30   16.15  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00   11.688 No_date   35:30   16.15  n/a     .000
     [RDT=30.00] out<-   30.0 01:N13A        4651.00    9.343 No_date   39:30   16.15  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .475:Dmax= 2.992}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N13A        4651.00    9.343 No_date   39:30   16.15  n/a     .000
                    +    30.0 02:JR_GWM      3074.00    4.511 No_date   39:30   13.20  n/a     .000
                 SUM=    30.0 01:SN13A       7725.00   13.855 No_date   39:30   14.97  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   13.855 No_date   39:30   14.97  n/a     .000
                 out <=  30.0 01:RES_GM      7725.00    3.124 No_date   58:00   14.97  n/a     .000
     {MxStoUsed=.6193E+02  m3}
#
R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:RES_GM      7725.00    3.124 No_date   58:00   14.97  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    3.124 No_date   58:00   14.97  n/a     .000
     [RDT=30.00] out<-   30.0 01:N12         7725.00    3.114 No_date   60:30   14.97  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .525:Dmax= 1.424}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N12         7725.00    3.114 No_date   60:30   14.97  n/a     .000
                    +    30.0 02:JR_ASH      1781.00    8.382 No_date   32:30   20.09  n/a     .000
                 SUM=    30.0 01:S_N12       9506.00   10.361 No_date   32:30   15.93  n/a     .000
R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N12       9506.00   10.361 No_date   32:30   15.93  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   10.361 No_date   32:30   15.93  n/a     .000
     [RDT=30.00] out<-   30.0 01:N11         9506.00   10.228 No_date   33:00   15.93  n/a     .000
      [L/S/n=  972./ .051/.040]
      {Vmax=  .634:Dmax= 2.417}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   10.361 No_date   32:30   15.93  n/a     .000
     [RDT=30.00] out<-   30.0 01:Dum11       9506.00   10.240 No_date   33:00   15.93  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .645:Dmax= 2.392}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:Dum11       9506.00   10.240 No_date   33:00   15.93  n/a     .000
                    +    30.0 02:SW_11        500.00    4.260 No_date   29:00   17.15  n/a     .000
                    +    30.0 02:NN_CK       1917.00    6.085 No_date   34:00   17.15  n/a     .000
                 SUM=    30.0 01:S_N11      11923.00   17.312 No_date   33:00   16.18  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N11      11923.00   17.312 No_date   33:00   16.18  n/a     .000
     [RDT=30.00] out<-   30.0 01:N10        11923.00   11.896 No_date   38:30   16.18  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .462:Dmax= 1.078}
#
# Addition of Subwatershed 10 to Node 10
#
R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N10        11923.00   11.896 No_date   38:30   16.18  n/a     .000
                    +    30.0 02:SW_10       5666.00   16.454 No_date   38:00   20.09  n/a     .000
                 SUM=    30.0 01:S_N10      17589.00   28.336 No_date   38:00   17.44  n/a     .000
R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N10      17589.00   28.336 No_date   38:00   17.44  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:S_N10      17589.00   28.336 No_date   38:00   17.44  n/a     .000
                    +    30.0 02:KG_CK       8376.00   15.668 No_date   39:30   17.15  n/a     .000
                 SUM=    30.0 01:S_N10A     25965.00   43.586 No_date   39:30   17.35  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N10A     25965.00   43.586 No_date   39:30   17.35  n/a     .000
     [RDT=30.00] out<-   30.0 01:N9         25965.00   42.441 No_date   39:30   17.35  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .663:Dmax= 1.480}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N9         25965.00   42.441 No_date   39:30   17.35  n/a     .000
                    +    30.0 02:SW_9        1132.00    6.854 No_date   30:30   19.22  n/a     .000
                    +    30.0 02:NC_CK       4464.00    7.795 No_date   39:30   15.63  n/a     .000
                 SUM=    30.0 01:S_N9       31561.00   52.066 No_date   39:30   17.17  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N9       31561.00   52.066 No_date   39:30   17.17  n/a     .000
     [RDT=30.00] out<-   30.0 01:N8         31561.00   48.431 No_date   40:00   17.17  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .371:Dmax= 1.510}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N8         31561.00   48.431 No_date   40:00   17.17  n/a     .000
                    +    30.0 02:SW_8         131.00    1.239 No_date   28:30   16.00  n/a     .000
                    +    30.0 02:HB_DR       3854.00    9.126 No_date   38:30   17.15  n/a     .000
                 SUM=    30.0 01:S_N8       35546.00   57.169 No_date   39:30   17.17  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N8       35546.00   57.169 No_date   39:30   17.17  n/a     .000
     [RDT=30.00] out<-   30.0 01:N7         35546.00   46.889 No_date   45:00   17.17  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .207:Dmax= 1.839}
#
# Addition of Subwatershed 7 to Node 7
#
R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N7         35546.00   46.889 No_date   45:00   17.17  n/a     .000
                    +    30.0 02:SW_7        3197.00    6.873 No_date   36:00   13.87  n/a     .000
                 SUM=    30.0 01:S_N7       38743.00   50.119 No_date   43:30   16.89  n/a     .000
R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N7       38743.00   50.119 No_date   43:30   16.89  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   30.0 02:S_N7       38743.00   50.119 No_date   43:30   16.89  n/a     .000
                 out <=  30.0 01:RES_RF     38743.00   27.645 No_date   59:00   16.89  n/a     .000
     {MxStoUsed=.1713E+03  m3}
R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:RES_RF     38743.00   27.645 No_date   59:00   16.89  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:RES_RF     38743.00   27.645 No_date   59:00   16.89  n/a     .000
     [RDT=30.00] out<-   30.0 01:N6         38743.00   27.614 No_date   60:00   16.89  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .458:Dmax=  .889}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N6         38743.00   27.614 No_date   60:00   16.89  n/a     .000
                    +    30.0 02:SW_6         165.00     .630 No_date   33:00   17.55  n/a     .000
                    +    30.0 02:VG_DR       1332.00    4.700 No_date   35:00   20.09  n/a     .000
                 SUM=    30.0 01:S_N6       40240.01   27.687 No_date   59:30   17.00  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N6       40240.01   27.687 No_date   59:30   17.00  n/a     .000
     [RDT=30.00] out<-   30.0 01:N5         40240.01   27.652 No_date   59:30   17.00  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .396:Dmax=  .997}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N5         40240.01   27.652 No_date   59:30   17.00  n/a     .000
                    +    30.0 02:SW_5         224.00    3.985 No_date   28:30   22.94  n/a     .000
                    +    30.0 02:FL_CK       4945.00   22.432 No_date   33:00   21.01  n/a     .000
                 SUM=    30.0 01:S_N5       45409.01   43.197 No_date   35:00   17.47  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N5       45409.01   43.197 No_date   35:00   17.47  n/a     .000
     [RDT=30.00] out<-   30.0 01:N5A        45409.01   43.159 No_date   35:30   17.47  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .464:Dmax= 1.057}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N5A        45409.01   43.159 No_date   35:30   17.47  n/a     .000
                    +    30.0 02:SW_5A2        20.00     .448 No_date   28:30   25.59  n/a     .000
                    +    30.0 02:SW_5A1      1412.00    4.515 No_date   37:30   21.96  n/a     .000
                 SUM=    30.0 01:S_N5A      46841.01   47.514 No_date   35:30   17.61  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N5A      46841.01   47.514 No_date   35:30   17.61  n/a     .000
     [RDT=30.00] out<-   30.0 01:N4         46841.01   45.852 No_date   37:30   17.61  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .753:Dmax= 3.105}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N4         46841.01   45.852 No_date   37:30   17.61  n/a     .000
                    +    30.0 02:SW_4         585.00    6.551 No_date   29:30   25.59  n/a     .000
                    +    30.0 02:LM_CK       1021.00    8.738 No_date   30:30   25.04  n/a     .000
                 SUM=    30.0 01:S_N4       48447.00   49.994 No_date   36:30   17.86  n/a     .000
R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N4       48447.00   49.994 No_date   36:30   17.86  n/a     .000
      fname :S_N4.0005
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N4       48447.00   49.994 No_date   36:30   17.86  n/a     .000
     [RDT=30.00] out<-   30.0 01:N2         48447.00   49.884 No_date   37:00   17.86  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .780:Dmax= 3.124}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N2         48447.00   49.884 No_date   37:00   17.86  n/a     .000
                    +    30.0 02:SW_2         177.00    3.149 No_date   28:30   22.94  n/a     .000
                    +    30.0 02:SM_DR       1122.00    8.043 No_date   31:30   25.59  n/a     .000
                    +    30.0 02:MO_DR       2737.00   17.548 No_date   31:30   22.44  n/a     .000
                 SUM=    30.0 01:S_N2       52483.00   66.292 No_date   33:00   18.28  n/a     .000
R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N2       52483.00   66.292 No_date   33:00   18.28  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N2       52483.00   66.292 No_date   33:00   18.28  n/a     .000
     [RDT=30.00] out<-   30.0 01:N1         52483.00   59.697 No_date   37:00   18.28  n/a     .000
      [L/S/n=10046./ .050/.040]
      {Vmax=  .861:Dmax= 3.201}
#
# Addition of Subwatershed 1 to Node 1
#
R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N1         52483.00   59.697 No_date   37:00   18.28  n/a     .000
                    +    30.0 02:SW_1        3176.00   19.206 No_date   32:00   23.45  n/a     .000
                 SUM=    30.0 01:N1         55659.00   72.079 No_date   35:00   18.58  n/a     .000
R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:N1         55659.00   72.079 No_date   35:00   18.58  n/a     .000
      fname :N1.0005
      remark:total outflow of Jock River
##############################################################################
  ** END OF RUN :    9

*****************************************************************************************************

 RUN#:COMMAND#
R0010:C00001-------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0010 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# ----------------------------------------------------------------------------
R0010:C00002-------------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
R0010:C00003-------------------------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
R0010:C00004-------------------------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 97.81: APIavg= 62.29: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0010:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00   11.582 No_date   36:30   20.20 .312     .000
      [CN= 64.0: N= 3.00: Tp= 7.13]
```

```
01123>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
01124>       [InterEventTime=  12.00]
01125> #
01126> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01127> # of 1.32
01128> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01129>      CONTINUOUS NASHYD    30.0 01:SW_13        971.00    4.293 No_date   32:30   18.81 .291     .000
01130>       [CN= 61.0: N= 3.00: Tp= 3.76]
01131>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
01132>       [InterEventTime=  12.00]
01133> #
01134> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01135> # of 1.80
01136> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01137>      CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    5.604 No_date   39:30   16.19 .250     .000
01138>       [CN= 55.0: N= 3.00: Tp=11.33]
01139>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
01140>       [InterEventTime=  12.00]
01141> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01142>      CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00   10.659 No_date   32:30   24.78 .383     .000
01143>       [CN= 72.0: N= 3.00: Tp= 3.91]
01144>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01145>       [InterEventTime=  12.00]
01146> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01147>      CONTINUOUS NASHYD    30.0 01:SW_11        500.00    5.516 No_date   29:00   21.17 .327     .000
01148>       [CN= 66.0: N= 3.00: Tp= 1.24]
01149>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01150>       [InterEventTime=  12.00]
01151> #
01152> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01153> # of 1.80
01154> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01155>      CONTINUOUS NASHYD    30.0 01:NM_CK       1917.00    7.737 No_date   34:00   21.17 .327     .000
01156>       [CN= 66.0: N= 3.00: Tp= 5.29]
01157>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01158>       [InterEventTime=  12.00]
01159> #
01160> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01161> # of 1.52
01162> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01163>      CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   20.651 No_date   37:30   24.78 .383     .000
01164>       [CN= 72.0: N= 3.00: Tp= 8.00]
01165>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01166>       [InterEventTime=  12.00]
01167> #
01168> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01169> # of 1.75
01170> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01171>      CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   19.522 No_date   39:30   21.17 .327     .000
01172>       [CN= 66.0: N= 3.00: Tp=11.66]
01173>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01174>       [InterEventTime=  12.00]
01175> #
01176> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01177> # of 1.68
01178> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01179>      CONTINUOUS NASHYD    30.0 01:SW_9        1132.00    8.783 No_date   30:30   23.71 .366     .000
01180>       [CN= 70.0: N= 3.00: Tp= 2.51]
01181>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
01182>       [InterEventTime=  12.00]
01183> #
01184> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01185> # of 1.82
01186> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01187>      CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00    9.718 No_date   39:30   19.27 .298     .000
01188>       [CN= 62.0: N= 3.00: Tp=11.32]
01189>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
01190>       [InterEventTime=  12.00]
01191> #
01192> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01193> # of 1.80
01194> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01195> *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00    1.610 No_date   28:30   19.73 .305     .000
01196>       [CN= 63.0: N= 3.00: Tp=  .90]
01197>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
01198>       [InterEventTime=  12.00]
01199> #
01200> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01201> # of 1.65
01202> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01203>      CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00   11.473 No_date   38:30   21.17 .327     .000
01204>       [CN= 66.0: N= 3.00: Tp= 8.42]
01205>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01206>       [InterEventTime=  12.00]
01207> #
01208> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01209> # of 1.82
01210> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01211>      CONTINUOUS NASHYD    30.0 01:SW_7        3197.00    8.697 No_date   36:00   17.04 .263     .000
01212>       [CN= 57.0: N= 3.00: Tp= 6.65]
01213>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
01214>       [InterEventTime=  12.00]
01215> #
01216> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01217> # of 1.75
01218> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01219>      CONTINUOUS NASHYD    30.0 01:SW_6         165.00    .804 No_date   33:00   21.66 .335     .000
01220>       [CN= 67.0: N= 3.00: Tp= 4.18]
01221>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
01222>       [InterEventTime=  12.00]
01223> #
01224> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01225> # of 1.67
01226> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01227>      CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    5.936 No_date   35:00   24.78 .383     .000
01228>       [CN= 72.0: N= 3.00: Tp= 5.95]
01229>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01230>       [InterEventTime=  12.00]
01231> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01232> *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    5.097 No_date   28:30   28.21 .436     .000
01233>       [CN= 77.0: N= 3.00: Tp=  .75]
01234>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01235>       [InterEventTime=  12.00]
01236> #
01237> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01238> # of 1.20
01239> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01240>      CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   28.428 No_date   33:00   25.89 .400     .000
01241>       [CN= 74.0: N= 3.00: Tp= 4.45]
01242>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
01243>       [InterEventTime=  12.00]
01244> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01245> *  CONTINUOUS NASHYD    30.0 01:SW_5A        20.00     .569 No_date   28:30   31.34 .484     .000
01246>       [CN= 81.0: N= 3.00: Tp=  .62]
01247>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01248>       [InterEventTime=  12.00]
01249> #
01250> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01251> # of 1.61
01252> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01253>      CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    5.651 No_date   37:30   27.03 .418     .000
01254>       [CN= 75.0: N= 3.00: Tp= 8.00]
01255>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
01256>       [InterEventTime=  12.00]
01257> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01258>      CONTINUOUS NASHYD    30.0 01:SW_4         585.00    8.289 No_date   29:30   31.34 .484     .000
01259>       [CN= 81.0: N= 3.00: Tp= 1.75]
01260>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01261>       [InterEventTime=  12.00]
01262> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01263>      CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00   11.041 No_date   30:30   30.69 .474     .000
01264>       [CN= 80.0: N= 3.00: Tp= 2.46]
01265>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
01266>       [InterEventTime=  12.00]
01267> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01268> *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    4.027 No_date   28:30   28.21 .436     .000
01269>       [CN= 77.0: N= 3.00: Tp=  .75]
01270>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01271>       [InterEventTime=  12.00]
01272> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01273>      CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00   10.121 No_date   31:30   31.34 .484     .000
01274>       [CN= 81.0: N= 3.00: Tp= 3.25]
01275>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01276>       [InterEventTime=  12.00]
01277> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01278>      CONTINUOUS NASHYD    30.0 01:MD_DR       2737.00   22.263 No_date   31:30   27.61 .427     .000
01279>       [CN= 76.0: N= 3.00: Tp= 3.03]
01280>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
01281>       [InterEventTime=  12.00]
01282> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01283>      CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   24.273 No_date   32:00   28.81 .445     .000
01284>       [CN= 78.0: N= 3.00: Tp= 3.56]
01285>       [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
01286>       [InterEventTime=  12.00]
01287> #
01288> # Routing hydrographs
01289> #
01290> # Starting with the addition of Jock River Headwater and Subwatershed 13
01291> #
01292> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01293>      ADD HYD              30.0 02:JR_HW       3680.00   11.582 No_date   36:30   20.20  n/a     .000
01294>                   +      30.0 02:SW_13        971.00    4.293 No_date   32:30   18.81  n/a     .000
01295>                  SUM=    30.0 01:S_N13       4651.00   14.791 No_date   35:00   19.91  n/a     .000
01296> #
01297> # Sum of hydrographs from Node 13 routed to Node 13A
01298> # (Approximated cross-section - see cross-section 25B)
01299> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
01300> #
01301> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01302>      ROUTE CHANNEL   ->    30.0 02:S_N13       4651.00   14.791 No_date   35:00   19.91  n/a     .000
01303>       [RDT=30.00] out<-    30.0 01:N13A        4651.00   11.868 No_date   39:30   19.91  n/a     .000
01304>       [L/S/n= 9074./ .022/.040]
01305>       {Vmax=  .505:Dmax= 3.276}
01306> #
01307> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
01308> #
01309> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01310>      ADD HYD              30.0 02:N13A        4651.00   11.868 No_date   39:30   19.91  n/a     .000
01311>                   +      30.0 02:JR_GWM      3074.00    5.604 No_date   39:30   16.19  n/a     .000
01312>                  SUM=    30.0 01:SN13A       7725.00   17.472 No_date   39:30   18.43  n/a     .000
01313> #
01314> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
01315> #
01316> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01317>      ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   17.472 No_date   39:30   18.43  n/a     .000
01318>                       <=  30.0 01:RES_GM      7725.00    3.517 No_date   59:00   18.43  n/a     .000
01319>      {MxStoUsed=.8337E+02  m3}
01320> #
01321> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01322>      SAVE HYD             30.0 01:RES_GM      7725.00    3.517 No_date   59:00   18.43  n/a     .000
01323>       fname :H_RESGM
01324>       remark:Outflow from Res GM
01325> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
01326> # (Approximated cross-section - see cross-section 25B)
01327> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
01328> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01329>      ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    3.517 No_date   59:00   18.43  n/a     .000
01330>       [RDT=30.00] out<-    30.0 01:N12         7725.00    3.511 No_date   63:00   18.43  n/a     .000
01331>        [L/S/n= 5926./ .076/.040]
01332>        {Vmax=  .546:Dmax= 1.498}
01333> #
01334> # Addition of Subwatershed Jock River at Ashton to Node 12
01335> #
01336> R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01337>      ADD HYD              30.0 02:N12         7725.00    3.511 No_date   63:00   18.43  n/a     .000
01338>                   +      30.0 02:JR_ASH      1781.00   10.659 No_date   32:30   24.78  n/a     .000
01339>                  SUM=    30.0 01:S_N12       9506.00   12.656 No_date   32:30   19.62  n/a     .000
01340> R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01341>      SAVE HYD             30.0 01:S_N12       9506.00   12.656 No_date   32:30   19.62  n/a     .000
01342>       fname :H_SN12
01343>       remark:flow at S_N12 near Ashton
01344> #
01345> # Sum of hydrographs from Node 12 routed to Node 11
01346> # (Approximated cross-section - see cross-section 25B)
01347> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
01348> R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01349>      ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   12.656 No_date   32:30   19.62  n/a     .000
01350>       [RDT=30.00] out<-    30.0 01:N11         9506.00   12.477 No_date   33:00   19.62  n/a     .000
01351>        [L/S/n=  972./ .051/.040]
01352>        {Vmax=  .665:Dmax= 2.609}
01353> #
01354> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
01355> #
01356> R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01357>      ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   12.656 No_date   32:30   19.62  n/a     .000
01358>       [RDT=30.00] out<-    30.0 01:Dum11       9506.00   12.493 No_date   33:00   19.62  n/a     .000
01359>        [L/S/n=  972./ .054/.040]
01360>        {Vmax=  .677:Dmax= 2.584}
01361> #
01362> # Addition of Subwatershed 11 and No Name Creek to Node 11
01363> #
01364> R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01365>      ADD HYD              30.0 02:Dum11       9506.00   12.493 No_date   33:00   19.62  n/a     .000
01366>                   +      30.0 02:SW_11        500.00    5.516 No_date   29:00   21.17  n/a     .000
01367>                   +      30.0 02:NN_CK       1917.00    7.737 No_date   34:00   21.17  n/a     .000
01368>                  SUM=    30.0 01:S_N11       11923.00  21.461 No_date   33:00   19.93  n/a     .000
01369> #
01370> # Sum of hydrographs from Node 11 routed to Node 10
01371> # Section 1
01372> #
01373> R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01374>      ROUTE CHANNEL   ->   30.0 02:S_N11       11923.00  21.461 No_date   33:00   19.93  n/a     .000
01375>       [RDT=30.00] out<-    30.0 01:N10         11923.00  14.609 No_date   39:30   19.93  n/a     .000
01376>        [L/S/n=14028./ .157/.040]
01377>        {Vmax=  .451:Dmax= 1.206}
01378> #
01379> # Addition of Subwatershed 10 to Node 10
01380> #
01381> R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01382>      ADD HYD              30.0 02:N10         11923.00  14.609 No_date   39:30   19.93  n/a     .000
01383>                   +      30.0 02:SW_10       5666.00   20.651 No_date   37:30   24.78  n/a     .000
01384>                  SUM=    30.0 01:S_N10       17589.00  35.073 No_date   38:30   21.50  n/a     .000
01385> R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01386>      SAVE HYD             30.0 01:S_N10       17589.00  35.073 No_date   38:30   21.50  n/a     .000
01387>       fname :H_SN10
01388>       remark:flow at S_N10: N10 + SW_10
01389> # Addition of Kings Creek to S_N10
01390> #
01391> R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01392>      ADD HYD              30.0 02:S_N10       17589.00  35.073 No_date   38:30   21.50  n/a     .000
01393>                   +      30.0 02:KG_CK       8376.00   19.522 No_date   39:30   21.17  n/a     .000
01394>                  SUM=    30.0 01:S_N10A      25965.00  54.317 No_date   39:30   21.39  n/a     .000
01395> #
01396> # Sum of hydrographs from Node 10 routed to Node 9
01397> # Section 2
01398> #
01399> R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01400>      ROUTE CHANNEL   ->   30.0 02:S_N10A      25965.00  54.317 No_date   39:30   21.39  n/a     .000
01401>       [RDT=30.00] out<-    30.0 01:N9          25965.00  52.431 No_date   39:30   21.39  n/a     .000
01402>        [L/S/n= 3982./ .075/.040]
01403>        {Vmax=  .679:Dmax= 1.676}
01404> #
01405> # Addition of Subwatershed 9 and Nichols Creek to Node 9
01406> #
01407> R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01408>      ADD HYD              30.0 02:N9          25965.00  52.431 No_date   39:30   21.39  n/a     .000
01409>                   +      30.0 02:SW_9        1132.00    8.783 No_date   30:30   23.71  n/a     .000
01410>                   +      30.0 02:NC_CK       4464.00    9.718 No_date   39:30   19.27  n/a     .000
01411>                  SUM=    30.0 01:S_N9        31561.00  64.367 No_date   39:30   21.17  n/a     .000
01412> #
01413> # Sum of hydrographs from Node 9 routed to Node 8
01414> # Section 3
01415> #
01416> R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01417>      ROUTE CHANNEL   ->   30.0 02:S_N9        31561.00  64.367 No_date   39:30   21.17  n/a     .000
01418>       [RDT=30.00] out<-    30.0 01:N8          31561.00  60.135 No_date   40:00   21.17  n/a     .000
01419>        [L/S/n= 2269./ .088/.045]
01420>        {Vmax=  .364:Dmax= 1.604}
01421> #
01422> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
01423> #
01424> R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01425>      ADD HYD              30.0 02:N8          31561.00  60.135 No_date   40:00   21.17  n/a     .000
01426>                   +      30.0 02:SW_8         131.00    1.610 No_date   28:30   19.73  n/a     .000
01427>                   +      30.0 02:HB_DR       3854.00   11.473 No_date   38:30   21.17  n/a     .000
01428>                  SUM=    30.0 01:S_N8        35546.00  71.021 No_date   39:30   21.17  n/a     .000
01429> #
01430> # Sum of hydrographs from Node 8 routed to Node 7
01431> # Section 4
01432> #
01433> R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01434>      ROUTE CHANNEL   ->   30.0 02:S_N8        35546.00  71.021 No_date   39:30   21.17  n/a     .000
01435>       [RDT=30.00] out<-    30.0 01:N7          35546.00  59.731 No_date   44:30   21.17  n/a     .000
01436>        [L/S/n= 3750./ .053/.070]
01437>        {Vmax=  .216:Dmax= 1.966}
01438> #
01439> # Addition of Subwatershed 7 to Node 7
01440> #
01441> R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01442>      ADD HYD              30.0 02:N7          35546.00  59.731 No_date   44:30   21.17  n/a     .000
01443>                   +      30.0 02:SW_7        3197.00    8.697 No_date   36:00   17.04  n/a     .000
01444>                  SUM=    30.0 01:S_N7        38743.00  64.039 No_date   44:00   20.83  n/a     .000
01445> R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01446>      SAVE HYD             30.0 01:S_N7        38743.00  64.039 No_date   44:00   20.83  n/a     .000
01447>       fname :H_SN7
01448>       remark:flow at S_N7: N7 + SW_7
01449> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
01450> # Storage area and volumes were estimated from available topo maps.
01451> # Release rate from fen was assumed to be controlled by the downstream
01452> # river cross-section for summer conditions.  It is was assumed that for up to
01453> # 0.75 m of water, the main channel of the river provided the storage.  Above
01454> # this depth, the wetland starts to signigicantly store water.
01455> #
01456> R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01457>      ROUTE RESERVOIR ->   30.0 02:S_N7        38743.00  64.039 No_date   44:00   20.83  n/a     .000
01458>                       <=  30.0 01:RES_RF      38743.00  31.370 No_date   60:30   20.83  n/a     .000
01459>      {MxStoUsed=.2507E+03  m3}
01460> R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01461>      SAVE HYD             30.0 01:RES_RF      38743.00  31.370 No_date   60:30   20.83  n/a     .000
01462>       fname :H_ResRF
01463>       remark:outflow of Richmond Fen
01464> #
01465> # Sum of hydrographs from Node 7 routed to Node 6
01466> # Section 5
01467> #
01468> R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01469>      ROUTE CHANNEL   ->   30.0 02:RES_RF      38743.00  31.370 No_date   60:30   20.83  n/a     .000
01470>       [RDT=30.00] out<-    30.0 01:N6          38743.00  31.314 No_date   62:00   20.83  n/a     .000
01471>        [L/S/n= 3056./ .082/.025]
01472>        {Vmax=  .475:Dmax=  .953}
01473> #
01474> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
01475> #
01476> R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01477>      ADD HYD              30.0 02:N6          38743.00  31.314 No_date   62:00   20.83  n/a     .000
01478>                   +      30.0 02:SW_6         165.00    .804 No_date   33:00   21.66  n/a     .000
01479>                   +      30.0 02:VG_DR       1332.00    5.936 No_date   35:00   24.78  n/a     .000
01480>                  SUM=    30.0 01:S_N6        40240.01  31.366 No_date   61:00   20.96  n/a     .000
01481> #
01482> # Sum of hydrographs from Node 6 routed to Node 5
01483> # Section 6
01484> #
01485> R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01486>      ROUTE CHANNEL   ->   30.0 02:S_N6        40240.01  31.366 No_date   61:00   20.96  n/a     .000
01487>       [RDT=30.00] out<-    30.0 01:N5          40240.01  31.341 No_date   62:00   20.96  n/a     .000
01488>        [L/S/n= 1852./ .054/.035]
01489>        {Vmax=  .411:Dmax= 1.064}
01490> #
01491> # Addition of Subwatershed 5 and Flowing Creek to Node 5
01492> #
01493> R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01494>      ADD HYD              30.0 02:N5          40240.01  31.341 No_date   62:00   20.96  n/a     .000
01495>                   +      30.0 02:SW_5         224.00    5.097 No_date   28:30   28.21  n/a     .000
01496>                   +      30.0 02:FL_CK       4945.00   28.428 No_date   33:00   25.89  n/a     .000
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01497>                SUM=    30.0 01:S_N5       45409.01   50.940 No_date   34:30   21.53  n/a     .000
01498> #
01499> # Sum of hydrographs from Node 5 routed to Node 5A
01500> # Section 7
01501> #
01502> R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01503>     ROUTE CHANNEL   ->   30.0 02:S_N5       45409.01   50.940 No_date   34:30   21.53  n/a     .000
01504>      [RDT=30.00] out<-   30.0 01:NSA        45409.01   50.883 No_date   35:00   21.53  n/a     .000
01505>       [L/S/n=  556./ .090/.040]
01506>       {Vmax=  .484:Dmax= 1.127}
01507> #
01508> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
01509> #
01510> R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01511>     ADD HYD             30.0 02:NSA        45409.01   50.883 No_date   35:00   21.53  n/a     .000
01512>                       +   30.0 02:SW_5A2       20.00     .569 No_date   28:30   31.34  n/a     .000
01513>                       +   30.0 02:SW_5A1      1412.00    5.651 No_date   37:30   27.03  n/a     .000
01514>                    SUM=   30.0 01:S_N5A      46841.01   56.195 No_date   35:00   21.70  n/a     .000
01515> #
01516> # Sum of hydrographs from Node 5A routed to Node 4
01517> # Section 8
01518> #
01519> R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01520>     ROUTE CHANNEL   ->   30.0 02:S_N5A      46841.01   56.195 No_date   35:00   21.70  n/a     .000
01521>      [RDT=30.00] out<-   30.0 01:N4         46841.01   54.050 No_date   36:30   21.70  n/a     .000
01522>       [L/S/n= 4630./ .043/.035]
01523>       {Vmax=  .790:Dmax= 3.283}
01524> #
01525> # Addition of Subwatershed 4 and Leamy Creek to Node 4
01526> #
01527> R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01528>     ADD HYD             30.0 02:N4         46841.01   54.050 No_date   36:30   21.70  n/a     .000
01529>                       +   30.0 02:SW_4        585.00    8.289 No_date   29:30   31.34  n/a     .000
01530>                       +   30.0 02:LM_CK      1021.00   11.041 No_date   30:30   30.69  n/a     .000
01531>                    SUM=   30.0 01:S_N4       48447.00   59.486 No_date   36:00   22.01  n/a     .000
01532> R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01533>     SAVE HYD            30.0 01:S_N4       48447.00   59.486 No_date   36:00   22.01  n/a     .000
01534>       fname :S_N4.0010
01535>       remark:flow at S_N4
01536> #
01537> # Sum of hydrographs from Node 4 routed to Node 2
01538> # Section 9
01539> #
01540> R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01541>     ROUTE CHANNEL   ->   30.0 02:S_N4       48447.00   59.486 No_date   36:00   22.01  n/a     .000
01542>      [RDT=30.00] out<-   30.0 01:N2         48447.00   59.258 No_date   36:00   22.01  n/a     .000
01543>       [L/S/n= 1667./ .060/.040]
01544>       {Vmax=  .822:Dmax= 3.316}
01545> #
01546> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
01547> #
01548> R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01549>     ADD HYD             30.0 02:N2         48447.00   59.258 No_date   36:00   22.01  n/a     .000
01550>                       +   30.0 02:SW_2        177.00    4.027 No_date   28:30   28.21  n/a     .000
01551>                       +   30.0 02:SM_DR      1122.00   10.121 No_date   31:30   31.34  n/a     .000
01552>                       +   30.0 02:MO_DR      2737.00   22.263 No_date   31:30   27.61  n/a     .000
01553>                    SUM=   30.0 01:S_N2       52483.00   82.076 No_date   33:00   22.52  n/a     .000
01554> R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01555>     SAVE HYD            30.0 01:S_N2       52483.00   82.076 No_date   33:00   22.52  n/a     .000
01556>       fname :H_SN2
01557>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
01558> #
01559> # Sum of hydrographs from Node 2 routed to Node 1
01560> # Section 10
01561> #
01562> R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01563>     ROUTE CHANNEL   ->   30.0 02:S_N2       52483.00   82.076 No_date   33:00   22.52  n/a     .000
01564>      [RDT=30.00] out<-   30.0 01:N1         52483.00   72.984 No_date   36:30   22.52  n/a     .000
01565>       [L/S/n=10046./ .050/.040]
01566>       {Vmax=  .924:Dmax= 3.539}
01567> #
01568> # Addition of Subwatershed 1 to Node 1
01569> #
01570> R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01571>     ADD HYD             30.0 02:N1         52483.00   72.984 No_date   36:30   22.52  n/a     .000
01572>                       +   30.0 02:SW_1       3176.00   24.273 No_date   32:00   28.81  n/a     .000
01573>                    SUM=   30.0 01:N1         55659.00   89.955 No_date   34:30   22.88  n/a     .000
01574> R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01575>     SAVE HYD            30.0 01:N1         55659.00   89.955 No_date   34:30   22.88  n/a     .000
01576>       fname :N1.0010
01577>       remark:total outflow of Jock River
01578> ###############################################################################
01579>  ** END OF RUN :   24
01580>
01581> ************************************************************************************************************
01582>
01583>
01584>
01585>
01586>
01587>  RUN#:COMMAND#
01588> R0025:C00001------------------------------------------------------------------------------------------------
01589>       START
01590>        [TZERO =      .00 hrs on      0]
01591>        [METOUT=   2     (1=imperial, 2=metric output)]
01592>        [NSTORM=   1 ]
01593>        [NRUN  = 0025 ]
01594> #*********************************************************************************
01595> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
01596> #*********************************************************************************
01597> #  Project Name: Jock River)    Project Number: [411-02]
01598> #  Date        : 06-06-2003
01599> #  Modeller    : [JoF]
01600> #  Company     : JFSAinc.
01601> #  License #   : 2549237
01602> #*********************************************************************************
01603> # CALIBRATION OF SUMMER MODEL PARAMETERS
01604> # USING CONTINUOUS SIMULATIONS
01605> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
01606> # Use data collected from May 1st to July 14, 2003
01607> # ------------------------------------------------------------------------------
01608> R0025:C00002------------------------------------------------------------------------------------------------
01609>       READ STORM
01610>        Filename = storm.001
01611>        Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
01612>        [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
01613> R0025:C00003------------------------------------------------------------------------------------------------
01614>       MODIFY STORM
01615>        [RFACT=  1.00:TSHIFT= 960.00 min]
01616>        [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
01617> R0025:C00004------------------------------------------------------------------------------------------------
01618>       COMPUTE API
01619>        {APIini= 50.00: APIkdy= .8500: APIkdt= .9989}
01620>        {APImax=106.76: APIavg= 65.09: APImin= 44.87}
01621> #
01622> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01623> # of 1.32
01624> R0025:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01625>     CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00   15.104 No_date   36:30   25.77 .346     .000
01626>       [CN= 64.0: N= 3.00: Tp= 7.13]
01627>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
01628>       [InterEventTime=  12.00]
01629> #
01630> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01631> # of 1.32
01632> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01633>     CONTINUOUS NASHYD    30.0 01:SW_13       971.00    5.679 No_date   32:30   24.00 .323     .000
01634>       [CN= 61.0: N= 3.00: Tp= 3.76]
01635>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
01636>       [InterEventTime=  12.00]
01637> #
01638> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01639> # of 1.80
01640> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01641>     CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    7.216 No_date   39:30   20.63 .277     .000
01642>       [CN= 55.0: N= 3.00: Tp=11.33]
01643>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
01644>       [InterEventTime=  12.00]
01645> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01646>     CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00   13.927 No_date   32:30   31.47 .423     .000
01647>       [CN= 72.0: N= 3.00: Tp= 3.91]
01648>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01649>       [InterEventTime=  12.00]
01650> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01651>     CONTINUOUS NASHYD    30.0 01:SW_11       500.00    7.356 No_date   29:00   26.99 .363     .000
01652>       [CN= 66.0: N= 3.00: Tp= 1.24]
01653>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01654>       [InterEventTime=  12.00]
01655> #
01656> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01657> # of 1.80
01658> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01659>     CONTINUOUS NASHYD    30.0 01:NW_CK       1917.00   10.139 No_date   34:00   26.99 .363     .000
01660>       [CN= 66.0: N= 3.00: Tp= 5.29]
01661>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01662>       [InterEventTime=  12.00]
01663> #
01664> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01665> # of 1.52
01666> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01667>     CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   26.665 No_date   37:30   31.47 .423     .000
01668>       [CN= 72.0: N= 3.00: Tp= 8.00]
01669>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01670>       [InterEventTime=  12.00]
01671> #
01672> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01673> # of 1.75
01674> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01675>     CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   25.107 No_date   39:30   26.99 .363     .000
01676>       [CN= 66.0: N= 3.00: Tp=11.66]
01677>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01678>       [InterEventTime=  12.00]
01679> #
01680> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01681> # of 1.68
01682> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01683>     CONTINUOUS NASHYD    30.0 01:SW_9        1132.00   11.574 No_date   30:30   30.15 .405     .000
01684>       [CN= 70.0: N= 3.00: Tp= 2.51]
01685>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
01686>       [InterEventTime=  12.00]
01687> #
01688> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01689> # of 1.82
01690> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01691>     CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00   12.525 No_date   39:30   24.58 .330     .000
01692>       [CN= 62.0: N= 3.00: Tp=11.32]
01693>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
01694>       [InterEventTime=  12.00]
01695> #
01696> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01697> # of 1.80
01698> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01699> *  CONTINUOUS NASHYD    30.0 01:SW_8         131.00    2.156 No_date   28:30   25.17 .338     .000
01700>       [CN= 63.0: N= 3.00: Tp=  .90]
01701>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
01702>       [InterEventTime=  12.00]
01703> #
01704> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01705> # of 1.65
01706> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01707>     CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00   14.880 No_date   38:30   26.99 .363     .000
01708>       [CN= 66.0: N= 3.00: Tp= 8.42]
01709>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
01710>       [InterEventTime=  12.00]
01711> #
01712> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01713> # of 1.82
01714> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01715>     CONTINUOUS NASHYD    30.0 01:SW_7        3197.00   11.391 No_date   36:00   21.73 .292     .000
01716>       [CN= 57.0: N= 3.00: Tp= 6.65]
01717>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
01718>       [InterEventTime=  12.00]
01719> #
01720> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01721> # of 1.75
01722> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01723>     CONTINUOUS NASHYD    30.0 01:SW_6         165.00    1.056 No_date   33:00   27.61 .371     .000
01724>       [CN= 67.0: N= 3.00: Tp= 4.18]
01725>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
01726>       [InterEventTime=  12.00]
01727> #
01728> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01729> # of 1.67
01730> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01731>     CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    7.707 No_date   35:00   31.47 .423     .000
01732>       [CN= 72.0: N= 3.00: Tp= 5.95]
01733>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01734>       [InterEventTime=  12.00]
01735> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01736> *  CONTINUOUS NASHYD    30.0 01:SW_5         224.00    6.682 No_date   28:30   35.63 .479     .000
01737>       [CN= 77.0: N= 3.00: Tp=  .75]
01738>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01739>       [InterEventTime=  12.00]
01740> #
01741> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01742> # of 1.20
01743> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01744>     CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   36.990 No_date   33:00   32.82 .441     .000
01745>       [CN= 74.0: N= 3.00: Tp= 4.45]
01746>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
01747>       [InterEventTime=  12.00]
01748> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01749> *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00     .739 No_date   28:30   39.33 .529     .000
01750>       [CN= 81.0: N= 3.00: Tp=  .62]
01751>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01752>       [InterEventTime=  12.00]
01753> #
01754> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
01755> # of 1.61
01756> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01757>     CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    7.263 No_date   37:30   34.21 .460     .000
01758>       [CN= 75.0: N= 3.00: Tp= 8.00]
01759>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
01760>       [InterEventTime=  12.00]
01761> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01762>     CONTINUOUS NASHYD    30.0 01:SW_4         585.00   10.733 No_date   29:30   39.33 .529     .000
01763>       [CN= 81.0: N= 3.00: Tp= 1.75]
01764>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01765>       [InterEventTime=  12.00]
01766> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01767>     CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00   14.279 No_date   30:30   38.57 .519     .000
01768>       [CN= 80.0: N= 3.00: Tp= 2.46]
01769>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
01770>       [InterEventTime=  12.00]
01771> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01772> *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    5.280 No_date   28:30   35.63 .479     .000
01773>       [CN= 77.0: N= 3.00: Tp=  .75]
01774>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01775>       [InterEventTime=  12.00]
01776> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01777>     CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00   13.030 No_date   31:30   39.33 .529     .000
01778>       [CN= 81.0: N= 3.00: Tp= 3.25]
01779>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01780>       [InterEventTime=  12.00]
01781> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01782>     CONTINUOUS NASHYD    30.0 01:MO_DR       2737.00   28.975 No_date   31:00   34.91 .469     .000
01783>       [CN= 76.0: N= 3.00: Tp= 3.03]
01784>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
01785>       [InterEventTime=  12.00]
01786> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01787>     CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   31.429 No_date   32:00   36.35 .489     .000
01788>       [CN= 78.0: N= 3.00: Tp= 3.56]
01789>       [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
01790>       [InterEventTime=  12.00]
01791> #
01792> # Routing hydrographs
01793> #
01794> # Starting with the addition of Jock River Headwater and Subwatershed 13
01795> #
01796> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01797>     ADD HYD                30.0 02:JR_HW       3680.00   15.104 No_date   36:30   25.77  n/a     .000
01798>                          +   30.0 02:SW_13       971.00    5.679 No_date   32:30   24.00  n/a     .000
01799>                       SUM=   30.0 01:S_N13      4651.00   19.326 No_date   35:00   25.40  n/a     .000
01800> #
01801> # Sum of hydrographs from Node 13 routed to Node 13A
01802> # (Approximated cross-section - see cross-section 258)
01803> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
01804> #
01805> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01806>     ROUTE CHANNEL   ->   30.0 02:S_N13      4651.00   19.326 No_date   35:00   25.40  n/a     .000
01807>      [RDT=30.00] out<-   30.0 01:N13A       4651.00   15.622 No_date   39:00   25.40  n/a     .000
01808>       [L/S/n= 9674./ .022/.040]
01809>       {Vmax=  .545:Dmax= 3.628}
01810> #
01811> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
01812> #
01813> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01814>     ADD HYD                30.0 02:N13A       4651.00   15.622 No_date   39:00   25.40  n/a     .000
01815>                          +   30.0 02:JR_GWM     3074.00    7.216 No_date   39:30   20.63  n/a     .000
01816>                       SUM=   30.0 01:SN13A      7725.00   22.816 No_date   39:30   23.50  n/a     .000
01817> #
01818> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
01819> #
01820> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01821>     ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   22.816 No_date   39:30   23.50  n/a     .000
01822>                      out <=   30.0 01:RES_GM     7725.00    3.669 No_date   61:00   23.50  n/a     .000
01823>       {MxStoUsed=.1171E+03  m3}
01824> #
01825> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01826>     SAVE HYD               30.0 01:RES_GM     7725.00    3.669 No_date   61:00   23.50  n/a     .000
01827>       fname :H_RESGM
01828>       remark:Outflow from Res GM
01829> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
01830> # (Approximated cross-section - see cross-section 258)
01831> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
01832> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01833>     ROUTE CHANNEL   ->   30.0 02:RES_GM     7725.00    3.669 No_date   61:00   23.50  n/a     .000
01834>      [RDT=30.00] out<-   30.0 01:N12        7725.00    3.665 No_date   64:00   23.50  n/a     .000
01835>       [L/S/n= 5926./ .076/.040]
01836>       {Vmax=  .552:Dmax= 1.522}
01837> #
01838> # Addition of Subwatershed Jock River at Ashton to Node 12
01839> #
01840> R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01841>     ADD HYD                30.0 02:N12        7725.00    3.665 No_date   64:00   23.50  n/a     .000
01842>                          +   30.0 02:JR_ASH     1781.00   13.927 No_date   32:30   31.47  n/a     .000
01843>                       SUM=   30.0 01:S_N12      9506.00   15.946 No_date   32:30   24.99  n/a     .000
01844> R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01845>     SAVE HYD               30.0 01:S_N12      9506.00   15.946 No_date   32:30   24.99  n/a     .000
01846>       fname :H_SN12
01847>       remark:flow at S_N12 near Ashton
01848> #
01849> # Sum of hydrographs from Node 12 routed to Node 11
01850> # (Approximated cross-section - see cross-section 258)
01851> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
01852> R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01853>     ROUTE CHANNEL   ->   30.0 02:S_N12      9506.00   15.946 No_date   32:30   24.99  n/a     .000
01854>      [RDT=30.00] out<-   30.0 01:N11        9506.00   15.700 No_date   33:00   24.99  n/a     .000
01855>       [L/S/n=  972./ .051/.040]
01856>       {Vmax=  .705:Dmax= 2.858}
01857> #
01858> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
01859> #
01860> R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01861>     ROUTE CHANNEL   ->   30.0 02:S_N12      9506.00   15.946 No_date   32:30   24.99  n/a     .000
01862>      [RDT=30.00] out<-   30.0 01:Dum11       9506.00   15.719 No_date   33:00   24.99  n/a     .000
01863>       [L/S/n=  972./ .054/.040]
01864>       {Vmax=  .718:Dmax= 2.831}
01865> #
01866> # Addition of Subwatershed 11 and No Name Creek to Node 11
01867> #
01868> R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01869>     ADD HYD                30.0 02:Dum11      9506.00   15.719 No_date   33:00   24.99  n/a     .000
01870>                          +   30.0 02:SW_11       500.00    7.356 No_date   29:00   26.99  n/a     .000
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01871>                    +    30.0 02:NN_CK       1917.00   10.139 No_date   34:00   26.99  n/a     .000
01872>                  SUM=   30.0 01:S_N11      11923.00   27.440 No_date   33:00   25.40  n/a     .000
01873> #
01874> # Sum of hydrographs from Node 11 routed to Node 10
01875> # Section 1
01876> #
01877> R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01878>      ROUTE CHANNEL   ->   30.0 02:S_N11      11923.00   27.440 No_date   33:00   25.40  n/a     .000
01879>        [RDT=30.00] out<-   30.0 01:N10        11923.00   17.756 No_date   40:00   25.40  n/a     .000
01880>         [L/S/n=14628./ .157/.040]
01881>         {Vmax=  .463:Dmax= 1.320}
01882> #
01883> # Addition of Subwatershed 10 to Node 10
01884> #
01885> R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01886>      ADD HYD                30.0 02:N10       11923.00   17.756 No_date   40:00   25.40  n/a     .000
01887>                    +    30.0 02:SW_10       5666.00   26.665 No_date   37:30   31.47  n/a     .000
01888>                  SUM=   30.0 01:S_N10      17589.00   44.045 No_date   38:30   27.35  n/a     .000
01889> R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01890>      SAVE HYD               30.0 01:S_N10     17589.00   44.045 No_date   38:30   27.35  n/a     .000
01891>         fname :H_SN10
01892>         remark:flow at S_N10: N10 + SW_10
01893> # Addition of Kings Creek to S_N10
01894> #
01895> R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01896>      ADD HYD                30.0 02:S_N10     17589.00   44.045 No_date   38:30   27.35  n/a     .000
01897>                    +    30.0 02:KG_CK        8376.00   25.107 No_date   39:30   26.99  n/a     .000
01898>                  SUM=   30.0 01:S_N10A     25965.00   68.824 No_date   39:30   27.24  n/a     .000
01899> #
01900> # Sum of hydrographs from Node 10 routed to Node 9
01901> # Section 2
01902> #
01903> R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01904>      ROUTE CHANNEL   ->   30.0 02:S_N10A     25965.00   68.824 No_date   39:30   27.24  n/a     .000
01905>        [RDT=30.00] out<-   30.0 01:N9         25965.00   66.905 No_date   39:30   27.24  n/a     .000
01906>         [L/S/n= 3902./ .075/.040]
01907>         {Vmax=  .713:Dmax= 1.864}
01908> #
01909> # Addition of Subwatershed 9 and Nichols Creek to Node 9
01910> #
01911> R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01912>      ADD HYD                30.0 02:N9        25965.00   66.905 No_date   39:30   27.24  n/a     .000
01913>                    +    30.0 02:SW_9         1132.00   11.574 No_date   30:30   30.15  n/a     .000
01914>                    +    30.0 02:NC_CK        4464.00   12.525 No_date   39:30   24.58  n/a     .000
01915>                  SUM=   30.0 01:S_N9       31561.00   82.190 No_date   39:30   26.97  n/a     .000
01916> #
01917> # Sum of hydrographs from Node 9 routed to Node 8
01918> # Section 3
01919> #
01920> R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01921>      ROUTE CHANNEL   ->   30.0 02:S_N9       31561.00   82.190 No_date   39:30   26.97  n/a     .000
01922>        [RDT=30.00] out<-   30.0 01:N8         31561.00   77.115 No_date   40:00   26.97  n/a     .000
01923>         [L/S/n= 2269./ .088/.045]
01924>         {Vmax=  .362:Dmax= 1.727}
01925> #
01926> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
01927> #
01928> R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01929>      ADD HYD                30.0 02:N8        31561.00   77.115 No_date   40:00   26.97  n/a     .000
01930>                    +    30.0 02:SW_8          131.00    2.156 No_date   28:30   25.17  n/a     .000
01931>                    +    30.0 02:HB_DR        3854.00   14.880 No_date   38:30   26.99  n/a     .000
01932>                  SUM=   30.0 01:S_N8       35546.00   91.271 No_date   39:30   26.96  n/a     .000
01933> #
01934> # Sum of hydrographs from Node 8 routed to Node 7
01935> # Section 4
01936> #
01937> R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01938>      ROUTE CHANNEL   ->   30.0 02:S_N8       35546.00   91.271 No_date   39:30   26.96  n/a     .000
01939>        [RDT=30.00] out<-   30.0 01:N7         35546.00   78.196 No_date   45:00   26.96  n/a     .000
01940>         [L/S/n= 3750./ .053/.070]
01941>         {Vmax=  .225:Dmax= 2.134}
01942> #
01943> # Addition of Subwatershed 7 to Node 7
01944> #
01945> R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01946>      ADD HYD                30.0 02:N7        35546.00   78.196 No_date   45:00   26.96  n/a     .000
01947>                    +    30.0 02:SW_7         3197.00   11.391 No_date   36:00   21.73  n/a     .000
01948>                  SUM=   30.0 01:S_N7       38743.00   84.011 No_date   44:00   26.53  n/a     .000
01949> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01950>      SAVE HYD               30.0 01:S_N7      38743.00   84.011 No_date   44:00   26.53  n/a     .000
01951>         fname :H_SN7
01952>         remark:flow at S_N7: N7 + SW_7
01953> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
01954> # Storage area and volumes were estimated from available topo maps.
01955> # Release rate from fen was assumed to be controlled by the downstream
01956> # river cross-section for summer conditions.  It is was assumed that for up to
01957> # 0.75 m of water, the main channel of the river provided the storage.  Above
01958> # this depth, the wetland starts to signigicantly store water.
01959> #
01960> R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01961>      ROUTE RESERVOIR ->   30.0 02:S_N7       38743.00   84.011 No_date   44:00   26.53  n/a     .000
01962>                         out <-   30.0 01:RES_RF    38743.00   40.725 No_date   60:30   26.53  n/a     .000
01963>       {MxStoUsed=.3577E+03  m3}
01964> R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01965>      SAVE HYD               30.0 01:RES_RF    38743.00   40.725 No_date   60:30   26.53  n/a     .000
01966>         fname :H_ResRF
01967>         remark:outflow of Richmond Fen
01968> #
01969> # Sum of hydrographs from Node 7 routed to Node 6
01970> # Section 5
01971> #
01972> R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01973>      ROUTE CHANNEL   ->   30.0 02:RES_RF     38743.00   40.725 No_date   60:30   26.53  n/a     .000
01974>        [RDT=30.00] out<-   30.0 01:N6         38743.00   40.549 No_date   61:30   26.53  n/a     .000
01975>         [L/S/n= 3056./ .082/.025]
01976>         {Vmax=  .510:Dmax= 1.101}
01977> #
01978> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
01979> #
01980> R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01981>      ADD HYD                30.0 02:N6        38743.00   40.549 No_date   61:30   26.53  n/a     .000
01982>                    +    30.0 02:SW_6          165.00    1.056 No_date   33:00   27.61  n/a     .000
01983>                    +    30.0 02:VG_DR        1332.00    7.707 No_date   35:00   31.47  n/a     .000
01984>                  SUM=   30.0 01:S_N6       40240.01   40.613 No_date   61:30   26.70  n/a     .000
01985> #
01986> # Sum of hydrographs from Node 6 routed to Node 5
01987> # Section 6
01988> #
01989> R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01990>      ROUTE CHANNEL   ->   30.0 02:S_N6       40240.01   40.613 No_date   61:30   26.70  n/a     .000
01991>        [RDT=30.00] out<-   30.0 01:N5         40240.01   40.523 No_date   62:30   26.70  n/a     .000
01992>         [L/S/n= 1852./ .054/.035]
01993>         {Vmax=  .440:Dmax= 1.203}
01994> #
01995> # Addition of Subwatershed 5 and Flowing Creek to Node 5
01996> #
01997> R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01998>      ADD HYD                30.0 02:N5        40240.01   40.523 No_date   62:30   26.70  n/a     .000
01999>                    +    30.0 02:SW_5          224.00    6.682 No_date   28:30   35.63  n/a     .000
02000>                    +    30.0 02:FL_CK        4945.00   36.990 No_date   33:00   32.82  n/a     .000
02001>                  SUM=   30.0 01:S_N5       45409.01   61.906 No_date   34:00   27.41  n/a     .000
02002> #
02003> # Sum of hydrographs from Node 5 routed to Node 5A
02004> # Section 7
02005> #
02006> R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02007>      ROUTE CHANNEL   ->   30.0 02:S_N5       45409.01   61.906 No_date   34:00   27.41  n/a     .000
02008>        [RDT=30.00] out<-   30.0 01:N5A        45409.01   61.890 No_date   34:30   27.41  n/a     .000
02009>         [L/S/n=  556./ .090/.040]
02010>         {Vmax=  .510:Dmax= 1.217}
02011> #
02012> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
02013> #
02014> R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02015>      ADD HYD                30.0 02:N5A       45409.01   61.890 No_date   34:30   27.41  n/a     .000
02016>                    +    30.0 02:SW_5A2          20.00     .739 No_date   28:30   29.61  n/a     .000
02017>                    +    30.0 02:SW_5A1        1412.00    7.263 No_date   37:30   34.21  n/a     .000
02018>                  SUM=   30.0 01:S_N5A      46841.01   68.494 No_date   34:30   27.62  n/a     .000
02019> #
02020> # Sum of hydrographs from Node 5A routed to Node 4
02021> # Section 8
02022> #
02023> R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02024>      ROUTE CHANNEL   ->   30.0 02:S_N5A      46841.01   68.494 No_date   34:30   27.62  n/a     .000
02025>        [RDT=30.00] out<-   30.0 01:N4         46841.01   65.794 No_date   36:30   27.62  n/a     .000
02026>         [L/S/n= 4630./ .043/.035]
02027>         {Vmax=  .838:Dmax= 3.516}
02028> #
02029> # Addition of Subwatershed 4 and Leamy Creek to Node 4
02030> #
02031> R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02032>      ADD HYD                30.0 02:N4        46841.01   65.794 No_date   36:30   27.62  n/a     .000
02033>                    +    30.0 02:SW_4          585.00   10.733 No_date   29:30   39.33  n/a     .000
02034>                    +    30.0 02:LM_CK        1021.00   14.279 No_date   30:30   38.57  n/a     .000
02035>                  SUM=   30.0 01:S_N4       48447.00   73.162 No_date   35:30   27.99  n/a     .000
02036> R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02037>      SAVE HYD               30.0 01:S_N4      48447.00   73.162 No_date   35:30   27.99  n/a     .000
02038>         fname :S_N4.0025
02039>         remark:flow at S_N4
02040> #
02041> # Sum of hydrographs from Node 4 routed to Node 2
02042> # Section 9
02043> #
02044> R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02045>      ROUTE CHANNEL   ->   30.0 02:S_N4       48447.00   73.162 No_date   35:30   27.99  n/a     .000
02046>        [RDT=30.00] out<-   30.0 01:N2         48447.00   72.927 No_date   35:30   27.99  n/a     .000
02047>         [L/S/n= 1667./ .060/.040]
02048>         {Vmax=  .871:Dmax= 3.558}
02049> #
02050> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
02051> #
02052> R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02053>      ADD HYD                30.0 02:N2        48447.00   72.927 No_date   35:30   27.99  n/a     .000
02054>                    +    30.0 02:SW_2          177.00    5.280 No_date   28:30   35.63  n/a     .000
02055>                    +    30.0 02:SM_DR        1122.00   13.030 No_date   31:30   39.33  n/a     .000
02056>                    +    30.0 02:MD_DR        2737.00   28.975 No_date   31:00   34.91  n/a     .000
02057>                  SUM=   30.0 01:S_N2       52483.00  104.643 No_date   33:00   28.62  n/a     .000
02058> R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02059>      SAVE HYD               30.0 01:S_N2      52483.00  104.643 No_date   33:00   28.62  n/a     .000
02060>         fname :H_SN2
02061>         remark:flow at S_N2 Jock River Gauge at Moodie Dr.
02062> #
02063> # Sum of hydrographs from Node 2 routed to Node 1
02064> # Section 10
02065> #
02066> R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02067>      ROUTE CHANNEL   ->   30.0 02:S_N2       52483.00  104.643 No_date   33:00   28.62  n/a     .000
02068>        [RDT=30.00] out<-   30.0 01:N1         52483.00   92.450 No_date   36:00   28.62  n/a     .000
02069>         [L/S/n=10046./ .050/.040]
02070>         {Vmax=  .998:Dmax= 3.955}
02071> #
02072> # Addition of Subwatershed 1 to Node 1
02073> #
02074> R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02075>      ADD HYD                30.0 02:N1        52483.00   92.450 No_date   36:00   28.62  n/a     .000
02076>                    +    30.0 02:SW_1          3176.00   31.429 No_date   32:00   36.35  n/a     .000
02077>                  SUM=   30.0 01:N1         55659.00  115.838 No_date   34:30   29.06  n/a     .000
02078> R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02079>      SAVE HYD               30.0 01:N1        55659.00  115.838 No_date   34:30   29.06  n/a     .000
02080>         fname :N1.0025
02081>         remark:total outflow of Jock River
02082> ###############################################################################
02083>  ** END OF RUN :   49
02084> ********************************************************************************************************
02085> ********************************************************************************************************
02086>
02087>
02088>
02089>
02090>
02091>  RUN#:COMMAND#
02092>  R0050:C00001------------------------------------------------------------------------------------------
02093>       START
02094>       [TZERO =    .00 hrs on        0]
02095>       [METOUT=   2   (1=imperial, 2=metric output)]
02096>       [NSTORM=   1 ]
02097>       [NRUN  = 0050 ]
02098> a*******************************************************************************
02099>  #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
02100> a*******************************************************************************
02101>  #  Project Name: [Jock River]    Project Number: [411-02]
02102>  #  Date        : 06-06-2003
02103>  #  Modeller    : [JoF]
02104>  #  Company     : JFSAinc.
02105>  #  License #   : 2549237
02106> a*******************************************************************************
02107> # CALIBRATION OF SUMMER MODEL PARAMETERS
02108> # USING CONTINUOUS SIMULATIONS
02109> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
02110> # Use data collected from May 1st to July 14, 2003
02111> # ------------------------------------------------------------------------
02112>  R0050:C00002------------------------------------------------------------------------------------------
02113>       READ STORM
02114>       Filename = storm.001
02115>       Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
02116>       [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
02117>  R0050:C00003------------------------------------------------------------------------------------------
02118>       MODIFY STORM
02119>       [RFACT=  1.00:TSHIFT= 960.00 min]
02120>       [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
02121>  R0050:C00004------------------------------------------------------------------------------------------
02122>       COMPUTE API
02123>       [APIini= 50.00: APIkdy=  .8500: APIkdt=  .9989]
02124>       {APImax=113.33: APIavg= 67.14: APImin= 44.87}
02125> #
02126> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02127> # of 1.32
02128>  R0050:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02129>       CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00   17.963 No_date   36:30   30.30 .372     .000
02130>         [CN= 64.0: N= 3.00: Tp= 7.13]
02131>         [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
02132>         [InterEventTime=  12.00]
02133> #
02134> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02135> # of 1.32
02136>  R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02137>       CONTINUOUS NASHYD    30.0 01:SW_13        971.00    6.816 No_date   32:30   28.25 .347     .000
02138>         [CN= 61.0: N= 3.00: Tp= 3.76]
02139>         [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
02140>         [InterEventTime=  12.00]
02141> #
02142> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02143> # of 1.80
02144>  R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02145>       CONTINUOUS NASHYD    30.0 01:JR_GWM      3074.00    8.540 No_date   39:30   24.29 .298     .000
02146>         [CN= 55.0: N= 3.00: Tp=11.33]
02147>         [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
02148>         [InterEventTime=  12.00]
02149>  R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02150>       CONTINUOUS NASHYD    30.0 01:JR_ASH      1781.00   16.547 No_date   32:30   36.82 .452     .000
02151>         [CN= 72.0: N= 3.00: Tp= 3.91]
02152>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02153>         [InterEventTime=  12.00]
02154>  R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02155>       CONTINUOUS NASHYD    30.0 01:SW_11        500.00    8.861 No_date   29:00   31.71 .389     .000
02156>         [CN= 66.0: N= 3.00: Tp= 1.24]
02157>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02158>         [InterEventTime=  12.00]
02159> #
02160> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02161> # of 1.80
02162>  R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02163>       CONTINUOUS NASHYD    30.0 01:NN_CK       1917.00   12.088 No_date   34:00   31.71 .389     .000
02164>         [CN= 66.0: N= 3.00: Tp= 5.29]
02165>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02166>         [InterEventTime=  12.00]
02167> #
02168> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02169> # of 1.52
02170>  R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02171>       CONTINUOUS NASHYD    30.0 01:SW_10       5666.00   31.459 No_date   37:30   36.82 .452     .000
02172>         [CN= 72.0: N= 3.00: Tp= 8.00]
02173>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02174>         [InterEventTime=  12.00]
02175> #
02176> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02177> # of 1.75
02178>  R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02179>       CONTINUOUS NASHYD    30.0 01:KG_CK       8376.00   29.610 No_date   39:30   31.71 .389     .000
02180>         [CN= 66.0: N= 3.00: Tp=11.66]
02181>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02182>         [InterEventTime=  12.00]
02183> #
02184> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02185> # of 1.68
02186>  R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02187>       CONTINUOUS NASHYD    30.0 01:SW_9        1132.00   13.828 No_date   30:30   35.33 .433     .000
02188>         [CN= 70.0: N= 3.00: Tp= 2.51]
02189>         [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
02190>         [InterEventTime=  12.00]
02191> #
02192> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02193> # of 1.82
02194>  R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02195>       CONTINUOUS NASHYD    30.0 01:NC_CK       4464.00   14.806 No_date   39:30   28.93 .355     .000
02196>         [CN= 62.0: N= 3.00: Tp=11.32]
02197>         [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
02198>         [InterEventTime=  12.00]
02199> #
02200> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02201> # of 1.80
02202>  R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02203>  *    CONTINUOUS NASHYD    30.0 01:SW_8         131.00    2.605 No_date   28:30   29.61 .363     .000
02204>         [CN= 63.0: N= 3.00: Tp=  .90]
02205>         [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
02206>         [InterEventTime=  12.00]
02207> #
02208> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02209> # of 1.65
02210>  R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02211>       CONTINUOUS NASHYD    30.0 01:HB_DR       3854.00   17.631 No_date   38:30   31.71 .389     .000
02212>         [CN= 66.0: N= 3.00: Tp= 8.42]
02213>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02214>         [InterEventTime=  12.00]
02215> #
02216> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02217> # of 1.82
02218>  R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02219>       CONTINUOUS NASHYD    30.0 01:SW_7        3197.00   13.606 No_date   36:00   25.59 .314     .000
02220>         [CN= 57.0: N= 3.00: Tp= 6.65]
02221>         [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
02222>         [InterEventTime=  12.00]
02223> #
02224> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02225> # of 1.75
02226>  R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02227>       CONTINUOUS NASHYD    30.0 01:SW_6         165.00    1.261 No_date   33:00   32.42 .398     .000
02228>         [CN= 67.0: N= 3.00: Tp= 4.18]
02229>         [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
02230>         [InterEventTime=  12.00]
02231> #
02232> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02233> # of 1.67
02234>  R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02235>       CONTINUOUS NASHYD    30.0 01:VG_DR       1332.00    9.122 No_date   35:00   36.82 .452     .000
02236>         [CN= 72.0: N= 3.00: Tp= 5.95]
02237>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02238>         [InterEventTime=  12.00]
02239>  R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02240>  *    CONTINUOUS NASHYD    30.0 01:SW_5         224.00    7.947 No_date   28:30   41.48 .509     .000
02241>         [CN= 77.0: N= 3.00: Tp=  .75]
02242>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02243>         [InterEventTime=  12.00]
02244> #
```

```
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:FL_CK       4945.00   43.824 No_date   33:00   38.35 .470     .000
      [CN= 74.0: N= 3.00: Tp= 4.45]
      [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
      [InterEventTime=  12.00]
R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_5A2        20.00     .873 No_date   28:30   45.57 .559     .000
      [CN= 81.0: N= 3.00: Tp=  .62]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_5A1      1412.00    8.537 No_date   37:30   39.90 .490     .000
      [CN= 75.0: N= 3.00: Tp= 8.00]
      [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
      [InterEventTime=  12.00]
R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_4         585.00   12.656 No_date   29:30   45.57 .559     .000
      [CN= 81.0: N= 3.00: Tp= 1.75]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:LM_CK       1021.00   16.828 No_date   30:30   44.74 .549     .000
      [CN= 80.0: N= 3.00: Tp= 2.46]
      [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
      [InterEventTime=  12.00]
R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
 *  CONTINUOUS NASHYD    30.0 01:SW_2         177.00    6.279 No_date   28:30   41.48 .509     .000
      [CN= 77.0: N= 3.00: Tp=  .75]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SM_DR       1122.00   15.311 No_date   31:30   45.57 .559     .000
      [CN= 81.0: N= 3.00: Tp= 3.25]
      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
      [InterEventTime=  12.00]
R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:MO_DR       2737.00   34.329 No_date   31:00   40.69 .499     .000
      [CN= 76.0: N= 3.00: Tp= 3.03]
      [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
      [InterEventTime=  12.00]
R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    CONTINUOUS NASHYD    30.0 01:SW_1        3176.00   37.086 No_date   32:00   42.28 .519     .000
      [CN= 78.0: N= 3.00: Tp= 3.56]
      [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
      [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:JR_HW       3680.00   17.963 No_date   36:30   30.30  n/a     .000
                    +    30.0 02:SW_13        971.00    6.816 No_date   32:30   28.25  n/a     .000
                 SUM=    30.0 01:S_N13       4651.00   23.017 No_date   35:00   29.87  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00   23.017 No_date   35:00   29.87  n/a     .000
     [RDT=30.00] out<-   30.0 01:N13A        4651.00   18.758 No_date   38:30   29.87  n/a     .000
      [L/S/n= 9074./ .022/.040]
      {Vmax=  .571:Dmax= 3.883}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N13A        4651.00   18.758 No_date   38:30   29.87  n/a     .000
                    +    30.0 02:JR_GWM      3074.00    8.540 No_date   39:30   24.29  n/a     .000
                 SUM=    30.0 01:SN13A       7725.00   27.242 No_date   39:30   27.65  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   27.242 No_date   39:30   27.65  n/a     .000
                out <=   30.0 01:RES_GM      7725.00    3.797 No_date   62:30   27.65  n/a     .000
     {MxStoUsed=.1456E+03  m3}
#
R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:RES_GM      7725.00    3.797 No_date   62:30   27.65  n/a     .000
      fname :H_RESGM
      remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    3.797 No_date   62:30   27.65  n/a     .000
     [RDT=30.00] out<-   30.0 01:N12         7725.00    3.794 No_date   65:00   27.65  n/a     .000
      [L/S/n= 5926./ .076/.040]
      {Vmax=  .556:Dmax= 1.539}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N12         7725.00    3.794 No_date   65:00   27.65  n/a     .000
                    +    30.0 02:JR_ASH      1781.00   16.547 No_date   32:30   36.82  n/a     .000
                 SUM=    30.0 01:S_N12       9506.00   18.583 No_date   32:30   29.37  n/a     .000
R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N12       9506.00   18.583 No_date   32:30   29.37  n/a     .000
      fname :H_SN12
      remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   18.583 No_date   32:30   29.37  n/a     .000
     [RDT=30.00] out<-   30.0 01:N11         9506.00   18.279 No_date   32:30   29.37  n/a     .000
      [L/S/n=  972./ .051/.040]
      {Vmax=  .734:Dmax= 3.040}
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   18.583 No_date   32:30   29.37  n/a     .000
     [RDT=30.00] out<-   30.0 01:Dum11       9506.00   18.314 No_date   32:30   29.37  n/a     .000
      [L/S/n=  972./ .054/.040]
      {Vmax=  .748:Dmax= 3.010}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
#
R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:Dum11       9506.00   18.314 No_date   32:30   29.37  n/a     .000
                    +    30.0 02:SW_11        500.00    8.861 No_date   29:00   31.71  n/a     .000
                    +    30.0 02:NN_CK       1917.00   12.088 No_date   34:00   31.71  n/a     .000
                 SUM=    30.0 01:S_N11      11923.00   32.241 No_date   33:00   29.84  n/a     .000
#
# Sum of hydrographs from Node 11 routed to Node 10
# Section 1
#
R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N11      11923.00   32.241 No_date   33:00   29.84  n/a     .000
     [RDT=30.00] out<-   30.0 01:N10        11923.00   20.165 No_date   40:00   29.84  n/a     .000
      [L/S/n=14028./ .157/.040]
      {Vmax=  .473:Dmax= 1.413}
#
# Addition of Subwatershed 10 to Node 10
#
R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N10        11923.00   20.165 No_date   40:00   29.84  n/a     .000
                    +    30.0 02:SW_10       5666.00   31.459 No_date   37:30   36.82  n/a     .000
                 SUM=    30.0 01:S_N10      17589.00   51.443 No_date   38:00   32.09  n/a     .000
R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N10      17589.00   51.443 No_date   38:00   32.09  n/a     .000
      fname :H_SN10
      remark:flow at S_N10: N10 + SW_10
# Addition of Kings Creek to S_N10
#
R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:S_N10      17589.00   51.443 No_date   38:00   32.09  n/a     .000
                    +    30.0 02:KG_CK       8376.00   29.616 No_date   39:30   31.71  n/a     .000
                 SUM=    30.0 01:S_N10A     25965.00   80.385 No_date   39:30   31.97  n/a     .000
#
# Sum of hydrographs from Node 10 routed to Node 9
# Section 2
#
R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N10A     25965.00   80.385 No_date   39:30   31.97  n/a     .000
     [RDT=30.00] out<-   30.0 01:N9         25965.00   78.483 No_date   39:30   31.97  n/a     .000
      [L/S/n= 3982./ .075/.040]
      {Vmax=  .739:Dmax= 1.990}
#
# Addition of Subwatershed 9 and Nichols Creek to Node 9
#
R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N9         25965.00   78.483 No_date   39:30   31.97  n/a     .000
                    +    30.0 02:SW_9        1132.00   13.828 No_date   30:30   35.33  n/a     .000
                    +    30.0 02:NC_CK       4464.00   14.806 No_date   39:30   28.93  n/a     .000
                 SUM=    30.0 01:S_N9       31561.00   96.483 No_date   39:30   31.66  n/a     .000
#
# Sum of hydrographs from Node 9 routed to Node 8
# Section 3
#
R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N9       31561.00   96.483 No_date   39:30   31.66  n/a     .000
     [RDT=30.00] out<-   30.0 01:N8         31561.00   91.152 No_date   40:00   31.66  n/a     .000
      [L/S/n= 2269./ .088/.045]
      {Vmax=  .367:Dmax= 1.816}
#
# Addition of Subwatershed 8 and Hobb's Drain to Node 8
#
R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N8         31561.00   91.152 No_date   40:00   31.66  n/a     .000
                    +    30.0 02:SW_8         131.00    2.605 No_date   28:30   29.61  n/a     .000
                    +    30.0 02:HB_DR       3854.00   17.631 No_date   38:30   31.71  n/a     .000
                 SUM=    30.0 01:S_N8       35546.00  108.049 No_date   39:30   31.66  n/a     .000
#
# Sum of hydrographs from Node 8 routed to Node 7
# Section 4
#
R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N8       35546.00  108.049 No_date   39:30   31.66  n/a     .000
     [RDT=30.00] out<-   30.0 01:N7         35546.00   92.806 No_date   44:30   31.66  n/a     .000
      [L/S/n= 3750./ .053/.070]
      {Vmax=  .230:Dmax= 2.266}
#
# Addition of Subwatershed 7 to Node 7
#
R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N7         35546.00   92.806 No_date   44:30   31.66  n/a     .000
                    +    30.0 02:SW_7        3197.00   13.606 No_date   36:00   25.59  n/a     .000
                 SUM=    30.0 01:S_N7       38743.00  100.010 No_date   43:30   31.16  n/a     .000
R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N7       38743.00  100.010 No_date   43:30   31.16  n/a     .000
      fname :H_SN7
      remark:flow at S_N7: N7 + SW_7
# Insertion of a reservoir to simulate the effects of the Richmond Fen.
# Storage area and volumes were estimated from available topo maps.
# Release rate from fen was assumed to be controlled by the downstream
# river cross-section for summer conditions.  It is was assumed that for up to
# 0.75 m of water, the main channel of the river provided the storage.  Above
# this depth, the wetland starts to signigicantly store water.
#
R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE RESERVOIR ->   30.0 02:S_N7       38743.00  100.010 No_date   43:30   31.16  n/a     .000
                out <=   30.0 01:RES_RF     38743.00   50.512 No_date   59:00   31.16  n/a     .000
     {MxStoUsed=.4285E+03  m3}
R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:RES_RF     38743.00   50.512 No_date   59:00   31.16  n/a     .000
      fname :H_ResRF
      remark:outflow of Richmond Fen
#
# Sum of hydrographs from Node 7 routed to Node 6
# Section 5
#
R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:RES_RF     38743.00   50.512 No_date   59:00   31.16  n/a     .000
     [RDT=30.00] out<-   30.0 01:N6         38743.00   50.296 No_date   60:30   31.16  n/a     .000
      [L/S/n= 3056./ .082/.025]
      {Vmax=  .534:Dmax= 1.234}
#
# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
#
R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N6         38743.00   50.296 No_date   60:30   31.16  n/a     .000
                    +    30.0 02:SW_6         165.00    1.261 No_date   33:00   32.42  n/a     .000
                    +    30.0 02:VG_DR       1332.00    9.122 No_date   35:00   36.82  n/a     .000
                 SUM=    30.0 01:S_N6       40240.01   50.407 No_date   60:30   31.35  n/a     .000
#
# Sum of hydrographs from Node 6 routed to Node 5
# Section 6
#
R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N6       40240.01   50.407 No_date   60:30   31.35  n/a     .000
     [RDT=30.00] out<-   30.0 01:N5         40240.01   50.300 No_date   61:00   31.35  n/a     .000
      [L/S/n= 1852./ .054/.035]
      {Vmax=  .466:Dmax= 1.333}
#
# Addition of Subwatershed 5 and Flowing Creek to Node 5
#
R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N5         40240.01   50.300 No_date   61:00   31.35  n/a     .000
                    +    30.0 02:SW_5         224.00    7.947 No_date   28:30   41.48  n/a     .000
                    +    30.0 02:FL_CK       4945.00   43.824 No_date   33:00   38.35  n/a     .000
                 SUM=    30.0 01:S_N5       45409.01   70.670 No_date   34:00   32.16  n/a     .000
#
# Sum of hydrographs from Node 5 routed to Node 5A
# Section 7
#
R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N5       45409.01   70.670 No_date   34:00   32.16  n/a     .000
     [RDT=30.00] out<-   30.0 01:N5A        45409.01   70.588 No_date   34:30   32.16  n/a     .000
      [L/S/n=  556./ .090/.040]
      {Vmax=  .528:Dmax= 1.284}
#
# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
#
R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N5A        45409.01   70.588 No_date   34:30   32.16  n/a     .000
                    +    30.0 02:SW_5A2        20.00     .873 No_date   28:30   45.57  n/a     .000
                    +    30.0 02:SW_5A1      1412.00    8.537 No_date   37:30   39.90  n/a     .000
                 SUM=    30.0 01:S_N5A      46841.01   78.358 No_date   34:30   32.40  n/a     .000
#
# Sum of hydrographs from Node 5A routed to Node 4
# Section 8
#
R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N5A      46841.01   78.358 No_date   34:30   32.40  n/a     .000
     [RDT=30.00] out<-   30.0 01:N4         46841.01   75.078 No_date   36:00   32.40  n/a     .000
      [L/S/n= 4630./ .043/.035]
      {Vmax=  .871:Dmax= 3.687}
#
# Addition of Subwatershed 4 and Leamy Creek to Node 4
#
R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N4         46841.01   75.078 No_date   36:00   32.40  n/a     .000
                    +    30.0 02:SW_4         585.00   12.656 No_date   29:30   45.57  n/a     .000
                    +    30.0 02:LM_CK       1021.00   16.828 No_date   30:30   44.74  n/a     .000
                 SUM=    30.0 01:S_N4       48447.00   84.137 No_date   35:00   32.82  n/a     .000
R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N4       48447.00   84.137 No_date   35:00   32.82  n/a     .000
      fname :S_N4.0050
      remark:flow at S_N4
#
# Sum of hydrographs from Node 4 routed to Node 2
# Section 9
#
R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N4       48447.00   84.137 No_date   35:00   32.82  n/a     .000
     [RDT=30.00] out<-   30.0 01:N2         48447.00   83.911 No_date   35:30   32.82  n/a     .000
      [L/S/n= 1667./ .060/.040]
      {Vmax=  .907:Dmax= 3.737}
#
# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
#
R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N2         48447.00   83.911 No_date   35:30   32.82  n/a     .000
                    +    30.0 02:SW_2         177.00    6.279 No_date   28:30   41.48  n/a     .000
                    +    30.0 02:SM_DR       1122.00   15.311 No_date   31:30   45.57  n/a     .000
                    +    30.0 02:MO_DR       2737.00   34.329 No_date   31:00   40.69  n/a     .000
                 SUM=    30.0 01:S_N2       52483.00  122.469 No_date   33:00   33.53  n/a     .000
R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:S_N2       52483.00  122.469 No_date   33:00   33.53  n/a     .000
      fname :H_SN2
      remark:flow at S_N2 Jock River Gauge at Moodie Dr.
#
# Sum of hydrographs from Node 2 routed to Node 1
# Section 10
#
R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ROUTE CHANNEL   ->   30.0 02:S_N2       52483.00  122.469 No_date   33:00   33.53  n/a     .000
     [RDT=30.00] out<-   30.0 01:N1         52483.00  107.946 No_date   35:30   33.53  n/a     .000
      [L/S/n=10046./ .050/.040]
      {Vmax= 1.047:Dmax= 4.256}
#
# Addition of Subwatershed 1 to Node 1
#
R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    ADD HYD              30.0 02:N1         52483.00  107.946 No_date   35:30   33.53  n/a     .000
                    +    30.0 02:SW_1        3176.00   37.086 No_date   32:00   42.28  n/a     .000
                 SUM=    30.0 01:N1         55659.00  136.459 No_date   34:00   34.03  n/a     .000
R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
    SAVE HYD             30.0 01:N1         55659.00  136.459 No_date   34:00   34.03  n/a     .000
      fname :N1.0050
      remark:total outflow of Jock River
################################################################################
  ** END OF RUN :   99

*****************************************************************************************************






 RUN#:COMMAND#
R0100:C00001-----------------------------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  = 0100 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [411-02]
#  Date        : 06-06-2003
#  Modeller    : [JoF]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# ------------------------------------------------------------------------------
R0100:C00002-----------------------------------------------------------------------------------------
     READ STORM
      Filename = storm.001
```

```
02619>       Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
02620>       [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
02621> R0100:C00003------------------------------------------------------------------------------
02622>       MODIFY STORM
02623>       [RFACT=  1.00:TSHIFT= 960.00 min]
02624>       [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
02625> R0100:C00004------------------------------------------------------------------------------
02626>       COMPUTE API
02627>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
02628>       [APImax=119.84: APIavg= 69.19: APImin= 44.87]
02629> #
02630> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02631> # of 1.32
02632> R0100:C00005------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02633>      CONTINUOUS NASHYD    30.0 01:JR_HW       3680.00   21.054 No_date   36:30   35.15 .397     .000
02634>       [CN= 64.0: N= 3.00: Tp= 7.13]
02635>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
02636>       [InterEventTime=  12.00]
02637> #
02638> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02639> # of 1.32
02640> R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02641>      CONTINUOUS NASHYD     30.0 01:SW_13        971.00    8.058 No_date   32:30   32.81 .370     .000
02642>       [CN= 61.0: N= 3.00: Tp= 3.76]
02643>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
02644>       [InterEventTime=  12.00]
02645> #
02646> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02647> # of 1.80
02648> R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02649>      CONTINUOUS NASHYD     30.0 01:JR_GWM      3074.00    9.983 No_date   39:30   28.27 .319     .000
02650>       [CN= 55.0: N= 3.00: Tp=11.33]
02651>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
02652>       [InterEventTime=  12.00]
02653> R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02654>      CONTINUOUS NASHYD     30.0 01:JR_ASH      1781.00   19.356 No_date   32:30   42.46 .479     .000
02655>       [CN= 72.0: N= 3.00: Tp= 3.91]
02656>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02657>       [InterEventTime=  12.00]
02658> R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02659>      CONTINUOUS NASHYD     30.0 01:SW_11        500.00   10.499 No_date   29:00   36.74 .415     .000
02660>       [CN= 68.0: N= 3.00: Tp= 1.24]
02661>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02662>       [InterEventTime=  12.00]
02663> #
02664> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02665> # of 1.80
02666> R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02667>      CONTINUOUS NASHYD     30.0 01:NN_CK       1917.00   14.197 No_date   34:00   36.74 .415     .000
02668>       [CN= 66.0: N= 3.00: Tp= 5.29]
02669>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02670>       [InterEventTime=  12.00]
02671> #
02672> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02673> # of 1.52
02674> R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02675>      CONTINUOUS NASHYD     30.0 01:SW_10       5666.00   36.560 No_date   37:30   42.46 .479     .000
02676>       [CN= 72.0: N= 3.00: Tp= 8.00]
02677>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02678>       [InterEventTime=  12.00]
02679> #
02680> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02681> # of 1.75
02682> R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02683>      CONTINUOUS NASHYD     30.0 01:KG_CK       8376.00   34.456 No_date   39:30   36.74 .415     .000
02684>       [CN= 66.0: N= 3.00: Tp=11.66]
02685>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02686>       [InterEventTime=  12.00]
02687> #
02688> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02689> # of 1.68
02690> R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02691>      CONTINUOUS NASHYD     30.0 01:SW_9        1132.00   16.257 No_date   30:30   40.80 .461     .000
02692>       [CN= 70.0: N= 3.00: Tp= 2.51]
02693>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
02694>       [InterEventTime=  12.00]
02695> #
02696> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02697> # of 1.82
02698> R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02699>      CONTINUOUS NASHYD     30.0 01:NC_CK       4464.00   17.270 No_date   39:30   33.59 .379     .000
02700>       [CN= 62.0: N= 3.00: Tp=11.32]
02701>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
02702>       [InterEventTime=  12.00]
02703> #
02704> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02705> # of 1.80
02706> R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02707> *  CONTINUOUS NASHYD     30.0 01:SW_8         131.00    3.096 No_date   28:30   34.37 .388     .000
02708>       [CN= 63.0: N= 3.00: Tp=  .90]
02709>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
02710>       [InterEventTime=  12.00]
02711> #
02712> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02713> # of 1.65
02714> R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02715>      CONTINUOUS NASHYD     30.0 01:HB_DR       3854.00   20.590 No_date   38:00   36.74 .415     .000
02716>       [CN= 66.0: N= 3.00: Tp= 0.42]
02717>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02718>       [InterEventTime=  12.00]
02719> #
02720> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02721> # of 1.82
02722> R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02723>      CONTINUOUS NASHYD     30.0 01:SW_7        3197.00   16.027 No_date   36:00   29.76 .336     .000
02724>       [CN= 57.0: N= 3.00: Tp= 6.65]
02725>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
02726>       [InterEventTime=  12.00]
02727> #
02728> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02729> # of 1.75
02730> R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02731>      CONTINUOUS NASHYD     30.0 01:SW_6         165.00    1.482 No_date   33:00   37.54 .424     .000
02732>       [CN= 67.0: N= 3.00: Tp= 4.18]
02733>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
02734>       [InterEventTime=  12.00]
02735> #
02736> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02737> # of 1.67
02738> R0100:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02739>      CONTINUOUS NASHYD     30.0 01:VG_DR       1332.00   10.635 No_date   35:00   42.46 .479     .000
02740>       [CN= 72.0: N= 3.00: Tp= 5.95]
02741>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02742>       [InterEventTime=  12.00]
02743> R0100:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02744> *  CONTINUOUS NASHYD     30.0 01:SW_5         224.00    9.294 No_date   28:30   47.59 .537     .000
02745>       [CN= 77.0: N= 3.00: Tp=  .75]
02746>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02747>       [InterEventTime=  12.00]
02748> #
02749> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02750> # of 1.20
02751> R0100:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02752>      CONTINUOUS NASHYD     30.0 01:FL_CK       4945.00   51.121 No_date   33:00   44.15 .498     .000
02753>       [CN= 74.0: N= 3.00: Tp= 4.45]
02754>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
02755>       [InterEventTime=  12.00]
02756> R0100:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02757> *  CONTINUOUS NASHYD     30.0 01:SW_SA2        20.00    1.014 No_date   28:30   52.03 .587     .000
02758>       [CN= 81.0: N= 3.00: Tp=  .62]
02759>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02760>       [InterEventTime=  12.00]
02761> #
02762> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02763> # of 1.61
02764> R0100:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02765>      CONTINUOUS NASHYD     30.0 01:SW_SA1      1412.00    9.884 No_date   37:30   45.85 .518     .000
02766>       [CN= 75.0: N= 3.00: Tp= 8.00]
02767>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
02768>       [InterEventTime=  12.00]
02769> R0100:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02770>      CONTINUOUS NASHYD     30.0 01:SW_4         585.00   14.684 No_date   29:30   52.03 .587     .000
02771>       [CN= 81.0: N= 3.00: Tp= 1.75]
02772>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02773>       [InterEventTime=  12.00]
02774> R0100:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02775>      CONTINUOUS NASHYD     30.0 01:LM_CK       1021.00   19.515 No_date   30:30   51.13 .577     .000
02776>       [CN= 80.0: N= 3.00: Tp= 2.46]
02777>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
02778>       [InterEventTime=  12.00]
02779> R0100:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02780> *  CONTINUOUS NASHYD     30.0 01:SW_2         177.00    7.344 No_date   28:30   47.59 .537     .000
02781>       [CN= 77.0: N= 3.00: Tp=  .75]
02782>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02783>       [InterEventTime=  12.00]
02784> R0100:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02785>      CONTINUOUS NASHYD     30.0 01:SM_DR       1122.00   17.710 No_date   31:30   52.03 .587     .000
02786>       [CN= 81.0: N= 3.00: Tp= 3.25]
02787>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02788>       [InterEventTime=  12.00]
02789> R0100:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02790>      CONTINUOUS NASHYD     30.0 01:MD_DR       2737.00   40.026 No_date   31:00   46.72 .527     .000
02791>       [CN= 76.0: N= 3.00: Tp= 3.03]
02792>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
02793>       [InterEventTime=  12.00]
02794> R0100:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02795>      CONTINUOUS NASHYD     30.0 01:SW_1        3176.00   43.079 No_date   32:00   48.46 .547     .000
02796>       [CN= 78.0: N= 3.00: Tp= 3.56]
02797>       [IaREC= 4.00: SMIN= 29.88: SMAX=199.22: SK= .010]
02798>       [InterEventTime=  12.00]
02799> #
02800> # Routing hydrographs
02801> #
02802> # Starting with the addition of Jock River Headwater and Subwatershed 13
02803> #
02804> R0100:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02805>      ADD HYD              30.0 02:JR_HW       3680.00   21.054 No_date   36:30   35.15  n/a     .000
02806>                     +    30.0 02:SW_13        971.00    8.058 No_date   32:30   32.81  n/a     .000
02807>                   SUM=   30.0 01:S_N13       4651.00   27.020 No_date   35:00   34.66  n/a     .000
02808> #
02809> # Sum of hydrographs from Node 13 routed to Node 13A
02810> # (Approximated cross-section - see cross-section 258)
02811> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02812> #
02813> R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02814>      ROUTE CHANNEL   ->   30.0 02:S_N13       4651.00   27.020 No_date   35:00   34.66  n/a     .000
02815>       [RDT=30.00] out<-   30.0 01:N13A       4651.00   22.149 No_date   38:30   34.66  n/a     .000
02816>        [L/S/n= 9074./ .022/.040]
02817>        {Vmax=  .594:Dmax= 4.138}
02818> #
02819> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
02820> #
02821> R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02822>      ADD HYD              30.0 02:N13A        4651.00   22.149 No_date   38:30   34.66  n/a     .000
02823>                     +    30.0 02:JR_GWM      3074.00    9.983 No_date   39:30   28.27  n/a     .000
02824>                   SUM=   30.0 01:SN13A       7725.00   31.987 No_date   39:30   32.12  n/a     .000
02825> #
02826> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
02827> #
02828> R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02829>      ROUTE RESERVOIR ->   30.0 02:SN13A       7725.00   31.987 No_date   39:30   32.12  n/a     .000
02830>                   out <=   30.0 01:RES_GM     7725.00    3.938 No_date   63:30   32.12  n/a     .000
02831>       {MxStoUsed=.1767E+03  m3}
02832> #
02833> R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02834>      SAVE HYD             30.0 01:RES_GM      7725.00    3.938 No_date   63:30   32.12  n/a     .000
02835>        fname :H_RESGM
02836>        remark:Outflow from Res GM
02837> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
02838> # (Approximated cross-section - see cross-section 258)
02839> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02840> R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02841>      ROUTE CHANNEL   ->   30.0 02:RES_GM      7725.00    3.938 No_date   63:30   32.12  n/a     .000
02842>       [RDT=30.00] out<-   30.0 01:N12        7725.00    3.934 No_date   66:30   32.12  n/a     .000
02843>        [L/S/n= 5926./ .076/.040]
02844>        {Vmax=  .560:Dmax= 1.556}
02845> #
02846> # Addition of Subwatershed Jock River at Ashton to Node 12
02847> #
02848> R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02849>      ADD HYD              30.0 02:N12         7725.00    3.934 No_date   66:30   32.12  n/a     .000
02850>                     +    30.0 02:JR_ASH      1781.00   19.356 No_date   32:30   42.46  n/a     .000
02851>                   SUM=   30.0 01:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a     .000
02852> R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02853>      SAVE HYD             30.0 01:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a     .000
02854>        fname :H_SN12
02855>        remark:flow at S_N12 near Ashton
02856> #
02857> # Sum of hydrographs from Node 12 routed to Node 11
02858> # (Approximated cross-section - see cross-section 258)
02859> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02860> R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02861>      ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a     .000
02862>       [RDT=30.00] out<-   30.0 01:N11        9506.00   21.115 No_date   33:00   34.06  n/a     .000
02863>        [L/S/n=  972./ .051/.040]
02864>        {Vmax=  .760:Dmax= 3.206}
02865> #
02866> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
02867> #
02868> R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02869>      ROUTE CHANNEL   ->   30.0 02:S_N12       9506.00   21.410 No_date   32:30   34.06  n/a     .000
02870>       [RDT=30.00] out<-   30.0 01:Dum11       9506.00   21.111 No_date   32:30   34.06  n/a     .000
02871>        [L/S/n=  972./ .054/.040]
02872>        {Vmax=  .774:Dmax= 3.175}
02873> #
02874> # Addition of Subwatershed 11 and No Name Creek to Node 11
02875> #
02876> R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02877>      ADD HYD              30.0 02:Dum11       9506.00   21.111 No_date   32:30   34.06  n/a     .000
02878>                     +    30.0 02:SW_11        500.00   10.499 No_date   29:00   36.74  n/a     .000
02879>                     +    30.0 02:NN_CK       1917.00   14.197 No_date   34:00   36.74  n/a     .000
02880>                   SUM=   30.0 01:S_N11       11923.00   37.433 No_date   33:00   34.60  n/a     .000
02881> #
02882> # Sum of hydrographs from Node 11 routed to Node 10
02883> # Section 1
02884> #
02885> R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02886>      ROUTE CHANNEL   ->   30.0 02:S_N11       11923.00   37.433 No_date   33:00   34.60  n/a     .000
02887>       [RDT=30.00] out<-   30.0 01:N10        11923.00   23.312 No_date   39:00   34.60  n/a     .000
02888>        [L/S/n=14028./ .157/.040]
02889>        {Vmax=  .484:Dmax= 1.483}
02890> #
02891> # Addition of Subwatershed 10 to Node 10
02892> #
02893> R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02894>      ADD HYD              30.0 02:N10         11923.00   23.312 No_date   39:00   34.60  n/a     .000
02895>                     +    30.0 02:SW_10        5666.00   36.560 No_date   37:30   42.46  n/a     .000
02896>                   SUM=   30.0 01:S_N10       17589.00   59.667 No_date   38:00   37.13  n/a     .000
02897> R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02898>      SAVE HYD             30.0 01:S_N10       17589.00   59.667 No_date   38:00   37.13  n/a     .000
02899>        fname :H_SN10
02900>        remark:flow at S_N10: N10 + SW_10
02901> # Addition of Kings Creek to S_N10
02902> #
02903> R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02904>      ADD HYD              30.0 02:S_N10       17589.00   59.667 No_date   38:00   37.13  n/a     .000
02905>                     +    30.0 02:KG_CK        8376.00   34.456 No_date   39:30   36.74  n/a     .000
02906>                   SUM=   30.0 01:S_N10A      25965.00   93.246 No_date   39:30   37.01  n/a     .000
02907> #
02908> # Sum of hydrographs from Node 10 routed to Node 9
02909> # Section 2
02910> #
02911> R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02912>      ROUTE CHANNEL   ->   30.0 02:S_N10A      25965.00   93.246 No_date   39:30   37.01  n/a     .000
02913>       [RDT=30.00] out<-   30.0 01:N9         25965.00   91.373 No_date   39:30   37.00  n/a     .000
02914>        [L/S/n= 3982./ .075/.040]
02915>        {Vmax=  .769:Dmax= 2.125}
02916> #
02917> # Addition of Subwatershed 9 and Nichols Creek to Node 9
02918> #
02919> R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02920>      ADD HYD              30.0 02:N9          25965.00   91.373 No_date   39:30   37.00  n/a     .000
02921>                     +    30.0 02:SW_9        1132.00   16.257 No_date   30:30   40.80  n/a     .000
02922>                     +    30.0 02:NC_CK       4464.00   17.270 No_date   39:30   33.59  n/a     .000
02923>                   SUM=   30.0 01:S_N9        31561.00   112.264 No_date   39:30   36.66  n/a     .000
02924> #
02925> # Sum of hydrographs from Node 9 routed to Node 8
02926> # Section 3
02927> #
02928> R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02929>      ROUTE CHANNEL   ->   30.0 02:S_N9        31561.00   112.264 No_date   39:30   36.66  n/a     .000
02930>       [RDT=30.00] out<-   30.0 01:N8         31561.00   106.464 No_date   40:00   36.66  n/a     .000
02931>        [L/S/n= 2269./ .088/.045]
02932>        {Vmax=  .372:Dmax= 1.905}
02933> #
02934> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
02935> #
02936> R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02937>      ADD HYD              30.0 02:N8          31561.00   106.464 No_date   40:00   36.66  n/a     .000
02938>                     +    30.0 02:SW_8         131.00    3.096 No_date   28:30   34.37  n/a     .000
02939>                     +    30.0 02:HB_DR       3854.00   20.590 No_date   38:00   36.74  n/a     .000
02940>                   SUM=   30.0 01:S_N8        35546.00   126.233 No_date   39:30   36.66  n/a     .000
02941> #
02942> # Sum of hydrographs from Node 8 routed to Node 7
02943> # Section 4
02944> #
02945> R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02946>      ROUTE CHANNEL   ->   30.0 02:S_N8        35546.00   126.233 No_date   39:30   36.66  n/a     .000
02947>       [RDT=30.00] out<-   30.0 01:N7         35546.00   108.761 No_date   44:30   36.66  n/a     .000
02948>        [L/S/n= 3750./ .053/.070]
02949>        {Vmax=  .236:Dmax= 2.384}
02950> #
02951> # Addition of Subwatershed 7 to Node 7
02952> #
02953> R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02954>      ADD HYD              30.0 02:N7          35546.00   108.761 No_date   44:30   36.66  n/a     .000
02955>                     +    30.0 02:SW_7        3197.00   16.027 No_date   36:00   29.76  n/a     .000
02956>                   SUM=   30.0 01:S_N7        38743.00   117.353 No_date   43:30   36.09  n/a     .000
02957> R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02958>      SAVE HYD             30.0 01:S_N7        38743.00   117.353 No_date   43:30   36.09  n/a     .000
02959>        fname :H_SN7
02960>        remark:flow at S_N7: N7 + SW_7
02961> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
02962> # Storage area and volumes were estimated from available topo maps.
02963> # Release rate from fen was assumed to be controlled by the downstream
02964> # river cross-section for summer conditions.  It is was assumed that for up to
02965> # 0.75 m of water, the main channel of the river provided the storage.  Above
02966> # this depth, the wetland starts to signigicantly store water.
02967> #
02968> R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02969>      ROUTE RESERVOIR ->   30.0 02:S_N7        38743.00   117.353 No_date   43:30   36.09  n/a     .000
02970>                   out <=   30.0 01:RES_RF     38743.00   60.593 No_date   58:30   36.09  n/a     .000
02971>       {MxStoUsed=.5014E+03  m3}
02972> R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02973>      SAVE HYD             30.0 01:RES_RF      38743.00   60.593 No_date   58:30   36.09  n/a     .000
02974>        fname :H_ResRF
02975>        remark:outflow of Richmond Fen
02976> #
02977> # Sum of hydrographs from Node 7 routed to Node 6
02978> # Section 5
02979> #
02980> R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02981>      ROUTE CHANNEL   ->   30.0 02:RES_RF      38743.00   60.593 No_date   58:30   36.09  n/a     .000
02982>       [RDT=30.00] out<-   30.0 01:N6         38743.00   60.336 No_date   60:00   36.09  n/a     .000
02983>        [L/S/n= 3056./ .082/.025]
02984>        {Vmax=  .553:Dmax= 1.353}
02985> #
02986> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
02987> #
02988> R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02989>      ADD HYD              30.0 02:N6          38743.00   60.336 No_date   60:00   36.09  n/a     .000
02990>                     +    30.0 02:SW_6         165.00    1.482 No_date   33:00   37.54  n/a     .000
02991>                     +    30.0 02:VG_DR       1332.00   10.635 No_date   35:00   42.46  n/a     .000
02992>                   SUM=   30.0 01:S_N6        40240.01   60.497 No_date   59:30   36.31  n/a     .000
```

```
02993> #
02994> # Sum of hydrographs from Node 6 routed to Node 5
02995> # Section 6
02996> #
02997> R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02998>     ROUTE CHANNEL   ->   30.0 02:S_N6       40240.01   60.497 No_date   59:30   36.31  n/a     .000
02999>      [RDT=30.00] out<-   30.0 01:N5         40240.01   60.383 No_date   60:30   36.31  n/a     .000
03000>       [L/S/n= 1852./ .054/.035]
03001>       {Vmax=  .490:Dmax= 1.451}
03002> #
03003> # Addition of Subwatershed 5 and Flowing Creek to Node 5
03004> #
03005> R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03006>     ADD HYD             30.0 02:N5         40240.01   60.383 No_date   60:30   36.31  n/a     .000
03007>                     +   30.0 02:SW_5        224.00    9.294 No_date   28:30   47.59  n/a     .000
03008>                     +   30.0 02:FL_CK       4945.00   51.121 No_date   33:00   44.15  n/a     .000
03009>                   SUM=  30.0 01:S_N5       45409.01   79.891 No_date   34:00   37.22  n/a     .000
03010> #
03011> # Sum of hydrographs from Node 5 routed to Node 5A
03012> # Section 7
03013> #
03014> R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03015>     ROUTE CHANNEL   ->   30.0 02:S_N5       45409.01   79.891 No_date   34:00   37.22  n/a     .000
03016>      [RDT=30.00] out<-   30.0 01:N5A        45409.01   79.815 No_date   34:00   37.22  n/a     .000
03017>       [L/S/n=  556./ .090/.040]
03018>       {Vmax=  .544:Dmax= 1.346}
03019> #
03020> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
03021> #
03022> R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03023>     ADD HYD             30.0 02:N5A        45409.01   79.815 No_date   34:00   37.22  n/a     .000
03024>                     +   30.0 02:SW_5A2       20.00    1.014 No_date   28:30   52.03  n/a     .000
03025>                     +   30.0 02:SW_5A1      1412.00    9.884 No_date   37:30   45.85  n/a     .000
03026>                   SUM=  30.0 01:S_N5A      46841.01   88.619 No_date   34:30   37.48  n/a     .000
03027> #
03028> # Sum of hydrographs from Node 5A routed to Node 4
03029> # Section 8
03030> #
03031> R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03032>     ROUTE CHANNEL   ->   30.0 02:S_N5A      46841.01   88.619 No_date   34:30   37.48  n/a     .000
03033>      [RDT=30.00] out<-   30.0 01:N4         46841.01   84.955 No_date   36:00   37.48  n/a     .000
03034>       [L/S/n= 4630./ .043/.035]
03035>       {Vmax=  .901:Dmax= 3.849}
03036> #
03037> # Addition of Subwatershed 4 and Leamy Creek to Node 4
03038> #
03039> R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03040>     ADD HYD             30.0 02:N4         46841.01   84.955 No_date   36:00   37.48  n/a     .000
03041>                     +   30.0 02:SW_4         585.00   14.684 No_date   29:30   52.03  n/a     .000
03042>                     +   30.0 02:LM_CK       1021.00   19.515 No_date   30:30   51.13  n/a     .000
03043>                   SUM=  30.0 01:S_N4       47447.00   95.694 No_date   34:30   37.95  n/a     .000
03044> R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03045>     SAVE HYD            30.0 01:S_N4       47447.00   95.694 No_date   34:30   37.95  n/a     .000
03046>       fname :S_N4.0100
03047>       remark:flow at S_N4
03048> #
03049> # Sum of hydrographs from Node 4 routed to Node 2
03050> # Section 9
03051> #
03052> R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03053>     ROUTE CHANNEL   ->   30.0 02:S_N4       47447.00   95.694 No_date   34:30   37.95  n/a     .000
03054>      [RDT=30.00] out<-   30.0 01:N2         47447.00   95.342 No_date   35:00   37.95  n/a     .000
03055>       [L/S/n= 1667./ .060/.040]
03056>       {Vmax=  .942:Dmax= 3.915}
03057> #
03058> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
03059> #
03060> R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03061>     ADD HYD             30.0 02:N2         48447.00   95.342 No_date   35:00   37.95  n/a     .000
03062>                     +   30.0 02:SW_2         177.00    7.344 No_date   28:30   47.59  n/a     .000
03063>                     +   30.0 02:SM_DR       1122.00   17.710 No_date   31:30   52.03  n/a     .000
03064>                     +   30.0 02:MO_DR       2737.00   40.026 No_date   31:00   46.72  n/a     .000
03065>                   SUM=  30.0 01:S_N2       52483.00  141.415 No_date   32:30   38.74  n/a     .000
03066> R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03067>     SAVE HYD            30.0 01:S_N2       52483.00  141.415 No_date   32:30   38.74  n/a     .000
03068>       fname :H_SN2
03069>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
03070> #
03071> # Sum of hydrographs from Node 2 routed to Node 1
03072> # Section 10
03073> #
03074> R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03075>     ROUTE CHANNEL   ->   30.0 02:S_N2       52483.00  141.415 No_date   32:30   38.74  n/a     .000
03076>      [RDT=30.00] out<-   30.0 01:N1         52483.00  124.304 No_date   35:00   38.74  n/a     .000
03077>       [L/S/n=10046./ .050/.040]
03078>       {Vmax= 1.091:Dmax= 4.553}
03079> #
03080> # Addition of Subwatershed 1 to Node 1
03081> #
03082> R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03083>     ADD HYD             30.0 02:N1         52483.00  124.304 No_date   35:00   38.74  n/a     .000
03084>                     +   30.0 02:SW_1        3176.00   43.079 No_date   32:00   48.46  n/a     .000
03085>                   SUM=  30.0 01:N1         55659.00  158.420 No_date   34:00   39.29  n/a     .000
03086> R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03087>     SAVE HYD            30.0 01:N1         55659.00  158.420 No_date   34:00   39.29  n/a     .000
03088>       fname :N1.0100
03089>       remark:total outflow of Jock River
03090> ##########################################################################
03091> R0100:C00002------------------------------------------------------------------------------------------
03092>     FINISH
03093> ------------------------------------------------------------------------------------------------------
03094> ******************************************************************************************************
03095>      WARNINGS / ERRORS / NOTES
03096>      -------------------------
03097> R0002:C00015  CONTINUOUS NASHYD
03098> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03099> R0002:C00020  CONTINUOUS NASHYD
03100> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03101> R0002:C00022  CONTINUOUS NASHYD
03102> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03103> R0002:C00026  CONTINUOUS NASHYD
03104> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03105> R0005:C00015  CONTINUOUS NASHYD
03106> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03107> R0005:C00020  CONTINUOUS NASHYD
03108> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03109> R0005:C00022  CONTINUOUS NASHYD
03110> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03111> R0005:C00026  CONTINUOUS NASHYD
03112> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03113> R0010:C00015  CONTINUOUS NASHYD
03114> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03115> R0010:C00020  CONTINUOUS NASHYD
03116> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03117> R0010:C00022  CONTINUOUS NASHYD
03118> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03119> R0010:C00026  CONTINUOUS NASHYD
03120> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03121> R0025:C00015  CONTINUOUS NASHYD
03122> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03123> R0025:C00020  CONTINUOUS NASHYD
03124> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03125> R0025:C00022  CONTINUOUS NASHYD
03126> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03127> R0025:C00026  CONTINUOUS NASHYD
03128> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03129> R0050:C00015  CONTINUOUS NASHYD
03130> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03131> R0050:C00020  CONTINUOUS NASHYD
03132> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03133> R0050:C00022  CONTINUOUS NASHYD
03134> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03135> R0050:C00026  CONTINUOUS NASHYD
03136> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03137> R0100:C00015  CONTINUOUS NASHYD
03138> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03139> R0100:C00020  CONTINUOUS NASHYD
03140> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03141> R0100:C00022  CONTINUOUS NASHYD
03142> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03143> R0100:C00026  CONTINUOUS NASHYD
03144> *** WARNING: Time step is too large for value of TP. RV may be ok.  Peak flow could be off.
03145>    Simulation ended on 2021-02-22     at 15:43:22
03146> ======================================================================================================
03147>
03148>
```

JFSA
WATER RESOURCES AND
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Attachment B

Model 2 – Jock River Reach One Model

Stantec, 2007

SWMHYMO Input & Summary files

```
2    Metric units
*#************************************************************************
*#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
*#  Date        : October 2006
*#  Modeller    : [Navin Gautam/ Original by Ana M Paerez]
*#  Company     : Stantec.
*#  License #   :  3824306
*#************************************************************************
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[002]
*%                   ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*#-----------------|------------------------------------------------------|
READ STORM          STORM_FILENAME=["storm.001"]
*%-----------------|------------------------------------------------------|
MODIFY STORM        ICASEms=[1],  NSHIFT=[96],
                    RedFACT=[1],
*%-----------------|------------------------------------------------------|
DEFAULT VALUES      ICASEdv=[1],  read and print values
                    DEFVAL_FILENAME=["MODIFIED.VAL"]
COMPUTE API         APII=[50], APIK=[.85]/day
*#************************************************************************
*#
*#            JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
*#                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
*#
*# Version: Draft Final Report, October 2006
*# Revision History
*# -Draft Interim Condition Report, Nov. 2005
*#************************************************************************
*# Assumptions
*# - All catchments are assumed to be developed except S-1, S-2, and SW-1a
*# - SWM facilities are modeled
*# - Rating curves were estimated based on existing reports and modeling for the
*#   proposed SWM facilities
*# - The rating curve for the existing Kennedy Burnett SWM Facility was obtained from
*#   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- Regional
*#   Municipality of Ottawa Carleton, March 1983
*# - River routing modeled
*# - River cross sections obtained from RVCA's HEC-RAS hydraulic model
*#-----------------|------------------------------------------------------|
*# Parameters
*# - Design Storms: 2,5,10,25,50 &1 00yr events: 24hr SCS (DT=10min)-model comparison
*# - Impervious area weighted based on: rural subdivision @20%, urban @55%
*# - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
*# - Time to peak using Uplands Method
*#-----------------|------------------------------------------------------|
*#************************************************************************
*#Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
*#************************************************************************
READ HYD            ID=[ 1 ],  NHYD=["S_N2"],
                    HYD_FILENAME=["H-S_N2"]
*%-----------------|------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL       IDout=[4], NHYD=["N_416"] ,IDin=[1] ,
                    RDT=[10](min),
                    CHLGTH=[2327](m),  CHSLOPE=[0.0498](%),
                                       FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-23.96
                      -0.055,23.96
                      0.075,157.38]  NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-336.97,93.5]
```

```
                    [-318.85,93]
                    [-259,92.5]
                    [-133.18,92]
                    [-33.17,92]
                    [-27.21,92]
                    [-26.14,91.5]
                    [-24.99,91]
                    [-23.96,90.5]
                    [-14.33,88.26]
                    [-0.68,88.12]
                    [14.33,88.26]
                    [23.96,90.5]
                    [32.12,91]
                    [43.74,91.5]
                    [57.09,92]
                    [73.53,92.5]
                    [108.27,93]
                    [125.88,93.5]
                    [144.81,94]
                    [157.38,94.5]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment SW-1a
*#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#    - Undeveloped agricultural land
*#*****************************************************************************
CONTINUOUS NASHYD   ID=[2], NHYD=["SW_1a"], DT=[5]min, AREA=[546](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[2.79]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_416"], IDs to add=[4,2]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Highway 416"]
*%-----------------|---------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_OK"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[497](m),  CHSLOPE=[0.3018](%),
                                        FPSLOPE=[0.3018](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-19.40
                      -0.055,19.40
                      0.075,377.02] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1062.81, 93.00]
                    [-1061.41, 92.50]
                    [-945.91, 92.00]
                    [-783.64, 91.50]
                    [-136.74, 91.00]
                    [-134.06, 91.00]
                    [-128.97, 91.00]
                    [-86.04, 91.00]
                    [-20.86, 91.00]
```

```
                    [-20.18, 90.50]
                    [-19.40, 90.00]
                    [-11.68, 86.89]
                    [0.00, 86.10]
                    [12.09, 86.81]
                    [19.40, 90.00]
                    [34.68, 90.50]
                    [60.56, 91.00]
                    [170.14, 91.00]
                    [175.05, 90.50]
                    [180.29, 90.00]
                    [193.41, 90.00]
                    [195.98, 90.50]
                    [377.02, 92.50]
*%-----------------|---------------------------------------------------------------|
*#***************************************************************************
*#    Catchment OKEEFE
*#    - To O'Keefe drain (north of the Jock)
*#    - Developed with assumed 43% imp.
*#***************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["OKEEFE"], DT=[5](min), AREA=[448](ha),
                    XIMP=[0.43], TIMP=[0.43], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1728](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*#***************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#    and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#***************************************************************************
ROUTE RESERVOIR     IDout=[4],   NHYD=["P_OKE"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.20 , 1.72]
                                   [   -1  ,  -1  ]  (max twenty pts)
                    IDovf=[9], NHYDovf=["ok-OVF"]

*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_OK"], IDs to add=[1,4,9]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|---------------------------------------------------------------|
*#
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_FO"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[1183](m),  CHSLOPE=[0.0761](%),
                                        FPSLOPE=[0.0761](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-33.89
                      -0.035,31.59
                      0.050,854.54] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1075.50, 93.00]
                    [-1070.59, 92.50]
                    [-1003.21, 92.00]
                    [-1001.67, 92.00]
                    [-986.64, 92.00]
                    [-816.61, 91.50]
                    [-797.29, 91.00]
                    [-794.18, 91.00]
                    [-775.41, 91.50]
                    [-702.63, 91.50]
                    [-546.19, 91.50]
                    [-529.54, 91.50]
                    [-323.44, 91.00]
                    [-320.71, 91.00]
                    [-183.59, 91.00]
                    [-182.54, 90.50]
                    [-181.36, 90.00]
                    [-177.37, 90.00]
                    [-87.70, 90.00]
                    [-33.89, 90.00]
                    [-18.52, 86.88]
                    [0.00,85.20]
                    [16.20, 86.83]
                    [31.59, 90.00]
                    [33.03, 90.50]
                    [34.41, 91.00]
                    [34.99, 91.00]
                    [72.19, 91.00]
                    [208.76, 91.50]
                    [846.25, 92.00]
                    [854.54, 94.00]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["FOSTER"], DT=[5]min, AREA=[373](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[1577](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*#*****************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#    and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR     IDout=[4],   NHYD=["P_FOS"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
                                [   0.20 , 1.72]
                                [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["FO-OVF"]
*%-----------------|---------------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_FO"], IDs to add=[1,4,9]
```

```
*%-----------------|---------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|---------------------------------------------------------|
*#
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_CE"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[159](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-15.46
                      -0.035,26.55
                      0.050,1299.52] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-891.38, 93.00]
                    [-882.49, 93.00]
                    [-880.92, 92.50]
                    [-879.37, 92.00]
                    [-877.72, 91.50]
                    [-876.10, 91.00]
                    [-873.23, 91.00]
                    [-871.82, 91.50]
                    [-870.40, 92.00]
                    [-803.44, 92.00]
                    [-645.23, 91.50]
                    [-391.20, 91.50]
                    [-91.00, 91.50]
                    [-85.52, 91.50]
                    [-15.46, 89.40]
                    [-9.79, 89.31]
                    [-3.22, 86.24]
                    [3.22, 85.07]
                    [10.96, 85.79]
                    [16.44, 86.49]
                    [26.55, 89.45]
                    [29.03, 90.27]
                    [35.76, 90.67]
                    [36.67, 91.00]
                    [108.08, 91.00]
                    [109.82, 90.50]
                    [112.04, 90.50]
                    [114.62, 91.00]
                    [116.76, 91.50]
                    [118.42, 92.00]
                    [449.53, 92.50]
                    [571.98, 92.50]
                    [1093.81, 93.50]
                    [1150.48, 94.00]
                    [1299.52, 95.00]
*%-----------------|---------------------------------------------------------|
*#*************************************************************************
*#    Catchment S-1
*#    - To Jock River (north and south of Jock)
*#    - Primarily agricultural fields; portion of sand quarry
*#*************************************************************************
CONTINUOUS NASHYD   ID=[2], NHYD=["S-1"], DT=[5]min, AREA=[245](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
```

```
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_CE"], IDs to add=[1,2]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Cedarview Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_WC"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[825](m),  CHSLOPE=[0.01](%),
                                        FPSLOPE=[0.01](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,1367.08] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1095.18, 94.00]
                    [-1091.79, 93.50]
                    [-1088.95, 93.00]
                    [-1086.77, 93.00]
                    [-1069.38, 93.00]
                    [-1063.14, 93.00]
                    [-1017.52, 93.00]
                    [-899.70, 93.00]
                    [-877.78, 93.00]
                    [-859.62, 92.50]
                    [-803.18, 93.00]
                    [-789.92, 92.00]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
                    [161.44, 91.50]
                    [236.48, 93.00]
                    [385.47, 92.50]
                    [390.78, 92.50]
                    [863.80, 93.00]
                    [866.13, 93.00]
                    [990.85, 92.50]
                    [991.82, 92.50]
                    [993.04, 93.00]
                    [994.81, 93.50]
                    [1005.36, 93.00]
                    [1190.52, 93.00]
                    [1267.97, 93.50]
                    [1318.99, 94.00]
                    [1367.08, 94.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#*****************************************************************************
```

```
CONTINUOUS STANDHYD ID=[2], NHYD=["W_CLAR"], DT=[5]min, AREA=[243](ha),
                    XIMP=[0.43], TIMP=[0.43], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1273](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#*****************************************************************************
ROUTE RESERVOIR     IDout=[8],   NHYD=["MS_P2"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.11 , 0.96]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["P2-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[ 4 ], NHYD=["SN_WC"], IDs to add=[8,9,1]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_KB"] ,IDin=[4] ,
                    RDT=[5](min),
                    CHLGTH=[1020](m),  CHSLOPE=[0.0498](%),
                                       FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.63
                      -0.035,23.63
                      0.050,728.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]

*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment KEN_BU
*#    - To Kennedy-Burnett SWM Facility
*#    - Outlets to Fraser-Clarke drain (north of the Jock)
```

```
*#    - Medium density residential subdivision
*#*************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["KEN_BU"], DT=[5]min, AREA=[281](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[71],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1369](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*#*************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#    - Rating curve obtained from URTKBP
*#    - Tributary Drainage Area to Pond = 160 ha
*#*************************************************************************
ROUTE RESERVOIR     IDout=[5],   NHYD=["KEN_P"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.13 , 0.26]
                                  [   0.43 , 0.56]
                                  [   0.67 , 0.90]
                                  [   0.86 , 1.32]
                                  [   1.01 , 1.79]
                                  [   1.15 , 2.33]
                                  [   -1   ,  -1  ]  (max twenty pts)
                          IDovf=[6], NHYDovf=["KEN-OV"]
*%-----------------|-------------------------------------------------------|
*#*************************************************************************
*#    Catchment FRASER
*#    - To Fraser-Clarke drain (north of the Jock)
*#    - Developed land with assumed 43% imp.
*#*************************************************************************
CONTINUOUS STANDHYD ID=[7], NHYD=["FRASER"], DT=[5]min, AREA=[90](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[80],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[775](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     IDout=[8],   NHYD=["MS_P2"],  IDin=[7],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.04 , 0.36]
                                  [   -1   ,  -1  ]  (max twenty pts)
                          IDovf=[9], NHYDovf=["P2-OVF"]
*%-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[ 4 ], NHYD=["SN_KB"], IDs to add=[5,6,8,9,1]
*%-----------------|-------------------------------------------------------|
SAVE HYD            ID=[4],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------|
*# Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
```

```
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_TO"] ,IDin=[4] ,
                    RDT=[5](min),
                    CHLGTH=[650](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.74
                      -0.035,23.74
                      0.050,74.7] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-74.18, 92.5]
                    [-65.96, 92]
                    [-54.17, 91.5]
                    [-29.24, 91]
                    [-27.41, 90.5]
                    [-25.64, 90]
                    [-23.74, 89.5]
                    [-22,89. 26]
                    [-20, 88.51]
                    [-19, 88.32]
                    [-15, 88.1]
                    [-10, 88.11]
                    [-5, 88.17]
                    [0, 88.27]
                    [5, 88.19]
                    [10, 88.06]
                    [15, 88.48]
                    [16, 88.7]
                    [23.74, 89.5]
                    [24.68, 90]
                    [25.57, 90.5]
                    [26.5, 91]
                    [47.55, 91]
                    [74.7, 92.5]
*%-----------------|-------------------------------------------------------------|

*#*****************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[3], NHYD=["TODD"], DT=[5]min, AREA=[195](ha),
                    XIMP=[0.43], TIMP=[0.43], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[1140](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*#*****************************************************************************
*#    Todd Pond 3
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*****************************************************************************
ROUTE RESERVOIR     IDout=[2],   NHYD=["MS_P3"],  IDin=[3],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.08 , 0.78]
```

```
                                    [   -1   ,   -1   ]  (max twenty pts)
                           IDovf=[9], NHYDovf=["P3-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD            IDsum=[10], NHYD=["SN_TO"], IDs to add=[1,2,9]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           ID=[ 10 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL      IDout=[1], NHYD=["N_TO"] ,IDin=[10] ,
                   RDT=[5](min),
                   CHLGTH=[280](m),  CHSLOPE=[0.033](%),
                                       FPSLOPE=[0.033](%),
                   SECNUM=[1.0],       NSEG=[3]
                   ( SEGROUGH, SEGDIST (m))=
                     [0.075,-17.72
                     -0.045,17.72
                     0.075,80.62] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                   [-83.32, 90.00]
                   [-81.36, 89.50]
                   [-79.12, 89.00]
                   [-76.13, 88.50]
                   [-20.46, 88.00]
                   [-19.36, 87.50]
                   [-18.51, 87.00]
                   [-17.72, 86.50]
                   [-11.95, 85.24]
                   [-0.11, 85.12]
                   [11.49, 85.20]
                   [17.72, 86.50]
                   [19.74, 87.00]
                   [21.22, 87.50]
                   [22.68, 88.00]
                   [24.28, 88.50]
                   [26.79, 89.00]
                   [71.98, 90.00]
                   [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
*#    Catchment CORRIG
*#    - To Corrigan Drain (south of the Jock)
*#    - Primarily Developed (medium density)
*#*********************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["CORRIG"], DT=[5]min, AREA=[149](ha),
                   XIMP=[0.45], TIMP=[0.45], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[77],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                          LGI=[997](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[18](hrs),   END=-1

*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
*#    Corrigan Pond 1
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*********************************************************************
ROUTE RESERVOIR    IDout=[5],   NHYD=["MS_P1"],  IDin=[2],
```

```
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.06 , 0.58]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          IDovf=[4], NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_CO"], IDs to add=[1,4,5]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_MI"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[580](m),  CHSLOPE=[0.4448](%),
                                        FPSLOPE=[0.4448](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
*#    Catchment MILLS
*#    - To SWM Facility north of the Jock
*#    - Primarily residental development
*#*********************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["MILLS"], DT=[5]min, AREA=[139](ha),
                    XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[963](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
```

```
*#    Chapman Mills SWM Pond
*#    - Rating curve obtained from CCL hydraulic modeling
*#************************************************************************
ROUTE RESERVOIR     IDout=[5],   NHYD=["MILL_P"],  IDin=[2],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.01 , 0.01]
                                   [   0.05 , 0.06]
                                   [   0.09 , 0.11]
                                   [   0.13 , 0.15]
                                   [   0.18 , 0.19]
                                   [   0.28 , 0.28]
                                   [   0.37 , 0.34]
                                   [   0.45 , 0.40]
                                   [   0.51 , 0.44]
                                   [   0.56 , 0.47]
                                   [   0.64 , 0.52]
                                   [   0.76 , 0.59]
                                   [   0.86 , 0.65]
                                   [   1.09 , 0.78]
                                   [   1.44 , 0.96]
                                   [   3.18 , 1.84]
                                   [   4.05 , 2.31]
                                   [   -1   ,  -1  ]  (max twenty pts)
                             IDovf=[4], NHYDovf=["MIL-OV"]
*%-----------------|-------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_MI"], IDs to add=[1,4,5]
*%-----------------|-------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|-------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N_DE"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[1962](m),  CHSLOPE=[0.2227](%),
                                        FPSLOPE=[0.2227](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.56
                      -0.045,18.27
                      0.075,67.59] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-111.59, 88.00]
                    [-102.58, 87.50]
                    [-96.20, 87.00]
                    [-90.04, 86.50]
                    [-84.02, 86.00]
                    [-77.54, 85.50]
                    [-54.07, 85.00]
                    [-39.43, 84.50]
                    [-28.30, 84.00]
                    [-24.12, 83.50]
                    [-22.30, 83.00]
                    [-20.55, 82.50]
                    [-17.56, 82.00]
                    [-12.63, 81.22]
                    [-0.11, 80.75]
                    [11.55, 81.22]
                    [18.27, 82.00]
                    [19.82, 82.50]
                    [22.48, 83.00]
```

```
                    [27.90, 83.50]
                    [29.31, 84.00]
                    [30.81, 84.50]
                    [32.51, 85.00]
                    [34.24, 85.50]
                    [36.34, 86.00]
                    [41.65, 86.50]
                    [62.64, 87.00]
                    [65.14, 87.50]
                    [67.59, 88.00]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment DESIRE
*#    - To Jock River (north of the Jock)
*#    - Rural-estate subdivision (Heart's Desire Community)
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[2], NHYD=["DESIRE"], DT=[5]min, AREA=[24](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[400](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment JOCKVA
*#    - To Jockvale SWM Facility
*#    - Residential development & golf course
*#*****************************************************************************
CONTINUOUS STANDHYD ID=[3], NHYD=["JOCKVA"], DT=[5]min, AREA=[252](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1296](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1

*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Jockvale SWM Facility
*#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*****************************************************************************
ROUTE RESERVOIR     IDout=[5],   NHYD=["JOCK_P"],  IDin=[3],
                    RDT=[5](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.27 , 0.03]
                                   [   0.28 , 0.55]
                                   [   0.29 , 1.14]
                                   [   0.30 , 1.80]
                                   [   0.31 , 2.32]
                                   [   1.12 , 2.87]
                                   [   2.92 , 3.45]
                                   [   4.64 , 4.07]
                                   [   6.69 , 4.72]
                                   [   9.02 , 5.39]
```

```
                                    [   11.62 , 6.10]
                                    [   14.42 , 6.85]
                                    [   17.45 , 7.62]
                                    [   20.69 , 8.44]
                                    [   24.08 , 9.28]
                                    [   27.68 , 10.17]
                                    [   -1  ,  -1  ]  (max twenty pts)
                            IDovf=[4], NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_DE"], IDs to add=[1,2,4,5]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL       IDout=[1], NHYD=["N1"] ,IDin=[3] ,
                    RDT=[5](min),
                    CHLGTH=[563](m),  CHSLOPE=[0.9668](%),
                                        FPSLOPE=[0.9668](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-30.20
                      -0.045,30.20
                      0.075,168.81] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-170.17, 86.00]
                    [-164.75, 85.50]
                    [-158.08, 85.00]
                    [-113.12, 82.00]
                    [-98.46, 81.50]
                    [-92.24, 81.00]
                    [-86.88, 80.50]
                    [-81.54, 80.00]
                    [-74.36, 79.50]
                    [-63.54, 79.00]
                    [-39.23, 78.50]
                    [-34.51, 78.00]
                    [-33.01, 77.50]
                    [-30.20, 77.00]
                    [-13.42, 76.18]
                    [-1.14, 76.09]
                    [17.06, 76.18]
                    [30.20, 77.00]
                    [32.95, 77.50]
                    [34.06, 78.00]
                    [35.11, 78.50]
                    [36.32, 79.00]
                    [37.74, 79.50]
                    [48.48, 81.50]
                    [49.25, 82.00]
                    [55.61, 84.50]
                    [57.09, 85.00]
                    [59.51, 85.50]
                    [64.34, 86.00]
                    [66.30, 86.00]
                    [76.71, 86.50]
                    [101.83, 86.50]
                    [119.73, 87.00]
                    [142.04, 87.50]
                    [168.81, 88.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-2
```

```
*#    - To Jock River (north and south)
*#    - Undeveloped floodplain and river
*#*************************************************************************
CONTINUOUS NASHYD   ID=[2], NHYD=["S-2"], DT=[5]min, AREA=[102](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[0.40]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1

*%-----------------|---------------------------------------------------------|
ADD HYD             IDsum=[ 3 ], NHYD=["SN_N1"], IDs to add=[1,2]
*%-----------------|---------------------------------------------------------|
SAVE HYD            ID=[ 3 ],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|---------------------------------------------------------|
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[005]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
*%START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[010]
*%                   ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[025]
*%                   ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
*%START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[050]
*%                   ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|

*#########################################################################
FINISH
```

```
===============================================================================
 SSSSS  W   W  M   M  H   H  Y   Y  M   M   OOO       999    999  =========
 S      W W W  MM MM  H   H   Y Y   MM MM  O   O     9   9  9   9
 SSSSS  W W W  M M M  HHHHH    Y    M M M  O   O  ##  9   9  9   9 Ver5 Beta
     S   W W   M   M  H   H    Y    M   M  O   O      9999   9999 Sept 2000
 SSSSS   W W   M   M  H   H    Y    M   M   OOO          9      9 =========
                                                     9   9  9   9 # 3783815
      StormWater Management HYdrologic Model          999    999  =========
 **************************************************************************
 *************************** SWMHYMO Ver/5 Beta **************************
 *******  A single event and continuous hydrologic simulation model  *******
 *******     based on the principles of HYMO and its successors      *******
 *******                  OTTHYMO-83 and OTTHYMO-89.                 *******
 **************************************************************************
 ******* Distributed by:  J.F. Sabourin and Associates Inc.           *******
 *******                  Ottawa,  Ontario: (613) 727-5199            *******
 *******                  Gatineau, Quebec: (819) 243-6858            *******
 *******                  E-Mail: swmhymo@jfsa.Com                    *******
 **************************************************************************
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 +++++++ Licensed user: Stantec - Ottawa - 604                     +++++++
 +++++++                Ottawa                 SERIAL#:3783815      +++++++
 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 **************************************************************************
 *******            ++++++ PROGRAM ARRAY DIMENSIONS ++++++            *******
 *******            Maximum value for ID numbers  :     10            *******
 *******            Max. number of rainfall points:  52750            *******
 *******            Max. number of flow points    :  52750            *******
 **************************************************************************
 *** DESCRIPTION SUMMARY TABLE HEADERS (units depend on METOUT in START) ***
 ***----------------------------------------------------------------------***
 ***    ID:  Hydrograph IDentification numbers, (1-10).                   ***
 ***  NHYD:  Hydrograph reference numbers, (6 digits or characters).      ***
 ***  AREA:  Drainage area associated with hydrograph, (ac.) or (ha.).    ***
 *** QPEAK:  Peak flow of simulated hydrograph, (ft^3/s) or (m^3/s).      ***
 *** TpeakDate_hh:mm is the date and time of the peak flow.               ***
 ***  R.V.:  Runoff Volume of simulated hydrograph, (in) or (mm).         ***
 ***  R.C.:  Runoff Coefficient of simulated hydrograph, (ratio).         ***
 ***     *:  see WARNING or NOTE message printed at end of run.           ***
 ***    **:  see  ERROR  message printed at end of run.                   ***
 **************************************************************************
 **************************************************************************
:::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::::
 **************************************************************************
 *********************   S U M M A R Y   O U T P U T   ********************
 **************************************************************************
 *      DATE: 2006-11-15     TIME: 14:33:15     RUN COUNTER: 000132       *
 **************************************************************************
 * Input   filename: C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\SMR_POST.dat      *
 * Output  filename: C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\SMR_POST.out      *
 * Summary filename: C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\SMR_POST.sum      *
 * User comments:                                                         *
 * 1:_____________________________________________________________________*
 * 2:_____________________________________________________________________*
 * 3:_____________________________________________________________________*
 **************************************************************************
#*****************************************************************************
#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
#  Date         : October 2006
#  Modeller     : [Navin Gautam/ Original by Ana M Paerez]
#  Company      : Stantec.
#  License #    :  3824306
#*****************************************************************************
  ** END OF RUN :   1
*******************************************************************************
 RUN:COMMAND#
 002:0001----------------------------------------------------------------------
     START
      [TZERO =    .00 hrs on        0]
      [METOUT=   2    (1=imperial, 2=metric output)]
      [NSTORM=   1 ]
      [NRUN  =   2 ]
#*****************************************************************************
#  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
#  Date         : October 2006
#  Modeller     : [Navin Gautam/ Original by Ana M Paerez]
#  Company      : Stantec.
#  License #    :  3824306
#*****************************************************************************
#----------------|------------------------------------------------------------|
 002:0002-----------------------------------------------------------------------
     READ STORM
      Filename = storm.001
      Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
      [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
 002:0003-----------------------------------------------------------------------
     MODIFY STORM
      [RFACT=  1.00:TSHIFT= 960.00 min]
      [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
 002:0004-----------------------------------------------------------------------
     DEFAULT VALUES
      Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
      ICASEdv  = 1 (read and print data)
      FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
                 PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
      Horton's infiltration equation parameters:
      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
      Parameters for PERVIOUS surfaces in STANDHYD:
      [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
      Parameters for IMPERVIOUS surfaces in STANDHYD:
      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
      Parameters used in NASHYD:
      [Ia=   2.50 mm] [N= 3.00]
 002:0005-----------------------------------------------------------------------
     COMPUTE API
      [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
      {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#*****************************************************************************
#
#            JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
#                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
#
# Version: Draft Final Report, October 2006
# Revision History
# -Draft Interim Condition Report, Nov. 2005
#*****************************************************************************
# Assumptions
# - All catchments are assumed to be developed except S-1, S-2, and SW-1a
# - SWM facilities are modeled
# - Rating curves were estimated based on existing reports and modeling for the
#   proposed SWM facilities
# - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
#   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
#   Municipality of Ottawa Carleton, March 1983
# - River routing modeled
# - River cross sections obtained from RVCA's HEC-RAS hydraulic model
#----------------|------------------------------------------------------------|
# Parameters
# - Design Storms: 2,5,10,25,50 &1 00yr events: 24hr SCS (DT=10min)-model compa
# - Impervious area weighted based on: rural subdivision @20%, urban @55%
# - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
# - Time to peak using Uplands Method
#----------------|------------------------------------------------------------|
#*****************************************************************************
#Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
#*****************************************************************************
 002:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     READ HYD           01:S_N2   52483.01   45.789 No_date   33:50   12.75  n/a
      Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.002
      Comment  = N2
#
# Hydrograph from Node 2 routed to Node 416
# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
#
 002:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 01:S_N2   52483.01   45.789 No_date   33:50   12.75  n/a
      [RDT=10.00] out<- 04:N_416  52483.01   44.971 No_date   36:30   12.75  n/a
      [L/S/n= 2327./ .050/.055]
      {Vmax=  .575:Dmax= 2.199}
#*****************************************************************************
#    Catchment SW-1a
#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
#    - Undeveloped agricultural land
#*****************************************************************************
 002:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:SW_1a    546.00    1.904 No_date   31:20   13.01 .286
      [CN= 72.0: N= 3.00]
      [Tp= 2.79:DT= 5.00]
      [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
      [InterEventTime=  12.00]
 002:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            04:N_416  52483.01   44.971 No_date   36:30   12.75  n/a
                      + 02:SW_1a    546.00    1.904 No_date   31:20   13.01  n/a
      [DT= 5.00]  SUM=  03:SN_416 53029.01   46.118 No_date   34:50   12.75  n/a
 002:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SN_416 53029.01   46.118 No_date   34:50   12.75  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.002
      remark:Total Flows at Highway 416
#
# Hydrograph from Node 416 routed to Node at Okeefe drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
#
 002:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_416 53029.01   46.118 No_date   34:50   12.75  n/a
      [RDT= 5.00] out<- 01:N_OK   53029.01   46.108 No_date   34:45   12.75  n/a
      [L/S/n=  497./ .302/.055]
      {Vmax= 1.185:Dmax= 1.869}
#*****************************************************************************
#    Catchment OKEEFE
#    - To O'Keefe drain (north of the Jock)
#    - Developed with assumed 43% imp.
#*****************************************************************************
 002:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:OKEEFE   448.00   13.801 No_date   28:15   25.18 .553
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 77.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1728.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 31.15: SMAX=207.66: SK= .010]
#*****************************************************************************
#    Okeefe Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#   and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
 002:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:OKEEFE   448.00   13.801 No_date   28:15   25.18  n/a
      [RDT= 5.00] out<- 04:P_OKE    116.46     .200 No_date   27:45   25.18  n/a
            overflow <= 09:ok-OVF   331.54   13.458 No_date   28:20   25.18  n/a
     {MxStoUsed=.1720E+01, TotOvfVol=.8349E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
 002:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N_OK   53029.01   46.108 No_date   34:45   12.75  n/a
                      + 04:P_OKE    116.46     .200 No_date   27:45   25.18  n/a
                      + 09:ok-OVF   331.54   13.458 No_date   28:20   25.18  n/a
      [DT= 5.00]  SUM=  03:SN_OK  53477.02   46.839 No_date   34:45   12.85  n/a
 002:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SN_OK  53477.02   46.839 No_date   34:45   12.85  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.002
      remark:Total Flows at Okeefe Drain
#
# Hydrograph from Node Okeefe routed to Node at Foster Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
#
 002:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_OK  53477.02   46.839 No_date   34:45   12.85  n/a
      [RDT= 5.00] out<- 01:N_FO   53477.02   46.817 No_date   34:50   12.85  n/a
      [L/S/n= 1183./ .076/.035]
      {Vmax= 1.826:Dmax=  .010}
#*****************************************************************************
#    Catchment FOSTER
#    - To Foster ditch (north of the Jock)
#    - Partially developed (medium density); remaining agricultural
#*****************************************************************************
 002:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:FOSTER   373.00   14.534 No_date   28:15   28.56 .628
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 74.0]
      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1577.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 36.67: SMAX=244.49: SK= .010]
#*****************************************************************************
#    Foster Pond
#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
#   and a ratio of the catchment area to the West Clarke pond rating curve
#      from the MSS for the next coordinates
#*****************************************************************************
 002:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:FOSTER   373.00   14.534 No_date   28:15   28.56  n/a
      [RDT= 5.00] out<- 04:P_FOS    102.35     .200 No_date   27:35   28.56  n/a
            overflow <= 09:FO-OVF   270.65   14.097 No_date   28:20   28.56  n/a
     {MxStoUsed=.1720E+01, TotOvfVol=.7731E+01, N-Ovf=    3, TotDurOvf=   13.hrs}
 002:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N_FO   53477.02   46.817 No_date   34:50   12.85  n/a
                      + 04:P_FOS    102.35     .200 No_date   27:35   28.56  n/a
                      + 09:FO-OVF   270.65   14.097 No_date   28:20   28.56  n/a
      [DT= 5.00]  SUM=  03:SN_FO  53850.02   47.455 No_date   34:50   12.96  n/a
 002:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SN_FO  53850.02   47.455 No_date   34:50   12.96  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.002
      remark:Total Flows at Foster Drain
#
# Hydrograph from Node Foster routed to Node at Cedarview Road
# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
#
 002:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_FO  53850.02   47.455 No_date   34:50   12.96  n/a
      [RDT= 5.00] out<- 01:N_CE   53850.02   47.455 No_date   34:50   12.96  n/a
      [L/S/n=  159./ .082/.035]
      {Vmax= 3.197:Dmax=  .002}
#*****************************************************************************
#    Catchment S-1
#    - To Jock River (north and south of Jock)
#    - Primarily agricultural fields; portion of sand quarry
#*****************************************************************************
 002:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS NASHYD  02:S-1      245.00    1.962 No_date   29:10   14.83 .326
      [CN= 77.0: N= 3.00]
      [Tp= 1.10:DT= 5.00]
      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
      [InterEventTime=  12.00]
 002:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            01:N_CE   53850.02   47.455 No_date   34:50   12.96  n/a
                      + 02:S-1      245.00    1.962 No_date   29:10   14.83  n/a
      [DT= 5.00]  SUM=  03:SN_CE  54095.02   47.809 No_date   34:50   12.97  n/a
 002:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           03:SN_CE  54095.02   47.809 No_date   34:50   12.97  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.002
      remark:Total Flows at Cedarview Road
#
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
#
 002:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 03:SN_CE  54095.02   47.809 No_date   34:50   12.97  n/a
      [RDT= 5.00] out<- 01:N_WC   54095.02   47.793 No_date   35:00   12.97  n/a
      [L/S/n=  825./ .010/.035]
      {Vmax= 1.282:Dmax=  .001}
#*****************************************************************************
#    Catchment W_CLAR
#    - To West Clarke Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#*****************************************************************************
 002:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:W_CLAR   243.00   10.023 No_date   28:05   24.81 .545
      [XIMP=.43:TIMP=.43]
      [LOSS= 2 :CN= 75.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 33.81: SMAX=225.43: SK= .010]
#*****************************************************************************
#    West Clarke Pond 2
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
#*****************************************************************************
 002:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:W_CLAR   243.00   10.023 No_date   28:05   24.81  n/a
      [RDT= 5.00] out<- 08:MS_P2     64.85     .110 No_date   27:35   24.81  n/a
            overflow <= 09:P2-OVF   178.15    9.775 No_date   28:10   24.81  n/a
     {MxStoUsed=.9597E+00, TotOvfVol=.4421E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
 002:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ADD HYD            08:MS_P2     64.85     .110 No_date   27:35   24.81  n/a
                      + 09:P2-OVF   178.15    9.775 No_date   28:10   24.81  n/a
                      + 01:N_WC   54095.02   47.793 No_date   35:00   12.97  n/a
      [DT= 5.00]  SUM=  04:SN_WC  54338.02   48.170 No_date   35:00   13.02  n/a
 002:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     SAVE HYD           04:SN_WC  54338.02   48.170 No_date   35:00   13.02  n/a
      fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.002
      remark:Total Flows at West Clarke Pond Outlet
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
 002:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE CHANNEL   -> 04:SN_WC  54338.02   48.170 No_date   35:00   13.02  n/a
      [RDT= 5.00] out<- 01:N_KB   54338.02   48.099 No_date   34:45   13.02  n/a
      [L/S/n= 1020./ .050/.035]
      {Vmax=  .845:Dmax= 2.412}
#*****************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*****************************************************************************
 002:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     CONTINUOUS STANDHYD02:KEN_BU   281.00   14.015 No_date   28:05   28.17 .619
      [XIMP=.55:TIMP=.55]
      [LOSS= 2 :CN= 71.0]
      [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
      [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
      [IaRECimp=   4.00: IaRECper=   4.00]
      [SMIN= 41.38: SMAX=275.84: SK= .010]
#*****************************************************************************
#   Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBP
#    - Tributary Drainage Area to Pond = 160 ha
#*****************************************************************************
 002:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
     ROUTE RESERVOIR -> 02:KEN_BU   281.00   14.015 No_date   28:05   28.17  n/a
      [RDT= 5.00] out<- 05:KEN_P    208.79    1.150 No_date   28:10   28.17  n/a
            overflow <= 06:KEN-OV    72.21   12.623 No_date   28:10   28.17  n/a
     {MxStoUsed=.2330E+01, TotOvfVol=.2034E+01, N-Ovf=    4, TotDurOvf=    2.hrs}
#*****************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#*****************************************************************************
```

```
00375>  002:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00376>       CONTINUOUS STANDHYD07:FRASER    90.00    2.860 No_date   28:05   20.31 .446
00377>        [XIMP=.25:TIMP=.25]
00378>        [LOSS= 2 :CN= 80.0]
00379>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00380>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
00381>        [IaRECimp=   4.00: IaRECper=   4.00]
00382>        [SMIN= 26.32: SMAX=175.50: SK= .010]
00383>  002:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00384>       ROUTE RESERVOIR -> 07:FRASER    90.00    2.860 No_date   28:05   20.31  n/a
00385>        [RDT= 5.00] out<- 08:MS_P2     28.48     .040 No_date   28:00   20.31  n/a
00386>                overflow <= 09:P2-OVF   61.52    2.795 No_date   28:05   20.31  n/a
00387>       {MxStoUsed=.3600E+00, TotOvfVol=.1250E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
00388>  002:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00389>       ADD HYD         05:KEN_P   208.79    1.150 No_date   28:10   28.17  n/a
00390>                     +  06:KEN-OV   72.21   12.623 No_date   28:10   28.17  n/a
00391>                     +  08:MS_P2    28.48     .040 No_date   28:00   20.31  n/a
00392>                     +  09:P2-OVF   61.52    2.795 No_date   28:05   20.31  n/a
00393>                     +  01:N_KB   54338.02   48.099 No_date   34:45   13.02  n/a
00394>        [DT= 5.00]  SUM=  04:SN_KB  54709.01   49.195 No_date   34:45   13.11  n/a
00395>  002:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00396>       SAVE HYD        04:SN_KB  54709.01   49.195 No_date   34:45   13.11  n/a
00397>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.002
00398>        remark:Total Flows at Ken-Burnett Outlet
00399> # Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
00400> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
00401> #
00402>  002:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00403>       ROUTE CHANNEL   -> 04:SN_KB  54709.01   49.195 No_date   34:45   13.11  n/a
00404>   *   [RDT= 5.00] out<- 01:N_TO    54709.01   49.001 No_date   36:15   13.11  n/a
00405>        [L/S/n=  650./ .050/.035]
00406>        {Vmax=  .281:Dmax=  .999}
00407> #*************************************************************************
00408> #    Catchment TODD
00409> #    - To Todd Drain (south of the Jock)
00410> #    - Subdivision with 43% imp. as per Barrhaven South MSS
00411> #*************************************************************************
00412>  002:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00413>       CONTINUOUS STANDHYD03:TODD     195.00    8.304 No_date   28:05   25.18 .553
00414>        [XIMP=.43:TIMP=.43]
00415>        [LOSS= 2 :CN= 77.0]
00416>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00417>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
00418>        [IaRECimp=   4.00: IaRECper=   4.00]
00419>        [SMIN= 31.15: SMAX=207.66: SK= .010]
00420> #*************************************************************************
00421> #    Todd Pond 3
00422> #    - Rating curve obtained from Barrhaven South MSS modeling
00423> #    - Tributary Drainage Area to MSS Pond 3 = 193 ha
00424> #*************************************************************************
00425>  002:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00426>       ROUTE RESERVOIR -> 03:TODD     195.00    8.304 No_date   28:05   25.18  n/a
00427>        [RDT= 5.00] out<- 02:MS_P3     49.78     .080 No_date   27:35   25.18  n/a
00428>                overflow <= 09:P3-OVF   145.22    8.086 No_date   28:10   25.18  n/a
00429>       {MxStoUsed=.7798E+00, TotOvfVol=.3657E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
00430>  002:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00431>       ADD HYD         01:N_TO    54709.01   49.001 No_date   36:15   13.11  n/a
00432>                     +  02:MS_P3    49.78     .080 No_date   27:35   25.18  n/a
00433>                     +  09:P3-OVF   145.22    8.086 No_date   28:10   25.18  n/a
00434>        [DT= 5.00]  SUM=  10:SN_TO  54904.01   49.300 No_date   36:05   13.21  n/a
00435>  002:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00436>       SAVE HYD        10:SN_TO   54904.01   49.300 No_date   36:05   13.16  n/a
00437>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.002
00438>        remark:Total Flows at Todd Drain
00439> #
00440> # Hydrograph from Todd Drain routed to Corrigan Drain
00441> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
00442> #
00443>  002:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00444>       ROUTE CHANNEL   -> 10:SN_TO  54904.01   49.300 No_date   36:05   13.16  n/a
00445>   *   [RDT= 5.00] out<- 01:N_TO    54904.01   49.134 No_date   36:45   13.16  n/a
00446>        [L/S/n=  280./ .033/.045]
00447>        {Vmax=  .639:Dmax= 2.378}
00448> #*************************************************************************
00449> #    Catchment CORRIG
00450> #    - To Corrigan Drain (south of the Jock)
00451> #    - Primarily Developed (medium density)
00452> #*************************************************************************
00453>  002:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00454>       CONTINUOUS STANDHYD02:CORRIG   149.00    6.811 No_date   28:05   25.84 .568
00455>        [XIMP=.45:TIMP=.45]
00456>        [LOSS= 2 :CN= 77.0]
00457>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00458>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
00459>        [IaRECimp=   4.00: IaRECper=   4.00]
00460>        [SMIN= 31.15: SMAX=207.66: SK= .010]
00461> #*************************************************************************
00462> #    Corrigan Pond 1
00463> #    - Rating curve obtained from Barrhaven South MSS modeling
00464> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
00465> #*************************************************************************
00466>  002:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00467>       ROUTE RESERVOIR -> 02:CORRIG   149.00    6.811 No_date   28:05   25.84  n/a
00468>        [RDT= 5.00] out<- 05:MS_P1     36.35     .060 No_date   27:25   25.84  n/a
00469>                overflow <= 04:P1-OVF   112.65    6.599 No_date   28:10   25.84  n/a
00470>       {MxStoUsed=.5800E+00, TotOvfVol=.2911E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
00471>  002:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00472>       ADD HYD         01:N_TO    54904.01   49.134 No_date   36:45   13.16  n/a
00473>                     +  04:P1-OVF   112.65    6.599 No_date   28:10   25.84  n/a
00474>                     +  05:MS_P1    36.35     .060 No_date   27:25   25.84  n/a
00475>        [DT= 5.00]  SUM=  03:SN_CO  55053.02   49.314 No_date   36:40   13.19  n/a
00476>  002:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00477>       SAVE HYD        03:SN_CO  55053.02   49.314 No_date   36:40   13.19  n/a
00478>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.002
00479>        remark:Total Flows at Corrigan Drain
00480> #
00481> # Hydrograph from Corrigan Drain routed to Jockvale Road
00482> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
00483> #
00484>  002:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00485>       ROUTE CHANNEL   -> 03:SN_CO  55053.02   49.314 No_date   36:40   13.19  n/a
00486>        [RDT= 5.00] out<- 01:N_MI    55053.02   49.312 No_date   36:45   13.19  n/a
00487>        [L/S/n=  580./ .445/.045]
00488>        {Vmax= 1.456:Dmax= 1.227}
00489> #*************************************************************************
00490> #    Catchment MILLS
00491> #    - To SWM Facility north of the Jock
00492> #    - Primarily residental development
00493> #*************************************************************************
00494>  002:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00495>       CONTINUOUS STANDHYD02:MILLS    139.00    5.455 No_date   28:05   22.75 .500
00496>        [XIMP=.38:TIMP=.38]
00497>        [LOSS= 2 :CN= 74.0]
00498>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00499>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
00500>        [IaRECimp=   4.00: IaRECper=   4.00]
00501>        [SMIN= 36.67: SMAX=244.49: SK= .010]
00502> #*************************************************************************
00503> #    Chapman Mills SWM Pond
00504> #    - Rating curve obtained from CCL hydraulic modeling
00505> #*************************************************************************
00506>  002:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00507>       ROUTE RESERVOIR -> 02:MILLS    139.00    5.455 No_date   28:05   22.75  n/a
00508>        [RDT= 5.00] out<- 05:MILL_P   139.00    1.760 No_date   28:45   22.75  n/a
00509>                overflow <= 04:MIL-OV     .00     .000 No_date   0:00     .00  n/a
00510>       {MxStoUsed=.1123E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
00511>  002:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00512>       ADD HYD         01:N_MI    55053.02   49.312 No_date   36:45   13.19  n/a
00513>                     +  04:MIL-OV     .00     .000 No_date   0:00     .00  n/a
00514>                     +  05:MILL_P   139.00    1.760 No_date   28:45   22.75  n/a
00515>        [DT= 5.00]  SUM=  03:SN_MI  55192.02   49.553 No_date   36:45   13.21  n/a
00516>  002:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00517>       SAVE HYD        03:SN_MI  55192.02   49.553 No_date   36:45   13.21  n/a
00518>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.002
00519>        remark:Total Flows at Jockvale Road
00520> #
00521> # Hydrograph from Jockvale Road routed to Heart's Desire
00522> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
00523> #
00524>  002:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00525>       ROUTE CHANNEL   -> 03:SN_MI  55192.02   49.553 No_date   36:45   13.21  n/a
00526>        [RDT= 5.00] out<- 01:N_DE    55192.02   49.452 No_date   37:30   13.21  n/a
00527>        [L/S/n= 1962./ .223/.045]
00528>        {Vmax=  .940:Dmax=  .050}
00529> #*************************************************************************
00530> #    Catchment DESIRE
00531> #    - To Jock River (north of the Jock)
00532> #    - Rural-estate subdivision (Heart's Desire Community)
00533> #*************************************************************************
00534>  002:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00535>       CONTINUOUS STANDHYD02:DESIRE    24.00     .920 No_date   28:00   19.26 .423
00536>        [XIMP=.25:TIMP=.25]
00537>        [LOSS= 2 :CN= 77.0]
00538>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00539>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
00540>        [IaRECimp=   4.00: IaRECper=   4.00]
00541>        [SMIN= 31.15: SMAX=207.66: SK= .010]
00542> #*************************************************************************
00543> #    Catchment JOCKVA
00544> #    - To Jockvale SWM Facility
00545> #    - Residential development & golf course
00546> #*************************************************************************
00547>  002:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00548>       CONTINUOUS STANDHYD03:JOCKVA    252.00   11.718 No_date   28:05   26.85 .590
00549>        [XIMP=.50:TIMP=.50]
00550>        [LOSS= 2 :CN= 74.0]
00551>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00552>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
00553>        [IaRECimp=   4.00: IaRECper=   4.00]
00554>        [SMIN= 36.67: SMAX=244.49: SK= .010]
00555> #*************************************************************************
00556> #    Jockvale SWM Facility
00557> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
00558> #*************************************************************************
00559>  002:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00560>       ROUTE RESERVOIR -> 03:JOCKVA    252.00   11.718 No_date   28:05   26.85  n/a
00561>        [RDT= 5.00] out<- 05:JOCK_P    252.00    2.252 No_date   29:10   26.85  n/a
00562>                overflow <= 04:JO-OVF     .00     .000 No_date   0:00     .00  n/a
00563>       {MxStoUsed=.3236E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
00564>  002:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00565>       ADD HYD         01:N_DE    55192.02   49.452 No_date   37:30   13.21  n/a
00566>                     +  02:DESIRE    24.00     .920 No_date   28:00   19.26  n/a
00567>                     +  04:JO-OVF     .00     .000 No_date   0:00     .00  n/a
00568>                     +  05:JOCK_P   252.00    2.252 No_date   29:10   26.85  n/a
00569>        [DT= 5.00]  SUM=  03:SN_DE  55468.01   49.870 No_date   37:20   13.28  n/a
00570>  002:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00571>       SAVE HYD        03:SN_DE  55468.01   49.870 No_date   37:20   13.28  n/a
00572>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.002
00573>        remark:Total Flows at Heart's Desire
00574> #
00575> # Hydrograph from Heart's Desire routed to Rideau River
00576> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
00577> #
00578>  002:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00579>       ROUTE CHANNEL   -> 03:SN_DE  55468.01   49.870 No_date   37:20   13.28  n/a
00580>        [RDT= 5.00] out<- 01:N1      55468.01   49.870 No_date   37:25   13.28  n/a
00581>        [L/S/n=  563./ .967/.045]
00582>        {Vmax= 2.709:Dmax=  .015}
00583> #*************************************************************************
00584> #    Catchment S-2
00585> #    - To Jock River (north and south)
00586> #    - Undeveloped floodplain and river
00587> #*************************************************************************
00588>  002:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00589>       CONTINUOUS NASHYD  02:S-2      102.00    1.359 No_date   28:20   13.01 .286
00590>        [CN= 72.0: N= 3.00]
00591>        [Tp=  .40:DT= 5.00]
00592>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00593>        [InterEventTime=  12.00]
00594>  002:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00595>       ADD HYD         01:N1      55468.01   49.870 No_date   37:25   13.28  n/a
00596>                     +  02:S-2      102.00    1.359 No_date   28:20   13.01  n/a
00597>        [DT= 5.00]  SUM=  03:SN_N1  55570.01   49.967 No_date   37:25   13.28  n/a
00598>  002:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00599>       SAVE HYD        03:SN_N1  55570.01   49.967 No_date   37:25   13.28  n/a
00600>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.002
00601>        remark:Total Flows at Rideau River
00602>   ** END OF RUN :   4
00603> #
00604> #*************************************************************************
00605>
00606>
00607>
00608>
00609>
00610> RUN:COMMAND#
00611> 005:0001----------------------------------------------------------------------
00612>       START
00613>       [TZERO =    .00 hrs on        0]
00614>       [METOUT=   2   (1=imperial, 2=metric output)]
00615>       [NSTORM=   1 ]
00616>       [NRUN  =   5 ]
00617> #*************************************************************************
00618> #  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
00619> #  Date        : October 2006
00620> #  Modeller    : [Navin Gautam/ Original by Ana M Paerez]
00621> #  Company     : Stantec.
00622> #  License #   :  3824306
00623> #*************************************************************************
00624> #-------------------|-------------------------------------------------------|
00625> 005:0002----------------------------------------------------------------------
00626>       READ STORM
00627>       Filename = storm.001
00628>       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
00629>       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
00630> 005:0003----------------------------------------------------------------------
00631>       MODIFY STORM
00632>       [RFACT=  1.00:TSHIFT= 960.00 min]
00633>       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
00634> 005:0004----------------------------------------------------------------------
00635>       DEFAULT VALUES
00636>       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
00637>       ICASEdv  = 1 (read and print data)
00638>       FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
00639>                  PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
00640>       Horton's infiltration equation parameters:
00641>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
00642>       Parameters for PERVIOUS surfaces in STANDHYD:
00643>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
00644>       Parameters for IMPERVIOUS surfaces in STANDHYD:
00645>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
00646>       Parameters used in NASHYD:
00647>       [Ia=   2.50 mm] [N= 3.00]
00648> 005:0005----------------------------------------------------------------------
00649>       COMPUTE API
00650>        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
00651>        {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
00652> #*************************************************************************
00653> #
00654> #             JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
00655> #                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
00656> #
00657> # Version: Draft Final Report, October 2006
00658> # Revision History
00659> #  - Draft Interim Condition Report, Nov. 2005
00660> #*************************************************************************
00661> # Assumptions
00662> # - All catchments are assumed to be developed except S-1, S-2, and SW-1a
00663> # - SWM facilities are modeled
00664> # - Rating curves were estimated based on existing reports and modeling for the
00665> #   proposed SWM facilities
00666> # - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
00667> #   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
00668> #   Municipality of Ottawa Carleton, March 1983
00669> # - River routing modeled
00670> # - River cross sections obtained from RVCA's HEC-RAS hydraulic model
00671> #-------------------|-------------------------------------------------------|
00672> # Parameters
00673> # - Design Storms: 2,5,10,25,50 &1 00yr events: 24hr SCS (DT=10min)-model compa
00674> # - Impervious area weighted based on: rural subdivision @20%, urban @55%
00675> # - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
00676> # - Time to peak using Uplands Method
00677> #-------------------|-------------------------------------------------------|
00678> #*************************************************************************
00679> #Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
00680> #*************************************************************************
00681>  005:0006---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00682>       READ HYD        01:S_N2    52483.01   66.413 No_date   33:10   18.30  n/a
00683>        Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.005
00684>        Comment  = N2
00685> #
00686> # Hydrograph from Node 2 routed to Node 416
00687> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
00688> #
00689>  005:0007---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00690>       ROUTE CHANNEL   -> 01:S_N2   52483.01   66.413 No_date   33:10   18.30  n/a
00691>        [RDT=10.00] out<- 04:N_416  52483.01   65.031 No_date   34:30   18.30  n/a
00692>        [L/S/n= 2327./ .050/.055]
00693>        {Vmax=  .655:Dmax= 2.644}
00694> #*************************************************************************
00695> #    Catchment SW-1a
00696> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
00697> #    - Undeveloped agricultural land
00698> #*************************************************************************
00699>  005:0008---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00700>       CONTINUOUS NASHYD  02:SW_1a     546.00    3.042 No_date   31:15   18.99 .332
00701>        [CN= 72.0: N= 3.00]
00702>        [Tp= 2.79:DT= 5.00]
00703>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00704>        [InterEventTime=  12.00]
00705>  005:0009---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00706>       ADD HYD         04:N_416  52483.01   65.031 No_date   34:30   18.30  n/a
00707>                     +  02:SW_1a    546.00    3.042 No_date   31:15   18.99  n/a
00708>        [DT= 5.00]  SUM=  03:SN_416 53029.01   67.141 No_date   34:10   18.30  n/a
00709>  005:0010---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00710>       SAVE HYD        03:SN_416 53029.01   67.141 No_date   34:10   18.30  n/a
00711>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.005
00712>        remark:Total Flows at Highway 416
00713> #
00714> # Hydrograph from Node 416 routed to Node at Okeefe drain
00715> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
00716> #
00717>  005:0011---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00718>       ROUTE CHANNEL   -> 03:SN_416 53029.01   67.141 No_date   34:10   18.30  n/a
00719>        [RDT= 5.00] out<- 01:N_OK    53029.01   67.140 No_date   34:10   18.30  n/a
00720>        [L/S/n=  497./ .302/.055]
00721>        {Vmax= 1.349:Dmax= 2.239}
00722> #*************************************************************************
00723> #    Catchment OKEEFE
00724> #    - To O'Keefe Drain (north of the Jock)
00725> #    - Developed with assumed 43% imp.
00726> #*************************************************************************
00727>  005:0012---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00728>       CONTINUOUS STANDHYD02:OKEEFE   448.00   19.045 No_date   28:15   34.02 .596
00729>        [XIMP=.43:TIMP=.43]
00730>        [LOSS= 2 :CN= 77.0]
00731>        [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
00732>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=1728.:MNI=.013:SCI=   .0]
00733>        [IaRECimp=   4.00: IaRECper=   4.00]
00734>        [SMIN= 31.15: SMAX=207.66: SK= .010]
00735> #*************************************************************************
00736> #    OKeefe Pond
00737> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
00738> #   and a ratio of the catchment area to the West Clarke pond rating curve
00739> #      from the MSS for the next coordinates
00740> #*************************************************************************
00741>  005:0013---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00742>       ROUTE RESERVOIR -> 02:OKEEFE   448.00   19.045 No_date   28:15   34.02  n/a
00743>        [RDT= 5.00] out<- 04:P_OKE     88.43     .200 No_date   27:00   34.02  n/a
00744>                overflow <= 09:ok-OVF   359.57   18.683 No_date   28:20   34.02  n/a
00745>       {MxStoUsed=.1720E+01, TotOvfVol=.1223E+02, N-Ovf=    2, TotDurOvf=   14.hrs}
00746>  005:0014---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00747>       ADD HYD         01:N_OK    53029.01   67.140 No_date   34:10   18.30  n/a
00748>                     +  04:P_OKE     88.43     .200 No_date   27:00   34.02  n/a
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00749>                    +  09:ok-OVF   359.57   18.683 No_date   28:20   34.02  n/a
00750>       [DT= 5.00]  SUM=  03:SN_OK  53477.01   68.150 No_date   34:05   18.44  n/a
00751> 005:0015---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00752>       SAVE HYD            03:SN_OK  53477.01   68.150 No_date   34:05   18.44  n/a
00753>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.005
00754>        remark:Total Flows at Okeefe Drain
00755> #
00756> # Hydrograph from Node Okeefe routed to Node at Foster Drain
00757> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
00758> #
00759>  005:0016---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00760>       ROUTE CHANNEL    -> 03:SN_OK  53477.01   68.150 No_date   34:05   18.44  n/a
00761>        [RDT= 5.00] out<- 01:N_FO   53477.01   68.124 No_date   34:20   18.44  n/a
00762>        [L/S/n= 1183./ .076/.035]
00763>        {Vmax= 1.826:Dmax=  .015}
00764> #*************************************************************************
00765> #    Catchment FOSTER
00766> #    - To Foster ditch (north of the Jock)
00767> #    - Partially developed (medium density); remaining agricultural
00768> #*************************************************************************
00769>  005:0017---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00770>       CONTINUOUS STANDHYD02:FOSTER   373.00   20.654 No_date   28:10   37.71 .660
00771>        [XIMP=.55:TIMP=.55]
00772>        [LOSS= 2 :CN= 74.0]
00773>        [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
00774>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1577.:MNI=.013:SCI=   .0]
00775>        [IaRECimp=   4.00: IaRECper=   4.00]
00776>        [SMIN= 36.67: SMAX=244.49: SK= .010]
00777> #*************************************************************************
00778> #    Foster Pond
00779> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
00780> #      and a ratio of the catchment area to the West Clarke pond rating curve
00781> #      from the MSS for the next coordinates
00782> #*************************************************************************
00783>  005:0018---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00784>       ROUTE RESERVOIR -> 02:FOSTER   373.00   20.654 No_date   28:10   37.71  n/a
00785>        [RDT= 5.00] out<- 04:P_FOS     79.61     .200 No_date   26:45   37.71  n/a
00786>              overflow <= 09:FO-OVF   293.39   20.155 No_date   28:15   37.71  n/a
00787>        {MxStoUsed=.1728E+01, TotOvfVol=.110GE+02, N-Ovf=    2, TotDurOvf=   14.hrs}
00788> 005:0019---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00789>       ADD HYD             01:N_FO   53477.01   68.124 No_date   34:20   18.44  n/a
00790>                      +  04:P_FOS     79.61     .200 No_date   26:45   37.71  n/a
00791>                      +  09:FO-OVF   293.39   20.155 No_date   28:15   37.71  n/a
00792>        [DT= 5.00]  SUM=  03:SN_FO  53850.01   68.977 No_date   34:20   18.57  n/a
00793> 005:0020---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00794>       SAVE HYD            03:SN_FO  53850.01   68.977 No_date   34:20   18.57  n/a
00795>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.005
00796>        remark:Total Flows at Foster Drain
00797> #
00798> # Hydrograph from Node Foster routed to Node at Cedarview Road
00799> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
00800> #
00801>  005:0021---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00802>       ROUTE CHANNEL    -> 03:SN_FO  53850.01   68.977 No_date   34:20   18.57  n/a
00803>        [RDT= 5.00] out<- 01:N_CE   53850.01   68.977 No_date   34:20   18.57  n/a
00804>        [L/S/n=  159./ .082/.035]
00805>        {Vmax= 3.197:Dmax=  .003}
00806> #*************************************************************************
00807> #    Catchment S-1
00808> #    - To Jock River (north and south of Jock)
00809> #    - Primarily agricultural fields; portion of sand quarry
00810> #*************************************************************************
00811>  005:0022---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00812>       CONTINUOUS NASHYD  02:S-1      245.00    3.163 No_date   29:10   21.69 .380
00813>        [CN= 77.0: N= 3.00]
00814>        [Tp= 1.10:DT= 5.00]
00815>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
00816>        [InterEventTime=  12.00]
00817>  005:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00818>       ADD HYD             01:N_CE   53850.01   68.977 No_date   34:20   18.57  n/a
00819>                      +  02:S-1      245.00    3.163 No_date   29:10   21.69  n/a
00820>        [DT= 5.00]  SUM=  03:SN_CE  54095.01   69.514 No_date   34:15   18.58  n/a
00821>  005:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00822>       SAVE HYD            03:SN_CE  54095.01   69.514 No_date   34:15   18.58  n/a
00823>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.005
00824>        remark:Total Flows at Cedarview Road
00825> #
00826> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
00827> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
00828> #
00829>  005:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00830>       ROUTE CHANNEL    -> 03:SN_CE  54095.01   69.514 No_date   34:15   18.58  n/a
00831>        [RDT= 5.00] out<- 01:N_WC   54095.01   69.495 No_date   34:25   18.58  n/a
00832>        [L/S/n=  825./ .010/.035]
00833>        {Vmax= 1.282:Dmax=  .001}
00834> #*************************************************************************
00835> #    Catchment W_CLAR
00836> #    - To West Clarke Drain (south of the Jock)
00837> #    - Subdivision with 43% imp. as per Barrhaven South MSS
00838> #*************************************************************************
00839>  005:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00840>       CONTINUOUS STANDHYD02:W_CLAR   243.00   13.629 No_date   28:05   33.48 .586
00841>        [XIMP=.43:TIMP=.43]
00842>        [LOSS= 2 :CN= 75.0]
00843>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00844>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
00845>        [IaRECimp=   4.00: IaRECper=   4.00]
00846>        [SMIN= 33.81: SMAX=225.43: SK= .010]
00847> #*************************************************************************
00848> #    West Clarke Pond 2
00849> #    - Rating curve obtained from Barrhaven South MSS modeling
00850> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
00851> #*************************************************************************
00852>  005:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00853>       ROUTE RESERVOIR -> 02:W_CLAR   243.00   13.629 No_date   28:05   33.48  n/a
00854>        [RDT= 5.00] out<- 08:MS_P2     49.32     .110 No_date   26:50   33.48  n/a
00855>              overflow <= 09:P2-OVF   193.68   13.346 No_date   28:10   33.48  n/a
00856>        {MxStoUsed=.9598E+00, TotOvfVol=.6484E+01, N-Ovf=    2, TotDurOvf=   14.hrs}
00857>  005:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00858>       ADD HYD             08:MS_P2     49.32     .110 No_date   26:50   33.48  n/a
00859>                      +  09:P2-OVF   193.68   13.346 No_date   28:10   33.48  n/a
00860>                      +  01:N_WC   54095.01   69.495 No_date   34:25   18.58  n/a
00861>        [DT= 5.00]  SUM=  04:SN_WC  54338.01   70.010 No_date   34:25   18.65  n/a
00862>  005:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00863>       SAVE HYD            04:SN_WC  54338.01   70.010 No_date   34:25   18.65  n/a
00864>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.005
00865>        remark:Total Flows at West Clarke Pond Outlet
00866> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
00867> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
00868> #
00869>  005:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00870>       ROUTE CHANNEL    -> 04:SN_WC  54338.01   70.010 No_date   34:25   18.65  n/a
00871>        [RDT= 5.00] out<- 01:N_KB   54338.01   69.990 No_date   34:30   18.65  n/a
00872>        [L/S/n= 1020./ .050/.035]
00873>        {Vmax=  .946:Dmax= 2.860}
00874> #*************************************************************************
00875> #    Catchment KEN_BU
00876> #    - To Kennedy-Burnett SWM Facility
00877> #    - Outlets to Fraser-Clarke drain (north of the Jock)
00878> #    - Medium density residential subdivision
00879> #*************************************************************************
00880>  005:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00881>       CONTINUOUS STANDHYD02:KEN_BU   281.00   18.799 No_date   28:05   37.13 .650
00882>        [XIMP=.55:TIMP=.55]
00883>        [LOSS= 2 :CN= 71.0]
00884>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00885>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
00886>        [IaRECimp=   4.00: IaRECper=   4.00]
00887>        [SMIN= 41.38: SMAX=275.84: SK= .010]
00888> #*************************************************************************
00889> #   Existing Kennedy-Burnett SWM Facility
00890> #    - Rating curve obtained from URTKBP
00891> #    - Tributary Drainage Area to Pond = 160 ha
00892> #*************************************************************************
00893>  005:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00894>       ROUTE RESERVOIR -> 02:KEN_BU   281.00   18.799 No_date   28:05   37.13  n/a
00895>        [RDT= 5.00] out<- 05:KEN_P    180.29    1.150 No_date   28:05   37.13  n/a
00896>              overflow <= 06:KEN-OV   100.71   17.309 No_date   28:10   37.13  n/a
00897>        {MxStoUsed=.2338E+01, TotOvfVol=.3739E+01, N-Ovf=    4, TotDurOvf=    3.hrs}
00898> #*************************************************************************
00899> #    Catchment FRASER
00900> #    - To Fraser-Clarke drain (north of the Jock)
00901> #    - Developed land with assumed 43% imp.
00902> #*************************************************************************
00903>  005:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00904>       CONTINUOUS STANDHYD07:FRASER    90.00    4.131 No_date   28:05   28.74 .503
00905>        [XIMP=.25:TIMP=.25]
00906>        [LOSS= 2 :CN= 80.0]
00907>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00908>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
00909>        [IaRECimp=   4.00: IaRECper=   4.00]
00910>        [SMIN= 26.32: SMAX=175.50: SK= .010]
00911>  005:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00912>       ROUTE RESERVOIR -> 07:FRASER    90.00    4.131 No_date   28:05   28.74  n/a
00913>        [RDT= 5.00] out<- 08:MS_P2     20.53     .040 No_date   27:45   28.74  n/a
00914>              overflow <= 09:P2-OVF    69.47    4.019 No_date   28:05   28.74  n/a
00915>        {MxStoUsed=.3600E+00, TotOvfVol=.1997E+01, N-Ovf=    2, TotDurOvf=   13.hrs}
00916>  005:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00917>       ADD HYD             05:KEN_P    180.29    1.150 No_date   28:05   37.13  n/a
00918>                      +  06:KEN-OV   100.71   17.309 No_date   28:10   37.13  n/a
00919>                      +  08:MS_P2     20.53     .040 No_date   27:45   28.74  n/a
00920>                      +  09:P2-OVF    69.47    4.019 No_date   28:05   28.74  n/a
00921>                      +  01:N_KB   54338.01   69.990 No_date   34:30   18.65  n/a
00922>        [DT= 5.00]  SUM=  04:SN_KB  54709.01   71.220 No_date   34:30   18.76  n/a
00923>  005:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00924>       SAVE HYD            04:SN_KB  54709.01   71.220 No_date   34:30   18.76  n/a
00925>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.005
00926>        remark:Total Flows at Ken-Burnett Outlet
00927> # Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
00928> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
00929> #
00930>  005:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00931>       ROUTE CHANNEL    -> 04:SN_KB  54709.01   71.220 No_date   34:30   18.76  n/a
00932>  *     [RDT= 5.00] out<- 01:N_TO   54709.01   70.805 No_date   35:15   18.76  n/a
00933>        [L/S/n=  650./ .050/.035]
00934>        {Vmax=  .281:Dmax=  .999}
00935> #*************************************************************************

00936> #    Catchment TODD
00937> #    - To Todd Drain (south of the Jock)
00938> #    - Subdivision with 43% imp. as per Barrhaven South MSS
00939> #*************************************************************************
00940>  005:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00941>       CONTINUOUS STANDHYD03:TODD     195.00   11.301 No_date   28:05   34.02 .596
00942>        [XIMP=.43:TIMP=.43]
00943>        [LOSS= 2 :CN= 77.0]
00944>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00945>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
00946>        [IaRECimp=   4.00: IaRECper=   4.00]
00947>        [SMIN= 31.15: SMAX=207.66: SK= .010]
00948> #*************************************************************************
00949> #    Todd Pond 3
00950> #    - Rating curve obtained from Barrhaven South MSS modeling
00951> #    - Tributary Drainage Area to MSS Pond 3 = 193 ha
00952> #*************************************************************************
00953>  005:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00954>       ROUTE RESERVOIR -> 03:TODD     195.00   11.301 No_date   28:05   34.02  n/a
00955>        [RDT= 5.00] out<- 02:MS_P3     37.74     .080 No_date   26:50   34.02  n/a
00956>              overflow <= 09:P3-OVF   157.26   11.047 No_date   28:10   34.02  n/a
00957>        {MxStoUsed=.7800E+00, TotOvfVol=.5350E+01, N-Ovf=    2, TotDurOvf=   14.hrs}
00958>  005:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00959>       ADD HYD             01:N_TO   54709.01   70.805 No_date   35:15   18.76  n/a
00960>                      +  02:MS_P3     37.74     .080 No_date   26:50   34.02  n/a
00961>                      +  09:P3-OVF   157.26   11.047 No_date   28:10   34.02  n/a
00962>        [DT= 5.00]  SUM=  10:SN_TO  54904.01   71.226 No_date   35:15   18.82  n/a
00963>  005:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00964>       SAVE HYD            10:SN_TO  54904.01   71.226 No_date   35:15   18.82  n/a
00965>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.005
00966>        remark:Total Flows at Todd Drain
00967> #
00968> # Hydrograph from Todd Drain routed to Corrigan Drain
00969> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
00970> #
00971>  005:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00972>       ROUTE CHANNEL    -> 10:SN_TO  54904.01   71.226 No_date   35:15   18.82  n/a
00973>  *     [RDT= 5.00] out<- 01:N_TO   54904.01   71.106 No_date   35:40   18.82  n/a
00974>        [L/S/n=  280./ .033/.045]
00975>        {Vmax=  .721:Dmax= 2.885}
00976> #*************************************************************************
00977> #    Catchment CORRIG
00978> #    - To Corrigan Drain (south of the Jock)
00979> #    - Primarily Developed (medium density)
00980> #*************************************************************************
00981>  005:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00982>       CONTINUOUS STANDHYD02:CORRIG   149.00    9.766 No_date   28:05   34.78 .609
00983>        [XIMP=.45:TIMP=.45]
00984>        [LOSS= 2 :CN= 77.0]
00985>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
00986>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
00987>        [IaRECimp=   4.00: IaRECper=   4.00]
00988>        [SMIN= 31.15: SMAX=207.66: SK= .010]
00989> #*************************************************************************
00990> #    Corrigan Pond 1
00991> #    - Rating curve obtained from Barrhaven South MSS modeling
00992> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
00993> #*************************************************************************
00994>  005:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
00995>       ROUTE RESERVOIR -> 02:CORRIG   149.00    9.766 No_date   28:05   34.78  n/a
00996>        [RDT= 5.00] out<- 05:MS_P1     27.65     .060 No_date   26:30   34.78  n/a
00997>              overflow <= 04:P1-OVF   121.35    9.684 No_date   28:05   34.78  n/a
00998>        {MxStoUsed=.5798E+00, TotOvfVol=.4220E+01, N-Ovf=    3, TotDurOvf=   14.hrs}
00999>  005:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01000>       ADD HYD             01:N_TO   54904.01   71.106 No_date   35:40   18.82  n/a
01001>                      +  04:P1-OVF   121.35    9.684 No_date   28:05   34.78  n/a
01002>                      +  05:MS_P1     27.65     .060 No_date   26:30   34.78  n/a
01003>        [DT= 5.00]  SUM=  03:SN_CO  55053.00   71.431 No_date   35:40   18.86  n/a
01004>  005:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01005>       SAVE HYD            03:SN_CO  55053.00   71.431 No_date   35:40   18.86  n/a
01006>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.005
01007>        remark:Total Flows at Corrigan Drain
01008> #
01009> # Hydrograph from Corrigan Drain routed to Jockvale Road
01010> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
01011> #
01012>  005:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01013>       ROUTE CHANNEL    -> 03:SN_CO  55053.00   71.431 No_date   35:40   18.86  n/a
01014>        [RDT= 5.00] out<- 01:N_MI   55053.00   71.427 No_date   35:45   18.86  n/a
01015>        [L/S/n=  580./ .445/.045]
01016>        {Vmax= 1.654:Dmax= 1.485}
01017> #*************************************************************************
01018> #    Catchment MILLS
01019> #    - To SWM Facility north of the Jock
01020> #    - Primarily residental development
01021> #*************************************************************************
01022>  005:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01023>       CONTINUOUS STANDHYD02:MILLS    139.00    7.873 No_date   28:05   30.98 .542
01024>        [XIMP=.38:TIMP=.38]
01025>        [LOSS= 2 :CN= 74.0]
01026>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01027>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
01028>        [IaRECimp=   4.00: IaRECper=   4.00]
01029>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01030> #*************************************************************************
01031> #    Chapman Mills SWM Pond
01032> #    - Rating curve obtained from CCL hydraulic modeling
01033> #*************************************************************************
01034>  005:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01035>       ROUTE RESERVOIR -> 02:MILLS    139.00    7.873 No_date   28:05   30.98  n/a
01036>        [RDT= 5.00] out<- 05:MIL_P    139.00    2.516 No_date   28:40   30.98  n/a
01037>              overflow <= 04:MIL-OV       .00     .000 No_date    0:00     .00  n/a
01038>        {MxStoUsed=.1506E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01039> 005:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01040>       ADD HYD             01:N_MI   55053.00   71.427 No_date   35:45   18.86  n/a
01041>                      +  04:MIL-OV       .00     .000 No_date    0:00     .00  n/a
01042>                      +  05:MIL_P    139.00    2.516 No_date   28:40   30.98  n/a
01043>        [DT= 5.00]  SUM=  03:SN_MI  55192.00   71.786 No_date   35:45   18.89  n/a
01044>  005:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01045>       SAVE HYD            03:SN_MI  55192.00   71.786 No_date   35:45   18.89  n/a
01046>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.005
01047>        remark:Total Flows at Jockvale Road
01048> #
01049> # Hydrograph from Jockvale Road routed to Heart's Desire
01050> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
01051> #
01052>  005:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01053>       ROUTE CHANNEL    -> 03:SN_MI  55192.00   71.786 No_date   35:45   18.89  n/a
01054>        [RDT= 5.00] out<- 01:N_DE   55192.00   71.488 No_date   36:20   18.89  n/a
01055>        [L/S/n= 1962./ .223/.045]
01056>        {Vmax=  .940:Dmax=  .073}
01057> #*************************************************************************
01058> #    Catchment DESIRE
01059> #    - To Jock River (north of the Jock)
01060> #    - Rural-estate subdivision (Heart's Desire Community)
01061> #*************************************************************************
01062>  005:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01063>       CONTINUOUS STANDHYD02:DESIRE     24.00    1.289 No_date   28:00   27.22 .477
01064>        [XIMP=.25:TIMP=.25]
01065>        [LOSS= 2 :CN= 77.0]
01066>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01067>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
01068>        [IaRECimp=   4.00: IaRECper=   4.00]
01069>        [SMIN= 31.15: SMAX=207.66: SK= .010]
01070> #*************************************************************************
01071> #    Catchment JOCKVA
01072> #    - To Jockvale SWM Facility
01073> #    - Residential development & golf course
01074> #*************************************************************************
01075>  005:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01076>       CONTINUOUS STANDHYD03:JOCKVA    252.00   15.852 No_date   28:05   35.73 .626
01077>        [XIMP=.50:TIMP=.50]
01078>        [LOSS= 2 :CN= 74.0]
01079>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01080>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
01081>        [IaRECimp=   4.00: IaRECper=   4.00]
01082>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01083> #*************************************************************************
01084> #    Jockvale SWM Facility
01085> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
01086> #*************************************************************************
01087>  005:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01088>       ROUTE RESERVOIR -> 03:JOCKVA    252.00   15.852 No_date   28:05   35.73  n/a
01089>        [RDT= 5.00] out<- 03:JOCK_P    252.00    4.332 No_date   28:50   35.73  n/a
01090>              overflow <= 04:JO-OVF       .00     .000 No_date    0:00     .00  n/a
01091>        {MxStoUsed=.3962E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01092> 005:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01093>       ADD HYD             01:N_DE   55192.00   71.488 No_date   36:20   18.89  n/a
01094>                      +  02:DESIRE     24.00    1.289 No_date   28:00   27.22  n/a
01095>                      +  04:JO-OVF       .00     .000 No_date    0:00     .00  n/a
01096>                      +  05:JOCK_P    252.00    4.332 No_date   28:50   35.73  n/a
01097>        [DT= 5.00]  SUM=  03:SN_DE  55468.00   72.143 No_date   36:15   18.97  n/a
01098> 005:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01099>       SAVE HYD            03:SN_DE  55468.00   72.143 No_date   36:15   18.97  n/a
01100>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.005
01101>        remark:Total Flows at Heart's Desire
01102> #
01103> # Hydrograph from Heart's Desire routed to Rideau River
01104> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
01105> #
01106>  005:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01107>       ROUTE CHANNEL    -> 03:SN_DE  55468.00   72.143 No_date   36:15   18.97  n/a
01108>        [RDT= 5.00] out<- 01:N1     55468.00   72.141 No_date   36:20   18.97  n/a
01109>        [L/S/n=  563./ .967/.045]
01110>        {Vmax= 2.709:Dmax=  .022}
01111> #*************************************************************************
01112> #    Catchment S-2
01113> #    - To Jock River (north and south)
01114> #    - Undeveloped floodplain and river
01115> #*************************************************************************
01116>  005:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01117>       CONTINUOUS NASHYD  02:S-2      102.00    2.237 No_date   28:20   18.99 .332
01118>        [CN= 72.0: N= 3.00]
01119>        [Tp=  .40:DT= 5.00]
01120>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01121>        [InterEventTime=  12.00]
01122>  005:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
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01123>      ADD HYD            01:N1     55468.00   72.141 No_date   36:20   18.97  n/a
01124>                    +  02:S-2      102.00    2.237 No_date   28:20   18.99  n/a
01125>       [DT= 5.00]  SUM=  03:SN_N1  55570.00   72.311 No_date   36:20   18.97  n/a
01126>  005:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01127>      SAVE HYD           03:SN_N1  55570.00   72.311 No_date   36:20   18.97  n/a
01128>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.005
01129>       remark:Total Flows at Rideau River
01130>   ** END OF RUN :  24
01131>
01132> ********************************************************************************
01133>
01134>
01135>
01136>
01137>
01138>  RUN:COMMAND#
01139>  025:0001----------------------------------------------------------------------
01140>       START
01141>       [TZERO =    .00 hrs on        0]
01142>       [METOUT=   2   (1=imperial, 2=metric output)]
01143>       [NSTORM=   1 ]
01144>       [NRUN  =  25 ]
01145> #*******************************************************************************
01146> #  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160400414]
01147> #  Date       : October 2006
01148> #  Modeller   : [Navin Gautam/ Original by Ana M Paerez]
01149> #  Company    : Stantec.
01150> #  License #  : 3824306
01151> #*******************************************************************************
01152> #---------------------|------------------------------------------------------------|
01153>  025:0002----------------------------------------------------------------------
01154>       READ STORM
01155>        Filename = storm.001
01156>        Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
01157>        [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
01158>  025:0003----------------------------------------------------------------------
01159>       MODIFY STORM
01160>        [RFACT=  1.00:TSHIFT= 960.00 min]
01161>        [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
01162>  025:0004----------------------------------------------------------------------
01163>       DEFAULT VALUES
01164>        Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
01165>        ICASEdv  = 1 (read and print data)
01166>        FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
01167>                   PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
01168>        Horton's infiltration equation parameters:
01169>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01170>        Parameters for PERVIOUS surfaces in STANDHYD:
01171>        [IAper=   4.67 mm] [LGP=40.00 m] [MNP=.250]
01172>        Parameters for IMPERVIOUS surfaces in STANDHYD:
01173>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01174>        Parameters used in NASHYD:
01175>        [Ia=   2.50 mm] [N= 3.00]
01176>  025:0005----------------------------------------------------------------------
01177>       COMPUTE API
01178>        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
01179>        [APImax=106.76: APIavg= 65.09: APImin=.44.87]
01180> ********************************************************************************
01181> #
01182> #              JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
01183> #                        PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
01184> #
01185> # Version: Draft Final Report, October 2006
01186> # Revision History
01187> # -Draft Interim Condition Report, Nov. 2005
01188> #*******************************************************************************
01189> # Assumptions
01190> # - All catchments are assumed to be developed except S-1, S-2, and SW-1a
01191> # - SWM facilities are modeled
01192> # - Rating curves were estimated based on existing reports and modeling for the
01193> #   proposed SWM facilities
01194> # - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
01195> #   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
01196> #   Municipality of Ottawa Carleton, March 1983
01197> # - River routing modeled
01198> # - River cross sections obtained from RVCA's HEC-RAS hydraulic model
01199> #---------------------|------------------------------------------------------------|
01200> # Parameters
01201> # - Design Storms: 2,5,10,25,50 &1 00yr events: 24hr SCS (DT=10min)-model compa
01202> # - Impervious area weighted based on: rural subdivision @20%, urban @55%
01203> # - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
01204> # - Time to peak using Uplands Method
01205> #---------------------|------------------------------------------------------------|
01206> #*******************************************************************************
01207> #Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
01208> #*******************************************************************************
01209>  025:0006----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01210>       READ HYD           01:S_N2   52483.01  104.834 No_date   33:00   28.63  n/a
01211>        Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.025
01212>        Comment  = N2
01213> #
01214> # Hydrograph from Node 2 routed to Node 416
01215> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
01216> #
01217>  025:0007----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01218>       ROUTE CHANNEL   -> 01:S_N2   52483.01  104.834 No_date   33:00   28.63  n/a
01219>        [RDT=10.00] out<- 04:N_416  52483.01  102.143 No_date   33:50   28.63  n/a
01220>        [L/S/n= 2327./ .050/.055]
01221>        {Vmax=  .752:Dmax= 3.287}
01222> #*******************************************************************************
01223> #    Catchment SW-1a
01224> #   - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
01225> #     - Undeveloped agricultural land
01226> #*******************************************************************************
01227>  025:0008----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01228>       CONTINUOUS NASHYD  02:SW_1a    546.00     5.203 No_date   31:15   30.12 .405
01229>        [CN= 72.0:  N= 3.00]
01230>        [Tp= 2.79:DT= 5.00]
01231>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01232>        [InterEventTime=  12.00]
01233>  025:0009----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01234>       ADD HYD            04:N_416  52483.01  102.143 No_date   33:50   28.63  n/a
01235>                     +  02:SW_1a    546.00     5.203 No_date   31:15   30.12  n/a
01236>       [DT= 5.00]  SUM=  03:SN_416 53029.01  106.064 No_date   33:40   28.65  n/a
01237>  025:0010----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01238>       SAVE HYD           03:SN_416 53029.01  106.064 No_date   33:40   28.65  n/a
01239>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.025
01240>        remark:Total Flows at Highway 416
01241> #
01242> # Hydrograph from Node 416 routed to Node at Okeefe drain
01243> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
01244> #
01245>  025:0011----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01246>       ROUTE CHANNEL   -> 03:SN_416 53029.01  106.064 No_date   33:40   28.65  n/a
01247>        [RDT= 5.00] out<- 01:N_OK   53029.01  106.047 No_date   33:45   28.65  n/a
01248>        [L/S/n=  497./ .302/.055]
01249>        {Vmax= 1.563:Dmax= 2.795}
01250> #*******************************************************************************
01251> #    Catchment OKEEFE
01252> #   - To O'Keefe drain (north of the Jock)
01253> #     - Developed with assumed 43% imp.
01254> #*******************************************************************************
01255>  025:0012----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01256>       CONTINUOUS STANDHYD02:OKEEFE   448.00    29.427 No_date   28:10   48.46 .651
01257>        [XIMP=.43:TIMP=.43]
01258>        [LOSS= 2 :CN= 77.0]
01259>        [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=    .0]
01260>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1728.:MNI=.013:SCI=   .0]
01261>        [IaRECimp=   4.00: IaRECper=   4.00]
01262>        [SMIN= 31.15: SMAX=207.66: SK= .010]
01263> #*******************************************************************************
01264> #    Okeefe Pond
01265> #   - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01266> #       and a ratio of the catchment area to the West Clarke pond rating curve
01267> #       from the MSS for the next coordinates
01268> #*******************************************************************************
01269>  025:0013----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01270>       ROUTE RESERVOIR -> 02:OKEEFE   448.00    29.427 No_date   28:10   48.46  n/a
01271>        [RDT= 5.00] out<- 04:P_OKE    63.85     .200 No_date   25:40   48.46  n/a
01272>                  overflow <= 09:ok-OVF   384.15   29.155 No_date   28:15   48.46  n/a
01273>        {MxStoUsed=.1719E+01, TotOvfVol=.1862E+02, N-Ovf=    2, TotDurOvf=   15.hrs}
01274>  025:0014----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01275>       ADD HYD            01:N_OK   53029.01  106.047 No_date   33:45   28.65  n/a
01276>                     +  04:P_OKE    63.85     .200 No_date   25:40   48.46  n/a
01277>                     +  09:ok-OVF   384.15   29.155 No_date   28:15   48.46  n/a
01278>       [DT= 5.00]  SUM=  03:SN_OK  53477.01  107.487 No_date   33:45   28.82  n/a
01279>  025:0015----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01280>       SAVE HYD           03:SN_OK  53477.01  107.487 No_date   33:45   28.82  n/a
01281>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.025
01282>        remark:Total Flows at Okeefe Drain
01283> #
01284> # Hydrograph from Node Okeefe routed to Node at Foster Drain
01285> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
01286> #
01287>  025:0016----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01288>       ROUTE CHANNEL   -> 03:SN_OK  53477.01  107.487 No_date   33:45   28.82  n/a
01289>        [RDT= 5.00] out<- 01:N_FO   53477.01  107.402 No_date   33:50   28.82  n/a
01290>        [L/S/n= 1183./ .076/.035]
01291>        {Vmax= 1.826:Dmax=  .024}
01292> #*******************************************************************************
01293> #    Catchment FOSTER
01294> #   - To Foster ditch (north of the Jock)
01295> #     - Partially developed (medium density); remaining agricultural
01296> #*******************************************************************************
01297>  025:0017----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01298>       CONTINUOUS STANDHYD02:FOSTER   373.00    29.559 No_date   28:10   52.35 .704
01299>        [XIMP=.55:TIMP=.55]
01300>        [LOSS= 2 :CN= 74.0]
01301>        [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=    .0]
01302>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1577.:MNI=.013:SCI=   .0]
01303>        [IaRECimp=   4.00: IaRECper=   4.00]
01304>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01305> #*******************************************************************************
01306> #    Foster Pond
01307> #   - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01308> #       and a ratio of the catchment area to the West Clarke pond rating curve
01309> #       from the MSS for the next coordinates

01310> #*******************************************************************************
01311>  025:0018----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01312>       ROUTE RESERVOIR -> 02:FOSTER   373.00    29.559 No_date   28:10   52.35  n/a
01313>        [RDT= 5.00] out<- 04:P_FOS     59.03     .200 No_date   25:25   52.35  n/a
01314>                  overflow <= 09:FO-OVF   313.97   28.947 No_date   28:15   52.35  n/a
01315>       {MxStoUsed=.1720E+01, TotOvfVol=.1644E+02, N-Ovf=    2, TotDurOvf=   15.hrs}
01316>  025:0019----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01317>       ADD HYD            01:N_FO   53477.01  107.402 No_date   33:50   28.82  n/a
01318>                     +  04:P_FOS     59.03     .200 No_date   25:25   52.35  n/a
01319>                     +  09:FO-OVF   313.97   28.947 No_date   28:15   52.35  n/a
01320>       [DT= 5.00]  SUM=  03:SN_FO  53850.01  108.602 No_date   33:50   28.98  n/a
01321>  025:0020----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01322>       SAVE HYD           03:SN_FO  53850.01  108.602 No_date   33:50   28.98  n/a
01323>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.025
01324>        remark:Total Flows at Foster Drain
01325> #
01326> # Hydrograph from Node Foster routed to Node at Cedarview Road
01327> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
01328> #
01329>  025:0021----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01330>       ROUTE CHANNEL   -> 03:SN_FO  53850.01  108.602 No_date   33:50   28.98  n/a
01331>        [RDT= 5.00] out<- 01:N_CE   53850.01  108.600 No_date   33:50   28.98  n/a
01332>        [L/S/n=  159./ .082/.035]
01333>        {Vmax= 3.197:Dmax=  .004}
01334> #*******************************************************************************
01335> #    Catchment S-1
01336> #   - To Jock River (north and south of Jock)
01337> #   - Primarily agricultural fields; portion of sand quarry
01338> #*******************************************************************************
01339>  025:0022----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01340>       CONTINUOUS NASHYD  02:S-1      245.00     5.406 No_date   29:10   34.13 .459
01341>        [CN= 77.0: N= 3.00]
01342>        [Tp= 1.10:DT= 5.00]
01343>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01344>        [InterEventTime=  12.00]
01345>  025:0023----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01346>       ADD HYD            01:N_CE   53850.01  108.600 No_date   33:50   28.98  n/a
01347>                     +  02:S-1      245.00     5.406 No_date   29:10   34.13  n/a
01348>       [DT= 5.00]  SUM=  03:SN_CE  54095.01  109.498 No_date   33:50   29.00  n/a
01349>  025:0024----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01350>       SAVE HYD           03:SN_CE  54095.01  109.498 No_date   33:50   29.00  n/a
01351>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.025
01352>        remark:Total Flows at Cedarview Road
01353> #
01354> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
01355> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
01356> #
01357>  025:0025----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01358>       ROUTE CHANNEL   -> 03:SN_CE  54095.01  109.498 No_date   33:50   29.00  n/a
01359>        [RDT= 5.00] out<- 01:N_WC   54095.01  109.438 No_date   34:00   29.00  n/a
01360>        [L/S/n=  825./ .010/.035]
01361>        {Vmax= 1.282:Dmax=  .002}
01362> #*******************************************************************************
01363> #    Catchment W_CLAR
01364> #   - To West Clarke Drain (south of the Jock)
01365> #     - Subdivision with 43% imp. as per Barrhaven South MSS
01366> #*******************************************************************************
01367>  025:0026----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01368>       CONTINUOUS STANDHYD02:W_CLAR   243.00    19.911 No_date   28:05   47.67 .641
01369>        [XIMP=.43:TIMP=.43]
01370>        [LOSS= 2 :CN= 75.0]
01371>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
01372>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
01373>        [IaRECimp=   4.00: IaRECper=   4.00]
01374>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01375> #*******************************************************************************
01376> #    West Clarke Pond 2
01377> #   - Rating curve obtained from Barrhaven South MSS modeling
01378> #   - Tributary Drainage Area to MSS Pond 2 = 241 ha
01379> #*******************************************************************************
01380>  025:0027----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01381>       ROUTE RESERVOIR -> 02:W_CLAR   243.00    19.911 No_date   28:05   47.67  n/a
01382>        [RDT= 5.00] out<- 08:MS_P2     35.65     .110 No_date   25:40   47.67  n/a
01383>                  overflow <= 09:P2-OVF   207.35   19.630 No_date   28:10   47.67  n/a
01384>       {MxStoUsed=.9599E+00, TotOvfVol=.9884E+01, N-Ovf=    1, TotDurOvf=   15.hrs}
01385>  025:0028----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01386>       ADD HYD            08:MS_P2     35.65     .110 No_date   25:40   47.67  n/a
01387>                     +  09:P2-OVF   207.35   19.630 No_date   28:10   47.67  n/a
01388>                     +  01:N_WC    54095.01  109.438 No_date   34:00   29.00  n/a
01389>       [DT= 5.00]  SUM=  04:SN_WC  54338.01  110.177 No_date   34:00   29.09  n/a
01390>  025:0029----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01391>       SAVE HYD           04:SN_WC  54338.01  110.177 No_date   34:00   29.09  n/a
01392>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.025
01393>        remark:Total Flows at West Clarke Pond Outlet
01394> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
01395> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
01396> #
01397>  025:0030----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01398>       ROUTE CHANNEL   -> 04:SN_WC  54338.01  110.177 No_date   34:00   29.09  n/a
01399>        [RDT= 5.00] out<- 01:N_KB   54338.01  109.789 No_date   34:10   29.09  n/a
01400>        [L/S/n= 1020./ .050/.035]
01401>        {Vmax= 1.079:Dmax= 3.520}
01402> #*******************************************************************************
01403> #    Catchment KEN_BU
01404> #   - To Kennedy-Burnett SWM Facility
01405> #   - Outlets to Fraser-Clarke drain (north of the Jock)
01406> #     - Medium density residential subdivision
01407> #*******************************************************************************
01408>  025:0031----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01409>       CONTINUOUS STANDHYD02:KEN_BU   281.00    26.648 No_date   28:05   51.46 .692
01410>        [XIMP=.55:TIMP=.55]
01411>        [LOSS= 2 :CN= 71.0]
01412>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
01413>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
01414>        [IaRECimp=   4.00: IaRECper=   4.00]
01415>        [SMIN= 41.38: SMAX=275.84: SK= .010]
01416> #*******************************************************************************
01417> #   Existing Kennedy-Burnett SWM Facility
01418> #    - Rating curve obtained from URTKBP
01419> #    - Tributary Drainage Area to Pond = 160 ha
01420> #*******************************************************************************
01421>  025:0032----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01422>       ROUTE RESERVOIR -> 02:KEN_BU   281.00    26.648 No_date   28:05   51.46  n/a
01423>        [RDT= 5.00] out<- 05:KEN_P    150.13    1.150 No_date   27:55   51.46  n/a
01424>                  overflow <= 06:KEN-OV   130.87   25.019 No_date   28:10   51.46  n/a
01425>       {MxStoUsed=.2329E+01, TotOvfVol=.6735E+01, N-Ovf=    3, TotDurOvf=    4.hrs}
01426> #*******************************************************************************
01427> #    Catchment FRASER
01428> #   - To Fraser-Clarke drain (north of the Jock)
01429> #     - Developed land with assumed 43% imp.
01430> #*******************************************************************************
01431>  025:0033----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01432>       CONTINUOUS STANDHYD07:FRASER    90.00     6.649 No_date   28:05   42.95 .577
01433>        [XIMP=.25:TIMP=.25]
01434>        [LOSS= 2 :CN= 80.0]
01435>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
01436>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
01437>        [IaRECimp=   4.00: IaRECper=   4.00]
01438>        [SMIN= 26.32: SMAX=175.50: SK= .010]
01439>  025:0034----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01440>       ROUTE RESERVOIR -> 07:FRASER    90.00     6.649 No_date   28:05   42.95  n/a
01441>        [RDT= 5.00] out<- 08:MS_P2     14.10     .040 No_date   27:05   42.95  n/a
01442>                  overflow <= 09:P2-OVF    75.90    6.399 No_date   28:05   42.95  n/a
01443>       {MxStoUsed=.3608E+00, TotOvfVol=.3260E+01, N-Ovf=    2, TotDurOvf=   14.hrs}
01444>  025:0035----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01445>       ADD HYD            05:KEN_P    150.13    1.150 No_date   27:55   51.46  n/a
01446>                     +  06:KEN-OV   130.87   25.019 No_date   28:10   51.46  n/a
01447>                     +  08:MS_P2     14.10     .040 No_date   27:05   42.95  n/a
01448>                     +  09:P2-OVF    75.90    6.399 No_date   28:05   42.95  n/a
01449>                     +  01:N_KB    54338.01  109.789 No_date   34:10   29.09  n/a
01450>       [DT= 5.00]  SUM=  04:SN_KB  54709.01  111.172 No_date   34:10   29.22  n/a
01451>  025:0036----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01452>       SAVE HYD           04:SN_KB  54709.01  111.172 No_date   34:10   29.22  n/a
01453>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.025
01454>        remark:Total Flows at Ken-Burnett Outlet
01455> # Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
01456> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
01457> #
01458>  025:0037----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01459>       ROUTE CHANNEL   -> 04:SN_KB  54709.01  111.172 No_date   34:10   29.22  n/a
01460>   *   [RDT= 5.00] out<- 01:N_TO    54709.01  110.460 No_date   35:00   29.22  n/a
01461>        [L/S/n=  650./ .050/.035]
01462>        {Vmax=  .280:Dmax=  .998}
01463> #*******************************************************************************
01464> #    Catchment TODD
01465> #   - To Todd Drain (south of the Jock)
01466> #     - Subdivision with 43% imp. as per Barrhaven South MSS
01467> #*******************************************************************************
01468>  025:0038----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01469>       CONTINUOUS STANDHYD03:TODD     195.00    17.774 No_date   28:05   48.46 .651
01470>        [XIMP=.43:TIMP=.43]
01471>        [LOSS= 2 :CN= 77.0]
01472>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=    .0]
01473>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
01474>        [IaRECimp=   4.00: IaRECper=   4.00]
01475>        [SMIN= 31.15: SMAX=207.66: SK= .010]
01476> #*******************************************************************************
01477> #    Todd Pond 3
01478> #   - Rating curve obtained from Barrhaven South MSS modeling
01479> #   - Tributary Drainage Area to MSS Pond 3 = 193 ha
01480> #*******************************************************************************
01481>  025:0039----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01482>       ROUTE RESERVOIR -> 03:TODD     195.00    17.774 No_date   28:05   48.46  n/a
01483>        [RDT= 5.00] out<- 02:MS_P3     27.18     .080 No_date   25:35   48.46  n/a
01484>                  overflow <= 09:P3-OVF   167.82   17.455 No_date   28:05   48.46  n/a
01485>       {MxStoUsed=.7799E+00, TotOvfVol=.8133E+01, N-Ovf=    2, TotDurOvf=   15.hrs}
01486>  025:0040----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01487>       ADD HYD            01:N_TO    54709.01  110.460 No_date   35:00   29.22  n/a
01488>                     +  02:MS_P3     27.18     .080 No_date   25:35   48.46  n/a
01489>                     +  09:P3-OVF   167.82   17.455 No_date   28:05   48.46  n/a
01490>       [DT= 5.00]  SUM=  10:SN_TO  54904.01  111.061 No_date   35:00   29.29  n/a
01491>  025:0041----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01492>       SAVE HYD           10:SN_TO  54904.01  111.061 No_date   35:00   29.29  n/a
01493>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.025
01494>        remark:Total Flows at Todd Drain
01495> #
01496> # Hydrograph from Todd Drain routed to Corrigan Drain
```

```
01497> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
01498> #
01499>  025:0042----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01500>       ROUTE CHANNEL    -> 10:SN_TO  54904.01  111.061 No_date   35:00   29.29  n/a
01501>   *   [RDT= 5.00] out<- 01:N_TO   54904.01  110.730 No_date   35:20   29.29  n/a
01502>       [L/S/n=  280./ .033/.045]
01503>       {Vmax=  .717:Dmax= 3.588}
01504> #*******************************************************************************
01505> #    Catchment CORRIG
01506> #    - To Corrigan Drain (south of the Jock)
01507> #    - Primarily Developed (medium density)
01508> #*******************************************************************************
01509>  025:0043----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01510>       CONTINUOUS STANDHYD02:CORRIG   149.00   14.272 No_date   28:05   49.32 .663
01511>       [XIMP=.45:TIMP=.45]
01512>       [LOSS= 2 :CN= 77.0]
01513>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01514>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
01515>       [IaRECimp=   4.00: IaRECper=   4.00]
01516>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01517> #*******************************************************************************
01518> #    Corrigan Pond 1
01519> #    - Rating curve obtained from Barrhaven South MSS modeling
01520> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
01521> #*******************************************************************************
01522>  025:0044----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01523>       ROUTE RESERVOIR -> 02:CORRIG   149.00   14.272 No_date   28:05   49.32  n/a
01524>       [RDT= 5.00] out<- 05:MS_P1     20.01     .060 No_date   25:15   49.32  n/a
01525>                 overflow <= 04:P1-OVF   128.99   14.115 No_date   28:05   49.32  n/a
01526>       {MxStoUsed=.5798E+00, TotOvfVol=.6362E+01, N-Ovf=    3, TotDurOvf=   .15.hrs}
01527>  025:0045----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01528>       ADD HYD            01:N_TO   54904.01  110.730 No_date   35:20   29.29  n/a
01529>                        + 04:P1-OVF   128.99   14.115 No_date   28:05   49.32  n/a
01530>                        + 05:MS_P1     20.01     .060 No_date   25:15   49.32  n/a
01531>       [DT= 5.00]  SUM=  03:SN_CO  55053.01  111.193 No_date   35:20   29.35  n/a
01532>  025:0046----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01533>       SAVE HYD           03:SN_CO  55053.01  111.193 No_date   35:20   29.35  n/a
01534>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.025
01535>       remark:Total Flows at Corrigan Drain
01536> #
01537> # Hydrograph from Corrigan Drain routed to Jockvale Road
01538> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
01539> #
01540>  025:0047----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01541>       ROUTE CHANNEL    -> 03:SN_CO  55053.01  111.193 No_date   35:20   29.35  n/a
01542>       [RDT= 5.00] out<- 01:N_MI   55053.01  111.200 No_date   35:25   29.35  n/a
01543>       [L/S/n=  580./ .445/.045]
01544>       {Vmax= 1.965:Dmax= 1.852}
01545> #*******************************************************************************
01546> #    Catchment MILLS
01547> #    - To SWM Facility north of the Jock
01548> #    - Primarily residental development
01549> #*******************************************************************************
01550>  025:0048----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01551>       CONTINUOUS STANDHYD02:MILLS    139.00   11.666 No_date   28:05   44.62 .600
01552>       [XIMP=.38:TIMP=.38]
01553>       [LOSS= 2 :CN= 74.0]
01554>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01555>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
01556>       [IaRECimp=   4.00: IaRECper=   4.00]
01557>       [SMIN= 36.67: SMAX=244.49: SK= .010]
01558> #*******************************************************************************
01559> #    Chapman Mills SWM Pond
01560> #    - Rating curve obtained from CCL hydraulic modeling
01561> #*******************************************************************************
01562>  025:0049----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01563>       ROUTE RESERVOIR -> 02:MILLS    139.00   11.666 No_date   28:05   44.62  n/a
01564>       [RDT= 5.00] out<- 05:MILL_P    139.00    3.765 No_date   28:40   44.62  n/a
01565>                 overflow <= 04:MIL-OV      .00      .000 No_date   0:00     .00  n/a
01566>       {MxStoUsed=.2157E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01567>  025:0050----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01568>       ADD HYD            01:N_MI   55053.01  111.200 No_date   35:25   29.35  n/a
01569>                        + 04:MIL-OV      .00      .000 No_date   0:00     .00  n/a
01570>                        + 05:MILL_P    139.00    3.765 No_date   28:40   44.62  n/a
01571>       [DT= 5.00]  SUM=  03:SN_MI  55192.01  111.709 No_date   35:25   29.38  n/a
01572>  025:0051----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01573>       SAVE HYD           03:SN_MI  55192.01  111.709 No_date   35:25   29.38  n/a
01574>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.025
01575>       remark:Total Flows at Jockvale Road
01576> #
01577> # Hydrograph from Jockvale Road routed to Heart's Desire
01578> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
01579> #
01580>  025:0052----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01581>       ROUTE CHANNEL    -> 03:SN_MI  55192.01  111.709 No_date   35:25   29.38  n/a
01582>       [RDT= 5.00] out<- 01:N_DE   55192.01  111.156 No_date   36:05   29.38  n/a
01583>       [L/S/n= 1962./ .223/.045]
01584>       {Vmax=  .940:Dmax=  .113}
01585> #*******************************************************************************
01586> #    Catchment DESIRE
01587> #    - To Jock River (north of the Jock)
01588> #    - Rural-estate subdivision (Heart's Desire Community)
01589> #*******************************************************************************
01590>  025:0053----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01591>       CONTINUOUS STANDHYD02:DESIRE    24.00    2.012 No_date   28:00   40.77 .548
01592>       [XIMP=.25:TIMP=.25]
01593>       [LOSS= 2 :CN= 77.0]
01594>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01595>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
01596>       [IaRECimp=   4.00: IaRECper=   4.00]
01597>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01598> #*******************************************************************************
01599> #    Catchment JOCKVA
01600> #    - To Jockvale SWM Facility
01601> #    - Residential development & golf course
01602> #*******************************************************************************
01603>  025:0054----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01604>       CONTINUOUS STANDHYD03:JOCKVA    252.00   22.732 No_date   28:05   50.08 .673
01605>       [XIMP=.50:TIMP=.50]
01606>       [LOSS= 2 :CN= 74.0]
01607>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01608>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
01609>       [IaRECimp=   4.00: IaRECper=   4.00]
01610>       [SMIN= 36.67: SMAX=244.49: SK= .010]
01611> #*******************************************************************************
01612> #    Jockvale SWM Facility
01613> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
01614> #*******************************************************************************
01615>  025:0055----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01616>       ROUTE RESERVOIR -> 03:JOCKVA    252.00   22.732 No_date   28:05   50.08  n/a
01617>       [RDT= 5.00] out<- 05:JOCK_P    252.00    8.221 No_date   28:40   50.08  n/a
01618>                 overflow <= 04:JO-OVF      .00      .000 No_date   0:00     .00  n/a
01619>       {MxStoUsed=.5163E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01620>  025:0056----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01621>       ADD HYD            01:N_DE   55192.01  111.156 No_date   36:05   29.38  n/a
01622>                        + 02:DESIRE    24.00    2.012 No_date   28:00   40.77  n/a
01623>                        + 04:JO-OVF      .00      .000 No_date   0:00     .00  n/a
01624>                        + 05:JOCK_P    252.00    8.221 No_date   28:40   50.08  n/a
01625>       [DT= 5.00]  SUM=  03:SN_DE  55468.00  112.074 No_date   36:00   29.48  n/a
01626>  025:0057----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01627>       SAVE HYD           03:SN_DE  55468.00  112.074 No_date   36:00   29.48  n/a
01628>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.025
01629>       remark:Total Flows at Heart's Desire
01630> #
01631> # Hydrograph from Heart's Desire routed to Rideau River
01632> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
01633> #
01634>  025:0058----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01635>       ROUTE CHANNEL    -> 03:SN_DE  55468.00  112.074 No_date   36:00   29.48  n/a
01636>       [RDT= 5.00] out<- 01:N1     55468.00  112.070 No_date   36:05   29.48  n/a
01637>       [L/S/n=  563./ .967/.045]
01638>       {Vmax= 2.709:Dmax=  .034}
01639> #*******************************************************************************
01640> #    Catchment S-2
01641> #    - To Jock River (north and south)
01642> #    - Undeveloped floodplain and river
01643> #*******************************************************************************
01644>  025:0059----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01645>       CONTINUOUS NASHYD  02:S-2      102.00    3.924 No_date   28:20   30.12 .405
01646>       [CN= 72.0: N= 3.00]
01647>       [Tp=  .40:DT= 5.00]
01648>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01649>       [InterEventTime=  12.00]
01650>  025:0060----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01651>       ADD HYD            01:N1     55468.00  112.070 No_date   36:05   29.48  n/a
01652>                        + 02:S-2      102.00    3.924 No_date   28:20   30.12  n/a
01653>       [DT= 5.00]  SUM=  03:SN_N1  55570.01  112.351 No_date   36:05   29.48  n/a
01654>  025:0061----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01655>       SAVE HYD           03:SN_N1  55570.01  112.351 No_date   36:05   29.48  n/a
01656>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.025
01657>       remark:Total Flows at Rideau River
01658>   ** END OF RUN :  99
01659>
01660> ************************************************************************************
01661>
01662>
01663>
01664>
01665>
01666>  RUN:COMMAND#
01667>  100:0001----------------------------------------------------------------------------
01668>       START
01669>       [TZERO =    .00 hrs on        0]
01670>       [METOUT=   2   (1=imperial, 2=metric output)]
01671>       [NSTORM=   1 ]
01672>       [NRUN  = 100 ]
01673> #*******************************************************************************
01674> #  Project Name: [Jock River Reach 1 SubWatershed Study]Project #: [160480414]
01675> #  Date        : October 2006
01676> #  Modeller    : [Navin Gautam/ Original by Ana M Paerez]
01677> #  Company     : Stantec.
01678> #  License #   :  3824306
01679> #*******************************************************************************
01680> #-------------------------------------------------------------------------------|
01681>  100:0002----------------------------------------------------------------------------
01682>       READ STORM
01683>       Filename = storm.001
01684>       Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
01685>       [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
01686>  100:0003----------------------------------------------------------------------------
01687>       MODIFY STORM
01688>       [RFACT=  1.00:TSHIFT= 960.00 min]
01689>       [SDT=10.00:SDUR=  48.00:PTOT=  88.57]
01690>  100:0004----------------------------------------------------------------------------
01691>       DEFAULT VALUES
01692>       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\MODIFIED.VAL
01693>       ICASEdv  = 1 (read and print data)
01694>       FileTitle= File comment: [2005 City of Ottawa Sewer Design Guideline]
01695>                  PARAMETERS USED IN THE DESIGN STANDHYD COMMAND FOR OTTAWA.
01696>       Horton's infiltration equation parameters:
01697>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
01698>       Parameters for PERVIOUS surfaces in STANDHYD:
01699>       [IAper=   4.67 mm] [LGP=40.00 m] [MNP= .250]
01700>       Parameters for IMPERVIOUS surfaces in STANDHYD:
01701>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
01702>       Parameters used in NASHYD:
01703>       [Ia=  2.50 mm] [N= 3.00]
01704>  100:0005----------------------------------------------------------------------------
01705>       COMPUTE API
01706>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
01707>       [APImax=119.84: APIavg= 69.19: APImin= 44.87]
01708> #*******************************************************************************
01709> #
01710> #              JOCK RIVER REACH 1 SUBWATERSHED STUDY DISCRETIZED MODEL
01711> #                    PROPOSED CONDITIONS DESIGN STORM MODEL (SUMMER)
01712> #
01713> # Version: Draft Final Report, October 2006
01714> # Revision History
01715> # -Draft Interim Condition Report, Nov. 2005
01716> #*******************************************************************************
01717> # Assumptions
01718> # - All catchments are assumed to be developed except S-1, S-2, and SW-1a
01719> # - SWM facilities are modelled
01720> # - Rating curves were estimated based on existing reports and modeling for the
01721> #   proposed SWM facilities
01722> # - The rating curve for the existing Kennedy Burnett SWM Facility was obtained
01723> #   the Urban Runoff Treatment in the Kennedy Burnett Settling Pond (URTKBP)- R
01724> #   Municipality of Ottawa Carleton, March 1983
01725> # - River routing modeled
01726> # - River cross sections obtained from RVCA's HEC-RAS hydraulic model
01727> #-------------------|--------------------------------------------------------------|
01728> # Parameters
01729> # - Design Storms: 2,5,10,25,50 &1 00yr events: 24hr SCS (DT=10min)-model compa
01730> # - Impervious area weighted based on: rural subdivision @20%, urban @55%
01731> # - NRCS(SCS) CN based on landuse (airphoto) and soil type (base mapping)
01732> # - Time to peak using Uplands Method
01733> #-------------------|--------------------------------------------------------------|
01734> #*******************************************************************************
01735> #Read hydrograph upstream of N2 from RVCA Jock R. floodrisk watershed modeling
01736> #*******************************************************************************
01737>  100:0006----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01738>       READ HYD           01:S_N2   52483.01  141.853 No_date   32:50   38.75  n/a
01739>       Filename = C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-S_N2.100
01740>       Comment  = N2
01741> #
01742> # Hydrograph from Node 2 routed to Node 416
01743> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
01744> #
01745>  100:0007----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01746>       ROUTE CHANNEL    -> 01:S_N2   52483.01  141.853 No_date   32:50   38.75  n/a
01747>       [RDT=10.00] out<- 04:N_416  52483.01  137.555 No_date   33:30   38.75  n/a
01748>       [L/S/n= 2327./ .050/.055]
01749>       {Vmax=  .799:Dmax= 3.792}
01750> #*******************************************************************************
01751> #    Catchment SW-1a
01752> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
01753> #    - Undeveloped agricultural land
01754> #*******************************************************************************
01755>  100:0008----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01756>       CONTINUOUS NASHYD  02:SW_1a    546.00    7.343 No_date   31:10   40.95 .462
01757>       [CN= 72.0: N= 3.00]
01758>       [Tp= 2.79:DT= 5.00]
01759>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
01760>       [InterEventTime=  12.00]
01761>  100:0009----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01762>       ADD HYD            04:N_416  52483.01  137.555 No_date   33:30   38.75  n/a
01763>                        + 02:SW_1a    546.00    7.343 No_date   31:10   40.95  n/a
01764>       [DT= 5.00]  SUM=  03:SN_416 53029.01  143.235 No_date   33:30   38.77  n/a
01765>  100:0010----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01766>       SAVE HYD           03:SN_416 53029.01  143.235 No_date   33:30   38.77  n/a
01767>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_416.100
01768>       remark:Total Flows at Highway 416
01769> #
01770> # Hydrograph from Node 416 routed to Node at Okeefe drain
01771> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
01772> #
01773>  100:0011----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01774>       ROUTE CHANNEL    -> 03:SN_416 53029.01  143.235 No_date   33:30   38.77  n/a
01775>       [RDT= 5.00] out<- 01:N_OK   53029.01  143.199 No_date   33:35   38.77  n/a
01776>       [L/S/n=  497./ .302/.055]
01777>       {Vmax= 1.722:Dmax= 3.248}
01778> #*******************************************************************************
01779> #    Catchment OKEEFE
01780> #    - To O'Keefe drain (north of the Jock)
01781> #    - Developed with assumed 43% imp.
01782> #*******************************************************************************
01783>  100:0012----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01784>       CONTINUOUS STANDHYD02:OKEEFE   448.00   38.901 No_date   28:15   61.25 .692
01785>       [XIMP=.43:TIMP=.43]
01786>       [LOSS= 2 :CN= 77.0]
01787>       [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01788>       [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1728.:MNI=.013:SCI=   .0]
01789>       [IaRECimp=   4.00: IaRECper=   4.00]
01790>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01791> #*******************************************************************************
01792> #    Okeefe Pond
01793> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01794> #   and a ratio of the catchment area to the West Clarke pond rating curve
01795> #       from the MSS for the next coordinates
01796> #*******************************************************************************
01797>  100:0013----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01798>       ROUTE RESERVOIR -> 02:OKEEFE   448.00   38.901 No_date   28:15   61.25  n/a
01799>       [RDT= 5.00] out<- 04:P_OKE     51.38     .200 No_date   24:45   61.25  n/a
01800>                 overflow <= 09:ok-OVF   396.62   38.659 No_date   28:15   61.25  n/a
01801>       {MxStoUsed=.1720E+01, TotOvfVol=.2429E+02, N-Ovf=    2, TotDurOvf=   16.hrs}
01802>  100:0014----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01803>       ADD HYD            01:N_OK   53029.01  143.199 No_date   33:35   38.77  n/a
01804>                        + 04:P_OKE     51.38     .200 No_date   24:45   61.25  n/a
01805>                        + 09:ok-OVF   396.62   38.659 No_date   28:15   61.25  n/a
01806>       [DT= 5.00]  SUM=  03:SN_OK  53477.02  145.022 No_date   33:30   38.96  n/a
01807>  100:0015----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01808>       SAVE HYD           03:SN_OK  53477.02  145.022 No_date   33:30   38.96  n/a
01809>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_OK.100
01810>       remark:Total Flows at Okeefe Drain
01811> #
01812> # Hydrograph from Node Okeefe routed to Node at Foster Drain
01813> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
01814> #
01815>  100:0016----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01816>       ROUTE CHANNEL    -> 03:SN_OK  53477.02  145.022 No_date   33:30   38.96  n/a
01817>       [RDT= 5.00] out<- 01:N_FO   53477.02  144.892 No_date   33:40   38.96  n/a
01818>       [L/S/n= 1183./ .076/.035]
01819>       {Vmax= 1.826:Dmax=  .032}
01820> #*******************************************************************************
01821> #    Catchment FOSTER
01822> #    - To Foster ditch (north of the Jock)
01823> #    - Partially developed (medium density); remaining agricultural
01824> #*******************************************************************************
01825>  100:0017----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01826>       CONTINUOUS STANDHYD02:FOSTER    373.00   38.921 No_date   28:05   65.13 .735
01827>       [XIMP=.55:TIMP=.55]
01828>       [LOSS= 2 :CN= 74.0]
01829>       [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01830>       [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1577.:MNI=.013:SCI=   .0]
01831>       [IaRECimp=   4.00: IaRECper=   4.00]
01832>       [SMIN= 36.67: SMAX=244.49: SK= .010]
01833> #*******************************************************************************
01834> #    Foster Pond
01835> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01836> #   and a ratio of the catchment area to the West Clarke pond rating curve
01837> #       from the MSS for the next coordinates
01838> #*******************************************************************************
01839>  100:0018----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01840>       ROUTE RESERVOIR -> 02:FOSTER    373.00   38.921 No_date   28:05   65.13  n/a
01841>       [RDT= 5.00] out<- 04:P_FOS     48.28     .200 No_date   24:30   65.13  n/a
01842>                 overflow <= 09:FO-OVF   324.72   38.557 No_date   28:10   65.13  n/a
01843>       {MxStoUsed=.1720E+01, TotOvfVol=.2115E+02, N-Ovf=    2, TotDurOvf=   16.hrs}
01844>  100:0019----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01845>       ADD HYD            01:N_FO   53477.02  144.892 No_date   33:40   38.96  n/a
01846>                        + 04:P_FOS     48.28     .200 No_date   24:30   65.13  n/a
01847>                        + 09:FO-OVF   324.72   38.557 No_date   28:10   65.13  n/a
01848>       [DT= 5.00]  SUM=  03:SN_FO  53850.02  146.381 No_date   33:40   39.14  n/a
01849>  100:0020----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01850>       SAVE HYD           03:SN_FO  53850.02  146.381 No_date   33:40   39.14  n/a
01851>       fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_FO.100
01852>       remark:Total Flows at Foster Drain
01853> #
01854> # Hydrograph from Node Foster routed to Node at Cedarview Road
01855> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
01856> #
01857>  100:0021----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01858>       ROUTE CHANNEL    -> 03:SN_FO  53850.02  146.381 No_date   33:40   39.14  n/a
01859>       [RDT= 5.00] out<- 01:N_CE   53850.02  146.383 No_date   33:40   39.14  n/a
01860>       [L/S/n=  159./ .082/.035]
01861>       {Vmax= 3.197:Dmax=  .006}
01862> #*******************************************************************************
01863> #    Catchment S-1
01864> #    - To Jock River (north and south of Jock)
01865> #    - Primarily agricultural fields; portion of sand quarry
01866> #*******************************************************************************
01867>  100:0022----------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01868>       CONTINUOUS NASHYD  02:S-1      245.00    7.588 No_date   29:10   45.94 .519
01869>       [CN= 77.0: N= 3.00]
01870>       [Tp= 1.10:DT= 5.00]
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01871>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01872>       [InterEventTime=  12.00]
01873> 100:0023---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01874>       ADD HYD                01:N_CE    53850.02  146.383 No_date   33:40   39.14  n/a
01875>                         +  02:S-1       245.00    7.588 No_date   29:10   45.94  n/a
01876>       [DT= 5.00]  SUM=  03:SN_CE  54095.02  147.622 No_date   33:35   39.17  n/a
01877> 100:0024---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01878>       SAVE HYD               03:SN_CE  54095.02  147.622 No_date   33:35   39.17  n/a
01879>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CE.100
01880>        remark:Total Flows at Cedarview Road
01881> #
01882> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
01883> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
01884> #
01885>  100:0025---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01886>       ROUTE CHANNEL   -> 03:SN_CE  54095.02  147.622 No_date   33:35   39.17  n/a
01887>        [RDT= 5.00] out<- 01:N_WC   54095.02  147.547 No_date   33:45   39.17  n/a
01888>        [L/S/n=  825./ .010/.035]
01889>        {Vmax= 1.282:Dmax=  .003}
01890> #*************************************************************************
01891> #    Catchment W_CLAR
01892> #    - To West Clarke Drain (south of the Jock)
01893> #    - Subdivision with 43% imp. as per Barrhaven South MSS
01894> #*************************************************************************
01895>  100:0026---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01896>       CONTINUOUS STANDHYD02:W_CLAR   243.00   27.368 No_date   28:05   60.27 .680
01897>        [XIMP=.43:TIMP=.43]
01898>        [LOSS= 2 :CN= 75.0]
01899>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01900>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1273.:MNI=.013:SCI=   .0]
01901>        [IaRECimp=   4.00: IaRECper=   4.00]
01902>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01903> #*************************************************************************
01904> #    West Clarke Pond 2
01905> #    - Rating curve obtained from Barrhaven South MSS modeling
01906> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
01907> #*************************************************************************
01908>  100:0027---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01909>       ROUTE RESERVOIR -> 02:W_CLAR   243.00   27.368 No_date   28:05   60.27  n/a
01910>        [RDT= 5.00] out<- 08:MS_P2     28.68     .110 No_date   24:40   60.26  n/a
01911>                  overflow <= 09:P2-OVF   214.32   26.785 No_date   28:05   60.27  n/a
01912>       {MxStoUsed=.9600E+00, TotOvfVol=.1292E+02, N-Ovf=    2, TotDurOvf=  16.hrs}
01913>  100:0028---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01914>       ADD HYD                08:MS_P2     28.68     .110 No_date   24:40   60.26  n/a
01915>                         +  09:P2-OVF   214.32   26.785 No_date   28:05   60.27  n/a
01916>                         +  01:N_WC   54095.02  147.547 No_date   33:45   39.17  n/a
01917>        [DT= 5.00]  SUM=  04:SN_WC  54338.02  148.477 No_date   33:45   39.27  n/a
01918>  100:0029---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01919>       SAVE HYD               04:SN_WC  54338.02  148.477 No_date   33:45   39.27  n/a
01920>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_WC.100
01921>        remark:Total Flows at West Clarke Pond Outlet
01922> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
01923> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
01924> #
01925>  100:0030---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01926>       ROUTE CHANNEL   -> 04:SN_WC  54338.02  148.477 No_date   33:45   39.27  n/a
01927>        [RDT= 5.00] out<- 01:N_KB   54338.02  147.747 No_date   33:55   39.27  n/a
01928>        [L/S/n= 1020./ .050/.035]
01929>        {Vmax=  .980:Dmax= 3.891}
01930> #*************************************************************************
01931> #    Catchment KEN_BU
01932> #    - To Kennedy-Burnett SWM Facility
01933> #    - Outlets to Fraser-Clarke drain (north of the Jock)
01934> #    - Medium density residential subdivision
01935> #*************************************************************************
01936>  100:0031---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01937>       CONTINUOUS STANDHYD02:KEN_BU   281.00   35.633 No_date   28:05   64.01 .723
01938>        [XIMP=.55:TIMP=.55]
01939>        [LOSS= 2 :CN= 71.0]
01940>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01941>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1369.:MNI=.013:SCI=   .0]
01942>        [IaRECimp=   4.00: IaRECper=   4.00]
01943>        [SMIN= 41.38: SMAX=275.84: SK= .010]
01944> #*************************************************************************
01945> #   Existing Kennedy-Burnett SWM Facility
01946> #    - Rating curve obtained from URTKBP
01947> #    - Tributary Drainage Area to Pond = 160 ha
01948> #*************************************************************************
01949>  100:0032---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01950>       ROUTE RESERVOIR -> 02:KEN_BU   281.00   35.633 No_date   28:05   64.01  n/a
01951>        [RDT= 5.00] out<- 05:KEN_P    132.84    1.150 No_date   27:45   64.01  n/a
01952>                  overflow <= 06:KEN-OV   148.16   34.267 No_date   28:05   64.01  n/a
01953>       {MxStoUsed=.2330E+01, TotOvfVol=.9483E+01, N-Ovf=    3, TotDurOvf=   5.hrs}
01954> #*************************************************************************
01955> #    Catchment FRASER
01956> #    - To Fraser-Clarke drain (north of the Jock)
01957> #    - Developed land with assumed 43% imp.
01958> #*************************************************************************
01959>  100:0033---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01960>       CONTINUOUS STANDHYD07:FRASER    90.00    9.664 No_date   28:05   55.76 .630
01961>        [XIMP=.25:TIMP=.25]
01962>        [LOSS= 2 :CN= 80.0]
01963>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01964>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 775.:MNI=.013:SCI=   .0]
01965>        [IaRECimp=   4.00: IaRECper=   4.00]
01966>        [SMIN= 26.32: SMAX=175.50: SK= .010]
01967>  100:0034---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01968>       ROUTE RESERVOIR -> 07:FRASER    90.00    9.664 No_date   28:05   55.76  n/a
01969>        [RDT= 5.00] out<- 08:MS_P2     11.04     .040 No_date   26:20   55.76  n/a
01970>                  overflow <= 09:P2-OVF   78.96    9.261 No_date   28:05   55.76  n/a
01971>       {MxStoUsed=.3599E+00, TotOvfVol=.4402E+01, N-Ovf=    2, TotDurOvf=  14.hrs}
01972>  100:0035---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01973>       ADD HYD                05:KEN_P    132.84    1.150 No_date   27:45   64.01  n/a
01974>                         +  06:KEN-OV   148.16   34.267 No_date   28:05   64.01  n/a
01975>                         +  08:MS_P2     11.04     .040 No_date   26:20   55.76  n/a
01976>                         +  09:P2-OVF    78.96    9.261 No_date   28:05   55.76  n/a
01977>                         +  01:N_KB   54338.02  147.747 No_date   33:55   39.27  n/a
01978>        [DT= 5.00]  SUM=  04:SN_KB  54709.01  149.236 No_date   33:55   39.42  n/a
01979>  100:0036---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01980>       SAVE HYD               04:SN_KB  54709.01  149.236 No_date   33:55   39.42  n/a
01981>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_KB.100
01982>        remark:Total Flows at Ken-Burnett Outlet
01983> # Hydrograph from Node Kennedy - Burnett Drain to Node Todd Drain
01984> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
01985> #
01986>  100:0037---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01987>       ROUTE CHANNEL   -> 04:SN_KB  54709.01  149.236 No_date   33:55   39.42  n/a
01988>   *   [RDT= 5.00] out<- 01:N_TO   54709.01  148.001 No_date   35:05   39.42  n/a
01989>        [L/S/n=  650./ .050/.035]
01990>        {Vmax=  .281:Dmax=  .999}
01991> #*************************************************************************
01992> #    Catchment TODD
01993> #    - To Todd Drain (south of the Jock)
01994> #    - Subdivision with 43% imp. as per Barrhaven South MSS
01995> #*************************************************************************
01996>  100:0038---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
01997>       CONTINUOUS STANDHYD03:TODD     195.00   22.652 No_date   28:05   61.25 .692
01998>        [XIMP=.43:TIMP=.43]
01999>        [LOSS= 2 :CN= 77.0]
02000>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02001>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1140.:MNI=.013:SCI=   .0]
02002>        [IaRECimp=   4.00: IaRECper=   4.00]
02003>        [SMIN= 31.15: SMAX=207.66: SK= .010]
02004> #*************************************************************************
02005> #    Todd Pond 3
02006> #    - Rating curve obtained from Barrhaven South MSS modeling
02007> #    - Tributary Drainage Area to MSS Pond 3 = 193 ha
02008> #*************************************************************************
02009>  100:0039---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02010>       ROUTE RESERVOIR -> 03:TODD     195.00   22.652 No_date   28:05   61.25  n/a
02011>        [RDT= 5.00] out<- 02:MS_P3     21.86     .080 No_date   24:40   61.25  n/a
02012>                  overflow <= 09:P3-OVF   173.14   22.231 No_date   28:05   61.25  n/a
02013>       {MxStoUsed=.7796E+00, TotOvfVol=.1066E+02, N-Ovf=    2, TotDurOvf=  16.hrs}
02014>  100:0040---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02015>       ADD HYD                01:N_TO   54709.01  148.001 No_date   35:05   39.42  n/a
02016>                         +  02:MS_P3     21.86     .080 No_date   24:40   61.25  n/a
02017>                         +  09:P3-OVF   173.14   22.231 No_date   28:05   61.25  n/a
02018>        [DT= 5.00]  SUM=  10:SN_TO  54904.01  148.757 No_date   35:05   39.50  n/a
02019>  100:0041---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02020>       SAVE HYD               10:SN_TO  54904.01  148.757 No_date   35:05   39.50  n/a
02021>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_TO.100
02022>        remark:Total Flows at Todd Drain
02023> #
02024> # Hydrograph from Todd Drain routed to Corrigan Drain
02025> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
02026> #
02027>  100:0042---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02028>       ROUTE CHANNEL   -> 10:SN_TO  54904.01  148.757 No_date   35:05   39.50  n/a
02029>   *   [RDT= 5.00] out<- 01:N_TO   54904.01  148.481 No_date   35:20   39.50  n/a
02030>        [L/S/n=  280./ .033/.045]
02031>        {Vmax=  .714:Dmax= 4.087}
02032> #*************************************************************************
02033> #    Catchment CORRIG
02034> #    - To Corrigan Drain (south of the Jock)
02035> #    - Primarily Developed (medium density)
02036> #*************************************************************************
02037>  100:0043---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02038>       CONTINUOUS STANDHYD02:CORRIG   149.00   19.025 No_date   28:05   62.15 .702
02039>        [XIMP=.45:TIMP=.45]
02040>        [LOSS= 2 :CN= 77.0]
02041>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02042>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 997.:MNI=.013:SCI=   .0]
02043>        [IaRECimp=   4.00: IaRECper=   4.00]
02044>        [SMIN= 31.15: SMAX=207.66: SK= .010]
02045> #*************************************************************************
02046> #    Corrigan Pond 1
02047> #    - Rating curve obtained from Barrhaven South MSS modeling
02048> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
02049> #*************************************************************************
02050>  100:0044---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02051>       ROUTE RESERVOIR -> 02:CORRIG   149.00   19.025 No_date   28:05   62.15  n/a
02052>        [RDT= 5.00] out<- 05:MS_P1     16.12     .060 No_date   24:20   62.15  n/a
02053>                  overflow <= 04:P1-OVF   132.88   18.764 No_date   28:05   62.15  n/a
02054>       {MxStoUsed=.5800E+00, TotOvfVol=.8259E+01, N-Ovf=    2, TotDurOvf=  16.hrs}
02055>  100:0045---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02056>       ADD HYD                01:N_TO   54904.01  148.481 No_date   35:20   39.50  n/a
02057>                         +  04:P1-OVF   132.88   18.764 No_date   28:05   62.15  n/a
02058>                         +  05:MS_P1     16.12     .060 No_date   24:20   62.15  n/a
02059>        [DT= 5.00]  SUM=  03:SN_CO  55053.02  149.062 No_date   35:20   39.56  n/a
02060> 100:0046---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02061>       SAVE HYD               03:SN_CO  55053.02  149.062 No_date   35:20   39.56  n/a
02062>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_CO.100
02063>        remark:Total Flows at Corrigan Drain
02064> #
02065> # Hydrograph from Corrigan Drain routed to Jockvale Road
02066> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
02067> #
02068>  100:0047---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02069>       ROUTE CHANNEL   -> 03:SN_CO  55053.02  149.062 No_date   35:20   39.56  n/a
02070>        [RDT= 5.00] out<- 01:N_MI   55053.02  149.053 No_date   35:25   39.56  n/a
02071>        [L/S/n=  580./ .445/.045]
02072>        {Vmax= 2.191:Dmax= 2.152}
02073> #*************************************************************************
02074> #    Catchment MILLS
02075> #    - To SWM Facility north of the Jock
02076> #    - Primarily residental development
02077> #*************************************************************************
02078>  100:0048---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02079>       CONTINUOUS STANDHYD02:MILLS    139.00   15.807 No_date   28:05   56.87 .642
02080>        [XIMP=.38:TIMP=.38]
02081>        [LOSS= 2 :CN= 74.0]
02082>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02083>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 963.:MNI=.013:SCI=   .0]
02084>        [IaRECimp=   4.00: IaRECper=   4.00]
02085>        [SMIN= 36.67: SMAX=244.49: SK= .010]
02086> #*************************************************************************
02087> #    Chapman Mills SWM Pond
02088> #    - Rating curve obtained from CCL hydraulic modeling
02089> #*************************************************************************
02090>  100:0049---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02091>       ROUTE RESERVOIR -> 02:MILLS    139.00   15.807 No_date   28:05   56.87  n/a
02092>        [RDT= 5.00] out<- 05:MILL_P   128.54    4.050 No_date   28:15   56.87  n/a
02093>                  overflow <= 04:MILL-OV    10.46    7.805 No_date   28:15   56.87  n/a
02094>       {MxStoUsed=.2310E+01, TotOvfVol=.5946E+00, N-Ovf=    2, TotDurOvf=   1.hrs}
02095>  100:0050---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02096>       ADD HYD                01:N_MI   55053.02  149.053 No_date   35:25   39.56  n/a
02097>                         +  04:MIL-OV    10.46    7.805 No_date   28:15   56.87  n/a
02098>                         +  05:MILL_P   128.54    4.050 No_date   28:15   56.87  n/a
02099>        [DT= 5.00]  SUM=  03:SN_MI  55192.02  149.684 No_date   35:20   39.61  n/a
02100>  100:0051---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02101>       SAVE HYD               03:SN_MI  55192.02  149.684 No_date   35:20   39.61  n/a
02102>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_MI.100
02103>        remark:Total Flows at Jockvale Road
02104> #
02105> # Hydrograph from Jockvale Road routed to Heart's Desire
02106> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
02107> #
02108>  100:0052---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02109>       ROUTE CHANNEL   -> 03:SN_MI  55192.02  149.684 No_date   35:20   39.61  n/a
02110>        [RDT= 5.00] out<- 01:N_DE   55192.02  148.919 No_date   36:00   39.61  n/a
02111>        [L/S/n= 1962./ .223/.045]
02112>        {Vmax=  .940:Dmax=  .152}
02113> #*************************************************************************
02114> #    Catchment DESIRE
02115> #    - To Jock River (north of the Jock)
02116> #    - Rural-estate subdivision (Heart's Desire Community)
02117> #*************************************************************************
02118>  100:0053---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02119>       CONTINUOUS STANDHYD02:DESIRE    24.00    2.882 No_date   28:00   53.12 .600
02120>        [XIMP=.25:TIMP=.25]
02121>        [LOSS= 2 :CN= 77.0]
02122>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02123>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
02124>        [IaRECimp=   4.00: IaRECper=   4.00]
02125>        [SMIN= 31.15: SMAX=207.66: SK= .010]
02126> #*************************************************************************
02127> #    Catchment JOCKVA
02128> #    - To Jockvale SWM Facility
02129> #    - Residential development & golf course
02130> #*************************************************************************
02131>  100:0054---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02132>       CONTINUOUS STANDHYD03:JOCKVA   252.00   30.693 No_date   28:05   62.70 .708
02133>        [XIMP=.50:TIMP=.50]
02134>        [LOSS= 2 :CN= 74.0]
02135>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02136>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1296.:MNI=.013:SCI=   .0]
02137>        [IaRECimp=   4.00: IaRECper=   4.00]
02138>        [SMIN= 36.67: SMAX=244.49: SK= .010]
02139> #*************************************************************************
02140> #    Jockvale SWM Facility
02141> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
02142> #*************************************************************************
02143>  100:0055---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02144>       ROUTE RESERVOIR -> 03:JOCKVA   252.00   30.693 No_date   28:05   62.70  n/a
02145>        [RDT= 5.00] out<- 05:JOCK_P   252.00   11.951 No_date   28:35   62.70  n/a
02146>                  overflow <= 04:JO-OVF      .00     .000 No_date    0:00     .00  n/a
02147>       {MxStoUsed=.6202E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02148>  100:0056---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02149>       ADD HYD                01:N_DE   55192.02  148.919 No_date   36:00   39.61  n/a
02150>                         +  02:DESIRE   24.00    2.882 No_date   28:00   53.12  n/a
02151>                         +  04:JO-OVF      .00     .000 No_date    0:00     .00  n/a
02152>                         +  05:JOCK_P   252.00   11.951 No_date   28:35   62.70  n/a
02153>        [DT= 5.00]  SUM=  03:SN_DE  55468.01  150.033 No_date   36:00   39.72  n/a
02154>  100:0057---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02155>       SAVE HYD               03:SN_DE  55468.01  150.033 No_date   36:00   39.72  n/a
02156>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_DE.100
02157>        remark:Total Flows at Heart's Desire
02158> #
02159> # Hydrograph from Heart's Desire routed to Rideau River
02160> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
02161> #
02162>  100:0058---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02163>       ROUTE CHANNEL   -> 03:SN_DE  55468.01  150.033 No_date   36:00   39.72  n/a
02164>        [RDT= 5.00] out<- 01:N1     55468.01  150.023 No_date   36:05   39.72  n/a
02165>        [L/S/n=  563./ .967/.045]
02166>        {Vmax= 2.709:Dmax=  .046}
02167> #*************************************************************************
02168> #    Catchment S-2
02169> #    - To Jock River (north and south)
02170> #    - Undeveloped floodplain and river
02171> #*************************************************************************
02172>  100:0059---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02173>       CONTINUOUS NASHYD  02:S-2      102.00    5.616 No_date   28:15   40.95 .462
02174>        [CN= 72.0: N= 3.00]
02175>        [Tp=  .40:DT= 5.00]
02176>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02177>        [InterEventTime=  12.00]
02178>  100:0060---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02179>       ADD HYD                01:N1     55468.01  150.023 No_date   36:05   39.72  n/a
02180>                         +  02:S-2      102.00    5.616 No_date   28:15   40.95  n/a
02181>        [DT= 5.00]  SUM=  03:SN_N1  55570.01  150.390 No_date   36:05   39.72  n/a
02182>  100:0061---------------ID:NHYD-------AREA----QPEAK-TpeakDate_hh:mm----R.V.-R.C.-
02183>       SAVE HYD               03:SN_N1  55570.01  150.390 No_date   36:05   39.72  n/a
02184>        fname :C:\Navin\OCTOBE~1\CONTIN~1\SMR_POST\H-SN_N1.100
02185>        remark:Total Flows at Rideau River
02186> ##########################################################################
02187>  100:0002---------------------------------------------------------------------
02188>       FINISH
02189> ---------------------------------------------------------------------------
02190> ---------------------------------------------------------------------------
02191>       WARNINGS / ERRORS / NOTES
02192>       -------------------------
02193>  002:0037 ROUTE CHANNEL   ->
02194>       *** WARNING: TRAVEL TIME TABLE was exceeded
02195>       *** WARNING: TRAVEL TIME TABLE was exceeded
02196>       *** WARNING: TRAVEL TIME TABLE was exceeded
02197>       *** WARNING: TRAVEL TIME TABLE was exceeded
02198>   Simulation ended on 2006-11-15     at 14:33:35
02199> ===========================================================================
02200>
02201>
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment C

Model 3 – Jock River Reach One Update

JFSA, 2021

SWMHYMO Input & Summary files

```
20    Metric units / ID numbers OFF
*#*************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*************************************************************************
*#  Project Name: [Jock River]    Project Number: [1474-16]
*#  Date        : 04-03-2021
*#  Modeller    : [M.M.]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
*# 2020-12-01 correct pond curve values
*# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and
LGI up to 700m
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"]
,NHYDin=["SN_TO"]) from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"]
,NHYDin=["SN_CE"]) from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
                     ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
READ STORM           STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------------|
MODIFY STORM         ICASEms=[1],  NSHIFT=[96],
                     RedFACT=[1],
*%-----------------|-------------------------------------------------------------|
DEFAULT VALUES       ICASEdef=[1],  read and print values
                     DEFVAL_FILENAME=["CitiGate.DEF"]
*%-----------------|-------------------------------------------------------------|
COMPUTE API          APII=[50], APIK=[.85]/day
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["JR_HW"], DT=[1]min, AREA=[3680](ha),
                     DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                     N=[3.0], TP=[7.13]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_13"], DT=[1]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_GWM"], DT=[1]min, AREA=[3074](ha),
                    DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_ASH"], DT=[1]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_11"], DT=[1]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NN_CK"], DT=[1]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
```

```
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_10"], DT=[1]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["KG_CK"], DT=[1]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_9"], DT=[1]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NC_CK"], DT=[1]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"], DT=[1]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"], DT=[1]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"], DT=[1]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"], DT=[1]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["VG_DR"], DT=[1]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5"], DT=[1]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["FL_CK"], DT=[1]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5A2"], DT=[1]min, AREA=[20](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS NASHYD   NHYD=["SW_5A1"], DT=[1]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_4"], DT=[1]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["LM_CK"], DT=[1]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_2"], DT=[1]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SM_DR"], DT=[1]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["MO_DR"], DT=[1]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2020 replaced SW_1 with a detailed model from Stantec Report 2007
*CONTINUOUS NASHYD   NHYD=["SW_1"], DT=[1]min, AREA=[3176](ha),
*                   DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
*                   N=[3.0], TP=[3.56]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL       NHYDout=["N13A"] ,NHYDin=["S_N13"],
                    RDT=[1](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR     NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0 ]
                                      [1.991, 2.144    ]
                                      [2.693, 39.826   ]
                                      [3.509, 81.697   ]
                                      [4.578, 318.774  ]
                                      [5.647, 594.947  ]
                                      [7.109, 910.219  ]
                                      [8.616, 1264.589  ]
                                      [10.371, 1658.057  ]
                                      [12.402, 2090.622 ]
                                      [22.056, 3462.487 ]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
*#
SAVE HYD            NHYD=["RES_GM"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                    RDT=[1](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD            NHYD=["S_N12"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*ROUTE CHANNEL       NHYDout=["N11"] ,NHYDin=["S_N12"] ,
*                    RDT=[1](min),
*                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
*                                        FPSLOPE=[0.0514](%),
*                    SECNUM=[1.0],       NSEG=[1]
*                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
*                    ( DISTANCE (m), ELEVATION (m))=
```

```
*                          [-40, 132.5]
*                          [-30, 132]
*                          [-25, 131.5]
*                          [-13, 130]
*                          [-8, 127.00]
*                          [-7, 126.50]
*                          [-6, 126]
*                          [-5.5, 125.50]
*                          [0, 123.75]
*                          [4.5, 125.50]
*                          [6, 126]
*                          [7.5, 126.5]
*                          [9, 127]
*                          [10, 127.5]
*                          [11.5, 128.00]
*                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                    RDT=[1](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                    RDT=[1](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
```

```
                          [-167.50 ,111.50]
                          [-106.81 ,111.00]
                          [-92.37 ,110.00]
                          [-52.82 ,109.00]
                          [-24.90, 109.00]
                          [-17.02, 108.50]
                          [-6.47, 108.00]
                          [6.47, 108.00]
                          [15.67, 108.50]
                          [18.95, 109.00]
                          [45.36, 109.50]
                          [120.79, 110.00]
                          [145.72, 111.00]
                          [181.56, 111.50]
                          [423.88, 112.50]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["S_N10"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|---------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|---------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                    RDT=[1](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
                          [68.80, 101.50]
                          [79.66, 103.00]
                          [91.50, 103.50]
                          [131.58, 104.00]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
*#
ADD HYD             NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                    RDT=[1](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-201.19,100.50]
                         [-135.21, 100.00]
                         [-94.83, 99.50]
                         [-67.05, 99.00]
                         [-17.99, 98.50]
                         [-16.02, 98.00]
                         [-13.95, 97.50]
                         [13.95, 97.50]
                         [15.64, 98.00]
                         [17.31, 98.50]
                         [162.02, 98.50]
                         [172.89 ,99.00]
                         [314.38, 99.00]
                         [343.78, 99.50]
                         [365.67, 100.00]
                         [376.68, 100.00 ]
                         [393.11, 99.50]
                         [404.97, 99.50]
                         [431.70, 100.00]
                         [456.58, 100.50 ]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout=["N7"] ,NHYDin=["S_N8"],
                    RDT=[1](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-433.21, 102.00]
                         [-425.34, 101.50]
                         [-377.56, 101.50]
                         [-366.23, 101.00]
                         [-202.60, 100.50]
                         [-96.25, 99.50]
                         [-68.36 99.00]
                         [-18.11, 98.50]
                         [-13.81, 97.50]
```

```
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,     0.0 ]
                                   [0.9051,    2.40]
                                   [2.907,     4.13]
                                   [9.744,     9.18]
                                   [20.304,   14.96]
                                   [34.167,  310.21]
                                   [74.993,  605.46]
                                   [104.876, 900.71]
                                   [140.56, 2892.00]
                                   [225.00, 3615.63]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                    RDT=[1](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
```

```
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-100.8, 97.00]
                                    [-70.8, 96.50]
                                    [-52.0, 96.00]
                                    [-35.1, 95.50]
                                    [-30.6, 95.00]
                                    [-23.9, 94.54]
                                    [23.9, 94.54]
                                    [39.8, 95.00]
                                    [50.4, 95.50]
                                    [93.5, 96.00]
                                    [94.9, 96.50]
                                    [96.3, 97.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                    RDT=[1](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-686.30, 94.50]
                                    [-675.70, 94.00]
                                    [-492.52, 93.00]
                                    [-467.28, 94.00]
                                    [-131.59, 94.00]
                                    [-92.79, 92.50]
                                    [-18.06, 91.00]
                                    [18.06, 91.00]
                                    [43.47, 92.50]
                                    [48.96, 94.00]
                                    [177.43, 94.00]
                                    [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD             NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                    RDT=[1](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-275.8, 93.00]
                                    [-248.6, 92.50]
                                    [-237.0, 92.00]
                                    [-219.3, 91.50]
                                    [-202.1, 91.50]
                                    [-186.0, 92.00]
                                    [-129.2, 92.00]
                                    [-117.6, 91.50]
                                    [-100.6, 91.00]
                                    [-41.5, 91.00]
                                    [-20.0, 91.00]
                                    [-14.0, 90.54]
                                    [14.0, 90.54]
                                    [15.3, 91.00]
                                    [17.3, 91.50]
                                    [38.4, 92.00]
                                    [39.8, 92.50]
                                    [41.1, 93.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                    RDT=[1](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-38.9, 92.00]
                                    [-35.8, 91.50]
                                    [-33.3, 91.00]
                                    [-28.2, 90.50]
                                    [-15.0, 87.48]
                                    [-5.0, 88.34]
                                    [5.0, 86.20]
                                    [15.0, 88.55]
                                    [28.2, 90.50]
                                    [29.7, 91.00]
                                    [46.5, 91.00]
                                    [127.8, 91.00]
                                    [148.7, 91.50]
                                    [173.1, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout=["N2"] ,NHYDin=["S_N4"] ,
```

```
                    RDT=[1](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N2"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
*#*****************************************************************************
*%READ HYD            NHYD=["S_N2"],
*%                   HYD_FILENAME=["H-S_N2"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL       NHYDout=["N_416"] ,NHYDin=["S_N2"] ,
                    RDT=[1](min),
                    CHLGTH=[2327](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-23.96
                      -0.055,23.96
                      0.075,157.38]  NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-336.97,93.5]
                    [-318.85,93]
                    [-259,92.5]
                    [-133.18,92]
                    [-33.17,92]
                    [-27.21,92]
                    [-26.14,91.5]
                    [-24.99,91]
                    [-23.96,90.5]
                    [-14.33,88.26]
                    [-0.68,88.12]
```

```
                    [14.33,88.26]
                    [23.96,90.5]
                    [32.12,91]
                    [43.74,91.5]
                    [57.09,92]
                    [73.53,92.5]
                    [108.27,93]
                    [125.88,93.5]
                    [144.81,94]
                    [157.38,94.5]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment SW-1a
*#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#    - Undeveloped agricultural land
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["SW_1a"], DT=[1]min, AREA=[536.42](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[2.79]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.049]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                    MajNHYD=["S-1-OkMJ"]
*                    MinNHYD=["S-1-OkMN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|---------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|---------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                 [ 0.0     , 0.0 ]
```

```
*                                   [ 0.5370, 1.7917 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-OkSovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_416"], NHYDs to add=["N_416"+"SW_1a"+"S-1-Okeefe"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_416"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Highway 416"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
*#
ROUTE CHANNEL       NHYDout=["N_OK"] ,NHYDin=["SN_416"] ,
                    RDT=[1](min),
                    CHLGTH=[497](m),  CHSLOPE=[0.3018](%),
                                        FPSLOPE=[0.3018](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-19.40
                      -0.055,19.40
                      0.075,377.02] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1061.41, 92.50]
                    [-945.91, 92.00]
                    [-783.64, 91.50]
                    [-136.74, 91.00]
                    [-86.04, 91.00]
                    [-20.86, 91.00]
                    [-20.18, 90.50]
                    [-19.40, 90.00]
                    [-11.68, 86.89]
                    [0.00, 86.10]
                    [12.09, 86.81]
                    [19.40, 90.00]
                    [34.68, 90.50]
                    [60.56, 91.00]
                    [170.14, 91.00]
                    [175.05, 90.50]
                    [180.29, 90.00]
                    [193.41, 90.00]
                    [195.98, 90.50]
                    [377.02, 92.50]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment OKEEFE
*#    - To O'Keefe drain (north of the Jock)
*#    - Developed with assumed 43% imp.
*#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area
513.02 HA)
*#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model
(Citi-Gate 2014).
*%-----------------|-------------------------------------------------------------|
*POST DEVELOPMENT CONDITIONS
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
CONTINUOUS NASHYD   NHYD=["O-1"], DT=[1]min, AREA=[63.72](ha),
                    DWF=[0](cms), CN/C=[61], IA=[6.2](mm), N=[3], TP=[.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
```

```
*%-----------------|-------------------------------------------------------------------
-----------------------------|
*ROUTE FLOW THROUGH AREA 0-2
ROUTE CHANNEL       NHYDout=["O-1R"], NHYDin=["O-1"], RDT=[1](min),
                    CHLGTH=[960](m), CHSLOPE=[0.63](%), FPSLOPE=[0.63](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.06,4 -.043,6 0.06,10] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.0]
                    [0.0, 2.0]
                    [4.0, 0.0]
                    [6.0, 0.0]
                    [10.0, 2.0]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-2"], DT=[1]min, AREA=[28.61](ha),
                    DWF=[0](cms), CN/C=[57], IA=[5.2](mm), N=[3], TP=[1.1]hrs,
                   Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-4"], DT=[1]min, AREA=[46.94](ha),
                    DWF=[0](cms), CN/C=[49], IA=[9.2](mm), N=[3], TP=[0.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOW NORTH OF O'KEEFE CT. CROSSING
ADD HYD             NHYDsum=["OKF-N"], NHYDs to add=["O-1R"+"O-2"+"O-4"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-6
ROUTE CHANNEL       ROUTE CHANNEL NHYDout=["OKF-NR"], NHYDin=["OKF-N"], RDT=[1](min),
                    CHLGTH=[210](m), CHSLOPE=[.81](%), FPSLOPE=[.81](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.043,22.43 -0.043,25.07
                    0.043,45.54] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 3.73]
                    (14.62, 1.56)
                    (18.41, 1.44)
                    (22.43, 0.00)
                    (25.07, 0.70)
                    (29.10, 1.79)
                    (33.73, 2.71)
                    (45.54, 3.58)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-6"], DT=[1]min, AREA=[16.46](ha),
                    DWF=[0](cms), CN/C=[43], IA=[9.2](mm), N=[3], TP=[0.7]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-3"], DT=[1](min), AREA=[39.67](ha), XIMP=[0.15],
TIMP=[0.30], DWF=[0](cms),
```

```
                    LOSS=[2], SCS curve number CN=[50], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[0.32](%),
                    LGP=[440](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.32](%),
                    LGI=[1880](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-5"], DT=[1](min), AREA=[60.63](ha), XIMP=[0.13],
TIMP=[0.26], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[61],
                    Pervious surfaces: IAper=[4.67](mm), SLPP=[1.38](%),
                    LGP=[550](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[1.38](%),
                    LGI=[1450](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOWS WEST OF THE SITE AND NORTH OF O'KEEFE CRT
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT1"], NHYDs to add=["OKF-NR"+"O-3"+"O-5"+"O-6"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-7"], DT=[1]min, AREA=[5.28](ha),
                    DWF=[0](cms), CN/C=[54], IA=[7.5](mm), N=[3], TP=[0.6]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 1 - TOTAL FLOW NORTH OF FALLOWFIELD DR. AND O'KEEFE CRT.
ADD HYD             NHYDsum=["FF"], NHYDs to add=["PT1"+"O-7"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 1
ROUTE CHANNEL       NHYDout=["DRAIN1"], NHYDin=["FF"], RDT=[1](min),
                    CHLGTH=[302]{m), CHSLOPE=[1.00](%), FPSLOPE=[1.00](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,13.45 -0.043,16.55 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (3.45, 0.60)
                    (13.45, 0.50)
                    (14.45, 0.00)
                    (15.55, 0.00)
                    (16.55, 0.50)
                    (26.55, 0.60)
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D1"], DT=[1]min, AREA=[1.17](ha),
                    DWF=[0](cms), CN/C=[84], IA=[9.0](mm), N=[3], TP=[0.28]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["A1"], DT=[1]min, AREA=[2.50](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[223.607](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A1-STR"], NHYDin=["A1"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.035 , 0.038 ]
                                  [ 0.072 , 0.051 ]
                                  [ 0.100 , 0.059 ]
                                  [ 0.125 , 0.070 ]
                                  [ 0.160 , 0.074 ]
                                  [ 0.185 , 0.081 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-2"], DT=[1]min, AREA=[0.59](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[108.628](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST2STR"], NHYDin=["ST-2"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.052 , 0.0010 ]
                                  [ 0.053 , 0.0080 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST2OVF"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF STRANDHERD DR. (EAST BRANCH) CROSSING
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-8"], DT=[1]min, AREA=[60.55](ha),
                    DWF=[0](cms), CN/C=[69], IA=[4.0](mm), N=[3], TP=[1.0]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["O8PIPE"], RNUMBER=[1], PWIDTH=[1800](mm),
PHEIGHT=[1200](mm), PLNGTH=[335.1](m),
                    PROUGH=[0.013], PSLOPE=[0.001](m/m), NHYDin=["O-8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST2-IN"], NHYDs to
```

```
add=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A7"], DT=[1]min, AREA=[3.51](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[264.953](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A7-STR"], NHYDin=["A7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.049 , 0.054 ]
                                  [ 0.102 , 0.072 ]
                                  [ 0.140 , 0.082 ]
                                  [ 0.175 , 0.099 ]
                                  [ 0.225 , 0.105 ]
                                  [ 0.260 , 0.114 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-3"], DT=[1]min, AREA=[0.71](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[119.164](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST3STR"], NHYDin=["ST-3"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.063 , 0.0010 ]
                                  [ 0.064 , 0.0094 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST3OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 2 - TOTAL FLOW AT OUTLET OF STREET 2/3 INTERSECTION
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT2ST3"], NHYDs to
add=["ST2-IN"+"A7-STR"+"A7-OVF"+"ST3STR"+"ST3OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 2
ROUTE CHANNEL       NHYDout=["DRAIN2"], NHYDin=["PT2ST3"], RDT=[1](min),
                    CHLGTH=[592]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                                        SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.60 -0.043,17.40 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (2.60, 0.95)
                    (12.60, 0.75)
                    (14.10, 0.00)
                    (15.90, 0.00)
                    (17.40, 0.75)
                    (27.40, 0.95)
```

```
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D2"], DT=[1]min, AREA=[2.28](ha), DWF=[0](cms), CN/C=[84],
IA=[9.0](mm),
                    N=[3], TP=[0.99]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A17"], DT=[1]min, AREA=[12.04](ha), XIMP=[0.68],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[490.714](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A17STR"], NHYDin=["A17"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.169 , 0.185 ]
                                 [ 0.349 , 0.248 ]
                                 [ 0.482 , 0.283 ]
                                 [ 0.602 , 0.338 ]
                                 [ 0.771 , 0.359 ]
                                 [ 0.891 , 0.391 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["A17OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-4"], DT=[1]min, AREA=[0.35](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[83.666](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST4STR"], NHYDin=["ST-4"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.0000 ]
                                 [ 0.031 , 0.0010 ]
                                 [ 0.032 , 0.0050 ]
                                 [ -1 , -1 ] (max twenty pts)
                                 NHYDovf=["ST4OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A18"], DT=[1]min, AREA=[5.30](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
```

```
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[325.576](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A18STR"], NHYDin=["A18"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.074 , 0.082 ]
                                 [ 0.154 , 0.109 ]
                                 [ 0.212 , 0.125 ]
                                 [ 0.265 , 0.149 ]
                                 [ 0.339 , 0.158 ]
                                 [ 0.392 , 0.172 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 3 - TOTAL FLOW AT OUTLET OF STREET 4
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT3ST4"], NHYDs to
add=["DRAIN2"+"D2"+"A17STR"+"A17OVF"+"ST4STR"+"ST4OVF"+"A18STR"+"A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 3
ROUTE CHANNEL       NHYDout=["DRAIN3"], NHYDin=["PT3ST4"], RDT=[1](min),
                    CHLGTH=[525]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.50 -0.043,17.50 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (2.50, 1.00)
                    (12.50, 0.80)
                    (14.10, 0.00)
                    (15.90, 0.00)
                    (17.50, 0.80)
                    (27.50, 1.00)
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D3"], DT=[1]min, AREA=[2.51](ha),
                    DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.73]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C1"], DT=[1]min, AREA=[3.41](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[261.151](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C1-STR"], NHYDin=["C1"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
```

```
                                  [ 0.048 , 0.052 ]
                                  [ 0.099 , 0.070 ]
                                  [ 0.136 , 0.080 ]
                                  [ 0.170 , 0.096 ]
                                  [ 0.218 , 0.102 ]
                                  [ 0.252 , 0.111 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C1-OVF"]
*%----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-5"], DT=[1]min, AREA=[0.45](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[94.868](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST5STR"], NHYDin=["ST-5"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.040 , 0.0010 ]
                                  [ 0.041 , 0.0062 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST5OVF"]
*%----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST5-E"], NHYDs to
add=["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]
*%----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["STRAND"], DT=[1](min), AREA=[7.59](ha),
                    XIMP=[0.64], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[1230](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-POND"], NHYDin=["STRAND"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.033 , 0.188 ]
                                  [ 0.057 , 0.253 ]
                                  [ 0.104 , 0.287 ]
                                  [ 0.160 , 0.336 ]
                                  [ 0.340 , 0.346 ]
                                  [ 0.471 , 0.360 ]
                                  [ 0.824 , 0.390 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["S-OVF"]
*%----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SSAOUT"], NHYDs to add=["ST5-E"+"S-POND"+"S-OVF"]
*%----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SSAOUT"], # OF PCYCLES=[5], ICASEsh=[1]
                    HYD_COMMENT=["SSAOUT"]
*%----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-A"], DT=[1]min, AREA=[66.75](ha), XIMP=[0.64],
TIMP=[0.80], DWF=[0](cms), LOSS=[1]:
```

```
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[1155.422](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["Area-A"], # OF PCYCLES=[1], ICASEsh=[1]
                    HYD_COMMENT=["SMWF-A Inflow"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["SWMF-A"], NHYDin=["Area-A"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.103 , 1.077 ]
                                  [ 0.128 , 1.749 ]
                                  [ 0.382 , 2.282 ]
                                  [ 0.703 , 2.582 ]
                                  [ 1.256 , 2.978 ]
                                  [ 1.567 , 3.202 ]
                                  [ 1.955 , 3.493 ]
                                  [ 2.100 , 3.600 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["SWMAOV"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SWMF-A"], # OF PCYCLES=[1], ICASEsh=[1]
                    HYD_COMMENT=["SMWF-A Outflow"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 4 - TOTAL FLOW AT OUTLET OF STREET 5
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT4ST5"], NHYDs to add=["SSAOUT"+"SWMF-A"+"SWMAOV"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C6"], DT=[1]min, AREA=[1.87](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[193.391](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C6-STR"], NHYDin=["C6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.026 , 0.029 ]
                                  [ 0.054 , 0.038 ]
                                  [ 0.075 , 0.044 ]
                                  [ 0.093 , 0.052 ]
                                  [ 0.120 , 0.056 ]
                                  [ 0.138 , 0.061 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C6-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C7"], DT=[1]min, AREA=[1.62](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
```

```
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C7-STR"], NHYDin=["C7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.023 , 0.025 ]
                                 [ 0.047 , 0.033 ]
                                 [ 0.065 , 0.038 ]
                                 [ 0.081 , 0.045 ]
                                 [ 0.104 , 0.048 ]
                                 [ 0.120 , 0.053 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["C7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-6"], DT=[1]min, AREA=[0.41](ha),XIMP=[0.46], TIMP=[0.57],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[90.554](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST6STR"], NHYDin=["ST-6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.0000 ]
                                 [ 0.036 , 0.0010 ]
                                 [ 0.037 , 0.0058 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 5 - TOTAL FLOW AT OUTLET OF STREET 6
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT5ST6"], NHYDs to
add=["PT4ST5"+"C6-STR"+"C6-OVF"+"C7-STR"+"C7-OVF"+"ST6STR"+"ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 4
ROUTE CHANNEL       NHYDout=["DRAIN4"], NHYDin=["PT5ST6"], RDT=[1](min),
                    CHLGTH=[324]{m), CHSLOPE=[.10](%), FPSLOPE=[.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.00 -0.043,18.00 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.00]
                    (2.00, 1.20)
                    (12.00, 1.00)
                    (14.00, 0.00)
                    (16.00, 0.00)
                    (18.00, 1.00)
                    (28.00, 1.20)
                    (30.00, 2.00)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D4"], DT=[1]min, AREA=[1.73](ha), DWF=[0](cms), CN/C=[88],
IA=[8.4](mm),
                    N=[3], TP=[0.60]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-B"], DT=[1]min, AREA=[24.04](ha), XIMP=[0.62],
TIMP=[0.77], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[1.4](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.4](%),
                    LGI=[693.397](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["SWMF-B"], NHYDin=["Area-B"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.025 , 0.090 ]
                                 [ 0.175 , 0.510 ]
                                 [ 0.350 , 0.710 ]
                                 [ 0.495 , 0.820 ]
                                 [ 0.648 , 0.980 ]
                                 [ 0.965 , 1.045 ]
                                 [ 1.072 , 1.140 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["SWMBOVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["D4-EX"], NHYDs to add=["DRAIN4"+"D4"+"SWMF-B"+"SWMBOVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH O'Keefe Drain 5
* JFSA: Nov. 2020, added en points to close X-Section
ROUTE CHANNEL       NHYDout=["DRAIN5"], NHYDin=["D4-EX"], RDT=[1](min),
                    CHLGTH=[413.0](m), CHSLOPE=[0.16](%), FPSLOPE=[0.16](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.043,12.29 -0.033,17.97
                    0.043,32.84] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=(-0.01, 2.50)
                    [0.00, 1.41]
                    [6.13, 0.97]
                    [12.29, 0.89]
                    [15.71, 0.00]
                    [17.97, 0.39]
                    [23.04, 0.35]
                    [32.83, 0.96]
                    (32.84, 2.50)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D5"], DT=[1]min, AREA=[1.90](ha),
                    DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.69]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*EXTERNAL FLOWS SOUTHEAST OF THE SITE NORTH OF McKENNA CASEY DR.
CONTINUOUS NASHYD   NHYD=["O-13SDF"], DT=[1]min, AREA=[9.74](ha),
                    DWF=[0](cms), CN/C=[81], IA=[4.0](mm), N=[3], TP=[.43]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*SNOW DISPOSAL FACILITY
*PARAMETERS BASED ON ROBINSON 2006 MODEL
ROUTE RESERVOIR     NHYDout=["SDF"], NHYDin=["O-13SDF"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [0.000,0.000]
                                  [0.150,0.600]
                                  (0.200,1.500)
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["OVFSDF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 6 - McKenna Casey Dr.
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT6MC"], NHYDs to add=["DRAIN5"+"D5"+"SDF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-15"], DT=[1]min, AREA=[10.67](ha),
                    DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.30]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF McKENNA CASEY DR.
ADD HYD             NHYDsum=["M-C"], NHYDs to add=["PT6MC"+"O-15"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-14
* JFSA: Nov. 2020, added end points to close X-section
ROUTE CHANNEL       NHYDout=["O-14Ch"], NHYDin=["M-C"], RDT=[1](min),
                    CHLGTH=[845.3](m), CHSLOPE=[0.10](%), FPSLOPE=[0.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.06,15.00 -0.033,18.04 0.06,31.85] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[-0.01, 2.5
                    (0.00, 1.53]
                    (5.56, 1.47)
                    (9.21, 1.45)
                    (12.45, 1.53)
                    (13.70, 1.50)
                    (15.00, 0.69)
                    (15.34, 0.00)
                    (16.51, 0.05)
                    (17.30, 0.17)
                    (18.04, 0.74)
                    (19.29, 1.32)
                    (22.73, 1.47)
                    (31.84, 1.41)
                    (31.85, 2.50)
*%-----------------|-------------------------------------------------------------|
*%    -Change O-14 from NASHYD to STANDHYD, name it "S-1-Okeefe" and add it to S-1
subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -JFSA 2021-02-16, add detailed subcatchment drainage area for each subcatchment
in Corrigan sub-catchment. After adding part of  O-14 to S_1 sub-catchment so O-14
becomes 5 ha instead of 30.02 ha and TP becomes 0.133 (5*0.8/30.02) instead of 0.8
CONTINUOUS NASHYD   NHYD=["O-14"], DT=[1]min, AREA=[5](ha),
```

```
                    DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.133]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 7 - JOCK RIVER
* 2020-12-01 To Foster Drain
* 2020-12-01  replace ("PT7JR") by ("OKEEFE")
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["OKEEFE"], NHYDs to add=["O-14Ch"+"O-14"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["OKEEFE"], DT=[1](min), AREA=[448](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                            LGI=[1728](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["P_OKE"], NHYDin=["OKEEFE"],
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                   (cms) - (ha-m)
*                                 [   0.0  ,  0.0]
*                                 [  14.13 , 13.0]
*                                 [   -1   ,  -1  ]  (maximum one hundred pairs of points)
*                                NHYDovf=["ok-OVF"],
*%-----------------|-------------------------------------------------------------
-----------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are
moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),

*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.120]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                    MajNHYD=["S-1-D2J"]
*                    MinNHYD=["S-1-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.2231, 0.7445 ]
*                                   [    -1   ,   -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.281]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                    MajNHYD=["S-1-D3J"]
*                    MinNHYD=["S-1-D3N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0811, 0.2708 ]
*                                   [    -1   ,   -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["SN_OK"], NHYDs to add=["N_OK"+"OKEEFE"+"S-1-D2"+"S-1-D3"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["SN_OK"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-------------------------------------------------------|
*#
```

```
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL       NHYDout=["N_FO"] ,NHYDin=["SN_OK"] ,
                    RDT=[1](min),
                    CHLGTH=[1183](m),  CHSLOPE=[0.0761](%),
                                        FPSLOPE=[0.0761](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-33.89
                      -0.035,31.59
                      0.050,34.41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-794.18, 91.00]
                    [-775.41, 91.50]
                    [-702.63, 91.50]
                    [-546.19, 91.50]
                    [-529.54, 91.50]
                    [-323.44, 91.00]
                    [-320.71, 91.00]
                    [-183.59, 91.00]
                    [-182.54, 90.50]
                    [-181.36, 90.00]
                    [-177.37, 90.00]
                    [-87.70, 90.00]
                    [-33.89, 90.00]
                    [-18.52, 86.88]
                    [0.00,85.20]
                    [16.20, 86.83]
                    [31.59, 90.00]
                    [33.03, 90.50]
                    [34.41, 91.00]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study
    Report, CH2MHILL, Aug 2013.
*#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after
    increasing Okeefe drainage area to (513.02 HA) so the total drainage area remains the
    same
*#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FOSTER"], DT=[1]min, AREA=[325.44](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1472.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["P_FOS"],  NHYDin=["FOSTER"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
```

```
                                    [   10.34 , 10]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["FO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FOSTER-OUT"], NHYDs to add=["P_FOS"+"FO-OVF"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*    -Brazeau area from P 1800-19 =[71.751], change to 63.59 ha based on GIS measurements
*     -JFSA, 2021-01-19  update "W_CLAR_BRAZ" to 73.29 ha based on GIS measurements
*     -JFSA, 2021-01-22  Brazeau ("MS_P10"+"P10-OVF")brazeau pond discharges directly
to the jock river through a road side ditch on the west side of Borrisokane road
(station 6016)
CONTINUOUS STANDHYD NHYD=["W_CLAR_BRAZ"], DT=[1]min, AREA=[73.29](ha),
                    XIMP=[0.6], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[699.00](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
* 2020-12-01 correct pond curve values
ROUTE RESERVOIR     NHYDout=["MS_P10"],  NHYDin=["W_CLAR_BRAZ"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [ 0.068 , 0.001 ]
                                   [ 0.271 , 0.022 ]
                                   [ 0.379 , 0.051 ]
                                   [ 0.48 , 0.091 ]
                                   [ 0.853 , 0.341 ]
                                   [ 1.005 , 0.61 ]
                                   [ 1.128 , 1.231 ]
                                   [ 1.155 , 1.592 ]
                                   [ 1.194 , 1.876 ]
                                   [ 1.2 , 1.921 ]
                                   [ 1.259 , 2.369 ]
                                   [ 1.3 , 2.665 ]
                                   [ 1.349 , 2.813 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["P10-OVF"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D2J"]
*                    MinNHYD=["S-1-FO-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values

*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0590, 0.1970 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["980"], NHYDs to add=["FOSTER-OUT"+"S-1-FO-D2"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["980"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Station 980 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
*#
ROUTE CHANNEL       NHYDout=["980-out"] ,NHYDin=["980"] ,
                    RDT=[1](min),
                    CHLGTH=[460](m),  CHSLOPE=[0.04348](%),
                                        FPSLOPE=[0.04348](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,45.90
                      -0.035,53.30
                      0.050,100] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [0, 91.75 ]
                    [42.4, 92.18 ]
                    [43.5, 92.16 ]
                    [44.1, 92.1 ]
                    [44.6, 92 ]
                    [44.8, 91.86 ]
                    [45.9, 91.04 ]
                    [46.4, 90.65 ]
                    [46.8, 90.36 ]
                    [47.9, 90.32 ]
                    [48.7, 90.35 ]
                    [50.7, 90.33 ]
                    [52.2, 90.38 ]
                    [52.5, 90.59 ]
                    [53.3, 91.28 ]
                    [54, 91.83 ]
                    [54.3, 92 ]
                    [54.8, 92.08 ]
                    [55.4, 92.12 ]
                    [100, 91.84 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
```

```
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                     N=[3], TP=[1.10]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                     MajNHYD=["S-1-FO-D1J"]
*                     MinNHYD=["S-1-FO-D1N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD              NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR      NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [ 0.0     , 0.0 ]
*                                    [ 0.0611, 0.2038 ]
*                                    [    -1  ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------|
ADD HYD              NHYDsum=["520"], NHYDs to add=["980-out"+"S-1-FO-D1"]
*%-----------------|-------------------------------------------------------|
SAVE HYD             NHYD=["520"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Sation 520 on Foster Drain"]
*%-----------------|-------------------------------------------------------|
*# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock
River)
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
*#
ROUTE CHANNEL        NHYDout=["520-out"] ,NHYDin=["520"] ,
                     RDT=[1](min),
                     CHLGTH=[860](m),  CHSLOPE=[0.5872](%),
                                         FPSLOPE=[0.5872](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,45.90
                       -0.035,54.3
                       0.050,100.1097] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [0, 91.26 ]
                     [44.9, 91.46 ]
                     [45.1, 91.37 ]
                     [45.9, 90.84 ]
                     [47, 90.32 ]
                     [47.5, 90.22 ]
                     [48, 90.17 ]
                     [50.7, 90.19 ]
                     [51.5, 90.17 ]
```

```
                    [52.2, 90.13 ]
                    [52.7, 90.12 ]
                    [53.3, 90.14 ]
                    [53.5, 90.31 ]
                    [53.9, 90.59 ]
                    [54.3, 90.87 ]
                    [54.7, 91.04 ]
                    [55.3, 91.24 ]
                    [55.5, 91.26 ]
                    [63.7, 91.37 ]
                    [100.1097, 91.43 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.007]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                    MajNHYD=["S-1FO-F-DJ"]
*                    MinNHYD=["S-1FO-F-DN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [ 0.0     , 0.0 ]
*                                    [ 0.1788, 0.5966 ]
*                                    [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*   -JFSA 2021-03-02  "S-1-D8" is Borrisokane Rd. so it will remain STANDHYD in all scenarios
CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*  This is a road so it is always STANDHYD
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                   MajNHYD=["S-1-D8J"]

*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                   MajNHYD=["S-1-D-MJ"]
*                   MinNHYD=["S-1-D-MN"]
*                   TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0630, 0.2102 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.619]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
CONTINUOUS NASHYD   NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
```

```
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_FO"], NHYDs to
add=["N_FO"+"520-out"+"MS_P10"+"P10-OVF"+"W_CLAR_UNDE"+"S-1-FO-F-D"+"S-1-D8"+"S-1-A"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_FO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL       NHYDout=["N_CE"] ,NHYDin=["SN_FO"] ,
                    RDT=[1](min),
                    CHLGTH=[159](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-15.46
                      -0.035,26.55
                      0.050,116.76] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-645.23, 91.50]
                    [-391.20, 91.50]
                    [-91.00, 91.50]
                    [-85.52, 91.50]
                    [-15.46, 89.40]
                    [-9.79, 89.31]
                    [-3.22, 86.24]
                    [3.22, 85.07]
                    [10.96, 85.79]
                    [16.44, 86.49]
                    [26.55, 89.45]
                    [29.03, 90.27]
                    [35.76, 90.67]
                    [36.67, 91.00]
                    [108.08, 91.00]
                    [109.82, 90.50]
                    [112.04, 90.50]
                    [114.62, 91.00]
                    [116.76, 91.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-1
*#    - To Jock River (north and south of Jock)
*#    - Primarily agricultural fields; portion of sand quarry
*%-----------------|-------------------------------------------------------------|
*%    -2020-12-17 "S-1-Undev" and "S-1-Fost" was a part of Foster drain, they are below
the foster pond. Now they are added to S-1 subcatchment based on Project 1474-BCDC,
JFSA, Nov. 2020
*%    -2020-12-17 Change O-14 (it was part of Okeefe drain) to "S-1-Okeefe" and add it
to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Add "S-1-BCDC" as NASHYD
*%    -2020-12-17 all other S-1 subcatchment as STANDHYD with DUALHYD and ROUTE RESERVOIR
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[0.619]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-B"], DT=[1]min, AREA=[55.36](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.451]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas compared to the old ones.
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC"], DT=[1]min, AREA=[134.9](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and "S-1-BCDC-2" is part of "S-1-D2" and "S-1-D3"
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-1"], DT=[1]min, AREA=[0.3](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-2"], DT=[1]min, AREA=[1.3](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-3"], DT=[1]min, AREA=[3.9](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                    MajNHYD=["S-1-OkMJ"]
*                    MinNHYD=["S-1-OkMN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.5370, 1.7917 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-OkSovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.049]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D1J"]
*                    MinNHYD=["S-1-FO-D1N"]
*                    TMJSTO=[9999999](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
*ADD HYD            NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR    NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0611, 0.2038 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                   XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[74],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                          LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                   MajNHYD=["S-1-FO-D2J"]
*                   MinNHYD=["S-1-FO-D2N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD            NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR    NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0590, 0.1970 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
```

```
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                    MajNHYD=["S-1FO-F-DJ"]
*                    MinNHYD=["S-1FO-F-DN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.1788, 0.5966 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D1"], DT=[1](min), AREA=[21.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[380.088](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D1"], DT=[1]min, AREA=[21.67](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.066]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
```

```
*COMPUTE DUALHYD     NHYDin=["S-1-D1"], CINLET=[2.482](cms), NINLET=[1],
*                    MajNHYD=["S-1-D1J"]
*                    MinNHYD=["S-1-D1N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D1S"], NHYDs to add=["S-1-D1J"+"S-1-D1N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D1R"] ,NHYDin=["S-1-D1S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.2590, 0.8642 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D1Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.120]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                    MajNHYD=["S-1-D2J"]
*                    MinNHYD=["S-1-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.2231, 0.7445 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
```

```
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.281]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                   MajNHYD=["S-1-D3J"]
*                   MinNHYD=["S-1-D3N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0811, 0.2708 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D4"], DT=[1](min), AREA=[3.28](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                   LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                   LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                   LGI=[147.874](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D4"], DT=[1]min, AREA=[3.28](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D4"], CINLET=[0.373](cms), NINLET=[1],
*                   MajNHYD=["S-1-D4J"]
*                   MinNHYD=["S-1-D4N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D4S"], NHYDs to add=["S-1-D4J"+"S-1-D4N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D4R"] ,NHYDin=["S-1-D4S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
```

```
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0392, 0.1308 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D4Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D5"], DT=[1](min), AREA=[12.84](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),


*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[292.57](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D5"], DT=[1]min, AREA=[12.84](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D5"], CINLET=[1.395](cms), NINLET=[1],
*                    MajNHYD=["S-1-D5J"]
*                    MinNHYD=["S-1-D5N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D5S"], NHYDs to add=["S-1-D5J"+"S-1-D5N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D5R"] ,NHYDin=["S-1-D5S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]

*                                   [    -1   ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D5Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D6"], DT=[1](min), AREA=[1.75](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[108.01](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D6"], DT=[1]min, AREA=[1.75](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D6"], CINLET=[0.218](cms), NINLET=[1],
*                    MajNHYD=["S-1-D6J"]
*                    MinNHYD=["S-1-D6N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D6S"], NHYDs to add=["S-1-D6J"+"S-1-D6N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D6R"] ,NHYDin=["S-1-D6S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0209, 0.0698 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D6Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D7"], DT=[1](min), AREA=[2.03](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),


*                    LGI=[116.33](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-D7"], DT=[1]min, AREA=[2.03](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D7"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D7J"]
*                    MinNHYD=["S-1-D7N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D7S"], NHYDs to add=["S-1-D7J"+"S-1-D7N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D7R"] ,NHYDin=["S-1-D7S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0243, 0.0810 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
```

```
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D8J"]
*                    MinNHYD=["S-1-D8N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                    MajNHYD=["S-1-D-MJ"]
*                    MinNHYD=["S-1-D-MN"]
*                    TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0630, 0.2102 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------|
*%-----------------|-------------------------------------------------------|
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area
(W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on
P598(04)-11
*#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["W_CLAR_MJ"], DT=[1]min, AREA=[1.772](ha),
                    XIMP=[0.46], TIMP=[0.59], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["W_CLAR_MJ"], CINLET=[0.213](cms), NINLET=[1],
*                    MajNHYD=["W_CLAR_MJj"]
*                    MinNHYD=["W_CLAR_MJn"]
*                    TMJSTO=[0.1](cu-m)
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
ROUTE RESERVOIR     NHYDout=["W_CLAR_MJn"] ,NHYDin=["W_CLAR_MJ"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.213 , 0.0001 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                               NHYDovf=["W_CLAR_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*     -Clarke_All area from  P 598(04)-11 = 120.207 ha, change to 127.298 ha based on GIS measurements,
*     -JFSA, 2021-01-19  update W_CLAR_ALL to (121.17-1.772=119.398) ha based on GIS measurements W_CLAR is 121.17 ha and W_CLAR_MJ is 1.772 ha
CONTINUOUS STANDHYD NHYD=["W_CLAR_ALL"], DT=[1]min, AREA=[119.398](ha),
                    XIMP=[0.60], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[892.18](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["W_CLAR"], NHYDs to add=["W_CLAR_ALL"+"W_CLAR_MJj"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["W_CLAR"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows to West Clarke"]
*#*************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#*************************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P2"],  NHYDin=["W_CLAR"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [ 0.128 , 0.161 ]
                                   [ 0.138 , 0.409 ]
                                   [ 0.148 , 0.68 ]
                                   [ 0.227 , 0.931 ]
                                   [ 0.354 , 1.223 ]
                                   [ 0.505 , 1.52 ]
                                   [ 0.666 , 1.821 ]
                                   [ 0.831 , 2.123 ]
                                   [ 0.995 , 2.434 ]
                                   [ 1.069 , 2.583 ]
                                   [ 1.51 , 2.647 ]
                                   [ 4.904 , 2.861 ]
                                   [ 13.048 , 3.188 ]
                                   [ 23.745 , 3.523 ]
                                   [ 36.474 , 3.871 ]
                                   [ 45.938 , 4.127 ]
                                   [ 61.652 , 4.539 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                               NHYDovf=["P2-OVF"]
*%-----------------|-------------------------------------------------------------|
```

```
*#************************************************************************
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges directly to the jock river through a road side ditch on the west side of Borrisokane road (station 6016)
*CONTINUOUS NASHYD   NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["SN_CE"], NHYDs to add=["N_CE"+
                     +"S-1-D4"+"S-1-D5"+"MS_P2"+"P2-OVF"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["SN_CE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 5737 on Jock River"]
*%-----------------|-------------------------------------------------------|
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
*# JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\HEC-RAS\JockLidar2005
*# JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
ROUTE CHANNEL       NHYDout=["5737"] ,NHYDin=["SN_CE"] ,
                    RDT=[1](min),
                    CHLGTH=[270](m),  CHSLOPE=[0.0175](%),
                                        FPSLOPE=[0.0175](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-24.04
                      -0.035,23.92
                      0.050,1130.8] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1060.52, 94 ]
                    [-268.6, 91.5 ]
                    [-259.43, 91.5 ]
                    [-179.48, 91.5 ]
                    [-67.9, 91.5 ]
                    [-59.21, 91.5 ]
                    [-33.19, 91 ]
                    [-26.08, 90.5 ]
                    [-24.04, 90 ]
                    [-13.14, 86.77 ]
                    [0, 85 ]
                    [14.68, 86.74 ]
                    [23.92, 90 ]
                    [25.78, 90.5 ]
                    [31.91, 91 ]
                    [91.95, 91.5 ]
                    [772.15, 92 ]
                    [961.49, 92.5 ]
                    [1044.69, 93 ]
                    [1130.8, 95 ]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["5002"], NHYDs to add=["5737"+
                     +"S-1-D1"+"S-1-D6"+"S-1-D7"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["5002"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 5002 on Jock River"]
*%-----------------|-------------------------------------------------------|
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
```

```
*# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model will be more stable
*# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 between station 6016 and station 5002. Then the length from station 5737 to station 5002 is 736 m. Change the slope from 0.0255 % to 0.09511 %
*
ROUTE CHANNEL       NHYDout=["N_WCa"] ,NHYDin=["5002"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*                    [161.44, 91.50]
*                    [236.48, 93.00]
*                    [385.47, 92.50]
*                    [390.78, 92.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["N_WCb"] ,NHYDin=["N_WCa"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["N_WC"] ,NHYDin=["N_WCb"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
```

```
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*#*************************************************************************
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*ADD HYD             NHYDsum=["SN_WC"], NHYDs to add=["MS_P2"+"P2-OVF"+"N_WC"+"W_CLAR_UNDE"]
*%-----------------|-----------------------------------------------------------|
*SAVE HYD            NHYD=["SN_WC"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                   HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|-----------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL       NHYDout=["N_KB"] ,NHYDin=["N_WC"] ,
                    RDT=[1](min),
                    CHLGTH=[1020](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.63
                      -0.035,23.63
                      0.050,728.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]
*%-----------------|-----------------------------------------------------------|
*#*************************************************************************
*#    Catchment KEN_BU
*#    - To Kennedy-Burnett SWM Facility
*#    - Outlets to Fraser-Clarke drain (north of the Jock)
*#    - Medium density residential subdivision
*     - Add Kennedy Burnett model (Convert PCSWMM from NOVATECH June, 2020 to SWMHYMO)
*#*************************************************************************
*CONTINUOUS STANDHYD NHYD=["KEN_BU"], DT=[1]min, AREA=[281](ha),
*                   XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[71],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[1369](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-----------------------------------------------------------|
*#*************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#    - Rating curve obtained from URTKBP
```

```
*#    - Tributary Drainage Area to Pond = 160 ha
*#*************************************************************************
*ROUTE RESERVOIR     NHYDout=["KEN_P"],  NHYDin=["KEN_BU"],
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [   0.0 ,  0.0 ]
*                                  [   0.13 , 0.26]
*                                  [   0.43 , 0.56]
*                                  [   0.67 , 0.90]
*                                  [   0.86 , 1.32]
*                                  [   1.01 , 1.79]
*                                  [   1.15 , 2.33]
*                                  [   -1  ,  -1  ]  (max twenty pts)
*                              NHYDovf=["KEN-OV"]
*%-----------------|-------------------------------------------------------|
*     -JFSA, 2021-01-19  update all KEN_BU areas based on GIS measurements
CONTINUOUS STANDHYD NHYD=["KB-01A"], DT=[1]min, AREA=[40.82](ha), XIMP=[0.097],
TIMP=[0.4], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[521.664](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01A"], CINLET=[3.6](cms), NINLET=[1],
                    MajNHYD=["KB-01A-MJ"]
                    MinNHYD=["KB-01A-MN"]
                    TMJSTO=[4995](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01A-S"], NHYDs to add=["KB-01A-MJ"+"KB-01A-MN"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01B"], DT=[1]min, AREA=[31.1](ha), XIMP=[0.1875],
TIMP=[0.375], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.42](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.42](%),
                    LGI=[455.339](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01B"], CINLET=[1.585](cms), NINLET=[1],
                    MajNHYD=["KB-01B-MJ"]
                    MinNHYD=["KB-01B-MN"]
                    TMJSTO=[6075](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01B-S"], NHYDs to add=["KB-01B-MJ"+"KB-01B-MN"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01C"], DT=[1]min, AREA=[13.78](ha), XIMP=[0.2045],
TIMP=[0.409], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[303.095](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
```

```
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01C"], CINLET=[1.35](cms), NINLET=[1],
                    MajNHYD=["KB-01C-MJ"]
                    MinNHYD=["KB-01C-MN"]
                    TMJSTO=[1880](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01C-S"], NHYDs to add=["KB-01C-MJ"+"KB-01C-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-03"], DT=[1]min, AREA=[84.78](ha), XIMP=[0.197],
TIMP=[0.394], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.63](%),
                    LGI=[751.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-03"], CINLET=[5.27](cms), NINLET=[1],
                    MajNHYD=["KB-03-MJ"]
                    MinNHYD=["KB-03-MN"]
                    TMJSTO=[15500](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-03-S"], NHYDs to add=["KB-03-MJ"+"KB-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-04"], DT=[1]min, AREA=[6.95](ha), XIMP=[0.85],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.942](mm), SLPI=[0.5](%),
                    LGI=[215.252](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-04"], CINLET=[0.503](cms), NINLET=[1],
                    MajNHYD=["KB-04-MJ"]
                    MinNHYD=["KB-04-MN"]
                    TMJSTO=[1972](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-04-S"], NHYDs to add=["KB-04-MJ"+"KB-04-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-05"], DT=[1]min, AREA=[5.19](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[186.011](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-06"], DT=[1]min, AREA=[12.93](ha), XIMP=[0.873],
TIMP=[0.873], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.942](mm), SLPI=[4.75](%),
```

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                    LGI=[293.598](m), MNI=[0.013], SCI=[0](min),
3210                Continuous simulation parameters:
3211                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3212 *%----------------|-------------------------------------------------------------|
3213 COMPUTE DUALHYD    NHYDin=["KB-06"], CINLET=[2.262](cms), NINLET=[1],
3214                    MajNHYD=["KB-06-MJ"]
3215                    MinNHYD=["KB-06-MN"]
3216                    TMJSTO=[1950](cu-m)
3217 *%----------------|-------------------------------------------------------------|
3218 ADD HYD            NHYDsum=["KB-06-S"], NHYDs to add=["KB-06-MJ"+"KB-06-MN"]
3219 *%----------------|-------------------------------------------------------------|
3220 CONTINUOUS STANDHYD NHYD=["KB-11"], DT=[1]min, AREA=[4.03](ha), XIMP=[0.675],
     TIMP=[0.675], DWF=[0](cms), LOSS=[1]:
3221                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3222                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3223                Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[163.911](m), MNI=[0.013], SCI=[0](min),
3224                Continuous simulation parameters:
3225                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3226 *%----------------|-------------------------------------------------------------|
3227 COMPUTE DUALHYD    NHYDin=["KB-11"], CINLET=[0.5773](cms), NINLET=[1],
3228                    MajNHYD=["KB-11-MJ"]
3229                    MinNHYD=["KB-11-MN"]
3230                    TMJSTO=[597](cu-m)
3231 *%----------------|-------------------------------------------------------------|
3232 ADD HYD            NHYDsum=["KB-11-S"], NHYDs to add=["KB-11-MJ"+"KB-11-MN"]
3233 *%----------------|-------------------------------------------------------------|
3234 CONTINUOUS STANDHYD NHYD=["S1"], DT=[1]min, AREA=[4.99](ha), XIMP=[0.93], TIMP=[0.93],
     DWF=[0](cms), LOSS=[1]:
3235                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3236                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3237                Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[182.392](m), MNI=[0.013], SCI=[0](min),
3238                Continuous simulation parameters:
3239                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3240 *%----------------|-------------------------------------------------------------|
3241 CONTINUOUS STANDHYD NHYD=["KB-15"], DT=[1]min, AREA=[2.15](ha), XIMP=[0.79],
     TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
3242                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3243                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3244                Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[119.722](m), MNI=[0.013], SCI=[0](min),
3245                Continuous simulation parameters:
3246                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3247 *%----------------|-------------------------------------------------------------|
3248 *%----------------|-------------------------------------------------------------|
3249 ADD HYD            NHYDsum=["KB-P1"], NHYDs to
     add=["KB-01A-S"+"KB-01B-S"+"KB-01C-S"+"KB-03-S"+"KB-04-S"+"KB-05"+"KB-06-S"+"KB-11-S"+"KB
     -15"+"S1"]
3250 *%----------------|-------------------------------------------------------------|
3251 ROUTE RESERVOIR    NHYDout=["KB-P1R"],  NHYDin=["KB-P1"],
3252                    RDT=[1](min),
3253                          TABLE of ( OUTFLOW-STORAGE ) values
3254                                    (cms) - (ha-m)
3255                                  [   0.0 ,  0.0 ]
3256                                  [0.076,0.003]
```

```
                                    [0.088,0.006]
                                    [0.136,0.011]
                                    [0.301,0.017]
                                    [0.454,0.027]
                                    [0.631,0.041]
                                    [1.173,0.068]
                                    [1.91,0.111]
                                    [4.847,0.231]
                                    [9.813,0.436]
                                    [12.134,0.617]
                                    [12.438,0.732]
                                    [12.424,0.811]
                                    [12.425,0.894]
                                    [   -1   ,   -1   ]  (max twenty pts)
                          NHYDovf=["KB-P1ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond1"], NHYDs to add=["KB-P1R"+"KB-P1ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-07"], DT=[1]min, AREA=[10.86](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[269.072](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-07"], CINLET=[2.094](cms), NINLET=[1],
                    MajNHYD=["KB-07-MJ"]
                    MinNHYD=["KB-07-MN"]
                    TMJSTO=[1378](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-07-S"], NHYDs to add=["KB-07-MJ"+"KB-07-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-08"], DT=[1]min, AREA=[6.61](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[209.921](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-08"], CINLET=[1.058](cms), NINLET=[1],
                    MajNHYD=["KB-08-MJ"]
                    MinNHYD=["KB-08-MN"]
                    TMJSTO=[787](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-08-S"], NHYDs to add=["KB-08-MJ"+"KB-08-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-09"], DT=[1]min, AREA=[2.6](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
```

```
                    LGI=[131.656](m), MNI=[0.013], SCI=[0](min),
3310                Continuous simulation parameters:
3311                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3312 *%----------------|-------------------------------------------------------------|
3313 *%----------------|-------------------------------------------------------------|
3314 CONTINUOUS STANDHYD NHYD=["KB-10_1"], DT=[1]min, AREA=[2.37](ha),  XIMP=[0.86],
     TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
3315                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3316                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3317                Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[125.698](m), MNI=[0.013], SCI=[0](min),
3318                Continuous simulation parameters:
3319                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3320 *%----------------|-------------------------------------------------------------|
3321 CONTINUOUS STANDHYD NHYD=["KB-10_2"], DT=[1]min, AREA=[1.14](ha), XIMP=[0.86],
     TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
3322                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3323                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3324                Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%), LGI=[87.178](m),
                    MNI=[0.013], SCI=[0](min),
3325                Continuous simulation parameters:
3326                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3327 *%----------------|-------------------------------------------------------------|
3328 *%----------------|-------------------------------------------------------------|
3329 CONTINUOUS STANDHYD NHYD=["KB-12"], DT=[1]min, AREA=[4.86](ha), XIMP=[0.79],
     TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
3330                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3331                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3332                Impervious areas: IAimp=[1.099](mm), SLPI=[2.0](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
3333                Continuous simulation parameters:
3334                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3335 *%----------------|-------------------------------------------------------------|
3336 COMPUTE DUALHYD     NHYDin=["KB-12"], CINLET=[0.8665](cms), NINLET=[1],
3337                MajNHYD=["KB-12-MJ"]
3338                MinNHYD=["KB-12-MN"]
3339                TMJSTO=[632](cu-m)
3340 *%----------------|-------------------------------------------------------------|
3341 ADD HYD             NHYDsum=["KB-12-S"], NHYDs to add=["KB-12-MJ"+"KB-12-MN"]
3342 *%----------------|-------------------------------------------------------------|
3343 CONTINUOUS STANDHYD NHYD=["KB-13"], DT=[1]min, AREA=[10.19](ha), XIMP=[0.64],
     TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
3344                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3345                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3346                Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[260.640](m), MNI=[0.013], SCI=[0](min),
3347                Continuous simulation parameters:
3348                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3349 *%----------------|-------------------------------------------------------------|
3350 COMPUTE DUALHYD     NHYDin=["KB-13"], CINLET=[1.722](cms), NINLET=[1],
3351                MajNHYD=["KB-13-MJ"]
3352                MinNHYD=["KB-13-MN"]
3353                TMJSTO=[1077](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-13-S"], NHYDs to add=["KB-13-MJ"+"KB-13-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-14"], DT=[1]min, AREA=[5.47](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[190.962](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-14"], CINLET=[0.8734](cms), NINLET=[1],
                    MajNHYD=["KB-14-MJ"]
                    MinNHYD=["KB-14-MN"]
                    TMJSTO=[631](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-14-S"], NHYDs to add=["KB-14-MJ"+"KB-14-MN"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_2"], DT=[1]min, AREA=[3.42](ha), XIMP=[0.71],
TIMP=[0.71], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[150.997](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P2"], NHYDs to
add=["KB-Pond1"+"KB-07-S"+"KB-08-S"+"KB-09"+"KB-10_1"+"KB-10_2"+"KB-12-S"+"KB-13-S"+"KB-1
4-S"+"KB-16_2"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["KB-P2R"],  NHYDin=["KB-P2"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [0.053,0.005]
                                   [0.132,0.009]
                                   [0.269,0.014]
                                   [0.455,0.023]
                                   [0.699,0.037]
                                   [0.947,0.056]
                                   [1.853,0.09]
                                   [2.712,0.146]
                                   [6.626,0.287]
                                   [11.228,0.515]
                                   [14.885,0.738]
                                   [16.473,0.893]
                                   [17.311,0.998]
                                   [17.633,1.063]
                                   [17.634,1.112]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond2"], NHYDs to add=["KB-P2R"+"KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond2"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB second pond"]
```

```
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_1"], DT=[1]min, AREA=[2.8](ha), XIMP=[0.75],
TIMP=[0.75], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[136.626](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P3"], NHYDs to add=["KB-Pond2"+"KB-16_1"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
* One inflow node from pond 3 is added to the model (ROUTE RESERVOIR)
* Another inflow node from right side of pond 3 is not added to the model
ROUTE RESERVOIR     NHYDout=["KB-P3R"],  NHYDin=["KB-P3"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [0.051,0.002]
                                  [0.048,0.003]
                                  [0.057,0.029]
                                  [0.089,0.045]
                                  [0.133,0.069]
                                  [0.199,0.106]
                                  [0.321,0.172]
                                  [1.029,0.306]
                                  [4.036,0.527]
                                  [8.332,0.761]
                                  [11.727,0.941]
                                  [14.125,1.067]
                                  [15.675,1.149]
                                  [16.555,1.196]
                                  [16.911,1.214]
                                  [   -1  ,  -1  ]   (max twenty pts)
                          NHYDovf=["KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond3"], NHYDs to add=["KB-P3R"+"KB-P3ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond3"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB third pond"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM
Modeling Approach, NOVATECH Report June, 2020)
*#    - TO FRASER-CLARKE DRAIN
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FC-01"], DT=[1]min, AREA=[8.03](ha), XIMP=[0.47],
TIMP=[0.47], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[231.373](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-01"], CINLET=[0.756](cms), NINLET=[1],
                    MajNHYD=["FC-01-MJ"]
                    MinNHYD=["FC-01-MN"]
```

```
                    TMJSTO=[714](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-01-S"], NHYDs to add=["FC-01-MJ"+"FC-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-02"], DT=[1]min, AREA=[16.05](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[327.109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-02"], CINLET=[1.159](cms), NINLET=[1],
                    MajNHYD=["FC-02-MJ"]
                    MinNHYD=["FC-02-MN"]
                    TMJSTO=[2385](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-02-S"], NHYDs to add=["FC-02-MJ"+"FC-02-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-03"], DT=[1]min, AREA=[7.37](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[221.660](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-03"], CINLET=[0.358](cms), NINLET=[1],
                    MajNHYD=["FC-03-MJ"]
                    MinNHYD=["FC-03-MN"]
                    TMJSTO=[1131](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-03-S"], NHYDs to add=["FC-03-MJ"+"FC-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-04"], DT=[1]min, AREA=[12.87](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[292.916](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-04"], CINLET=[0.741](cms), NINLET=[1],
                    MajNHYD=["FC-04-MJ"]
                    MinNHYD=["FC-04-MN"]
                    TMJSTO=[1794](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-04-S"], NHYDs to add=["FC-04-MJ"+"FC-04-MN"]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
*#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling
Approach, NOVATECH Report June, 2020)
*#    - TO JOCK RIVER
*#*********************************************************************
```

```
CONTINUOUS STANDHYD NHYD=["JR-01"], DT=[1]min, AREA=[8.24](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[234.379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-01"], CINLET=[0.563](cms), NINLET=[1],
                    MajNHYD=["JR-01-MJ"]
                    MinNHYD=["JR-01-MN"]
                    TMJSTO=[1040](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-01-S"], NHYDs to add=["JR-01-MJ"+"JR-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["JR-02"], DT=[1]min, AREA=[1.59](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[102.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-02"], CINLET=[0.153](cms), NINLET=[1],
                    MajNHYD=["JR-02-MJ"]
                    MinNHYD=["JR-02-MN"]
                    TMJSTO=[153](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-02-S"], NHYDs to add=["JR-02-MJ"+"JR-02-MN"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment FRASER
*#    - To Fraser-Clarke drain (north of the Jock)
*#    - Developed land with assumed 43% imp.
*#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
*#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
*#*************************************************************************
CONTINUOUS NASHYD   NHYD=["FRASER-DRN"], DT=[1]min, AREA=[13.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.4258]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
*                    XIMP=[0.585], TIMP=[0.585], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[80],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[379.561](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

```
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.674]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["FRASER-D"], CINLET=[3.545](cms), NINLET=[1],
*                    MajNHYD=["FRASER-J"]
*                    MinNHYD=["FRASER-N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["FRASER-S"], NHYDs to add=["FRASER-J"+"FRASER-N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["MS_P20"],  NHYDin=["FRASER"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [   0.0 ,  0.0 ]
*                                  [   0.04 , 0.36]
*                                  [   -1   ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P20-OVF"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["4241"], NHYDs to
add=["KB-Pond3"+"S-1-B"+"FRASER-DRN"+"FRASER-D"+"N_KB"+"FC-01-S"+"FC-02-S"+"FC-03-S"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["4241"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------|
*# Hydrograph from Node Ken-Burnett to station 3633
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
*#
ROUTE CHANNEL       NHYDout=["4241-out"], NHYDin=["4241"],  RDT=[1](min),
                    CHLGTH=[294](m),  CHSLOPE=[0.1088](%), FPSLOPE=[0.1088](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.05, -20.12
                                             -0.035, 45.26
                                              0.05, 403.84] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[]
                    [-909.72, 95 ]
                    [-907.09, 94.5 ]
                    [-904.65, 94 ]
                    [-902.26, 93.5 ]
                    [-44.51, 91.5 ]
                    [-25.1, 91.5 ]
                    [-20.98, 91 ]
                    [-20.61, 90.5 ]
                    [-20.12, 90 ]
                    [-6.13, 87.26 ]
                    [17.51, 86.56 ]
                    [31.37, 87.2 ]
                    [45.26, 90 ]
                    [50.41, 90.5 ]
                    [63.06, 91 ]
                    [134.5, 91.5 ]
                    [190.63, 92 ]
                    [251.98, 92.5 ]
                    [321.32, 93.5 ]
```

```
                    [403.84, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_KB"], NHYDs to
add=["4241-out"+"FC-04-S"+"JR-01-S"+"JR-02-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_KB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 3633]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Station 3633 to Node Todd
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and
change the slope from 0.0498% to 0.24671%. That is because of adding station 4241
between station 4534 and  station 3633
*#
ROUTE CHANNEL       NHYDout=["N_TO"], NHYDin=["SN_KB"],  RDT=[1](min),
                    CHLGTH=[608](m),  CHSLOPE=[0.24671](%), FPSLOPE=[0.24671](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.05, -23.74
                                             -0.035, 23.74
                                              0.05, 26.50] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[]
                    -29.24, 91.0
                    -27.41, 90.5
                    -25.64, 90
                    -23.74, 89.5
                    -22, 89.26
                    -20, 88.51
                    -19, 88.32
                    -15, 88.1
                    -10, 88.11
                    -5, 88.17
                    0, 88.27
                    5, 88.19
                    10, 88.06
                    15, 88.48
                    16, 88.7
                    23.74, 89.5
                    24.68, 90
                    25.57, 90.5
                    26.50, 91.0
*                                       [-29.24, 91]
*                                       [-27.41, 90.5]
*                                       [-25.64, 90]
*                                       [-23.74, 89.5]
*                                       [-22, 89. 26]
*                                       [-20, 88.51]
*                                       [-19, 88.32]
*                                       [-15, 88.1]
*                                       [-10, 88.11]
*                                       [-5, 88.17]
*                                       [0, 88.27]
*                                       [5, 88.19]
*                                       [10, 88.06]
*                                       [15, 88.48]
*                                       [16, 88.7]
*                                       [23.74, 89.5]
*                                       [24.68, 90]
*                                       [25.57, 90.5]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
*#    Catchment Greenbank
*#    - To Greenbank Drain (south of the Jock)
*#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
*#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
*#*********************************************************************
CONTINUOUS STANDHYD NHYD=["Greenbank"], DT=[1]min, AREA=[36.6](ha),
```

```
                    XIMP=[0.639], TIMP=[0.682], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[493.96](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["GreenB_MN"] ,NHYDin=["Greenbank"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [    0.0 , 0.0    ]
                                   [ 0.033 , 0.084 ]
                                   [ 0.039 , 0.201 ]
                                   [ 0.113 , 0.292 ]
                                   [ 0.237 , 0.386 ]
                                   [ 0.382 , 0.484 ]
                                   [ 0.539 , 0.585 ]
                                   [ 0.7 , 0.692 ]
                                   [ 0.86 , 0.804 ]
                                   [ 4.684 , 0.922 ]
                                   [ 11.539 , 1.052 ]
                                   [ 20.867 , 1.168 ]
                                   [ 103.616 , 1.974 ]
                                   [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["GreenB_MJ"] ,
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["GreenB"], NHYDs to add=["N_TO"+"GreenB_MJ"+"GreenB_MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["GreenB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Greenbank Drain"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 increase imp. based on P598(04)-11
*#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on
P598(04)-11
*#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
*#*****************************************************************************
*#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it
from Todd
*CONTINUOUS STANDHYD NHYD=["TODD_MN1"], DT=[1]min, AREA=[1.772](ha),
*                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[108.689](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN2"], DT=[1]min, AREA=[2.1](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
```

```
                        LGI=[118.322](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN3"], DT=[1]min, AREA=[0.117](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                        LGI=[27.928](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MJ"], DT=[1]min, AREA=[30.230](ha),
                    XIMP=[0.52], TIMP=[0.64], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                        LGI=[448.925](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-19  update "TODD_ALL" area from 108.741 ha to 112.908 ha based on
GIS measurements (148.41-30.23-0.117-2.1-3.055=112.908 ha)
CONTINUOUS STANDHYD NHYD=["TODD_ALL"], DT=[1]min, AREA=[112.908](ha),
                    XIMP=[0.52], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                        LGI=[867.594](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_P"], DT=[1]min, AREA=[3.055](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                        LGI=[142.712](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
and its parameters remain the same.
*CONTINUOUS STANDHYD NHYD=["TODD_DEVL"], DT=[1]min, AREA=[15.87](ha),
*                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
```

```
*                          LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now is called "corr2" and its parameters remain the same.
*CONTINUOUS NASHYD   NHYD=["TODD_UnD"], DT=[1]min, AREA=[12.47](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.10]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MJ"], CINLET=[3.314](cms), NINLET=[1],
*                     MajNHYD=["TODD_MJj"]
*                     MinNHYD=["TODD_MJn"]
*                     TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MJn"] ,NHYDin=["TODD_MJ"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 3.314  , 0.0001 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                         NHYDovf=["TODD_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MN1"], CINLET=[0.227](cms), NINLET=[1],
*                     MajNHYD=["TODD_MN1j"]
*                     MinNHYD=["TODD_MN1n"]
*                     TMJSTO=[0.1](cu-m)
*ROUTE RESERVOIR     NHYDout=["TODD_MN1n"] ,NHYDin=["TODD_MN1"] ,
*                     RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [    0.0 , 0.0    ]
*                                  [ 0.227  , 0.0001 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["TODD_MN1j"] ,
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["TODD_MN2"], CINLET=[0.268](cms), NINLET=[1],
*                     MajNHYD=["TODD_MN2j"]
*                     MinNHYD=["TODD_MN2n"]
*                     TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MN2n"] ,NHYDin=["TODD_MN2"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 0.268  , 0.0001 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                         NHYDovf=["TODD_MN2j"] ,
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["TODD_MN3"], CINLET=[0.016](cms), NINLET=[1],
*                     MajNHYD=["TODD_MN3j"]
*                     MinNHYD=["TODD_MN3n"]
*                     TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MN3n"] ,NHYDin=["TODD_MN3"] ,
```

```
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [    0.0 , 0.0    ]
                                     [ 0.016  , 0.0001 ]
                                     [    -1  ,  -1    ]  (max twenty pts)
                           NHYDovf=["TODD_MN3j"] ,
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the major system from A2 can be added to Todd
CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
                     XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                             LGI=[566](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
                     MajNHYD=["A2-MJ"]
                     MinNHYD=["A2-MN"]
                     TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["TODD"], NHYDs to add=["TODD_MN2n"+"TODD_MN3n"+"TODD_MJj"+"TODD_P"+"TODD_ALL"+"W_CLAR_MJn"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["TODD"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************************
*#    Todd Pond 3
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*********************************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P3"],  NHYDin=["TODD"],
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                       (cms) - (ha-m)
                                     [   0.0 ,  0.0 ]
                                     [ 0.014 , 0.155 ]
                                     [ 0.048 , 0.394 ]
                                     [ 0.061 , 0.56 ]
                                     [ 0.08 , 0.909 ]
                                     [ 0.088 , 1.089 ]
                                     [ 0.109 , 1.652 ]
                                     [ 0.118 , 1.952 ]
                                     [ 0.122 , 2.099 ]
                                     [ 1.972 , 2.269 ]
                                     [ 9.135 , 2.598 ]
                                     [ 15.608 , 2.826 ]
                                     [ 19.256 , 2.942 ]
                                     [ 27.282 , 3.181 ]
                                     [ 40.957 , 3.55 ]
                                     [ 56.372 , 3.929 ]
                                     [ 73.349 , 4.317 ]
                                     [ 85.469 , 4.579 ]
                                     [ 104.771 , 4.977 ]
                                     [   -1  ,  -1  ]  (max twenty pts)
                           NHYDovf=["P3-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_TO"], NHYDs to add=["GreenB"+"MS_P3"+"P3-OVF"+"TODD_MN2j"+"A2-MJ"]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so
the model will be more stable and give reasonable results. It is justifiable as ROUTE
CHANNELs aren't well suited to really flat slopes.
*
ROUTE CHANNEL       NHYDout=["N_TO"] ,NHYDin=["SN_TO"] ,
                    RDT=[1](min),
                    CHLGTH=[280](m),  CHSLOPE=[0.05](%),
                                        FPSLOPE=[0.05](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["N_TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total inflows at Station 2462"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment CORRIG
*#    - To Corrigan Drain (south of the Jock)
*#    - Primarily Developed (medium density)
*#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
*#*************************************************************************
*ROUTE RESERVOIR     NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [   0.0 ,  0.0 ]
*                                    [   0.06 , 0.58]
*                                    [   -1  ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD            NHYD=["SN_CO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                    HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
```

```
and its parameters remain the same.
CONTINUOUS STANDHYD NHYD=["corr1"], DT=[1]min, AREA=[15.87](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*      -JFSA 2021-02-23 add DUALHYD for "corr1". "corr1" DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to "corr1".
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD     NHYDin=["corr1"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["corr1-MJ"]
                    MinNHYD=["corr1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now
is called "corr2" and its parameters remain the same.
CONTINUOUS NASHYD   NHYD=["corr2"], DT=[1]min, AREA=[12.47](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change A1-Corrig to be developed as per geoottawa website and
apply the parameters of A2, the nearest sub-catchment to A1-Corrig, LGI is calculated
based on A1-Corrig area
*     -JFSA 2021-01-19 update all Corrigan areas based on GIS measurements, and keep
LGI as it is from Corrigan Report, IBI Group, 2008 because LGI calculated is less than
LGI from the Corrigan Report
CONTINUOUS STANDHYD NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[324.037](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*
*      -JFSA 2021-01-25 add DUALHYD for A1-Corrig. A1-Corrig DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to A1-Corrig.
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD     NHYDin=["A1-Corrig"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A1-MJ"]
                    MinNHYD=["A1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
*                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
```

```
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["B1"], DT=[1]min, AREA=[2.77](ha),
                    DWF=[0](cms),  CN/C=[56], IA=[2.5](mm),
                    N=[3.0], TP=[0.23]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A4"], DT=[1]min, AREA=[1.27](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[253](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A4"], CINLET=[0.405](cms), NINLET=[1],
                    MajNHYD=["A4-MJ"]
                    MinNHYD=["A4-MN"]
                    TMJSTO=[68](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH101"], NHYDs to
add=["A1-MJ"+"A1-MN"+"corr1-MJ"+"corr1-MN"+"corr2"+"B1"+"A4-MN"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH101"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH101"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["101-102"], RNUMBER=[1.0], PDIAM=[1050](mm),
                    PLNGTH=[368](m), PROUGH=[0.013], PSLOPE=[0.0054](m/m),
                    NHYDin=["MH101"], RDT=[1]
*%-----------------|-------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
*CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
*                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[566](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
*                    MajNHYD=["A2-MJ"]
*                    MinNHYD=["A2-MN"]
*                    TMJSTO=[924](cu-m)
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH102"], NHYDs to add=["A2-MN"+"101-102"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH102"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH102"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A5"], DT=[1]min, AREA=[1.6](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[300](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["A5T"], NHYDs to add=["A4-MJ"+"A5"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A5T"], CINLET=[0.357](cms), NINLET=[1],
                    MajNHYD=["A5-MJ"]
                    MinNHYD=["A5-MN"]
                    TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA Jan. 2021, A3 is a part of Todd so it is removed
*   -JFSA Jan. 2021, "A2-MJ" added to "Todd"
*CONTINUOUS STANDHYD NHYD=["A3"], DT=[1]min, AREA=[18.4](ha),
*                    XIMP=[0.58], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[450](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["A3-A2MJ"], NHYDs to add=["A2-MJ"+"A3"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A3-A2MJ"], CINLET=[2.208](cms), NINLET=[1],
*                    MajNHYD=["A3R-MJ"]
*                    MinNHYD=["A3R-MN"]
*                    TMJSTO=[908](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["102-103"], RNUMBER=[1.0], PDIAM=[1500](mm),
                    PLNGTH=[504](m), PROUGH=[0.013], PSLOPE=[0.0028](m/m),
                    NHYDin=["MH102"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH103"], NHYDs to add=["102-103"+"A5-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH103"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH103"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["103-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                    PLNGTH=[438](m), PROUGH=[0.013], PSLOPE=[0.0046](m/m),
                    NHYDin=["MH103"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A6"], DT=[1]min, AREA=[1.56](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[280](m), MNI=[0.013], SCI=[0](min),
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["A6T"], NHYDs to add=["A5-MJ"+"A6"]
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A6T"], CINLET=[0.357](cms), NINLET=[1],
                    MajNHYD=["A6-MJ"]
                    MinNHYD=["A6-MN"]
                    TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------|
*   -JFSA Jan. 2021, A7-corrig is a part of Todd so it is removed
*CONTINUOUS STANDHYD NHYD=["A7-corrig"], DT=[1]min, AREA=[11.8](ha),
*                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[438](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["A7-A3RMJ"], NHYDs to add=["A3R-MJ"+"A7-corrig"]
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A7-A3RMJ"], CINLET=[1.003](cms), NINLET=[1],
*                    MajNHYD=["A7R-MJ"]
*                    MinNHYD=["A7R-MN"]
*                    TMJSTO=[496](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH104"], NHYDs to add=["A6-MN"+"103-104"+"TODD_MJn"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH104"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH104"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B2"], DT=[1]min, AREA=[12.31](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[417](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B2"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["B2-MJ"]
                    MinNHYD=["B2-MN"]
                    TMJSTO=[508](cu-m)
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["315-333"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[254](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["B2-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B3"], DT=[1]min, AREA=[5.59](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[345](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B3"], CINLET=[0.459](cms), NINLET=[1],
                    MajNHYD=["B3-MJ"]
                    MinNHYD=["B3-MN"]
                    TMJSTO=[227](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH333"], NHYDs to add=["B3-MN"+"315-333"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH333"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH333"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["333-335"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[251](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH333"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["335-338"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[185](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["333-335"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["338-340"], RNUMBER=[1.0], PDIAM=[1350](mm),
                    PLNGTH=[233](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["335-338"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B4"], DT=[1]min, AREA=[7.6](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[388](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B4"], CINLET=[0.655](cms), NINLET=[1],
                    MajNHYD=["B4-MJ"]
                    MinNHYD=["B4-MN"]
                    TMJSTO=[323](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH340"], NHYDs to add=["338-340"+"B4-MN"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH340"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH340"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["340-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                    PLNGTH=[240](m), PROUGH=[0.013], PSLOPE=[0.0015](m/m),
                    NHYDin=["MH340"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH104T"], NHYDs to add=["340-104"+"MH104"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["104-105"], RNUMBER=[1.0],
PWIDTH=[2400](mm)  by PHEIGHT=[2100](mm),
                    PLNGTH=[380](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH104T"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B5"], DT=[1]min, AREA=[2.2](ha),
                    XIMP=[0.57], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
```

```
                        LGI=[187](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B5"], CINLET=[0.260](cms), NINLET=[1],
                    MajNHYD=["B5-MJ"]
                    MinNHYD=["B5-MN"]
                    TMJSTO=[250](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A8"], DT=[1]min, AREA=[0.96](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                        LGI=[186](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["A8T"], NHYDs to add=["A6-MJ"+"A8"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A8T"], CINLET=[0.238](cms), NINLET=[1],
                    MajNHYD=["A8-MJ"]
                    MinNHYD=["A8-MN"]
                    TMJSTO=[40](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH105"], NHYDs to
add=["104-105"+"B5-MN"+"A8-MN"+"TODD_MN3j"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH105"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH105"]
*%-----------------|-------------------------------------------------------------|
DIVERT HYD          NHYDin=["A8-MJ"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["A8-MJ-JR" "A8-MJ-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
                      QIDi +  QIDii  =  QTOTAL
                    [   0  +    0    =    0   ]                    ]
                    [   50 +   50    =    100  ] end
*%-----------------|-------------------------------------------------------------
-----------------------------|
DIVERT HYD          NHYDin=["MH105"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["MH105-JR"  "MH105-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
                      QIDi +  QIDii  =  QTOTAL
                    [   0  +    0    =    0   ]
                    [   0  +   3.0   =   3.0  ]
                    [  96.9+   3.1   =   100  ] end
*%-----------------|-------------------------------------------------------------
-----------------------------|
CONTINUOUS STANDHYD NHYD=["B7"], DT=[1]min, AREA=[7.19](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                        LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                        LGI=[211](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["B7-B4MJ"], NHYDs to add=["B4-MJ"+"B7"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B7-B4MJ"], CINLET=[0.629](cms), NINLET=[1],
                    MajNHYD=["B7R-MJ"]
                    MinNHYD=["B7R-MN"]
                    TMJSTO=[311](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["360-106A"], RNUMBER=[1.0], PDIAM=[1050](mm),
                    PLNGTH=[167](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["B7R-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change B6 to be developed as per geoottawa website and apply the parameters of A7, the nearest sub-catchment to B6, LGI is calculated based on B6 area
CONTINUOUS STANDHYD NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[148.099](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-25   add B1 DUALHYD as per Corrigan Report, IBI Group, 2008
COMPUTE DUALHYD     NHYDin=["B6"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6-MJ"]
                    MinNHYD=["B6-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
*                   DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
*                   N=[3.0], TP=[0.36]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*%    -EX-LAND is external land. It is a part of JOCKVA sub-catchment as per Corrigan Report, IBI Group, 2008
CONTINUOUS STANDHYD NHYD=["EX-LAND"], DT=[1]min, AREA=[32.5](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[465.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["EX-LAND"], CINLET=[2.275](cms), NINLET=[1],
                    MajNHYD=["EX-LAND-MJ"]
                    MinNHYD=["EX-LAND-MN"]
                    TMJSTO=[1365](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["B6-B7ExMJ"], NHYDs to add=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]
*%-----------------|-------------------------------------------------------------|
```

```
COMPUTE DUALHYD     NHYDin=["B6-B7ExMJ"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6R-MJ"]
                    MinNHYD=["B6R-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["105-106A"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[208](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH105-B6"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106A"], NHYDs to
add=["360-106A"+"105-106A"+"B6R-MN"+"B6R-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH106A"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106A"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH106 is called MH117/106 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106A-106"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[190](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106A"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A9"], DT=[1]min, AREA=[2.44](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[262](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A9"], CINLET=[0.547](cms), NINLET=[1],
                    MajNHYD=["A9-MJ"]
                    MinNHYD=["A9-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106"], NHYDs to add=["106A-106"+"A9-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH106"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH107 is called MH118/107 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106-107"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[122.5](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A10"], DT=[1]min, AREA=[4.14](ha),
                    XIMP=[0.35], TIMP=[0.47], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A10"], CINLET=[0.310](cms), NINLET=[1],
                    MajNHYD=["A10-MJ"]
                    MinNHYD=["A10-MN"]
```

```
                    TMJSTO=[228](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A11"], DT=[1]min, AREA=[10.61](ha),
                    XIMP=[0.53], TIMP=[0.62], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A11"], CINLET=[0.993](cms), NINLET=[1],
                    MajNHYD=["A11-MJ"]
                    MinNHYD=["A11-MN"]
                    TMJSTO=[556](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH107"], NHYDs to add=["106-107"+"A10-MN"+"A11-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH107"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH107"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["107-119"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[114](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["MH107"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH108 is called MH120/108 in Corrigan Report, IBI
    Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["119-108"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[65.8](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["107-119"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A12"], DT=[1]min, AREA=[12.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A12"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["A12-MJ"]
                    MinNHYD=["A12-MN"]
                    TMJSTO=[672](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A13"], DT=[1]min, AREA=[2.59](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A13"], CINLET=[0.571](cms), NINLET=[1],
                    MajNHYD=["A13-MJ"]
```

```
                    MinNHYD=["A13-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-01-22 add the Corrigan pond area ("Pond-Block")
CONTINUOUS STANDHYD NHYD=["Pond-Block"], DT=[1]min, AREA=[2.94](ha),
                    XIMP=[0.415], TIMP=[0.415], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH108"], NHYDs to add=["119-108"+"A13-MN"+"A12-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH108"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH108"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["108-116"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[76.6](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["MH108"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["116-corrig"], RNUMBER=[1.0],
PDIAM=[1800](mm),
                    PLNGTH=[79.5](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["108-116"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["Corrigan"], NHYDs to add=["116-corrig"+"Pond-Block"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["Corrigan"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Pond]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["Co-P"],  NHYDin=["Corrigan"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.015 , 0.04118]
                                   [   0.030 , 0.08297]
                                   [   0.045 , 0.12537]
                                   [   0.060 , 0.16837]
                                   [   0.075 , 0.21199]
                                   [   0.090 , 0.27545]
                                   [   0.105 , 0.34650]
                                   [   0.120 , 0.42049]
                                   [   0.135 , 0.50188]
                                   [   0.186 , 0.60307]
                                   [   2.110 , 0.79083]
                                   [   5.874 , 1.00271]
                                   [   11.395 , 1.29643]
                                   [   18.770 , 1.62054]
                                   [   28.143 , 1.97516]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["Co-P-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["corrig"], NHYDs to
add=["Co-P-OVF"+"Co-P"+"N_TO"+"MH105-JR"+"A8-MJ-JR"+"A9-MJ"+"A10-MJ"+"A11-MJ"+"A12-MJ"+"A
13-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["corrig"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Pond"]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
```

```
*#    Corrigan Pond 1
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*************************************************************************
*ROUTE RESERVOIR     NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [   0.0 ,  0.0 ]
*                                   [   0.06 , 0.58]
*                                   [   -1  ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------|
*SAVE HYD            NHYD=["SN_CO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                    HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL       NHYDout=["N_MI"] ,NHYDin=["corrig"] ,
                    RDT=[1](min),
                    CHLGTH=[580](m),  CHSLOPE=[0.4448](%),
                                        FPSLOPE=[0.4448](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|-------------------------------------------------------|
*#*************************************************************************
*#    Catchment MILLS
*#    - To SWM Facility north of the Jock
*#    - Primarily residental development
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["MILLS"], DT=[1]min, AREA=[175.99](ha),
                    XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1118.123](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

```
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Chapman Mills SWM Pond
*#    - Rating curve obtained from CCL hydraulic modeling
*#*************************************************************************
ROUTE RESERVOIR     NHYDout=["MILL_P"],  NHYDin=["MILLS"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.01 , 0.01]
                                   [   0.05 , 0.06]
                                   [   0.09 , 0.11]
                                   [   0.13 , 0.15]
                                   [   0.18 , 0.19]
                                   [   0.28 , 0.28]
                                   [   0.37 , 0.34]
                                   [   0.45 , 0.40]
                                   [   0.51 , 0.44]
                                   [   0.56 , 0.47]
                                   [   0.64 , 0.52]
                                   [   0.76 , 0.59]
                                   [   0.86 , 0.65]
                                   [   1.09 , 0.78]
                                   [   1.44 , 0.96]
                                   [   3.18 , 1.84]
                                   [   4.05 , 2.31]
                                   [   -1   ,  -1  ]  (max twenty pts)
                              NHYDovf=["MIL-OV"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_MI"], NHYDs to add=["N_MI"+"MIL-OV"+"MILL_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_MI"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
*#
ROUTE CHANNEL       NHYDout=["N_DE"] ,NHYDin=["SN_MI"] ,
                    RDT=[1](min),
                    CHLGTH=[1962](m),  CHSLOPE=[0.2227](%),
                                        FPSLOPE=[0.2227](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.56
                      -0.045,18.27
                      0.075,32.51] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-54.07, 85.00]
                    [-39.43, 84.50]
                    [-28.30, 84.00]
                    [-24.12, 83.50]
                    [-22.30, 83.00]
                    [-20.55, 82.50]
                    [-17.56, 82.00]
                    [-12.63, 81.22]
                    [-0.11, 80.75]
                    [11.55, 81.22]
                    [18.27, 82.00]
                    [19.82, 82.50]
                    [22.48, 83.00]
                    [27.90, 83.50]
                    [29.31, 84.00]
```

```
                    [30.81, 84.50]
                    [32.51, 85.00]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment DESIRE
*#    - To Jock River (north of the Jock)
*#    - Rural-estate subdivision (Heart's Desire Community)
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["DESIRE"], DT=[1]min, AREA=[23.78](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[400](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment JOCKVA
*#    - To Jockvale SWM Facility
*#    - Residential development & golf course
*#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
*#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two
areas JOCKVA and EX-LAND 32.5 ha as per IBI GROUP, July 2008.
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["JOCKVA"], DT=[1]min, AREA=[225.13](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1310.55](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["JOCKVA-TO"], NHYDs to
add=["EX-LAND-MN"+"JOCKVA"+"B2-MJ"+"B3-MJ"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["JOCKVA-TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Jockvale SWM Facility
*#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["JOCK_P"],  NHYDin=["JOCKVA-TO"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [   0.27 , 0.03]
                                  [   0.28 , 0.55]
                                  [   0.29 , 1.14]
                                  [   0.30 , 1.80]
                                  [   0.31 , 2.32]
                                  [   1.12 , 2.87]
                                  [   2.92 , 3.45]
                                  [   4.64 , 4.07]
                                  [   6.69 , 4.72]
                                  [   9.02 , 5.39]
                                  [   11.62 , 6.10]
```

```
                                    [   14.42 , 6.85]
                                    [   17.45 , 7.62]
                                    [   20.69 , 8.44]
                                    [   24.08 , 9.28]
                                    [   27.68 , 10.17]
                                    [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_DE"], NHYDs to add=["N_DE"+"DESIRE"+"JO-OVF"+"JOCK_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_DE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL       NHYDout=["N1"] ,NHYDin=["SN_DE"] ,
                    RDT=[1](min),
                    CHLGTH=[563](m),  CHSLOPE=[0.9668](%),
                                        FPSLOPE=[0.9668](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-30.20
                      -0.045,30.20
                      0.075,48.48] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-98.46, 81.50]
                    [-92.24, 81.00]
                    [-86.88, 80.50]
                    [-81.54, 80.00]
                    [-74.36, 79.50]
                    [-63.54, 79.00]
                    [-39.23, 78.50]
                    [-34.51, 78.00]
                    [-33.01, 77.50]
                    [-30.20, 77.00]
                    [-13.42, 76.18]
                    [-1.14, 76.09]
                    [17.06, 76.18]
                    [30.20, 77.00]
                    [32.95, 77.50]
                    [34.06, 78.00]
                    [35.11, 78.50]
                    [36.32, 79.00]
                    [37.74, 79.50]
                    [48.48, 81.50]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-2
*#    - To Jock River (north and south)
*#    - Undeveloped floodplain and river
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["S-2"], DT=[1]min, AREA=[102.94](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[0.40]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_N1"], NHYDs to add=["N1"+"S-2"]
```

```
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["SN_N1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|---------------------------------------------------------|
*#########################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                   ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                   ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                   ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["100YC3H.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[101]
*%                   ["A24SC100.stm"] <--storm filename, one per line for NSTORM time
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
*%                   ["A24SC100_60.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

```
==========================================================================================
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11   5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11   5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11   555    FEB  2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO         2      0   0   11     5    =========
                                                             2      0   0   11     5    # 2549237
      StormWater Management HYdrologic Model                 222     000    11   555    =========

******************************************************************************************
*************************************** SWMHYMO Ver 5.500 ********************************
******************  A single event and continuous hydrologic simulation model  ***********
******************     based on the principles of HYMO and its successors      ***********
******************                 OTTHYMO-83 and OTTHYMO-89.                  ***********
******************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.          ***********
******************                  Ottawa,  Ontario: (613) 836-3884           ***********
******************                  Gatineau, Quebec: (819) 243-6858           ***********
******************                  E-Mail: swmhymo@jfsa.Com                   ***********
******************************************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                  ++++++++++++++
++++++++++++++++++                Ottawa               SERIAL#:2549237      ++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******************************************************************************************
******************             ++++++ PROGRAM ARRAY DIMENSIONS ++++++          ***********
******************             Maximum value for ID numbers  :     11          ***********
******************             Max. number of rainfall points: 105408          ***********
******************             Max. number of flow points    : 105408          ***********
******************************************************************************************


*******************************   S U M M A R Y   O U T P U T   *************************
******************************************************************************************
*                RUN DATE: 2021-03-04     TIME: 11:49:14     RUN COUNTER: 002082         *
******************************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1-Fr-Nash.dat                                                    *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1-Fr-Nash.out                                                    *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1-Fr-Nash.sum                                                    *
* User comments:                                                                         *
* 1:_____________________________________________________________________________________*
* 2:_____________________________________________________________________________________*
* 3:_____________________________________________________________________________________*
******************************************************************************************


#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [M.M.]
#  Company     : JFSAinc.
#  License #   :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
# ---------------------------------------------------------------------------
  ** END OF RUN :    1

******************************************************************************************





 RUN#:COMMAND#
R0002:C00001-----------------------------------------------------------------------------
       START
        [TZERO =    .00 hrs on        0]
        [METOUT=   2    (1=imperial, 2=metric output)]
        [NSTORM=   1 ]
        [NRUN  = 0002 ]
#*****************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*****************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [M.M.]
#  Company     : JFSAinc.
#  License #   :  2549237
#*****************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
# ---------------------------------------------------------------------------
R0002:C00002-----------------------------------------------------------------------------
       READ STORM
        Filename = storm.001
        Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
        [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003-----------------------------------------------------------------------------
       MODIFY STORM
        [RFACT=  1.00:TSHIFT= 960.00 min]
        [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004-----------------------------------------------------------------------------
       DEFAULT VALUES
        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
        ICASEdv  = 1 (read and print data)
        FileTitle= File comment: [Based onvarious calibration exercises in Onta
                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
        Horton's infiltration equation parameters:
        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
        Parameters for PERVIOUS surfaces in STANDHYD:
        [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
        Parameters for IMPERVIOUS surfaces in STANDHYD:
        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
        Parameters used in NASHYD:
        [Ia=   4.67 mm] [N= 3.00]
        Average monthly Pan Evaporation data in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
        Average monthly Potential Evapotranspiration in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0002:C00005-----------------------------------------------------------------------------
       COMPUTE API
        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
        {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00    6.204 No_date   37:06   11.47 .252     .000
        [CN= 64.0: N= 3.00: Tp= 7.13]
        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    2.187 No_date   32:37   10.75 .236     .000
        [CN= 61.0: N= 3.00: Tp= 3.76]
        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    3.218 No_date   39:59    9.43 .207     .000
        [CN= 55.0: N= 3.00: Tp=11.33]
        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
        [InterEventTime=  12.00]
R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00    5.504 No_date   32:45   13.94 .306     .000
        [CN= 72.0: N= 3.00: Tp= 3.91]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    2.720 No_date   29:22   11.98 .263     .000
        [CN= 66.0: N= 3.00: Tp= 1.24]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00    4.042 No_date   34:34   11.98 .263     .000
        [CN= 66.0: N= 3.00: Tp= 5.29]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   11.228 No_date   38:07   13.94 .306     .000
        [CN= 72.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   11.072 No_date   39:59   11.98 .263     .000
        [CN= 66.0: N= 3.00: Tp=11.66]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    4.434 No_date   30:56   13.35 .293     .000
        [CN= 70.0: N= 3.00: Tp= 2.51]
        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00    5.504 No_date   39:59   10.98 .241     .000
        [CN= 62.0: N= 3.00: Tp=11.32]
        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8         131.00     .805 No_date   28:57   11.22 .247     .000
        [CN= 63.0: N= 3.00: Tp=  .90]
        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00    6.242 No_date   38:46   11.98 .263     .000
        [CN= 66.0: N= 3.00: Tp= 8.42]
        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    4.651 No_date   36:31    9.85 .217     .000
        [CN= 57.0: N= 3.00: Tp= 6.65]
        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .413 No_date   33:07   12.24 .269     .000
        [CN= 67.0: N= 3.00: Tp= 4.18]
        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    3.148 No_date   35:23   13.94 .306     .000
        [CN= 72.0: N= 3.00: Tp= 5.95]
        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
        [InterEventTime=  12.00]
R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    2.597 No_date   28:45   15.91 .350     .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   14.839 No_date   33:25   14.57 .320     .000
        [CN= 74.0: N= 3.00: Tp= 4.45]
        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
        [InterEventTime=  12.00]
R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .309 No_date   28:36   17.79 .391     .000
        [CN= 81.0: N= 3.00: Tp=  .62]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    3.090 No_date   38:04   15.22 .334     .000
        [CN= 75.0: N= 3.00: Tp= 8.00]
        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
        [InterEventTime=  12.00]
R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4         585.00    4.325 No_date   29:58   17.79 .391     .000
        [CN= 81.0: N= 3.00: Tp= 1.75]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00    5.747 No_date   30:50   17.39 .382     .000
        [CN= 80.0: N= 3.00: Tp= 2.46]
        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
        [InterEventTime=  12.00]
R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    2.052 No_date   28:45   15.91 .350     .000
        [CN= 77.0: N= 3.00: Tp=  .75]
        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
        [InterEventTime=  12.00]
R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00    5.337 No_date   31:50   17.79 .391     .000
        [CN= 81.0: N= 3.00: Tp= 3.25]
        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
        [InterEventTime=  12.00]
R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   11.528 No_date   31:35   15.56 .342     .000
        [CN= 76.0: N= 3.00: Tp= 3.03]
        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
        [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW       3680.00    6.204 No_date   37:06   11.47  n/a     .000
                    +      1.0 02:SW_13        971.00    2.187 No_date   32:37   10.75  n/a     .000
                 SUM=      1.0 01:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .429:Dmax= 2.557}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
                    +      1.0 02:JR_GWM      3074.00    3.218 No_date   39:59    9.43  n/a     .000
                 SUM=      1.0 01:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
                 out <=    1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      {MxStoUsed=.3585E+02  m3}
#
R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N12         7725.00    2.609 No_date   58:09   10.57  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .501:Dmax= 1.329}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N12         7725.00    2.609 No_date   58:08   10.57  n/a     .000
                    +      1.0 02:JR_ASH      1781.00    5.504 No_date   32:45   13.94  n/a     .000
                 SUM=      1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
R0002:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
      [RDT= 1.00] out<-    1.0 01:Dum11       9506.00    7.379 No_date   33:12   11.20  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .591:Dmax= 2.108}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
```

```
00375> #
00376> R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00377>     ADD HYD                 1.0 02:Dum11       9506.00    7.379 No_date   33:12   11.20  n/a     .000
00378>                       +     1.0 02:SW_11        500.00    2.720 No_date   29:22   11.98  n/a     .000
00379>                       +     1.0 02:NN_CK       1917.00    4.042 No_date   34:34   11.98  n/a     .000
00380>                     SUM=    1.0 01:S_N11      11923.00   12.077 No_date   33:14   11.36  n/a     .000
00381> #
00382> # Sum of hydrographs from Node 11 routed to Node 10
00383> # Section 1
00384> #
00385> R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00386>     ROUTE CHANNEL   ->      1.0 02:S_N11      11923.00   12.077 No_date   33:14   11.36  n/a     .000
00387>       [RDT= 1.00] out<-     1.0 01:N10        11923.00    8.276 No_date   39:46   11.36  n/a     .000
00388>        [L/S/n=14028./ .157/.040]
00389>        {Vmax=  .462:Dmax=  .886}
00390> #
00391> # Addition of Subwatershed 10 to Node 10
00392> #
00393> R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00394>     ADD HYD                 1.0 02:N10        11923.00    8.276 No_date   39:46   11.36  n/a     .000
00395>                       +     1.0 02:SW_10       5666.00   11.228 No_date   38:07   13.94  n/a     .000
00396>                     SUM=    1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
00397> R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00398>     SAVE HYD                1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
00399>        fname :H_SN10
00400>        remark:flow at S_N10: N10 + SW_10
00401> # Addition of Kings Creek to S_N10
00402> #
00403> R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00404>     ADD HYD                 1.0 02:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
00405>                       +     1.0 02:KG_CK       8376.00   11.072 No_date   39:59   11.98  n/a     .000
00406>                     SUM=    1.0 01:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
00407> #
00408> # Sum of hydrographs from Node 10 routed to Node 9
00409> # Section 2
00410> #
00411> R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00412>     ROUTE CHANNEL   ->      1.0 02:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
00413>       [RDT= 1.00] out<-     1.0 01:N9         25965.00   29.579 No_date   39:59   12.12  n/a     .000
00414>        [L/S/n= 3982./ .075/.040]
00415>        {Vmax=  .595:Dmax= 1.208}
00416> #
00417> # Addition of Subwatershed 9 and Nichols Creek to Node 9
00418> #
00419> R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00420>     ADD HYD                 1.0 02:N9         25965.00   29.579 No_date   39:59   12.12  n/a     .000
00421>                       +     1.0 02:SW_9        1132.00    4.434 No_date   30:56   13.35  n/a     .000
00422>                       +     1.0 02:NC_CK       4464.00    5.504 No_date   39:59   10.98  n/a     .000
00423>                     SUM=    1.0 01:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
00424> #
00425> # Sum of hydrographs from Node 9 routed to Node 8
00426> # Section 3
00427> #
00428> R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00429>     ROUTE CHANNEL   ->      1.0 02:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
00430>       [RDT= 1.00] out<-     1.0 01:N8         31561.00   34.173 No_date   39:59   12.00  n/a     .000
00431>        [L/S/n= 2269./ .088/.045]
00432>        {Vmax=  .418:Dmax= 1.281}
00433> #
00434> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
00435> #
00436> R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00437>     ADD HYD                 1.0 02:N8         31561.00   34.173 No_date   39:59   12.00  n/a     .000
00438>                       +     1.0 02:SW_8         131.00    .805 No_date   28:57   11.22  n/a     .000
00439>                       +     1.0 02:HB_DR       3854.00    6.242 No_date   38:48   11.98  n/a     .000
00440>                     SUM=    1.0 01:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
00441> #
00442> # Sum of hydrographs from Node 8 routed to Node 7
00443> # Section 4
00444> #
00445> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00446>     ROUTE CHANNEL   ->      1.0 02:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
00447>       [RDT= 1.00] out<-     1.0 01:N7         35546.00   32.891 No_date   44:30   12.00  n/a     .000
00448>        [L/S/n= 3750./ .053/.070]
00449>        {Vmax=  .208:Dmax= 1.651}
00450> #
00451> # Addition of Subwatershed 7 to Node 7
00452> #
00453> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00454>     ADD HYD                 1.0 02:N7         35546.00   32.891 No_date   44:30   12.00  n/a     .000
00455>                       +     1.0 02:SW_7        3197.00    4.651 No_date   36:31    9.85  n/a     .000
00456>                     SUM=    1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
00457> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00458>     SAVE HYD                1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
00459>        fname :H_SN7
00460>        remark:flow at S_N7: N7 + SW_7
00461> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
00462> # Storage area and volumes were estimated from available topo maps.
00463> # Release rate from fen was assumed to be controlled by the downstream
00464> # river cross-section for summer conditions.  It is was assumed that for up to
00465> # 0.75 m of water, the main channel of the river provided the storage.  Above
00466> # this depth, the wetland starts to signigicantly store water.
00467> #
00468> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>     ROUTE RESERVOIR ->      1.0 02:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
00470>                       out <=    1.0 01:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
00471>        {MxStoUsed=.7801E+02  m3}
00472> R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00473>     SAVE HYD                1.0 01:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
00474>        fname :H_ResRF
00475>        remark:outflow of Richmond Fen
00476> #
00477> # Sum of hydrographs from Node 7 routed to Node 6
00478> # Section 5
00479> #
00480> R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00481>     ROUTE CHANNEL   ->      1.0 02:RES_RF     38743.00   23.265 No_date   55:09   11.82  n/a     .000
00482>       [RDT= 1.00] out<-     1.0 01:N6         38743.00   23.228 No_date   56:38   11.82  n/a     .000
00483>        [L/S/n= 3056./ .082/.025]
00484>        {Vmax=  .432:Dmax=  .808}
00485> #
00486> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
00487> #
00488> R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00489>     ADD HYD                 1.0 02:N6         38743.00   23.228 No_date   56:38   11.82  n/a     .000
00490>                       +     1.0 02:SW_6         165.00    .413 No_date   33:07   12.24  n/a     .000
00491>                       +     1.0 02:VG_DR       1332.00    3.148 No_date   35:23   13.94  n/a     .000
00492>                     SUM=    1.0 01:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
00493> #
00494> # Sum of hydrographs from Node 6 routed to Node 5
00495> # Section 6
00496> #
00497> R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00498>     ROUTE CHANNEL   ->      1.0 02:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
00499>       [RDT= 1.00] out<-     1.0 01:N5         40240.01   23.285 No_date   56:09   11.89  n/a     .000
00500>        [L/S/n= 1852./ .054/.035]
00501>        {Vmax=  .378:Dmax=  .917}
00502> #
00503> # Addition of Subwatershed 5 and Flowing Creek to Node 5
00504> #
00505> R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00506>     ADD HYD                 1.0 02:N5         40240.01   23.285 No_date   56:09   11.89  n/a     .000
00507>                       +     1.0 02:SW_5         224.00    2.597 No_date   28:45   15.91  n/a     .000
00508>                       +     1.0 02:FL_CK       4945.00   14.839 No_date   33:25   14.57  n/a     .000
00509>                     SUM=    1.0 01:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
00510> #
00511> # Sum of hydrographs from Node 5 routed to Node 5A
00512> # Section 7
00513> #
00514> R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00515>     ROUTE CHANNEL   ->      1.0 02:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
00516>       [RDT= 1.00] out<-     1.0 01:N5A        45409.01   33.135 No_date   37:20   12.20  n/a     .000
00517>        [L/S/n=  556./ .090/.040]
00518>        {Vmax=  .443:Dmax=  .937}
00519> #
00520> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
00521> #
00522> R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00523>     ADD HYD                 1.0 02:N5A        40240.01   23.285 No_date   56:09   11.89  n/a     .000
00524>                       +     1.0 02:SW_5A2        20.00    .309 No_date   28:36   17.79  n/a     .000
00525>                       +     1.0 02:SW_5A1      1412.00    3.090 No_date   38:04   15.22  n/a     .000
00526>                     SUM=    1.0 01:S_N5A      40841.01   36.236 No_date   37:28   12.30  n/a     .000
00527> #
00528> # Sum of hydrographs from Node 5A routed to Node 4
00529> # Section 8
00530> #
00531> R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00532>     ROUTE CHANNEL   ->      1.0 02:S_N5A      40841.01   36.236 No_date   37:28   12.30  n/a     .000
00533>       [RDT= 1.00] out<-     1.0 01:N4         46841.01   35.288 No_date   39:22   12.30  n/a     .000
00534>        [L/S/n= 4630./ .043/.035]
00535>        {Vmax=  .695:Dmax= 2.844}
00536> #
00537> # Addition of Subwatershed 4 and Leamy Creek to Node 4
00538> #
00539> R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00540>     ADD HYD                 1.0 02:N4         46841.01   35.288 No_date   39:22   12.30  n/a     .000
00541>                       +     1.0 02:SW_4         585.00    4.325 No_date   29:58   17.79  n/a     .000
00542>                       +     1.0 02:LM_CK       1021.00    5.747 No_date   30:50   17.39  n/a     .000
00543>                     SUM=    1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
00544> R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00545>     SAVE HYD                1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
00546>        fname :S_N4.0002
00547>        remark:flow at S_N4
00548> #
00549> # Sum of hydrographs from Node 4 routed to Node 2
00550> # Section 9
00551> #
00552> R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00553>     ROUTE CHANNEL   ->      1.0 02:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
00554>       [RDT= 1.00] out<-     1.0 01:N2         48447.00   37.455 No_date   38:49   12.47  n/a     .000
00555>        [L/S/n= 1667./ .060/.040]
00556>        {Vmax=  .715:Dmax= 2.845}
00557> #
00558> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
00559> #
00560> R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00561>     ADD HYD                 1.0 02:N2         48447.00   37.455 No_date   38:49   12.47  n/a     .000
00562>                       +     1.0 02:SW_2         177.00    2.052 No_date   28:45   15.91  n/a     .000
00563>                       +     1.0 02:SM_DR       1122.00    5.337 No_date   31:50   17.79  n/a     .000
00564>                       +     1.0 02:MQ_DR       2737.00   11.528 No_date   31:35   15.56  n/a     .000
00565>                     SUM=    1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
00566> R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00567>     SAVE HYD                1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
00568>        fname :H_SN2
00569>        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
00570> #
00571> # Sum of hydrographs from Node 2 routed to Node 1
00572> # Section 10
00573> #
00574> #*************************************************************************
00575> #
00576> # Hydrograph from Node 2 routed to Node 416
00577> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
00578> #
00579> R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00580>     ROUTE CHANNEL   ->      1.0 02:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
00581>       [RDT= 1.00] out<-     1.0 01:N_416      52483.00   45.431 No_date   35:37   12.76  n/a     .000
00582>        [L/S/n= 2327./ .050/.055]
00583>        {Vmax=  .577:Dmax= 2.212}
00584> #*************************************************************************
00585> #    Catchment SW-1a
00586> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
00587> #    - Undeveloped agricultural land
00588> #*************************************************************************
00589> R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00590>     CONTINUOUS NASHYD     1.0 01:SW_1a        536.42    1.885 No_date   31:21   13.01 .286     .000
00591>        [CN= 72.0: N= 3.00: Tp= 1.79]
00592>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00593>        [InterEventTime= 12.00]
00594> R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00595>     CONTINUOUS NASHYD     1.0 01:S-1-Okeefe    44.93     .373 No_date   29:09   14.83 .326     .000
00596>        [CN= 77.0: N= 3.00: Tp= 1.05]
00597>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
00598>        [InterEventTime= 12.00]
00599> R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00600>     ADD HYD                 1.0 02:N_416      52483.00   45.431 No_date   35:37   12.76  n/a     .000
00601>                       +     1.0 02:SW_1a        536.42    1.885 No_date   31:21   13.01  n/a     .000
00602>                       +     1.0 02:S-1-Okeefe    44.93     .373 No_date   29:09   14.83  n/a     .000
00603>                     SUM=    1.0 01:SN_416     53064.36   46.600 No_date   35:24   12.76  n/a     .000
00604> R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00605>     SAVE HYD                1.0 01:SN_416     53064.36   46.600 No_date   35:24   12.76  n/a     .000
00606>        fname :SN_416.0002
00607>        remark:Total Flows at Highway 416
00608> #
00609> # Hydrograph from Node 416 routed to Node at Okeefe drain
00610> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
00611> #
00612> R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00613>     ROUTE CHANNEL   ->      1.0 02:SN_416     53064.36   46.600 No_date   35:24   12.76  n/a     .000
00614>       [RDT= 1.00] out<-     1.0 01:N_OK       53064.36   46.592 No_date   35:24   12.76  n/a     .000
00615>        [L/S/n=  497./ .302/.055]
00616>        {Vmax= 1.190:Dmax= 1.879}
00617> #*************************************************************************
00618> #    Catchment OKEEFE
00619> #    - To O'Keefe drain (north of the Jock)
00620> #    - Developed with assumed 43% imp.
00621> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
00622> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
00623> #*************************************************************************
00624> R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00625>     CONTINUOUS NASHYD     1.0 01:O-1          63.72     .305 No_date   28:59    9.62 .211     .000
00626>        [CN= 61.0: N= 3.00: Tp=  .90]
00627>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
00628>        [InterEventTime= 12.00]
00629> R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00630>     ROUTE CHANNEL   ->      1.0 02:O-1          63.72     .305 No_date   28:59    9.62  n/a     .000
00631>       [RDT= 1.00] out<-     1.0 01:O-1R         63.72     .272 No_date   29:20    9.62  n/a     .000
00632>        [L/S/n=  960./ .630/.043]
00633>        {Vmax=  .589:Dmax=  .212}
00634> R0002:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00635>     CONTINUOUS NASHYD     1.0 01:O-2          28.61     .110 No_date   29:14    9.11 .200     .000
00636>        [CN= 57.0: N= 3.00: Tp= 1.10]
00637>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
00638>        [InterEventTime= 12.00]
00639> R0002:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00640>     CONTINUOUS NASHYD     1.0 01:O-4          46.94     .126 No_date   29:02    7.06 .155     .000
00641>        [CN= 49.0: N= 3.00: Tp=  .90]
00642>        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
00643>        [InterEventTime= 12.00]
00644> R0002:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00645>     ADD HYD                 1.0 02:O-1R         63.72     .272 No_date   29:20    9.62  n/a     .000
00646>                       +     1.0 02:O-2          28.61     .110 No_date   29:14    9.11  n/a     .000
00647>                       +     1.0 02:O-4          46.94     .126 No_date   29:02    7.06  n/a     .000
00648>                     SUM=    1.0 01:OKF-N       139.27     .504 No_date   29:15    8.65  n/a     .000
00649> R0002:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00650>     ROUTE CHANNEL   ->      1.0 02:OKF-N       139.27     .504 No_date   29:15    8.65  n/a     .000
00651>       [RDT= 1.00] out<-     1.0 01:OKF-NR      139.27     .502 No_date   29:20    8.65  n/a     .000
00652>        [L/S/n=  210./ .810/.043]
00653>        {Vmax=  .722:Dmax=  .437}
00654> R0002:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00655>     CONTINUOUS NASHYD     1.0 01:O-6          16.46     .042 No_date   28:47    6.40 .141     .000
00656>        [CN= 43.0: N= 3.00: Tp=  .60]
00657>        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
00658>        [InterEventTime= 12.00]
00659> R0002:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00660>     CONTINUOUS STANDHYD   1.0 01:O-3          39.67     .402 No_date   28:28   11.03 .242     .000
00661>        [XIMP=.15:TIMP=.30]
00662>        [LOSS= 2 :CN= 50.0]
00663>        [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
00664>        [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
00665>        [IaRECimp=   4.00: IaRECper=   4.00]
00666>        [SMIN= 99.77: SMAX=665.12: SK= .010]
00667> R0002:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00668>     CONTINUOUS STANDHYD   1.0 01:O-5          60.63     .937 No_date   28:10   12.08 .265     .000
00669>        [XIMP=.13:TIMP=.26]
00670>        [LOSS= 2 :CN= 61.0]
00671>        [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
00672>        [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
00673>        [IaRECimp=   4.00: IaRECper=   4.00]
00674>        [SMIN= 64.50: SMAX=430.01: SK= .010]
00675> R0002:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00676>     ADD HYD                 1.0 02:OKF-NR      139.27     .502 No_date   29:20    8.65  n/a     .000
00677>                       +     1.0 02:O-3          39.67     .402 No_date   28:28   11.03  n/a     .000
00678>                       +     1.0 02:O-5          60.63     .937 No_date   28:10   12.08  n/a     .000
00679>                       +     1.0 02:O-6          16.46     .042 No_date   28:47    6.40  n/a     .000
00680>                     SUM=    1.0 01:PT1        256.03    1.441 No_date   28:30    9.69  n/a     .000
00681> R0002:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00682>     CONTINUOUS NASHYD     1.0 01:O-7           5.28     .024 No_date   28:38    8.02 .176     .000
00683>        [CN= 54.0: N= 3.00: Tp=  .60]
00684>        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
00685>        [InterEventTime= 12.00]
00686> R0002:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00687>     ADD HYD                 1.0 02:PT1        256.03    1.441 No_date   28:30    9.69  n/a     .000
00688>                       +     1.0 02:O-7          5.28     .024 No_date   28:38    8.02  n/a     .000
00689>                     SUM=    1.0 01:FF         261.31    1.465 No_date   28:30    9.65  n/a     .000
00690> R0002:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00691>     ROUTE CHANNEL   ->      1.0 02:FF         261.31    1.465 No_date   28:30    9.65  n/a     .000
00692>       [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31    1.446 No_date   28:36    9.65  n/a     .000
00693>        [L/S/n=  302./1.000/.043]
00694>        {Vmax=  .953:Dmax=  .543}
00695> R0002:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00696>     CONTINUOUS NASHYD     1.0 01:D1            1.17     .026 No_date   28:12   15.66 .344     .000
00697>        [CN= 84.0: N= 3.00: Tp=  .20]
00698>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
00699>        [InterEventTime= 12.00]
00700> R0002:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00701>     CONTINUOUS STANDHYD   1.0 01:A1           2.50     .256 No_date   28:01   34.35 .755     .000
00702>        [XIMP=.68:TIMP=.85]
00703>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00704>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00705>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
00706>        [IaRECimp=   4.00: IaRECper=   4.00]
00707> R0002:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00708>     ROUTE RESERVOIR ->      1.0 02:A1           2.50     .256 No_date   28:01   34.35  n/a     .000
00709>                       out <=    1.0 01:A1-STR       2.50     .048 No_date   28:35   34.35  n/a     .000
00710>                overflow <=     1.0 03:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00711>        {MxStoUsed=.4261E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00712> R0002:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00713>     CONTINUOUS STANDHYD   1.0 01:ST-2          .59     .044 No_date   28:00   25.32 .556     .000
00714>        [XIMP=.46:TIMP=.57]
00715>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00716>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00717>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
00718>        [IaRECimp=   4.00: IaRECper=   4.00]
00719> R0002:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00720>     ROUTE RESERVOIR ->      1.0 02:ST-2          .59     .044 No_date   28:00   25.32  n/a     .000
00721>                       out <=    1.0 01:STRSTR       .59     .041 No_date   28:02   25.32  n/a     .000
00722>                overflow <=     1.0 03:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
00723>        {MxStoUsed=.7924E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00724> R0002:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00725>     CONTINUOUS NASHYD     1.0 01:O-8          60.55     .405 No_date   29:05   12.46 .274     .000
00726>        [CN= 69.0: N= 3.00: Tp= 1.00]
00727>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
00728>        [InterEventTime= 12.00]
00729> R0002:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00730>     ROUTE PIPE      ->      1.0 02:O-8          60.55     .405 No_date   29:05   12.46  n/a     .000
00731>       [RDT= 1.00] out<-     1.0 01:O8PIPE       60.55     .402 No_date   29:10   12.46  n/a     .000
00732>        [L/S/n=  335./ .100/.013]
00733>        {Vmax=  .842:Dmax=  .265}
00734>        {HGT= 1.20:WDTH= 1.80}
00735> R0002:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00736>     ADD HYD                 1.0 02:DRAIN1      261.31    1.446 No_date   28:36    9.65  n/a     .000
00737>                       +     1.0 02:D1            1.17     .026 No_date   28:12   15.66  n/a     .000
00738>                       +     1.0 02:A1-STR        2.50     .048 No_date   28:35   34.35  n/a     .000
00739>                       +     1.0 02:A1-OVF         .00     .000 No_date    0:00     .00  n/a     .000
00740>                       +     1.0 02:ST2STR         .59     .041 No_date   28:02   25.32  n/a     .000
00741>                       +     1.0 02:ST2OVF         .00     .000 No_date    0:00     .00  n/a     .000
00742>                       +     1.0 02:O8PIPE       60.55     .402 No_date   29:10   12.46  n/a     .000
00743>                     SUM=    1.0 01:ST2-IN       326.12    1.834 No_date   28:39   10.41  n/a     .000
00744> R0002:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00745>     CONTINUOUS STANDHYD   1.0 01:A7           3.51     .348 No_date   28:02   34.35 .755     .000
00746>        [XIMP=.68:TIMP=.85]
00747>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00748>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
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00749>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
00750>      [IaRECimp=   4.00: IaRECper=     4.00]
00751> R0002:C00093-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00752>     ROUTE RESERVOIR ->    1.0 02:A7            3.51      .348 No_date   28:02   34.35  n/a     .000
00753>                 out <=    1.0 01:A7-STR        3.51      .067 No_date   28:36   34.35  n/a     .000
00754>               overflow <=    1.0 03:A7-OVF        .00      .000 No_date    0:00    .00  n/a     .000
00755>     {MxStoUsed=.6002E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00756> R0002:C00094-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00757>     CONTINUOUS STANDHYD    1.0 01:ST-3          .71      .053 No_date   28:00   25.32 .556     .000
00758>      [XIMP=.46:TIMP=.57]
00759>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00760>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00761>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
00762>      [IaRECimp=   4.00: IaRECper=     4.00]
00763> R0002:C00095-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00764>     ROUTE RESERVOIR ->    1.0 02:ST-3          .71      .053 No_date   28:00   25.32  n/a     .000
00765>                 out <=    1.0 01:ST3STR        .71      .050 No_date   28:02   25.32  n/a     .000
00766>               overflow <=    1.0 03:ST3OVF        .00      .000 No_date    0:00    .00  n/a     .000
00767>     {MxStoUsed=.7947E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00768> R0002:C00096-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00769>     ADD HYD               1.0 02:ST2-IN        326.12     1.834 No_date   28:39   10.41  n/a     .000
00770>                       +    1.0 02:A7-STR        3.51      .067 No_date   28:36   34.35  n/a     .000
00771>                       +    1.0 02:A7-OVF         .00      .000 No_date    0:00    .00  n/a     .000
00772>                       +    1.0 01:ST3STR         .71      .050 No_date   28:02   25.32  n/a     .000
00773>                       +    1.0 02:ST3OVF         .00      .000 No_date    0:00    .00  n/a     .000
00774>                     SUM=    1.0 01:PT2ST3        330.34     1.912 No_date   28:38   10.70  n/a     .000
00775> R0002:C00097-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00776>     ROUTE CHANNEL     ->    1.0 02:PT2ST3        330.34     1.912 No_date   28:38   10.70  n/a     .000
00777>      [RDT= 1.00] out<-     1.0 01:DRAIN2        330.34     1.821 No_date   28:57   10.70  n/a     .000
00778>      [L/S/n=   592.:  230/.043]
00779>      {Vmax=  .681:Dmax=  .785}
00780> R0002:C00098-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00781>     CONTINUOUS NASHYD     1.0 01:D2            2.28      .021 No_date   29:07   15.66 .344     .000
00782>      [CN= 84.0: N= 3.00: Tp=  .99]
00783>      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
00784>      [IntervEventTime=  12.00]
00785> R0002:C00099-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00786>     CONTINUOUS STANDHYD    1.0 01:A17          12.04     1.030 No_date   28:04   34.35 .755     .000
00787>      [XIMP=.68:TIMP=.85]
00788>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00789>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00790>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
00791>      [IaRECimp=   4.00: IaRECper=     4.00]
00792> R0002:C00100-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00793>     ROUTE RESERVOIR ->    1.0 02:A17          12.04     1.030 No_date   28:04   34.35  n/a     .000
00794>                 out <=    1.0 01:A17STR       12.04      .220 No_date   28:42   34.35  n/a     .000
00795>               overflow <=    1.0 03:A17OVF        .00      .000 No_date    0:00    .00  n/a     .000
00796>     {MxStoUsed=.2033E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00797> R0002:C00101-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00798>     CONTINUOUS STANDHYD    1.0 01:ST-4          .35      .027 No_date   28:00   25.32 .556     .000
00799>      [XIMP=.46:TIMP=.57]
00800>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00801>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00802>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
00803>      [IaRECimp=   4.00: IaRECper=     4.00]
00804> R0002:C00102-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00805>     ROUTE RESERVOIR ->    1.0 02:ST-4          .35      .027 No_date   28:00   25.32  n/a     .000
00806>                 out <=    1.0 01:ST4STR        .35      .023 No_date   28:03   25.32  n/a     .000
00807>               overflow <=    1.0 03:ST4OVF        .00      .000 No_date    0:00    .00  n/a     .000
00808>     {MxStoUsed=.7487E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00809> R0002:C00103-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00810>     CONTINUOUS STANDHYD    1.0 01:A18          5.30      .500 No_date   28:03   34.35 .755     .000
00811>      [XIMP=.68:TIMP=.85]
00812>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00813>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00814>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
00815>      [IaRECimp=   4.00: IaRECper=     4.00]
00816> R0002:C00104-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00817>     ROUTE RESERVOIR ->    1.0 02:A18          5.30      .500 No_date   28:03   34.35  n/a     .000
00818>                 out <=    1.0 01:A18STR        5.30      .099 No_date   28:38   34.35  n/a     .000
00819>               overflow <=    1.0 03:A18OVF        .00      .000 No_date    0:00    .00  n/a     .000
00820>     {MxStoUsed=.3042E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00821> R0002:C00105-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00822>     ADD HYD               1.0 02:DRAIN2        330.34     1.821 No_date   28:57   10.70  n/a     .000
00823>                       +    1.0 02:D2            2.28      .021 No_date   29:07   15.66  n/a     .000
00824>                       +    1.0 02:A17STR       12.04      .220 No_date   28:42   34.35  n/a     .000
00825>                       +    1.0 02:A17OVF        .00      .000 No_date    0:00    .00  n/a     .000
00826>                       +    1.0 02:ST4STR        .35      .023 No_date   28:03   25.32  n/a     .000
00827>                       +    1.0 02:ST4OVF        .00      .000 No_date    0:00    .00  n/a     .000
00828>                       +    1.0 02:A18STR        5.30      .099 No_date   28:38   34.35  n/a     .000
00829>                       +    1.0 02:A18OVF        .00      .000 No_date    0:00    .00  n/a     .000
00830>                     SUM=    1.0 01:PT3ST4        350.31     2.146 No_date   28:54   11.92  n/a     .000
00831> R0002:C00106-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00832>     ROUTE CHANNEL     ->    1.0 02:PT3ST4        350.31     2.146 No_date   28:54   11.92  n/a     .000
00833>      [RDT= 1.00] out<-     1.0 01:DRAIN3        350.31     2.088 No_date   29:08   11.92  n/a     .000
00834>      [L/S/n=   525.:  230/.043]
00835>      {Vmax=  .707:Dmax=  .833}
00836> R0002:C00107-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00837>     CONTINUOUS NASHYD     1.0 01:D3            2.51      .033 No_date   28:46   17.40 .382     .000
00838>      [CN= 86.0: N= 3.00: Tp=  .73]
00839>      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
00840>      [IntervEventTime=  12.00]
00841> R0002:C00108-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00842>     CONTINUOUS STANDHYD    1.0 01:C1            3.41      .339 No_date   28:02   34.35 .755     .000
00843>      [XIMP=.68:TIMP=.85]
00844>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00845>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00846>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
00847>      [IaRECimp=   4.00: IaRECper=     4.00]
00848> R0002:C00109-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00849>     ROUTE RESERVOIR ->    1.0 02:C1            3.41      .339 No_date   28:02   34.35  n/a     .000
00850>                 out <=    1.0 01:C1-STR        3.41      .065 No_date   28:36   34.35  n/a     .000
00851>               overflow <=    1.0 03:C1-OVF        .00      .000 No_date    0:00    .00  n/a     .000
00852>     {MxStoUsed=.5806E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00853> R0002:C00110-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00854>     CONTINUOUS STANDHYD    1.0 01:ST-5          .45      .034 No_date   28:00   25.32 .556     .000
00855>      [XIMP=.46:TIMP=.57]
00856>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00857>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00858>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
00859>      [IaRECimp=   4.00: IaRECper=     4.00]
00860> R0002:C00111-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00861>     ROUTE RESERVOIR ->    1.0 02:ST-5          .45      .034 No_date   28:00   25.32  n/a     .000
00862>                 out <=    1.0 01:ST5STR        .45      .031 No_date   28:03   25.32  n/a     .000
00863>               overflow <=    1.0 03:ST5OVF        .00      .000 No_date    0:00    .00  n/a     .000
00864>     {MxStoUsed=.7682E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00865> R0002:C00112-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00866>     ADD HYD               1.0 02:DRAIN3        350.31     2.088 No_date   29:08   11.92  n/a     .000
00867>                       +    1.0 02:D3            2.51      .033 No_date   28:46   17.40  n/a     .000
00868>                       +    1.0 02:C1-STR        3.41      .065 No_date   28:36   34.35  n/a     .000
00869>                       +    1.0 02:C1-OVF         .00      .000 No_date    0:00    .00  n/a     .000
00870>                       +    1.0 02:ST5STR         .45      .031 No_date   28:03   25.32  n/a     .000
00871>                       +    1.0 02:ST5OVF         .00      .000 No_date    0:00    .00  n/a     .000
00872>                     SUM=    1.0 01:ST5-E         356.68     2.174 No_date   29:07   12.19  n/a     .000
00873> R0002:C00113-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00874>     CONTINUOUS STANDHYD    1.0 01:STRAND        7.59      .471 No_date   28:13   33.47 .735     .000
00875>      [XIMP=.64:TIMP=.85]
00876>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00877>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
00878>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
00879>      [IaRECimp=   4.00: IaRECper=     4.00]
00880> R0002:C00114-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00881>     ROUTE RESERVOIR ->    1.0 02:STRAND        7.59      .471 No_date   28:13   33.47  n/a     .000
00882>                 out <=    1.0 01:S-POND        7.59      .032 No_date   30:14   33.47  n/a     .000
00883>               overflow <=    1.0 03:S-OVF         .00      .000 No_date    0:00    .00  n/a     .000
00884>     {MxStoUsed=.1805E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00885> R0002:C00115-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00886>     ADD HYD               1.0 02:ST5-E         356.68     2.174 No_date   29:07   12.19  n/a     .000
00887>                       +    1.0 02:S-POND        7.59      .032 No_date   30:14   33.47  n/a     .000
00888>                       +    1.0 02:S-OVF          .00      .000 No_date    0:00    .00  n/a     .000
00889>                     SUM=    1.0 01:SSAOUT        364.27     2.204 No_date   29:07   12.63  n/a     .000
00890> R0002:C00116-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00891>     SAVE HYD              1.0 01:SSAOUT        364.27     2.204 No_date   29:07   12.63  n/a     .000
00892>      fname :SSAOUT.0002
00893>      remark:SSAOUT
00894> R0002:C00117-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00895>     CONTINUOUS STANDHYD    1.0 01:Area-A        66.75     3.902 No_date   28:13   32.66 .718     .000
00896>      [XIMP=.64:TIMP=.80]
00897>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00898>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00899>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
00900>      [IaRECimp=   4.00: IaRECper=     4.00]
00901> R0002:C00118-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00902>     SAVE HYD              1.0 01:Area-A        66.75     3.902 No_date   28:13   32.66  n/a     .000
00903>      fname :Area-A.0002
00904>      remark:SMWF-A Inflow
00905> R0002:C00119-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00906>     ROUTE RESERVOIR ->    1.0 02:Area-A        66.75     3.902 No_date   28:13   32.66  n/a     .000
00907>                 out <=    1.0 01:SWMF-A        66.75      .126 No_date   32:26   32.66  n/a     .000
00908>               overflow <=    1.0 03:SWMAOV        .00      .000 No_date    0:00    .00  n/a     .000
00909>     {MxStoUsed=.1708E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00910> R0002:C00120-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00911>     SAVE HYD              1.0 01:SWMF-A        66.75      .126 No_date   32:26   32.66  n/a     .000
00912>      fname :SWMF-A.0002
00913>      remark:SMWF-A Outflow
00914> R0002:C00121-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00915>     ADD HYD               1.0 02:SSAOUT        364.27     2.204 No_date   29:07   12.63  n/a     .000
00916>                       +    1.0 02:SWMF-A        66.75      .126 No_date   32:26   32.66  n/a     .000
00917>                       +    1.0 02:SWMAOV         .00      .000 No_date    0:00    .00  n/a     .000
00918>                     SUM=    1.0 01:PT4ST5        431.02     2.323 No_date   29:07   15.73  n/a     .000
00919> R0002:C00122-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00920>     CONTINUOUS STANDHYD    1.0 01:C6            1.87      .196 No_date   28:01   34.35 .755     .000
00921>      [XIMP=.68:TIMP=.85]
00922>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00923>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00924>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
00925>      [IaRECimp=   4.00: IaRECper=     4.00]
00926> R0002:C00123-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00927>     ROUTE RESERVOIR ->    1.0 02:C6            1.87      .196 No_date   28:01   34.35  n/a     .000
00928>                 out <=    1.0 01:C6-STR        1.87      .036 No_date   28:34   34.35  n/a     .000
00929>               overflow <=    1.0 03:C6-OVF        .00      .000 No_date    0:00    .00  n/a     .000
00930>     {MxStoUsed=.3218E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00931> R0002:C00124-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00932>     CONTINUOUS STANDHYD    1.0 01:C7            1.62      .171 No_date   28:01   34.35 .755     .000
00933>      [XIMP=.68:TIMP=.85]
00934>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00935>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00936>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
00937>      [IaRECimp=   4.00: IaRECper=     4.00]
00938> R0002:C00125-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00939>     ROUTE RESERVOIR ->    1.0 02:C7            1.62      .171 No_date   28:01   34.35  n/a     .000
00940>                 out <=    1.0 01:C7-STR        1.62      .031 No_date   28:34   34.35  n/a     .000
00941>               overflow <=    1.0 03:C7-OVF        .00      .000 No_date    0:00    .00  n/a     .000
00942>     {MxStoUsed=.2774E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00943> R0002:C00126-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00944>     CONTINUOUS STANDHYD    1.0 01:ST-6          .41      .031 No_date   28:00   25.32 .556     .000
00945>      [XIMP=.46:TIMP=.57]
00946>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00947>      [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00948>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
00949>      [IaRECimp=   4.00: IaRECper=     4.00]
00950> R0002:C00127-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00951>     ROUTE RESERVOIR ->    1.0 02:ST-6          .41      .031 No_date   28:00   25.32  n/a     .000
00952>                 out <=    1.0 01:ST6STR        .41      .028 No_date   28:03   25.32  n/a     .000
00953>               overflow <=    1.0 03:ST6OVF        .00      .000 No_date    0:00    .00  n/a     .000
00954>     {MxStoUsed=.7725E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00955> R0002:C00128-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00956>     ADD HYD               1.0 02:PT4ST5        431.02     2.323 No_date   29:07   15.73  n/a     .000
00957>                       +    1.0 02:C6-STR        1.87      .036 No_date   28:34   34.35  n/a     .000
00958>                       +    1.0 02:C6-OVF         .00      .000 No_date    0:00    .00  n/a     .000
00959>                       +    1.0 02:C7-STR        1.62      .031 No_date   28:34   34.35  n/a     .000
00960>                       +    1.0 02:C7-OVF         .00      .000 No_date    0:00    .00  n/a     .000
00961>                       +    1.0 02:ST6STR         .41      .028 No_date   28:03   25.32  n/a     .000
00962>                       +    1.0 02:ST6OVF         .00      .000 No_date    0:00    .00  n/a     .000
00963>                     SUM=    1.0 01:PT5ST6        434.92     2.379 No_date   29:06   15.89  n/a     .000
00964> R0002:C00129-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00965>     ROUTE CHANNEL     ->    1.0 02:PT5ST6        434.92     2.379 No_date   29:06   15.89  n/a     .000
00966>      [RDT= 1.00] out<-     1.0 01:DRAIN4        434.92     2.319 No_date   29:17   15.89  n/a     .000
00967>      [L/S/n=  324./ .100/.043]
00968>      {Vmax=  .532:Dmax=  1.041}
00969> R0002:C00130-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00970>     CONTINUOUS NASHYD     1.0 01:D4            1.73      .030 No_date   28:36   18.93 .416     .000
00971>      [CN= 88.0: N= 3.00: Tp=  .60]
00972>      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
00973>      [IntervEventTime=  12.00]
00974> R0002:C00131-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00975>     CONTINUOUS STANDHYD    1.0 01:Area-B        24.04     2.028 No_date   28:04   31.71 .697     .000
00976>      [XIMP=.62:TIMP=.77]
00977>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00978>      [Pervious   area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
00979>      [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
00980>      [IaRECimp=   4.00: IaRECper=     4.00]
00981> R0002:C00132-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00982>     ROUTE RESERVOIR ->    1.0 02:Area-B        24.04     2.028 No_date   28:04   31.71  n/a     .000
00983>                 out <=    1.0 01:SWMBP-B       24.04      .169 No_date   29:09   31.71  n/a     .000
00984>               overflow <=    1.0 03:SWMBOVF       .00      .000 No_date    0:00    .00  n/a     .000
00985>     {MxStoUsed=.4926E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00986> R0002:C00133-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00987>     ADD HYD               1.0 02:DRAIN4        434.92     2.319 No_date   29:17   15.89  n/a     .000
00988>                       +    1.0 02:D4            1.73      .030 No_date   28:36   18.93  n/a     .000
00989>                       +    1.0 02:SWMBP-B       24.04      .169 No_date   29:09   31.71  n/a     .000
00990>                       +    1.0 02:SWMBOVF        .00      .000 No_date    0:00    .00  n/a     .000
00991>                     SUM=    1.0 01:D4-EX         460.69     2.507 No_date   29:17   16.73  n/a     .000
00992> R0002:C00134-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00993>     ROUTE CHANNEL     ->    1.0 02:D4-EX         460.69     2.507 No_date   29:17   16.73  n/a     .000
00994>      [RDT= 1.00] out<-     1.0 01:DRAIN5        460.69     2.448 No_date   29:30   16.73  n/a     .000
00995>      [L/S/n=  413./ .160/.033]
00996>      {Vmax=  .501:Dmax=  .708}
00997> R0002:C00135-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00998>     CONTINUOUS NASHYD     1.0 01:D5            1.90      .026 No_date   28:43   17.40 .382     .000
00999>      [CN= 86.0: N= 3.00: Tp=  .69]
01000>      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
01001>      [IntervEventTime=  12.00]
01002> R0002:C00136-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01003>     CONTINUOUS NASHYD     1.0 01:D-13SDF       9.74      .182 No_date   28:22   16.95 .372     .000
01004>      [CN= 81.0: N= 3.00: Tp=  .43]
01005>      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01006>      [IntervEventTime=  12.00]
01007> R0002:C00137-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01008>     ROUTE RESERVOIR ->    1.0 02:D-13SDF       9.74      .182 No_date   28:22   16.95  n/a     .000
01009>                 out <=    1.0 01:SDF           9.74      .021 No_date   32:19   16.95  n/a     .000
01010>               overflow <=    1.0 03:OVFSDF         .00      .000 No_date    0:00    .00  n/a     .000
01011>     {MxStoUsed=.8320E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01012> R0002:C00138-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01013>     ADD HYD               1.0 02:DRAIN5        460.69     2.448 No_date   29:30   16.73  n/a     .000
01014>                       +    1.0 02:D5            1.90      .026 No_date   28:43   17.40  n/a     .000
01015>                       +    1.0 02:SDF           9.74      .021 No_date   32:19   16.95  n/a     .000
01016>                     SUM=    1.0 01:PT6MC         472.33     2.484 No_date   29:30   16.73  n/a     .000
01017> R0002:C00139-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01018>     CONTINUOUS NASHYD     1.0 01:D-15          10.67      .230 No_date   28:14   15.77 .347     .000
01019>      [CN= 82.0: N= 3.00: Tp=  .30]
01020>      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
01021>      [IntervEventTime=  12.00]
01022> R0002:C00140-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01023>     ADD HYD               1.0 02:PT6MC         472.33     2.484 No_date   29:30   16.73  n/a     .000
01024>                       +    1.0 02:D-15          10.67      .230 No_date   28:14   15.77  n/a     .000
01025>                     SUM=    1.0 01:M-C           483.00     2.528 No_date   29:29   16.71  n/a     .000
01026> R0002:C00141-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01027>     ROUTE CHANNEL     ->    1.0 01:M-C           483.00     2.528 No_date   29:29   16.71  n/a     .000
01028>      [RDT= 1.00] out<-     1.0 01:O-14Ch        483.00     2.419 No_date   29:44   16.71  n/a     .000
01029>      [L/S/n=  845./ .100/.033]
01030>      {Vmax=  .750:Dmax= 1.160}
01031> R0002:C00142-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01032>     CONTINUOUS NASHYD     1.0 01:O-14          5.00      .181 No_date   28:04   15.77 .347     .000
01033>      [CN= 82.0: N= 3.00: Tp=  .33]
01034>      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
01035>      [IntervEventTime=  12.00]
01036> R0002:C00143-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01037>     ADD HYD               1.0 02:O-14Ch        483.00     2.419 No_date   29:44   16.71  n/a     .000
01038>                       +    1.0 02:O-14          5.00      .181 No_date   28:04   15.77  n/a     .000
01039>                     SUM=    1.0 01:OKEEFE        488.00     2.434 No_date   29:44   16.70  n/a     .000
01040> #*************************************************************************
01041> #     Okeefe Pond
01042> #     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01043> #       and a ratio of the catchment area to the West Clarke pond rating curve
01044> #       from the MSS for the next coordinates
01045> #*************************************************************************
01046> R0002:C00144-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01047>     CONTINUOUS NASHYD     1.0 01:S-1-D2        18.67      .148 No_date   29:14   14.83 .326     .000
01048>      [CN= 77.0: N= 3.00: Tp= 1.12]
01049>      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01050>      [IntervEventTime=  12.00]
01051> R0002:C00145-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01052>     CONTINUOUS NASHYD     1.0 01:S-1-D3         6.79      .049 No_date   29:26   14.83 .326     .000
01053>      [CN= 77.0: N= 3.00: Tp= 1.28]
01054>      [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01055>      [IntervEventTime=  12.00]
01056> R0002:C00146-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01057>     ADD HYD               1.0 02:SN_OK       53064.36    46.592 No_date   35:24   12.76  n/a     .000
01058>                       +    1.0 02:OKEEFE        488.00     2.434 No_date   29:44   16.70  n/a     .000
01059>                       +    1.0 02:S-1-D2         18.67      .148 No_date   29:14   14.83  n/a     .000
01060>                       +    1.0 02:S-1-D3          6.79      .049 No_date   29:26   14.83  n/a     .000
01061>                     SUM=    1.0 01:SN_OK       53577.82   47.423 No_date   34:58   12.80  n/a     .000
01062> R0002:C00147-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01063>     SAVE HYD              1.0 01:SN_OK       53577.82   47.423 No_date   34:58   12.80  n/a     .000
01064>      fname :SN_OK.0002
01065>      remark:Total Flows at Okeefe Drain
01066> #
01067> # Hydrograph from Node Okeefe routed to Node at Foster Drain
01068> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
01069> #
01070> R0002:C00148-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01071>     ROUTE CHANNEL     ->    1.0 02:SN_OK       53577.82   47.423 No_date   34:58   12.80  n/a     .000
01072>      [RDT= 1.00] out<-     1.0 01:SN_FO       53577.82   47.379 No_date   34:58   12.80  n/a     .000
01073>      [L/S/n= 1183./ .076/.035]
01074>      {Vmax=  .918:Dmax= 2.260}
01075> #*************************************************************************
01076> #    Catchment FOSTER
01077> #    - To Foster ditch (north of the Jock)
01078> #    - Partially developed (medium density); remaining agricultural
01079> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
01080> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
01081> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
01082> #*************************************************************************
01083> R0002:C00149-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01084>     CONTINUOUS STANDHYD    1.0 01:FOSTER       325.44    13.697 No_date   28:15   28.56 .628     .000
01085>      [XIMP=.55:TIMP=.55]
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01123>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01124>       [InterEventTime=  12.00]
01125> R0002:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01126>     ADD HYD          1.0 02:FOSTER-OUT   325.44    3.894 No_date   29:12   28.56  n/a     .000
01127>                  +     1.0 02:S-1-FO-D2      4.94      .040 No_date   29:12   14.83  n/a     .000
01128>                SUM=    1.0 01:980         330.38    3.933 No_date   29:12   28.36  n/a     .000
01129> R0002:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01130>     SAVE HYD         1.0 01:980         330.38    3.933 No_date   29:12   28.36  n/a     .000
01131>       fname :980.0002
01132>       remark:Total Flows at Station 980 on Foster Drain
01133> #
01134> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
01135> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
01136> #
01137> R0002:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01138>     ROUTE CHANNEL    ->     1.0 02:980         330.38    3.933 No_date   29:12   28.36  n/a     .000
01139>      [RDT= 1.00] out<-     1.0 01:980-out     330.38    3.804 No_date   29:25   28.36  n/a     .000
01140>       [L/S/n=  460./ .043/ .035]
01141>       {Vmax=  .545:Dmax= 1.094}
01142> R0002:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01143>     CONTINUOUS NASHYD    1.0 01:S-1-FO-D1      5.11      .041 No_date   29:12   14.83  .326    .000
01144>       [CN= 77.0: N= 3.00: Tp= 1.10]
01145>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01146>       [InterEventTime=  12.00]
01147> R0002:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01148>     ADD HYD          1.0 02:980-out     330.38    3.804 No_date   29:25   28.36  n/a     .000
01149>                  +     1.0 02:S-1-FO-D1      5.11      .041 No_date   29:12   14.83  n/a     .000
01150>                SUM=    1.0 01:520         335.49    3.844 No_date   29:25   28.15  n/a     .000
01151> R0002:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01152>     SAVE HYD         1.0 01:520         335.49    3.844 No_date   29:25   28.15  n/a     .000
01153>       fname :520.0002
01154>       remark:Total Flows at Sation 520 on Foster Drain
01155> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
01156> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
01157> #
01158> R0002:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01159>     ROUTE CHANNEL    ->     1.0 02:520         335.49    3.844 No_date   29:25   28.15  n/a     .000
01160>      [RDT= 1.00] out<-     1.0 01:520-out     335.49    3.807 No_date   29:32   28.15  n/a     .000
01161>       [L/S/n=  860./ .587/ .035]
01162>       {Vmax= 1.199:Dmax=  .521}
01163> R0002:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01164>     CONTINUOUS NASHYD    1.0 01:S-1-FO-F-D     14.96      .128 No_date   29:05   14.83  .326    .000
01165>       [CN= 77.0: N= 3.00: Tp= 1.01]
01166>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01167>       [InterEventTime=  12.00]
01168> R0002:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01169>     CONTINUOUS STANDHYD   1.0 01:S-1-D8        5.27      .498 No_date   28:00   32.20 .707    .000
01170>       [XIMP=.65:TIMP=.65]
01171>       [LOSS= 2 :CN= 75.0]
01172>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01173>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
01174>       [IaRECimp=   4.00: IaRECper=   4.00]
01175>       [SMIN= 33.81: SMAX=225.43: SK= .010]
01176> R0002:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01177>     CONTINUOUS NASHYD    1.0 01:S-1-A          75.88      .912 No_date   28:37   14.83  .326    .000
01178>       [CN= 77.0: N= 3.00: Tp=  .62]
01179>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01180>       [InterEventTime=  12.00]
01181> R0002:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01182>     CONTINUOUS NASHYD    1.0 01:W_CLAR_UND    35.65      .286 No_date   29:12   14.83  .326    .000
01183>       [CN= 77.0: N= 3.00: Tp= 1.10]
01184>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01185>       [InterEventTime=  12.00]
01186> R0002:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01187>     ADD HYD          1.0 02:N_FO       53577.82   47.379 No_date   34:58   12.80  n/a     .000
01188>                  +     1.0 02:S-1-FO-D       335.49    3.807 No_date   29:32   28.15  n/a     .000
01189>                  +     1.0 02:MS_P10          73.29    1.033 No_date   28:50   31.34  n/a     .000
01190>                  +     1.0 02:P10-OVF          .00      .000 No_date    0:00     .00  n/a     .000
01191>                  +     1.0 02:W_CLAR_UND    35.65      .286 No_date   29:12   14.83  n/a     .000
01192>                  +     1.0 02:S-1-FO-F-D     14.96      .128 No_date   29:05   14.83  n/a     .000
01193>                  +     1.0 02:S-1-D8          5.27      .498 No_date   28:00   32.20  n/a     .000
01194>                  +     1.0 02:S-1-A          75.88      .912 No_date   28:37   14.83  n/a     .000
01195>                SUM=    1.0 01:SN_FO      54118.36   48.998 No_date   34:32   12.93  n/a     .000
01196> R0002:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01197>     SAVE HYD         1.0 01:SN_FO      54118.36   48.998 No_date   34:32   12.93  n/a     .000
01198>       fname :SN_FO.0002
01199>       remark:Total Flows at Foster Drain
01200> # Hydrograph from Node Foster routed to Node at Cedarview Road
01201> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
01202> #
01203> R0002:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01204>     ROUTE CHANNEL    ->     1.0 02:SN_FO      54118.36   48.998 No_date   34:32   12.93  n/a     .000
01205> *    [RDT= 1.00] out<-     1.0 01:N_CE       54118.36   48.989 No_date   34:40   12.93  n/a     .000
01206>       [L/S/n=  159./ .082/ .035]
01207>       {Vmax= 1.113:Dmax= 2.623}
01208> #*************************************************************************
01209> #    Catchment S-1
01210> #    - To Jock River (north and south of Jock)
01211> #    - Primarily agricultural fields; portion of sand quarry
01212> #*************************************************************************
01213> R0002:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01214>     CONTINUOUS NASHYD    1.0 01:S-1-B          55.36      .825 No_date   28:24   14.83  .326    .000
01215>       [CN= 77.0: N= 3.00: Tp=  .45]
01216>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01217>       [InterEventTime=  12.00]
01218> #  -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
01219> #  -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
01220> #  -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
01221> R0002:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01222>     CONTINUOUS NASHYD    1.0 01:S-1-D1         21.67      .178 No_date   29:10   14.83  .326    .000
01223>       [CN= 77.0: N= 3.00: Tp= 1.07]
01224>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01225>       [InterEventTime=  12.00]
01226> R0002:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01227>     CONTINUOUS NASHYD    1.0 01:S-1-D4          3.28      .026 No_date   29:12   14.83  .326    .000
01228>       [CN= 77.0: N= 3.00: Tp= 1.10]
01229>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01230>       [InterEventTime=  12.00]
01231> R0002:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01232>     CONTINUOUS NASHYD    1.0 01:S-1-D5         12.84      .103 No_date   29:12   14.83  .326    .000
01233>       [CN= 77.0: N= 3.00: Tp= 1.10]
01234>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01235>       [InterEventTime=  12.00]
01236> R0002:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01237>     CONTINUOUS NASHYD    1.0 01:S-1-D6          1.75      .014 No_date   29:12   14.83  .326    .000
01238>       [CN= 77.0: N= 3.00: Tp= 1.10]
01239>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01240>       [InterEventTime=  12.00]
01241> R0002:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01242>     CONTINUOUS NASHYD    1.0 01:S-1-D7          2.03      .016 No_date   29:12   14.83  .326    .000
01243>       [CN= 77.0: N= 3.00: Tp= 1.10]
01244>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01245>       [InterEventTime=  12.00]
01246> #    Catchment W_CLAR
01247> #    - To West Clarke Drain (south of the Jock)
01248> #    - Subdivision with 43% imp. as per Barrhaven South MSS
01249> #    - 2020-11-30 split CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
01250> #    - 2020-12-30 split CLARKE Drainage Area to MAJOR and ALL
01251> #*************************************************************************
01252> R0002:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01253>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ      1.77      .141 No_date   28:00   27.78 .610    .000
01254>       [XIMP=.46:TIMP=.59]
01255>       [LOSS= 2 :CN= 77.0]
01256>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01257>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
01258>       [IaRECimp=   4.00: IaRECper=   4.00]
01259>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01260> # 5-Year + 12% Capture
01261> R0002:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01262>     ROUTE RESERVOIR  ->     1.0 02:W_CLAR_MJ      1.77      .141 No_date   28:00   27.78  n/a     .000
01263>                  out <=     1.0 01:W_CLAR_MJn     1.77      .141 No_date   28:00   27.78  n/a     .000
01264>                overflow <=     1.0 03:W_CLAR_MJ       .00      .000 No_date    0:00     .00  n/a     .000
01265>       {MxStoUsed=.6675E-04 m3, TotOrfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01266> R0002:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01267>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL   119.40    7.746 No_date   28:06   31.34 .689    .000
01268>       [XIMP=.60:TIMP=.65]
01269>       [LOSS= 2 :CN= 77.0]
01270>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01271>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
01272>       [IaRECimp=   4.00: IaRECper=   4.00]
01273>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01274> R0002:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01275>     ADD HYD          1.0 02:W_CLAR_ALL   119.40    7.746 No_date   28:06   31.34  n/a     .000
01276>                  +     1.0 02:W_CLAR_MJ       .00      .000 No_date    0:00     .00  n/a     .000
01277>                SUM=    1.0 01:W_CLAR      119.40    7.746 No_date   28:06   31.34  n/a     .000
01278> R0002:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01279>     SAVE HYD         1.0 01:W_CLAR      119.40    7.746 No_date   28:06   31.34  n/a     .000
01280>       fname :W_CLAR.0002
01281>       remark:Total Flows to West Clarke
01282> #*************************************************************************
01283> #    West Clarke Pond 2
01284> #    - Rating curve obtained from Barrhaven South MSS modeling
01285> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
01286> #*************************************************************************
01287> R0002:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01288>     ROUTE RESERVOIR  ->     1.0 02:W_CLAR      119.40    7.746 No_date   28:06   31.34  n/a     .000
01289>                  out <=     1.0 01:MS_P2       119.40     .816 No_date   29:25   31.34  n/a     .000
01290>                overflow <=     1.0 03:P2-OVF          .00      .000 No_date    0:00     .00  n/a     .000
01291>       {MxStoUsed=.2096E-01 m3, TotOrfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01292> #*************************************************************************
01293> R0002:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01294>     ADD HYD          1.0 02:N_CE       54118.36   48.989 No_date   34:40   12.93  n/a     .000
01295>                  +     1.0 02:S-1-D4          3.28      .026 No_date   29:12   14.83  n/a     .000
01296>                  +     1.0 02:S-1-D5         12.84      .103 No_date   29:12   14.83  n/a     .000
01297>                  +     1.0 02:MS_P2      119.40     .816 No_date   29:25   31.34  n/a     .000
01298>                  +     1.0 02:P2-OVF          .00      .000 No_date    0:00     .00  n/a     .000
01299>                SUM=    1.0 01:SN_CE      54253.88   49.508 No_date   34:35   12.97  n/a     .000
01300> R0002:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01301>     SAVE HYD         1.0 01:SN_CE      54253.88   49.508 No_date   34:35   12.97  n/a     .000
01302>       fname :SN_CE.0002
01303>       remark:Total Flows before Station 5737 on Jock River
01304> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
01305> # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
01306> # JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
01307> R0002:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01308>     ROUTE CHANNEL    ->     1.0 02:SN_CE      54253.88   49.508 No_date   34:35   12.97  n/a     .000
01309> *    [RDT= 1.00] out<-     1.0 01:5737       54253.88   48.656 No_date   37:03   12.97  n/a     .000
01310>       [L/S/n=  270./ .018/ .035]
01311>       {Vmax=  .610:Dmax= 3.450}
01312> R0002:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01313>     ADD HYD          1.0 02:5737       54253.88   48.656 No_date   37:03   12.97  n/a     .000
01314>                  +     1.0 02:S-1-D1         21.67      .178 No_date   29:10   14.83  n/a     .000
01315>                  +     1.0 02:S-1-D6          1.75      .014 No_date   29:12   14.83  n/a     .000
01316>                  +     1.0 02:S-1-D7          2.03      .016 No_date   29:12   14.83  n/a     .000
01317>                SUM=    1.0 01:5002       54279.33   48.689 No_date   37:02   12.97  n/a     .000
01318> R0002:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01319>     SAVE HYD         1.0 01:5002       54279.33   48.689 No_date   37:02   12.97  n/a     .000
01320>       fname :5002.0002
01321>       remark:Total Flows before Station 5002 on Jock River
01322> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
01323> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
01324> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
01325> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
01326> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
01327> R0002:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01328>     ROUTE CHANNEL    ->     1.0 02:5002       54279.33   48.689 No_date   37:02   12.97  n/a     .000
01329>      [RDT= 1.00] out<-     1.0 01:N_WCa      54279.33   48.725 No_date   36:35   12.97  n/a     .000
01330>       [L/S/n=  245./ .095/ .035]
01331>       {Vmax=  .961:Dmax= 2.011}
01332> R0002:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01333>     ROUTE CHANNEL    ->     1.0 02:N_WCa      54279.33   48.725 No_date   36:35   12.97  n/a     .000
01334>      [RDT= 1.00] out<-     1.0 01:N_WCb      54279.33   48.698 No_date   36:50   12.97  n/a     .000
01335>       [L/S/n=  245./ .095/ .035]
01336>       {Vmax=  .961:Dmax= 2.011}
01337> R0002:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01338>     ROUTE CHANNEL    ->     1.0 02:N_WCb      54279.33   48.698 No_date   36:50   12.97  n/a     .000
01339>      [RDT= 1.00] out<-     1.0 01:N_WC       54279.33   48.745 No_date   36:36   12.97  n/a     .000
01340>       [L/S/n=  245./ .095/ .035]
01341>       {Vmax=  .961:Dmax= 2.011}
01342> #*************************************************************************
01343> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
01344> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
01345> #
01346> R0002:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01347>     ROUTE CHANNEL    ->     1.0 02:N_WC       54279.33   48.745 No_date   36:36   12.97  n/a     .000
01348>      [RDT= 1.00] out<-     1.0 01:N_KB       54279.33   48.700 No_date   36:46   12.97  n/a     .000
01349>       [L/S/n= 1020./ .050/ .035]
01350>       {Vmax=  .848:Dmax= 2.425}
01351> #*************************************************************************
01352> #    Catchment KEN_BU
01353> #    - To Kennedy-Burnett SWM Facility
01354> #    - Outlets to Fraser-Clarke drain (north of the Jock)
01355> #    - Medium density residential subdivision
01356> #*************************************************************************
01357> #*************************************************************************
01358> #   Existing Kennedy-Burnett SWM Facility
01359> #    - Rating curve obtained from URTKBP
01360> #    - Tributary Drainage Area to Pond = 160 ha
01361> #*************************************************************************
01362> R0002:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01363>     CONTINUOUS STANDHYD   1.0 01:KB-01A        40.82     1.627 No_date   28:18   14.35 .315    .000
01364>       [XIMP=.10:TIMP=.40]
01365>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01366>       [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01367>       [Impervious  area: IAimp=  .79:SLPI=  .50:LGI= 522.:MNI=.013:SCI=   .0]
01368>       [IaRECimp=   4.00: IaRECper=   4.00]
01369> R0002:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01370>     COMPUTE DUALHYD      1.0 01:KB-01A        40.82     1.627 No_date   28:18   14.35  n/a     .000
01371>       Major System   /     1.0 02:KB-01A-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01372>       Minor System   \     1.0 03:KB-01A-MN     40.82     1.627 No_date   28:18   14.35  n/a     .000
01373>       {MjSysSto=.0000E+00, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01374> R0002:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01375>     ADD HYD          1.0 02:KB-01A-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01376>                  +     1.0 02:KB-01A-MN     40.82     1.627 No_date   28:18   14.35  n/a     .000
01377>                SUM=    1.0 01:KB-01A-S      40.82     1.627 No_date   28:18   14.35  n/a     .000
01378> R0002:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01379>     CONTINUOUS STANDHYD   1.0 01:KB-01B        31.10     1.062 No_date   28:08   16.28 .358    .000
01380>       [XIMP=.19:TIMP=.28]
01381>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01382>       [Pervious    area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
01383>       [Impervious  area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
01384>       [IaRECimp=   4.00: IaRECper=   4.00]
01385> R0002:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01386>     COMPUTE DUALHYD      1.0 01:KB-01B        31.10     1.062 No_date   28:08   16.28  n/a     .000
01387>       Major System   /     1.0 02:KB-01B-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01388>       Minor System   \     1.0 03:KB-01B-MN     31.10     1.062 No_date   28:08   16.28  n/a     .000
01389>       {MjSysSto=.0000E+00, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01390> R0002:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01391>     ADD HYD          1.0 02:KB-01B-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01392>                  +     1.0 02:KB-01B-MN     31.10     1.062 No_date   28:08   16.28  n/a     .000
01393>                SUM=    1.0 01:KB-01B-S      31.10     1.062 No_date   28:08   16.28  n/a     .000
01394> R0002:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01395>     CONTINUOUS STANDHYD   1.0 01:KB-01C        13.78      .776 No_date   28:06   17.09 .375    .000
01396>       [XIMP=.20:TIMP=.41]
01397>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01398>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01399>       [Impervious  area: IAimp=  .79:SLPI=  .50:LGI= 303.:MNI=.013:SCI=   .0]
01400>       [IaRECimp=   4.00: IaRECper=   4.00]
01401> R0002:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01402>     COMPUTE DUALHYD      1.0 01:KB-01C        13.78      .776 No_date   28:06   17.09  n/a     .000
01403>       Major System   /     1.0 02:KB-01C-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01404>       Minor System   \     1.0 03:KB-01C-MN     13.78      .776 No_date   28:06   17.09  n/a     .000
01405>       {MjSysSto=.0000E+00, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01406> R0002:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01407>     ADD HYD          1.0 02:KB-01C-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01408>                  +     1.0 02:KB-01C-MN     13.78      .776 No_date   28:06   17.09  n/a     .000
01409>                SUM=    1.0 01:KB-01C-S      13.78      .776 No_date   28:06   17.09  n/a     .000
01410> R0002:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01411>     CONTINUOUS STANDHYD   1.0 01:KB-03         84.78     3.788 No_date   28:12   16.73 .368    .000
01412>       [XIMP=.20:TIMP=.39]
01413>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01414>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01415>       [Impervious  area: IAimp=  .79:SLPI=  .63:LGI= 752.:MNI=.013:SCI=   .0]
01416>       [IaRECimp=   4.00: IaRECper=   4.00]
01417> R0002:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01418>     COMPUTE DUALHYD      1.0 01:KB-03         84.78     3.788 No_date   28:12   16.73  n/a     .000
01419>       Major System   /     1.0 02:KB-03-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01420>       Minor System   \     1.0 03:KB-03-MN     84.78     3.788 No_date   28:12   16.73  n/a     .000
01421>       {MjSysSto=.0000E+00, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01422> R0002:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01423>     ADD HYD          1.0 02:KB-03-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01424>                  +     1.0 02:KB-03-MN     84.78     3.788 No_date   28:12   16.73  n/a     .000
01425>                SUM=    1.0 01:KB-03-S      84.78     3.788 No_date   28:12   16.73  n/a     .000
01426> R0002:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01427>     CONTINUOUS STANDHYD   1.0 01:KB-04          6.95      .792 No_date   28:01   38.80 .853    .000
01428>       [XIMP=.85:TIMP=.85]
01429>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01430>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01431>       [Impervious  area: IAimp=  .94:SLPI=  .50:LGI= 215.:MNI=.013:SCI=   .0]
01432>       [IaRECimp=   4.00: IaRECper=   4.00]
01433> R0002:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01434>     COMPUTE DUALHYD      1.0 01:KB-04          6.95      .792 No_date   28:01   38.80  n/a     .000
01435>       Major System   /     1.0 02:KB-04-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01436>       Minor System   \     1.0 03:KB-04-MN      6.95      .503 No_date   27:53   39.02  n/a     .000
01437>       {MjSysSto=.1545E+03, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01438> R0002:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01439>     ADD HYD          1.0 02:KB-04-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01440>                  +     1.0 02:KB-04-MN      6.95      .503 No_date   27:53   39.02  n/a     .000
01441>                SUM=    1.0 01:KB-04-S       6.95      .503 No_date   27:53   39.02  n/a     .000
01442> R0002:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01443>     CONTINUOUS STANDHYD   1.0 01:KB-05          5.19      .653 No_date   28:01   41.29 .907    .000
01444>       [XIMP=.93:TIMP=.93]
01445>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01446>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01447>       [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 186.:MNI=.013:SCI=   .0]
01448>       [IaRECimp=   4.00: IaRECper=   4.00]
01449> R0002:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01450>     CONTINUOUS STANDHYD   1.0 01:KB-06         12.93     1.683 No_date   28:00   39.68 .872    .000
01451>       [XIMP=.87:TIMP=.87]
01452>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01453>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01454>       [Impervious  area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
01455>       [IaRECimp=   4.00: IaRECper=   4.00]
01456> R0002:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01457>     COMPUTE DUALHYD      1.0 01:KB-06         12.93     1.683 No_date   28:00   39.68  n/a     .000
01458>       Major System   /     1.0 02:KB-06-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01459>       Minor System   \     1.0 03:KB-06-MN     12.93     1.683 No_date   28:00   39.68  n/a     .000
01460>       {MjSysSto=.0000E+00, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01461> R0002:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01462>     ADD HYD          1.0 02:KB-06-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01463>                  +     1.0 02:KB-06-MN     12.93     1.683 No_date   28:00   39.68  n/a     .000
01464>                SUM=    1.0 01:KB-06-S      12.93     1.683 No_date   28:00   39.68  n/a     .000
01465> R0002:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01466>     CONTINUOUS STANDHYD   1.0 01:KB-11          4.03      .425 No_date   28:00   32.17 .707    .000
01467>       [XIMP=.68:TIMP=.68]
01468>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01469>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01470>       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
01471>       [IaRECimp=   4.00: IaRECper=   4.00]
01472> R0002:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01473>     COMPUTE DUALHYD      1.0 01:KB-11          4.03      .425 No_date   28:00   32.17  n/a     .000
01474>       Major System   /     1.0 02:KB-11-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01475>       Minor System   \     1.0 03:KB-11-MN      4.03      .425 No_date   28:00   32.17  n/a     .000
01476>       {MjSysSto=.0000E+00, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01477> R0002:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01478>     ADD HYD          1.0 02:KB-11-MJ       .00      .000 No_date    0:00     .00  n/a     .000
01479>                  +     1.0 02:KB-11-MN      4.03      .425 No_date   28:00   32.17  n/a     .000
01480>                SUM=    1.0 01:KB-11-S       4.03      .
```

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01497>                    +     1.0 02:KB-01B-S      31.10    1.062 No_date   28:08   16.28  n/a     .000
01498>                    +     1.0 02:KB-01C-S      13.78     .776 No_date   28:06   17.09  n/a     .000
01499>                    +     1.0 02:KB-03-S       84.78    3.788 No_date   28:12   16.73  n/a     .000
01500>                    +     1.0 02:KB-04-S        6.95     .503 No_date   27:53   39.02  n/a     .000
01501>                    +     1.0 02:KB-05          5.19     .653 No_date   28:01   41.29  n/a     .000
01502>                    +     1.0 02:KB-06-S       12.93    1.683 No_date   28:00   39.68  n/a     .000
01503>                    +     1.0 02:KB-11-S        4.03     .425 No_date   28:00   32.17  n/a     .000
01504>                    +     1.0 02:KB-15          2.15     .241 No_date   28:00   37.11  n/a     .000
01505>                    +     1.0 02:S1             4.99     .689 No_date   28:00   41.29  n/a     .000
01506>                  SUM=    1.0 01:KB-P1        206.72    9.491 No_date   28:02   20.13  n/a     .000
01507> R0002:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01508>      ROUTE RESERVOIR  ->     1.0 02:KB-P1        206.72    9.491 No_date   28:02   20.13  n/a     .000
01509>                     out <=  1.0 01:KB-P1R       206.72    8.405 No_date   28:13   20.13  n/a     .000
01510>                overflow <=  1.0 03:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
01511>     {MxStoUsed=.4507E+00 m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
01512> R0002:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01513>      ADD HYD                1.0 02:KB-P1R       206.72    8.405 No_date   28:13   20.13  n/a     .000
01514>                    +     1.0 02:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
01515>                  SUM=    1.0 01:KB-Pond1     206.72    8.405 No_date   28:13   20.13  n/a     .000
01516> R0002:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01517>      SAVE HYD               1.0 01:KB-Pond1     206.72    8.405 No_date   28:13   20.13  n/a     .000
01518>        fname :KB-Pond1.0002
01519>        remark:Total Flows at KB first pond
01520> R0002:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      CONTINUOUS STANDHYD    1.0 01:KB-07        10.86    1.337 No_date   28:00   39.32  .864     .000
01522>        [XIMP=.86:TIMP=.86]
01523>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01524>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01525>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
01526>        [IaRECimp=   4.00: IaRECper=   4.00]
01527> R0002:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01528>      COMPUTE DUALHYD        1.0 01:KB-07        10.86    1.337 No_date   28:00   39.32  n/a     .000
01529>        Major System   /     1.0 02:KB-07-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01530>        Minor System   \     1.0 03:KB-07-MN     10.86    1.337 No_date   28:00   39.32  n/a     .000
01531>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01532> R0002:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01533>      ADD HYD                1.0 02:KB-07-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01534>                    +     1.0 02:KB-07-MN     10.86    1.337 No_date   28:00   39.32  n/a     .000
01535>                  SUM=    1.0 01:KB-07-S      10.86    1.337 No_date   28:00   39.32  n/a     .000
01536> R0002:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01537>      CONTINUOUS STANDHYD    1.0 01:KB-08         6.61     .651 No_date   28:00   30.82 .677     .000
01538>        [XIMP=.64:TIMP=.64]
01539>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01540>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01541>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
01542>        [IaRECimp=   4.00: IaRECper=   4.00]
01543> R0002:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01544>      COMPUTE DUALHYD        1.0 01:KB-08         6.61     .651 No_date   28:00   30.82  n/a     .000
01545>        Major System   /     1.0 02:KB-08-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01546>        Minor System   \     1.0 03:KB-08-MN      6.61     .651 No_date   28:00   30.82  n/a     .000
01547>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01548> R0002:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01549>      ADD HYD                1.0 02:KB-08-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01550>                    +     1.0 02:KB-08-MN      6.61     .651 No_date   28:00   30.82  n/a     .000
01551>                  SUM=    1.0 01:KB-08-S       6.61     .651 No_date   28:00   30.82  n/a     .000
01552> R0002:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01553>      CONTINUOUS STANDHYD    1.0 01:KB-09         2.60     .344 No_date   28:00   30.64 .849     .000
01554>        [XIMP=.86:TIMP=.86]
01555>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01556>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01557>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
01558>        [IaRECimp=   4.00: IaRECper=   4.00]
01559> R0002:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01560>      CONTINUOUS STANDHYD    1.0 01:KB-10_1       2.37     .314 No_date   28:00   38.64 .849     .000
01561>        [XIMP=.86:TIMP=.86]
01562>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01563>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01564>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
01565>        [IaRECimp=   4.00: IaRECper=   4.00]
01566> R0002:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01567>      CONTINUOUS STANDHYD    1.0 01:KB-10_2       1.14     .153 No_date   28:00   38.64 .849     .000
01568>        [XIMP=.86:TIMP=.86]
01569>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01570>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01571>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
01572>        [IaRECimp=   4.00: IaRECper=   4.00]
01573> R0002:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01574>      CONTINUOUS STANDHYD    1.0 01:KB-12         4.86     .581 No_date   28:00   36.37 .799     .000
01575>        [XIMP=.79:TIMP=.79]
01576>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01577>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01578>        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
01579>        [IaRECimp=   4.00: IaRECper=   4.00]
01580> R0002:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01581>      COMPUTE DUALHYD        1.0 01:KB-12         4.86     .581 No_date   28:00   36.37  n/a     .000
01582>        Major System   /     1.0 02:KB-12-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01583>        Minor System   \     1.0 03:KB-12-MN      4.86     .581 No_date   28:00   36.37  n/a     .000
01584>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01585> R0002:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01586>      ADD HYD                1.0 02:KB-12-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01587>                    +     1.0 02:KB-12-MN      4.86     .581 No_date   28:00   36.37  n/a     .000
01588>                  SUM=    1.0 01:KB-12-S       4.86     .581 No_date   28:00   36.37  n/a     .000
01589> R0002:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01590>      CONTINUOUS STANDHYD    1.0 01:KB-13        10.19     .970 No_date   28:00   30.82 .677     .000
01591>        [XIMP=.64:TIMP=.64]
01592>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01593>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01594>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
01595>        [IaRECimp=   4.00: IaRECper=   4.00]
01596> R0002:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01597>      COMPUTE DUALHYD        1.0 01:KB-13        10.19     .970 No_date   28:00   30.82  n/a     .000
01598>        Major System   /     1.0 02:KB-13-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01599>        Minor System   \     1.0 03:KB-13-MN     10.19     .970 No_date   28:00   30.82  n/a     .000
01600>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01601> R0002:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01602>      ADD HYD                1.0 02:KB-13-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01603>                    +     1.0 02:KB-13-MN     10.19     .970 No_date   28:00   30.82  n/a     .000
01604>                  SUM=    1.0 01:KB-13-S      10.19     .970 No_date   28:00   30.82  n/a     .000
01605> R0002:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01606>      CONTINUOUS STANDHYD    1.0 01:KB-14         5.47     .543 No_date   28:00   30.82 .677     .000
01607>        [XIMP=.64:TIMP=.64]
01608>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01609>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01610>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
01611>        [IaRECimp=   4.00: IaRECper=   4.00]
01612> R0002:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01613>      COMPUTE DUALHYD        1.0 01:KB-14         5.47     .543 No_date   28:00   30.82  n/a     .000
01614>        Major System   /     1.0 02:KB-14-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01615>        Minor System   \     1.0 03:KB-14-MN      5.47     .543 No_date   28:00   30.82  n/a     .000
01616>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01617> R0002:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01618>      ADD HYD                1.0 02:KB-14-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01619>                    +     1.0 02:KB-14-MN      5.47     .543 No_date   28:00   30.82  n/a     .000
01620>                  SUM=    1.0 01:KB-14-S       5.47     .543 No_date   28:00   30.82  n/a     .000
01621> R0002:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01622>      CONTINUOUS STANDHYD    1.0 01:KB-16_2       3.42     .337 No_date   28:01   33.97 .746     .000
01623>        [XIMP=.71:TIMP=.71]
01624>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01625>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01626>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 151.:MNI=.013:SCI=   .0]
01627>        [IaRECimp=   4.00: IaRECper=   4.00]
01628> R0002:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01629>      ADD HYD                1.0 02:KB-Pond1     206.72    8.405 No_date   28:13   20.13  n/a     .000
01630>                    +     1.0 02:KB-07-S       10.86    1.337 No_date   28:00   39.32  n/a     .000
01631>                    +     1.0 02:KB-08-S        6.61     .651 No_date   28:00   30.82  n/a     .000
01632>                    +     1.0 02:KB-09          2.60     .344 No_date   28:00   38.64  n/a     .000
01633>                    +     1.0 02:KB-10_1        2.37     .314 No_date   28:00   38.64  n/a     .000
01634>                    +     1.0 02:KB-10_2        1.14     .153 No_date   28:00   38.64  n/a     .000
01635>                    +     1.0 02:KB-12-S        4.86     .581 No_date   28:00   36.37  n/a     .000
01636>                    +     1.0 02:KB-13-S       10.19     .970 No_date   28:00   30.82  n/a     .000
01637>                    +     1.0 02:KB-14-S        5.47     .543 No_date   28:00   30.82  n/a     .000
01638>                    +     1.0 02:KB-16_2        3.42     .337 No_date   28:01   33.97  n/a     .000
01639>                  SUM=    1.0 01:KB-P2        254.24   11.772 No_date   28:12   22.82  n/a     .000
01640> R0002:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01641>      ROUTE RESERVOIR  ->     1.0 02:KB-P2        254.24   11.772 No_date   28:02   22.82  n/a     .000
01642>                     out <=  1.0 02:KB-P2R       254.24    9.930 No_date   28:12   22.82  n/a     .000
01643>                overflow <=  1.0 03:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a     .000
01644>     {MxStoUsed=.4507E+00 m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
01645> R0002:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01646>      ADD HYD                1.0 02:KB-P2R       254.24    9.930 No_date   28:12   22.82  n/a     .000
01647>                    +     1.0 02:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a     .000
01648>                  SUM=    1.0 01:KB-Pond2     254.24    9.930 No_date   28:12   22.82  n/a     .000
01649> R0002:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01650>      SAVE HYD               1.0 01:KB-Pond2     254.24    9.930 No_date   28:12   22.82  n/a     .000
01651>        fname :KB-Pond2.0002
01652>        remark:Total Flows at KB second pond
01653> R0002:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01654>      CONTINUOUS STANDHYD    1.0 01:KB-16_1       2.80     .293 No_date   28:01   35.54 .781     .000
01655>        [XIMP=.75:TIMP=.75]
01656>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01657>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01658>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 137.:MNI=.013:SCI=   .0]
01659>        [IaRECimp=   4.00: IaRECper=   4.00]
01660> R0002:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01661>      ADD HYD                1.0 02:KB-Pond2     254.24    9.930 No_date   28:12   22.82  n/a     .000
01662>                    +     1.0 02:KB-16_1        2.80     .293 No_date   28:01   35.54  n/a     .000
01663>                  SUM=    1.0 01:KB-P3        257.04   10.049 No_date   28:11   22.96  n/a     .000
01664> R0002:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01665>      ROUTE RESERVOIR  ->     1.0 02:KB-P3        257.04   10.049 No_date   28:11   22.96  n/a     .000
01666>                     out <=  1.0 01:KB-P3R        18.54     .051 No_date   18:09   22.96  n/a     .000
01667>                overflow <=  1.0 03:KB-P3ovf      238.50    9.997 No_date   28:11   22.96  n/a     .000
01668>     {MxStoUsed=.2001E-02 m3, TotOvfVol=.5477E+01  m3, N-Ovf=    1, TotDurOvf=   2.hrs}
01669> R0002:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01670>      ADD HYD                1.0 02:KB-P3R        18.54     .051 No_date   18:09   22.96  n/a     .000
01671>                    +     1.0 02:KB-P3ovf      238.50    9.997 No_date   28:11   22.96  n/a     .000
01672>                  SUM=    1.0 01:KB-Pond3     257.04   10.048 No_date   28:11   22.96  n/a     .000
01673> R0002:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01674>      SAVE HYD               1.0 01:KB-Pond3     257.04   10.048 No_date   28:11   22.96  n/a     .000
01675>        fname :KB-Pond3.0002
01676>        remark:Total Flows at KB third pond
01677> #*************************************************************************
01678> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
01679> #    - TO FRASER-CLARKE DRAIN
01680> #*************************************************************************
01681> R0002:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01682>      CONTINUOUS STANDHYD    1.0 01:FC-01         8.03     .575 No_date   28:01   23.89 .525     .000
01683>        [XIMP=.47:TIMP=.47]
01684>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01685>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01686>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
01687>        [IaRECimp=   4.00: IaRECper=   4.00]
01688> R0002:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01689>      COMPUTE DUALHYD        1.0 01:FC-01         8.03     .575 No_date   28:01   23.89  n/a     .000
01690>        Major System   /     1.0 02:FC-01-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01691>        Minor System   \     1.0 03:FC-01-MN      8.03     .575 No_date   28:01   23.89  n/a     .000
01692>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01693> R0002:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01694>      ADD HYD                1.0 02:FC-01-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01695>                    +     1.0 02:FC-01-MN      8.03     .575 No_date   28:01   23.89  n/a     .000
01696>                  SUM=    1.0 01:FC-01-S       8.03     .575 No_date   28:01   23.89  n/a     .000
01697> R0002:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01698>      CONTINUOUS STANDHYD    1.0 01:FC-02        16.05    1.936 No_date   28:01   41.29 .907     .000
01699>        [XIMP=.93:TIMP=.93]
01700>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01701>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01702>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
01703>        [IaRECimp=   4.00: IaRECper=   4.00]
01704> R0002:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01705>      COMPUTE DUALHYD        1.0 01:FC-02        16.05    1.936 No_date   28:01   41.29  n/a     .000
01706>        Major System   /     1.0 02:FC-02-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01707>        Minor System   \     1.0 03:FC-02-MN     16.05    1.159 No_date   27:52   41.31  n/a     .000
01708>        {MjSysSto=.4641E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01709> R0002:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01710>      ADD HYD                1.0 02:FC-02-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01711>                    +     1.0 02:FC-02-MN     16.05    1.159 No_date   27:52   41.31  n/a     .000
01712>                  SUM=    1.0 01:FC-02-S      16.05    1.159 No_date   27:52   41.31  n/a     .000
01713> R0002:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01714>      CONTINUOUS STANDHYD    1.0 01:FC-03         7.37     .687 No_date   28:01   30.32 .666     .000
01715>        [XIMP=.64:TIMP=.64]
01716>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01717>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01718>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
01719>        [IaRECimp=   4.00: IaRECper=   4.00]
01720> R0002:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01721>      COMPUTE DUALHYD        1.0 01:FC-03         7.37     .687 No_date   28:01   30.32  n/a     .000
01722>        Major System   /     1.0 02:FC-03-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01723>        Minor System   \     1.0 03:FC-03-MN      7.37     .358 No_date   27:49   30.49  n/a     .000
01724>        {MjSysSto=.2043E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01725> R0002:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01726>      ADD HYD                1.0 02:FC-03-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01727>                    +     1.0 02:FC-03-MN      7.37     .358 No_date   27:49   30.49  n/a     .000
01728>                  SUM=    1.0 01:FC-03-S       7.37     .358 No_date   27:49   30.49  n/a     .000
01729> R0002:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01730>      CONTINUOUS STANDHYD    1.0 01:FC-04        12.87    1.148 No_date   28:01   30.32 .666     .000
01731>        [XIMP=.64:TIMP=.64]
01732>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01733>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01734>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
01735>        [IaRECimp=   4.00: IaRECper=   4.00]
01736> R0002:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01737>      COMPUTE DUALHYD        1.0 01:FC-04        12.87    1.148 No_date   28:01   30.32  n/a     .000
01738>        Major System   /     1.0 02:FC-04-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01739>        Minor System   \     1.0 03:FC-04-MN     12.87     .741 No_date   27:53   30.44  n/a     .000
01740>        {MjSysSto=.2134E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01741> R0002:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01742>      ADD HYD                1.0 02:FC-04-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01743>                    +     1.0 02:FC-04-MN     12.87     .741 No_date   27:53   30.44  n/a     .000
01744>                  SUM=    1.0 01:FC-04-S      12.87     .741 No_date   27:53   30.44  n/a     .000
01745> a*************************************************************************
01746> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
01747> #    - TO JOCK RIVER
01748> a*************************************************************************
01749> R0002:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01750>      CONTINUOUS STANDHYD    1.0 01:JR-01         8.24     .764 No_date   28:01   30.32 .666     .000
01751>        [XIMP=.64:TIMP=.64]
01752>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01753>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01754>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
01755>        [IaRECimp=   4.00: IaRECper=   4.00]
01756> R0002:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01757>      COMPUTE DUALHYD        1.0 01:JR-01         8.24     .764 No_date   28:01   30.32  n/a     .000
01758>        Major System   /     1.0 02:JR-01-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01759>        Minor System   \     1.0 03:JR-01-MN      8.24     .563 No_date   28:13   30.43  n/a     .000
01760>        {MjSysSto=.8252E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01761> R0002:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01762>      ADD HYD                1.0 02:JR-01-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01763>                    +     1.0 02:JR-01-MN      8.24     .563 No_date   27:55   30.43  n/a     .000
01764>                  SUM=    1.0 01:JR-01-S       8.24     .563 No_date   27:55   30.43  n/a     .000
01765> R0002:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01766>      CONTINUOUS STANDHYD    1.0 01:JR-02         1.59     .162 No_date   28:00   30.32 .666     .000
01767>        [XIMP=.64:TIMP=.64]
01768>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
01769>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01770>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
01771>        [IaRECimp=   4.00: IaRECper=   4.00]
01772> R0002:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01773>      COMPUTE DUALHYD        1.0 01:JR-02         1.59     .162 No_date   28:00   30.32  n/a     .000
01774>        Major System   /     1.0 02:JR-02-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01775>        Minor System   \     1.0 03:JR-02-MN      1.59     .153 No_date   27:58   30.45  n/a     .000
01776>        {MjSysSto=.1236E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
01777> R0002:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01778>      ADD HYD                1.0 02:JR-02-MJ      .00     .000 No_date    0:00     .00  n/a     .000
01779>                    +     1.0 02:JR-02-MN      1.59     .153 No_date   27:58   30.45  n/a     .000
01780>                  SUM=    1.0 01:JR-02-S       1.59     .153 No_date   27:58   30.45  n/a     .000
01781> a*************************************************************************
01782> #    Catchment FRASER
01783> #    - To Fraser-Clarke drain (north of the Jock)
01784> #    - Developed land with assumed 42% imp.
01785> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
01786> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
01787> a*************************************************************************
01788> R0002:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01789>      CONTINUOUS NASHYD      1.0 01:FRASER-DRN   13.65     .212 No_date   28:22   14.83 .326     .000
01790>        [CN= 77.0: N= 3.00: Tp=  .67]
01791>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01792>        [InterEventTime=  12.00]
01793> R0002:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01794>      CONTINUOUS NASHYD      1.0 01:FRASER-D      21.61     .245 No_date   28:41   14.83 .326     .000
01795>        [CN= 77.0: N= 3.00: Tp=  .67]
01796>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01797>        [InterEventTime=  12.00]
01798> R0002:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01799>      ADD HYD                1.0 02:KB-Pond3     257.04   10.048 No_date   28:11   22.96  n/a     .000
01800>                    +     1.0 02:S-1-B         55.36     .825 No_date   28:24   14.83  n/a     .000
01801>                    +     1.0 02:FRASER-DRN    13.65     .212 No_date   28:22   14.83  n/a     .000
01802>                    +     1.0 02:FRASER-D      21.61     .245 No_date   28:41   14.83  n/a     .000
01803>                    +     1.0 02:N_KB       54279.33   48.700 No_date   36:46   12.97  n/a     .000
01804>                    +     1.0 02:FC-01-S        8.03     .575 No_date   28:01   23.89  n/a     .000
01805>                    +     1.0 02:FC-02-S       16.05    1.159 No_date   27:52   41.31  n/a     .000
01806>                    +     1.0 02:FC-03-S        7.37     .358 No_date   27:49   30.49  n/a     .000
01807>                  SUM=    1.0 01:KB-P4      54658.44   49.005 No_date   36:45   13.03  n/a     .000
01808> R0002:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01809>      SAVE HYD               1.0 01:KB-P4      54658.44   49.005 No_date   36:45   13.03  n/a     .000
01810>        fname :KB-P4.0002
01811>        remark:Total Flows at KB-P4 Outlet
01812> # Hydrograph from Node Ken-Burnett to station 3633
01813> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
01814> #
01815> R0002:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01816>      ROUTE CHANNEL    ->     1.0 02:KB-P4        54658.44   49.005 No_date   36:45   13.03  n/a     .000
01817>        [RDT= 1.00] out<-     1.0 01:KB-P4-out    54658.44   48.957 No_date   37:04   13.03  n/a     .000
01818>        [L/S/n=  294./ .109/.035]
01819>        {Vmax=  .962:Dmax= 1.546}
01820> R0002:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01821>      ADD HYD                1.0 02:4241-out     54658.44   48.957 No_date   37:04   13.03  n/a     .000
01822>                    +     1.0 02:FC-04-S       12.87     .741 No_date   27:53
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01871> #    - 2020-11-30 increase imp. based on P598(04)-11
01872> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
01873> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
01874> #**************************************************************
01875> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
01876> R0002:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01877>     CONTINUOUS STANDHYD   1.0 01:TODD_MN2       2.10     .179 No_date   28:00   28.91 .635     .000
01878>       [XIMP=.53:TIMP=.57]
01879>       [LOSS= 2 :CN= 77.0]
01880>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01881>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
01882>       [IaRECimp=   4.00: IaRECper=   4.00]
01883>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01884> R0002:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01885>     CONTINUOUS STANDHYD   1.0 01:TODD_MN3        .12     .011 No_date   28:00   28.91 .635     .000
01886>       [XIMP=.53:TIMP=.57]
01887>       [LOSS= 2 :CN= 77.0]
01888>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01889>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
01890>       [IaRECimp=   4.00: IaRECper=   4.00]
01891>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01892> R0002:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01893>     CONTINUOUS STANDHYD   1.0 01:TODD_MJ        30.23    2.154 No_date   28:03   29.64 .651     .000
01894>       [XIMP=.52:TIMP=.64]
01895>       [LOSS= 2 :CN= 77.0]
01896>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01897>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
01898>       [IaRECimp=   4.00: IaRECper=   4.00]
01899>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01900> R0002:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01901>     CONTINUOUS STANDHYD   1.0 01:TODD_ALL      112.91    6.553 No_date   28:06   28.70 .631     .000
01902>       [XIMP=.52:TIMP=.57]
01903>       [LOSS= 2 :CN= 77.0]
01904>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01905>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
01906>       [IaRECimp=   4.00: IaRECper=   4.00]
01907>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01908> R0002:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01909>     CONTINUOUS STANDHYD   1.0 01:TODD_P         3.06     .295 No_date   28:00   31.76 .698     .000
01910>       [XIMP=.63:TIMP=.63]
01911>       [LOSS= 2 :CN= 77.0]
01912>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01913>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
01914>       [IaRECimp=   4.00: IaRECper=   4.00]
01915>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01916> # 5-Year + 12% Capture
01917> R0002:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01918>     ROUTE RESERVOIR  ->     1.0 02:TODD_MJ        30.23    2.154 No_date   28:03   29.64 n/a      .000
01919> *                   out <=    1.0 01:TODD_MJn      30.23    2.154 No_date   28:03   29.64 n/a      .000
01920>                   overflow <=   1.0 03:TODD_MJj       .00     .000 No_date   0:00     .00 n/a      .000
01921>       {MxStoUsed=.6551E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01922> # 5-Year + 12% Capture
01923> R0002:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01924>     ROUTE RESERVOIR  ->     1.0 02:TODD_MN2       2.10     .179 No_date   28:00   28.91 n/a      .000
01925>                   out <=    1.0 01:TODD_MN2n     2.10     .179 No_date   28:00   28.91 n/a      .000
01926>                   overflow <=   1.0 03:TODD_MN2j      .00     .000 No_date   0:00     .00 n/a      .000
01927>       {MxStoUsed=.6551E-04  m3E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01928> R0002:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01929>     ROUTE RESERVOIR  ->     1.0 02:TODD_MN3        .12     .011 No_date   28:00   28.91 n/a      .000
01930>                   out <=    1.0 01:TODD_MN3n       .12     .010 No_date   28:00   28.91 n/a      .000
01931>                   overflow <=   1.0 03:TODD_MN3j      .00     .000 No_date   0:00     .00 n/a      .000
01932>       {MxStoUsed=.6566E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01933> R0002:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01934>     CONTINUOUS STANDHYD   1.0 01:A2           25.50    1.427 No_date   28:04   25.60 .563     .000
01935>       [XIMP=.42:TIMP=.52]
01936>       [LOSS= 2 :CN= 75.0]
01937>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01938>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
01939>       [IaRECimp=   4.00: IaRECper=   4.00]
01940>       [SMIN= 33.81: SMAX=225.43: SK= .010]
01941> R0002:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01942>     COMPUTE DUALHYD       1.0 01:A2           25.50    1.427 No_date   28:04   25.60 n/a      .000
01943>       Major System   /     1.0 02:A2-MJ        .00     .000 No_date   0:00     .00 n/a      .000
01944>       Minor System   \     1.0 03:A2-MN       25.50    1.427 No_date   28:04   25.60 n/a      .000
01945>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01946> R0002:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01947>     ADD HYD               1.0 02:TODD_MN2n     2.10     .179 No_date   28:00   28.91 n/a      .000
01948>                     +     1.0 02:TODD_MN3n       .12     .010 No_date   28:00   28.91 n/a      .000
01949>                     +     1.0 02:TODD_MJj        .00     .000 No_date   0:00     .00 n/a      .000
01950>                     +     1.0 02:TODD_P         3.06     .295 No_date   28:00   31.77 n/a      .000
01951>                     +     1.0 02:TODD_ALL     112.91    6.553 No_date   28:06   28.70 n/a      .000
01952>                     +     1.0 02:W_CLAR_MJn     1.77     .141 No_date   28:00   27.78 n/a      .000
01953>                   SUM=    1.0 01:TODD       119.95    6.882 No_date   28:05   28.77 n/a      .000
01954> R0002:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01955>     SAVE HYD              1.0 01:TODD       119.95    6.882 No_date   28:05   28.77 n/a      .000
01956>       fname :TODD.0002
01957>       remark:Total Flows at Todd Drain
01958> #**************************************************************************
01959> #    Todd Pond 3
01960> #    - Rating curve obtained from Barrhaven South MSS modeling
01961> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
01962> #**************************************************************************
01963> R0002:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01964>     ROUTE RESERVOIR  ->     1.0 02:TODD       119.95    6.882 No_date   28:05   28.77 n/a      .000
01965>                   out <=    1.0 01:MS_P3      119.95    1.033 No_date   29:08   28.76 n/a      .000
01966>                   overflow <=   1.0 03:P3-OVF       .00     .000 No_date   0:00     .00 n/a      .000
01967>       {MxStoUsed=.2183E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01968> R0002:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01969>     ADD HYD              1.0 02:GreenB     54717.73   49.055 No_date   37:10   13.05 n/a      .000
01970>                     +     1.0 02:MS_P3      119.95    1.033 No_date   29:08   28.76 n/a      .000
01971>                     +     1.0 02:P3-OVF         .00     .000 No_date   0:00     .00 n/a      .000
01972>                     +     1.0 02:TODD_MN2j      .00     .000 No_date   0:00     .00 n/a      .000
01973>                     +     1.0 02:A2-MJ          .00     .000 No_date   0:00     .00 n/a      .000
01974>                   SUM=    1.0 01:SN_TO      54837.69   49.202 No_date   37:09   13.08 n/a      .000
01975> R0002:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01976>     SAVE HYD              1.0 01:SN_TO      54837.69   49.202 No_date   37:09   13.08 n/a      .000
01977>       fname :SN_TO.0002
01978>       remark:Total Flows at Todd Drain
01979> #
01980> # Hydrograph from Todd Drain routed to Corrigan Drain
01981> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
01982> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
01983> R0002:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01984>     ROUTE CHANNEL    ->     1.0 02:SN_TO      54837.69   49.202 No_date   37:09   13.08 n/a      .000
01985> *   [RDT= 1.00] out<-       1.0 01:N_TO       54837.69   48.869 No_date   38:25   13.08 n/a      .000
01986>       [L/S/n=  280./ 0.050/.045]
01987>       {Vmax=  .730:Dmax= 2.134}
01988> R0002:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01989>     SAVE HYD              1.0 01:N_TO       54837.69   48.869 No_date   38:25   13.08 n/a      .000
01990>       fname :N_TO.0002
01991>       remark:Total inflows at Station 2462
01992> #**************************************************************************
01993> #    Catchment CORRIG
01994> #    - To Corrigan Drain (south of the Jock)
01995> #    - Primarily Developed (medium density)
01996> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
01997> #**************************************************************************
01998> R0002:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01999>     CONTINUOUS STANDHYD   1.0 01:corr1          15.87    1.352 No_date   28:02   31.77 .698     .000
02000>       [XIMP=.63:TIMP=.63]
02001>       [LOSS= 2 :CN= 77.0]
02002>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02003>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
02004>       [IaRECimp=   4.00: IaRECper=   4.00]
02005>       [SMIN= 31.15: SMAX=207.66: SK= .010]
02006> R0002:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02007>     COMPUTE DUALHYD       1.0 01:corr1          15.87    1.352 No_date   28:02   31.77 n/a      .000
02008>       Major System   /     1.0 02:corr1-MJ        .00     .000 No_date   0:00     .00 n/a      .000
02009>       Minor System   \     1.0 03:corr1-MN       15.87    1.352 No_date   28:02   31.77 n/a      .000
02010>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02011> R0002:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02012>     CONTINUOUS NASHYD     1.0 01:corr2          12.47     .100 No_date   29:12   14.83 .326     .000
02013>       [CN= 77.0: N= 3.00: Tp= 1.10]
02014>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02015>       [InterEventTime=  12.00]
02016> R0002:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02017>     CONTINUOUS STANDHYD   1.0 01:A1-Corrig      15.75     .982 No_date   28:02   25.60 .563     .000
02018>       [XIMP=.42:TIMP=.52]
02019>       [LOSS= 2 :CN= 75.0]
02020>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02021>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
02022>       [IaRECimp=   4.00: IaRECper=   4.00]
02023>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02024> R0002:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02025>     COMPUTE DUALHYD       1.0 01:A1-Corrig      15.75     .982 No_date   28:02   25.60 n/a      .000
02026>       Major System   /     1.0 02:A1-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02027>       Minor System   \     1.0 03:A1-MN         15.75     .982 No_date   28:02   25.60 n/a      .000
02028>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02029> R0002:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02030>     CONTINUOUS NASHYD     1.0 01:B1             2.77     .033 No_date   28:09    9.64 .212     .000
02031>       [CN= 56.0: N= 3.00: Tp=  .23]
02032>       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
02033>       [InterEventTime=  12.00]
02034> R0002:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02035>     CONTINUOUS STANDHYD   1.0 01:A4           1.27     .116 No_date   28:01   32.20 .707     .000
02036>       [XIMP=.65:TIMP=.65]
02037>       [LOSS= 2 :CN= 75.0]
02038>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02039>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
02040>       [IaRECimp=   4.00: IaRECper=   4.00]
02041>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02042> R0002:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02043>     COMPUTE DUALHYD       1.0 01:A4           1.27     .116 No_date   28:01   32.20 n/a      .000
02044>       Major System   /     1.0 02:A4-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02045>       Minor System   \     1.0 03:A4-MN         1.27     .116 No_date   28:01   32.20 n/a      .000
02046>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02047> R0002:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02048>     ADD HYD               1.0 02:A1-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02049>                     +     1.0 02:A1-MN        15.75     .982 No_date   28:02   25.60 n/a      .000
02050>                     +     1.0 02:corr1-MJ       .00     .000 No_date   0:00     .00 n/a      .000
02051>                     +     1.0 02:corr1-MN     15.87    1.352 No_date   28:02   31.77 n/a      .000
02052>                     +     1.0 02:corr2        12.47     .100 No_date   29:12   14.83 n/a      .000
02053>                     +     1.0 02:B1            2.77     .033 No_date   28:09    9.64 n/a      .000
02054>                     +     1.0 02:A4-MN         1.27     .116 No_date   28:01   32.20 n/a      .000
02055>                   SUM=    1.0 01:MH101        48.13    2.497 No_date   28:02   24.10 n/a      .000
02056> R0002:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02057>     SAVE HYD              1.0 01:MH101        48.13    2.497 No_date   28:02   24.10 n/a      .000
02058>       fname :MH101.0002
02059>       remark:Total Flows at MH101
02060> R0002:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02061>     ROUTE PIPE       ->     1.0 02:MH101        48.13    2.497 No_date   28:02   24.10 n/a      .000
02062> *   [RDT= 1.00] out<-       1.0 01:101-102      48.13    2.412 No_date   28:03   24.10 n/a      .000
02063>       [L/S/n=  368./ 0.540/.013]
02064>       {Vmax= 2.789:Dmax=  .935}
02065>       [Din= 1.05:Dused= 1.14}
02066> R0002:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02067>     ADD HYD               1.0 02:A2-MN        25.50    1.427 No_date   28:04   25.60 n/a      .000
02068>                     +     1.0 02:101-102      48.13    2.412 No_date   28:03   24.10 n/a      .000
02069>                   SUM=    1.0 01:MH102        73.63    3.837 No_date   28:03   24.62 n/a      .000
02070> R0002:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02071>     SAVE HYD              1.0 01:MH102        73.63    3.837 No_date   28:03   24.62 n/a      .000
02072>       fname :MH102.0002
02073>       remark:Total Flows at MH102
02074> R0002:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02075>     CONTINUOUS STANDHYD   1.0 01:A5           1.60     .155 No_date   28:01   34.21 .752     .000
02076>       [XIMP=.71:TIMP=.71]
02077>       [LOSS= 2 :CN= 75.0]
02078>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02079>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
02080>       [IaRECimp=   4.00: IaRECper=   4.00]
02081>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02082> R0002:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02083>     ADD HYD               1.0 02:A4-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02084>                     +     1.0 02:A5           1.60     .155 No_date   28:01   34.21 n/a      .000
02085>                   SUM=    1.0 01:A5T          1.60     .155 No_date   28:01   34.21 n/a      .000
02086> R0002:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02087>     COMPUTE DUALHYD       1.0 01:A5T          1.60     .155 No_date   28:01   34.21 n/a      .000
02088>       Major System   /     1.0 02:A5-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02089>       Minor System   \     1.0 03:A5-MN         1.60     .155 No_date   28:01   34.21 n/a      .000
02090>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02091> R0002:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02092>     ROUTE PIPE       ->     1.0 02:MH102        73.63    3.837 No_date   28:03   24.62 n/a      .000
02093> *   [RDT= 1.00] out<-       1.0 01:102-103      73.63    3.600 No_date   28:05   24.62 n/a      .000
02094>       [L/S/n=  504./ .280/.013]
02095>       {Vmax= 2.428:Dmax= 1.243}
02096>       [Din= 1.50:Dused= 1.51}
02097> R0002:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02098>     ADD HYD               1.0 02:102-103      73.63    3.600 No_date   28:05   24.62 n/a      .000
02099>                     +     1.0 02:A5-MN         1.60     .155 No_date   28:01   34.21 n/a      .000
02100>                   SUM=    1.0 01:MH103        75.23    3.728 No_date   28:05   24.82 n/a      .000
02101> R0002:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02102>     SAVE HYD              1.0 01:MH103        75.23    3.728 No_date   28:05   24.82 n/a      .000
02103>       fname :MH103.0002
02104>       remark:Total Flows at MH103
02105> R0002:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02106>     ROUTE PIPE       ->     1.0 02:MH103        75.23    3.728 No_date   28:05   24.82 n/a      .000
02107>       [RDT= 1.00] out<-       1.0 01:103-104      75.23    3.629 No_date   28:07   24.82 n/a      .000
02108>       [L/S/n=  430./ .460/.013]
02109>       {Vmax= 3.024:Dmax=  .924}
02110>       [Din= 1.65:Dused= 1.65}
02111> R0002:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02112>     CONTINUOUS STANDHYD   1.0 01:A6           1.56     .152 No_date   28:01   34.21 .752     .000
02113>       [XIMP=.71:TIMP=.71]
02114>       [LOSS= 2 :CN= 75.0]
02115>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02116>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
02117>       [IaRECimp=   4.00: IaRECper=   4.00]
02118>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02119> R0002:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02120>     ADD HYD               1.0 02:A5-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02121>                     +     1.0 02:A6           1.56     .152 No_date   28:01   34.21 n/a      .000
02122>                   SUM=    1.0 01:A6T          1.56     .152 No_date   28:01   34.21 n/a      .000
02123> R0002:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02124>     COMPUTE DUALHYD       1.0 01:A6T          1.56     .152 No_date   28:01   34.21 n/a      .000
02125>       Major System   /     1.0 02:A6-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02126>       Minor System   \     1.0 03:A6-MN         1.56     .152 No_date   28:01   34.21 n/a      .000
02127>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02128> R0002:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02129>     ADD HYD               1.0 02:A6-MN         1.56     .152 No_date   28:01   34.21 n/a      .000
02130>                     +     1.0 02:103-104      75.23    3.629 No_date   28:07   24.82 n/a      .000
02131>                     +     1.0 02:TODD_MJn     30.23    2.154 No_date   28:03   29.64 n/a      .000
02132>                   SUM=    1.0 01:MH104       107.02    5.765 No_date   28:05   26.32 n/a      .000
02133> R0002:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02134>     SAVE HYD              1.0 01:MH104       107.02    5.765 No_date   28:05   26.32 n/a      .000
02135>       fname :MH104.0002
02136>       remark:Total Flows at MH104
02137> R0002:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02138>     CONTINUOUS STANDHYD   1.0 01:B2           12.31     .731 No_date   28:03   25.66 .564     .000
02139>       [XIMP=.41:TIMP=.54]
02140>       [LOSS= 2 :CN= 75.0]
02141>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02142>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
02143>       [IaRECimp=   4.00: IaRECper=   4.00]
02144>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02145> R0002:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02146>     COMPUTE DUALHYD       1.0 01:B2           12.31     .731 No_date   28:03   25.66 n/a      .000
02147>       Major System   /     1.0 02:B2-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02148>       Minor System   \     1.0 03:B2-MN        12.31     .731 No_date   28:03   25.66 n/a      .000
02149>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02150> R0002:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02151>     ROUTE PIPE       ->     1.0 02:B2-MN        12.31     .731 No_date   28:03   25.66 n/a      .000
02152>       [RDT= 1.00] out<-       1.0 01:315-333      12.31     .675 No_date   28:04   25.66 n/a      .000
02153>       [L/S/n=  254./ .100/.013]
02154>       {Vmax= 1.136:Dmax=  .665}
02155>       [Din= 1.20:Dused= 1.20}
02156> R0002:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02157>     CONTINUOUS STANDHYD   1.0 01:B3           5.59     .346 No_date   28:02   25.66 .564     .000
02158>       [XIMP=.41:TIMP=.54]
02159>       [LOSS= 2 :CN= 75.0]
02160>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02161>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
02162>       [IaRECimp=   4.00: IaRECper=   4.00]
02163>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02164> R0002:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02165>     COMPUTE DUALHYD       1.0 01:B3           5.59     .346 No_date   28:02   25.66 n/a      .000
02166>       Major System   /     1.0 02:B3-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02167>       Minor System   \     1.0 03:B3-MN         5.59     .346 No_date   28:02   25.66 n/a      .000
02168>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02169> R0002:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02170>     ADD HYD               1.0 02:B3-MN         5.59     .346 No_date   28:02   25.66 n/a      .000
02171>                     +     1.0 02:315-333      12.31     .675 No_date   28:04   25.66 n/a      .000
02172>                   SUM=    1.0 01:MH333        17.90    1.009 No_date   28:04   25.66 n/a      .000
02173> R0002:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02174>     SAVE HYD              1.0 01:MH333        17.90    1.009 No_date   28:04   25.66 n/a      .000
02175>       fname :MH333.0002
02176>       remark:Total Flows at MH333
02177> R0002:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02178>     ROUTE PIPE       ->     1.0 02:MH333        17.90    1.009 No_date   28:04   25.66 n/a      .000
02179>       [RDT= 1.00] out<-       1.0 01:333-335      17.90     .937 No_date   28:05   25.66 n/a      .000
02180>       [L/S/n=  251./ .100/.013]
02181>       {Vmax= 1.217:Dmax=  .826}
02182>       [Din= 1.20:Dused= 1.20}
02183> R0002:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02184>     ROUTE PIPE       ->     1.0 02:333-335      17.90     .937 No_date   28:05   25.66 n/a      .000
02185>       [RDT= 1.00] out<-       1.0 01:335-338      17.90     .888 No_date   28:07   25.66 n/a      .000
02186>       [L/S/n=  185./ .100/.013]
02187>       {Vmax= 1.199:Dmax=  .782}
02188>       [Din= 1.20:Dused= 1.20}
02189> R0002:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02190>     ROUTE PIPE       ->     1.0 02:335-338      17.90     .888 No_date   28:07   25.66 n/a      .000
02191>       [RDT= 1.00] out<-       1.0 01:338-340      17.90     .838 No_date   28:08   25.66 n/a      .000
02192>       [L/S/n=  233./ .100/.013]
02193>       {Vmax= 1.194:Dmax=  .695}
02194>       [Din= 1.35:Dused= 1.35}
02195> R0002:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02196>     CONTINUOUS STANDHYD   1.0 01:B4           7.60     .459 No_date   28:02   25.66 .564     .000
02197>       [XIMP=.41:TIMP=.54]
02198>       [LOSS= 2 :CN= 75.0]
02199>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02200>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
02201>       [IaRECimp=   4.00: IaRECper=   4.00]
02202>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02203> R0002:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02204>     COMPUTE DUALHYD       1.0 01:B4           7.60     .459 No_date   28:02   25.66 n/a      .000
02205>       Major System   /     1.0 02:B4-MJ          .00     .000 No_date   0:00     .00 n/a      .000
02206>       Minor System   \     1.0 03:B4-MN         7.60     .459 No_date   28:02   25.66 n/a      .000
02207>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02208> R0002:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02209>     ADD HYD               1.0 02:338-340      17.90     .838 No_date   28:08   25.66 n/a      .000
02210>                     +     1.0 02:B4-MN         7.60     .459 No_date   28:02   25.66 n/a      .000
02211>                   SUM=    1.0 01:MH340        25.50    1.234 No_date   28:05   25.66 n/a      .000
02212> R0002:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02213>     SAVE HYD              1.0 01:MH340        25.50    1.234 No_date   28:05   25.66 n/a      .000
02214>       fname :MH340.0002
02215>       remark:Total Flows at MH340
02216> R0002:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02217>     ROUTE PIPE       ->     1.0 02:MH340        25.50    1.234 No_date   28:05   25.66 n/a      .000
02218>       [RDT= 1.00] out<-       1.0 01:340-104      25.50    1.182 No_date   28:07   25.66 n/a      .000
02219>       [L/S/n=  240./ .150/.013]
02220>       {Vmax= 1.502:Dmax=  .672}
02221>       [Din= 1.65:Dused= 1.65}
02222> R0002:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02223>     ADD HYD               1.0 02:340-104      25.50    1.182 No_date   28:07   25.66 n/a      .000
02224>                     +     1.0 02:MH104       107.02    5.765 No_date   28:05   26.32 n/a      .000
02225>                   SUM=    1.0 01:MH104T      132.52    6.925 No_date   28:05   26.19 n/a      .000
02226> R0002:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02227>     ROUTE PIPE       ->     1.0 02:MH104T      132.52    6.925 No_date   28:05   26.19 n/a      .000
02228>
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02245> R0002:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02246>     CONTINUOUS STANDHYD    1.0 01:A8              .96      .099 No_date   28:00   34.21 .752     .000
02247>       [XIMP=.71:TIMP=.71]
02248>       [LOSS= 2 :CN= 75.0]
02249>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02250>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
02251>       [IaRECimp=   4.00: IaRECper=   4.00]
02252>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02253> R0002:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02254>     ADD HYD                1.0 02:A6-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02255>                      +     1.0 02:A8              .96      .099 No_date   28:00   34.21  n/a    .000
02256>                    SUM=    1.0 01:A8T             .96      .099 No_date   28:00   34.21  n/a    .000
02257> R0002:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02258>     COMPUTE DUALHYD        1.0 01:A8T             .96      .099 No_date   28:00   34.21  n/a    .000
02259>       Major System    /    1.0 02:A8-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02260>       Minor System    \    1.0 03:A8-MN           .96      .099 No_date   28:00   34.21  n/a    .000
02261>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02262> R0002:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02263>     ADD HYD                1.0 02:104-105       132.52    6.452 No_date   28:06   26.19 n/a     .000
02264>                      +     1.0 02:B5-MN          2.20     .187 No_date   28:00   29.51 n/a     .000
02265>                      +     1.0 02:A8T-MN          .96      .099 No_date   28:00   34.21 n/a     .000
02266>                      +     1.0 02:TODD_MN3J       .00      .000 No_date   0:00     .00 n/a     .000
02267>                    SUM=    1.0 01:MH105         135.68    6.624 No_date   28:06   26.30 n/a     .000
02268> R0002:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02269>     SAVE HYD               1.0 01:MH105         135.68    6.624 No_date   28:06   26.30 n/a     .000
02270>       fname :MH105.0002
02271>       remark:Total Flows at MH105
02272> R0002:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02273> *   DIVERT HYD        ->    1.0 01:A8-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02274>                      diverted <-    1.0 02:A8-MJ-JR      .00      .000 No_date   0:00     .00 n/a     .000
02275>                      diverted <=    1.0 03:A8-MJ-B6      .00      .000 No_date   0:00     .00 n/a     .000
02276> R0002:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02277>     DIVERT HYD       ->    1.0 01:MH105         135.68    6.624 No_date   28:06   26.30 n/a     .000
02278>                      diverted <=    1.0 02:MH105-JR      16.59    3.620 No_date   28:06   26.30 n/a     .000
02279>                      diverted <=    1.0 03:MH105-B6     119.09    3.004 No_date   28:06   26.30 n/a     .000
02280> R0002:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02281>     CONTINUOUS STANDHYD    1.0 01:B7              7.19     .479 No_date   28:01   25.66 .564     .000
02282>       [XIMP=.41:TIMP=.54]
02283>       [LOSS= 2 :CN= 75.0]
02284>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02285>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
02286>       [IaRECimp=   4.00: IaRECper=   4.00]
02287>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02288> R0002:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02289>     ADD HYD                1.0 02:B4-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02290>                      +     1.0 02:B7              7.19     .479 No_date   28:01   25.66 n/a     .000
02291>                    SUM=    1.0 01:B7-B4MJ         7.19     .479 No_date   28:01   25.66 n/a     .000
02292> R0002:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02293>     COMPUTE DUALHYD        1.0 01:B7-B4MJ         7.19     .479 No_date   28:01   25.66 n/a     .000
02294>       Major System    /    1.0 02:B7R-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02295>       Minor System    \    1.0 03:B7R-MN          7.19     .479 No_date   28:01   25.66 n/a     .000
02296>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02297> R0002:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02298>     ROUTE PIPE       ->    1.0 02:B7R-MN          7.19     .479 No_date   28:01   25.66 n/a     .000
02299>       [RDT= 1.00] out<-    1.0 01:360-106A        7.19     .451 No_date   28:02   25.66 n/a     .000
02300>       [L/S/n=  167./ .100/.013]
02301>       {Vmax= 1.023:Dmax=  .550}
02302>       {Din= 1.05:Dused= 1.05}
02303> R0002:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02304>     CONTINUOUS STANDHYD    1.0 01:B6              3.29     .229 No_date   28:00   25.66 .564     .000
02305>       [XIMP=.41:TIMP=.54]
02306>       [LOSS= 2 :CN= 75.0]
02307>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02308>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
02309>       [IaRECimp=   4.00: IaRECper=   4.00]
02310>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02311> R0002:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02312>     COMPUTE DUALHYD        1.0 01:B6              3.29     .229 No_date   28:00   25.66  n/a    .000
02313>       Major System    /    1.0 02:B6-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02314>       Minor System    \    1.0 03:B6-MN           3.29     .064 No_date   27:43   25.67  n/a    .000
02315>       [MjSysSto=.1576E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02316> R0002:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02317>     CONTINUOUS STANDHYD    1.0 01:EX-LAND        32.50    2.093 No_date   28:02   26.85 .590     .000
02318>       [XIMP=.50:TIMP=.50]
02319>       [LOSS= 2 :CN= 74.0]
02320>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02321>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
02322>       [IaRECimp=   4.00: IaRECper=   4.00]
02323>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02324> R0002:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02325>     COMPUTE DUALHYD        1.0 01:EX-LAND        32.50    2.093 No_date   28:02   26.85  n/a    .000
02326>       Major System    /    1.0 02:EX-LAND-MJ      .00      .000 No_date   0:00     .00 n/a     .000
02327>       Minor System    \    1.0 03:EX-LAND-MN     32.50    2.093 No_date   28:02   26.85  n/a    .000
02328>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02329> R0002:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02330>     ADD HYD                1.0 02:B7R-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02331>                      +     1.0 02:EX-LAND-MJ      .00      .000 No_date   0:00     .00 n/a     .000
02332>                      +     1.0 02:B5-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02333>                      +     1.0 02:B6-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02334>                      +     1.0 02:B6-MN          3.29     .064 No_date   27:43   25.67 n/a     .000
02335>                      +     1.0 02:A8-MJ-B6        .00      .000 No_date   0:00     .00 n/a     .000
02336>                    SUM=    1.0 01:B6-B7EXMJ      3.29     .064 No_date   27:43   25.67 n/a     .000
02337> R0002:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02338>     COMPUTE DUALHYD        1.0 01:B6-B7EXMJ      3.29     .064 No_date   27:43   25.67  n/a    .000
02339>       Major System    /    1.0 02:B6R-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02340>       Minor System    \    1.0 03:B6R-MN          3.29     .064 No_date   27:43   25.67  n/a    .000
02341>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02342> R0002:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02343>     ROUTE PIPE       ->    1.0 02:MH105-B6      119.09    3.004 No_date   28:06   26.30 n/a     .000
02344>       [RDT= 1.00] out<-    1.0 01:105-106A      119.09    3.006 No_date   28:08   26.30 n/a     .000
02345>       [L/S/n=  208./ .100/.013]
02346>       {Vmax= 1.596:Dmax= 1.247}
02347>       {Din= 1.80:Dused= 1.80}
02348> R0002:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02349>     ADD HYD                1.0 02:360-106A        7.19     .451 No_date   28:02   25.66 n/a     .000
02350>                      +     1.0 02:105-106A      119.09    3.006 No_date   28:08   26.30 n/a     .000
02351>                      +     1.0 02:B6R-MN          3.29     .064 No_date   27:43   25.67 n/a     .000
02352>                      +     1.0 02:B6R-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02353>                    SUM=    1.0 01:MH106A        129.57    3.466 No_date   28:03   26.25 n/a     .000
02354> R0002:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02355>     SAVE HYD               1.0 01:MH106A        129.57    3.466 No_date   28:03   26.25 n/a     .000
02356>       fname :MH106A.0002
02357>       remark:Total Flows at MH106A
02358> R0002:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02359>     ROUTE PIPE       ->    1.0 02:MH106A        129.57    3.466 No_date   28:03   26.25 n/a     .000
02360> *   [RDT= 1.00] out<-    1.0 01:106A-106      129.57    3.450 No_date   28:04   26.25 n/a     .000
02361>       [L/S/n=  190./ .100/.013]
02362>       {Vmax= 1.626:Dmax= 1.406}
02363>       {Din= 1.80:Dused= 1.80}
02364> R0002:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02365>     CONTINUOUS STANDHYD    1.0 01:A9              2.44     .240 No_date   28:01   34.21 .752     .000
02366>       [XIMP=.71:TIMP=.71]
02367>       [LOSS= 2 :CN= 75.0]
02368>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02369>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
02370>       [IaRECimp=   4.00: IaRECper=   4.00]
02371>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02372> R0002:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02373>     COMPUTE DUALHYD        1.0 01:A9              2.44     .240 No_date   28:01   34.21  n/a    .000
02374>       Major System    /    1.0 02:A9-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02375>       Minor System    \    1.0 03:A9-MN           2.44     .240 No_date   28:01   34.21  n/a    .000
02376> R0002:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02377>     ADD HYD                1.0 02:106A-106      129.57    3.450 No_date   28:04   26.25 n/a     .000
02378>                      +     1.0 02:A9-MN           2.44     .240 No_date   28:01   34.21 n/a     .000
02379>                    SUM=    1.0 01:MH106         132.01    3.666 No_date   28:03   26.40 n/a     .000
02380> R0002:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02381>     SAVE HYD               1.0 01:MH106         132.01    3.666 No_date   28:03   26.40 n/a     .000
02382>       fname :MH106.0002
02383>       remark:Total Flows at MH106
02384> R0002:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02385>     ROUTE PIPE       ->    1.0 02:MH106         132.01    3.666 No_date   28:03   26.40  n/a    .000
02386> *   [RDT= 1.00] out<-    1.0 01:106-107       132.01    3.602 No_date   28:06   26.40  n/a    .000
02387>       [L/S/n=  123./ .100/.013]
02388>       {Vmax= 1.631:Dmax= 1.482}
02389>       {Din= 1.80:Dused= 1.81}
02390> R0002:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02391>     CONTINUOUS STANDHYD    1.0 01:A10             4.14     .246 No_date   28:01   23.49 .516     .000
02392>       [XIMP=.35:TIMP=.47]
02393>       [LOSS= 2 :CN= 75.0]
02394>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02395>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02396>       [IaRECimp=   4.00: IaRECper=   4.00]
02397>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02398> R0002:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02399>     COMPUTE DUALHYD        1.0 01:A10             4.14     .246 No_date   28:01   23.49  n/a    .000
02400>       Major System    /    1.0 02:A10-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02401>       Minor System    \    1.0 03:A10-MN          4.14     .246 No_date   28:01   23.49  n/a    .000
02402>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02403> R0002:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02404>     CONTINUOUS STANDHYD    1.0 01:A11            10.61     .781 No_date   28:02   29.20 .642     .000
02405>       [XIMP=.53:TIMP=.62]
02406>       [LOSS= 2 :CN= 75.0]
02407>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02408>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
02409>       [IaRECimp=   4.00: IaRECper=   4.00]
02410>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02411> R0002:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02412>     COMPUTE DUALHYD        1.0 01:A11            10.61     .781 No_date   28:02   29.20  n/a    .000
02413>       Major System    /    1.0 02:A11-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02414>       Minor System    \    1.0 03:A11-MN         10.61     .781 No_date   28:02   29.20  n/a    .000
02415>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02416> R0002:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02417>     ADD HYD                1.0 02:106-107       132.01    3.602 No_date   28:06   26.40 n/a     .000
02418>                      +     1.0 02:A10-MN          4.14     .246 No_date   28:01   23.49 n/a     .000
02419>                      +     1.0 02:A11-MN         10.61     .781 No_date   28:02   29.20 n/a     .000
02420>                    SUM=    1.0 01:MH107         146.76    4.589 No_date   28:02   26.52 n/a     .000
02421> R0002:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02422>     SAVE HYD               1.0 01:MH107         146.76    4.589 No_date   28:02   26.52 n/a     .000
02423>       fname :MH107.0002
02424>       remark:Total Flows at MH107
02425> R0002:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02426>     ROUTE PIPE       ->    1.0 02:MH107         146.76    4.589 No_date   28:02   26.52  n/a    .000
02427> *   [RDT= 1.00] out<-    1.0 01:107-119       146.76    4.493 No_date   28:07   26.52  n/a    .000
02428>       [L/S/n=  114./ .120/.013]
02429>       {Vmax= 1.848:Dmax= 1.558}
02430>       [Din= 1.80:Dused= 1.90]
02431> R0002:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02432>     ROUTE PIPE       ->    1.0 02:107-119       146.76    4.493 No_date   28:07   26.52 n/a     .000
02433> *   [RDT= 1.00] out<-    1.0 01:119-108       146.76    4.469 No_date   28:07   26.52 n/a     .000
02434>       [L/S/n=  66./ .120/.013]
02435>       {Vmax= 1.838:Dmax= 1.546}
02436>       [Din= 1.80:Dused= 1.88}
02437> R0002:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02438>     CONTINUOUS STANDHYD    1.0 01:A12            12.29     .834 No_date   28:01   25.66 .564     .000
02439>       [XIMP=.41:TIMP=.54]
02440>       [LOSS= 2 :CN= 75.0]
02441>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02442>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02443>       [IaRECimp=   4.00: IaRECper=   4.00]
02444>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02445> R0002:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02446>     COMPUTE DUALHYD        1.0 01:A12            12.29     .834 No_date   28:01   25.66  n/a    .000
02447>       Major System    /    1.0 02:A12-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02448>       Minor System    \    1.0 03:A12-MN         12.29     .834 No_date   28:01   25.66  n/a    .000
02449>       [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
02450> R0002:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02451>     CONTINUOUS STANDHYD    1.0 01:A13             2.59     .239 No_date   28:02   34.21 .752     .000
02452>       [XIMP=.71:TIMP=.71]
02453>       [LOSS= 2 :CN= 75.0]
02454>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02455>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
02456>       [IaRECimp=   4.00: IaRECper=   4.00]
02457>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02458> R0002:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02459>     COMPUTE DUALHYD        1.0 01:A13             2.59     .239 No_date   28:02   34.21  n/a    .000
02460>       Major System    /    1.0 02:A13-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02461>       Minor System    \    1.0 03:A13-MN          2.59     .239 No_date   28:02   34.21  n/a    .000
02462> R0002:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02463>     CONTINUOUS STANDHYD    1.0 01:Pond-Block      2.94     .190 No_date   28:01   24.31 .534     .000
02464>       [XIMP=.41:TIMP=.41]
02465>       [LOSS= 2 :CN= 75.0]
02466>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02467>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02468>       [IaRECimp=   4.00: IaRECper=   4.00]
02469>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02470> R0002:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02471>     ADD HYD                1.0 02:119-108       146.76    4.469 No_date   28:07   26.52 n/a     .000
02472>                      +     1.0 02:A13-MN          2.59     .239 No_date   28:02   34.21 n/a     .000
02473>                      +     1.0 02:A12-MN         12.29     .834 No_date   28:01   25.66 n/a     .000
02474>                    SUM=    1.0 01:MH108         161.64    5.450 No_date   28:03   26.58 n/a     .000
02475> R0002:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02476>     SAVE HYD               1.0 01:MH108         161.64    5.450 No_date   28:03   26.58 n/a     .000
02477>       fname :MH108.0002
02478>       remark:Total Flows at MH108
02479> R0002:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02480>     ROUTE PIPE       ->    1.0 02:MH108         161.64    5.450 No_date   28:03   26.58 n/a     .000
02481> *   [RDT= 1.00] out<-    1.0 01:108-116       161.64    5.396 No_date   28:04   26.58 n/a     .000
02482>       [L/S/n=   77./ .130/.013]
02483>       {Vmax= 1.987:Dmax= 1.637}
02484>       [Din= 1.80:Dused= 1.99}
02485> R0002:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02486>     ROUTE PIPE       ->    1.0 02:108-116       161.64    5.396 No_date   28:04   26.58 n/a     .000
02487> *   [RDT= 1.00] out<-    1.0 01:116-corrig    161.64    5.363 No_date   28:04   26.58 n/a     .000
02488>       [L/S/n=   80./ .130/.013]
02489>       {Vmax= 1.983:Dmax= 1.631}
02490>       [Din= 1.80:Dused= 1.99}
02491> R0002:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02492>     ADD HYD                1.0 02:116-corrig    161.64    5.363 No_date   28:04   26.58 n/a     .000
02493>                      +     1.0 02:Pond-Block      2.94     .190 No_date   28:01   24.31 n/a     .000
02494>                    SUM=    1.0 01:Corrigan       164.58    5.522 No_date   28:04   26.54 n/a     .000
02495> R0002:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02496>     SAVE HYD               1.0 01:Corrigan       164.58    5.522 No_date   28:04   26.54 n/a     .000
02497>       fname :Corrigan.0002
02498>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
02499> R0002:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02500>     ROUTE RESERVOIR  ->    1.0 02:Corrigan       164.58    5.522 No_date   28:04   26.54 n/a     .000
02501>                      out <=    1.0 01:Co-P        164.58    4.479 No_date   28:12   26.54 n/a     .000
02502>                overflow <=    1.0 03:Co-P-OVF      .00      .000 No_date   0:00     .00 n/a     .000
02503>       {MxStoUsed=.9246E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
02504> R0002:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02505>     ADD HYD                1.0 03:Co-P-OVF        .00      .000 No_date   0:00     .00 n/a     .000
02506>                      +     1.0 02:Co-P          164.58    4.479 No_date   28:12   26.54 n/a     .000
02507>                      +     1.0 02:N_TO        54837.69   48.869 No_date   38:25   13.08 n/a     .000
02508>                      +     1.0 02:MH105-JR       16.59    3.620 No_date   28:06   26.30 n/a     .000
02509>                      +     1.0 02:A8-MJ-JR        .00      .000 No_date   0:00     .00 n/a     .000
02510>                      +     1.0 02:A9-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02511>                      +     1.0 02:B5-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02512>                      +     1.0 02:A11-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02513>                      +     1.0 02:A12-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02514>                      +     1.0 02:A13-MJ          .00      .000 No_date   0:00     .00 n/a     .000
02515>                    SUM=    1.0 01:corrig      55018.86   49.076 No_date   38:24   13.13 n/a     .000
02516> R0002:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02517>     SAVE HYD               1.0 01:corrig      55018.86   49.076 No_date   38:24   13.13 n/a     .000
02518>       fname :corrig.0002
02519>       remark:Total Flows at Corrigan Pond
02520> #*************************************************************************
02521> #    Corrigan Pond 1
02522> #    - Rating curve obtained from Barrhaven South MSS modeling
02523> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
02524> #*************************************************************************
02525> #
02526> # Hydrograph from Corrigan Drain routed to Jockvale Road
02527> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
02528> #
02529> R0002:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02530>     ROUTE CHANNEL    ->    1.0 02:corrig      55018.86   49.076 No_date   38:24   13.13 n/a     .000
02531>       [RDT= 1.00] out<-    1.0 01:N_MI        55018.86   49.073 No_date   38:28   13.13 n/a     .000
02532>       [L/S/n=  500./ .445/.045]
02533>       {Vmax= 1.454:Dmax= 1.223}
02534> #*************************************************************************
02535> #    Catchment MILLS
02536> #    - To SWM Facility north of the Jock
02537> #    - Primarily residental development
02538> #*************************************************************************
02539> R0002:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02540>     CONTINUOUS STANDHYD    1.0 01:MILLS         175.99    7.048 No_date   28:08   22.75 .500     .000
02541>       [XIMP=.38:TIMP=.38]
02542>       [LOSS= 2 :CN= 74.0]
02543>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02544>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
02545>       [IaRECimp=   4.00: IaRECper=   4.00]
02546>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02547> #*************************************************************************
02548> #    Chapman Mills SWM Pond
02549> #    - Rating curve obtained from CCL hydraulic modeling
02550> #*************************************************************************
02551> R0002:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02552>     ROUTE RESERVOIR  ->    1.0 02:MILLS         175.99    7.048 No_date   28:08   22.75 n/a     .000
02553>                      out <=    1.0 01:MILL_P      175.99    2.401 No_date   28:46   22.75 n/a     .000
02554>                overflow <=    1.0 03:MIL-OV         .00      .000 No_date   0:00     .00 n/a     .000
02555>       {MxStoUsed=.1446E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
02556> R0002:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02557>     ADD HYD                1.0 02:N_MI        55018.86   49.073 No_date   38:28   13.13 n/a     .000
02558>                      +     1.0 02:MIL-OV         .00      .000 No_date   0:00     .00 n/a     .000
02559>                      +     1.0 02:MILL_P      175.99    2.401 No_date   28:46   22.75 n/a     .000
02560>                    SUM=    1.0 01:SN_MI       55194.85   49.303 No_date   38:26   13.16 n/a     .000
02561> R0002:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02562>     SAVE HYD               1.0 01:SN_MI       55194.85   49.303 No_date   38:26   13.16 n/a     .000
02563>       fname :SN_MI.0002
02564>       remark:Total Flows at Jockvale Road
02565> #
02566> # Hydrograph from Jockvale Road routed to Heart's Desire
02567> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
02568> #
02569> R0002:C00390-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02570>     ROUTE CHANNEL    ->    1.0 02:SN_MI       55194.85   49.303 No_date   38:26   13.16 n/a     .000
02571>       [RDT= 1.00] out<-    1.0 01:N_DE        55194.85   49.262 No_date   38:53   13.16 n/a     .000
02572>       [L/S/n= 1962./ .223/.045]
02573>       {Vmax= 1.144:Dmax= 1.611}
02574> #*************************************************************************
02575> #    Catchment DESIRE
02576> #    - To Jock River (north of the Jock)
02577> #    - Rural-estate subdivision (Heart's Desire Community)
02578> #*************************************************************************
02579> R0002:C00391-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02580>     CONTINUOUS STANDHYD    1.0 01:DESIRE         23.78     .936 No_date   28:03   19.26 .423     .000
02581>       [XIMP=.25:TIMP=.25]
02582>       [LOSS= 2 :CN= 77.0]
02583>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02584>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
02585>       [IaRECimp=   4.00: IaRECper=   4.00]
02586>       [SMIN= 31.15: SMAX=207.66: SK= .010]
02587> #*************************************************************************
02588> #    Catchment JOCKVA
02589> #    - To Jockvale SWM Facility
02590> #    - Residential development & golf course
02591> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
02592> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
02593> #*************************************************************************
02594> R0002:C00392-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02595>     CONTINUOUS STANDHYD    1.0 01:JOCKVA         225.13    10.636 No_date   28:10   26.85 .590     .000
02596>       [XIMP=.50:TIMP=.50]
02597>       [LOSS= 2 :CN= 74.0]
02598>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02599>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
02600>       [IaRECimp=   4.00: IaRECper=   4.00]
02601>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02602> R0002:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02603>     ADD HYD                1.0 02:EX-LAND-MN      32.50    2.093 No_date   28:02   26.85 n/a     .000
02604>                      +     1.0 02:JOCKVA         225.13   10.636 No_date   28:10   26.85 n/a     .000
02605>                      +     1.0 02:B2-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02606>                      +     1.0 02:A3-MJ           .00      .000 No_date   0:00     .00 n/a     .000
02607>                    SUM=    1.0 01:JOCKVA-TO      257.63   12.234 No_date   28:07   26.85 n/a     .000
02608>
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02619>           overflow <=    1.0 03:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
02620>       {MxStoUsed=.3334E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02621> R0002:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02622>     ADD HYD              1.0 02:N_DE      55194.85   49.262 No_date   38:53   13.16  n/a     .000
02623>                    +     1.0 02:DESIRE       23.78     .936 No_date   28:03   19.26  n/a     .000
02624>                    +     1.0 02:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
02625>                    +     1.0 02:JOCK_P      257.63    2.560 No_date   29:05   26.85  n/a     .000
02626>                   SUM=    1.0 01:SN_DE     55476.26   49.619 No_date   38:49   13.23  n/a     .000
02627> R0002:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02628>     SAVE HYD             1.0 01:SN_DE     55476.26   49.619 No_date   38:49   13.23  n/a     .000
02629>       fname :SN_DE.0002
02630>       remark:Total Flows at Heart's Desire
02631> #
02632> # Hydrograph from Heart's Desire routed to Rideau River
02633> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
02634> #
02635> R0002:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02636>     ROUTE CHANNEL    ->    1.0 02:SN_DE     55476.26   49.619 No_date   38:49   13.23  n/a     .000
02637>      [RDT= 1.00] out<-    1.0 01:N1        55476.26   49.617 No_date   38:54   13.23  n/a     .000
02638>       [L/S/n=  563./ .967/.045]
02639>       {Vmax= 1.490:Dmax=  .801}
02640> #*************************************************************************
02641> #    Catchment S-2
02642> #    - To Jock River (north and south)
02643> #    - Undeveloped floodplain and river
02644> #*************************************************************************
02645> R0002:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02646>     CONTINUOUS NASHYD    1.0 01:S-2       102.94    1.373 No_date   28:20   13.01 .286     .000
02647>       [CN= 72.0: N= 3.00: Tp=  .40]
02648>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02649>       [InterEventTime=  12.00]
02650> R0002:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02651>     ADD HYD              1.0 02:N1        55476.26   49.617 No_date   38:54   13.23  n/a     .000
02652>                    +     1.0 02:S-2       102.94    1.373 No_date   28:20   13.01  n/a     .000
02653>                   SUM=    1.0 01:SN_N1     55579.20   49.715 No_date   38:54   13.23  n/a     .000
02654> R0002:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02655>     SAVE HYD             1.0 01:SN_N1     55579.20   49.715 No_date   38:54   13.23  n/a     .000
02656>       fname :SN_N1.0002
02657>       remark:Total Flows at Rideau River
02658> ##########################################################################
02659>  ** END OF RUN :    4
02660>
02661> ************************************************************************************************************
02662>
02663>
02664>
02665>
02666>
02667>  RUN#:COMMAND#
02668> R0005:C00001------------------------------------------------------------------------------------------------
02669>       START
02670>       [TZERO =    .00 hrs on        0]
02671>       [METOUT=  2   (1=imperial, 2=metric output)]
02672>       [NSTORM=   1 ]
02673>       [NRUN  = 0005 ]
02674> #*************************************************************************
02675> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
02676> #*************************************************************************
02677> #  Project Name: [Jock River]    Project Number: [1474-16]
02678> #  Date        : 04-03-2021
02679> #  Modeller    : [M.M.]
02680> #  Company     : JFSAinc.
02681> #  License #   :  2549237
02682> #*************************************************************************
02683> # CALIBRATION OF SUMMER MODEL PARAMETERS
02684> # USING CONTINUOUS SIMULATIONS
02685> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
02686> # Use data collected from May 1st to July 14, 2003
02687> # 2020-11-20 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
02688> # 2020-12-01 correct pond curve values
02689> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
02690> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
02691> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
02692> #
02693> R0005:C00002------------------------------------------------------------------------------------------------
02694>       READ STORM
02695>       Filename = storm.001
02696>       Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
02697>       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
02698> R0005:C00003------------------------------------------------------------------------------------------------
02699>       MODIFY STORM
02700>       [RFACT=  1.00:TSHIFT= 960.00 min]
02701>       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
02702> R0005:C00004------------------------------------------------------------------------------------------------
02703>       DEFAULT VALUES
02704>       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
02705>       ICASEdv  = 1 (read and print data)
02706>       FileTitle= File comment: [Based onvarious calibration exercises in Onta
02707>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02708>       Horton's infiltration equation parameters:
02709>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02710>       Parameters for PERVIOUS surfaces in STANDHYD:
02711>       [IAper=   4.67 mm] [LGP=50.00 m] [MNP=.250]
02712>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02713>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI=.013]
02714>       Parameters used in NASHYD:
02715>       [Ia=     4.67 mm] [N= 3.00]
02716>       Average monthly Pan Evaporation data in    (mm)
02717>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02718>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02719>       Average monthly Potential Evapotranspiration in    (mm)
02720>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02721>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02722> R0005:C00005------------------------------------------------------------------------------------------------
02723>       COMPUTE API
02724>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
02725>       {APImax= 90.83: APIavg= 60.09: APImin= 44.87}
02726> #
02727> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02728> # of 1.32
02729> R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02730>     CONTINUOUS NASHYD    1.0 01:JR_HW     3680.00    9.398 No_date   37:02   16.41 .287     .000
02731>       [CN= 64.0: N= 3.00: Tp= 7.13]
02732>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
02733>       [InterEventTime=  12.00]
02734> #
02735> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02736> # of 1.32
02737> R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02738>     CONTINUOUS NASHYD    1.0 01:SW_13      971.00    3.405 No_date   32:36   15.29 .268     .000
02739>       [CN= 61.0: N= 3.00: Tp= 3.76]
02740>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
02741>       [InterEventTime=  12.00]
02742> #
02743> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02744> # of 1.80
02745> R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02746>     CONTINUOUS NASHYD    1.0 01:JR_GWM    3074.00    4.682 No_date   39:59   13.23 .232     .000
02747>       [CN= 55.0: N= 3.00: Tp=11.33]
02748>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
02749>       [InterEventTime=  12.00]
02750> R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02751>     CONTINUOUS NASHYD    1.0 01:JR_ASH    1781.00    8.521 No_date   32:43   20.12 .352     .000
02752>       [CN= 72.0: N= 3.00: Tp= 3.91]
02753>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02754>       [InterEventTime=  12.00]
02755> R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02756>     CONTINUOUS NASHYD    1.0 01:SW_11      500.00    4.354 No_date   29:22   17.18 .301     .000
02757>       [CN= 66.0: N= 3.00: Tp= 1.24]
02758>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02759>       [InterEventTime=  12.00]
02760> #
02761> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02762> # of 1.80
02763> R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02764>     CONTINUOUS NASHYD    1.0 01:NN_CK     1917.00    6.210 No_date   34:31   17.18 .301     .000
02765>       [CN= 66.0: N= 3.00: Tp= 5.29]
02766>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02767>       [InterEventTime=  12.00]
02768> #
02769> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02770> # of 1.52
02771> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02772>     CONTINUOUS NASHYD    1.0 01:SW_10     5666.00   16.924 No_date   38:02   20.12 .352     .000
02773>       [CN= 72.0: N= 3.00: Tp= 8.00]
02774>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02775>       [InterEventTime=  12.00]
02776> #
02777> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02778> # of 1.75
02779> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02780>     CONTINUOUS NASHYD    1.0 01:KG_CK     8376.00   16.342 No_date   39:59   17.18 .301     .000
02781>       [CN= 66.0: N= 3.00: Tp=11.66]
02782>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02783>       [InterEventTime=  12.00]
02784> #
02785> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02786> # of 1.68
02787> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02788>     CONTINUOUS NASHYD    1.0 01:SW_9      1132.00    6.963 No_date   30:55   19.24 .337     .000
02789>       [CN= 70.0: N= 3.00: Tp= 2.51]
02790>       [IaREC= 4.00: SMIN= 43.67: SMAX=287.10: SK= .010]
02791>       [InterEventTime=  12.00]
02792> #
02793> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02794> # of 1.82
02795> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02796>     CONTINUOUS NASHYD    1.0 01:NC_CK     4464.00    8.109 No_date   39:59   15.66 .274     .000
02797>       [CN= 62.0: N= 3.00: Tp=11.32]
02798>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
02799>       [InterEventTime=  12.00]
02800> #
02801> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02802> # of 1.80
02803> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02804>     CONTINUOUS NASHYD    1.0 01:SW_8      131.00    1.298 No_date   28:57   16.03 .281     .000
02805>       [CN= 63.0: N= 3.00: Tp=  .90]
02806>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
02807>       [InterEventTime=  12.00]
02808> #
02809> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02810> # of 1.65
02811> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02812>     CONTINUOUS NASHYD    1.0 01:HB_DR     3854.00    9.385 No_date   38:41   17.18 .301     .000
02813>       [CN= 66.0: N= 3.00: Tp= 8.42]
02814>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02815>       [InterEventTime=  12.00]
02816> #
02817> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02818> # of 1.82
02819> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02820>     CONTINUOUS NASHYD    1.0 01:SW_7      3197.00    7.027 No_date   36:28   13.89 .243     .000
02821>       [CN= 57.0: N= 3.00: Tp= 6.65]
02822>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
02823>       [InterEventTime=  12.00]
02824> #
02825> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02826> # of 1.75
02827> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02828>     CONTINUOUS NASHYD    1.0 01:SW_6       165.00     .641 No_date   33:06   17.58 .308     .000
02829>       [CN= 67.0: N= 3.00: Tp= 4.18]
02830>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
02831>       [InterEventTime=  12.00]
02832> #
02833> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02834> # of 1.67
02835> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02836>     CONTINUOUS NASHYD    1.0 01:VG_DR     1332.00    4.803 No_date   35:19   20.12 .352     .000
02837>       [CN= 72.0: N= 3.00: Tp= 5.95]
02838>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02839>       [InterEventTime=  12.00]
02840> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02841>     CONTINUOUS NASHYD    1.0 01:SW_5       224.00    4.100 No_date   28:45   22.97 .402     .000
02842>       [CN= 77.0: N= 3.00: Tp=  .75]
02843>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02844>       [InterEventTime=  12.00]
02845> #
02846> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02847> # of 1.20
02848> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02849>     CONTINUOUS NASHYD    1.0 01:FL_CK     4945.00   22.837 No_date   33:22   21.04 .368     .000
02850>       [CN= 74.0: N= 3.00: Tp= 4.45]
02851>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
02852>       [InterEventTime=  12.00]
02853> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02854>     CONTINUOUS NASHYD    1.0 01:SW_5A2      20.00     .483 No_date   28:36   25.62 .448     .000
02855>       [CN= 81.0: N= 3.00: Tp=  .62]
02856>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02857>       [InterEventTime=  12.00]
02858> #
02859> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02860> # of 1.61
02861> R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02862>     CONTINUOUS NASHYD    1.0 01:SW_5A1     1412.00    4.646 No_date   37:58   21.98 .385     .000
02863>       [CN= 75.0: N= 3.00: Tp= 8.00]
02864>       [IaREC= 4.00: SMIN= 33.01: SMAX=225.43: SK= .010]
02865>       [InterEventTime=  12.00]
02866> R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02867>     CONTINUOUS NASHYD    1.0 01:SW_4       585.00    6.688 No_date   29:57   25.62 .448     .000
02868>       [CN= 81.0: N= 3.00: Tp= 1.75]
02869>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02870>       [InterEventTime=  12.00]
02871> R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02872>     CONTINUOUS NASHYD    1.0 01:LM_CK     1021.00    8.861 No_date   30:48   25.07 .439     .000
02873>       [CN= 80.0: N= 3.00: Tp= 2.46]
02874>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
02875>       [InterEventTime=  12.00]
02876> R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02877>     CONTINUOUS NASHYD    1.0 01:SW_2       177.00    3.240 No_date   28:45   22.97 .402     .000
02878>       [CN= 77.0: N= 3.00: Tp=  .75]
02879>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02880>       [InterEventTime=  12.00]
02881> R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02882>     CONTINUOUS NASHYD    1.0 01:SM_DR     1122.00    8.165 No_date   31:48   25.62 .448     .000
02883>       [CN= 81.0: N= 3.00: Tp= 3.25]
02884>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02885>       [InterEventTime=  12.00]
02886> R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02887>     CONTINUOUS NASHYD    1.0 01:MO_DR     2737.00   17.859 No_date   31:33   22.47 .393     .000
02888>       [CN= 76.0: N= 3.00: Tp= 3.03]
02889>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
02890>       [InterEventTime=  12.00]
02891> #
02892> # Routing hydrographs
02893> #
02894> # Starting with the addition of Jock River Headwater and Subwatershed 13
02895> #
02896> R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02897>     ADD HYD              1.0 02:SN_DE     55579.20   49.715 No_date   38:54   13.23  n/a     .000
02898>                    +     1.0 02:SW_13      971.00    3.405 No_date   32:36   15.29  n/a     .000
02899>                   SUM=    1.0 01:S_N13     4651.00   11.949 No_date   35:33   16.17  n/a     .000
02900> #
02901> # Sum of hydrographs from Node 13 routed to Node 13A
02902> # (Approximated cross-section - see cross-section 25B)
02903> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02904> #
02905> R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02906>     ROUTE CHANNEL    ->    1.0 02:S_N13     4651.00   11.949 No_date   35:33   16.17  n/a     .000
02907>      [RDT= 1.00] out<-    1.0 01:N13A      4651.00    9.514 No_date   39:57   16.17  n/a     .000
02908>       [L/S/n= 9074./ .022/.040]
02909>       {Vmax=  .47B:Dmax= 3.020}
02910> #
02911> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
02912> #
02913> R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02914>     ADD HYD              1.0 02:N13A      4651.00    9.514 No_date   39:57   16.17  n/a     .000
02915>                    +     1.0 02:JR_GWM    3074.00    4.682 No_date   39:59   13.23  n/a     .000
02916>                   SUM=    1.0 01:SN13A     7725.00   14.196 No_date   39:59   15.00  n/a     .000
02917> #
02918> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
02919> #
02920> R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02921>     ROUTE RESERVOIR  ->    1.0 02:SN13A     7725.00   14.196 No_date   39:59   15.00  n/a     .000
02922>                  out <=    1.0 01:RES_GM    7725.00    3.149 No_date   57:25   15.00  n/a     .000
02923>       {MxStoUsed=.6321E+02  m3}
02924> #
02925> R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02926>     SAVE HYD             1.0 01:RES_GM    7725.00    3.149 No_date   57:25   15.00  n/a     .000
02927>       fname :H_RESGM
02928>       remark:Outflow from Res GM
02929> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
02930> # (Approximated cross-section - see cross-section 25B)
02931> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02932> R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02933>     ROUTE CHANNEL    ->    1.0 02:RES_GM    7725.00    3.149 No_date   57:25   15.00  n/a     .000
02934>      [RDT= 1.00] out<-    1.0 01:N12       7725.00    3.137 No_date   60:12   15.00  n/a     .000
02935>       [L/S/n= 5926./ .076/.040]
02936>       {Vmax=  .527:Dmax= 1.429}
02937> #
02938> # Addition of Subwatershed Jock River at Ashton to Node 12
02939> #
02940> R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02941>     ADD HYD              1.0 02:N12       7725.00    3.137 No_date   60:12   15.00  n/a     .000
02942>                    +     1.0 02:JR_ASH    1781.00    8.521 No_date   32:43   20.12  n/a     .000
02943>                   SUM=    1.0 01:S_N12     9506.00   10.498 No_date   32:46   15.96  n/a     .000
02944> R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02945>     SAVE HYD             1.0 01:S_N12     9506.00   10.498 No_date   32:46   15.96  n/a     .000
02946>       fname :H_SN12
02947>       remark:flow at S_N12 near Ashton
02948> #
02949> # Sum of hydrographs from Node 12 routed to Node 11
02950> # (Approximated cross-section - see cross-section 25B)
02951> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02952> #
02953> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
02954> #
02955> R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02956>     ROUTE CHANNEL    ->    1.0 02:S_N12     9506.00   10.498 No_date   32:46   15.96  n/a     .000
02957>      [RDT= 1.00] out<-    1.0 01:Dum11     9506.00   10.383 No_date   33:07   15.96  n/a     .000
02958>       [L/S/n=  972./ .054/.040]
02959>       {Vmax=  .648:Dmax= 2.406}
02960> #
02961> # Addition of Subwatershed 11 and No Name Creek to Node 11
02962> #
02963> R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02964>     ADD HYD              1.0 02:Dum11     9506.00   10.383 No_date   33:07   15.96  n/a     .000
02965>                    +     1.0 02:SW_11      500.00    4.354 No_date   29:22   17.18  n/a     .000
02966>                    +     1.0 02:NN_CK     1917.00    6.210 No_date   34:31   17.18  n/a     .000
02967>                   SUM=    1.0 01:S_N11    11923.00   17.560 No_date   33:09   16.21  n/a     .000
02968> #
02969> # Sum of hydrographs from Node 11 routed to Node 10
02970> # Section 1
02971> #
02972> R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02973>     ROUTE CHANNEL    ->    1.0 02:S_N11    11923.00   17.560 No_date   33:09   16.21  n/a     .000
02974>      [RDT= 1.00] out<-    1.0 01:N10       11923.00   12.006 No_date   38:17   16.21  n/a     .000
02975>       [L/S/n=14028./ .157/.040]
02976>       {Vmax=  .461:Dmax= 1.087}
02977> #
02978> # Addition of Subwatershed 10 to Node 10
02979> #
02980> R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02981>     ADD HYD              1.0 02:N10       11923.00   12.006 No_date   38:17   16.21  n/a     .000
02982>                    +     1.0 02:SW_10     5666.00   16.924 No_date   38:02   20.12  n/a     .000
02983>                   SUM=    1.0 01:S_N10    17589.00   28.927 No_date   38:09   17.47  n/a     .000
02984> R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02985>     SAVE HYD             1.0 01:S_N10    17589.00   28.927 No_date   38:09   17.47  n/a     .000
02986>       fname :H_SN10
02987>       remark:flow at S_N10: N10 + SW_10
02988> # Addition of Kings Creek to S_N10
02989> #
02990> R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02991>     ADD HYD              1.0 02:S_N10     17589.00   28.927 No_date   38:09   17.47  n/a     .000
02992>                    +     1.0 02:KG_CK      8376.00   16.342 No_date   39:59   17.18  n/a     .000
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02993>                SUM=     1.0 01:S_N10A     25965.00   44.722 No_date   39:35   17.37  n/a     .000
02994> #
02995> # Sum of hydrographs from Node 10 routed to Node 9
02996> # Section 2
02997> #
02998> R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02999>      ROUTE CHANNEL    ->     1.0 02:S_N10A     25965.00   44.722 No_date   39:35   17.37  n/a     .000
03000>        [RDT= 1.00] out<-     1.0 01:N9         25965.00   43.534 No_date   39:59   17.37  n/a     .000
03001>         [L/S/n= 3602./ .075/.040]
03002>         {Vmax=  .664:Dmax= 1.502}
03003> #
03004> # Addition of Subwatershed 9 and Nichols Creek to Node 9
03005> #
03006> R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03007>      ADD HYD          ->     1.0 02:N9         25965.00   43.534 No_date   39:59   17.37  n/a     .000
03008>                         +     1.0 02:SW_9       1132.00    6.963 No_date   30:55   19.24  n/a     .000
03009>                         +     1.0 02:NC_CK      4464.00    8.109 No_date   39:59   15.66  n/a     .000
03010>                       SUM=    1.0 01:S_N9       31561.00   53.366 No_date   39:59   17.20  n/a     .000
03011> #
03012> # Sum of hydrographs from Node 9 routed to Node 8
03013> # Section 3
03014> #
03015> R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03016>      ROUTE CHANNEL    ->     1.0 02:S_N9       31561.00   53.366 No_date   39:59   17.20  n/a     .000
03017>        [RDT= 1.00] out<-     1.0 01:N8         31561.00   49.404 No_date   39:59   17.20  n/a     .000
03018>         [L/S/n= 2269./ .088/.045]
03019>         {Vmax=  .370:Dmax= 1.520}
03020> #
03021> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
03022> #
03023> R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03024>      ADD HYD          ->     1.0 02:N8         31561.00   49.404 No_date   39:59   17.20  n/a     .000
03025>                         +     1.0 02:SW_8       131.00     1.298 No_date   28:57   16.03  n/a     .000
03026>                         +     1.0 02:HB_DR      3854.00    9.385 No_date   38:41   17.18  n/a     .000
03027>                       SUM=    1.0 01:S_N8       35546.00   58.845 No_date   39:59   17.19  n/a     .000
03028> #
03029> # Sum of hydrographs from Node 8 routed to Node 7
03030> # Section 4
03031> #
03032> R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03033>      ROUTE CHANNEL    ->     1.0 02:S_N8       35546.00   58.845 No_date   39:59   17.19  n/a     .000
03034>        [RDT= 1.00] out<-     1.0 01:N7         35546.00   48.127 No_date   45:08   17.19  n/a     .000
03035>         [L/S/n= 3750./ .053/.070]
03036>         {Vmax=  .208:Dmax= 1.855}
03037> #
03038> # Addition of Subwatershed 7 to Node 7
03039> #
03040> R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03041>      ADD HYD          ->     1.0 02:N7         35546.00   48.127 No_date   45:08   17.19  n/a     .000
03042>                         +     1.0 02:SW_7       3197.00    7.027 No_date   36:28   13.89  n/a     .000
03043>                       SUM=    1.0 01:S_N7       38743.00   51.395 No_date   44:14   16.92  n/a     .000
03044> R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03045>      SAVE HYD         ->     1.0 01:S_N7       38743.00   51.395 No_date   44:14   16.92  n/a     .000
03046>         fname :H_SN7
03047>         remark:flow at S_N7: N7 + SW_7
03048> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
03049> # Storage area and volumes were estimated from available topo maps.
03050> # Release rate from fen was assumed to be controlled by the downstream
03051> # river cross-section for summer conditions.  It is was assumed that for up to
03052> # 0.75 m of water, the main channel of the river provided the storage.  Above
03053> # this depth, the wetland starts to signigicantly store water.
03054> #
03055> R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03056>      ROUTE RESERVOIR  ->     1.0 02:S_N7       38743.00   51.395 No_date   44:14   16.92  n/a     .000
03057>                       out <=    1.0 01:RES_RF     38743.00   27.976 No_date   59:12   16.92  n/a     .000
03058>         {MxStoUsed=.1784E+03  m3}
03059> R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03060>      SAVE HYD         ->     1.0 01:RES_RF     38743.00   27.976 No_date   59:12   16.92  n/a     .000
03061>         fname :H_ResRF
03062>         remark:outflow of Richmond Fen
03063> #
03064> # Sum of hydrographs from Node 7 routed to Node 6
03065> # Section 5
03066> #
03067> R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03068>      ROUTE CHANNEL    ->     1.0 02:RES_RF     38743.00   27.976 No_date   59:12   16.92  n/a     .000
03069>        [RDT= 1.00] out<-     1.0 01:N6         38743.00   27.930 No_date   60:29   16.92  n/a     .000
03070>         [L/S/n= 3056./ .082/.025]
03071>         {Vmax=  .460:Dmax=  .895}
03072> #
03073> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
03074> #
03075> R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03076>      ADD HYD          ->     1.0 02:N6         38743.00   27.930 No_date   60:29   16.92  n/a     .000
03077>                         +     1.0 02:SW_6       165.00     .641 No_date   33:06   17.58  n/a     .000
03078>                         +     1.0 02:VG_DR      1332.00    4.803 No_date   35:19   20.12  n/a     .000
03079>                       SUM=    1.0 01:S_N6       40240.01   27.944 No_date   60:06   17.03  n/a     .000
03080> #
03081> # Sum of hydrographs from Node 6 routed to Node 5
03082> # Section 6
03083> #
03084> R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03085>      ROUTE CHANNEL    ->     1.0 02:S_N6       40240.01   27.944 No_date   60:06   17.03  n/a     .000
03086>        [RDT= 1.00] out<-     1.0 01:N5         40240.01   27.922 No_date   60:57   17.03  n/a     .000
03087>         [L/S/n= 1852./ .054/.035]
03088>         {Vmax=  .397:Dmax= 1.002}
03089> #
03090> # Addition of Subwatershed 5 and Flowing Creek to Node 5
03091> #
03092> R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03093>      ADD HYD          ->     1.0 02:N5         40240.01   27.922 No_date   60:57   17.03  n/a     .000
03094>                         +     1.0 02:SW_5       224.00     4.100 No_date   28:45   22.97  n/a     .000
03095>                         +     1.0 02:FL_CK      4945.00    22.837 No_date   33:22   21.04  n/a     .000
03096>                       SUM=    1.0 01:S_N5       45409.01   43.566 No_date   35:28   17.49  n/a     .000
03097> #
03098> # Sum of hydrographs from Node 5 routed to Node 5A
03099> # Section 7
03100> #
03101> R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03102>      ROUTE CHANNEL    ->     1.0 02:S_N5       45409.01   43.566 No_date   35:28   17.49  n/a     .000
03103>        [RDT= 1.00] out<-     1.0 01:N5A        45409.01   43.490 No_date   35:47   17.49  n/a     .000
03104>         [L/S/n=  556./ .090/.040]
03105>         {Vmax=  .465:Dmax= 1.060}
03106> #
03107> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
03108> #
03109> R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03110>      ADD HYD          ->     1.0 02:N5A        45409.01   43.490 No_date   35:47   17.49  n/a     .000
03111>                         +     1.0 02:SW_5A2     20.00      .483 No_date   28:36   25.62  n/a     .000
03112>                         +     1.0 02:SW_5A1     1412.00    4.646 No_date   37:58   21.98  n/a     .000
03113>                       SUM=    1.0 01:S_N5A      46841.01   47.976 No_date   35:58   17.63  n/a     .000
03114> #
03115> # Sum of hydrographs from Node 5A routed to Node 4
03116> # Section 8
03117> #
03118> R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03119>      ROUTE CHANNEL    ->     1.0 02:S_N5A      46841.01   47.976 No_date   35:58   17.63  n/a     .000
03120>        [RDT= 1.00] out<-     1.0 01:N4         46841.01   46.217 No_date   37:26   17.63  n/a     .000
03121>         [L/S/n= 4630./ .043/.035]
03122>         {Vmax=  .756:Dmax= 3.116}
03123> #
03124> # Addition of Subwatershed 4 and Leamy Creek to Node 4
03125> #
03126> R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03127>      ADD HYD          ->     1.0 02:N4         46841.01   46.217 No_date   37:26   17.63  n/a     .000
03128>                         +     1.0 02:SW_4       585.00    6.688 No_date   29:57   25.62  n/a     .000
03129>                         +     1.0 02:LM_CK      1021.00    8.861 No_date   30:48   25.07  n/a     .000
03130>                       SUM=    1.0 01:S_N4       48447.00   50.308 No_date   36:47   17.89  n/a     .000
03131> R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03132>      SAVE HYD         ->     1.0 01:S_N4       48447.00   50.308 No_date   36:47   17.89  n/a     .000
03133>         fname :S_N4.0005
03134>         remark:flow at S_N4
03135> #
03136> # Sum of hydrographs from Node 4 routed to Node 2
03137> # Section 9
03138> #
03139> R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03140>      ROUTE CHANNEL    ->     1.0 02:S_N4       48447.00   50.308 No_date   36:47   17.89  n/a     .000
03141>        [RDT= 1.00] out<-     1.0 01:N2         48447.00   50.131 No_date   37:08   17.89  n/a     .000
03142>         [L/S/n= 1667./ .060/.040]
03143>         {Vmax=  .781:Dmax= 3.131}
03144> #
03145> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
03146> #
03147> R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03148>      ADD HYD          ->     1.0 02:N2         48447.00   50.131 No_date   37:08   17.89  n/a     .000
03149>                         +     1.0 02:SW_2       177.00     3.240 No_date   28:45   22.97  n/a     .000
03150>                         +     1.0 02:SM_DR      1122.00    8.105 No_date   31:48   25.62  n/a     .000
03151>                         +     1.0 02:MO_DR      2737.00   17.859 No_date   31:33   22.47  n/a     .000
03152>                       SUM=    1.0 01:S_N2       52483.00   67.222 No_date   33:17   18.31  n/a     .000
03153> R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03154>      SAVE HYD         ->     1.0 01:S_N2       52483.00   67.222 No_date   33:17   18.31  n/a     .000
03155>         fname :H_SN2
03156>         remark:flow at S_N2 Jock River Gauge at Moodie Dr.
03157> #
03158> # Sum of hydrographs from Node 2 routed to Node 1
03159> # Section 10
03160> #
03161> #*******************************************************************************
03162> #
03163> # Hydrograph from Node 2 routed to Node 416
03164> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
03165> #
03166> R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03167>      ROUTE CHANNEL    ->     1.0 02:S_N2       52483.00   67.222 No_date   33:17   18.31  n/a     .000
03168>        [RDT= 1.00] out<-     1.0 01:N_416      52483.00   65.664 No_date   34:34   18.31  n/a     .000
03169>         [L/S/n= 2327./ .050/.055]
03170>         {Vmax=  .658:Dmax= 2.660}
03171> #*******************************************************************************
03172> #    Catchment SW-1a
03173> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
03174> #    - Undeveloped agricultural land
03175> #*******************************************************************************
03176> R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03177>      CONTINUOUS NASHYD     1.0 01:SW_1a      536.42     3.012 No_date   31:18   19.00 .333    .000
03178>         [CN= 72.0: N= 3.00: Tp= 2.79]
03179>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
03180>         [InterEventTime=  12.00]
03181> R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03182>      CONTINUOUS NASHYD     1.0 01:S-1-Okeefe    44.93      .602 No_date   29:08   21.69 .380     .000
03183>         [CN= 77.0: N= 3.00: Tp= 1.05]
03184>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03185>         [InterEventTime=  12.00]
03186> R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03187>      ADD HYD                1.0 02:N_416      52483.00   65.664 No_date   34:34   18.31  n/a     .000
03188>                         +     1.0 02:SW_1a      536.42     3.012 No_date   31:18   19.00  n/a     .000
03189>                         +     1.0 02:S-1-Okeefe  44.93      .602 No_date   29:08   21.69  n/a     .000
03190>                       SUM=    1.0 01:SN_416     53064.36   67.933 No_date   34:06   18.32  n/a     .000
03191> R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03192>      SAVE HYD               1.0 01:SN_416     53064.36   67.933 No_date   34:06   18.32  n/a     .000
03193>         fname :SN_416.0005
03194>         remark:Total Flows at Highway 416
03195> #
03196> # Hydrograph from Node 416 routed to Node at Okeefe drain
03197> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
03198> #
03199> R0005:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03200>      ROUTE CHANNEL    ->     1.0 02:SN_416     53064.36   67.933 No_date   34:06   18.32  n/a     .000
03201>        [RDT= 1.00] out<-     1.0 01:N_OK       53064.36   67.890 No_date   34:06   18.32  n/a     .000
03202>         [L/S/n=  497./ .302/.055]
03203>         {Vmax= 1.355:Dmax= 2.252}
03204> a*******************************************************************************
03205> #    Catchment OKEEFE
03206> #    - To O'Keefe drain (north of the Jock)
03207> #    - Developed with assumed 43% imp.
03208> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
03209> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
03210> a*******************************************************************************
03211> R0005:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03212>      CONTINUOUS NASHYD     1.0 01:O-1        63.72      .514 No_date   28:59   13.88 .243     .000
03213>         [CN= 61.0: N= 3.00: Tp=  .90]
03214>         [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
03215>         [InterEventTime=  12.00]
03216> R0005:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03217>      ROUTE CHANNEL    ->     1.0 02:O-1        63.72      .514 No_date   28:59   13.88  n/a     .000
03218>        [RDT= 1.00] out<-     1.0 01:O-1R       63.72      .470 No_date   29:19   13.88  n/a     .000
03219>         [L/S/n=  960./ .630/.043]
03220>         {Vmax=  .682:Dmax=  .283}
03221> R0005:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03222>      CONTINUOUS NASHYD     1.0 01:O-2        28.61      .183 No_date   29:14   12.96 .227     .000
03223>         [CN= 57.0: N= 3.00: Tp= 1.10]
03224>         [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
03225>         [InterEventTime=  12.00]
03226> R0005:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03227>      CONTINUOUS NASHYD     1.0 01:O-4        46.94      .222 No_date   29:01    9.87 .173     .000
03228>         [CN= 49.0: N= 3.00: Tp=  .90]
03229>         [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
03230>         [InterEventTime=  12.00]
03231> R0005:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03232>      ADD HYD                1.0 02:O-1R       63.72      .470 No_date   29:19   13.88  n/a     .000
03233>                         +     1.0 02:O-2        28.61      .183 No_date   29:14   12.96  n/a     .000
03234>                         +     1.0 02:O-4        46.94      .222 No_date   29:01    9.87  n/a     .000
03235>                       SUM=    1.0 01:OKF-N      139.27     .867 No_date   29:14   12.34  n/a     .000
03236> R0005:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03237>      ROUTE CHANNEL    ->     1.0 02:OKF-N      139.27     .867 No_date   29:14   12.34  n/a     .000
03238>        [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27     .866 No_date   29:17   12.34  n/a     .000
03239>         [L/S/n=  210./ .810/.043]
03240>         {Vmax=  .853:Dmax=  .550}
03241> R0005:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03242>      CONTINUOUS NASHYD     1.0 01:O-6        16.46      .074 No_date   28:46    8.71 .152     .000
03243>         [CN= 43.0: N= 3.00: Tp=  .70]
03244>         [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
03245>         [InterEventTime=  12.00]
03246> R0005:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03247>      CONTINUOUS STANDHYD   1.0 01:O-3        39.67      .605 No_date   28:25   15.80 .277     .000
03248>         [XIMP=.15:TIMP=.30]
03249>         [LOSS= 2 :CN= 50.0]
03250>         [Pervious     area: IAper= 4.67:SLPP=  .32:LGP=  440.:MNP=.035:SCP=   .0]
03251>         [Impervious   area: IAimp= 1.57:SLPI=  .32:LGI=1880.:MNI=.013:SCI=   .0]
03252>         [IaRECimp=   4.00: IaRECper=   4.00]
03253>         [SMN=  99.77: SMAX=665.12: SK=  .010]
03254> R0005:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03255>      CONTINUOUS STANDHYD   1.0 01:O-5        60.63     1.453 No_date   28:11   17.75 .311     .000
03256>         [XIMP=.13:TIMP=.26]
03257>         [LOSS= 2 :CN= 61.0]
03258>         [Pervious     area: IAper= 4.67:SLPP=1.38:LGP=  550.:MNP=.035:SCP=   .0]
03259>         [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
03260>         [IaRECimp=   4.00: IaRECper=   4.00]
03261>         [SMN= 64.50: SMAX=430.01: SK= .010]
03262> R0005:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03263>      ADD HYD                1.0 02:OKF-NR     139.27     .866 No_date   29:17   12.34  n/a     .000
03264>                         +     1.0 02:O-3        39.67      .605 No_date   28:25   15.80  n/a     .000
03265>                         +     1.0 02:O-5        60.63     1.453 No_date   28:11   17.75  n/a     .000
03266>                         +     1.0 02:O-6        16.46      .074 No_date   28:46    8.71  n/a     .000
03267>                       SUM=    1.0 01:PT1        256.03    2.312 No_date   28:24   13.92  n/a     .000
03268> R0005:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03269>      CONTINUOUS NASHYD     1.0 01:O-7         5.28      .041 No_date   28:37   11.36 .199     .000
03270>         [CN= 54.0: N= 3.00: Tp=  .60]
03271>         [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
03272>         [InterEventTime=  12.00]
03273> R0005:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03274>      ADD HYD                1.0 02:PT1        256.03    2.312 No_date   28:24   13.92  n/a     .000
03275>                         +     1.0 02:O-7        5.28      .041 No_date   28:37   11.36  n/a     .000
03276>                       SUM=    1.0 01:FF         261.31    2.351 No_date   28:25   13.87  n/a     .000
03277> R0005:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03278>      ROUTE CHANNEL    ->     1.0 02:FF         261.31    2.351 No_date   28:25   13.87  n/a     .000
03279>        [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31    2.298 No_date   28:31   13.87  n/a     .000
03280>         [L/S/n=  302./1.000/.043]
03281>         {Vmax=  .817:Dmax=  .624}
03282> R0005:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03283>      CONTINUOUS NASHYD     1.0 01:D1         1.17       .044 No_date   28:12   23.49 .411     .000
03284>         [CN= 84.0: N= 3.00: Tp=  .28]
03285>         [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
03286>         [InterEventTime=  12.00]
03287> R0005:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03288>      CONTINUOUS STANDHYD   1.0 01:A1         2.50       .337 No_date   28:01   44.03 .771     .000
03289>         [XIMP=.68:TIMP=.85]
03290>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03291>         [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03292>         [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
03293>         [IaRECimp=   4.00: IaRECper=   4.00]
03294> R0005:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03295>      ROUTE RESERVOIR  ->     1.0 02:A1         2.50       .337 No_date   28:01   44.03  n/a     .000
03296>                       out <=    1.0 01:A1-STR     2.50       .076 No_date   28:28   44.03  n/a     .000
03297>                       overflow <=    1.0 03:A1-OVF      .00       .000 No_date    0:00     .00  n/a     .000
03298>         {MxStoUsed=.52276-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03299> R0005:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03300>      CONTINUOUS STANDHYD   1.0 01:ST-2         .59       .062 No_date   28:00   33.25 .582     .000
03301>         [XIMP=.46:TIMP=.57]
03302>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03303>         [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03304>         [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
03305>         [IaRECimp=   4.00: IaRECper=   4.00]
03306> R0005:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03307>      ROUTE RESERVOIR  ->     1.0 02:ST-2         .59       .062 No_date   28:00   33.25  n/a     .000
03308>                       out <=    1.0 01:ST2STR     .59       .052 No_date   28:03   33.25  n/a     .000
03309>                       overflow <=    1.0 03:ST2OVF      .00       .000 No_date    0:00     .00  n/a     .000
03310>         {MxStoUsed=.1206E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03311> R0005:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03312>      CONTINUOUS NASHYD     1.0 01:O-8        60.55      .658 No_date   29:05   18.08 .317     .000
03313>         [CN= 69.0: N= 3.00: Tp= 1.00]
03314>         [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
03315>         [InterEventTime=  12.00]
03316> R0005:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03317>      ROUTE PIPE       ->     1.0 02:O-8        60.55      .658 No_date   29:05   18.08  n/a     .000
03318>        [RDT= 1.00] out<-     1.0 01:OBPIPE     60.55      .654 No_date   29:09   18.08  n/a     .000
03319>         [L/S/n=  335./ .100/.013]
03320>         {Vmax=  .991:Dmax=  .368}
03321>         [HGTH= 1.20:WDTH= 1.80]
03322> R0005:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03323>      ADD HYD                1.0 02:DRAIN1     261.31    2.298 No_date   28:31   13.87  n/a     .000
03324>                         +     1.0 02:D1         1.17       .044 No_date   28:12   23.49  n/a     .000
03325>                         +     1.0 02:ST-STR     2.50       .076 No_date   28:28   44.03  n/a     .000
03326>                         +     1.0 02:A1-OVF      .00       .000 No_date    0:00     .00  n/a     .000
03327>                         +     1.0 02:ST2STR      .59       .052 No_date   28:03   33.25  n/a     .000
03328>                         +     1.0 02:ST2OVF      .00       .000 No_date    0:00     .00  n/a     .000
03329>                         +     1.0 02:OBPIPE     60.55      .654 No_date   29:09   18.08  n/a     .000
03330>                       SUM=    1.0 01:ST2-IN     326.12    2.907 No_date   28:39   14.95  n/a     .000
03331> R0005:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03332>      CONTINUOUS STANDHYD   1.0 01:A7         3.51       .460 No_date   28:02   44.03 .771     .000
03333>         [XIMP=.68:TIMP=.85]
03334>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03335>         [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03336>         [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
03337>         [IaRECimp=   4.00: IaRECper=   4.00]
03338> R0005:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03339>      ROUTE RESERVOIR  ->     1.0 02:A7         3.51       .460 No_date   28:02   44.03  n/a     .000
03340>                       out <=    1.0 01:A7-STR     3.51       .108 No_date   28:29   44.03  n/a     .000
03341>                       overflow <=    1.0 03:A7-OVF      .00       .000 No_date    0:00     .00  n/a     .000
03342>         {MxStoUsed=.7349E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03343> R0005:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03344>      CONTINUOUS STANDHYD   1.0 01:ST-3         .71       .073 No_date   28:00   33.25 .582     .000
03345>         [XIMP=.46:TIMP=.57]
03346>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03347>         [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03348>         [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
03349>         [IaRECimp=   4.00: IaRECper=   4.00]
03350> R0005:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03351>      ROUTE RESERVOIR  ->     1.0 02:ST-3         .71       .073 No_date   28:00   33.25  n/a     .000
03352>                       out <=    1.0 01:ST3STR      .71       .063 No_date   28:03   33.25  n/a     .000
03353>                       overflow <=    1.0 03:ST3OVF      .00       .000 No_date    0:00     .00  n/a     .000
03354>         {MxStoUsed=.1206E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03355> R0005:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03356>      ADD HYD                1.0 02:ST2-IN     326.12    2.907 No_date   28:39   14.95  n/a     .000
03357>                         +     1.0 02:A7-STR     3.51       .108 No_date   28:29   44.03  n/a     .000
03358>                         +     1.0 02:A7-OVF      .00       .000 No_date    0:00     .00  n/a     .000
03359>                         +     1.0 02:ST3STR      .71       .063 No_date   28:03   33.25  n/a     .000
03360>                         +     1.0 02:ST3OVF      .00       .000 No_date    0:00     .00  n/a     .000
03361>                       SUM=    1.0 01:PT2ST3     330.34    3.026 No_date   28:38   15.30  n/a     .000
03362> R0005:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03363>      ROUTE CHANNEL    ->     1.0 02:PT2ST3     330.34    3.026 No_date   28:38   15.30  n/a     .000
03364>        [RDT= 1.00] out<-     1.0 01:DRAIN2     330.34    2.842 No_date   29:04   15.30  n/a     .000
03365>         [L/S/n=  592./ .230/.043]
03366>         {Vmax=  .607:Dmax=  .930}
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03367> R0005:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03368>      CONTINUOUS NASHYD    1.0 01:D2            2.28     .035 No_date   29:05   23.49 .411     .000
03369>        [CN= 84.0: N= 3.00: Tp=  .99]
03370>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
03371>        [InterEventTime=  12.00]
03372> R0005:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03373>      CONTINUOUS STANDHYD   1.0 01:A17           12.04    1.379 No_date   28:04   44.03 .771     .000
03374>        [XIMP=.68:TIMP=.85]
03375>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03376>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03377>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
03378>        [IaREC=  4.00: IaRECper=   4.00]
03379> R0005:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03380>      ROUTE RESERVOIR ->    1.0 02:A17           12.04    1.379 No_date   28:04   44.03  n/a     .000
03381>                  out <=    1.0 01:ST5TR         12.04    1.353 No_date   28:36   44.03  n/a     .000
03382>              overflow <=   1.0 03:A17OVF          .00     .000 No_date    0:00     .00  n/a     .000
03383>       {MxStoUsed=.2492E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03384> R0005:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03385>      CONTINUOUS STANDHYD   1.0 01:ST-4           .35     .038 No_date   28:00   33.25 .582     .000
03386>        [XIMP=.46:TIMP=.57]
03387>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03388>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03389>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
03390>        [IaREC=  4.00: IaRECper=   4.00]
03391> R0005:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03392>      ROUTE RESERVOIR ->    1.0 02:ST-4           .35     .038 No_date   28:00   33.25  n/a     .000
03393>                  out <=    1.0 01:ST4STR         .35     .031 No_date   28:03   33.25  n/a     .000
03394>              overflow <=   1.0 03:ST4OVF          .00     .000 No_date    0:00     .00  n/a     .000
03395>       {MxStoUsed=.1040E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03396> R0005:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03397>      CONTINUOUS STANDHYD   1.0 01:A18           5.30     .671 No_date   28:02   44.03 .771     .000
03398>        [XIMP=.68:TIMP=.85]
03399>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03400>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03401>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
03402>        [IaREC=  4.00: IaRECper=   4.00]
03403> R0005:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03404>      ROUTE RESERVOIR ->    1.0 02:A18           5.30     .671 No_date   28:02   44.03  n/a     .000
03405>                  out <=    1.0 01:A18STR        5.30     .160 No_date   28:31   44.03  n/a     .000
03406>              overflow <=   1.0 03:A18OVF          .00     .000 No_date    0:00     .00  n/a     .000
03407>       {MxStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03408> R0005:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03409>      ADD HYD              1.0 02:DRAIN2        330.34    2.842 No_date   29:04   15.30  n/a     .000
03410>                       +   1.0 02:D2            2.28     .035 No_date   29:05   23.49  n/a     .000
03411>                       +   1.0 02:A17STR       12.04     .353 No_date   28:36   44.03  n/a     .000
03412>                       +   1.0 02:A17OVF         .00     .000 No_date    0:00     .00  n/a     .000
03413>                       +   1.0 02:ST4STR         .35     .031 No_date   28:03   33.25  n/a     .000
03414>                       +   1.0 02:ST4OVF         .00     .000 No_date    0:00     .00  n/a     .000
03415>                       +   1.0 02:A18STR        5.30     .160 No_date   28:31   44.03  n/a     .000
03416>                       +   1.0 02:A18OVF         .00     .000 No_date    0:00     .00  n/a     .000
03417>                     SUM=  1.0 01:PTSTS4       350.31    3.317 No_date   28:57   16.79  n/a     .000
03418> R0005:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03419>      ROUTE CHANNEL    ->    1.0 02:PTSTS4       350.31    3.317 No_date   28:57   16.79  n/a     .000
03420>        [RDT= 1.00] out<-    1.0 01:DRAIN3       350.31    3.191 No_date   29:19   16.79  n/a     .000
03421>        [L/S/n=  525./ .230/.043]
03422>        [Vmax=  .635:Dmax=  .979]
03423> R0005:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03424>      CONTINUOUS NASHYD    1.0 01:D3            2.51     .055 No_date   28:45   25.92 .454     .000
03425>        [CN= 86.0: N= 3.00: Tp=  .73]
03426>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
03427>        [InterEventTime=  12.00]
03428> R0005:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03429>      CONTINUOUS STANDHYD   1.0 01:C1            3.41     .450 No_date   28:01   44.03 .771     .000
03430>        [XIMP=.68:TIMP=.85]
03431>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03432>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03433>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
03434>        [IaREC=  4.00: IaRECper=   4.00]
03435> R0005:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03436>      ROUTE RESERVOIR ->    1.0 02:C1            3.41     .450 No_date   28:01   44.03  n/a     .000
03437>                  out <=    1.0 01:C1-STR        3.41     .104 No_date   28:29   44.03  n/a     .000
03438>              overflow <=   1.0 03:C1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03439>       {MxStoUsed=.7123E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03440> R0005:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03441>      CONTINUOUS STANDHYD   1.0 01:ST-5           .45     .040 No_date   28:00   33.25 .582     .000
03442>        [XIMP=.46:TIMP=.57]
03443>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03444>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03445>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
03446>        [IaREC=  4.00: IaRECper=   4.00]
03447> R0005:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03448>      ROUTE RESERVOIR ->    1.0 02:ST-5           .45     .040 No_date   28:00   33.25  n/a     .000
03449>                  out <=    1.0 01:ST5STR         .45     .040 No_date   28:03   33.25  n/a     .000
03450>              overflow <=   1.0 03:ST5OVF          .00     .000 No_date    0:00     .00  n/a     .000
03451>       {MxStoUsed=.1108E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03452> R0005:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03453>      ADD HYD              1.0 02:DRAIN3        350.31    3.191 No_date   29:19   16.79  n/a     .000
03454>                       +   1.0 02:D3            2.51     .055 No_date   28:45   25.92  n/a     .000
03455>                       +   1.0 02:C1-STR        3.41     .104 No_date   28:29   44.03  n/a     .000
03456>                       +   1.0 02:C1-OVF         .00     .000 No_date    0:00     .00  n/a     .000
03457>                       +   1.0 02:ST5STR         .45     .040 No_date   28:03   33.25  n/a     .000
03458>                       +   1.0 02:ST5OVF         .00     .000 No_date    0:00     .00  n/a     .000
03459>                     SUM=  1.0 01:ST5-E         356.68    3.312 No_date   29:13   17.14  n/a     .000
03460> R0005:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03461>      CONTINUOUS STANDHYD   1.0 01:STRAND         7.59     .640 No_date   28:12   42.86 .750     .000
03462>        [XIMP=.64:TIMP=.85]
03463>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03464>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03465>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
03466>        [IaREC=  4.00: IaRECper=   4.00]
03467> R0005:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03468>      ROUTE RESERVOIR ->    1.0 02:STRAND         7.59     .640 No_date   28:12   42.86  n/a     .000
03469>                  out <=    1.0 01:S-POND         7.59     .048 No_date   29:55   42.86  n/a     .000
03470>              overflow <=   1.0 03:S-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03471>       {MxStoUsed=.2288E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03472> R0005:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03473>      ADD HYD              1.0 02:ST5-E         356.68    3.312 No_date   29:13   17.14  n/a     .000
03474>                       +   1.0 02:S-POND         7.59     .048 No_date   29:55   42.86  n/a     .000
03475>                       +   1.0 02:S-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03476>                     SUM=  1.0 01:SSAOUT       364.27    3.358 No_date   29:13   17.68  n/a     .000
03477> R0005:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03478>      SAVE HYD             1.0 01:SSAOUT        364.27    3.358 No_date   29:13   17.68  n/a     .000
03479>        fname :SSAOUT.0005
03480>        remark:SSAOUT
03481> R0005:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03482>      CONTINUOUS STANDHYD   1.0 01:Area-A         66.75    5.433 No_date   28:11   42.06 .736     .000
03483>        [XIMP=.64:TIMP=.80]
03484>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03485>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03486>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
03487>        [IaREC=  4.00: IaRECper=   4.00]
03488> R0005:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03489>      SAVE HYD             1.0 01:Area-A         66.75    5.433 No_date   28:11   42.06  n/a     .000
03490>        fname :Area-A.0005
03491>        remark:SWMF-A Inflow
03492> R0005:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03493>      ROUTE RESERVOIR ->    1.0 02:Area-A         66.75    5.433 No_date   28:11   42.06  n/a     .000
03494>                  out <=    1.0 01:SWMF-A         66.75     .298 No_date   30:20   42.06  n/a     .000
03495>              overflow <=   1.0 03:SWMAOV          .00     .000 No_date    0:00     .00  n/a     .000
03496>       {MxStoUsed=.2106E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03497> R0005:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03498>      SAVE HYD             1.0 01:SWMF-A         66.75     .298 No_date   30:20   42.06  n/a     .000
03499>        fname :SWMF-A.0005
03500>        remark:SWMF-A Outflow
03501> R0005:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03502>      ADD HYD              1.0 02:SSAOUT        364.27    3.358 No_date   29:13   17.68  n/a     .000
03503>                       +   1.0 02:SWMF-A        66.75     .298 No_date   30:20   42.06  n/a     .000
03504>                       +   1.0 02:SWMAOV          .00     .000 No_date    0:00     .00  n/a     .000
03505>                     SUM=  1.0 01:PT4ST5       431.02    3.613 No_date   29:19   21.45  n/a     .000
03506> R0005:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03507>      CONTINUOUS STANDHYD   1.0 01:C6            1.87     .260 No_date   28:01   44.03 .771     .000
03508>        [XIMP=.68:TIMP=.85]
03509>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03510>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03511>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
03512>        [IaREC=  4.00: IaRECper=   4.00]
03513> R0005:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03514>      ROUTE RESERVOIR ->    1.0 02:C6            1.87     .260 No_date   28:01   44.03  n/a     .000
03515>                  out <=    1.0 01:C6-STR        1.87     .058 No_date   28:26   44.03  n/a     .000
03516>              overflow <=   1.0 03:C6-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03517>       {MxStoUsed=.3924E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03518> R0005:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03519>      CONTINUOUS STANDHYD   1.0 01:C7            1.62     .227 No_date   28:01   44.03 .771     .000
03520>        [XIMP=.68:TIMP=.85]
03521>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03522>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03523>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
03524>        [IaREC=  4.00: IaRECper=   4.00]
03525> R0005:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03526>      ROUTE RESERVOIR ->    1.0 02:C7            1.62     .227 No_date   28:01   44.03  n/a     .000
03527>                  out <=    1.0 01:C7-STR        1.62     .050 No_date   28:26   44.03  n/a     .000
03528>              overflow <=   1.0 03:C7-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03529>       {MxStoUsed=.3391E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03530> R0005:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03531>      CONTINUOUS STANDHYD   1.0 01:ST-6           .41     .044 No_date   28:00   33.25 .582     .000
03532>        [XIMP=.46:TIMP=.57]
03533>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03534>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03535>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
03536>        [IaREC=  4.00: IaRECper=   4.00]
03537> R0005:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03538>      ROUTE RESERVOIR ->    1.0 02:ST-6           .41     .044 No_date   28:00   33.25  n/a     .000
03539>                  out <=    1.0 01:ST6STR         .41     .036 No_date   28:03   33.25  n/a     .000
03540>              overflow <=   1.0 03:ST6OVF          .00     .000 No_date    0:00     .00  n/a     .000
03541>       {MxStoUsed=.1092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03542> R0005:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03543>      ADD HYD              1.0 02:PT4ST5        431.02    3.613 No_date   29:19   21.45  n/a     .000
03544>                       +   1.0 02:C6-STR        1.87     .058 No_date   28:26   44.03  n/a     .000
03545>                       +   1.0 02:C6-OVF         .00     .000 No_date    0:00     .00  n/a     .000
03546>                       +   1.0 02:C7-STR        1.62     .050 No_date   28:26   44.03  n/a     .000
03547>                       +   1.0 02:C7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
03548>                       +   1.0 02:ST6STR         .41     .036 No_date   28:03   33.25  n/a     .000
03549>                       +   1.0 02:ST6OVF         .00     .000 No_date    0:00     .00  n/a     .000
03550>                     SUM=  1.0 01:PTSST6       434.92    3.684 No_date   29:13   21.64  n/a     .000
03551> R0005:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03552>      ROUTE CHANNEL    ->    1.0 02:PTSST6       434.92    3.684 No_date   29:13   21.64  n/a     .000
03553>        [RDT= 1.00] out<-    1.0 01:DRAIN4       434.92    3.572 No_date   29:35   21.64  n/a     .000
03554>        [L/S/n=  324./ .100/.043]
03555>        [Vmax=  .480:Dmax= 1.218]
03556> R0005:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03557>      CONTINUOUS NASHYD    1.0 01:D4            1.73     .049 No_date   28:35   27.98 .490     .000
03558>        [CN= 88.0: N= 3.00: Tp=  .60]
03559>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
03560>        [InterEventTime=  12.00]
03561> R0005:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03562>      CONTINUOUS STANDHYD   1.0 01:Area-B         24.04    2.784 No_date   28:04   40.98 .717     .000
03563>        [XIMP=.62:TIMP=.77]
03564>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03565>        [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
03566>        [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI=  693.:MNI=.013:SCI=   .0]
03567>        [IaREC=  4.00: IaRECper=   4.00]
03568> R0005:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03569>      ROUTE RESERVOIR ->    1.0 02:Area-B         24.04    2.784 No_date   28:04   40.98  n/a     .000
03570>                  out <=    1.0 01:SWMF-B         24.04     .278 No_date   28:55   40.98  n/a     .000
03571>              overflow <=   1.0 03:SWMBOVF          .00     .000 No_date    0:00     .00  n/a     .000
03572>       {MxStoUsed=.6277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03573> R0005:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03574>      ADD HYD              1.0 02:DRAIN4        434.92    3.572 No_date   29:35   21.64  n/a     .000
03575>                       +   1.0 02:D4            1.73     .049 No_date   28:35   27.98  n/a     .000
03576>                       +   1.0 02:SWMF-B        24.04     .278 No_date   28:55   40.98  n/a     .000
03577>                       +   1.0 02:SWMBOVF         .00     .000 No_date    0:00     .00  n/a     .000
03578>                     SUM=  1.0 01:D4-EX         460.69    3.861 No_date   29:25   22.68  n/a     .000
03579> R0005:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03580>      ROUTE CHANNEL    ->    1.0 02:D4-EX         460.69    3.861 No_date   29:25   22.68  n/a     .000
03581>        [RDT= 1.00] out<-    1.0 01:DRAIN5        460.69    3.810 No_date   29:44   22.68  n/a     .000
03582>        [L/S/n=  413./ .160/.033]
03583>        [Vmax=  .561:Dmax=  .822]
03584> R0005:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03585>      CONTINUOUS NASHYD    1.0 01:D5            1.90     .044 No_date   28:42   25.92 .454     .000
03586>        [CN= 86.0: N= 3.00: Tp=  .69]
03587>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
03588>        [InterEventTime=  12.00]
03589> R0005:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03590>      CONTINUOUS NASHYD    1.0 01:O-13SDF         9.74     .290 No_date   28:22   24.64 .431     .000
03591>        [CN= 81.0: N= 3.00: Tp=  .43]
03592>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
03593>        [InterEventTime=  12.00]
03594> R0005:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03595>      ROUTE RESERVOIR ->    1.0 02:O-13SDF         9.74     .290 No_date   28:22   24.64  n/a     .000
03596>                  out <=    1.0 01:SDF             9.74     .032 No_date   32:11   24.64  n/a     .000
03597>              overflow <=   1.0 03:OVFSDF          .00     .000 No_date    0:00     .00  n/a     .000
03598>       {MxStoUsed=.1268E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03599> R0005:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03600>      ADD HYD              1.0 02:DRAIN5        460.69    3.810 No_date   29:44   22.68  n/a     .000
03601>                       +   1.0 02:D5            1.90     .044 No_date   28:42   25.92  n/a     .000
03602>                       +   1.0 02:SDF           9.74     .032 No_date   32:11   24.64  n/a     .000
03603>                     SUM=  1.0 01:PT6MC        472.33    3.863 No_date   29:44   22.73  n/a     .000
03604> R0005:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03605>      CONTINUOUS NASHYD    1.0 01:O-15           10.67     .385 No_date   28:13   23.43 .410     .000
03606>        [CN= 82.0: N= 3.00: Tp=  .30]
03607>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
03608>        [InterEventTime=  12.00]
03609> R0005:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03610>      ADD HYD              1.0 02:PT6MC         472.33    3.863 No_date   29:44   22.73  n/a     .000
03611>                       +   1.0 02:O-15          10.67     .385 No_date   28:13   23.43  n/a     .000
03612>                     SUM=  1.0 01:M-C           483.00    3.921 No_date   29:44   22.75  n/a     .000
03613> R0005:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03614>      ROUTE CHANNEL    ->    1.0 02:M-C           483.00    3.921 No_date   29:44   22.75  n/a     .000
03615>        [RDT= 1.00] out<-    1.0 01:O-14Ch        483.00    3.787 No_date   30:06   22.75  n/a     .000
03616>        [L/S/n=  845./ .100/.033]
03617>        [Vmax=  .748:Dmax= 1.430]
03618> R0005:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03619>      CONTINUOUS NASHYD    1.0 01:O-14           5.00     .300 No_date   28:04   23.43 .410     .000
03620>        [CN= 82.0: N= 3.00: Tp=  .13]
03621>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
03622>        [InterEventTime=  12.00]
03623> R0005:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03624>      ADD HYD              1.0 02:O-14Ch        483.00    3.787 No_date   30:06   22.75  n/a     .000
03625>                       +   1.0 02:O-14          5.00     .300 No_date   28:04   23.43  n/a     .000
03626>                     SUM=  1.0 01:OKEEFE        488.00    3.807 No_date   30:06   22.75  n/a     .000
03627> ************************************************************************
03628> #    Okeefe Pond
03629> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
03630> #      and a ratio of the catchment area to the West Clarke pond rating curve
03631> #      from the MSS for the next coordinates
03632> ************************************************************************
03633> R0005:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03634>      CONTINUOUS NASHYD    1.0 01:S-1-D2         18.67     .239 No_date   29:13   21.69 .380     .000
03635>        [CN= 77.0: N= 3.00: Tp= 1.12]
03636>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03637>        [InterEventTime=  12.00]
03638> R0005:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03639>      CONTINUOUS NASHYD    1.0 01:S-1-D3          6.79     .079 No_date   29:25   21.69 .380     .000
03640>        [CN= 77.0: N= 3.00: Tp= 1.28]
03641>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03642>        [InterEventTime=  12.00]
03643> R0005:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03644>      ADD HYD              1.0 02:N_OK          53064.36   67.890 No_date   34:06   18.32  n/a     .000
03645>                       +   1.0 02:OKEEFE         488.00    3.807 No_date   30:06   22.75  n/a     .000
03646>                       +   1.0 02:S-1-D2         18.67     .239 No_date   29:13   21.69  n/a     .000
03647>                       +   1.0 02:S-1-D3          6.79     .079 No_date   29:25   21.69  n/a     .000
03648>                     SUM=  1.0 02:SN_OK         53577.82   69.253 No_date   34:06   18.36  n/a     .000
03649> R0005:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03650>      SAVE HYD             1.0 01:SN_OK         53577.82   69.253 No_date   34:06   18.36  n/a     .000
03651>        fname :SN_OK.0005
03652>        remark:Total Flows at Okeefe Drain
03653> #
03654> # Hydrograph from Node Okeefe routed to Node at Foster Drain
03655> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
03656> #
03657> R0005:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03658>      ROUTE CHANNEL    ->    1.0 02:SN_OK         53577.82   69.253 No_date   34:06   18.36  n/a     .000
03659>        [RDT= 1.00] out<-    1.0 01:N_FO          53577.82   69.117 No_date   34:07   18.36  n/a     .000
03660>        [L/S/n= 1183./ .076/.035]
03661>        [Vmax= 1.031:Dmax= 2.621]
03662> ************************************************************************
03663> #    Catchment FOSTER
03664> #    - To Foster ditch (north of the Jock)
03665> #    - Partially developed (medium density); remaining agricultural
03666> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
03667> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
03668> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
03669> ************************************************************************
03670> R0005:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03671>      CONTINUOUS STANDHYD   1.0 01:FOSTER        325.44   19.055 No_date   28:13   37.71 .660     .000
03672>        [XIMP=.55:TIMP=.55]
03673>        [LOSS= 2 :CN= 74.0]
03674>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  49.:MNP=.250:SCP=   .0]
03675>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
03676>        [IaREC=  4.00: IaRECper=   4.00]
03677>        [SMIN= 36.67: SMAX=244.49: SK= .010]
03678> ************************************************************************
03679> #    Foster Pond
03680> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
03681> #      and a ratio of the catchment area to the West Clarke pond rating curve
03682> #      from the MSS for the next coordinates
03683> ************************************************************************
03684> R0005:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03685>      ROUTE RESERVOIR ->    1.0 02:FOSTER        325.44   19.055 No_date   28:13   37.71  n/a     .000
03686>                  out <=    1.0 01:P_FOS         325.44    5.174 No_date   29:08   37.71  n/a     .000
03687>              overflow <=   1.0 03:FOSOVF          .00     .000 No_date    0:00     .00  n/a     .000
03688>       {MxStoUsed=.5004E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03689> R0005:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03690>      ADD HYD              1.0 02:P_FOS         325.44    5.174 No_date   29:08   37.71  n/a     .000
03691>                       +   1.0 02:FO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03692>                     SUM=  1.0 01:FOSTER-OUT     325.44    5.174 No_date   29:08   37.71  n/a     .000
03693> ************************************************************************
03694> R0005:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03695>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA      73.29    6.276 No_date   28:06   41.22 .722     .000
03696>        [XIMP=.60:TIMP=.65]
03697>        [LOSS= 2 :CN= 77.0]
03698>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
03699>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
03700>        [IaREC=  4.00: IaRECper=   4.00]
03701>        [SMIN= 31.15: SMAX=207.66: SK= .010]
03702> R0005:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03703>      ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA      73.29    6.276 No_date   28:06   41.22  n/a     .000
03704>                  out <=    1.0 01:MS_P10          73.29    1.101 No_date   28:56   41.22  n/a     .000
03705>              overflow <=   1.0 03:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
03706>       {MxStoUsed=.1093E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03707> R0005:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03708>      CONTINUOUS NASHYD    1.0 01:S-1-FO-D2       4.94     .064 No_date   29:11   21.69 .380     .000
03709>        [CN= 77.0: N= 3.00: Tp= 1.10]
03710>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03711>        [InterE
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03741>       remark:Total Flows at Sation 520 on Foster Drain
03742> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
03743> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
03744> #
03745> R0005:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03746>      ROUTE CHANNEL    ->     1.0 02:520        335.49    5.129 No_date   29:14   37.23  n/a     .000
03747>      [RDT= 1.00] out<-     1.0 01:520-out     335.49    5.080 No_date   29:32   37.23  n/a     .000
03748>        [L/S/n=  860./ .587/.035]
03749>        {Vmax= 1.320:Dmax=  .607}
03750> R0005:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03751>      CONTINUOUS NASHYD    1.0 01:S-1-FO-F-D    14.96     .206 No_date   29:05   21.69 .380     .000
03752>        [CN= 77.0: N= 3.00: Tp= 1.01]
03753>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03754>        [InterEventTime=  12.00]
03755> R0005:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03756>      CONTINUOUS STANDHYD   1.0 01:S-1-D8         5.27     .654 No_date   28:00   42.00 .735     .000
03757>        [XIMP=.65:TIMP=.65]
03758>        [LOSS= 2 :CN= 75.0]
03759>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03760>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
03761>        [IaREC=mp=   4.00: IaRECper=   4.00]
03762>        [SMIN= 33.81: SMAX=225.43: SK= .010]
03763> R0005:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03764>      CONTINUOUS NASHYD    1.0 01:S-1-A         75.88    1.479 No_date   28:37   21.69 .380     .000
03765>        [CN= 77.0: N= 3.00: Tp=  .62]
03766>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03767>        [InterEventTime=  12.00]
03768> R0005:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03769>      CONTINUOUS NASHYD    1.0 01:W_CLAR_UND    35.65     .462 No_date   29:11   21.69 .380     .000
03770>        [CN= 77.0: N= 3.00: Tp= 1.10]
03771>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03772>        [InterEventTime=  12.00]
03773> R0005:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03774>      ADD HYD              1.0 02:N_FO       53577.82   69.117 No_date   34:07   18.56  n/a     .000
03775>                       +   1.0 02:520-out     335.49    5.080 No_date   29:32   37.23  n/a     .000
03776>                       +   1.0 02:MS_P10       73.29    1.101 No_date   28:56   41.22  n/a     .000
03777>                       +   1.0 02:P10-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03778>                       +   1.0 02:W_CLAR_UND    35.65     .462 No_date   29:11   21.69  n/a     .000
03779>                       +   1.0 02:S-1-FO-F-D    14.96     .206 No_date   29:05   21.69  n/a     .000
03780>                       +   1.0 02:S-1-D8         5.27     .654 No_date   28:00   42.00  n/a     .000
03781>                       +   1.0 02:S-1-A         75.88    1.479 No_date   28:37   21.69  n/a     .000
03782>                     SUM=  1.0 01:SN_FO      54118.36   71.824 No_date   33:59   18.52  n/a     .000
03783> R0005:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03784>      SAVE HYD             1.0 01:SN_FO      54118.36   71.824 No_date   33:59   18.52  n/a     .000
03785>        fname :SN_FO.0005
03786>        remark:Total Flows at Foster Drain
03787> # Hydrograph from Node Foster routed to Node at Cedarview Road
03788> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
03789> #
03790> R0005:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03791>      ROUTE CHANNEL    ->     1.0 02:SN_FO      54118.36   71.824 No_date   33:59   18.52  n/a     .000
03792> *  [RDT= 1.00] out<-     1.0 01:N_CE       54118.36   71.792 No_date   34:07   18.52  n/a     .000
03793>        [L/S/n=  159./ .082/.035]
03794>        {Vmax= 1.246:Dmax= 3.101}
03795> #*************************************************************************
03796> #    Catchment S-1
03797> #    - To Jock River (north and south of Jock)
03798> #    - Primarily agricultural fields; portion of sand quarry
03799> #*************************************************************************
03800> R0005:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03801>      CONTINUOUS NASHYD    1.0 01:S-1-B         55.36    1.342 No_date   28:24   21.69 .380     .000
03802>        [CN= 77.0: N= 3.00: Tp=  .45]
03803>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03804>        [InterEventTime=  12.00]
03805> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
03806> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
03807> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
03808> R0005:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03809>      CONTINUOUS NASHYD    1.0 01:S-1-D1         21.67     .287 No_date   29:09   21.69 .380     .000
03810>        [CN= 77.0: N= 3.00: Tp= 1.07]
03811>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03812>        [InterEventTime=  12.00]
03813> R0005:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03814>      CONTINUOUS NASHYD    1.0 01:S-1-D4         3.28     .042 No_date   29:11   21.69 .380     .000
03815>        [CN= 77.0: N= 3.00: Tp= 1.10]
03816>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03817>        [InterEventTime=  12.00]
03818> R0005:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03819>      CONTINUOUS NASHYD    1.0 01:S-1-D5         12.84     .166 No_date   29:11   21.69 .380     .000
03820>        [CN= 77.0: N= 3.00: Tp= 1.10]
03821>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03822>        [InterEventTime=  12.00]
03823> R0005:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03824>      CONTINUOUS NASHYD    1.0 01:S-1-D6          1.75     .023 No_date   29:11   21.69 .380     .000
03825>        [CN= 77.0: N= 3.00: Tp= 1.10]
03826>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03827>        [InterEventTime=  12.00]
03828> R0005:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03829>      CONTINUOUS NASHYD    1.0 01:S-1-D7         2.03     .026 No_date   29:11   21.69 .380     .000
03830>        [CN= 77.0: N= 3.00: Tp= 1.10]
03831>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03832>        [InterEventTime=  12.00]
03833> #    Catchment W_CLAR
03834> #    - To West Clarke Drain (south of the Jock)
03835> #    - Subdivision will be as per Barrhaven South MSS
03836> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
03837> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
03838> #*************************************************************************
03839> R0005:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03840>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ      1.77     .192 No_date   28:00   37.36 .654     .000
03841>        [XIMP=.40:TIMP=.59]
03842>        [LOSS= 2 :CN= 77.0]
03843>        [Pervious   area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
03844>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
03845>        [IaREC=mp=   4.00: IaRECper=   4.00]
03846>        [SMIN= 31.15: SMAX=207.66: SK= .010]
03847> # 5-Year + 12% Capacity
03848> R0005:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03849>      ROUTE RESERVOIR  ->     1.0 02:W_CLAR_MJ      1.77     .192 No_date   28:00   37.36  n/a     .000
03850>                         out <-     1.0 01:W_CLAR_MJn     1.77     .192 No_date   28:00   37.36  n/a     .000
03851>                overflow <-     1.0 03:W_CLAR_MJj      .00     .000 No_date    0:00     .00  n/a     .000
03852>        {MxStoUsed=.9116E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03853> R0005:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03854>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL   119.40   10.597 No_date   28:05   41.22 .722     .000
03855>        [XIMP=.60:TIMP=.65]
03856>        [LOSS= 2 :CN= 77.0]
03857>        [Pervious   area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
03858>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
03859>        [IaREC=mp=   4.00: IaRECper=   4.00]
03860>        [SMIN= 31.15: SMAX=207.66: SK= .010]
03861> R0005:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03862>      ADD HYD              1.0 02:W_CLAR_ALL   119.40   10.597 No_date   28:05   41.22  n/a     .000
03863>                       +   1.0 02:W_CLAR_MJj      .00     .000 No_date    0:00     .00  n/a     .000
03864>                     SUM=  1.0 01:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
03865> R0005:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03866>      SAVE HYD             1.0 01:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
03867>        fname :W_CLAR.0005
03868>        remark:Total Flows to West Clarke
03869> #*************************************************************************
03870> #    West Clarke Pond 2
03871> #    - Rating curve obtained from Barrhaven South MSS modeling
03872> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
03873> #*************************************************************************
03874> R0005:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03875>      ROUTE RESERVOIR  ->     1.0 02:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
03876>                         out <-     1.0 01:MS_P2        119.40    1.795 No_date   28:54   41.22  n/a     .000
03877>                overflow <-     1.0 03:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
03878>        {MxStoUsed=.2665E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03879> #*************************************************************************
03880> R0005:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03881>      ADD HYD              1.0 02:N_CE       54118.36   71.792 No_date   34:07   18.52  n/a     .000
03882>                       +   1.0 02:S-1-D4         3.28     .042 No_date   29:11   21.69  n/a     .000
03883>                       +   1.0 02:S-1-D5        12.84     .166 No_date   29:11   21.69  n/a     .000
03884>                       +   1.0 02:MS_P2         119.40    1.795 No_date   28:54   41.22  n/a     .000
03885>                       +   1.0 02:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
03886>                     SUM=  1.0 01:SN_CE      54253.88   72.522 No_date   34:07   18.57  n/a     .000
03887> R0005:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03888>      SAVE HYD             1.0 01:SN_CE      54253.88   72.522 No_date   34:07   18.57  n/a     .000
03889>        fname :SN_CE.0005
03890>        remark:Total Flows before Station 5737 on Jock River
03891> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
03892> # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
03893> # JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
03894> R0005:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03895>      ROUTE CHANNEL    ->     1.0 02:SN_CE      54253.88   72.522 No_date   34:07   18.57  n/a     .000
03896> *  [RDT= 1.00] out<-     1.0 01:5737       54253.88   70.229 No_date   36:14   18.57  n/a     .000
03897>        [L/S/n=  270./ .018/.035]
03898>        {Vmax=  .686:Dmax= 4.074}
03899> R0005:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03900>      ADD HYD              1.0 02:5737       54253.88   70.229 No_date   36:14   18.57  n/a     .000
03901>                       +   1.0 02:S-1-D1         21.67     .287 No_date   29:09   21.69  n/a     .000
03902>                       +   1.0 02:S-1-D6          1.75     .023 No_date   29:11   21.69  n/a     .000
03903>                       +   1.0 02:S-1-D7          2.03     .026 No_date   29:11   21.69  n/a     .000
03904>                     SUM=  1.0 01:5002       54279.33   70.280 No_date   36:14   18.57  n/a     .000
03905> R0005:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03906>      SAVE HYD             1.0 01:5002       54279.33   70.280 No_date   36:14   18.57  n/a     .000
03907>        fname :5002.0005
03908>        remark:Total flows before Station 5002 on Jock River
03909> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
03910> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
03911> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
03912> # JFSA 2021-02-19 Change the three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model will
03913> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
03914> R0005:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03915>      ROUTE CHANNEL    ->     1.0 02:5002       54279.33   70.280 No_date   36:14   18.57  n/a     .000
03916>      [RDT= 1.00] out<-     1.0 01:N_WCa      54279.33   70.286 No_date   36:12   18.57  n/a     .000
03917>        [L/S/n=  245./ .095/.035]
03918>        {Vmax= 1.070:Dmax= 2.329}
03919> R0005:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03920>      ROUTE CHANNEL    ->     1.0 02:N_WCa      54279.33   70.286 No_date   36:12   18.57  n/a     .000
03921>      [RDT= 1.00] out<-     1.0 01:N_WCb      54279.33   70.290 No_date   36:11   18.57  n/a     .000
03922>        [L/S/n=  245./ .095/.035]
03923>        {Vmax= 1.070:Dmax= 2.329}
03924> R0005:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03925>      ROUTE CHANNEL    ->     1.0 02:N_WCb      54279.33   70.290 No_date   36:11   18.57  n/a     .000
03926>      [RDT= 1.00] out<-     1.0 01:N_WC       54279.33   70.433 No_date   37:41   18.57  n/a     .000
03927>        [L/S/n=  245./ .095/.035]
03928>        {Vmax= 1.070:Dmax= 2.329}
03929> #*************************************************************************
03930> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
03931> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
03932> #
03933> R0005:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03934>      ROUTE CHANNEL    ->     1.0 02:N_WC       54279.33   70.433 No_date   37:41   18.57  n/a     .000
03935>      [RDT= 1.00] out<-     1.0 01:N_KB       54279.33   70.411 No_date   37:42   18.57  n/a     .000
03936>        [L/S/n=  1020./ .050/.035]
03937>        {Vmax=  .948:Dmax= 2.868}
03938> #*************************************************************************
03939> #    Catchment KEN_BU
03940> #    - To Kennedy-Burnett SWM Facility
03941> #    - Outlets to Fraser-Clarke drain (north of the Jock)
03942> #    - Medium density residential subdivision
03943> #*************************************************************************
03944> #*************************************************************************
03945> #   Existing Kennedy-Burnett SWM Facility
03946> #    - Rating curve obtained from URTKBP
03947> #    - Tributary Drainage Area to Pond = 160 ha
03948> #*************************************************************************
03949> R0005:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03950>      CONTINUOUS STANDHYD   1.0 01:KB-01A        40.82    2.624 No_date   28:14   20.08 .351     .000
03951>        [XIMP=.10:TIMP=.40]
03952>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03953>        [Pervious   area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03954>        [Impervious   area: IAimp= .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
03955>        [IaREC=mp=   4.00: IaRECper=   4.00]
03956> R0005:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03957>      COMPUTE DUALHYD      1.0 01:KB-01A        40.82    2.624 No_date   28:14   20.08 n/a      .000
03958>        Major System   /     1.0 02:KB-01A-MJ      .00     .000 No_date    0:00     .00 n/a      .000
03959>        Minor System   \     1.0 03:KB-01A-MN    40.82    2.624 No_date   28:14   20.08 n/a      .000
03960>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
03961> R0005:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03962>      ADD HYD              1.0 02:KB-01A-MJ      .00     .000 No_date    0:00     .00 n/a      .000
03963>                       +   1.0 02:KB-01A-MN    40.82    2.624 No_date   28:14   20.08 n/a      .000
03964>                     SUM=  1.0 01:KB-01A-S     40.82    2.624 No_date   28:14   20.08 n/a      .000
03965> R0005:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03966>      CONTINUOUS STANDHYD   1.0 01:KB-01B        31.10    1.779 No_date   28:08   22.42 .393     .000
03967>        [XIMP=.19:TIMP=.38]
03968>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03969>        [Pervious   area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
03970>        [Impervious   area: IAimp= .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
03971>        [IaREC=mp=   4.00: IaRECper=   4.00]
03972> R0005:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03973>      COMPUTE DUALHYD      1.0 01:KB-01B        31.10    1.779 No_date   28:08   22.42 n/a      .000
03974>        Major System   /     1.0 02:KB-01B-MJ      .00     .000 No_date    0:00     .00 n/a      .000
03975>        Minor System   \     1.0 03:KB-01B-MN    31.10    1.585 No_date   28:03   22.52 n/a      .000
03976>        {MjSysSto=.1530E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
03977> R0005:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03978>      ADD HYD              1.0 02:KB-01B-MJ      .00     .000 No_date    0:00     .00 n/a      .000
03979>                       +   1.0 02:KB-01B-MN    31.10    1.585 No_date   28:03   22.52 n/a      .000
03980>                     SUM=  1.0 01:KB-01B-S     31.10    1.585 No_date   28:03   22.52 n/a      .000
03981> R0005:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03982>      CONTINUOUS STANDHYD   1.0 01:KB-01C        13.78    1.235 No_date   28:05   23.43 .410     .000
03983>        [XIMP=.20:TIMP=.41]
03984>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03985>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03986>        [Impervious   area: IAimp= .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
03987>        [IaREC=mp=   4.00: IaRECper=   4.00]
03988> R0005:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03989>      COMPUTE DUALHYD      1.0 01:KB-01C        13.78    1.235 No_date   28:05   23.43 n/a      .000
03990>        Major System   /     1.0 02:KB-01C-MJ      .00     .000 No_date    0:00     .00 n/a      .000
03991>        Minor System   \     1.0 03:KB-01C-MN    13.78    1.235 No_date   28:05   23.43 n/a      .000
03992>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
03993> R0005:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03994>      ADD HYD              1.0 02:KB-01C-MJ      .00     .000 No_date    0:00     .00 n/a      .000
03995>                       +   1.0 02:KB-01C-MN    13.78    1.235 No_date   28:05   23.43 n/a      .000
03996>                     SUM=  1.0 01:KB-01C-S     13.78    1.235 No_date   28:05   23.43 n/a      .000
03997> R0005:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03998>      CONTINUOUS STANDHYD   1.0 01:KB-03         84.78    6.180 No_date   28:10   22.99 .402     .000
03999>        [XIMP=.20:TIMP=.39]
04000>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04001>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04002>        [Impervious   area: IAimp= .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
04003>        [IaREC=mp=   4.00: IaRECper=   4.00]
04004> R0005:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04005>      COMPUTE DUALHYD      1.0 01:KB-03         84.78    6.180 No_date   28:10   22.99 n/a      .000
04006>        Major System   /     1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04007>        Minor System   \     1.0 03:KB-03-MN     84.78    5.270 No_date   28:03   23.12 n/a      .000
04008>        {MjSysSto=.5145E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04009> R0005:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04010>      ADD HYD              1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04011>                       +   1.0 02:KB-03-MN     84.78    5.270 No_date   28:03   23.12 n/a      .000
04012>                     SUM=  1.0 01:KB-03-S      84.78    5.270 No_date   28:03   23.12 n/a      .000
04013> R0005:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04014>      CONTINUOUS STANDHYD   1.0 01:KB-04          6.95    1.043 No_date   28:01   49.53 .867     .000
04015>        [XIMP=.85:TIMP=.85]
04016>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04017>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04018>        [Impervious   area: IAimp= .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
04019>        [IaREC=mp=   4.00: IaRECper=   4.00]
04020> R0005:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04021>      COMPUTE DUALHYD      1.0 01:KB-04          6.95    1.043 No_date   28:01   49.53 n/a      .000
04022>        Major System   /     1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04023>        Minor System   \     1.0 03:KB-04-MN      6.95     .503 No_date   27:48   49.78 n/a      .000
04024>        {MjSysSto=.3742E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04025> R0005:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04026>      ADD HYD              1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04027>                       +   1.0 02:KB-04-MN      6.95     .503 No_date   27:48   49.78 n/a      .000
04028>                     SUM=  1.0 01:KB-04-S       6.95     .503 No_date   27:48   49.78 n/a      .000
04029> R0005:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04030>      CONTINUOUS STANDHYD   1.0 01:KB-05          5.19     .855 No_date   28:00   52.49 .919     .000
04031>        [XIMP=.93:TIMP=.93]
04032>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04033>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04034>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
04035>        [IaREC=mp=   4.00: IaRECper=   4.00]
04036> R0005:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04037>      CONTINUOUS STANDHYD   1.0 01:KB-06         12.93    2.190 No_date   28:00   50.55 .885     .000
04038>        [XIMP=.87:TIMP=.87]
04039>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04040>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04041>        [Impervious   area: IAimp= .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
04042>        [IaREC=mp=   4.00: IaRECper=   4.00]
04043> R0005:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04044>      COMPUTE DUALHYD      1.0 01:KB-06         12.93    2.190 No_date   28:00   50.55 n/a      .000
04045>        Major System   /     1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04046>        Minor System   \     1.0 03:KB-06-MN     12.93    2.190 No_date   28:00   50.55 n/a      .000
04047>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04048> R0005:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04049>      ADD HYD              1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04050>                       +   1.0 02:KB-06-MN     12.93    2.190 No_date   28:00   50.55 n/a      .000
04051>                     SUM=  1.0 01:KB-06-S      12.93    2.190 No_date   28:00   50.55 n/a      .000
04052> R0005:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04053>      CONTINUOUS STANDHYD   1.0 01:KB-11          4.03     .584 No_date   28:00   41.88 .733     .000
04054>        [XIMP=.68:TIMP=.68]
04055>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04056>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04057>        [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
04058>        [IaREC=mp=   4.00: IaRECper=   4.00]
04059> R0005:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04060>      COMPUTE DUALHYD      1.0 01:KB-11          4.03     .584 No_date   28:00   41.88 n/a      .000
04061>        Major System   /     1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04062>        Minor System   \     1.0 03:KB-11-MN      4.03     .577 No_date   28:00   41.89 n/a      .000
04063>        {MjSysSto=.4277E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04064> R0005:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04065>      ADD HYD              1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00 n/a      .000
04066>                       +   1.0 02:KB-11-MN      4.03     .577 No_date   28:00   41.89 n/a      .000
04067>                     SUM=  1.0 01:KB-11-S       4.03     .577 No_date   28:00   41.89 n/a      .000
04068> R0005:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04069>      CONTINUOUS STANDHYD   1.0 01:S1             4.99     .892 No_date   28:00   52.49 .919     .000
04070>        [XIMP=.93:TIMP=.93]
04071>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04072>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04073>        [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
04074>        [IaREC=mp=   4.00: IaRECper=   4.00]
04075> R0005:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04076>      CONTINUOUS STANDHYD   1.0 01:KB-15          2.15     .321 No_date   28:00   47.49 .831     .000
04077>        [XIMP=.79:TIMP=.79]
04078>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04079>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04080>        [Impervious   area: IAimp= .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
04081>        [IaREC=mp=   4.00: IaRECper=   4.00]
04082> R0005:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04083>      ADD HYD              1.0 02:KB-01A-S       40.82    2.624 No_date   28:14   20.08  n/a     .000
04084>                       +   1.0 02:KB-01B-S       31.10    1.585 No_date   28:03   22.52  n/a     .000
04085>                       +   1.0 02:KB-01C-S       13.78    1.235 No_date   28:05   23.43  n/a     .000
04086>                       +   1.0 02:KB-03-S        84.78    5.270 No_date   28:03   23.12  n/a     .000
04087>                       +   1.0 02:KB-04-S         6.95     .503 No_date   27:48   49.78  n/a     .000
04088>                       +   1.0 02:KB-05           5.19     .855 No_date   28:00   52.49  n/a     .000
04089>                       +   1.0 02:KB-06-S        12.93    2.190 No_date   28:00   50.55  n/a     .000
04090>                       +   1.0 02:KB-11-S         4.03     .577 No_date   28:00   41.89  n/a     .000
04091>                       +   1.0 02:KB-15           2.15     .321 No_date   28:00   47.49  n/a     .000
04092>                       +   1.0 02:S1              4.99     .892 No_date   28:00   52.49  n/a     .000
04093>                     SUM=  1.0 01:KB-P1        206.72   14.564 No_date   28:02   27.13  n/a     .000
04094> R0005:C00215------------DTmin-ID:NHYD---------A
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04115>     COMPUTE DUALHYD       1.0 01:KB-07          10.86    1.770 No_date   28:00   50.11  n/a     .000
04116>       Major System   /      1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04117>       Minor System   \      1.0 03:KB-07-MN       10.86    1.770 No_date   28:00   50.11  n/a     .000
04118>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04119> R0005:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04120>     ADD HYD               1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04121>                       +     1.0 02:KB-07-MN       10.86    1.770 No_date   28:00   50.11  n/a     .000
04122>                     SUM=    1.0 01:KB-07-S        10.86    1.770 No_date   28:00   50.11  n/a     .000
04123> R0005:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04124>     CONTINUOUS STANDHYD   1.0 01:KB-08            6.61     .900 No_date   28:00   40.32 .706     .000
04125>       [XIMP=.64:TIMP=.64]
04126>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04127>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04128>       [Impervious   area: IAimp=  .79:SIP1=2.00:LGI= 210.:MNI=.013:SCI=   .0]
04129>       [IaRECimp=   4.00: IaRECper=    4.00]
04130> R0005:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04131>     COMPUTE DUALHYD       1.0 01:KB-08            6.61     .900 No_date   28:00   40.32  n/a     .000
04132>       Major System   /      1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04133>       Minor System   \      1.0 03:KB-08-MN       6.61     .900 No_date   28:00   40.32  n/a     .000
04134>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04135> R0005:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04136>     ADD HYD               1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04137>                       +     1.0 02:KB-08-MN       6.61     .900 No_date   28:00   40.32  n/a     .000
04138>                     SUM=    1.0 01:KB-08-S        6.61     .900 No_date   28:00   40.32  n/a     .000
04139> R0005:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04140>     CONTINUOUS STANDHYD   1.0 01:KB-09            2.60     .448 No_date   28:00   49.44 .865     .000
04141>       [XIMP=.86:TIMP=.86]
04142>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04143>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04144>       [Impervious   area: IAimp= 1.57:SIP1=2.00:LGI= 132.:MNI=.013:SCI=   .0]
04145>       [IaRECimp=   4.00: IaRECper=    4.00]
04146> R0005:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04147>     CONTINUOUS STANDHYD   1.0 01:KB-10_1          2.37     .409 No_date   28:00   49.44 .865     .000
04148>       [XIMP=.86:TIMP=.86]
04149>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04150>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04151>       [Impervious   area: IAimp= 1.57:SIP1=2.00:LGI= 126.:MNI=.013:SCI=   .0]
04152>       [IaRECimp=   4.00: IaRECper=    4.00]
04153> R0005:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04154>     CONTINUOUS STANDHYD   1.0 01:KB-10_2          1.14     .199 No_date   28:00   49.44 .865     .000
04155>       [XIMP=.86:TIMP=.86]
04156>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04157>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04158>       [Impervious   area: IAimp= 1.57:SIP1=2.00:LGI=  87.:MNI=.013:SCI=   .0]
04159>       [IaRECimp=   4.00: IaRECper=    4.00]
04160> R0005:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04161>     CONTINUOUS STANDHYD   1.0 01:KB-12            4.86     .777 No_date   28:00   46.75 .818     .000
04162>       [XIMP=.79:TIMP=.79]
04163>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04164>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04165>       [Impervious   area: IAimp= 1.10:SIP1=2.00:LGI= 180.:MNI=.013:SCI=   .0]
04166>       [IaRECimp=   4.00: IaRECper=    4.00]
04167> R0005:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04168>     COMPUTE DUALHYD       1.0 01:KB-12            4.86     .777 No_date   28:00   46.75  n/a     .000
04169>       Major System   /      1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04170>       Minor System   \      1.0 03:KB-12-MN       4.86     .777 No_date   28:00   46.75  n/a     .000
04171>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04172> R0005:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04173>     ADD HYD               1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04174>                       +     1.0 02:KB-12-MN       4.86     .777 No_date   28:00   46.75  n/a     .000
04175>                     SUM=    1.0 01:KB-12-S        4.86     .777 No_date   28:00   46.75  n/a     .000
04176> R0005:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04177>     CONTINUOUS STANDHYD   1.0 01:KB-13           10.19    1.364 No_date   28:00   40.32 .706     .000
04178>       [XIMP=.64:TIMP=.64]
04179>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04180>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04181>       [Impervious   area: IAimp=  .79:SIP1=2.00:LGI= 261.:MNI=.013:SCI=   .0]
04182>       [IaRECimp=   4.00: IaRECper=    4.00]
04183> R0005:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04184>     COMPUTE DUALHYD       1.0 01:KB-13           10.19    1.364 No_date   28:00   40.32  n/a     .000
04185>       Major System   /      1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04186>       Minor System   \      1.0 03:KB-13-MN      10.19    1.364 No_date   28:00   40.32  n/a     .000
04187>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04188> R0005:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04189>     ADD HYD               1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04190>                       +     1.0 02:KB-13-MN      10.19    1.364 No_date   28:00   40.32  n/a     .000
04191>                     SUM=    1.0 01:KB-13-S       10.19    1.364 No_date   28:00   40.32  n/a     .000
04192> R0005:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04193>     CONTINUOUS STANDHYD   1.0 01:KB-14            5.47     .756 No_date   28:00   40.32 .706     .000
04194>       [XIMP=.64:TIMP=.64]
04195>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04196>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04197>       [Impervious   area: IAimp=  .79:SIP1=2.00:LGI= 191.:MNI=.013:SCI=   .0]
04198>       [IaRECimp=   4.00: IaRECper=    4.00]
04199> R0005:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04200>     COMPUTE DUALHYD       1.0 01:KB-14            5.47     .756 No_date   28:00   40.32  n/a     .000
04201>       Major System   /      1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04202>       Minor System   \      1.0 03:KB-14-MN       5.47     .756 No_date   28:00   40.32  n/a     .000
04203>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04204> R0005:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04205>     ADD HYD               1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04206>                       +     1.0 02:KB-14-MN       5.47     .756 No_date   28:00   40.32  n/a     .000
04207>                     SUM=    1.0 01:KB-14-S        5.47     .756 No_date   28:00   40.32  n/a     .000
04208> R0005:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04209>     CONTINUOUS STANDHYD   1.0 01:KB-16_2          3.42     .462 No_date   28:01   43.88 .768     .000
04210>       [XIMP=.71:TIMP=.71]
04211>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04212>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04213>       [Impervious   area: IAimp=  .16:SIP1= .30:LGI= 151.:MNI=.013:SCI=   .0]
04214>       [IaRECimp=   4.00: IaRECper=    4.00]
04215> R0005:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04216>     ADD HYD               1.0 02:KB-Pond1       206.72   11.746 No_date   28:15   27.13  n/a     .000
04217>                       +     1.0 02:KB-07-S         10.86    1.770 No_date   28:00   50.11  n/a     .000
04218>                       +     1.0 02:KB-08-S          6.61     .900 No_date   28:00   40.32  n/a     .000
04219>                       +     1.0 02:KB-09            2.60     .448 No_date   28:00   49.44  n/a     .000
04220>                       +     1.0 02:KB-10_1          2.37     .409 No_date   28:00   49.43  n/a     .000
04221>                       +     1.0 02:KB-10_2          1.14     .199 No_date   28:00   49.44  n/a     .000
04222>                       +     1.0 02:KB-12-S          4.86     .777 No_date   28:00   46.75  n/a     .000
04223>                       +     1.0 02:KB-13-S         10.19    1.364 No_date   28:00   40.32  n/a     .000
04224>                       +     1.0 02:KB-14-S          5.47     .756 No_date   28:00   40.32  n/a     .000
04225>                       +     1.0 02:KB-16_2          3.42     .462 No_date   28:01   43.88  n/a     .000
04226>                     SUM=    1.0 01:KB-P2          254.24   16.750 No_date   28:01   30.40  n/a     .000
04227> R0005:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04228>     ROUTE RESERVOIR ->    1.0 02:KB-P2          254.24   16.750 No_date   28:01   30.40  n/a     .000
04229>                       out <=    1.0 01:KB-P2R     254.24   13.525 No_date   28:14   30.40  n/a     .000
04230>             overflow <=     1.0 03:KB-P2ovf         .00     .000 No_date    0:00     .00  n/a     .000
04231>       {MxStoUsed=.6552E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04232> R0005:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04233>     ADD HYD               1.0 02:KB-P2R         254.24   13.525 No_date   28:14   30.40  n/a     .000
04234>                       +     1.0 02:KB-P2ovf         .00     .000 No_date    0:00     .00  n/a     .000
04235>                     SUM=    1.0 01:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a     .000
04236> R0005:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04237>     SAVE HYD              1.0 01:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a     .000
04238>       fname :KB-Pond2.0005
04239>       remark:Total Flows at KB second pond
04240> R0005:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04241>     CONTINUOUS STANDHYD   1.0 01:KB-16_1          2.80     .398 No_date   28:01   45.69 .800     .000
04242>       [XIMP=.75:TIMP=.75]
04243>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04244>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04245>       [Impervious   area: IAimp=  .16:SIP1= .30:LGI= 137.:MNI=.013:SCI=   .0]
04246>       [IaRECimp=   4.00: IaRECper=    4.00]
04247> R0005:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04248>     ADD HYD               1.0 02:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a     .000
04249>                       +     1.0 02:KB-16_1          2.80     .398 No_date   28:01   45.69  n/a     .000
04250>                     SUM=    1.0 01:KB-P3          257.04   13.655 No_date   28:13   30.57  n/a     .000
04251> R0005:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04252>     ROUTE RESERVOIR ->    1.0 02:KB-P3          257.04   13.655 No_date   28:13   30.57  n/a     .000
04253>                       out <=    1.0 01:KB-P3R     14.18     .051 No_date   17:43   30.57  n/a     .000
04254>             overflow <=     1.0 03:KB-P3ovf       242.86   13.603 No_date   28:13   30.57  n/a     .000
04255>       {MxStoUsed=.1998E-02  m3, TotOvfVol=.7424E+01  m3, N-Ovf=    2, TotDurOvf=  23.hrs}
04256> R0005:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04257>     ADD HYD               1.0 02:KB-P3R         14.18     .051 No_date   17:43   30.57  n/a     .000
04258>                       +     1.0 02:KB-P3ovf       242.86   13.603 No_date   28:13   30.57  n/a     .000
04259>                     SUM=    1.0 01:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a     .000
04260> R0005:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04261>     SAVE HYD              1.0 01:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a     .000
04262>       fname :KB-Pond3.0005
04263>       remark:Total Flows at KB third pond
04264> #*************************************************************************
04265> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
04266> #    - TO FRASER-CLARKE DRAIN
04267> #*************************************************************************
04268> R0005:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04269>     CONTINUOUS STANDHYD   1.0 01:FC-01            8.03     .865 No_date   28:01   32.39 .567     .000
04270>       [XIMP=.47:TIMP=.47]
04271>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04272>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04273>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 231.:MNI=.013:SCI=   .0]
04274>       [IaRECimp=   4.00: IaRECper=    4.00]
04275> R0005:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04276>     COMPUTE DUALHYD       1.0 01:FC-01            8.03     .865 No_date   28:01   32.39  n/a     .000
04277>       Major System   /      1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04278>       Minor System   \      1.0 03:FC-01-MN       8.03     .756 No_date   27:58   32.40  n/a     .000
04279>         {MjSysSto=.2912E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04280> R0005:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04281>     ADD HYD               1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04282>                       +     1.0 02:FC-01-MN       8.03     .756 No_date   27:58   32.40  n/a     .000
04283>                     SUM=    1.0 01:FC-01-S        8.03     .756 No_date   27:58   32.40  n/a     .000
04284> R0005:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04285>     CONTINUOUS STANDHYD   1.0 01:FC-02           16.05    2.547 No_date   28:01   52.49 .919     .000
04286>       [XIMP=.93:TIMP=.93]
04287>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04288>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04289>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 327.:MNI=.013:SCI=   .0]
04290>       [IaRECimp=   4.00: IaRECper=    4.00]
04291> R0005:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04292>     COMPUTE DUALHYD       1.0 01:FC-02           16.05    2.547 No_date   28:01   52.49  n/a     .000
04293>       Major System   /      1.0 02:FC-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04294>       Minor System   \      1.0 03:FC-02-MN      16.05    1.159 No_date   27:47   52.68  n/a     .000
04295>         {MjSysSto=.1031E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04296> R0005:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04297>     ADD HYD               1.0 02:FC-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04298>                       +     1.0 02:FC-02-MN      16.05    1.159 No_date   27:47   52.68  n/a     .000
04299>                     SUM=    1.0 01:FC-02-S       16.05    1.159 No_date   27:47   52.68  n/a     .000
04300> R0005:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04301>     CONTINUOUS STANDHYD   1.0 01:FC-03            7.37     .956 No_date   28:01   39.82 .697     .000
04302>       [XIMP=.64:TIMP=.64]
04303>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04304>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04305>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
04306>       [IaRECimp=   4.00: IaRECper=    4.00]
04307> R0005:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04308>     COMPUTE DUALHYD       1.0 01:FC-03            7.37     .956 No_date   28:01   39.82  n/a     .000
04309>       Major System   /      1.0 02:FC-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04310>       Minor System   \      1.0 03:FC-03-MN       7.37     .358 No_date   27:45   39.85  n/a     .000
04311>         {MjSysSto=.4806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04312> R0005:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04313>     ADD HYD               1.0 02:FC-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04314>                       +     1.0 02:FC-03-MN       7.37     .358 No_date   27:45   39.85  n/a     .000
04315>                     SUM=    1.0 01:FC-03-S        7.37     .358 No_date   27:45   39.85  n/a     .000
04316> R0005:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04317>     CONTINUOUS STANDHYD   1.0 01:FC-04           12.87    1.600 No_date   28:01   39.82 .697     .000
04318>       [XIMP=.64:TIMP=.64]
04319>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04320>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04321>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
04322>       [IaRECimp=   4.00: IaRECper=    4.00]
04323> R0005:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04324>     COMPUTE DUALHYD       1.0 01:FC-04           12.87    1.600 No_date   28:01   39.82  n/a     .000
04325>       Major System   /      1.0 02:FC-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04326>       Minor System   \      1.0 03:FC-04-MN      12.87    1.741 No_date   27:48   39.85  n/a     .000
04327>         {MjSysSto=.6277E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04328> R0005:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04329>     ADD HYD               1.0 02:FC-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04330>                       +     1.0 02:FC-04-MN      12.87    1.741 No_date   27:48   39.85  n/a     .000
04331>                     SUM=    1.0 01:FC-04-S       12.87    1.741 No_date   27:48   39.85  n/a     .000
04332> #*************************************************************************
04333> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
04334> #    - TO JOCK RIVER
04335> #*************************************************************************
04336> R0005:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04337>     CONTINUOUS STANDHYD   1.0 01:JR-01            8.24    1.064 No_date   28:01   39.82 .697     .000
04338>       [XIMP=.64:TIMP=.64]
04339>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04340>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04341>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
04342>       [IaRECimp=   4.00: IaRECper=    4.00]
04343> R0005:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04344>     COMPUTE DUALHYD       1.0 01:JR-01            8.24    1.064 No_date   28:01   39.82  n/a     .000
04345>       Major System   /      1.0 02:JR-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04346>       Minor System   \      1.0 03:JR-01-MN       8.24    1.563 No_date   28:29   40.05  n/a     .000
04347>         {MjSysSto=.3052E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04348> R0005:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04349>     ADD HYD               1.0 02:JR-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04350>                       +     1.0 02:JR-01-MN       8.24    1.563 No_date   27:50   40.05  n/a     .000
04351>                     SUM=    1.0 01:JR-01-S        8.24    1.563 No_date   27:50   40.05  n/a     .000
04352> R0005:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04353>     CONTINUOUS STANDHYD   1.0 01:JR-02            1.59     .224 No_date   28:00   39.82 .697     .000
04354>       [XIMP=.64:TIMP=.64]
04355>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04356>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04357>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
04358>       [IaRECimp=   4.00: IaRECper=    4.00]
04359> R0005:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04360>     COMPUTE DUALHYD       1.0 01:JR-02            1.59     .224 No_date   28:00   39.82  n/a     .000
04361>       Major System   /      1.0 02:JR-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04362>       Minor System   \      1.0 03:JR-02-MN       1.59     .153 No_date   27:53   40.12  n/a     .000
04363>         {MjSysSto=.2948E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04364> R0005:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04365>     ADD HYD               1.0 02:JR-02-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04366>                       +     1.0 02:JR-02-MN       1.59     .153 No_date   27:53   40.12  n/a     .000
04367>                     SUM=    1.0 01:JR-02-S        1.59     .153 No_date   27:53   40.12  n/a     .000
04368> #*************************************************************************
04369> #    Catchment FRASER
04370> #    - To Fraser-Clarke drain (north of the Jock)
04371> #    - Developed land with assumed 43% imp.
04372> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
04373> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
04374> #*************************************************************************
04375> R0005:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04376>     CONTINUOUS NASHYD     1.0 01:FRASER-DRN      13.65     .345 No_date   28:22   21.69 .380     .000
04377>       [CN= 77.0: N= 3.00: Tp=  .43]
04378>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
04379>       [InterEventTime=  12.00]
04380> R0005:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04381>     CONTINUOUS NASHYD     1.0 01:FRASER-D       21.61     .397 No_date   28:40   21.69 .380     .000
04382>       [CN= 77.0: N= 3.00: Tp=  .67]
04383>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
04384>       [InterEventTime=  12.00]
04385> R0005:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04386>     ADD HYD               1.0 02:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a     .000
04387>                       +     1.0 02:FC-01-S         8.03     .756 No_date   27:58   32.40  n/a     .000
04388>                       +     1.0 02:FRASER-DRN     13.65     .345 No_date   28:22   21.69  n/a     .000
04389>                       +     1.0 02:FRASER-D       21.61     .397 No_date   28:40   21.69  n/a     .000
04390>                       +     1.0 02:KB-NB          54279.33   70.411 No_date   37:42   18.57  n/a     .000
04391>                       +     1.0 02:FC-01-S         8.03     .756 No_date   27:58   32.40  n/a     .000
04392>                       +     1.0 02:FC-02-S        16.05    1.159 No_date   27:47   52.68  n/a     .000
04393>                       +     1.0 02:FC-03-S         7.37     .358 No_date   27:45   39.85  n/a     .000
04394>                     SUM=    1.0 01:4241           54658.44   70.776 No_date   37:42   18.65  n/a     .000
04395> R0005:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04396>     SAVE HYD              1.0 01:4241           54658.44   70.776 No_date   37:42   18.65  n/a     .000
04397>       fname :4241.0005
04398>       remark:Total Flows at Ken-Burnett Outlet
04399> # Hydrograph from Node Ken-Burnett to station 3633
04400> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
04401> #
04402> R0005:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04403>     ROUTE CHANNEL    ->    1.0 02:4241           54658.44   70.776 No_date   37:42   18.65  n/a     .000
04404>                       [LD=  1.00] out<-    1.0 01:4241-out  54658.44   70.705 No_date   36:09   18.65  n/a     .000
04405>                         [L/S/n=  294./ .109/.035]
04406>                         {Vmax= 1.100:Dmax= 1.839}
04407> R0005:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04408>     ADD HYD               1.0 02:4241-out       54658.44   70.705 No_date   36:09   18.65  n/a     .000
04409>                       +     1.0 02:FC-04-S        12.87    1.741 No_date   27:48   39.85  n/a     .000
04410>                       +     1.0 02:JR-01-S         8.24    1.563 No_date   27:50   40.05  n/a     .000
04411>                       +     1.0 02:JR-02-S         1.59     .153 No_date   27:53   40.12  n/a     .000
04412>                     SUM=    1.0 01:SN_KB          54681.13   70.738 No_date   36:08   18.66  n/a     .000
04413> R0005:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04414>     SAVE HYD              1.0 01:SN_KB          54681.13   70.738 No_date   36:08   18.66  n/a     .000
04415>       fname :SN_KB.0005
04416>       remark:HYD_COMMENT=["Total Flows before Station 3633]
04417> # Hydrograph from Station 3633 to Node Todd
04418> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
04419> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
04420> #
04421> R0005:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04422>     ROUTE CHANNEL    ->    1.0 02:SN_KB          54681.13   70.738 No_date   36:08   18.66  n/a     .000
04423>                       [MD=  1.00] out<-    1.0 01:SN_TD     54681.13   70.709 No_date   36:13   18.66  n/a     .000
04424>                         [L/S/n=  608./ .247/.035]
04425>                         {Vmax= 1.453:Dmax= 1.382}
04426> #*************************************************************************
04427> #    Catchment Greenbank
04428> #    - To Greenbank Drain (south of the Jock)
04429> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
04430> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
04431> #*************************************************************************
04432> R0005:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04433>     CONTINUOUS STANDHYD   1.0 01:Greenbank       36.60    3.925 No_date   28:02   42.59 .745     .000
04434>       [XIMP=.64:TIMP=.68]
04435>       [LOSS= 2 :CN= 77.0]
04436>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04437>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
04438>       [IaRECimp=   4.00: IaRECper=    4.00]
04439>       [SMIN= 31.15: SMAX=207.66: SK= .010]
04440> R0005:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04441>     ROUTE RESERVOIR ->    1.0 02:Greenbank       36.60    3.925 No_date   28:02   42.59  n/a     .000
04442>                       out <=    1.0 01:GreenB_MN      36.60     .811 No_date   28:35   42.58  n/a     .000
04443>             overflow <=     1.0 03:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
04444>       {MxStoUsed=.7695E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04445> R0005:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_
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04489>       [XIMP=.52:TIMP=.57]
04490>       [LOSS= 2 :CN= 77.0]
04491>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04492>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
04493>       [IaRECimp=   4.00: IaRECper=   4.00]
04494>       [SMIN= 31.15: SMAX=207.66: SK= .010]
04495> R0005:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04496>     CONTINUOUS STANDHYD    1.0 01:TODD_P          3.06     .385 No_date   28:00   41.58 .728    .000
04497>       [XIMP=.63:TIMP=.63]
04498>       [LOSS= 2 :CN= 77.0]
04499>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04500>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
04501>       [IaRECimp=   4.00: IaRECper=   4.00]
04502>       [SMIN= 31.15: SMAX=207.66: SK= .010]
04503> # 5-Year + 12% Capture
04504> R0005:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04505>     ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23    2.959 No_date   28:02   39.47  n/a     .000
04506> *   [RDT= 1.00] out<-      1.0 01:TODD_MJn       30.23    2.959 No_date   28:02   39.47  n/a     .000
04507>                overflow <=    1.0 03:TODD_MJj        .00     .000 No_date   0:00     .00  n/a     .000
04508>       {MxStoUsed=.8948E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04509> # 5-Year + 12% Capture
04510> R0005:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04511>     ROUTE RESERVOIR ->     1.0 02:TODD_MN2       2.10     .239 No_date   28:00   38.41  n/a     .000
04512>                out <=     1.0 02:TODD_MN2n      2.10     .238 No_date   28:00   38.41  n/a     .000
04513>                overflow <=    1.0 03:TODD_MN2j       .00     .000 No_date   0:00     .00  n/a     .000
04514>       {MxStoUsed=.8965E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04515> R0005:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04516>     ROUTE RESERVOIR ->     1.0 02:TODD_MN3        .12     .014 No_date   28:00   38.39  n/a     .000
04517>                out <=     1.0 01:TODD_MN3n       .12     .014 No_date   28:00   38.39  n/a     .000
04518>                overflow <=    1.0 03:TODD_MN3j       .00     .000 No_date   0:00     .00  n/a     .000
04519>       {MxStoUsed=.8651E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04520> R0005:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04521>     CONTINUOUS STANDHYD    1.0 01:A2             25.50    1.991 No_date   28:03   34.66 .607    .000
04522>       [XIMP=.42:TIMP=.52]
04523>       [LOSS= 2 :CN= 75.0]
04524>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04525>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
04526>       [IaRECimp=   4.00: IaRECper=   4.00]
04527>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04528> R0005:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04529>     COMPUTE DUALHYD        1.0 01:A2             25.50    1.991 No_date   28:03   34.66  n/a     .000
04530>       Major System   /     1.0 02:A2-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04531>       Minor System   \     1.0 03:A2-MN          25.50    1.818 No_date   28:00   34.70  n/a     .000
04532>       {MjSysSto=.5163E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04533> R0005:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04534>     ADD HYD                1.0 02:TODD_MN2n      2.10     .238 No_date   28:00   38.41  n/a     .000
04535>                       +     1.0 02:TODD_MN3n       .12     .014 No_date   28:00   38.39  n/a     .000
04536>                       +     1.0 02:TODD_MJj        .00     .000 No_date   0:00     .00  n/a     .000
04537>                       +     1.0 02:TODD_P         3.06     .385 No_date   28:00   41.58  n/a     .000
04538>                       +     1.0 02:TODD_ALL     112.91    9.069 No_date   28:05   38.19  n/a     .000
04539>                       +     1.0 02:W_CLAR_MJn     1.77     .192 No_date   28:00   37.36  n/a     .000
04540>                SUM=         1.0 01:TODD          119.95    9.538 No_date   28:04   38.27  n/a     .000
04541> R0005:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04542>     SAVE HYD               1.0 01:TODD           119.95    9.538 No_date   28:04   38.27  n/a     .000
04543>       fname :TODD.0005
04544>       remark:Total Flows at Todd Drain
04545> #*************************************************************************
04546> #    Todd Pond 3
04547> #    - Rating curve obtained from Barrhaven South MSS modeling
04548> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
04549> #*************************************************************************
04550> R0005:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04551>     ROUTE RESERVOIR ->     1.0 02:TODD           119.95    9.538 No_date   28:04   38.27  n/a     .000
04552>                out <=     1.0 01:MS_P3          119.95    3.765 No_date   28:29   38.27  n/a     .000
04553>                overflow <=    1.0 03:P3-OVF          .00     .000 No_date   0:00     .00  n/a     .000
04554>       {MxStoUsed=.2351E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04555> R0005:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04556>     ADD HYD                1.0 02:GreenB       54717.73   70.826 No_date   36:13   18.67  n/a     .000
04557>                       +     1.0 02:MS_P3          119.95    3.765 No_date   28:29   38.27  n/a     .000
04558>                       +     1.0 02:P3-OVF          .00     .000 No_date   0:00     .00  n/a     .000
04559>                       +     1.0 02:TODD_MN2j       .00     .000 No_date   0:00     .00  n/a     .000
04560>                       +     1.0 02:A2-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04561>                SUM=         1.0 01:SN_TO        54837.69   71.097 No_date   36:12   18.71  n/a     .000
04562> R0005:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04563>     SAVE HYD               1.0 01:SN_TO          54837.69   71.097 No_date   36:12   18.71  n/a     .000
04564>       fname :SN_TO.0005
04565>       remark:Total Flows at Todd Drain
04566> #
04567> # Hydrograph from Todd Drain routed to Corrigan Drain
04568> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
04569> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
04570> R0005:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04571>     ROUTE CHANNEL          1.0 02:SN_TO          54837.69   71.097 No_date   36:12   18.71  n/a     .000
04572> *   [RDT= 1.00] out<-      1.0 01:N_TO           54837.69   70.986 No_date   36:25   18.71  n/a     .000
04573>       [L/S/n=  280./ .050/.045]
04574>       [Vmax=   830:Dmax= 2.582]
04575> R0005:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04576>     SAVE HYD               1.0 01:N_TO           54837.69   70.986 No_date   36:25   18.71  n/a     .000
04577>       fname :N_TO.0005
04578>       remark:Total inflows at Station 2462
04579> #*************************************************************************
04580> #    Catchment - CORRIG
04581> #    - To Corrigan Drain (south of the Jock)
04582> #    - Primarily Developed (medium density)
04583> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
04584> #*************************************************************************
04585> R0005:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04586>     CONTINUOUS STANDHYD    1.0 01:corr1          15.87    1.806 No_date   28:01   41.58 .728    .000
04587>       [XIMP=.63:TIMP=.63]
04588>       [LOSS= 2 :CN= 77.0]
04589>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04590>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
04591>       [IaRECimp=   4.00: IaRECper=   4.00]
04592>       [SMIN= 31.15: SMAX=207.66: SK= .010]
04593> R0005:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04594>     COMPUTE DUALHYD        1.0 01:corr1          15.87    1.806 No_date   28:01   41.58  n/a     .000
04595>       Major System   /     1.0 02:corr1-MJ        .00     .000 No_date   0:00     .00  n/a     .000
04596>       Minor System   \     1.0 03:corr1-MN       15.87    1.806 No_date   28:01   41.58  n/a     .000
04597>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04598> R0005:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04599>     CONTINUOUS NASHYD      1.0 01:corr2          12.47     .161 No_date   29:11   21.69 .380    .000
04600>       [CN= 77.0: N= 3.00: Tp= 1.10]
04601>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
04602>       [InterEventTime=  12.00]
04603> R0005:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04604>     CONTINUOUS STANDHYD    1.0 01:A1-Corrig      15.75    1.357 No_date   28:02   34.66 .607    .000
04605>       [XIMP=.42:TIMP=.52]
04606>       [LOSS= 2 :CN= 75.0]
04607>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04608>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
04609>       [IaRECimp=   4.00: IaRECper=   4.00]
04610>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04611> R0005:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04612>     COMPUTE DUALHYD        1.0 01:A1-Corrig      15.75    1.357 No_date   28:02   34.66  n/a     .000
04613>       Major System   /     1.0 02:A1-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04614>       Minor System   \     1.0 03:A1-MN          15.75    1.357 No_date   28:02   34.66  n/a     .000
04615>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04616> R0005:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04617>     CONTINUOUS NASHYD      1.0 01:B1              2.77     .055 No_date   28:09   13.56 .237    .000
04618>       [CN= 56.0: N= 3.00: Tp=  .23]
04619>       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
04620>       [InterEventTime=  12.00]
04621> R0005:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04622>     CONTINUOUS STANDHYD    1.0 01:A4             1.27     .153 No_date   28:00   42.00 .735    .000
04623>       [XIMP=.65:TIMP=.65]
04624>       [LOSS= 2 :CN= 75.0]
04625>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04626>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
04627>       [IaRECimp=   4.00: IaRECper=   4.00]
04628>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04629> R0005:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04630>     COMPUTE DUALHYD        1.0 01:A4             1.27     .153 No_date   28:00   42.00  n/a     .000
04631>       Major System   /     1.0 02:A4-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04632>       Minor System   \     1.0 03:A4-MN          1.27     .153 No_date   28:00   42.00  n/a     .000
04633>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04634> R0005:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04635>     ADD HYD                1.0 02:A1-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04636>                       +     1.0 02:A1-MN          15.75    1.357 No_date   28:02   34.66  n/a     .000
04637>                       +     1.0 02:corr1-MJ        .00     .000 No_date   0:00     .00  n/a     .000
04638>                       +     1.0 02:corr1-MN       15.87    1.806 No_date   28:01   41.58  n/a     .000
04639>                       +     1.0 02:corr2          12.47     .161 No_date   29:11   21.69  n/a     .000
04640>                       +     1.0 02:B1              2.77     .055 No_date   28:09   13.56  n/a     .000
04641>                       +     1.0 02:A4-MN           1.27     .153 No_date   28:00   42.00  n/a     .000
04642>                SUM=         1.0 01:MH101          48.13    3.389 No_date   28:01   32.56  n/a     .000
04643> R0005:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04644>     SAVE HYD               1.0 01:MH101          48.13    3.389 No_date   28:01   32.56  n/a     .000
04645>       fname :MH101.0005
04646>       remark:Total Flows at MH101
04647> R0005:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04648>     ROUTE PIPE             1.0 02:MH101          48.13    3.389 No_date   28:01   32.56  n/a     .000
04649> *   [RDT= 1.00] out<-      1.0 01:101-102        48.13    3.277 No_date   28:03   32.56  n/a     .000
04650>       [L/S/n=  368./ .540/.013]
04651>       [Vmax=  3.610:Dmax= 1.049]
04652>       [Din= 1.05:Dused= 1.28]
04653> R0005:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04654>     ADD HYD                1.0 02:A2-MN          25.50    1.818 No_date   28:00   34.70  n/a     .000
04655>                       +     1.0 02:101-102        48.13    3.277 No_date   28:03   32.56  n/a     .000
04656>                SUM=         1.0 01:MH102          73.63    5.095 No_date   28:03   33.30  n/a     .000
04657> R0005:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04658>     SAVE HYD               1.0 01:MH102          73.63    5.095 No_date   28:03   33.30  n/a     .000
04659>       fname :MH102.0005
04660>       remark:Total Flows at MH102
04661> R0005:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04662>     CONTINUOUS STANDHYD    1.0 01:A5             1.60     .202 No_date   28:01   44.32 .776    .000
04663>       [XIMP=.71:TIMP=.71]
04664>       [LOSS= 2 :CN= 75.0]
04665>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04666>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
04667>       [IaRECimp=   4.00: IaRECper=   4.00]
04668>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04669> R0005:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04670>     ADD HYD                1.0 02:A4-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04671>                       +     1.0 02:A5             1.60     .202 No_date   28:01   44.32  n/a     .000
04672>                SUM=         1.0 01:A5T            1.60     .202 No_date   28:01   44.32  n/a     .000
04673> R0005:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04674>     COMPUTE DUALHYD        1.0 01:A5T            1.60     .202 No_date   28:01   44.32  n/a     .000
04675>       Major System   /     1.0 02:A5-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04676>       Minor System   \     1.0 03:A5-MN          1.60     .202 No_date   28:01   44.32  n/a     .000
04677>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04678> R0005:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04679>     ROUTE PIPE             1.0 02:MH102          73.63    5.095 No_date   28:03   33.30  n/a     .000
04680> *   [RDT= 1.00] out<-      1.0 01:102-103        73.63    4.821 No_date   28:05   33.30  n/a     .000
04681>       [L/S/n=  504./ .280/.013]
04682>       [Vmax= 2.606:Dmax= 1.382]
04683>       [Din= 1.50:Dused= 1.68]
04684> R0005:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04685>     ADD HYD                1.0 02:102-103        73.63    4.821 No_date   28:05   33.30  n/a     .000
04686>                       +     1.0 02:A5-MN          1.60     .202 No_date   28:01   44.32  n/a     .000
04687>                SUM=         1.0 01:MH103          75.23    4.991 No_date   28:04   33.53  n/a     .000
04688> R0005:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04689>     SAVE HYD               1.0 01:MH103          75.23    4.991 No_date   28:04   33.53  n/a     .000
04690>       fname :MH103.0005
04691>       remark:Total Flows at MH103
04692> R0005:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04693>     ROUTE PIPE             1.0 02:MH103          75.23    4.991 No_date   28:04   33.53  n/a     .000
04694> *   [RDT= 1.00] out<-      1.0 01:103-104        75.23    4.875 No_date   28:06   33.53  n/a     .000
04695>       [L/S/n=  438./ .460/.013]
04696>       [Vmax= 3.219:Dmax= 1.124]
04697>       [Din= 1.65:Dused= 1.65]
04698> R0005:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04699>     CONTINUOUS STANDHYD    1.0 01:A6             1.56     .200 No_date   28:01   44.32 .776    .000
04700>       [XIMP=.71:TIMP=.71]
04701>       [LOSS= 2 :CN= 75.0]
04702>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04703>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
04704>       [IaRECimp=   4.00: IaRECper=   4.00]
04705>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04706> R0005:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04707>     ADD HYD                1.0 02:A5-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04708>                       +     1.0 02:A6             1.56     .200 No_date   28:01   44.32  n/a     .000
04709>                SUM=         1.0 01:A6T            1.56     .200 No_date   28:01   44.32  n/a     .000
04710> R0005:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04711>     COMPUTE DUALHYD        1.0 01:A6T            1.56     .200 No_date   28:01   44.32  n/a     .000
04712>       Major System   /     1.0 02:A6-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04713>       Minor System   \     1.0 03:A6-MN          1.56     .200 No_date   28:01   44.32  n/a     .000
04714>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04715> R0005:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04716>     ADD HYD                1.0 02:A6-MN          1.56     .200 No_date   28:01   44.32  n/a     .000
04717>                       +     1.0 02:103-104        75.23    4.875 No_date   28:06   33.53  n/a     .000
04718>                       +     1.0 02:TODD_MJn       30.23    2.959 No_date   28:02   39.47  n/a     .000
04719>                SUM=         1.0 01:MH104         107.02    7.823 No_date   28:04   35.37  n/a     .000
04720> R0005:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04721>     SAVE HYD               1.0 01:MH104         107.02    7.823 No_date   28:04   35.37  n/a     .000
04722>       fname :MH104.0005
04723>       remark:Total Flows at MH104
04724> R0005:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04725>     CONTINUOUS STANDHYD    1.0 01:B2             12.31    1.023 No_date   28:02   34.82 .610    .000
04726>       [XIMP=.41:TIMP=.54]
04727>       [LOSS= 2 :CN= 75.0]
04728>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04729>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
04730>       [IaRECimp=   4.00: IaRECper=   4.00]
04731>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04732> R0005:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04733>     COMPUTE DUALHYD        1.0 01:B2             12.31    1.023 No_date   28:02   34.82  n/a     .000
04734>       Major System   /     1.0 02:B2-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04735>       Minor System   \     1.0 03:B2-MN          12.31    1.023 No_date   28:02   34.82  n/a     .000
04736>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04737> R0005:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04738>     ROUTE PIPE             1.0 02:B2-MN          12.31    1.023 No_date   28:02   34.82  n/a     .000
04739>   [RDT= 1.00] out<-        1.0 01:315-333        12.31     .941 No_date   28:04   34.82  n/a     .000
04740>       [L/S/n=  254./ .100/.013]
04741>       [Vmax= 1.219:Dmax=  .824]
04742>       [Din= 1.20:Dused= 1.20]
04743> R0005:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04744>     CONTINUOUS STANDHYD    1.0 01:B3              5.59     .477 No_date   28:02   34.82 .610    .000
04745>       [XIMP=.41:TIMP=.54]
04746>       [LOSS= 2 :CN= 75.0]
04747>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04748>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
04749>       [IaRECimp=   4.00: IaRECper=   4.00]
04750>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04751> R0005:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04752>     COMPUTE DUALHYD        1.0 01:B3              5.59     .477 No_date   28:02   34.82  n/a     .000
04753>       Major System   /     1.0 02:B3-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04754>       Minor System   \     1.0 03:B3-MN          5.59     .459 No_date   28:00   34.87  n/a     .000
04755>       {MjSysSto=.3219E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04756> R0005:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04757>     ADD HYD                1.0 02:B3-MN          5.59     .459 No_date   28:00   34.87  n/a     .000
04758>                       +     1.0 02:315-333        12.31     .941 No_date   28:04   34.82  n/a     .000
04759>                SUM=         1.0 01:MH333          17.90    1.400 No_date   28:04   34.84  n/a     .000
04760> R0005:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04761>     SAVE HYD               1.0 01:MH333          17.90    1.400 No_date   28:04   34.84  n/a     .000
04762>       fname :MH333.0005
04763>       remark:Total Flows at MH333
04764> R0005:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04765>     ROUTE PIPE             1.0 02:MH333          17.90    1.400 No_date   28:04   34.84  n/a     .000
04766> *   [RDT= 1.00] out<-      1.0 01:333-335        17.90    1.320 No_date   28:06   34.84  n/a     .000
04767>       [L/S/n=  251./ .100/.013]
04768>       [Vmax= 1.282:Dmax= 1.033]
04769>       [Din= 1.20:Dused= 1.26]
04770> R0005:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04771>     ROUTE PIPE             1.0 02:333-335        17.90    1.320 No_date   28:06   34.84  n/a     .000
04772> *   [RDT= 1.00] out<-      1.0 01:335-338        17.90    1.265 No_date   28:06   34.84  n/a     .000
04773>       [L/S/n=  185./ .100/.013]
04774>       [Vmax= 1.264:Dmax= 1.010]
04775>       [Din= 1.20:Dused= 1.23]
04776> R0005:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04777>     ROUTE PIPE             1.0 02:335-338        17.90    1.265 No_date   28:06   34.84  n/a     .000
04778>   [RDT= 1.00] out<-        1.0 01:338-340        17.90    1.183 No_date   28:06   34.84  n/a     .000
04779>       [L/S/n=  233./ .100/.013]
04780>       [Vmax= 1.294:Dmax=  .872]
04781>       [Din= 1.35:Dused= 1.35]
04782> R0005:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04783>     CONTINUOUS STANDHYD    1.0 01:B4              7.60     .638 No_date   28:02   34.82 .610    .000
04784>       [XIMP=.41:TIMP=.54]
04785>       [LOSS= 2 :CN= 75.0]
04786>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04787>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
04788>       [IaRECimp=   4.00: IaRECper=   4.00]
04789>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04790> R0005:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04791>     COMPUTE DUALHYD        1.0 01:B4              7.60     .638 No_date   28:02   34.82  n/a     .000
04792>       Major System   /     1.0 02:B4-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04793>       Minor System   \     1.0 03:B4-MN          7.60     .638 No_date   28:02   34.82  n/a     .000
04794>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04795> R0005:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04796>     ADD HYD                1.0 02:338-340        17.90    1.183 No_date   28:06   34.84  n/a     .000
04797>                       +     1.0 02:B4-MN           7.60     .638 No_date   28:02   34.82  n/a     .000
04798>                SUM=         1.0 01:MH340          25.50    1.761 No_date   28:05   34.83  n/a     .000
04799> R0005:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04800>     SAVE HYD               1.0 01:MH340          25.50    1.761 No_date   28:05   34.83  n/a     .000
04801>       fname :MH340.0005
04802>       remark:Total Flows at MH340
04803> R0005:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04804>     ROUTE PIPE             1.0 02:MH340          25.50    1.761 No_date   28:05   34.83  n/a     .000
04805>   [RDT= 1.00] out<-        1.0 01:340-104        25.50    1.698 No_date   28:06   34.83  n/a     .000
04806>       [L/S/n=  240./ .150/.013]
04807>       [Vmax= 1.648:Dmax=  .823]
04808>       [Din= 1.65:Dused= 1.65]
04809> R0005:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04810>     ADD HYD                1.0 02:340-104        25.50    1.698 No_date   28:06   34.83  n/a     .000
04811>                       +     1.0 02:MH104         107.02    7.823 No_date   28:04   35.37  n/a     .000
04812>                SUM=         1.0 01:MH104T        132.52    9.463 No_date   28:04   35.27  n/a     .000
04813> R0005:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04814>     ROUTE PIPE             1.0 02:MH104T         132.52    9.463 No_date   28:04   35.27  n/a     .000
04815> *   [RDT= 1.00] out<-      1.0 01:104-105        132.52    8.848 No_date   28:06   35.27  n/a     .000
04816>       [L/S/n=  380./ .100/.013]
04817>       [Vmax= 2.012:Dmax= 1.868]
04818>       [HGT= 2.20:WDTH= 2.52]
04819> R0005:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04820>     CONTINUOUS STANDHYD    1.0 01:B5              2.20     .248 No_date   28:00   38.90 .681    .000
04821>       [XIMP=.57:TIMP=.57]
04822>       [LOSS= 2 :CN= 75.0]
04823>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04824>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
04825>       [IaRECimp=   4.00: IaRECper=   4.00]
04826>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04827> R0005:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04828>     COMPUTE DUALHYD        1.0 01:B5              2.20     .248 No_date   28:00   38.90  n/a     .000
04829>       Major System   /     1.0 02:B5-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04830>       Minor System   \     1.0 03:B5-MN          2.20     .248 No_date   28:00   38.90  n/a     .000
04831>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04832> R0005:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04833>     CONTINUOUS STANDHYD    1.0 01:A8             .96     .130 No_date   28:00   44.32 .776    .000
04834>       [XIMP=.71:TIMP=.71]
04835>       [LOSS= 2 :CN= 75.0]
04836>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04837>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
04838>       [IaRECimp=   4.00: IaRECper=   4.00]
04839>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04840> R0005:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04841>     ADD HYD                1.0 02:A6-MJ           .00     .000 No_date   0:00     .00  n/a     .000
04842>                       +     1.0 02:A8             .96     .130 No_date   28:00   44.32  n/a     .000
04843>                SUM=         1.0 01:A8T            .96     .130 No_date   28:00   44.32  n/a     .000
04844> R0005:C00339-----------DTmin-ID:NHYD---------AREAha-QPE
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04863> R0005:C00343-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04864>      DIVERT HYD       ->     1.0 01:MH105        135.68    9.064 No_date   28:05   35.39  n/a     .000
04865>                     diverted <=    1.0 02:MH105-JR      25.07    6.058 No_date   28:05   35.39  n/a     .000
04866>                     diverted <=    1.0 03:MH105-B6     110.61    3.006 No_date   28:05   35.39  n/a     .000
04867> R0005:C00344-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04868>      CONTINUOUS STANDHYD    1.0 01:B7           7.19     .661 No_date   28:01   34.82 .610     .000
04869>        [XIMP=.41:TIMP=.54]
04870>        [LOSS= 2 :CN= 75.0]
04871>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04872>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
04873>        [IaRECimp=   4.00: IaRECper=   4.00]
04874>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04875> R0005:C00345-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04876>      ADD HYD                1.0 02:B4-MJ          .00      .000 No_date    0:00     .00  n/a     .000
04877>                       +     1.0 01:B7           7.19     .661 No_date   28:01   34.82  n/a     .000
04878>                     SUM=    1.0 01:B7-B4MJ      7.19     .661 No_date   28:01   34.82  n/a     .000
04879> R0005:C00346-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04880>      COMPUTE DUALHYD        1.0 01:B7-B4MJ      7.19     .661 No_date   28:01   34.82  n/a     .000
04881>        Major System   /     1.0 02:B7R-MJ         .00      .000 No_date    0:00     .00  n/a     .000
04882>        Minor System   \     1.0 03:B7R-MN        7.19     .629 No_date   27:59   34.89  n/a     .000
04883>        {MjSysSto=.5005E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04884> R0005:C00347-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04885>      ROUTE PIPE       ->     1.0 02:B7R-MN        7.19     .629 No_date   27:59   34.89  n/a     .000
04886>        [RDT= 1.00] out<-     1.0 01:360-106A      7.19     .615 No_date   28:05   34.89  n/a     .000
04887>        [L/S/n=  167./ .100/.013]
04888>        {Vmax= 1.089:Dmax=  .665}
04889>        [Din= 1.05:Dused= 1.05]
04890> R0005:C00348-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04891>      CONTINUOUS STANDHYD    1.0 01:B6           3.29     .315 No_date   28:00   34.82 .610     .000
04892>        [XIMP=.41:TIMP=.54]
04893>        [LOSS= 2 :CN= 75.0]
04894>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04895>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
04896>        [IaRECimp=   4.00: IaRECper=   4.00]
04897>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04898> R0005:C00349-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04899>      COMPUTE DUALHYD        1.0 01:B6           3.29     .315 No_date   28:00   34.82  n/a     .000
04900>        Major System   /     1.0 02:B6-MJ          .00      .000 No_date    0:00     .00  n/a     .000
04901>        Minor System   \     1.0 03:B6-MN         3.29     .064 No_date   27:39   34.87  n/a     .000
04902>        {MjSysSto=.2841E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04903> R0005:C00350-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04904>      CONTINUOUS STANDHYD    1.0 01:EX-LAND      32.50    2.843 No_date   28:02   35.73 .626     .000
04905>        [XIMP=.50:TIMP=.50]
04906>        [LOSS= 2 :CN= 74.0]
04907>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04908>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
04909>        [IaRECimp=   4.00: IaRECper=   4.00]
04910>        [SMIN= 36.67: SMAX=244.49: SK= .010]
04911> R0005:C00351-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04912>      COMPUTE DUALHYD        1.0 01:EX-LAND      32.50    2.843 No_date   28:02   35.73  n/a     .000
04913>        Major System   /     1.0 02:EX-LAND-MJ     .00      .000 No_date    0:00     .00  n/a     .000
04914>        Minor System   \     1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:57   35.73  n/a     .000
04915>        {MjSysSto=.2310E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04916> R0005:C00352-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04917>      ADD HYD                1.0 02:B7R-MJ         .00      .000 No_date    0:00     .00  n/a     .000
04918>                       +     1.0 02:EX-LAND-MJ     .00      .000 No_date    0:00     .00  n/a     .000
04919>                       +     1.0 02:B5-MJ          .00      .000 No_date    0:00     .00  n/a     .000
04920>                       +     1.0 02:B6-MJ          .00      .000 No_date    0:00     .00  n/a     .000
04921>                       +     1.0 02:B6-MN         3.29     .064 No_date   27:39   34.87  n/a     .000
04922>                       +     1.0 02:A8-MJ-B6       .00      .000 No_date    0:00     .00  n/a     .000
04923>                     SUM=    1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:39   34.87  n/a     .000
04924> R0005:C00353-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04925>      COMPUTE DUALHYD        1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:39   34.87  n/a     .000
04926>        Major System   /     1.0 02:B6R-MJ         .00      .000 No_date    0:00     .00  n/a     .000
04927>        Minor System   \     1.0 03:B6R-MN        3.29     .064 No_date   27:39   34.87  n/a     .000
04928>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04929> R0005:C00354-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04930>      ROUTE PIPE       ->     1.0 02:MH105-B6     110.61    3.006 No_date   28:05   35.39  n/a     .000
04931>        [RDT= 1.00] out<-     1.0 01:105-106A     110.61    3.005 No_date   28:08   35.39  n/a     .000
04932>        [L/S/n=  208./ .100/.013]
04933>        {Vmax= 1.597:Dmax= 1.248}
04934>        [Din= 1.80:Dused= 1.80]
04935> R0005:C00355-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04936>      ADD HYD                1.0 02:360-106A      7.19     .615 No_date   28:05   34.89  n/a     .000
04937>                       +     1.0 02:105-106A     110.61    3.005 No_date   28:08   35.39  n/a     .000
04938>                       +     1.0 02:B6R-MN        3.29     .064 No_date   27:39   34.87  n/a     .000
04939>                       +     1.0 02:B6R-MJ         .00      .000 No_date    0:00     .00  n/a     .000
04940>                     SUM=    1.0 01:MH106A       121.09    3.682 No_date   28:05   35.35  n/a     .000
04941> R0005:C00356-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04942>      SAVE HYD               1.0 01:MH106A       121.09    3.682 No_date   28:05   35.35  n/a     .000
04943>        fname :MH106A.0005
04944>        remark:Total Flows at MH106A
04945> R0005:C00357-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04946>      ROUTE PIPE       ->     1.0 02:MH106A       121.09    3.682 No_date   28:05   35.35  n/a     .000
04947> *    [RDT= 1.00] out<-     1.0 01:106A-106     121.09    3.651 No_date   28:05   35.35  n/a     .000
04948>        [L/S/n=  190./ .100/.013]
04949>        {Vmax= 1.633:Dmax= 1.484}
04950>        [Din= 1.80:Dused= 1.81]
04951> R0005:C00358-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04952>      CONTINUOUS STANDHYD    1.0 01:A9           2.44     .316 No_date   28:00   44.32 .776     .000
04953>        [XIMP=.71:TIMP=.71]
04954>        [LOSS= 2 :CN= 75.0]
04955>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04956>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
04957>        [IaRECimp=   4.00: IaRECper=   4.00]
04958>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04959> R0005:C00359-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04960>      COMPUTE DUALHYD        1.0 01:A9           2.44     .316 No_date   28:00   44.32  n/a     .000
04961>        Major System   /     1.0 02:A9-MJ          .00      .000 No_date    0:00     .00  n/a     .000
04962>        Minor System   \     1.0 03:A9-MN         2.44     .316 No_date   28:00   44.32  n/a     .000
04963> R0005:C00360-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04964>      ADD HYD                1.0 02:106A-106     121.09    3.651 No_date   28:05   35.35  n/a     .000
04965>                       +     1.0 02:A9-MN         2.44     .316 No_date   28:00   44.32  n/a     .000
04966>                     SUM=    1.0 01:MH106        123.53    3.896 No_date   28:03   35.52  n/a     .000
04967> R0005:C00361-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04968>      SAVE HYD               1.0 01:MH106        123.53    3.896 No_date   28:03   35.52  n/a     .000
04969>        fname :MH106.0005
04970>        remark:Total Flows at MH106
04971> R0005:C00362-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04972>      ROUTE PIPE       ->     1.0 02:MH106        123.53    3.896 No_date   28:03   35.52  n/a     .000
04973> *    [RDT= 1.00] out<-     1.0 01:106-107      123.53    3.814 No_date   28:07   35.52  n/a     .000
04974>        [L/S/n=  123./ .100/.013]
04975>        {Vmax= 1.656:Dmax= 1.516}
04976>        [Din= 1.80:Dused= 1.85}
04977> R0005:C00363-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04978>      CONTINUOUS STANDHYD    1.0 01:A10          4.14     .345 No_date   28:01   32.29 .565     .000
04979>        [XIMP=.35:TIMP=.47]
04980>        [LOSS= 2 :CN= 75.0]
04981>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04982>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
04983>        [IaRECimp=   4.00: IaRECper=   4.00]
04984>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04985> R0005:C00364-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04986>      COMPUTE DUALHYD        1.0 01:A10          4.14     .345 No_date   28:01   32.29  n/a     .000
04987>        Major System   /     1.0 02:A10-MJ         .00      .000 No_date    0:00     .00  n/a     .000
04988>        Minor System   \     1.0 03:A10-MN        4.14     .310 No_date   27:58   32.34  n/a     .000
04989>        {MjSysSto=.7677E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04990> R0005:C00365-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04991>      CONTINUOUS STANDHYD    1.0 01:A11         10.61    1.053 No_date   28:02   38.79 .679     .000
04992>        [XIMP=.53:TIMP=.62]
04993>        [LOSS= 2 :CN= 75.0]
04994>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04995>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
04996>        [IaRECimp=   4.00: IaRECper=   4.00]
04997>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04998> R0005:C00366-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04999>      COMPUTE DUALHYD       10.61    1.053 No_date   28:02   38.79  n/a     .000
05000>        Major System   /     1.0 02:A11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05001>        Minor System   \     1.0 03:A11-MN        10.61     .993 No_date   28:00   38.82  n/a     .000
05002>        {MjSysSto=.1280E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05003> R0005:C00367-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05004>      ADD HYD                1.0 02:106-107      123.53    3.814 No_date   28:07   35.52  n/a     .000
05005>                       +     1.0 02:A10-MN        4.14     .310 No_date   27:58   32.34  n/a     .000
05006>                       +     1.0 02:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
05007>                     SUM=    1.0 01:MH107        138.28    5.112 No_date   28:06   35.68  n/a     .000
05008> R0005:C00368-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05009>      SAVE HYD               1.0 01:MH107        138.28    5.112 No_date   28:06   35.68  n/a     .000
05010>        fname :MH107.0005
05011>        remark:Total Flows at MH107
05012> R0005:C00369-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05013>      ROUTE PIPE       ->     1.0 02:MH107        138.28    5.112 No_date   28:06   35.68  n/a     .000
05014> *    [RDT= 1.00] out<-     1.0 01:107-119      138.28    5.061 No_date   28:07   35.68  n/a     .000
05015>        [L/S/n=  114./ .120/.013]
05016>        {Vmax= 1.898:Dmax= 1.622}
05017>        [Din= 1.80:Dused= 1.98}
05018> R0005:C00370-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05019>      ROUTE PIPE       ->     1.0 02:107-119      138.28    5.061 No_date   28:07   35.68  n/a     .000
05020> *    [RDT= 1.00] out<-     1.0 01:119-108      138.28    5.009 No_date   28:07   35.68  n/a     .000
05021>        [L/S/n=   66./ .120/.013]
05022>        {Vmax= 1.893:Dmax= 1.616}
05023>        [Din= 1.80:Dused= 1.97}
05024> R0005:C00371-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05025>      CONTINUOUS STANDHYD    1.0 01:A12          12.29    1.145 No_date   28:00   34.82 .610     .000
05026>        [XIMP=.41:TIMP=.54]
05027>        [LOSS= 2 :CN= 75.0]
05028>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05029>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05030>        [IaRECimp=   4.00: IaRECper=   4.00]
05031>        [SMIN= 33.81: SMAX=225.43: SK= .010]
05032> R0005:C00372-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05033>      COMPUTE DUALHYD        1.0 01:A12          12.29    1.145 No_date   28:00   34.82  n/a     .000
05034>        Major System   /     1.0 02:A12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05035>        Minor System   \     1.0 03:A12-MN        12.29    1.029 No_date   27:57   34.93  n/a     .000
05036>        {MjSysSto=.2567E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05037> R0005:C00373-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05038>      CONTINUOUS STANDHYD    1.0 01:A13          2.59     .312 No_date   28:01   44.32 .776     .000
05039>        [XIMP=.71:TIMP=.71]
05040>        [LOSS= 2 :CN= 75.0]
05041>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05042>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05043>        [IaRECimp=   4.00: IaRECper=   4.00]
05044>        [SMIN= 33.81: SMAX=225.43: SK= .010]
05045> R0005:C00374-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05046>      COMPUTE DUALHYD        1.0 01:A13          2.59     .312 No_date   28:01   44.32  n/a     .000
05047>        Major System   /     1.0 02:A13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05048>        Minor System   \     1.0 03:A13-MN        2.59     .312 No_date   28:01   44.32  n/a     .000
05049> R0005:C00375-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms

05050>      CONTINUOUS STANDHYD    1.0 01:Pond-Block    2.94     .261 No_date   28:00   32.90 .576     .000
05051>        [XIMP=.41:TIMP=.41]
05052>        [LOSS= 2 :CN= 75.0]
05053>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05054>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05055>        [IaRECimp=   4.00: IaRECper=   4.00]
05056>        [SMIN= 33.81: SMAX=225.43: SK= .010]
05057> R0005:C00376-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05058>      ADD HYD                1.0 02:119-108      138.28    5.009 No_date   28:07   35.68  n/a     .000
05059>                       +     1.0 02:A13-MN        2.59     .312 No_date   28:01   44.32  n/a     .000
05060>                       +     1.0 02:A12-MN       12.29    1.029 No_date   27:57   34.93  n/a     .000
05061>                     SUM=    1.0 01:MH108        153.16    6.257 No_date   28:01   35.77  n/a     .000
05062> R0005:C00377-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05063>      SAVE HYD               1.0 01:MH108        153.16    6.257 No_date   28:01   35.77  n/a     .000
05064>        fname :MH108.0005
05065>        remark:Total Flows at MH108
05066> R0005:C00378-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05067>      ROUTE PIPE       ->     1.0 02:MH108        153.16    6.257 No_date   28:01   35.77  n/a     .000
05068> *    [RDT= 1.00] out<-     1.0 01:108-116      153.16    6.250 No_date   28:02   35.77  n/a     .000
05069>        [L/S/n=   77./ .130/.013]
05070>        {Vmax= 2.057:Dmax= 1.724}
05071>        [Din= 1.80:Dused= 2.10}
05072> R0005:C00379-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05073>      ROUTE PIPE       ->     1.0 02:108-116      153.16    6.250 No_date   28:02   35.77  n/a     .000
05074> *    [RDT= 1.00] out<-     1.0 01:116-corrig   153.16    6.248 No_date   28:07   35.77  n/a     .000
05075>        [L/S/n=  80./ .130/.013]
05076>        {Vmax= 2.057:Dmax= 1.723}
05077>        [Din= 1.80:Dused= 2.10}
05078> R0005:C00380-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05079>      ADD HYD                1.0 02:116-corrig   153.16    6.248 No_date   28:07   35.77  n/a     .000
05080>                       +     1.0 02:Pond-Block    2.94     .261 No_date   28:00   32.90  n/a     .000
05081>                     SUM=    1.0 01:Corrigan     156.10    6.442 No_date   28:02   35.71  n/a     .000
05082> R0005:C00381-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05083>      SAVE HYD               1.0 01:Corrigan     156.10    6.442 No_date   28:02   35.71  n/a     .000
05084>        fname :Corrigan.0005
05085>        remark:HYD_COMMENT=TTotal Flows at Corrigan Pond]
05086> R0005:C00382-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05087>      ROUTE RESERVOIR ->     1.0 02:Corrigan     156.10    6.442 No_date   28:02   35.71  n/a     .000
05088>                     out <=    1.0 01:Co-P       156.10    5.462 No_date   28:10   35.71  n/a     .000
05089>                overflow <=    1.0 03:Co-P-OVF      .00      .000 No_date    0:00     .00  n/a     .000
05090>        {MxStoUsed=.9809E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05091> R0005:C00383-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05092>      ADD HYD                1.0 02:Co-P-OVF       .00      .000 No_date    0:00     .00  n/a     .000
05093>                       +     1.0 02:Co-P         156.10    5.462 No_date   28:10   35.71  n/a     .000
05094>                       +     1.0 02:IN_TO      54837.69   70.986 No_date   36:25   18.71  n/a     .000
05095>                       +     1.0 02:MH105-JR     25.07    6.058 No_date   28:05   35.39  n/a     .000
05096>                       +     1.0 02:A8-MJ-JR       .00      .000 No_date    0:00     .00  n/a     .000
05097>                       +     1.0 02:A9-MJ          .00      .000 No_date    0:00     .00  n/a     .000
05098>                       +     1.0 02:A10-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05099>                       +     1.0 02:A11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05100>                       +     1.0 02:A12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05101>                       +     1.0 02:A13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
05102>                     SUM=    1.0 01:corrig     55018.86   71.381 No_date   36:24   18.77  n/a     .000
05103> R0005:C00384-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05104>      SAVE HYD               1.0 01:corrig     55018.86   71.381 No_date   36:24   18.77  n/a     .000
05105>        fname :corrig.0005
05106>        remark:Total Flows at Corrigan Pond
05107> #*************************************************************************
05108> #    Corrigan Pond 1
05109> #    - Rating curve obtained from Barrhaven South MSS modeling
05110> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
05111> #*************************************************************************
05112> #
05113> # Hydrograph from Corrigan Drain routed to Jockvale Road
05114> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
05115> #
05116> R0005:C00385-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05117>      ROUTE CHANNEL    ->     1.0 02:corrig     55018.86   71.381 No_date   36:24   18.77  n/a     .000
05118>        [RDT= 1.00] out<-     1.0 01:N_MI       55018.86   71.374 No_date   36:27   18.77  n/a     .000
05119>        [L/S/n=  580./ .445/.045]
05120>        {Vmax= 1.653:Dmax= 1.484}
05121> #*************************************************************************
05122> #    Catchment MILLS
05123> #    - To SWM Facility north of the Jock
05124> #    - Primarily residental development
05125> #*************************************************************************
05126> R0005:C00386-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05127>      CONTINUOUS STANDHYD    1.0 01:MILLS        175.99    9.992 No_date   28:07   30.98 .542     .000
05128>        [XIMP=.38:TIMP=.38]
05129>        [LOSS= 2 :CN= 74.0]
05130>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05131>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
05132>        [IaRECimp=   4.00: IaRECper=   4.00]
05133>        [SMIN= 36.67: SMAX=244.49: SK= .010]
05134> #*************************************************************************
05135> #    Chapman Mills SWM Pond
05136> #    - Rating curve obtained from CCL hydraulic modeling
05137> #*************************************************************************
05138> R0005:C00387-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05139>      ROUTE RESERVOIR ->     1.0 02:MILLS        175.99    9.992 No_date   28:07   30.97  n/a     .000
05140>                     out <=    1.0 01:MILL_P     175.99    3.368 No_date   28:44   30.97  n/a     .000
05141>                overflow <=    1.0 03:MILL-OV       .00      .000 No_date    0:00     .00  n/a     .000
05142>        {MxStoUsed=.1941E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05143> R0005:C00388-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05144>      ADD HYD                1.0 02:IN_MI      55018.86   71.374 No_date   36:27   18.77  n/a     .000
05145>                       +     1.0 02:MIL-OV        .00      .000 No_date    0:00     .00  n/a     .000
05146>                       +     1.0 02:MILL_P     175.99    3.368 No_date   28:44   30.97  n/a     .000
05147>                     SUM=    1.0 01:MH_OUT     55194.85   71.782 No_date   36:25   18.81  n/a     .000
05148> R0005:C00389-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05149>      SAVE HYD               1.0 01:SN_MI      55194.85   71.782 No_date   36:25   18.81  n/a     .000
05150>        fname :SN_MI.0005
05151>        remark:Total Flows at Jockvale Road
05152> #
05153> # Hydrograph from Jockvale Road routed to Heart's Desire
05154> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
05155> #
05156> R0005:C00390-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05157>      ROUTE CHANNEL    ->     1.0 02:SN_MI      55194.85   71.782 No_date   36:25   18.81  n/a     .000
05158>        [RDT= 1.00] out<-     1.0 01:N_DE       55194.85   71.600 No_date   36:43   18.81  n/a     .000
05159>        [L/S/n= 1962./ .223/.045]
05160>        {Vmax= 1.311:Dmax= 1.906}
05161> #*************************************************************************
05162> #    Catchment DESIRE
05163> #    - To Jock River (north of the Jock)
05164> #    - Rural-estate subdivision (Heart's Desire Community)
05165> #*************************************************************************
05166> R0005:C00391-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05167>      CONTINUOUS STANDHYD    1.0 01:DESIRE        23.78    1.359 No_date   28:03   27.22 .477     .000
05168>        [XIMP=.25:TIMP=.25]
05169>        [LOSS= 2 :CN= 77.0]
05170>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05171>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
05172>        [IaRECimp=   4.00: IaRECper=   4.00]
05173>        [SMIN= 31.15: SMAX=207.66: SK= .010]
05174> #*************************************************************************
05175> #    Catchment JOCKVA
05176> #    - To Jockvale SWM Facility
05177> #    - Residential development & golf course
05178> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
05179> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
05180> #*************************************************************************
05181> R0005:C00392-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05182>      CONTINUOUS STANDHYD    1.0 01:JOCKVA       225.13   14.675 No_date   28:09   35.73 .626     .000
05183>        [XIMP=.50:TIMP=.50]
05184>        [LOSS= 2 :CN= 74.0]
05185>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05186>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
05187>        [IaRECimp=   4.00: IaRECper=   4.00]
05188>        [SMIN= 36.67: SMAX=244.49: SK= .010]
05189> R0005:C00393-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05190>      ADD HYD                1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:57   35.73  n/a     .000
05191>                       +     1.0 02:JOCKVA       225.13   14.675 No_date   28:09   35.73  n/a     .000
05192>                       +     1.0 02:B2-MJ          .00      .000 No_date    0:00     .00  n/a     .000
05193>                       +     1.0 02:B3-MJ          .00      .000 No_date    0:00     .00  n/a     .000
05194>                     SUM=    1.0 01:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a     .000
05195> R0005:C00394-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05196>      SAVE HYD               1.0 01:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a     .000
05197>        fname :JOCKVA-TO.0005
05198>        remark:Total Flows at KB first pond
05199> #*************************************************************************
05200> #    Jockvale SWM Facility
05201> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
05202> #*************************************************************************
05203> R0005:C00395-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05204>      ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a     .000
05205>                     out <=    1.0 01:JOCK_P     257.63    4.781 No_date   28:48   35.73  n/a     .000
05206>                overflow <=    1.0 03:JO-OVF        .00      .000 No_date    0:00     .00  n/a     .000
05207>        {MxStoUsed=.4115E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05208> R0005:C00396-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05209>      ADD HYD                1.0 02:N_DE       55194.85   71.600 No_date   36:43   18.81  n/a     .000
05210>                       +     1.0 02:DESIRE        23.78    1.359 No_date   28:03   27.22  n/a     .000
05211>                       +     1.0 02:JO-OVF         .00      .000 No_date    0:00     .00  n/a     .000
05212>                       +     1.0 02:JOCK_P     257.63    4.781 No_date   28:48   35.73  n/a     .000
05213>                     SUM=    1.0 01:SN_DE      55476.26   72.224 No_date   36:39   18.89  n/a     .000
05214> R0005:C00397-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05215>      SAVE HYD               1.0 01:SN_DE      55476.26   72.224 No_date   36:39   18.89  n/a     .000
05216>        fname :SN_DE.0005
05217>        remark:Total Flows at Heart's Desire
05218> #
05219> # Hydrograph from Heart's Desire routed to Rideau River
05220> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
05221> #
05222> R0005:C00398-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05223>      ROUTE CHANNEL    ->     1.0 02:SN_DE      55476.26   72.224 No_date   36:39   18.89  n/a     .000
05224>        [RDT= 1.00] out<-     1.0 01:N1         55476.26   72.207 No_date   36:46   18.89  n/a     .000
05225>        [L/S/n=  563./ .967/.045]
05226>        {Vmax= 1.684:Dmax=  .961}
05227> #*************************************************************************
05228> #    Catchment S-2
05229> #    - To Jock River (north and south)
05230> #    - Undeveloped floodplain and river
05231> #*************************************************************************
05232> R0005:C00399-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05233>      CONTINUOUS NASHYD      1.0 01:S-2          102.94    2.262 No_date   28:20   19.00 .333     .
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05237> R0005:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05238>      ADD HYD                 1.0 02:N1         55476.26   72.207 No_date   36:46   18.89  n/a     .000
05239>                        +     1.0 02:S-2          102.94    2.262 No_date   28:20   19.00  n/a     .000
05240>                    SUM=      1.0 01:SN_N1      55579.20   72.356 No_date   36:46   18.89  n/a     .000
05241> R0005:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05242>      SAVE HYD                1.0 01:SN_N1      55579.20   72.356 No_date   36:46   18.89  n/a     .000
05243>        fname :SN_N1.0005
05244>        remark:Total Flows at Rideau River
05245> ##############################################################################
05246>    ** END OF RUN :  9
05247>
05248> ************************************************************************************************************
05249>
05250>
05251>
05252>
05253>
05254>  RUN#:COMMAND#
05255> R0010:C00001------------------------------------------------------------------------------------------------
05256>       START
05257>         [TZERO =    .00 hrs on        0]
05258>         [METOUT=  2    (1=imperial, 2=metric output)]
05259>         [NSTORM=  1 ]
05260>         [NRUN   = 0010 ]
05261> #*****************************************************************************
05262> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> // INPUT DATA FILE
05263> #*****************************************************************************
05264> #  Project Name: [Jock River]     Project Number: [1474-16]
05265> #  Date        : 04-03-2021
05266> #  Modeller    : [M.M.]
05267> #  Company     : JFSAinc.
05268> #  License #   :  2549237
05269> #*****************************************************************************
05270> # CALIBRATION OF SUMMER MODEL PARAMETERS
05271> # USING CONTINUOUS SIMULATIONS
05272> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
05273> # Use data collected from May 1st to July 14, 2003
05274> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
05275> # 2020-12-01 correct pond curve values
05276> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
05277> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
05278> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
05279> # ---------------
05280> R0010:C00002------------------------------------------------------------------------------------------------
05281>       READ STORM
05282>         Filename = storm.001
05283>         Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
05284>         [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
05285> R0010:C00003------------------------------------------------------------------------------------------------
05286>       MODIFY STORM
05287>         [RFACT=  1.00:TSHIFT= 960.00 min]
05288>         [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
05289> R0010:C00004------------------------------------------------------------------------------------------------
05290>       DEFAULT VALUES
05291>         Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
05292>         ICASEdv  = 1 (read and print data)
05293>         FileTitle= File comment: [Based onvarious calibration exercises in Onta
05294>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
05295>         Horton's infiltration equation parameters:
05296>         [fo= 76.20 mm/hr] [fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
05297>         Parameters for PERVIOUS surfaces in STANDHYD:
05298>         [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
05299>         Parameters for IMPERVIOUS surfaces in STANDHYD:
05300>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
05301>         Parameters used in NASHYD:
05302>         [Ia=    4.67 mm] [N= 3.00]
05303>         Average monthly Pan Evaporation data in    (mm)
05304>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
05305>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
05306>         Average monthly Potential Evapotranspiration in    (mm)
05307>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
05308>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
05309> R0010:C00005------------------------------------------------------------------------------------------------
05310>       COMPUTE API
05311>         [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
05312>         {APImax= 97.81: APIavg= 62.29: APImin= 44.87}
05313> #
05314> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05315> # of 1.32
05316> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05317>      CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   11.879 No_date   36:59   20.23 .313     .000
05318>        [CN= 64.0: N= 3.00: Tp= 7.13]
05319>        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
05320>        [InterEventTime=  12.00]
05321> #
05322> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05323> # of 1.32
05324> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05325>      CONTINUOUS NASHYD     1.0 01:SW_13        971.00    4.365 No_date   32:35   18.83 .291     .000
05326>        [CN= 61.0: N= 3.00: Tp= 3.76]
05327>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
05328>        [InterEventTime=  12.00]
05329> #
05330> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05331> # of 1.80
05332> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05333>      CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    5.829 No_date   39:59   16.22 .251     .000
05334>        [CN= 55.0: N= 3.00: Tp=11.33]
05335>        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
05336>        [InterEventTime=  12.00]
05337> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05338>      CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   10.839 No_date   32:42   24.81 .383     .000
05339>        [CN= 72.0: N= 3.00: Tp= 3.91]
05340>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05341>        [InterEventTime=  12.00]
05342> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05343>      CONTINUOUS NASHYD     1.0 01:SW_11        500.00    5.639 No_date   29:22   21.19 .328     .000
05344>        [CN= 66.0: N= 3.00: Tp= 1.24]
05345>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05346>        [InterEventTime=  12.00]
05347> #
05348> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05349> # of 1.80
05350> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05351>      CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00    7.897 No_date   34:28   21.19 .328     .000
05352>        [CN= 66.0: N= 3.00: Tp= 5.29]
05353>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05354>        [InterEventTime=  12.00]
05355> #
05356> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05357> # of 1.52
05358> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05359>      CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   21.255 No_date   37:58   24.81 .383     .000
05360>        [CN= 72.0: N= 3.00: Tp= 8.00]
05361>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05362>        [InterEventTime=  12.00]
05363> #
05364> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05365> # of 1.75
05366> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05367>      CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   20.398 No_date   39:59   21.19 .328     .000
05368>        [CN= 66.0: N= 3.00: Tp=11.66]
05369>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05370>        [InterEventTime=  12.00]
05371> #
05372> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05373> # of 1.68
05374> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05375>      CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    8.921 No_date   30:54   23.73 .367     .000
05376>        [CN= 70.0: N= 3.00: Tp= 2.51]
05377>        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
05378>        [InterEventTime=  12.00]
05379> #
05380> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05381> # of 1.82
05382> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05383>      CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   10.128 No_date   39:59   19.29 .298     .000
05384>        [CN= 62.0: N= 3.00: Tp=11.32]
05385>        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
05386>        [InterEventTime=  12.00]
05387> #
05388> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05389> # of 1.80
05390> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05391>      CONTINUOUS NASHYD     1.0 01:SW_8         131.00    1.689 No_date   28:57   19.76 .305     .000
05392>        [CN= 63.0: N= 3.00: Tp=  .90]
05393>        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
05394>        [InterEventTime=  12.00]
05395> #
05396> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05397> # of 1.65
05398> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05399>      CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   11.811 No_date   38:37   21.19 .328     .000
05400>        [CN= 66.0: N= 3.00: Tp= 8.42]
05401>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05402>        [InterEventTime=  12.00]
05403> #
05404> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05405> # of 1.82
05406> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05407>      CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    8.899 No_date   36:26   17.07 .264     .000
05408>        [CN= 57.0: N= 3.00: Tp= 6.65]
05409>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
05410>        [InterEventTime=  12.00]
05411> #
05412> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05413> # of 1.75
05414> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05415>      CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .818 No_date   33:04   21.69 .335     .000
05416>        [CN= 67.0: N= 3.00: Tp= 4.18]
05417>        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
05418>        [InterEventTime=  12.00]
05419> #
05420> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05421> # of 1.67
05422> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05423>      CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    6.069 No_date   35:17   24.81 .383     .000
05424>        [CN= 72.0: N= 3.00: Tp= 5.95]
05425>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05426>        [InterEventTime=  12.00]
05427> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05428>      CONTINUOUS NASHYD     1.0 01:SW_5         224.00    5.246 No_date   28:45   28.24 .437     .000
05429>        [CN= 77.0: N= 3.00: Tp=  .75]
05430>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05431>        [InterEventTime=  12.00]
05432> #
05433> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05434> # of 1.20
05435> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05436>      CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   28.945 No_date   33:21   25.91 .401     .000
05437>        [CN= 74.0: N= 3.00: Tp= 4.45]
05438>        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
05439>        [InterEventTime=  12.00]
05440> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05441>      CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .614 No_date   28:36   31.37 .485     .000
05442>        [CN= 81.0: N= 3.00: Tp=  .62]
05443>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05444>        [InterEventTime=  12.00]
05445> #
05446> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05447> # of 1.61
05448> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05449>      CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    5.817 No_date   37:54   27.06 .418     .000
05450>        [CN= 75.0: N= 3.00: Tp= 5.00]
05451>        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
05452>        [InterEventTime=  12.00]
05453> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05454>      CONTINUOUS NASHYD     1.0 01:SW_4         585.00    8.458 No_date   29:57   31.37 .485     .000
05455>        [CN= 81.0: N= 3.00: Tp= 1.75]
05456>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05457>        [InterEventTime=  12.00]
05458> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05459>      CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   11.195 No_date   30:48   30.72 .475     .000
05460>        [CN= 80.0: N= 3.00: Tp= 2.46]
05461>        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
05462>        [InterEventTime=  12.00]
05463> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05464>      CONTINUOUS NASHYD     1.0 01:SW_2         177.00    4.146 No_date   28:45   28.24 .437     .000
05465>        [CN= 77.0: N= 3.00: Tp=  .75]
05466>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05467>        [InterEventTime=  12.00]
05468> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05469>      CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   10.275 No_date   31:46   31.37 .485     .000
05470>        [CN= 81.0: N= 3.00: Tp= 3.25]
05471>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05472>        [InterEventTime=  12.00]
05473> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05474>      CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   22.669 No_date   31:32   27.64 .427     .000
05475>        [CN= 76.0: N= 3.00: Tp= 3.03]
05476>        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
05477>        [InterEventTime=  12.00]
05478> #
05479> # Routing hydrographs
05480> #
05481> # Starting with the addition of Jock River Headwater and Subwatershed 13
05482> #
05483> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05484>      ADD HYD                 1.0 02:JR_HW       3680.00   11.879 No_date   36:59   20.23 n/a      .000
05485>                        +     1.0 02:SW_13        971.00    4.365 No_date   32:35   18.83 n/a      .000
05486>                    SUM=      1.0 01:S_N13      4651.00   15.130 No_date   35:28   19.94 n/a      .000
05487> #
05488> # Sum of hydrographs from Node 13 routed to Node 13A
05489> # (Approximated cross-section - see cross-section 258)
05490> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05491> #
05492> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05493>      ROUTE CHANNEL     ->    1.0 02:S_N13       4651.00   15.130 No_date   35:28   19.94 n/a      .000
05494>        [RDT= 1.00] out<-     1.0 01:N13A        4651.00   12.097 No_date   39:41   19.94 n/a      .000
05495>          [L/S/n= 9074./ .022/.040]
05496>          {Vmax=  .508:Dmax= 3.307}
05497> #
05498> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
05499> #
05500> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05501>      ADD HYD                 1.0 02:N13A        4651.00   12.097 No_date   39:41   19.94  n/a     .000
05502>                        +     1.0 02:JR_GWM      3074.00    5.829 No_date   39:59   16.22  n/a     .000
05503>                    SUM=      1.0 01:SN13A       7725.00   17.918 No_date   39:59   18.46  n/a     .000
05504> #
05505> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
05506> #
05507> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05508>      ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   17.918 No_date   39:59   18.46 n/a      .000
05509>                        out <=    1.0 01:RES_GM      7725.00    3.524 No_date   58:32   18.46 n/a      .000
05510>        {MxStoUsed=.8503E+02  m3}
05511> #
05512> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05513>      SAVE HYD                1.0 01:RES_GM      7725.00    3.524 No_date   58:32   18.46  n/a     .000
05514>        fname :H_RESGM
05515>        remark:Outflow from Res GM
05516> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
05517> # (Approximated cross-section - see cross-section 258)
05518> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05519> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05520>      ROUTE CHANNEL     ->    1.0 02:RES_GM      7725.00    3.524 No_date   58:32   18.46 n/a      .000
05521>        [RDT= 1.00] out<-     1.0 01:N12         7725.00    3.519 No_date   61:53   18.46 n/a      .000
05522>          [L/S/n= 5926./ .076/.040]
05523>          {Vmax=  .546:Dmax= 1.499}
05524> #
05525> # Addition of Subwatershed Jock River at Ashton to Node 12
05526> #
05527> R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05528>      ADD HYD                 1.0 02:N12         7725.00    3.519 No_date   61:53   18.46  n/a     .000
05529>                        +     1.0 02:JR_ASH      1781.00   10.839 No_date   32:42   24.81  n/a     .000
05530>                    SUM=      1.0 01:S_N12       9506.00   12.834 No_date   32:45   19.65  n/a     .000
05531> R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05532>      SAVE HYD                1.0 01:S_N12       9506.00   12.834 No_date   32:45   19.65  n/a     .000
05533>        fname :H_SN12
05534>        remark:flow at S_N12 near Ashton
05535> #
05536> # Sum of hydrographs from Node 12 routed to Node 11
05537> # (Approximated cross-section - see cross-section 258)
05538> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05539> #
05540> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
05541> #
05542> R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05543>      ROUTE CHANNEL     ->    1.0 02:S_N12       9506.00   12.834 No_date   32:45   19.65 n/a      .000
05544>        [RDT= 1.00] out<-     1.0 01:Dum11       9506.00   12.710 No_date   33:02   19.65 n/a      .000
05545>          [L/S/n=  972./ .054/.040]
05546>          {Vmax=  .680:Dmax= 2.598}
05547> #
05548> # Addition of Subwatershed 11 and No Name Creek to Node 11
05549> #
05550> R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05551>      ADD HYD                 1.0 02:Dum11       9506.00   12.710 No_date   33:02   19.65  n/a     .000
05552>                        +     1.0 02:SW_11        500.00    5.639 No_date   29:22   21.19  n/a     .000
05553>                        +     1.0 02:NN_CK       1917.00    7.897 No_date   34:28   21.19  n/a     .000
05554>                    SUM=      1.0 01:S_N11      11923.00   21.813 No_date   33:05   19.96  n/a     .000
05555> #
05556> # Sum of hydrographs from Node 11 routed to Node 10
05557> # Section 1
05558> #
05559> R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05560>      ROUTE CHANNEL     ->    1.0 02:S_N11       11923.00   21.813 No_date   33:05   19.96 n/a      .000
05561>        [RDT= 1.00] out<-     1.0 01:N10         11923.00   14.761 No_date   39:58   19.96 n/a      .000
05562>          [L/S/n=14028./ .157/.040]
05563>          {Vmax=  .452:Dmax= 1.212}
05564> #
05565> # Addition of Subwatershed 10 to Node 10
05566> #
05567> R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05568>      ADD HYD                 1.0 02:N10         11923.00   14.761 No_date   39:58   19.96  n/a     .000
05569>                        +     1.0 02:SW_10       5666.00   21.255 No_date   37:58   24.81  n/a     .000
05570>                    SUM=      1.0 01:S_N10       17589.00   35.808 No_date   38:35   21.52  n/a     .000
05571> R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05572>      SAVE HYD                1.0 01:S_N10       17589.00   35.808 No_date   38:35   21.52  n/a     .000
05573>        fname :H_SN10
05574>        remark:flow at S_N10: N10 + SW_10
05575> # Addition of Kings Creek to S_N10
05576> #
05577> R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05578>      ADD HYD                 1.0 02:S_N10       17589.00   35.808 No_date   38:35   21.52 n/a      .000
05579>                        +     1.0 02:KG_CK        8376.00   20.398 No_date   39:59   21.19 n/a      .000
05580>                    SUM=      1.0 01:S_N10A      25965.00   55.807 No_date   39:58   21.41 n/a      .000
05581> #
05582> # Sum of hydrographs from Node 10 routed to Node 9
05583> # Section 2
05584> #
05585> R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05586>      ROUTE CHANNEL     ->    1.0 02:S_N10A      25965.00   55.807 No_date   39:58   21.41 n/a      .000
05587>        [RDT= 1.00] out<-     1.0 01:N9          25965.00   54.076 No_date   39:59   21.41 n/a      .000
05588>          [L/S/n= 3982./ .075/.040]
05589>          {Vmax=  .682:Dmax= 1.695}
05590> #
05591> # Addition of Subwatershed 9 and Nichols Creek to Node 9
05592> #
05593> R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05594>      ADD HYD                 1.0 02:N9          25965.00   54.076 No_date   39:59   21.41  n/a     .000
05595>                        +     1.0 02:SW_9        1132.00    8.921 No_date   30:54   23.73  n/a     .000
05596>                        +     1.0 02:NC_CK       4464.00   10.128 No_date   39:59   19.29  n/a     .000
05597>                    SUM=      1.0 01:S_N9        31561.00   66.284 No_date   39:59   21.20  n/a     .000
05598> #
05599> # Sum of hydrographs from Node 9 routed to Node 8
05600> # Section 3
05601> #
05602> R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05603>      ROUTE CHANNEL     ->    1.0 02:S_N9        31561.00   66.284 No_date   39:59   21.20 n/a      .000
05604>        [RDT= 1.00] out<-     1.0 01:N8          31561.00   61.483 No_date   39:57   21.20 n/a      .000
05605>          [L/S/n= 2269./ .088/.045]
05606>          {Vmax=  .363:Dmax= 1.619}
05607> #
05608> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
05609> #
05610> R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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05611>     ADD HYD                1.0 02:N8         31561.00   61.483 No_date   39:57   21.20  n/a     .000
05612>                      +     1.0 02:SW_8         131.00    1.689 No_date   28:57   19.76  n/a     .000
05613>                      +     1.0 02:HB_DR       3854.00   11.811 No_date   38:37   21.19  n/a     .000
05614>                SUM=        1.0 01:S_N8       35546.00   73.344 No_date   39:57   21.19  n/a     .000
05615> #
05616> # Sum of hydrographs from Node 8 routed to Node 7
05617> # Section 4
05618> #
05619> R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05620>     ROUTE CHANNEL    ->     1.0 02:S_N8       35546.00   73.344 No_date   39:57   21.19  n/a     .000
05621>       [RDT= 1.00] out<-     1.0 01:N7         35546.00   61.416 No_date   45:01   21.19  n/a     .000
05622>         [L/S/n= 3750./ .053/.070]
05623>         {Vmax=  .218:Dmax= 1.987}
05624> #
05625> # Addition of Subwatershed 7 to Node 7
05626> #
05627> R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05628>     ADD HYD                1.0 02:N7         35546.00   61.416 No_date   45:01   21.19  n/a     .000
05629>                      +     1.0 02:SW_7         3197.00    8.899 No_date   36:26   17.07  n/a     .000
05630>                SUM=        1.0 01:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
05631> R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05632>     SAVE HYD               1.0 01:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
05633>       fname :H_SN7
05634>       remark:flow at S_N7: N7 + SW_7
05635> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
05636> # Storage area and volumes were estimated from available topo maps.
05637> # Release rate from fen was assumed to be controlled by the downstream
05638> # river cross-section for summer conditions.  It is was assumed that for up to
05639> # 0.75 m of water, the main channel of the river provided the storage.  Above
05640> # this depth, the wetland starts to signigicantly store water.
05641> #
05642> R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05643>     ROUTE RESERVOIR  ->     1.0 02:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
05644>                    out <=   1.0 01:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
05645>       {MxStoUsed=.2597E+03  m3}
05646> R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05647>     SAVE HYD               1.0 01:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
05648>       fname :H_ResRF
05649>       remark:outflow of Richmond Fen
05650> #
05651> # Sum of hydrographs from Node 7 routed to Node 6
05652> # Section 5
05653> #
05654> R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05655>     ROUTE CHANNEL    ->     1.0 02:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
05656>       [RDT= 1.00] out<-     1.0 01:N6         38743.00   31.737 No_date   62:00   20.85  n/a     .000
05657>         [L/S/n= 3056./ .082/.025]
05658>         {Vmax=  .477:Dmax=  .960}
05659> #
05660> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
05661> #
05662> R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05663>     ADD HYD                1.0 02:N6         38743.00   31.737 No_date   62:00   20.85  n/a     .000
05664>                      +     1.0 02:SW_6         165.00     .818 No_date   33:04   21.69  n/a     .000
05665>                      +     1.0 02:VG_DR       1332.00    6.069 No_date   35:17   24.81  n/a     .000
05666>                SUM=        1.0 01:S_N6       40240.01   31.737 No_date   62:00   20.99  n/a     .000
05667> #
05668> # Sum of hydrographs from Node 6 routed to Node 5
05669> # Section 6
05670> #
05671> R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05672>     ROUTE CHANNEL    ->     1.0 02:S_N6       40240.01   31.737 No_date   62:00   20.99  n/a     .000
05673>       [RDT= 1.00] out<-     1.0 01:N5         40240.01   31.713 No_date   62:48   20.99  n/a     .000
05674>         [L/S/n= 1852./ .054/.035]
05675>         {Vmax=  .412:Dmax= 1.069}
05676> #
05677> # Addition of Subwatershed 5 and Flowing Creek to Node 5
05678> #
05679> R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05680>     ADD HYD                1.0 02:N5         40240.01   31.713 No_date   62:48   20.99  n/a     .000
05681>                      +     1.0 02:SW_5         224.00    5.246 No_date   28:45   28.24  n/a     .000
05682>                      +     1.0 02:FL_CK       4945.00   28.945 No_date   33:21   25.91  n/a     .000
05683>                SUM=        1.0 01:S_N5       45409.01   51.448 No_date   34:54   21.56  n/a     .000
05684> #
05685> # Sum of hydrographs from Node 5 routed to Node 5A
05686> # Section 7
05687> #
05688> R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05689>     ROUTE CHANNEL    ->     1.0 02:S_N5       45409.01   51.448 No_date   34:54   21.56  n/a     .000
05690>       [RDT= 1.00] out<-     1.0 01:N5A        45409.01   51.312 No_date   35:12   21.56  n/a     .000
05691>         [L/S/n=  556./ .090/.040]
05692>         {Vmax=  .485:Dmax= 1.131}
05693> #
05694> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
05695> #
05696> R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05697>     ADD HYD                1.0 02:N5A        45409.01   51.312 No_date   35:12   21.56  n/a     .000
05698>                      +     1.0 02:SW_5A2         20.00     .614 No_date   28:36   31.37  n/a     .000
05699>                      +     1.0 02:SW_5A1       1412.00    5.817 No_date   37:54   27.06  n/a     .000
05700>                SUM=        1.0 01:S_N5A      46841.01   56.788 No_date   35:22   21.73  n/a     .000
05701> #
05702> # Sum of hydrographs from Node 5A routed to Node 4
05703> # Section 8
05704> #
05705> R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05706>     ROUTE CHANNEL    ->     1.0 02:S_N5A      46841.01   56.788 No_date   35:22   21.73  n/a     .000
05707>       [RDT= 1.00] out<-     1.0 01:N4         46841.01   54.543 No_date   36:56   21.73  n/a     .000
05708>         [L/S/n= 4630./ .043/.040]
05709>         {Vmax=  .793:Dmax= 3.295}
05710> #
05711> # Addition of Subwatershed 4 and Leamy Creek to Node 4
05712> #
05713> R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05714>     ADD HYD                1.0 02:N4         46841.01   54.543 No_date   36:56   21.73  n/a     .000
05715>                      +     1.0 02:SW_4         585.00    8.458 No_date   29:57   31.37  n/a     .000
05716>                      +     1.0 02:LM_CK       1021.00   11.195 No_date   30:48   30.72  n/a     .000
05717>                SUM=        1.0 01:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
05718> R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05719>     SAVE HYD               1.0 01:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
05720>       fname :S_N4.0010
05721>       remark:flow at S_N4
05722> #
05723> # Sum of hydrographs from Node 4 routed to Node 2
05724> # Section 9
05725> #
05726> R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05727>     ROUTE CHANNEL    ->     1.0 02:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
05728>       [RDT= 1.00] out<-     1.0 01:N2         48447.00   59.699 No_date   36:35   22.03  n/a     .000
05729>         [L/S/n= 1667./ .060/.040]
05730>         {Vmax=  .824:Dmax= 3.325}
05731> #
05732> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
05733> #
05734> R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05735>     ADD HYD                1.0 02:N2         48447.00   59.699 No_date   36:35   22.03  n/a     .000
05736>                      +     1.0 02:SW_2         177.00    4.146 No_date   28:45   28.24  n/a     .000
05737>                      +     1.0 02:SM_DR       1122.00   10.275 No_date   31:46   31.37  n/a     .000
05738>                      +     1.0 02:MO_DR       2737.00   22.669 No_date   31:32   27.64  n/a     .000
05739>                SUM=        1.0 01:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
05740> R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05741>     SAVE HYD               1.0 01:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
05742>       fname :H_SN2
05743>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
05744> #
05745> # Sum of hydrographs from Node 2 routed to Node 1
05746> # Section 10
05747> #
05748> #*******************************************************************************
05749> #
05750> # Hydrograph from Node 2 routed to Node 416
05751> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
05752> #
05753> R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05754>     ROUTE CHANNEL    ->     1.0 02:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
05755>       [RDT= 1.00] out<-     1.0 01:N_416      52483.00   81.216 No_date   34:18   22.55  n/a     .000
05756>         [L/S/n= 2327./ .050/.055]
05757>         {Vmax=  .705:Dmax= 2.943}
05758> #*******************************************************************************
05759> #    Catchment SW-1a
05760> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
05761> #    - Undeveloped agricultural land
05762> #*******************************************************************************
05763> R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05764>     CONTINUOUS NASHYD    1.0 01:SW_1a        536.42    3.888 No_date   31:17   23.57 .364     .000
05765>       [CN= 72.0: N= 3.00: Tp= 2.79]
05766>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05767>       [InterEventTime=  12.00]
05768> R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05769>     CONTINUOUS NASHYD    1.0 01:S-1-Okeefe    44.93     .778 No_date   29:07   26.85 .415     .000
05770>       [CN= 77.0: N= 3.00: Tp= 1.05]
05771>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05772>       [InterEventTime=  12.00]
05773> R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05774>     ADD HYD                1.0 02:N_416      52483.00   81.216 No_date   34:18   22.55  n/a     .000
05775>                      +     1.0 02:SW_1a        536.42    3.888 No_date   31:17   23.57  n/a     .000
05776>                      +     1.0 02:S-1-Okeefe    44.93     .778 No_date   29:07   26.85  n/a     .000
05777>                SUM=        1.0 01:SN_416     53064.36   84.151 No_date   33:41   22.56  n/a     .000
05778> R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05779>     SAVE HYD               1.0 01:SN_416     53064.36   84.151 No_date   33:41   22.56  n/a     .000
05780>       fname :SN_416.0010
05781>       remark:Total Flows at Highway 416
05782> #
05783> # Hydrograph from Node 416 routed to Node at Okeefe drain
05784> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
05785> #
05786> R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05787>     ROUTE CHANNEL    ->     1.0 02:SN_416     53064.36   84.151 No_date   33:41   22.56  n/a     .000
05788>       [RDT= 1.00] out<-     1.0 01:N_OK       53064.36   84.059 No_date   34:06   22.56  n/a     .000
05789>         [L/S/n=  497./ .302/.055]
05790>         {Vmax= 1.450:Dmax= 2.495}
05791> #*******************************************************************************
05792> #    Catchment OKEEFE
05793> #    - To O'Keefe drain (north of the Jock)
05794> #    - Developed with assumed 43% imp.
05795> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
05796> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
05797> #*******************************************************************************

05798> R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05799>     CONTINUOUS NASHYD    1.0 01:O-1          63.72     .684 No_date   28:58   17.24 .266     .000
05800>       [CN= 61.0: N= 3.00: Tp=  .90]
05801>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
05802>       [InterEventTime=  12.00]
05803> R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05804>     ROUTE CHANNEL    ->     1.0 02:O-1          63.72     .684 No_date   28:58   17.24  n/a     .000
05805>       [RDT= 1.00] out<-     1.0 01:O-1R         63.72     .637 No_date   29:17   17.24  n/a     .000
05806>         [L/S/n=  960./ .630/.043]
05807>         {Vmax=  .755:Dmax=  .334}
05808> R0010:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05809>     CONTINUOUS NASHYD    1.0 01:O-2          28.61     .242 No_date   29:13   16.01 .248     .000
05810>       [CN= 57.0: N= 3.00: Tp= 1.10]
05811>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
05812>       [InterEventTime=  12.00]
05813> R0010:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05814>     CONTINUOUS NASHYD    1.0 01:O-4          46.94     .303 No_date   29:00   12.15 .188     .000
05815>       [CN= 49.0: N= 3.00: Tp= 1.50]
05816>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
05817>       [InterEventTime=  12.00]
05818> R0010:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05819>     ADD HYD                1.0 02:O-1R         63.72     .637 No_date   29:17   17.24  n/a     .000
05820>                      +     1.0 02:O-2          28.61     .242 No_date   29:13   16.01  n/a     .000
05821>                      +     1.0 02:O-4          46.94     .303 No_date   29:00   12.15  n/a     .000
05822>                SUM=        1.0 01:OKF-N       139.27    1.172 No_date   29:12   15.27  n/a     .000
05823> R0010:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05824>     ROUTE CHANNEL    ->     1.0 02:OKF-N       139.27    1.172 No_date   29:12   15.27  n/a     .000
05825>       [RDT= 1.00] out<-     1.0 01:OKF-NR      139.27    1.170 No_date   29:16   15.27  n/a     .000
05826>         [L/S/n=  210./ .810/.043]
05827>         {Vmax=  .916:Dmax=  .609}
05828> R0010:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05829>     CONTINUOUS NASHYD    1.0 01:O-6          16.46     .101 No_date   28:45   10.60 .164     .000
05830>       [CN= 43.0: N= 3.00: Tp=  .70]
05831>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
05832>       [InterEventTime=  12.00]
05833> R0010:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05834>     CONTINUOUS STANDHYD   1.0 01:O-3          39.67     .767 No_date   28:24   19.36 .299     .000
05835>       [XIMP=.15:TIMP=.30]
05836>       [LOSS= 2 :CN= 50.0]
05837>       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
05838>       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
05839>       [IaRECimp=   4.00: IaRECper=   4.00]
05840>       [SMN= 99.77: SMAX=665.12: SK= .010]
05841> R0010:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05842>     CONTINUOUS STANDHYD   1.0 01:O-5          60.63    1.881 No_date   28:10   22.00 .340     .000
05843>       [XIMP=.13:TIMP=.26]
05844>       [LOSS= 2 :CN= 61.0]
05845>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
05846>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
05847>       [IaRECimp=   4.00: IaRECper=   4.00]
05848>       [SMN= 64.50: SMAX=430.01: SK= .010]
05849> R0010:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05850>     ADD HYD                1.0 02:OKF-NR      139.27    1.170 No_date   29:16   15.27  n/a     .000
05851>                      +     1.0 02:O-3          39.67     .767 No_date   28:24   19.36  n/a     .000
05852>                      +     1.0 02:O-5          60.63    1.881 No_date   28:10   22.00  n/a     .000
05853>                      +     1.0 02:O-6          16.46     .101 No_date   28:45   10.60  n/a     .000
05854>                SUM=        1.0 01:PT1        256.03    3.008 No_date   28:23   17.20  n/a     .000
05855> R0010:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05856>     CONTINUOUS NASHYD    1.0 01:O-7           5.28     .056 No_date   28:37   14.05 .217     .000
05857>       [CN= 54.0: N= 3.00: Tp=  .60]
05858>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
05859>       [InterEventTime=  12.00]
05860> R0010:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05861>     ADD HYD                1.0 02:PT1        256.03    3.008 No_date   28:23   17.20  n/a     .000
05862>                      +     1.0 02:O-7          5.28     .056 No_date   28:37   14.05  n/a     .000
05863>                SUM=        1.0 01:FF         261.31    3.058 No_date   28:23   17.14  n/a     .000
05864> R0010:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05865>     ROUTE CHANNEL    ->     1.0 02:FF         261.31    3.058 No_date   28:23   17.14  n/a     .000
05866>       [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31    2.972 No_date   28:31   17.14  n/a     .000
05867>         [L/S/n=  302./1.000/.043]
05868>         {Vmax=  .783:Dmax=  .667}
05869> R0010:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05870>     CONTINUOUS NASHYD    1.0 01:D1            1.17     .058 No_date   28:12   29.30 .453     .000
05871>       [CN= 84.0: N= 3.00: Tp=  .20]
05872>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
05873>       [InterEventTime=  12.00]
05874> R0010:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05875>     CONTINUOUS STANDHYD   1.0 01:A1           2.50     .391 No_date   28:01   50.29 .777     .000
05876>       [XIMP=.68:TIMP=.85]
05877>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05878>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
05879>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
05880>       [IaRECimp=   4.00: IaRECper=   4.00]
05881> R0010:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05882>     ROUTE RESERVOIR  ->     1.0 02:A1           2.50     .391 No_date   28:01   50.29  n/a     .000
05883>                    out <=   1.0 01:A1-STR       2.50     .098 No_date   28:24   50.29  n/a     .000
05884>                overflow <=  1.0 03:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
05885>       {MxStoUsed=.5829E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05886> R0010:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05887>     CONTINUOUS STANDHYD   1.0 01:ST-2           .59     .075 No_date   28:00   38.69 .598     .000
05888>       [XIMP=.46:TIMP=.57]
05889>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05890>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
05891>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
05892>       [IaRECimp=   4.00: IaRECper=   4.00]
05893> R0010:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05894>     ROUTE RESERVOIR  ->     1.0 02:ST-2           .59     .075 No_date   28:00   38.69  n/a     .000
05895>                    out <=   1.0 01:ST2STR        .59     .052 No_date   28:05   38.69  n/a     .000
05896>                overflow <=  1.0 03:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
05897>       {MxStoUsed=.1835E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05898> R0010:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05899>     CONTINUOUS NASHYD    1.0 01:O-8          60.55     .857 No_date   29:04   22.40 .346     .000
05900>       [CN= 69.0: N= 3.00: Tp= 1.00]
05901>       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
05902>       [InterEventTime=  12.00]
05903> R0010:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05904>     ROUTE PIPE       ->     1.0 02:O-8          60.55     .857 No_date   29:04   22.40  n/a     .000
05905>       [RDT= 1.00] out<-     1.0 01:O8PIPE      60.55     .852 No_date   29:08   22.40  n/a     .000
05906>         [L/S/n=  335./ .100/.013]
05907>         {Vmax= 1.080:Dmax=  .441}
05908>         {HGTH= 1.20:WDTH= 1.80}
05909> R0010:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05910>     ADD HYD                1.0 02:DRAIN1      261.31    2.972 No_date   28:31   17.14  n/a     .000
05911>                      +     1.0 02:D1           1.17     .058 No_date   28:12   29.30  n/a     .000
05912>                      +     1.0 02:A1-STR       2.50     .098 No_date   28:24   50.29  n/a     .000
05913>                      +     1.0 02:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
05914>                      +     1.0 02:ST2STR        .59     .052 No_date   28:05   38.69  n/a     .000
05915>                      +     1.0 02:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
05916>                      +     1.0 02:O8PIPE      60.55     .852 No_date   29:08   22.40  n/a     .000
05917>                SUM=        1.0 01:ST2-IN      326.12    3.771 No_date   28:40   18.45  n/a     .000
05918> R0010:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05919>     CONTINUOUS STANDHYD   1.0 01:A7           3.51     .538 No_date   28:01   50.29 .777     .000
05920>       [XIMP=.68:TIMP=.85]
05921>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05922>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
05923>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
05924>       [IaRECimp=   4.00: IaRECper=   4.00]
05925> R0010:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05926>     ROUTE RESERVOIR  ->     1.0 02:A7           3.51     .538 No_date   28:01   50.29  n/a     .000
05927>                    out <=   1.0 01:A7-STR       3.51     .139 No_date   28:25   50.29  n/a     .000
05928>                overflow <=  1.0 03:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
05929>       {MxStoUsed=.8167E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05930> R0010:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05931>     CONTINUOUS STANDHYD   1.0 01:ST-3           .71     .089 No_date   28:00   38.69 .598     .000
05932>       [XIMP=.46:TIMP=.57]
05933>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05934>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
05935>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
05936>       [IaRECimp=   4.00: IaRECper=   4.00]
05937> R0010:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05938>     ROUTE RESERVOIR  ->     1.0 02:ST-3           .71     .089 No_date   28:00   38.69  n/a     .000
05939>                    out <=   1.0 01:ST3STR        .71     .063 No_date   28:05   38.69  n/a     .000
05940>                overflow <=  1.0 03:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
05941>       {MxStoUsed=.1988E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05942> R0010:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05943>     ADD HYD                1.0 02:ST2-IN      326.12    3.771 No_date   28:40   18.45  n/a     .000
05944>                      +     1.0 02:A7-STR       3.51     .139 No_date   28:25   50.29  n/a     .000
05945>                      +     1.0 02:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
05946>                      +     1.0 02:ST3STR        .71     .063 No_date   28:05   38.69  n/a     .000
05947>                      +     1.0 02:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
05948>                SUM=        1.0 01:PT2ST3      330.34    3.914 No_date   28:39   18.83  n/a     .000
05949> R0010:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05950>     ROUTE CHANNEL    ->     1.0 02:PT2ST3      330.34    3.914 No_date   28:39   18.83  n/a     .000
05951>       [RDT= 1.00] out<-     1.0 01:DRAIN2      330.34    3.640 No_date   29:01   18.83  n/a     .000
05952>         [L/S/n=  592./ .230/.043]
05953>         {Vmax=  .582:Dmax= 1.002}
05954> R0010:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05955>     CONTINUOUS NASHYD    1.0 01:D2           2.28     .046 No_date   29:04   29.30 .453     .000
05956>       [CN= 84.0: N= 3.00: Tp=  .99]
05957>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
05958>       [InterEventTime=  12.00]
05959> R0010:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05960>     CONTINUOUS STANDHYD   1.0 01:A17         12.04    1.618 No_date   28:04   50.29 .777     .000
05961>       [XIMP=.68:TIMP=.85]
05962>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05963>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
05964>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
05965>       [IaRECimp=   4.00: IaRECper=   4.00]
05966> R0010:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05967>     ROUTE RESERVOIR  ->     1.0 02:A17         12.04    1.618 No_date   28:04   50.29  n/a     .000
05968>                    out <=   1.0 01:A17STR      12.04     .460 No_date   28:31   50.29  n/a     .000
05969>                overflow <=  1.0 03:A17OVF        .00     .000 No_date    0:00     .00  n/a     .000
05970>       {MxStoUsed=.2771E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05971> R0010:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05972>     CONTINUOUS STANDHYD   1.0 01:ST-4           .35     .046 No_date   28:00   38.69 .598     .000
05973>       [XIMP=.46:TIMP=.57]
05974>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05975>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
05976>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
05977>       [IaRECimp=   4.00: IaRECper=   4.00]
05978> R0010:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05979>     ROUTE RESERVOIR  ->     1.0 02:ST-4           .35     .046 No_date   28:00   38.69  n/a     .000
05980>                    out <=   1.0 01:ST4STR        .35     .031 No_date   28:04   38.69  n/a     .000
05981>                overflow <=  1.0 03:ST4OVF        .00     .000 No_date    0:00     .00  n/a     .000
05982>       {MxStoUsed=.1424E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05983> R0010:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05984>     CONTINUOUS STANDHYD   1.0 01:A18           5.30     .788 No_date   28:02   50.29 .777     .000
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05985>       [XIMP=.68:TIMP=.85]
05986>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05987>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
05988>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326:MNI=.013:SCI=   .0]
05989>       [IaREcimp=   4.00: IaRECper=    4.00]
05990> R0010:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05991>     ROUTE RESERVOIR ->     1.0 02:A18          5.30     .780 No_date   28:02   50.29  n/a     .000
05992>                out <=     1.0 01:A18STR       5.30     .206 No_date   28:27   50.29  n/a     .000
05993>           overflow <=     1.0 03:A18OVF        .00     .000 No_date    0:00    .00  n/a     .000
05994>    {MxStoUsed=.1232E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05995> R0010:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05996>     ADD HYD            +     1.0 02:DRAIN2     330.34    3.640 No_date   29:01   18.83  n/a     .000
05997>                        +     1.0 02:D2           2.28     .046 No_date   29:04   29.30  n/a     .000
05998>                        +     1.0 02:A17STR      12.04     .460 No_date   28:31   50.29  n/a     .000
05999>                        +     1.0 02:A17OVF       .00     .000 No_date    0:00    .00  n/a     .000
06000>                        +     1.0 02:ST4STR       .35     .031 No_date   28:04   38.69  n/a     .000
06001>                        +     1.0 02:ST4OVF       .00     .000 No_date    0:00    .00  n/a     .000
06002>                        +     1.0 02:A18STR      5.30     .206 No_date   28:27   50.29  n/a     .000
06003>                        +     1.0 02:A18OVF       .00     .000 No_date    0:00    .00  n/a     .000
06004>                    SUM=      1.0 01:PT3ST4      350.31   4.213 No_date   28:57   20.48  n/a     .000
06005> R0010:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06006>     ROUTE CHANNEL   ->     1.0 02:PT3ST4      350.31   4.213 No_date   28:57   20.48  n/a     .000
06007>      [RDT= 1.00] out<-     1.0 01:DRAIN3      350.31   4.037 No_date   29:17   20.48  n/a     .000
06008>       [L/S/n=  525./  .230/.043]
06009>       {Vmax=  .606:Dmax= 1.049}
06010> R0010:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06011>     CONTINUOUS NASHYD     1.0 01:D3           2.51     .072 No_date   28:44   32.13  .497     .000
06012>       [CN= 86.0: N= 3.00: Tp=  .73]
06013>       [IaREc= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
06014>       [InterEventTime=  12.00]
06015> R0010:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06016>     CONTINUOUS STANDHYD   1.0 01:C1           3.41     .523 No_date   28:01   50.29  .777     .000
06017>       [XIMP=.68:TIMP=.85]
06018>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06019>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
06020>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261:MNI=.013:SCI=   .0]
06021>       [IaREcimp=   4.00: IaRECper=    4.00]
06022> R0010:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06023>     ROUTE RESERVOIR ->     1.0 02:C1           3.41     .523 No_date   28:01   50.29  n/a     .000
06024>                out <=     1.0 01:C1-STR       3.41     .133 No_date   28:25   50.29  n/a     .000
06025>           overflow <=     1.0 03:C1-OVF        .00     .000 No_date    0:00    .00  n/a     .000
06026>    {MxStoUsed=.1552E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06027> R0010:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06028>     CONTINUOUS STANDHYD   1.0 01:ST-5          .45     .058 No_date   28:00   38.69  .598     .000
06029>       [XIMP=.46:TIMP=.57]
06030>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06031>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
06032>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95:MNI=.013:SCI=   .0]
06033>       [IaREcimp=   4.00: IaRECper=    4.00]
06034> R0010:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06035>     ROUTE RESERVOIR ->     1.0 02:ST-5          .45     .058 No_date   28:00   38.69  n/a     .000
06036>                out <=     1.0 01:ST5STR        .45     .040 No_date   28:04   38.69  n/a     .000
06037>           overflow <=     1.0 03:ST5OVF        .00     .000 No_date    0:00    .00  n/a     .000
06038>    {MxStoUsed=.1552E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06039> R0010:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06040>     ADD HYD            +     1.0 02:DRAIN3      350.31   4.037 No_date   29:17   20.48  n/a     .000
06041>                        +     1.0 02:D3           2.51     .072 No_date   28:44   32.13  .497     .000
06042>                        +     1.0 02:C1-STR       3.41     .133 No_date   28:25   50.29  n/a     .000
06043>                        +     1.0 02:C1-OVF        .00     .000 No_date    0:00    .00  n/a     .000
06044>                        +     1.0 02:ST5STR        .45     .040 No_date   28:04   38.69  n/a     .000
06045>                        +     1.0 02:ST5OVF        .00     .000 No_date    0:00    .00  n/a     .000
06046>                    SUM=      1.0 01:ST5-E       356.68   4.181 No_date   29:15   20.87  n/a     .000
06047> R0010:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06048>     CONTINUOUS STANDHYD   1.0 01:STRAND       7.59     .759 No_date   28:11   49.05  .758     .000
06049>       [XIMP=.64:TIMP=.85]
06050>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06051>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40:MNP=.250:SCP=   .0]
06052>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230:MNI=.013:SCI=   .0]
06053>       [IaREcimp=   4.00: IaRECper=    4.00]
06054> R0010:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06055>     ROUTE RESERVOIR ->     1.0 02:STRAND       7.59     .759 No_date   28:11   49.05  n/a     .000
06056>                out <=     1.0 01:S-POND       7.59     .066 No_date   29:04   49.05  n/a     .000
06057>           overflow <=     1.0 03:S-OVF         .00     .000 No_date    0:00    .00  n/a     .000
06058>    {MxStoUsed=.2593E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06059> R0010:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06060>     ADD HYD            +     1.0 02:ST5-E       356.68   4.181 No_date   29:15   20.87  n/a     .000
06061>                        +     1.0 02:S-POND       7.59     .066 No_date   29:41   49.05  n/a     .000
06062>                        +     1.0 02:S-OVF         .00     .000 No_date    0:00    .00  n/a     .000
06063>                    SUM=      1.0 01:SSAOUT      364.27   4.242 No_date   29:15   21.45  n/a     .000
06064> R0010:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06065>     SAVE HYD           +     1.0 01:SSAOUT      364.27   4.242 No_date   29:15   21.45  n/a     .000
06066>       fname :SSAOUT.0010
06067>       remark:SSAOUT
06068> R0010:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06069>     CONTINUOUS STANDHYD   1.0 01:Area-A        66.75    6.470 No_date   28:10   48.24  .746     .000
06070>       [XIMP=.64:TIMP=.80]
06071>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06072>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
06073>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155:MNI=.013:SCI=   .0]
06074>       [IaREcimp=   4.00: IaRECper=    4.00]
06075> R0010:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06076>     SAVE HYD           +     1.0 01:Area-A       66.75    6.470 No_date   28:10   48.24  n/a     .000
06077>       fname :Area-A.0010
06078>       remark:SMWF-A Inflow
06079> R0010:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06080>     ROUTE RESERVOIR ->     1.0 02:Area-A       66.75    6.470 No_date   28:10   48.24  n/a     .000
06081>                out <=     1.0 01:SWMF-A       66.75     .465 No_date   29:54   48.24  n/a     .000
06082>           overflow <=     1.0 03:SWMAOV        .00     .000 No_date    0:00    .00  n/a     .000
06083>    {MxStoUsed=.2359E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06084> R0010:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06085>     SAVE HYD           +     1.0 01:SWMF-A       66.75     .465 No_date   29:54   48.24  n/a     .000
06086>       fname :SWMF-A.0010
06087>       remark:SMWF-A Outflow
06088> R0010:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06089>     ADD HYD            +     1.0 02:SSAOUT      364.27   4.242 No_date   29:15   21.45  n/a     .000
06090>                        +     1.0 02:SWMF-A       66.75     .465 No_date   29:54   48.24  n/a     .000
06091>                        +     1.0 02:SWMAOV        .00     .000 No_date    0:00    .00  n/a     .000
06092>                    SUM=      1.0 01:PT4ST5      431.02   4.657 No_date   29:18   25.60  n/a     .000
06093> R0010:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06094>     CONTINUOUS STANDHYD   1.0 01:C6           1.87     .301 No_date   28:01   50.29  .777     .000
06095>       [XIMP=.68:TIMP=.85]
06096>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06097>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
06098>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193:MNI=.013:SCI=   .0]
06099>       [IaREcimp=   4.00: IaRECper=    4.00]
06100> R0010:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06101>     ROUTE RESERVOIR ->     1.0 02:C6           1.87     .301 No_date   28:01   50.29  n/a     .000
06102>                out <=     1.0 01:C6-STR       1.87     .074 No_date   28:22   50.29  n/a     .000
06103>           overflow <=     1.0 03:C6-OVF        .00     .000 No_date    0:00    .00  n/a     .000
06104>    {MxStoUsed=.4376E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06105> R0010:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06106>     CONTINUOUS STANDHYD   1.0 01:C7           1.62     .262 No_date   28:01   50.29  .777     .000
06107>       [XIMP=.68:TIMP=.85]
06108>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06109>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
06110>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180:MNI=.013:SCI=   .0]
06111>       [IaREcimp=   4.00: IaRECper=    4.00]
06112> R0010:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06113>     ROUTE RESERVOIR ->     1.0 02:C7           1.62     .262 No_date   28:01   50.29  n/a     .000
06114>                out <=     1.0 01:C7-STR       1.62     .064 No_date   28:22   50.29  n/a     .000
06115>           overflow <=     1.0 03:C7-OVF        .00     .000 No_date    0:00    .00  n/a     .000
06116>    {MxStoUsed=.3781E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06117> R0010:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06118>     CONTINUOUS STANDHYD   1.0 01:ST-6          .41     .053 No_date   28:00   38.69  .598     .000
06119>       [XIMP=.46:TIMP=.57]
06120>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06121>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50:MNP=.250:SCP=   .0]
06122>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91:MNI=.013:SCI=   .0]
06123>       [IaREcimp=   4.00: IaRECper=    4.00]
06124> R0010:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06125>     ROUTE RESERVOIR ->     1.0 02:ST-6          .41     .053 No_date   28:00   38.69  n/a     .000
06126>                out <=     1.0 01:ST6STR        .41     .036 No_date   28:04   38.69  n/a     .000
06127>           overflow <=     1.0 03:ST6OVF        .00     .000 No_date    0:00    .00  n/a     .000
06128>    {MxStoUsed=.1514E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06129> R0010:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06130>     ADD HYD            +     1.0 02:PT4ST5      431.02   4.657 No_date   29:18   25.60  n/a     .000
06131>                        +     1.0 02:C6-STR       1.87     .074 No_date   28:22   50.29  n/a     .000
06132>                        +     1.0 02:C6-OVF        .00     .000 No_date    0:00    .00  n/a     .000
06133>                        +     1.0 02:C7-STR       1.62     .064 No_date   28:22   50.29  n/a     .000
06134>                        +     1.0 02:C7-OVF        .00     .000 No_date    0:00    .00  n/a     .000
06135>                        +     1.0 02:ST6STR        .41     .036 No_date   28:04   38.69  n/a     .000
06136>                        +     1.0 02:ST6OVF        .00     .000 No_date    0:00    .00  n/a     .000
06137>                    SUM=      1.0 01:PT5ST6      434.92   4.740 No_date   29:18   25.81  n/a     .000
06138> R0010:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06139>     ROUTE CHANNEL   ->     1.0 02:PT5ST6      434.92   4.740 No_date   29:18   25.81  n/a     .000
06140>      [RDT= 1.00] out<-     1.0 01:DRAIN4      434.92   4.599 No_date   29:31   25.81  n/a     .000
06141>       [L/S/n=  324./  .100/.043]
06142>       {Vmax=  .468:Dmax= 1.312}
06143> R0010:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06144>     CONTINUOUS NASHYD     1.0 01:D4           1.73     .063 No_date   28:35   34.48  .533     .000
06145>       [CN= 88.0: N= 3.00: Tp=  .60]
06146>       [IaREc= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
06147>       [InterEventTime=  12.00]
06148> R0010:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06149>     CONTINUOUS STANDHYD   1.0 01:Area-B        24.04    3.287 No_date   28:03   47.09  .728     .000
06150>       [XIMP=.62:TIMP=.77]
06151>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06152>       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50:MNP=.250:SCP=   .0]
06153>       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693:MNI=.013:SCI=   .0]
06154>       [IaREcimp=   4.00: IaRECper=    4.00]
06155> R0010:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06156>     ROUTE RESERVOIR ->     1.0 02:Area-B        24.04    3.287 No_date   28:03   47.09  n/a     .000
06157>                out <=     1.0 01:SWMF-B        24.04     .356 No_date   28:50   47.09  n/a     .000
06158>           overflow <=     1.0 03:SWMBOVF        .00     .000 No_date    0:00    .00  n/a     .000
06159>    {MxStoUsed=.7142E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06160> R0010:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06161>     ADD HYD            +     1.0 02:DRAIN4      434.92   4.599 No_date   29:31   25.81  n/a     .000
06162>                        +     1.0 02:D4           1.73     .063 No_date   28:35   34.48  n/a     .000
06163>                        +     1.0 02:SWMF-B       24.04     .356 No_date   28:50   47.09  n/a     .000
06164>                        +     1.0 02:SWMBOVF       .00     .000 No_date    0:00    .00  n/a     .000
06165>                    SUM=      1.0 01:D4-EX       460.69   4.958 No_date   29:31   26.95  n/a     .000
06166> R0010:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06167>     ROUTE CHANNEL   ->     1.0 02:D4-EX       460.69   4.958 No_date   29:31   26.95  n/a     .000
06168>      [RDT= 1.00] out<-     1.0 01:DRAIN5      460.69   4.881 No_date   29:37   26.95  n/a     .000
06169>       [L/S/n=  413./ .160/.033]
06170>       {Vmax=  .599:Dmax=  .896}
06171> R0010:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06172>     CONTINUOUS NASHYD     1.0 01:D5           1.90     .057 No_date   28:41   32.13  .497     .000
06173>       [CN= 86.0: N= 3.00: Tp=  .69]
06174>       [IaREc= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
06175>       [InterEventTime=  12.00]
06176> R0010:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06177>     CONTINUOUS NASHYD     1.0 01:O-13SDF      9.74     .371 No_date   28:22   30.32  .469     .000
06178>       [CN= 81.0: N= 3.00: Tp=  .43]
06179>       [IaREc= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
06180>       [InterEventTime=  12.00]
06181> R0010:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06182>     ROUTE RESERVOIR ->     1.0 02:O-13SDF      9.74     .371 No_date   28:22   30.32  n/a     .000
06183>                out <=     1.0 01:O13SDF       9.74     .040 No_date   31:17   30.32  n/a     .000
06184>           overflow <=     1.0 03:OVFSDF        .00     .000 No_date    0:00    .00  n/a     .000
06185>    {MxStoUsed=.1596E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06186> R0010:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06187>     ADD HYD            +     1.0 02:DRAIN5      460.69   4.881 No_date   29:37   26.95  n/a     .000
06188>                        +     1.0 02:D5           1.90     .057 No_date   28:41   32.13  n/a     .000
06189>                        +     1.0 02:SDF          9.74     .040 No_date   31:17   30.32  n/a     .000
06190>                    SUM=      1.0 01:PT6MC       472.33   4.951 No_date   29:37   27.04  n/a     .000
06191> R0010:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06192>     CONTINUOUS NASHYD     1.0 01:O-15         10.67     .502 No_date   28:13   29.12  .450     .000
06193>       [CN= 82.0: N= 3.00: Tp=  .30]
06194>       [IaREc= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
06195>       [InterEventTime=  12.00]
06196> R0010:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06197>     ADD HYD            +     1.0 02:PT6MC       472.33   4.951 No_date   29:37   27.04  n/a     .000
06198>                        +     1.0 02:O-15         10.67     .502 No_date   28:13   29.12  n/a     .000
06199>                    SUM=      1.0 01:M-C         483.00   5.029 No_date   29:36   27.09  n/a     .000
06200> R0010:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06201>     ROUTE CHANNEL   ->     1.0 02:M-C         483.00   5.029 No_date   29:36   27.09  n/a     .000
06202>      [RDT= 1.00] out<-     1.0 01:O-14Ch      483.00   4.686 No_date   30:11   27.09  n/a     .000
06203>       [L/S/n=  845./ .100/.033]
06204>       {Vmax=  .618:Dmax= 1.565}
06205> R0010:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06206>     CONTINUOUS NASHYD     1.0 01:O-14          5.00     .389 No_date   28:04   29.12  .450     .000
06207>       [CN= 82.0: N= 3.00: Tp=  .13]
06208>       [IaREc= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
06209>       [InterEventTime=  12.00]
06210> R0010:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06211>     ADD HYD            +     1.0 02:O-14Ch      483.00   4.686 No_date   30:11   27.09  n/a     .000
06212>                        +     1.0 02:O-14         5.00     .389 No_date   28:04   29.12  n/a     .000
06213>                    SUM=      1.0 01:OKEEFE      488.00   4.709 No_date   30:11   27.11  n/a     .000
06214> #*********************************************************************
06215> #    Okeefe Pond
06216> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
06217> #      and a ratio of the catchment area to the West Clarke pond rating curve
06218> #      from the MSS for the next coordinates
06219> #*********************************************************************
06220> R0010:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06221>     CONTINUOUS NASHYD     1.0 01:S-1-D2       18.67     .308 No_date   29:12   26.85  .415     .000
06222>       [CN= 77.0: N= 3.00: Tp= 1.12]
06223>       [IaREc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06224>       [InterEventTime=  12.00]
06225> R0010:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06226>     CONTINUOUS NASHYD     1.0 01:S-1-D3        6.79     .102 No_date   29:24   26.85  .415     .000
06227>       [CN= 77.0: N= 3.00: Tp= 1.28]
06228>       [IaREc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06229>       [InterEventTime=  12.00]
06230> R0010:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06231>     ADD HYD            +     1.0 02:N_OK       53064.36   84.059 No_date   34:06   22.56  n/a     .000
06232>                        +     1.0 02:OKEEFE       488.00    4.709 No_date   30:11   27.11  n/a     .000
06233>                        +     1.0 02:S-1-D2        18.67     .308 No_date   29:12   26.85  n/a     .000
06234>                        +     1.0 02:S-1-D3         6.79     .102 No_date   29:24   26.85  n/a     .000
06235>                    SUM=      1.0 01:SN_OK      53577.82   85.805 No_date   33:41   22.60  n/a     .000
06236> R0010:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06237>     SAVE HYD           +     1.0 01:SN_OK      53577.82   85.805 No_date   33:41   22.60  n/a     .000
06238>       fname :SN_OK.0010
06239>       remark:Total Flows at Okeefe Drain
06240> #
06241> # Hydrograph from Node Okeefe routed to Node at Foster Drain
06242> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
06243> #
06244> R0010:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06245>     ROUTE CHANNEL   ->     1.0 02:SN_OK      53577.82   85.805 No_date   33:41   22.60  n/a     .000
06246>      [RDT= 1.00] out<-     1.0 01:N_FO       53577.82   85.613 No_date   34:07   22.60  n/a     .000
06247>       [L/S/n= 1183./ .076/.035]
06248>       {Vmax= 1.103:Dmax= 2.861}
06249> #*********************************************************************
06250> #    Catchment FOSTER
06251> #    - To Foster ditch (north of the Jock)
06252> #    - Partially developed (medium density); remaining agricultural
06253> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
06254> #    - 2020-12-01 decrease in drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
06255> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
06256> #*********************************************************************
06257> R0010:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06258>     CONTINUOUS STANDHYD   1.0 01:FOSTER       325.44   22.870 No_date   28:13   43.99  .680     .000
06259>       [XIMP=.55:TIMP=.55]
06260>       [LOSS= 2 :CN= 74.0]
06261>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40:MNP=.250:SCP=   .0]
06262>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473:MNI=.013:SCI=   .0]
06263>       [IaREcimp=   4.00: IaRECper=    4.00]
06264>       [SMIN= 36.67: SMAX=244.49: SK= .010]
06265> #*********************************************************************
06266> #    Foster Pond
06267> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
06268> #      and a ratio of the catchment area to the West Clarke pond rating curve
06269> #      from the MSS for the next coordinates
06270> #*********************************************************************
06271> R0010:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06272>     ROUTE RESERVOIR ->     1.0 02:FOSTER       325.44   22.870 No_date   28:13   43.99  n/a     .000
06273>                out <=     1.0 01:P_FOS        325.44    6.061 No_date   29:06   43.99  n/a     .000
06274>           overflow <=     1.0 03:FO-OVF         .00     .000 No_date    0:00    .00  n/a     .000
06275>    {MxStoUsed=.5862E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06276> R0010:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06277>     ADD HYD            +     1.0 02:P_FOS        325.44    6.061 No_date   29:06   43.99  n/a     .000
06278>                        +     1.0 02:FO-OVF         .00     .000 No_date    0:00    .00  n/a     .000
06279>                    SUM=      1.0 01:FOSTER-OUT   325.44    6.061 No_date   29:06   43.99  n/a     .000
06280> #*********************************************************************
06281> R0010:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06282>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29    7.523 No_date   28:05   47.94  .741     .000
06283>       [XIMP=.60:TIMP=.65]
06284>       [LOSS= 2 :CN= 77.0]
06285>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40:MNP=.250:SCP=   .0]
06286>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699:MNI=.013:SCI=   .0]
06287>       [IaREcimp=   4.00: IaRECper=    4.00]
06288>       [SMIN= 31.15: SMAX=207.66: SK= .010]
06289> R0010:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06290>     ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29    7.523 No_date   28:05   47.94  n/a     .000
06291>                out <=     1.0 01:MS_P10         73.29    1.136 No_date   29:00   47.94  n/a     .000
06292>           overflow <=     1.0 03:P10-OVF         .00     .000 No_date    0:00    .00  n/a     .000
06293>    {MxStoUsed=.1341E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06294> R0010:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06295>     CONTINUOUS NASHYD     1.0 01:S-1-FO-D2     4.94     .083 No_date   29:11   26.85  .415     .000
06296>       [CN= 77.0: N= 3.00: Tp= 1.00]
06297>       [IaREc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06298>       [InterEventTime=  12.00]
06299> R0010:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06300>     ADD HYD            +     1.0 02:FOSTER-OUT   325.44    6.061 No_date   29:06   43.99  n/a     .000
06301>                        +     1.0 02:S-1-FO-D2      4.94     .083 No_date   29:11   26.85  n/a     .000
06302>                    SUM=      1.0 01:SN_OK       330.38   6.143 No_date   29:06   43.73  n/a     .000
06303> R0010:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06304>     SAVE HYD           +     1.0 01:980         330.38   6.143 No_date   29:06   43.73  n/a     .000
06305>       fname :980.0010
06306>       remark:Total Flows at Station 980 on Foster Drain
06307> #
06308> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
06309> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
06310> #
06311> R0010:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06312>     ROUTE CHANNEL   ->     1.0 02:980         330.38   6.143 No_date   29:06   43.73  n/a     .000
06313>      [RDT= 1.00] out<-     1.0 01:980-out     330.38   5.938 No_date   29:11   43.73  n/a     .000
06314>       [L/S/n=  460./ .043/.030]
06315>       {Vmax=  .635:Dmax= 1.384}
06316> R0010:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06317>     CONTINUOUS NASHYD     1.0 01:S-1-FO-D1     5.11     .085 No_date   29:11   26.85  .415     .000
06318>       [CN= 77.0: N= 3.00: Tp= 1.10]
06319>       [IaREc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06320>       [InterEventTime=  12.00]
06321> R0010:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06322>     ADD HYD            +     1.0 02:980-out     330.38   5.938 No_date   29:11   43.73  n/a     .000
06323>                        +     1.0 02:S-1-FO-D1      5.11     .085 No_date   29:11   26.85  n/a     .000
06324>                    SUM=      1.0 01:520         335.49   6.023 No_date   29:11   43.47  n/a     .000
06325> R0010:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06326>     SAVE HYD           +     1.0 01:520         335.49   6.023 No_date   29:11   43.47  n/a     .000
06327>       fname :520.0010
06328>       remark:Total Flows at Station 520 on Foster Drain
06329> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
06330> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
06331> #
06332> R0010:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06333>     ROUTE CHANNEL   ->     1.0 02:520         335.49   6.023 No_date   29:11   43.47  n/a     .000
06334>      [RDT= 1.00] out<-     1.0 01:520-
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06359>       [InterEventTime=  12.00]
06360> R0010:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06361>     ADD HYD                1.0 02:N_FO      53577.82   85.613 No_date   34:07   22.60  n/a     .000
06362>                        +    1.0 02:520-out     335.49    5.972 No_date   29:28   43.48  n/a     .000
06363>                        +    1.0 02:MS_P10       73.29    1.136 No_date   29:00   47.94  n/a     .000
06364>                        +    1.0 02:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06365>                        +    1.0 02:W_CLAR_UND   35.65    .596 No_date   29:11   26.85  n/a     .000
06366>                        +    1.0 02:S-1-FO-F-D   14.96    .267 No_date   29:04   26.85  n/a     .000
06367>                        +    1.0 02:S-1-D8        5.27    .768 No_date   28:00   48.63  n/a     .000
06368>                        +    1.0 02:S-1-A        75.88   1.915 No_date   28:36   26.85  n/a     .000
06369>                    SUM=     1.0 01:SN_FO     54118.36  89.156 No_date   33:42   22.78  n/a     .000
06370> R0010:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06371>     SAVE HYD               1.0 01:SN_FO     54118.36  89.156 No_date   33:42   22.78  n/a     .000
06372>       fname :SN_FO.0010
06373>       remark:Total flows at Foster Drain
06374> # Hydrograph from Node Foster routed to Node at Cedarview Road
06375> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
06376> #
06377> R0010:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06378>     ROUTE CHANNEL   ->     1.0 02:SN_FO     54118.36  89.156 No_date   33:42   22.78  n/a     .000
06379> *   [RDT= 1.00] out<-      1.0 01:N_CE      54118.36  89.070 No_date   33:43   22.78  n/a     .000
06380>       [L/S/n=  159./ .082/.035]
06381>       {Vmax= 1.328:Dmax= 3.415}
06382> #*************************************************************************
06383> #     Catchment S-1
06384> #     - To Jock River (north and south of Jock)
06385> #     - Primarily agricultural fields; portion of sand quarry
06386> #*************************************************************************
06387> R0010:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06388>     CONTINUOUS NASHYD      1.0 01:S-1-B        55.36    1.740 No_date   28:24   26.85  .415    .000
06389>       [CN= 77.0: N= 3.00: Tp=  .45]
06390>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06391>       [InterEventTime=  12.00]
06392> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
06393> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
06394> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
06395> R0010:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06396>     CONTINUOUS NASHYD      1.0 01:S-1-D1       21.67     .371 No_date   29:08   26.85  .415    .000
06397>       [CN= 77.0: N= 3.00: Tp= 1.07]
06398>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06399>       [InterEventTime=  12.00]
06400> R0010:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06401>     CONTINUOUS NASHYD      1.0 01:S-1-D4        3.28     .055 No_date   29:11   26.85  .415    .000
06402>       [CN= 77.0: N= 3.00: Tp= 1.10]
06403>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06404>       [InterEventTime=  12.00]
06405> R0010:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06406>     CONTINUOUS NASHYD      1.0 01:S-1-D5       12.84     .215 No_date   29:11   26.85  .415    .000
06407>       [CN= 77.0: N= 3.00: Tp= 1.10]
06408>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06409>       [InterEventTime=  12.00]
06410> R0010:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06411>     CONTINUOUS NASHYD      1.0 01:S-1-D6        1.75     .029 No_date   29:11   26.85  .415    .000
06412>       [CN= 77.0: N= 3.00: Tp= 1.10]
06413>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06414>       [InterEventTime=  12.00]
06415> R0010:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06416>     CONTINUOUS NASHYD      1.0 01:S-1-D7        2.03     .034 No_date   29:11   26.85  .415    .000
06417>       [CN= 77.0: N= 3.00: Tp= 1.10]
06418>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06419>       [InterEventTime=  12.00]
06420> #     Catchment W_CLAR
06421> #     - To West Clarke Drain (south of the Jock)
06422> #     - Subdivision with 43% imp. as per Barrhaven South MSS
06423> #     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
06424> #     - 2020-12-30 split CLARKE Drainage Area to MAJOR and ALL
06425> #*************************************************************************
06426> R0010:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06427>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ     1.77     .229 No_date   28:00   43.97  n/a     .000
06428>       [XIMP=.46:TIMP=.59]
06429>       [LOSS= 2 :CN= 77.0]
06430>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
06431>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
06432>       [IaRECimp=   4.00: IaRECper=   4.00]
06433>       [SMIN= 31.15: SMAX=207.66: SK= .010]
06434> # 5-Year + 12% Capture
06435> R0010:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06436>     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ     1.77     .229 No_date   28:00   43.97  n/a     .000
06437>                    out <=  1.0 01:W_CLAR_MJn    1.77     .213 No_date   27:58   43.97  n/a     .000
06438>                overflow <=  1.0 03:W_CLAR_MJj      .00     .013 No_date   28:00   43.97  n/a     .000
06439>     {MxStoUsed=.8179E-04  m3, TotOvfVol=.1952E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
06440> R0010:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06441>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL   119.40   12.497 No_date   28:05   47.94  .741    .000
06442>       [XIMP=.60:TIMP=.65]
06443>       [LOSS= 2 :CN= 77.0]
06444>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
06445>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
06446>       [IaRECimp=   4.00: IaRECper=   4.00]
06447>       [SMIN= 31.15: SMAX=207.66: SK= .010]
06448> R0010:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06449>     ADD HYD                1.0 02:W_CLAR_ALL   119.40   12.497 No_date   28:05   47.94  n/a     .000
06450>                        +    1.0 02:W_CLAR_MJ       .00     .013 No_date   28:00   43.97  n/a     .000
06451>                    SUM=     1.0 01:W_CLAR       119.40   12.497 No_date   28:05   47.94  n/a     .000
06452> R0010:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06453>     SAVE HYD               1.0 01:W_CLAR       119.40   12.497 No_date   28:05   47.94  n/a     .000
06454>       fname :W_CLAR.0010
06455>       remark:Total Flows to West Clarke
06456> #*************************************************************************
06457> #     West Clarke Pond 2
06458> #     - Rating curve obtained from Barrhaven South MSS modeling
06459> #     - Tributary Drainage Area to MSS Pond 2 = 241 ha
06460> #*************************************************************************
06461> R0010:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06462>     ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.40   12.497 No_date   28:05   47.94  n/a     .000
06463>                    out <=  1.0 01:MS_P2        119.40    3.959 No_date   28:33   47.94  n/a     .000
06464>                overflow <=  1.0 03:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
06465>     {MxStoUsed=.2802E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06466> #*************************************************************************
06467> R0010:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06468>     ADD HYD                1.0 02:N_CE      54118.36  89.070 No_date   33:43   22.78  n/a     .000
06469>                        +    1.0 02:S-1-D4        3.28     .055 No_date   29:11   26.85  n/a     .000
06470>                        +    1.0 02:S-1-D5       12.84     .215 No_date   29:11   26.85  n/a     .000
06471>                        +    1.0 02:MS_P2       119.40    3.959 No_date   28:33   47.94  n/a     .000
06472>                        +    1.0 02:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
06473>                    SUM=     1.0 01:SN_CE     54253.88  89.884 No_date   33:43   22.84  n/a     .000
06474> R0010:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06475>     SAVE HYD               1.0 01:SN_CE     54253.88  89.884 No_date   33:43   22.84  n/a     .000
06476>       fname :SN_CE.0010
06477>       remark:Total Flows before Station 5737 on Jock River
06478> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
06479> # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
06480> # JFSA 2021-03-02  change the slope to 0.15 instead of 0.0175 to stabilize the model
06481> R0010:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06482>     ROUTE CHANNEL   ->     1.0 02:SN_CE     54253.88  89.884 No_date   33:43   22.84  n/a     .000
06483> *   [RDT= 1.00] out<-      1.0 01:5737      54253.88  86.609 No_date   35:45   22.84  n/a     .000
06484>       [L/S/n=  270./ .018/.035]
06485>       {Vmax=  .730:Dmax= 4.471}
06486> R0010:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06487>     ADD HYD                1.0 02:5737      54253.88  86.609 No_date   35:45   22.84  n/a     .000
06488>                        +    1.0 02:S-1-D1       21.67     .371 No_date   29:08   26.85  n/a     .000
06489>                        +    1.0 02:S-1-D6        1.75     .029 No_date   29:11   26.85  n/a     .000
06490>                        +    1.0 02:S-1-D7        2.03     .034 No_date   29:11   26.85  n/a     .000
06491>                    SUM=     1.0 01:5002      54279.34  86.671 No_date   35:45   22.84  n/a     .000
06492> R0010:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06493>     SAVE HYD               1.0 01:5002      54279.34  86.671 No_date   35:45   22.84  n/a     .000
06494>       fname :5002.0010
06495>       remark:Total Flows before Station 5002 on Jock River
06496> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
06497> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
06498> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
06499> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
06500> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
06501> R0010:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06502>     ROUTE CHANNEL   ->     1.0 02:5002      54279.34  86.671 No_date   35:45   22.84  n/a     .000
06503> *   [RDT= 1.00] out<-      1.0 01:N_WCa     54279.34  86.687 No_date   35:42   22.84  n/a     .000
06504>       [L/S/n=  245./ .095/.035]
06505>       {Vmax= 1.138:Dmax= 2.539}
06506> R0010:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06507>     ROUTE CHANNEL   ->     1.0 02:N_WCa     54279.34  86.687 No_date   35:42   22.84  n/a     .000
06508> *   [RDT= 1.00] out<-      1.0 01:N_WCb     54279.34  86.651 No_date   35:51   22.84  n/a     .000
06509>       [L/S/n=  245./ .095/.035]
06510>       {Vmax= 1.138:Dmax= 2.539}
06511> R0010:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06512>     ROUTE CHANNEL   ->     1.0 02:N_WCb     54279.34  86.651 No_date   35:51   22.84  n/a     .000
06513> *   [RDT= 1.00] out<-      1.0 01:N_WC      54279.34  86.639 No_date   35:58   22.84  n/a     .000
06514>       [L/S/n=  245./ .095/.035]
06515>       {Vmax= 1.138:Dmax= 2.539}
06516> #*************************************************************************
06517> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
06518> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
06519> #
06520> R0010:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06521>     ROUTE CHANNEL   ->     1.0 02:N_WC      54279.34  86.639 No_date   35:58   22.84  n/a     .000
06522> *   [RDT= 1.00] out<-      1.0 01:N_KB      54279.34  86.222 No_date   36:19   22.84  n/a     .000
06523>       [L/S/n= 1020./ .050/.035]
06524>       {Vmax= 1.007:Dmax= 3.153}
06525> #*************************************************************************
06526> #     Catchment KEN_BU
06527> #     - To Kennedy-Burnett SWM Facility
06528> #     - Outlets to Fraser-Clarke drain (north of the Jock)
06529> #     - Medium density residential subdivision
06530> #*************************************************************************
06531> #*************************************************************************
06532> #   Existing Kennedy-Burnett SWM Facility
06533> #     - Rating curve obtained from URTKBP
06534> #     - Tributary Drainage Area to Pond = 160 ha
06535> #*************************************************************************
06536> R0010:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06537>     CONTINUOUS STANDHYD    1.0 01:KB-01A       40.82    3.338 No_date   28:12   24.14  .373    .000
06538>       [XIMP=.10:TIMP=.40]
06539>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06540>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06541>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
06542>       [IaRECimp=   4.00: IaRECper=   4.00]
06543> R0010:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06544>     COMPUTE DUALHYD        1.0 01:KB-01A       40.82    3.338 No_date   28:12   24.14  n/a     .000
06545>       Major System   /     1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06546>       Minor System   \     1.0 03:KB-01A-MN     40.82    3.338 No_date   28:12   24.14  n/a     .000
06547>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06548> R0010:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06549>     ADD HYD                1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06550>                        +    1.0 02:KB-01A-MN     40.82    3.338 No_date   28:12   24.14  n/a     .000
06551>                    SUM=     1.0 01:KB-01A-S      40.82    3.338 No_date   28:12   24.14  n/a     .000
06552> R0010:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06553>     CONTINUOUS STANDHYD    1.0 01:KB-01B       31.10    2.335 No_date   28:08   26.73  .413    .000
06554>       [XIMP=.19:TIMP=.38]
06555>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06556>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
06557>       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
06558>       [IaRECimp=   4.00: IaRECper=   4.00]
06559> R0010:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06560>     COMPUTE DUALHYD        1.0 01:KB-01B       31.10    2.335 No_date   28:08   26.73  n/a     .000
06561>       Major System   /     1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06562>       Minor System   \     1.0 03:KB-01B-MN     31.10    1.585 No_date   27:59   26.78  n/a     .000
06563>       {MjSysSto=.827ZE+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06564> R0010:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06565>     ADD HYD                1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06566>                        +    1.0 02:KB-01B-MN     31.10    1.585 No_date   27:59   26.78  n/a     .000
06567>                    SUM=     1.0 01:KB-01B-S      31.10    1.585 No_date   27:59   26.78  n/a     .000
06568> R0010:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06569>     CONTINUOUS STANDHYD    1.0 01:KB-01C       13.78    1.534 No_date   28:05   27.74  .429    .000
06570>       [XIMP=.20:TIMP=.41]
06571>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06572>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06573>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
06574>       [IaRECimp=   4.00: IaRECper=   4.00]
06575> R0010:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06576>     COMPUTE DUALHYD        1.0 01:KB-01C       13.78    1.534 No_date   28:05   27.74  n/a     .000
06577>       Major System   /     1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06578>       Minor System   \     1.0 03:KB-01C-MN     13.78    1.350 No_date   28:00   27.93  n/a     .000
06579>       {MjSysSto=.6901E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06580> R0010:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06581>     ADD HYD                1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06582>                        +    1.0 02:KB-01C-MN     13.78    1.350 No_date   28:00   27.93  n/a     .000
06583>                    SUM=     1.0 01:KB-01C-S      13.78    1.350 No_date   28:00   27.93  n/a     .000
06584> R0010:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06585>     CONTINUOUS STANDHYD    1.0 01:KB-03        84.78    7.685 No_date   28:09   27.30  .422    .000
06586>       [XIMP=.20:TIMP=.39]
06587>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06588>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06589>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
06590>       [IaRECimp=   4.00: IaRECper=   4.00]
06591> R0010:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06592>     COMPUTE DUALHYD        1.0 01:KB-03        84.78    7.685 No_date   28:09   27.30  n/a     .000
06593>       Major System   /     1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06594>       Minor System   \     1.0 03:KB-03-MN     84.78    5.270 No_date   27:59   27.40  n/a     .000
06595>       {MjSysSto=.2022E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06596> R0010:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06597>     ADD HYD                1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06598>                        +    1.0 02:KB-03-MN     84.78    5.270 No_date   27:59   27.40  n/a     .000
06599>                    SUM=     1.0 01:KB-03-S      84.78    5.270 No_date   27:59   27.40  n/a     .000
06600> R0010:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06601>     CONTINUOUS STANDHYD    1.0 01:KB-04        6.95    1.217 No_date   28:01   56.45  .873    .000
06602>       [XIMP=.85:TIMP=.85]
06603>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06604>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06605>       [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
06606>       [IaRECimp=   4.00: IaRECper=   4.00]
06607> R0010:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06608>     COMPUTE DUALHYD        1.0 01:KB-04        6.95    1.217 No_date   28:01   56.45  n/a     .000
06609>       Major System   /     1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06610>       Minor System   \     1.0 03:KB-04-MN      6.95     .503 No_date   27:46   56.53  n/a     .000
06611>       {MjSysSto=.5392E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06612> R0010:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06613>     ADD HYD                1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06614>                        +    1.0 02:KB-04-MN      6.95     .503 No_date   27:46   56.53  n/a     .000
06615>                    SUM=     1.0 01:KB-04-S       6.95     .503 No_date   27:46   56.53  n/a     .000
06616> R0010:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06617>     CONTINUOUS STANDHYD    1.0 01:KB-05        5.19     .983 No_date   28:00   59.76  .924    .000
06618>       [XIMP=.93:TIMP=.93]
06619>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06620>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06621>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
06622>       [IaRECimp=   4.00: IaRECper=   4.00]
06623> R0010:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06624>     CONTINUOUS STANDHYD    1.0 01:KB-06        12.93    2.536 No_date   28:00   57.57  .890    .000
06625>       [XIMP=.87:TIMP=.87]
06626>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06627>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06628>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
06629>       [IaRECimp=   4.00: IaRECper=   4.00]
06630> R0010:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06631>     COMPUTE DUALHYD        1.0 01:KB-06        12.93    2.536 No_date   28:00   57.57  n/a     .000
06632>       Major System   /     1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06633>       Minor System   \     1.0 03:KB-06-MN     12.93    2.262 No_date   27:56   57.80  n/a     .000
06634>       {MjSysSto=.6369E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06635> R0010:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06636>     ADD HYD                1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06637>                        +    1.0 02:KB-06-MN     12.93    2.262 No_date   27:56   57.80  n/a     .000
06638>                    SUM=     1.0 01:KB-06-S      12.93    2.262 No_date   27:56   57.80  n/a     .000
06639> R0010:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06640>     CONTINUOUS STANDHYD    1.0 01:KB-11         4.03     .686 No_date   28:00   48.04  .743    .000
06641>       [XIMP=.68:TIMP=.68]
06642>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06643>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06644>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
06645>       [IaRECimp=   4.00: IaRECper=   4.00]
06646> R0010:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06647>     COMPUTE DUALHYD        1.0 01:KB-11         4.03     .686 No_date   28:00   48.04  n/a     .000
06648>       Major System   /     1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06649>       Minor System   \     1.0 03:KB-11-MN      4.03     .577 No_date   27:55   48.44  n/a     .000
06650>       {MjSysSto=.2954E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06651> R0010:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06652>     ADD HYD                1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06653>                        +    1.0 02:KB-11-MN      4.03     .577 No_date   27:55   48.44  n/a     .000
06654>                    SUM=     1.0 01:KB-11-S       4.03     .577 No_date   27:55   48.44  n/a     .000
06655> R0010:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06656>     CONTINUOUS STANDHYD    1.0 01:S1            4.99    1.020 No_date   28:00   59.76  .924    .000
06657>       [XIMP=.93:TIMP=.93]
06658>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06659>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06660>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
06661>       [IaRECimp=   4.00: IaRECper=   4.00]
06662> R0010:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06663>     CONTINUOUS STANDHYD    1.0 01:KB-15         2.15     .377 No_date   28:00   54.15  .837    .000
06664>       [XIMP=.79:TIMP=.79]
06665>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06666>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06667>       [Impervious   area: IAimp=  .10:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
06668>       [IaRECimp=   4.00: IaRECper=   4.00]
06669> R0010:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06670>     ADD HYD                1.0 02:KB-01B-S      40.82    3.338 No_date   28:12   24.14  n/a     .000
06671>                        +    1.0 02:KB-01B-S      31.10    1.585 No_date   27:59   26.78  n/a     .000
06672>                        +    1.0 02:KB-01C-S      13.78    1.350 No_date   28:00   27.93  n/a     .000
06673>                        +    1.0 02:KB-03-S       84.78    5.270 No_date   27:59   27.40  n/a     .000
06674>                        +    1.0 02:KB-04-S        6.95     .503 No_date   27:46   56.53  n/a     .000
06675>                        +    1.0 02:KB-05          5.19     .983 No_date   28:00   59.76  n/a     .000
06676>                        +    1.0 02:KB-06-S       12.93    2.262 No_date   27:56   57.80  n/a     .000
06677>                        +    1.0 02:KB-11-S        4.03     .577 No_date   27:55   48.44  n/a     .000
06678>                        +    1.0 02:KB-15          2.15     .377 No_date   28:00   54.15  n/a     .000
06679>                        +    1.0 02:S1             4.99    1.020 No_date   28:00   59.76  n/a     .000
06680>                    SUM=     1.0 01:KB-P1       206.72   16.418 No_date   28:01   31.86  n/a     .000
06681> R0010:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06682>     ROUTE RESERVOIR ->     1.0 02:KB-P1       206.72   16.418 No_date   28:01   31.86  n/a     .000
06683>                    out <=  1.0 01:KB-P1R      206.72   12.427 No_date   28:17   31.86  n/a     .000
06684>                overflow <=  1.0 03:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
06685>     {MxStoUsed=.7282E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06686> R0010:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06687>     ADD HYD                1.0 02:KB-P1R      206.72   12.427 No_date   28:17   31.86  n/a     .000
06688>                        +    1.0 02:KB-P1ovf       .00     .000 No_date    0:00     .00  n/a     .000
06689>                    SUM=     1.0 01:KB-Pond1    206.72   12.427 No_date   28:17   31.86  n/a     .000
06690> R0010:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06691>     SAVE HYD               1.0 01:KB-Pond1    206.72   12.427 No_date   28:17   31.86  n/a     .000
06692>       fname :KB-Pond1.0010
06693>       remark:Total Flows at KB first pond
06694> R0010:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06695>     CONTINUOUS STANDHYD    1.0 01:KB-07        10.86    2.042 No_date   28:00   57.07  .882    .000
06696>       [XIMP=.86:TIMP=.86]
06697>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06698>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06699>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
06700>       [IaRECimp=   4.00: IaRECper=   4.00]
06701> R0010:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06702>     COMPUTE DUALHYD        1.0 01:KB-07        10.86    2.042 No_date   28:00   57.07  n/a     .000
06703>       Major System   /     1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06704>       Minor System   \     1.0 03:KB-07-MN     10.86    2.042 No_date   28:00   57.07  n/a     .000
06705>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06706> R0010:C00220------------DTmin-ID:NHYD---------AREAha-QPEA
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06733> R0010:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06734>     CONTINUOUS STANDHYD    1.0 01:KB-10_1        2.37     .470 No_date   28:00   56.40 .872     .000
06735>       [XIMP=.86:TIMP=.86]
06736>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06737>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06738>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
06739>       [IaRECimp=   4.00: IaRECper=   4.00]
06740> R0010:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06741>     CONTINUOUS STANDHYD    1.0 01:KB-10_2        1.14     .229 No_date   28:00   56.40 .872     .000
06742>       [XIMP=.86:TIMP=.86]
06743>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06744>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06745>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
06746>       [IaRECimp=   4.00: IaRECper=   4.00]
06747> R0010:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06748>     CONTINUOUS STANDHYD    1.0 01:KB-12          4.86     .900 No_date   28:00   53.41 .826     .000
06749>       [XIMP=.79:TIMP=.79]
06750>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06751>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06752>       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
06753>       [IaRECimp=   4.00: IaRECper=   4.00]
06754> R0010:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06755>     COMPUTE DUALHYD        1.0 01:KB-12          4.86     .900 No_date   28:00   53.41  n/a     .000
06756>       Major System   /     1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06757>       Minor System   \     1.0 03:KB-12-MN       4.86     .867 No_date   27:58   53.47  n/a     .000
06758>       {MjSysSto=.3261E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06759> R0010:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06760>     ADD HYD                1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06761>                          +     1.0 02:KB-12-MN     4.86     .867 No_date   27:58   53.47  n/a     .000
06762>                        SUM=    1.0 01:KB-12-S      4.86     .867 No_date   27:58   53.47  n/a     .000
06763> R0010:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06764>     CONTINUOUS STANDHYD    1.0 01:KB-13         10.19    1.611 No_date   28:00   46.33 .716     .000
06765>       [XIMP=.64:TIMP=.64]
06766>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06767>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06768>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
06769>       [IaRECimp=   4.00: IaRECper=   4.00]
06770> R0010:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06771>     COMPUTE DUALHYD        1.0 01:KB-13         10.19    1.611 No_date   28:00   46.33  n/a     .000
06772>       Major System   /     1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06773>       Minor System   \     1.0 03:KB-13-MN      10.19    1.611 No_date   28:00   46.33  n/a     .000
06774>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06775> R0010:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06776>     ADD HYD                1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06777>                          +     1.0 02:KB-13-MN     10.19    1.611 No_date   28:00   46.33  n/a     .000
06778>                        SUM=    1.0 01:KB-13-S      10.19    1.611 No_date   28:00   46.33  n/a     .000
06779> R0010:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06780>     CONTINUOUS STANDHYD    1.0 01:KB-14          5.47     .898 No_date   28:00   46.33 .716     .000
06781>       [XIMP=.64:TIMP=.64]
06782>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06783>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06784>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
06785>       [IaRECimp=   4.00: IaRECper=   4.00]
06786> R0010:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06787>     COMPUTE DUALHYD        1.0 01:KB-14          5.47     .898 No_date   28:00   46.33  n/a     .000
06788>       Major System   /     1.0 02:KB-14-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06789>       Minor System   \     1.0 03:KB-14-MN       5.47     .873 No_date   27:59   46.40  n/a     .000
06790>       {MjSysSto=.1663E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06791> R0010:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06792>     ADD HYD                1.0 02:KB-14-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06793>                          +     1.0 02:KB-14-MN     5.47     .873 No_date   27:59   46.40  n/a     .000
06794>                        SUM=    1.0 01:KB-14-S      5.47     .873 No_date   27:59   46.40  n/a     .000
06795> R0010:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06796>     CONTINUOUS STANDHYD    1.0 01:KB-16_2        3.42     .545 No_date   28:01   50.20 .776     .000
06797>       [XIMP=.71:TIMP=.71]
06798>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06799>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06800>       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 151.:MNI=.013:SCI=   .0]
06801>       [IaRECimp=   4.00: IaRECper=   4.00]
06802> R0010:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06803>     ADD HYD                1.0 02:KB-Pond1     206.72   12.427 No_date   28:17   31.86  n/a     .000
06804>                          +     1.0 02:KB-07-S     10.86    2.042 No_date   28:00   57.07  n/a     .000
06805>                          +     1.0 02:KB-08-S      6.61    1.058 No_date   28:00   46.37  n/a     .000
06806>                          +     1.0 02:KB-09        2.60     .515 No_date   28:00   56.40  n/a     .000
06807>                          +     1.0 02:KB-10_1      2.37     .470 No_date   28:00   56.40  n/a     .000
06808>                          +     1.0 02:KB-10_2      1.14     .229 No_date   28:00   56.40  n/a     .000
06809>                          +     1.0 02:KB-12-S      4.86     .867 No_date   27:58   53.47  n/a     .000
06810>                          +     1.0 02:KB-13-S     10.19    1.611 No_date   28:00   46.33  n/a     .000
06811>                          +     1.0 02:KB-14-S      5.47     .873 No_date   27:59   46.40  n/a     .000
06812>                          +     1.0 02:KB-16_2      3.42     .545 No_date   28:01   50.20  n/a     .000
06813>                        SUM=    1.0 01:KB-P2      254.24   19.235 No_date   28:01   35.46  n/a     .000
06814> R0010:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06815>     ROUTE RESERVOIR ->     1.0 02:KB-P2        254.24   19.235 No_date   28:01   35.46  n/a     .000
06816>                      out <=    1.0 01:KB-P2R   254.24   15.083 No_date   28:10   35.46  n/a     .000
06817>                  overflow <=   1.0 03:KB-P3ovf   .00     .000 No_date    0:00     .00  n/a     .000
06818>       {MxStoUsed=.7575E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06819> R0010:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06820>     ADD HYD                1.0 02:KB-P2R       254.24   15.083 No_date   28:10   35.46  n/a     .000
06821>                          +     1.0 02:KB-P2ovf     .00     .000 No_date    0:00     .00  n/a     .000
06822>                        SUM=    1.0 01:KB-Pond2   254.24   15.083 No_date   28:10   35.46  n/a     .000
06823> R0010:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06824>     SAVE HYD               1.0 01:KB-Pond2     254.24   15.083 No_date   28:10   35.46  n/a     .000
06825>       fname :KB-Pond2.0010
06826>       remark:Total Flows at KB second pond
06827> R0010:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06828>     CONTINUOUS STANDHYD    1.0 01:KB-16_1        2.80     .465 No_date   28:01   52.17 .806     .000
06829>       [XIMP=.75:TIMP=.75]
06830>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06831>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06832>       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 137.:MNI=.013:SCI=   .0]
06833>       [IaRECimp=   4.00: IaRECper=   4.00]
06834> R0010:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06835>     ADD HYD                1.0 02:KB-Pond2     254.24   15.083 No_date   28:10   35.46  n/a     .000
06836>                          +     1.0 02:KB-16_1      2.80     .465 No_date   28:01   52.17  n/a     .000
06837>                        SUM=    1.0 01:KB-P3      257.04   15.295 No_date   28:08   35.64  n/a     .000
06838> R0010:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06839>     ROUTE RESERVOIR ->     1.0 02:KB-P3        257.04   15.295 No_date   28:08   35.64  n/a     .000
06840>                      out <=    1.0 01:KB-P3R   12.26     .051 No_date   17:31   35.64  n/a     .000
06841>                  overflow <=   1.0 03:KB-P3ovf  244.78   15.243 No_date   28:09   35.64  n/a     .000
06842>       {MxStoUsed=.1993E-02  m3, TotOvfVol=.8724E+01  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
06843> R0010:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06844>     ADD HYD                1.0 02:KB-P3R       12.26     .051 No_date   17:31   35.64  n/a     .000
06845>                          +     1.0 02:KB-P3ovf   244.78   15.243 No_date   28:09   35.64  n/a     .000
06846>                        SUM=    1.0 01:KB-Pond3   257.04   15.294 No_date   28:09   35.64  n/a     .000
06847> R0010:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06848>     SAVE HYD               1.0 01:KB-Pond3     257.04   15.294 No_date   28:09   35.64  n/a     .000
06849>       fname :KB-Pond3.0010
06850>       remark:Total Flows at KB third pond
06851> ********************************************************************************
06852> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
06853> #    - TO FRASER-CLARKE DRAIN
06854> ********************************************************************************
06855> R0010:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06856>     CONTINUOUS STANDHYD    1.0 01:FC-01          8.03    1.049 No_date   28:01   37.67 .582     .000
06857>       [XIMP=.47:TIMP=.47]
06858>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06859>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06860>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
06861>       [IaRECimp=   4.00: IaRECper=   4.00]
06862> R0010:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06863>     COMPUTE DUALHYD        1.0 01:FC-01          8.03    1.049 No_date   28:01   37.67  n/a     .000
06864>       Major System   /     1.0 02:FC-01-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06865>       Minor System   \     1.0 03:FC-01-MN       8.03     .756 No_date   28:17   37.91  n/a     .000
06866>       {MjSysSto=.1270E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06867> R0010:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06868>     ADD HYD                1.0 02:FC-01-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06869>                          +     1.0 02:FC-01-MN     8.03     .756 No_date   27:55   37.91  n/a     .000
06870>                        SUM=    1.0 01:FC-01-S      8.03     .756 No_date   27:55   37.91  n/a     .000
06871> R0010:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06872>     CONTINUOUS STANDHYD    1.0 01:FC-02         16.05    2.930 No_date   28:01   59.76 .924     .000
06873>       [XIMP=.93:TIMP=.93]
06874>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06875>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06876>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
06877>       [IaRECimp=   4.00: IaRECper=   4.00]
06878> R0010:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06879>     COMPUTE DUALHYD        1.0 01:FC-02         16.05    2.930 No_date   28:01   59.76  n/a     .000
06880>       Major System   /     1.0 02:FC-02-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06881>       Minor System   \     1.0 03:FC-02-MN      16.05    1.159 No_date   27:46   59.94  n/a     .000
06882>       {MjSysSto=.1407E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06883> R0010:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06884>     ADD HYD                1.0 02:FC-02-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06885>                          +     1.0 02:FC-02-MN    16.05    1.159 No_date   27:46   59.94  n/a     .000
06886>                        SUM=    1.0 01:FC-02-S     16.05    1.159 No_date   27:46   59.94  n/a     .000
06887> R0010:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06888>     CONTINUOUS STANDHYD    1.0 01:FC-03          7.37    1.130 No_date   28:01   45.83 .708     .000
06889>       [XIMP=.64:TIMP=.64]
06890>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06891>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06892>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
06893>       [IaRECimp=   4.00: IaRECper=   4.00]
06894> R0010:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06895>     COMPUTE DUALHYD        1.0 01:FC-03          7.37    1.130 No_date   28:01   45.83  n/a     .000
06896>       Major System   /     1.0 02:FC-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06897>       Minor System   \     1.0 03:FC-03-MN       7.37     .358 No_date   27:45   45.93  n/a     .000
06898>       {MjSysSto=.6763E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06899> R0010:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06900>     ADD HYD                1.0 02:FC-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06901>                          +     1.0 02:FC-03-MN     7.37     .358 No_date   27:45   45.93  n/a     .000
06902>                        SUM=    1.0 01:FC-03-S      7.37     .358 No_date   27:45   45.93  n/a     .000
06903> R0010:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06904>     CONTINUOUS STANDHYD    1.0 01:FC-04         12.87    1.906 No_date   28:01   45.83 .708     .000
06905>       [XIMP=.64:TIMP=.64]
06906>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06907>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06908>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
06909>       [IaRECimp=   4.00: IaRECper=   4.00]
06910> R0010:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06911>     COMPUTE DUALHYD        1.0 01:FC-04         12.87    1.906 No_date   28:01   45.83  n/a     .000
06912>       Major System   /     1.0 02:FC-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06913>       Minor System   \     1.0 03:FC-04-MN      12.87     .741 No_date   27:46   45.93  n/a     .000
06914>       {MjSysSto=.9380E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06915> R0010:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06916>     ADD HYD                1.0 02:FC-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06917>                          +     1.0 02:FC-04-MN    12.87     .741 No_date   27:46   45.93  n/a     .000
06918>                        SUM=    1.0 01:FC-04-S     12.87     .741 No_date   27:46   45.93  n/a     .000
06919> ********************************************************************************

06920> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
06921> #    - TO JOCK RIVER
06922> ********************************************************************************
06923> R0010:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06924>     CONTINUOUS STANDHYD    1.0 01:JR-01          8.24    1.257 No_date   28:01   45.83 .708     .000
06925>       [XIMP=.64:TIMP=.64]
06926>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06927>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06928>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
06929>       [IaRECimp=   4.00: IaRECper=   4.00]
06930> R0010:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06931>     COMPUTE DUALHYD        1.0 01:JR-02          8.24    1.257 No_date   28:01   45.83  n/a     .000
06932>       Major System   /     1.0 02:JR-01-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06933>       Minor System   \     1.0 03:JR-01-MN       8.24     .563 No_date   28:39   46.14  n/a     .000
06934>       {MjSysSto=.4889E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06935> R0010:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06936>     ADD HYD                1.0 02:JR-01-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06937>                          +     1.0 02:JR-01-MN     8.24     .563 No_date   27:47   46.14  n/a     .000
06938>                        SUM=    1.0 01:JR-01-S      8.24     .563 No_date   27:47   46.14  n/a     .000
06939> R0010:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06940>     CONTINUOUS STANDHYD    1.0 01:JR-02          1.59     .264 No_date   28:00   45.83 .708     .000
06941>       [XIMP=.64:TIMP=.64]
06942>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06943>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06944>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
06945>       [IaRECimp=   4.00: IaRECper=   4.00]
06946> R0010:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06947>     COMPUTE DUALHYD        1.0 01:JR-02          1.59     .264 No_date   28:00   45.83  n/a     .000
06948>       Major System   /     1.0 02:JR-02-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06949>       Minor System   \     1.0 03:JR-02-MN       1.59     .153 No_date   27:51   46.12  n/a     .000
06950>       {MjSysSto=.5453E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06951> R0010:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06952>     ADD HYD                1.0 02:JR-02-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06953>                          +     1.0 02:JR-02-MN     1.59     .153 No_date   27:51   46.12  n/a     .000
06954>                        SUM=    1.0 01:JR-02-S      1.59     .153 No_date   27:51   46.12  n/a     .000
06955> ********************************************************************************
06956> #    Catchment FRASER
06957> #    - To Fraser-Clarke drain (north of the Jock)
06958> #    - Developed land with 43% imp.
06959> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
06960> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
06961> ********************************************************************************
06962> R0010:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06963>     CONTINUOUS NASHYD      1.0 01:FRASER-DRN    13.65     .447 No_date   28:22   26.85 .415     .000
06964>       [CN= 77.0: N= 3.00: Tp=   .67]
06965>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06966>       [InterEventTime= 12.00]
06967> R0010:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06968>     CONTINUOUS NASHYD      1.0 01:FRASER-D      21.61     .514 No_date   28:40   26.85 .415     .000
06969>       [CN= 77.0: N= 3.00: Tp=   .67]
06970>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06971>       [InterEventTime= 12.00]
06972> R0010:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06973>     ADD HYD                1.0 02:KB-Pond3     257.04   15.294 No_date   28:09   35.64  n/a     .000
06974>                          +     1.0 02:S-1-B       55.36    1.740 No_date   28:24   26.85  n/a     .000
06975>                          +     1.0 02:FRASER-DRN  13.65     .447 No_date   28:22   26.85  n/a     .000
06976>                          +     1.0 02:FRASER-D    21.61     .514 No_date   28:40   26.85  n/a     .000
06977>                          +     1.0 02:N_KB     54279.34   86.222 No_date   36:19   22.84  n/a     .000
06978>                          +     1.0 02:FC-02-S      8.03     .756 No_date   27:55   37.91  n/a     .000
06979>                          +     1.0 02:JR-02-S     16.05    1.159 No_date   27:46   59.94  n/a     .000
06980>                          +     1.0 02:FC-03-S      7.37     .358 No_date   27:45   45.93  n/a     .000
06981>                        SUM=    1.0 01:4241       54658.45   86.752 No_date   36:15   22.92  n/a     .000
06982> R0010:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06983>     SAVE HYD               1.0 01:4241       54658.45   86.752 No_date   36:15   22.92  n/a     .000
06984>       fname :4241.0010
06985>       remark:Total Flows at Ken-Burnett Outlet
06986> # Hydrograph from Node Ken-Burnett to station 3633
06987> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
06988> #
06989> R0010:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06990>     ROUTE CHANNEL      ->     1.0 02:4241       54658.45   86.752 No_date   36:15   22.92  n/a     .000
06991>       [RDT= 1.00] out<-     1.0 01:4241-out    54658.45   86.790 No_date   36:12   22.92  n/a     .000
06992>       [L/S/n=  294./ .109/.035]
06993>       {Vmax= 1.177:Dmax= 2.026}
06994> R0010:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06995>     ADD HYD                1.0 02:4241-out    54658.45   86.790 No_date   36:12   22.92  n/a     .000
06996>                          +     1.0 02:FC-02-S     12.87     .741 No_date   27:46   45.93  n/a     .000
06997>                          +     1.0 02:JR-01-S      8.24     .563 No_date   27:47   46.14  n/a     .000
06998>                          +     1.0 02:JR-02-S      1.59     .153 No_date   27:51   46.12  n/a     .000
06999>                        SUM=    1.0 01:SN_KB      54681.14   86.824 No_date   36:12   22.93  n/a     .000
07000> R0010:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07001>     SAVE HYD               1.0 01:SN_KB      54681.14   86.824 No_date   36:12   22.93  n/a     .000
07002>       fname :SN_KB.0010
07003>       remark:HYD_COMMENT=["Total Flows before Station 3633]
07004> # Hydrograph from Station 3633 to Node Todd
07005> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
07006> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
07007> #
07008> R0010:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07009>     ROUTE CHANNEL      ->     1.0 02:SN_KB      54681.14   86.824 No_date   36:12   22.93  n/a     .000
07010>       [RDT= 1.00] out<-     1.0 01:N_TO       54681.14   86.765 No_date   36:18   22.93  n/a     .000
07011>       [L/S/n=  608./ .247/.035]
07012>       {Vmax= 1.560:Dmax= 1.526}
07013> ********************************************************************************
07014> #    Catchment Greenbank
07015> #    - To Greenbank Drain (south of the Jock)
07016> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
07017> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
07018> ********************************************************************************
07019> R0010:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07020>     CONTINUOUS STANDHYD    1.0 01:Greenbank     36.60    4.662 No_date   28:02   49.38 .763     .000
07021>       [XIMP=.64:TIMP=.68]
07022>       [LOSS= 2 :CN= 77.0]
07023>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07024>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
07025>       [IaRECimp=   4.00: IaRECper=   4.00]
07026>       [SMIN= 31.15: SMAX=207.66: SK= .010]
07027> R0010:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07028>     ROUTE RESERVOIR ->     1.0 02:Greenbank     36.60    4.662 No_date   28:02   49.38  n/a     .000
07029>                      out <=    1.0 01:GreenB_MN  36.60    1.697 No_date   28:18   49.38  n/a     .000
07030>                  overflow <=   1.0 03:GreenB_MJ    .00     .000 No_date    0:00     .00  n/a     .000
07031>       {MxStoUsed=.8299E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07032> R0010:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07033>     ADD HYD                1.0 02:N_TO       54681.14   86.765 No_date   36:18   22.93  n/a     .000
07034>                          +     1.0 02:GreenB_MJ    .00     .000 No_date    0:00     .00  n/a     .000
07035>                          +     1.0 02:GreenB_MN   36.60    1.697 No_date   28:18   49.38  n/a     .000
07036>                        SUM=    1.0 01:GreenB     54717.74   86.895 No_date   36:17   22.95  n/a     .000
07037> R0010:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07038>     SAVE HYD               1.0 01:GreenB     54717.74   86.895 No_date   36:17   22.95  n/a     .000
07039>       fname :GreenB.0010
07040>       remark:Total Flows at Greenbank Drain
07041> ********************************************************************************
07042> #    Catchment TODD
07043> #    - To Todd Drain (south of the Jock)
07044> #    - Subdivision with 43% imp. as per Barrhaven South MSS
07045> #    - 2020-11-30 increase imp. based on P598(04)-11
07046> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
07047> #    - 2020-11-30 split TODD DRAIN Area to MAJOR, MINOR, POND and ALL
07048> ********************************************************************************
07049> #    JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
07050> R0010:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07051>     CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10     .282 No_date   28:00   44.92 .694     .000
07052>       [XIMP=.53:TIMP=.57]
07053>       [LOSS= 2 :CN= 77.0]
07054>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07055>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
07056>       [IaRECimp=   4.00: IaRECper=   4.00]
07057>       [SMIN= 31.15: SMAX=207.66: SK= .010]
07058> R0010:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07059>     CONTINUOUS STANDHYD    1.0 01:TODD_MN3        .12     .016 No_date   28:00   44.90 .694     .000
07060>       [XIMP=.53:TIMP=.57]
07061>       [LOSS= 2 :CN= 77.0]
07062>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07063>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
07064>       [IaRECimp=   4.00: IaRECper=   4.00]
07065>       [SMIN= 31.15: SMAX=207.66: SK= .010]
07066> R0010:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07067>     CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23    3.512 No_date   28:02   46.20 .714     .000
07068>       [XIMP=.52:TIMP=.64]
07069>       [LOSS= 2 :CN= 77.0]
07070>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07071>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .
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07107> R0010:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07108>      CONTINUOUS STANDHYD     1.0 01:A2           25.50    2.388 No_date   28:03   40.97 .633     .000
07109>        [XIMP=.42:TIMP=.52]
07110>        [LOSS= 2 :CN= 75.0]
07111>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07112>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
07113>        [IaREC imp=  4.00: IaRECper=   4.00]
07114>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07115> R0010:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07116>      COMPUTE DUALHYD     1.0 01:A2           25.50    2.388 No_date   28:03   40.97  n/a     .000
07117>        Major System   /     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07118>        Minor System   \     1.0 03:A2-MN        25.50    1.818 No_date   27:57   40.97  n/a     .000
07119>        {MjSysSto=.2896E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotOutOvf=    0.hrs}
07120> R0010:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07121>      ADD HYD             1.0 02:TODD_MN2n      2.10     .268 No_date   27:58   44.92  n/a     .000
07122>                        +     1.0 02:TODD_MN3n      .12     .016 No_date   28:00   44.90  n/a     .000
07123>                        +     1.0 02:TODD_MJj       .00     .190 No_date   28:03   46.20  n/a     .000
07124>                        +     1.0 02:TODD_P        3.06     .451 No_date   28:00   48.23  n/a     .000
07125>                        +     1.0 02:TODD_ALL    112.91   10.943 No_date   28:05   44.71  n/a     .000
07126>                        +     1.0 02:W_CLAR_MJn     1.77     .213 No_date   27:58   43.97  n/a     .000
07127>                      SUM=    1.0 01:TODD         120.03   11.699 No_date   28:03   44.79  n/a     .000
07128> R0010:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07129>      SAVE HYD            1.0 01:TODD         120.03   11.699 No_date   28:03   44.79  n/a     .000
07130>        fname :TODD.0010
07131>        remark:Total Flows at Todd Drain
07132> #*************************************************************************
07133> #   Todd Pond 3
07134> #   - Rating curve obtained from Barrhaven South MSS modeling
07135> #   - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
07136> #*************************************************************************
07137> R0010:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07138>      ROUTE RESERVOIR ->    1.0 02:TODD         120.03   11.699 No_date   28:03   44.79  n/a     .000
07139>                      out <=    1.0 01:MS_P3        120.03    6.151 No_date   28:20   44.79  n/a     .000
07140>              overflow <=    1.0 03:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
07141>        {MxStoUsed=.2461E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07142> R0010:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07143>      ADD HYD             1.0 02:GreenB       54717.74   86.895 No_date   36:17   22.95  n/a     .000
07144>                        +     1.0 02:MS_P3        120.03    6.151 No_date   28:20   44.79  n/a     .000
07145>                        +     1.0 02:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
07146>                        +     1.0 02:TODD_MN2j      .00     .011 No_date   28:00   44.92  n/a     .000
07147>                        +     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07148>                      SUM=    1.0 01:SN_TO        54837.78   87.200 No_date   36:16   23.00  n/a     .000
07149> R0010:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07150>      SAVE HYD            1.0 01:SN_TO        54837.78   87.200 No_date   36:16   23.00  n/a     .000
07151>        fname :SN_TO.0010
07152>        remark:Total Flows at Todd Drain
07153> #
07154> # Hydrograph from Todd Drain routed to Corrigan Drain
07155> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
07156> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
07157> R0010:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07158>      ROUTE CHANNEL       ->    1.0 02:SN_TO        54837.78   87.200 No_date   36:16   23.00  n/a     .000
07159> *   [RDT= 1.00] out<-     1.0 01:N_TO         54837.78   87.112 No_date   36:28   23.00  n/a     .000
07160>        [L/S/n=  280./ .050/.045]
07161>        {Vmax=  .886:Dmax= 2.877}
07162> R0010:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07163>      SAVE HYD            1.0 01:N_TO         54837.78   87.112 No_date   36:28   23.00  n/a     .000
07164>        fname :N_TO.0010
07165>        remark:Total inflows at Station 2462
07166> #*************************************************************************
07167> #   Catchment CORRIG
07168> #   - To Corrigan Drain (south of the Jock)
07169> #   - Primarily Developed (medium density)
07170> #   - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
07171> #*************************************************************************
07172> R0010:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07173>      CONTINUOUS STANDHYD     1.0 01:corr1         15.87    2.113 No_date   28:01   48.23 .746     .000
07174>        [XIMP=.63:TIMP=.63]
07175>        [LOSS= 2 :CN= 77.0]
07176>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07177>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
07178>        [IaREC imp=  4.00: IaRECper=   4.00]
07179>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07180> R0010:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07181>      COMPUTE DUALHYD     1.0 01:corr1         15.87    2.113 No_date   28:01   48.23  n/a     .000
07182>        Major System   /     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07183>        Minor System   \     1.0 03:corr1-MN     15.87    1.818 No_date   28:09   48.38  n/a     .000
07184>        {MjSysSto=.8936E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07185> R0010:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07186>      CONTINUOUS NASHYD       1.0 01:corr2         12.47     .209 No_date   29:11   26.85 .415     .000
07187>        [CN= 77.0: N= 3.00: Tp= 1.10]
07188>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
07189>        [InterEventTime= 12.00]
07190> R0010:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07191>      CONTINUOUS STANDHYD     1.0 01:A1-Corrig     15.75    1.640 No_date   28:02   40.97 .633     .000
07192>        [XIMP=.42:TIMP=.52]
07193>        [LOSS= 2 :CN= 75.0]
07194>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07195>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
07196>        [IaREC imp=  4.00: IaRECper=   4.00]
07197>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07198> R0010:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07199>      COMPUTE DUALHYD     1.0 01:A1-Corrig     15.75    1.640 No_date   28:02   40.97  n/a     .000
07200>        Major System   /     1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07201>        Minor System   \     1.0 03:A1-MN        15.75    1.640 No_date   28:02   40.97  n/a     .000
07202>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07203> R0010:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07204>      CONTINUOUS NASHYD       1.0 01:B1            2.77     .072 No_date   28:09   16.64 .257     .000
07205>        [CN= 56.0: N= 3.00: Tp=  .23]
07206>        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
07207>        [InterEventTime= 12.00]
07208> R0010:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07209>      CONTINUOUS STANDHYD     1.0 01:A4            1.27     .178 No_date   28:00   48.63 .752     .000
07210>        [XIMP=.65:TIMP=.65]
07211>        [LOSS= 2 :CN= 75.0]
07212>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07213>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
07214>        [IaREC imp=  4.00: IaRECper=   4.00]
07215>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07216> R0010:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07217>      COMPUTE DUALHYD     1.0 01:A4            1.27     .178 No_date   28:00   48.63  n/a     .000
07218>        Major System   /     1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07219>        Minor System   \     1.0 03:A4-MN         1.27     .178 No_date   28:00   48.63  n/a     .000
07220>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07221> R0010:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07222>      ADD HYD             1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07223>                        +     1.0 02:A1-MN        15.75    1.640 No_date   28:02   40.97  n/a     .000
07224>                        +     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07225>                        +     1.0 02:corr1-MN     15.87    1.818 No_date   28:09   48.38  n/a     .000
07226>                        +     1.0 02:corr2        12.47     .209 No_date   29:11   26.85  n/a     .000
07227>                        +     1.0 02:B1            2.77     .072 No_date   28:09   16.64  n/a     .000
07228>                        +     1.0 02:A4-MN         1.27     .178 No_date   28:00   48.63  n/a     .000
07229>                      SUM=    1.0 01:MH101        48.13    3.734 No_date   28:02   38.56  n/a     .000
07230> R0010:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07231>      SAVE HYD            1.0 01:MH101        48.13    3.734 No_date   28:02   38.56  n/a     .000
07232>        fname :MH101.0010
07233>        remark:Total Flows at MH101
07234> R0010:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07235>      ROUTE PIPE      ->    1.0 02:MH101        48.13    3.734 No_date   28:02   38.56  n/a     .000
07236> *   [RDT= 1.00] out<-     1.0 01:101-102       48.13    3.662 No_date   28:03   38.56  n/a     .000
07237>        [L/S/n=  368./ .540/.013]
07238>        {Vmax= 3.084:Dmax= 1.088}
07239>        {Din= 1.05:Dused= 1.33}
07240> R0010:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07241>      ADD HYD             1.0 02:A2-MN        25.50    1.818 No_date   27:57   40.97  n/a     .000
07242>                        +     1.0 02:101-102       48.13    3.662 No_date   28:03   38.56  n/a     .000
07243>                      SUM=    1.0 01:MH102        73.63    5.480 No_date   28:03   39.39  n/a     .000
07244> R0010:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07245>      SAVE HYD            1.0 01:MH102        73.63    5.480 No_date   28:03   39.39  n/a     .000
07246>        fname :MH102.0010
07247>        remark:Total Flows at MH102
07248> R0010:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07249>      CONTINUOUS STANDHYD     1.0 01:A5            1.60     .236 No_date   28:01   51.11 .790     .000
07250>        [XIMP=.71:TIMP=.71]
07251>        [LOSS= 2 :CN= 75.0]
07252>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07253>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
07254>        [IaREC imp=  4.00: IaRECper=   4.00]
07255>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07256> R0010:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07257>      ADD HYD             1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07258>                        +     1.0 02:A5            1.60     .236 No_date   28:01   51.11  n/a     .000
07259>                      SUM=    1.0 01:A5T           1.60     .236 No_date   28:01   51.11  n/a     .000
07260> R0010:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07261>      COMPUTE DUALHYD     1.0 01:A5T           1.60     .236 No_date   28:01   51.11  n/a     .000
07262>        Major System   /     1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07263>        Minor System   \     1.0 03:A5-MN         1.60     .236 No_date   28:01   51.11  n/a     .000
07264>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07265> R0010:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07266>      ROUTE PIPE      ->    1.0 02:MH102        73.63    5.480 No_date   28:03   39.39  n/a     .000
07267> *   [RDT= 1.00] out<-     1.0 01:102-103       73.63    5.291 No_date   28:06   39.39  n/a     .000
07268>        [L/S/n=  504./ .280/.013]
07269>        {Vmax= 2.654:Dmax= 1.421}
07270>        {Din= 1.59:Dused= 1.73}
07271> R0010:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07272>      ADD HYD             1.0 02:SN_103        73.63    5.291 No_date   28:06   39.39  n/a     .000
07273>                        +     1.0 02:A5-MN         1.60     .236 No_date   28:01   51.11  n/a     .000
07274>                      SUM=    1.0 01:MH103        75.23    5.462 No_date   28:05   39.64  n/a     .000
07275> R0010:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07276>      SAVE HYD            1.0 01:MH103        75.23    5.462 No_date   28:05   39.64  n/a     .000
07277>        fname :MH103.0010
07278>        remark:Total Flows at MH103
07279> R0010:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07280>      ROUTE PIPE      ->    1.0 02:MH103        75.23    5.462 No_date   28:05   39.64  n/a     .000
07281> *   [RDT= 1.00] out<-     1.0 01:103-104       75.23    5.382 No_date   28:07   39.64  n/a     .000
07282>        [L/S/n=  438./ .460/.013]
07283>        {Vmax= 3.265:Dmax= 1.205}
07284>        {Din= 1.65:Dused= 1.65}
07285> R0010:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07286>      CONTINUOUS STANDHYD     1.0 01:A6            1.56     .232 No_date   28:00   51.11 .790     .000
07287>        [XIMP=.71:TIMP=.71]
07288>        [LOSS= 2 :CN= 75.0]
07289>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07290>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
07291>        [IaREC imp=  4.00: IaRECper=   4.00]
07292>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07293> R0010:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07294>      ADD HYD                   1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07295>                        +     1.0 02:A6            1.56     .232 No_date   28:00   51.11  n/a     .000
07296>                      SUM=    1.0 01:A6T           1.56     .232 No_date   28:00   51.11  n/a     .000
07297> R0010:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07298>      COMPUTE DUALHYD     1.0 01:A6T           1.56     .232 No_date   28:00   51.11  n/a     .000
07299>        Major System   /     1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07300>        Minor System   \     1.0 03:A6-MN         1.56     .232 No_date   28:00   51.11  n/a     .000
07301>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07302> R0010:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07303>      ADD HYD             1.0 02:A6-MN         1.56     .232 No_date   28:00   51.11  n/a     .000
07304>                        +     1.0 02:103-104      75.23    5.382 No_date   28:07   39.64  n/a     .000
07305>                        +     1.0 02:TODD_MJn      30.14    3.314 No_date   28:00   46.20  n/a     .000
07306>                      SUM=    1.0 01:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
07307> R0010:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07308>      SAVE HYD            1.0 01:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
07309>        fname :MH104.0010
07310>        remark:Total Flows at MH104
07311> R0010:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07312>      CONTINUOUS STANDHYD     1.0 01:B2            12.31    1.229 No_date   28:02   41.19 .637     .000
07313>        [XIMP=.41:TIMP=.54]
07314>        [LOSS= 2 :CN= 75.0]
07315>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07316>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
07317>        [IaREC imp=  4.00: IaRECper=   4.00]
07318>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07319> R0010:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07320>      COMPUTE DUALHYD     1.0 01:B2            12.31    1.229 No_date   28:02   41.19  n/a     .000
07321>        Major System   /     1.0 02:B2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07322>        Minor System   \     1.0 03:B2-MN        12.31    1.029 No_date   27:58   41.28  n/a     .000
07323>        {MjSysSto=.7604E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07324> R0010:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07325>      ROUTE PIPE      ->    1.0 02:B2-MN        12.31    1.029 No_date   27:58   41.28  n/a     .000
07326>      [RDT= 1.00] out<-     1.0 01:315-333       12.31    1.019 No_date   28:12   41.28  n/a     .000
07327>        [L/S/n=  254./ .100/.013]
07328>        {Vmax= 1.220:Dmax=  .838}
07329>        {Din= 1.20:Dused= 1.20}
07330> R0010:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07331>      CONTINUOUS STANDHYD     1.0 01:B3            5.59     .579 No_date   28:02   41.19 .637     .000
07332>        [XIMP=.41:TIMP=.54]
07333>        [LOSS= 2 :CN= 75.0]
07334>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07335>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
07336>        [IaREC imp=  4.00: IaRECper=   4.00]
07337>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07338> R0010:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07339>      COMPUTE DUALHYD     1.0 01:B3            5.59     .579 No_date   28:02   41.19  n/a     .000
07340>        Major System   /     1.0 02:B3-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07341>        Minor System   \     1.0 03:B3-MN         5.59     .459 No_date   27:57   41.35  n/a     .000
07342>        {MjSysSto=.4795E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07343> R0010:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07344>      ADD HYD             1.0 02:B3-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07345>                        +     1.0 02:315-333       12.31    1.019 No_date   28:12   41.28  n/a     .000
07346>                      SUM=    1.0 01:MH333        17.90    1.478 No_date   28:12   41.30  n/a     .000
07347> R0010:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07348>      SAVE HYD            1.0 01:MH333        17.90    1.478 No_date   28:12   41.30  n/a     .000
07349>        fname :MH333.0010
07350>        remark:Total Flows at MH333
07351> R0010:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07352>      ROUTE PIPE      ->    1.0 02:MH333        17.90    1.478 No_date   28:12   41.30  n/a     .000
07353> *   [RDT= 1.00] out<-     1.0 01:333-335       17.90    1.450 No_date   28:14   41.30  n/a     .000
07354>        [L/S/n=  251./ .100/.013]
07355>        {Vmax= 1.300:Dmax= 1.054}
07356>        {Din= 1.20:Dused= 1.20}
07357> R0010:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07358>      ROUTE PIPE      ->    1.0 02:333-335       17.90    1.450 No_date   28:14   41.30  n/a     .000
07359> *   [RDT= 1.00] out<-     1.0 01:335-338       17.90    1.447 No_date   28:14   41.30  n/a     .000
07360>        [L/S/n=  185./ .100/.013]
07361>        {Vmax= 1.294:Dmax= 1.047}
07362>        {Din= 1.20:Dused= 1.20}
07363> R0010:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07364>      ROUTE PIPE      ->    1.0 02:335-338       17.90    1.447 No_date   28:14   41.30  n/a     .000
07365> *   [RDT= 1.00] out<-     1.0 01:338-340       17.90    1.418 No_date   28:15   41.30  n/a     .000
07366>        [L/S/n=  233./ .100/.013]
07367>        {Vmax= 1.325:Dmax=  .961}
07368>        {Din= 1.35:Dused= 1.35}
07369> R0010:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07370>      CONTINUOUS STANDHYD     1.0 01:B4            7.60     .768 No_date   28:02   41.19 .637     .000
07371>        [XIMP=.41:TIMP=.54]
07372>        [LOSS= 2 :CN= 75.0]
07373>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07374>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
07375>        [IaREC imp=  4.00: IaRECper=   4.00]
07376>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07377> R0010:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07378>      COMPUTE DUALHYD     1.0 01:B4            7.60     .768 No_date   28:02   41.19  n/a     .000
07379>        Major System   /     1.0 02:B4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07380>        Minor System   \     1.0 03:B4-MN         7.60     .655 No_date   27:58   41.31  n/a     .000
07381>        {MjSysSto=.3770E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07382> R0010:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07383>      ADD HYD             1.0 02:338-340       17.90    1.418 No_date   28:15   41.30  n/a     .000
07384>                        +     1.0 02:B4-MN         7.60     .655 No_date   27:58   41.31  n/a     .000
07385>                      SUM=    1.0 01:MH340        25.50    2.022 No_date   28:12   41.30  n/a     .000
07386> R0010:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07387>      SAVE HYD            1.0 01:MH340        25.50    2.022 No_date   28:12   41.30  n/a     .000
07388>        fname :MH340.0010
07389>        remark:Total Flows at MH340
07390> R0010:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07391>      ROUTE PIPE      ->    1.0 02:B4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07392>      [RDT= 1.00] out<-     1.0 01:340-104       25.50    1.986 No_date   28:12   41.30  n/a     .000
07393>        [L/S/n=  240./ .150/.013]
07394>        {Vmax= 1.706:Dmax=  .895}
07395>        {Din= 1.65:Dused= 1.65}
07396> R0010:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07397>      ADD HYD             1.0 02:340-104       25.50    1.986 No_date   28:12   41.30  n/a     .000
07398>                        +     1.0 02:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
07399>                      SUM=    1.0 01:MH104T       132.43   10.636 No_date   28:05   41.59  n/a     .000
07400> R0010:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07401>      ROUTE PIPE      ->    1.0 02:MH104T       132.43   10.636 No_date   28:05   41.59  n/a     .000
07402> *   [RDT= 1.00] out<-     1.0 01:104-105       132.43   10.007 No_date   28:06   41.59  n/a     .000
07403>        [L/S/n=  380./ .100/.013]
07404>        {Vmax= 2.071:Dmax= 1.952}
07405>        {HGTH= 2.30:WDTH= 2.63}
07406> R0010:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07407>      CONTINUOUS STANDHYD     1.0 01:B5            2.20     .291 No_date   28:00   45.32 .701     .000
07408>        [XIMP=.57:TIMP=.57]
07409>        [LOSS= 2 :CN= 75.0]
07410>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07411>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
07412>        [IaREC imp=  4.00: IaRECper=   4.00]
07413>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07414> R0010:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07415>      COMPUTE DUALHYD     1.0 01:B5            2.20     .291 No_date   28:00   45.32  n/a     .000
07416>        Major System   /     1.0 02:B5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07417>        Minor System   \     1.0 03:B5-MN         2.20     .260 No_date   27:57   45.39  n/a     .000
07418>        {MjSysSto=.6886E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07419> R0010:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07420>      CONTINUOUS STANDHYD     1.0 01:A8            .96     .151 No_date   28:00   51.11 .790     .000
07421>        [XIMP=.71:TIMP=.71]
07422>        [LOSS= 2 :CN= 75.0]
07423>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07424>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
07425>        [IaREC imp=  4.00: IaRECper=   4.00]
07426>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07427> R0010:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07428>      ADD HYD             1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07429>                        +     1.0 02:A8            .96     .151 No_date   28:00   51.11  n/a     .000
07430>                      SUM=    1.0 01:A8T           .96     .151 No_date   28:00   51.11  n/a     .000
07431> R0010:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07432>      COMPUTE DUALHYD     1.0 01:A8T           .96     .151 No_date   28:00   51.11  n/a     .000
07433>        Major System   /     1.0 02:A8-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07434>        Minor System   \     1.0 03:A8-MN         .96     .151 No_date   28:00   51.11  n/a     .000
07435>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07436> R0010:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07437>      ADD HYD             1.0 02:104-105      132.43   10.007 No_date   28:06   41.59  n/a     .000
07438>                        +     1.0 02:B5-MN         2.20     .260 No_date   27:57   45.39  n/a     .000
07439>                        +     1.0 02:A8-MN          .96     .151 No_date   28:00   51.11  n/a     .000
07440>                        +     1.0 02:TODD_MN3j      .00     .000 No_date   28:00   44.90  n/a     .000
07441>                      SUM=    1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
07442> R0010:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07443>      SAVE HYD            1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
07444>        fname :MH105.0010
07445>        remark:Total Flows at MH105
07446> R0010:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07447> *   DIVERT HYD          ->    1.0 01:A8-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07448>              diverted <=    1.0 02:A8-MJ-JR       .00     .000 No_date    0:00     .00  n/a     .000
07449>              diverted <=    1.0 03:A8-MJ-B6       .00     .000 No_date    0:00     .00  n/a     .000
07450> R0010:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07451>      DIVERT HYD          ->    1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
07452>              diverted <=    1.0 02:MH105-JR      28.70    7.335 No_date   28:05   41.72  n/a     .000
07453>              diverted <=    1.0 03:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
07454> R0010:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07455>      CONTINUOUS STANDHYD     1.0 01:B7            7.19     .792 No_date   28:01   41.19 .637     .000
07456>        [XIMP=.41:TIMP=.54]
07457>        [LOSS= 2 :CN= 75.0]
07458>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07459>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
07460>        [IaREC imp=  4
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07481>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07482>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
07483>       [IaRECimp=   4.00: IaRECper=   4.00]
07484>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07485> R0010:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07486>     COMPUTE DUALHYD      1.0 01:B6          3.29      .376 No_date   28:00   41.19  n/a     .000
07487>       Major System   /     1.0 02:B6-MJ        .00      .000 No_date   0:00     .00  n/a     .000
07488>       Minor System   \     1.0 03:B6-MN       3.29      .064 No_date   27:36   41.22  n/a     .000
07489>         {MjSysSto=.3813E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07490> R0010:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07491>     CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50    3.367 No_date   28:02   41.86 .647     .000
07492>       [XIMP=.50:TIMP=.50]
07493>       [LOSS= 2 :CN= 74.0]
07494>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07495>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
07496>       [IaRECimp=   4.00: IaRECper=   4.00]
07497>       [SMIN= 36.67: SMAX=244.49: SK= .010]
07498> R0010:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07499>     COMPUTE DUALHYD      1.0 01:EX-LAND      32.50    3.367 No_date   28:02   41.86  n/a     .000
07500>       Major System   /     1.0 02:EX-LAND-MJ     .00      .000 No_date   0:00     .00  n/a     .000
07501>       Minor System   \     1.0 03:EX-LAND-MN   32.50    2.275 No_date   27:55   41.99  n/a     .000
07502>         {MjSysSto=.5949E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07503> R0010:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07504>     ADD HYD              1.0 02:B7-MJ        .00      .000 No_date   0:00     .00  n/a     .000
07505>                        +     1.0 02:EX-LAND-MJ     .00      .000 No_date   0:00     .00  n/a     .000
07506>                        +     1.0 02:B5-MJ          .00      .000 No_date   0:00     .00  n/a     .000
07507>                        +     1.0 02:B6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
07508>                        +     1.0 02:B6-MN         3.29      .064 No_date   27:36   41.22  n/a     .000
07509>                        +     1.0 02:A8-MJ-B6       .00      .000 No_date   0:00     .00  n/a     .000
07510>                      SUM=    1.0 01:B6-B7EXMJ     3.29      .064 No_date   27:36   41.22  n/a     .000
07511> R0010:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07512>     COMPUTE DUALHYD      1.0 01:B6-B7EXMJ     3.29      .064 No_date   27:36   41.22  n/a     .000
07513>       Major System   /     1.0 02:B6R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07514>       Minor System   \     1.0 03:B6R-MN        3.29      .064 No_date   27:36   41.22  n/a     .000
07515>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07516> R0010:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07517>     ROUTE PIPE       ->     1.0 02:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
07518>       [RDT= 1.00] out<-     1.0 01:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
07519>       [L/S/n=  208./ .100/.013]
07520>       {Vmax= 1.597:Dmax= 1.249}
07521>       [Din= 1.80:Dused= 1.80]
07522> R0010:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07523>     ADD HYD              1.0 02:360-106A      7.19      .628 No_date   28:11   41.31  n/a     .000
07524>                        +     1.0 02:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
07525>                        +     1.0 02:B6R-MN        3.29      .064 No_date   27:36   41.22  n/a     .000
07526>                        +     1.0 02:B6R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07527>                      SUM=    1.0 01:MH106A      117.38    3.698 No_date   28:11   41.68  n/a     .000
07528> R0010:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07529>     SAVE HYD             1.0 01:MH106A      117.38    3.698 No_date   28:11   41.68  n/a     .000
07530>       fname :MH106A.0010
07531>       remark:Total Flows at MH106A
07532> R0010:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07533>     ROUTE PIPE       ->     1.0 02:MH106A      117.38    3.698 No_date   28:11   41.68  n/a     .000
07534> *   [RDT= 1.00] out<-     1.0 01:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
07535>       [L/S/n=  190./ .100/.013]
07536>       {Vmax= 1.635:Dmax= 1.487}
07537>       [Din= 1.80:Dused= 1.81]
07538> R0010:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07539>     CONTINUOUS STANDHYD   1.0 01:A9          2.44      .365 No_date   28:00   51.11 .790     .000
07540>       [XIMP=.71:TIMP=.71]
07541>       [LOSS= 2 :CN= 75.0]
07542>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07543>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
07544>       [IaRECimp=   4.00: IaRECper=   4.00]
07545>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07546> R0010:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07547>     COMPUTE DUALHYD      1.0 01:A9          2.44      .365 No_date   28:00   51.11  n/a     .000
07548>       Major System   /     1.0 02:A9-MJ          .00      .000 No_date   0:00     .00  n/a     .000
07549>       Minor System   \     1.0 03:A9-MN         2.44      .365 No_date   28:00   51.11  n/a     .000
07550> R0010:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07551>     ADD HYD              1.0 02:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
07552>                        +     1.0 02:A9-MN         2.44      .365 No_date   28:00   51.11  n/a     .000
07553>                      SUM=    1.0 01:MH106       119.82    3.992 No_date   28:02   41.87  n/a     .000
07554> R0010:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07555>     SAVE HYD             1.0 01:MH106       119.82    3.992 No_date   28:02   41.87  n/a     .000
07556>       fname :MH106.0010
07557>       remark:Total Flows at MH106
07558> R0010:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07559>     ROUTE PIPE       ->     1.0 02:MH106       119.82    3.992 No_date   28:02   41.87  n/a     .000
07560> *   [RDT= 1.00] out<-     1.0 01:106-107      119.82    3.962 No_date   28:03   41.87  n/a     .000
07561>       [L/S/n=  123./ .100/.013]
07562>       {Vmax= 1.666:Dmax= 1.530}
07563>       [Din= 1.80:Dused= 1.86]
07564> R0010:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07565>     CONTINUOUS STANDHYD   1.0 01:A10          4.14      .416 No_date   28:01   38.46 .595     .000
07566>       [XIMP=.35:TIMP=.47]
07567>       [LOSS= 2 :CN= 75.0]
07568>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07569>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
07570>       [IaRECimp=   4.00: IaRECper=   4.00]
07571>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07572> R0010:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07573>     COMPUTE DUALHYD      1.0 01:A10          4.14      .416 No_date   28:01   38.46  n/a     .000
07574>       Major System   /     1.0 02:A10-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07575>       Minor System   \     1.0 03:A10-MN        4.14      .310 No_date   27:55   38.48  n/a     .000
07576>         {MjSysSto=.4172E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07577> R0010:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07578>     CONTINUOUS STANDHYD   1.0 01:A11         10.61    1.251 No_date   28:01   45.36 .701     .000
07579>       [XIMP=.53:TIMP=.62]
07580>       [LOSS= 2 :CN= 75.0]
07581>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07582>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
07583>       [IaRECimp=   4.00: IaRECper=   4.00]
07584>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07585> R0010:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07586>     COMPUTE DUALHYD      1.0 01:A11         10.61    1.251 No_date   28:01   45.36  n/a     .000
07587>       Major System   /     1.0 02:A11-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07588>       Minor System   \     1.0 03:A11-MN       10.61     .993 No_date   27:56   45.38  n/a     .000
07589>         {MjSysSto=.1016E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07590> R0010:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07591>     ADD HYD              1.0 02:106-107     119.82    3.962 No_date   28:03   41.87  n/a     .000
07592>                        +     1.0 02:A10-MN        4.14      .310 No_date   27:55   38.48  n/a     .000
07593>                        +     1.0 02:A11-MN       10.61      .993 No_date   27:56   45.38  n/a     .000
07594>                      SUM=    1.0 01:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
07595> R0010:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07596>     SAVE HYD             1.0 01:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
07597>       fname :MH107.0010
07598>       remark:Total Flows at MH107
07599> R0010:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07600>     ROUTE PIPE       ->     1.0 02:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
07601> *   [RDT= 1.00] out<-     1.0 01:107-119      134.57    5.251 No_date   28:05   42.04  n/a     .000
07602>       [L/S/n=  114./ .120/.013]
07603>       {Vmax= 1.912:Dmax= 1.640}
07604>       [Din= 1.80:Dused= 2.00]
07605> R0010:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07606>     ROUTE PIPE       ->     1.0 02:107-119      134.57    5.251 No_date   28:05   42.04  n/a     .000
07607> *   [RDT= 1.00] out<-     1.0 01:119-108      134.57    5.248 No_date   28:06   42.04  n/a     .000
07608>       [L/S/n=   66./ .120/.013]
07609>       {Vmax= 1.911:Dmax= 1.639}
07610>       [Din= 1.80:Dused= 2.00]
07611> R0010:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07612>     CONTINUOUS STANDHYD   1.0 01:A12         12.29    1.385 No_date   28:01   41.19 .637     .000
07613>       [XIMP=.41:TIMP=.54]
07614>       [LOSS= 2 :CN= 75.0]
07615>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07616>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
07617>       [IaRECimp=   4.00: IaRECper=   4.00]
07618>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07619> R0010:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07620>     COMPUTE DUALHYD      1.0 01:A12         12.29    1.385 No_date   28:01   41.19  n/a     .000
07621>       Major System   /     1.0 02:A12-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07622>       Minor System   \     1.0 03:A12-MN       12.29    1.029 No_date   27:54   41.27  n/a     .000
07623>         {MjSysSto=.1401E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07624> R0010:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07625>     CONTINUOUS STANDHYD   1.0 01:A13          2.59      .368 No_date   28:01   51.11 .790     .000
07626>       [XIMP=.71:TIMP=.71]
07627>       [LOSS= 2 :CN= 75.0]
07628>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07629>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
07630>       [IaRECimp=   4.00: IaRECper=   4.00]
07631>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07632> R0010:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07633>     COMPUTE DUALHYD      1.0 01:A13          2.59      .368 No_date   28:01   51.11  n/a     .000
07634>       Major System   /     1.0 02:A13-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07635>       Minor System   \     1.0 03:A13-MN        2.59      .368 No_date   28:01   51.11  n/a     .000
07636> R0010:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07637>     CONTINUOUS STANDHYD   1.0 01:Pond-Block     2.94      .309 No_date   28:00   38.90 .601     .000
07638>       [XIMP=.41:TIMP=.41]
07639>       [LOSS= 2 :CN= 75.0]
07640>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07641>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
07642>       [IaRECimp=   4.00: IaRECper=   4.00]
07643>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07644> R0010:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07645>     ADD HYD              1.0 02:119-108     134.57    5.248 No_date   28:06   42.04  n/a     .000
07646>                        +     1.0 02:A13-MN        2.59      .368 No_date   28:01   51.11  n/a     .000
07647>                        +     1.0 02:A12-MN       12.29     1.029 No_date   27:54   41.27  n/a     .000
07648>                      SUM=    1.0 01:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
07649> R0010:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07650>     SAVE HYD             1.0 01:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
07651>       fname :MH108.0010
07652>       remark:Total Flows at MH108
07653> R0010:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07654>     ROUTE PIPE       ->     1.0 02:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
07655> *   [RDT= 1.00] out<-     1.0 01:108-116      149.45    6.598 No_date   28:05   42.14  n/a     .000
07656>       [L/S/n=   77./ .130/.013]
07657>       {Vmax= 2.085:Dmax= 1.759}
07658>       [Din= 1.80:Dused= 2.14]
07659> R0010:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07660>     ROUTE PIPE       ->     1.0 02:108-116      149.45    6.590 No_date   28:05   42.14  n/a     .000
07661> *   [RDT= 1.00] out<-     1.0 01:116-corrig   149.45    6.577 No_date   28:06   42.14  n/a     .000
07662>       [L/S/n=   80./ .130/.013]
07663>       {Vmax= 2.084:Dmax= 1.758}
07664>       [Din= 1.80:Dused= 2.14]
07665> R0010:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07666>     ADD HYD              1.0 02:116-corrig   149.45    6.577 No_date   28:06   42.14  n/a     .000
07667>                        +     1.0 02:Pond-Block     2.94      .309 No_date   28:00   38.90  n/a     .000
07668>                      SUM=    1.0 01:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
07669> R0010:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07670>     SAVE HYD             1.0 01:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
07671>       fname :Corrigan.0010
07672>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
07673> R0010:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07674>     ROUTE RESERVOIR  ->     1.0 02:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
07675>                        out <=    1.0 01:Co-P      152.39    6.100 No_date   28:15   42.07  n/a     .000
07676>                 overflow <=    1.0 03:Co-P-OVF       .00      .000 No_date   0:00     .00  n/a     .000
07677>       {MxStoUsed=.1015E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07678> R0010:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07679>     ADD HYD              1.0 02:Co-P-OVF       .00      .000 No_date   0:00     .00  n/a     .000
07680>                        +     1.0 02:Co-P      152.39    6.100 No_date   28:15   42.07  n/a     .000
07681>                        +     1.0 02:N_TO     54837.78   87.112 No_date   36:28   23.00  n/a     .000
07682>                        +     1.0 02:MH105-JR    28.70    7.335 No_date   28:05   41.72  n/a     .000
07683>                        +     1.0 02:A8-MJ-JR       .00      .000 No_date   0:00     .00  n/a     .000
07684>                        +     1.0 02:A9-MJ          .00      .000 No_date   0:00     .00  n/a     .000
07685>                        +     1.0 02:A10-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07686>                        +     1.0 02:A11-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07687>                        +     1.0 02:A12-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07688>                        +     1.0 02:A13-MJ         .00      .000 No_date   0:00     .00  n/a     .000
07689>                      SUM=    1.0 01:corrig     55018.86   87.567 No_date   36:27   23.06  n/a     .000
07690> R0010:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07691>     SAVE HYD             1.0 01:corrig     55018.86   87.567 No_date   36:27   23.06  n/a     .000
07692>       fname :corrig.0010
07693>       remark:Total Flows at Corrigan Pond
07694> #*************************************************************************
07695> #    Corrigan Pond 1
07696> #    - Rating curve obtained from Barrhaven South MSS modeling
07697> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
07698> #*************************************************************************
07699> #
07700> # Hydrograph from Corrigan Drain routed to Jockvale Road
07701> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
07702> #
07703> R0010:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07704>     ROUTE CHANNEL    ->     1.0 02:corrig     55018.86   87.567 No_date   36:27   23.06  n/a     .000
07705>       [RDT= 1.00] out<-     1.0 01:N_MI       55018.86   87.553 No_date   36:29   23.06  n/a     .000
07706>       [L/S/n=  580./ .445/.045]
07707>       {Vmax= 1.805:Dmax= 1.646}
07708> #*************************************************************************
07709> #    Catchment MILLS
07710> #    - To SWM Facility north of the Jock
07711> #    - Primarily residental development
07712> #*************************************************************************
07713> R0010:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07714>     CONTINUOUS STANDHYD   1.0 01:MILLS       175.99   12.212 No_date   28:07   36.76 .568     .000
07715>       [XIMP=.38:TIMP=.38]
07716>       [LOSS= 2 :CN= 74.0]
07717>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07718>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=111B.:MNI=.013:SCI=   .0]
07719>       [IaRECimp=   4.00: IaRECper=   4.00]
07720>       [SMIN= 36.67: SMAX=244.49: SK= .010]
07721> #*************************************************************************
07722> #    Chapman Mills SWM Pond
07723> #    - Rating curve obtained from CCL hydraulic modeling
07724> #*************************************************************************
07725> R0010:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07726>     ROUTE RESERVOIR  ->     1.0 02:MILLS       175.99   12.212 No_date   28:07   36.76  n/a     .000
07727>                        out <=    1.0 01:MILL_P     175.99    4.030 No_date   28:43   36.76  n/a     .000
07728>                 overflow <=    1.0 03:MIL-OV         .00      .000 No_date   0:00     .00  n/a     .000
07729>       {MxStoUsed=.2299E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07730> R0010:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07731>     ADD HYD              1.0 02:N_MI       55018.86   87.553 No_date   36:29   23.06  n/a     .000
07732>                        +     1.0 02:MIL-OV         .00      .000 No_date   0:00     .00  n/a     .000
07733>                        +     1.0 02:MILL_P     175.99    4.030 No_date   28:43   36.76  n/a     .000
07734>                      SUM=    1.0 01:SN_MI      55194.85   88.022 No_date   36:28   23.10  n/a     .000
07735> R0010:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07736>     SAVE HYD             1.0 01:SN_MI      55194.85   88.022 No_date   36:28   23.10  n/a     .000
07737>       fname :SN_MI.0010
07738>       remark:Total Flows at Jockvale Road
07739> #
07740> # Hydrograph from Jockvale Road routed to Heart's Desire
07741> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
07742> #
07743> R0010:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07744>     ROUTE CHANNEL    ->     1.0 02:SN_MI      55194.85   88.022 No_date   36:28   23.10  n/a     .000
07745>       [RDT= 1.00] out<-     1.0 01:N_DE       55194.85   87.590 No_date   36:50   23.10  n/a     .000
07746>       [L/S/n= 1962./ .223/.045]
07747>       {Vmax= 1.403:Dmax= 2.091}
07748> #*************************************************************************
07749> #    Catchment DESIRE
07750> #    - To Jock River (north of the Jock)
07751> #    - Rural-estate subdivision (Heart's Desire Community)
07752> #*************************************************************************
07753> R0010:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07754>     CONTINUOUS STANDHYD   1.0 01:DESIRE       23.78    1.694 No_date   28:03   32.93 .509     .000
07755>       [XIMP=.25:TIMP=.25]
07756>       [LOSS= 2 :CN= 77.0]
07757>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07758>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
07759>       [IaRECimp=   4.00: IaRECper=   4.00]
07760>       [SMIN= 31.15: SMAX=207.66: SK= .010]
07761> #*************************************************************************
07762> #    Catchment JOCKVA
07763> #    - To Jockvale SWM Facility
07764> #    - Residential development & golf course
07765> #    - JFSA 2021-01-13 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
07766> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
07767> #*************************************************************************
07768> R0010:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07769>     CONTINUOUS STANDHYD   1.0 01:JOCKVA       225.13   17.670 No_date   28:08   41.86 .647     .000
07770>       [XIMP=.50:TIMP=.50]
07771>       [LOSS= 2 :CN= 74.0]
07772>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07773>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
07774>       [IaRECimp=   4.00: IaRECper=   4.00]
07775>       [SMIN= 36.67: SMAX=244.49: SK= .010]
07776> R0010:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07777>     ADD HYD              1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:55   41.99  n/a     .000
07778>                        +     1.0 02:JOCKVA      225.13   17.670 No_date   28:08   41.86  n/a     .000
07779>                        +     1.0 02:B2-MJ          .00      .000 No_date   0:00     .00  n/a     .000
07780>                        +     1.0 02:B3-MJ          .00      .000 No_date   0:00     .00  n/a     .000
07781>                      SUM=    1.0 01:JOCKVA-TO   257.63   19.945 No_date   28:08   41.88  n/a     .000
07782> R0010:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07783>     SAVE HYD             1.0 01:JOCKVA-TO   257.63   19.945 No_date   28:08   41.88  n/a     .000
07784>       fname :JOCKVA-TO.0010
07785>       remark:Total Flows at KB first pond
07786> #*************************************************************************
07787> #    Jockvale SWM Facility
07788> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
07789> #*************************************************************************
07790> R0010:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07791>     ROUTE RESERVOIR  ->     1.0 02:JOCKVA-TO   257.63   19.945 No_date   28:08   41.88  n/a     .000
07792>                        out <=    1.0 01:JOCK_P     257.63    6.542 No_date   28:42   41.88  n/a     .000
07793>                 overflow <=    1.0 03:JO-OVF         .00      .000 No_date   0:00     .00  n/a     .000
07794>       {MxStoUsed=.4673E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07795> R0010:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07796>     ADD HYD              1.0 02:N_DE       55194.85   87.590 No_date   36:50   23.10  n/a     .000
07797>                        +     1.0 02:DESIRE        23.78    1.694 No_date   28:03   32.93  n/a     .000
07798>                        +     1.0 02:JO-OVF         .00      .000 No_date   0:00     .00  n/a     .000
07799>                        +     1.0 02:JOCK_P      257.63    6.542 No_date   28:42   41.88  n/a     .000
07800>                      SUM=    1.0 01:SN_DE      55476.26   88.294 No_date   36:48   23.19  n/a     .000
07801> R0010:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07802>     SAVE HYD             1.0 01:SN_DE      55476.26   88.294 No_date   36:48   23.19  n/a     .000
07803>       fname :SN_DE.0010
07804>       remark:Total Flows at Heart's Desire
07805> #
07806> # Hydrograph from Heart's Desire routed to Rideau River
07807> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
07808> #
07809> R0010:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07810>     ROUTE CHANNEL    ->     1.0 02:SN_DE      55476.26   88.294 No_date   36:48   23.19  n/a     .000
07811>       [RDT= 1.00] out<-     1.0 01:N1         55476.26   88.278 No_date   36:52   23.19  n/a     .000
07812>       [L/S/n=  563./ .967/.045]
07813>       {Vmax= 1.802:Dmax= 1.646}
07814> #*************************************************************************
07815> #    Catchment S-2
07816> #    - To Jock River (north and south)
07817> #    - Undeveloped floodplain and river
07818> #*************************************************************************
07819> R0010:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07820>     CONTINUOUS NASHYD     1.0 01:S-2         102.94    2.957 No_date   28:20   23.57 .364     .000
07821>       [CN= 72.0: N= 3.00: Tp=  .40]
07822>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
07823>       [InterEventTime=  12.00]
07824> R0010:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07825>     ADD HYD              1.0 02:N1         55476.26   88.278 No_date   36:52   23.19  n/a     .000
07826>                        +     1.0 02:S-2        102.94    2.957 No_date   28:20   23.57  n/a     .000
07827>                      SUM=    1.0 01:SN_N1      55579.20   88.453 No_date   36:52   23.20  n/a     .000
07828> R0010:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07829>     SAVE HYD             1.0 01:SN_N1      55579.20   88.453 No_date   36:52   23.20  n/a     .000
07830>       fname :SN_N1.0010
07831>       remark:Total Flows at Rideau River
07832> ##########################################################################
07833>  ** END OF RUN :   24
07834>
07835> ****************************************************************************
07836>
07837>
07838>
07839>
07840>
07841>  RUN#:COMMAND#
07842> R0025:C00001------------------------------------------------------------
07843>     START
07844>       [TZERO =    .00 hrs on       0]
07845>       [METOUT=    2   (1=imperial, 2=metric output)]
07846>       [NSTORM=    1 ]
07847>       [NRUN  = 0025 ]
07848> #*************************************************************************
07849> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
07850> #*************************************************************************
07851> #  Project Name: [Jock River]    Project Number: [1474-16]
07852> #  Date        : 04-03-2021
07853> #  Modeller    : [M.M.]
07854> #  Company     : JFSAinc.
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07855> #  License #   :  2549237
07856> #*****************************************************************************
07857> # CALIBRATION OF SUMMER MODEL PARAMETERS
07858> # USING CONTINUOUS SIMULATIONS
07859> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
07860> # Use data collected from May 1st to July 14, 2003
07861> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
07862> # 2020-12-01 correct pond curve values
07863> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
07864> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
07865> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
07866> # ------------------------------------------------------------------------------
07867> R0025:C00002-------------------------------------------------------------------------------
07868>      READ STORM
07869>        Filename = storm.001
07870>        Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
07871>        [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
07872> R0025:C00003-------------------------------------------------------------------------------
07873>      MODIFY STORM
07874>        [RFACT=  1.00:TSHIFT= 960.00 min]
07875>        [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
07876> R0025:C00004-------------------------------------------------------------------------------
07877>      DEFAULT VALUES
07878>        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
07879>        ICASEdv  = 1 (read and print data)
07880>        FileTitle= File comment: [Based onvarious calibration exercises in Onta
07881>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
07882>      Horton's infiltration equation parameters:
07883>      [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
07884>      Parameters for PERVIOUS surfaces in STANDHYD:
07885>      [IAper=   4.67 mm] [LGP=50.00 m] [MNP=  .250]
07886>      Parameters for IMPERVIOUS surfaces in STANDHYD:
07887>      [IAimp=   1.57 mm] [CLI= 1.50]   [MNI=  .013]
07888>      Parameters used in NASHYD:
07889>      [Ia=     4.67 mm] [N= 3.00]
07890>      Average monthly Pan Evaporation data in    (mm)
07891>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
07892>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
07893>      Average monthly Potential Evapotranspiration in    (mm)
07894>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
07895>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
07896> R0025:C00005-------------------------------------------------------------------------------
07897>      COMPUTE APD
07898>        [APIni= 50.00: APIkdy= .8500: APIkdt= .9989]
07899>        [APImax=106.76: APIavg= 65.09: APImin= 44.87]
07900> #
07901> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07902> # of 1.32
07903> R0025:C00006-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07904>      CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   15.500 No_date   36:57   25.80 .347     .000
07905>        [CN= 64.0: N= 3.00: Tp= 7.13]
07906>        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
07907>        [InterEventTime=  12.00]
07908> #
07909> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07910> # of 1.32
07911> R0025:C00007-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07912>      CONTINUOUS NASHYD     1.0 01:SW_13        971.00    5.778 No_date   32:34   24.02 .323     .000
07913>        [CN= 61.0: N= 3.00: Tp= 3.76]
07914>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
07915>        [InterEventTime=  12.00]
07916> #
07917> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07918> # of 1.80
07919> R0025:C00008-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07920>      CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    7.521 No_date   39:59   20.65 .278     .000
07921>        [CN= 55.0: N= 3.00: Tp=11.33]
07922>        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
07923>        [InterEventTime=  12.00]
07924> R0025:C00009-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07925>      CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   14.166 No_date   32:40   31.50 .423     .000
07926>        [CN= 72.0: N= 3.00: Tp= 3.91]
07927>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
07928>        [InterEventTime=  12.00]
07929> R0025:C00010-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07930>      CONTINUOUS NASHYD     1.0 01:SW_11        500.00    7.521 No_date   29:22   27.01 .363     .000
07931>        [CN= 66.0: N= 3.00: Tp= 1.24]
07932>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
07933>        [InterEventTime=  12.00]
07934> #
07935> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07936> # of 1.80
07937> R0025:C00011-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07938>      CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   10.351 No_date   34:27   27.01 .363     .000
07939>        [CN= 66.0: N= 3.00: Tp= 5.29]
07940>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
07941>        [InterEventTime=  12.00]
07942> #
07943> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07944> # of 1.52
07945> R0025:C00012-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07946>      CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   27.457 No_date   37:54   31.50 .423     .000
07947>        [CN= 72.0: N= 3.00: Tp= 8.00]
07948>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
07949>        [InterEventTime=  12.00]
07950> #
07951> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07952> # of 1.75
07953> R0025:C00013-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07954>      CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   26.276 No_date   39:59   27.01 .363     .000
07955>        [CN= 66.0: N= 3.00: Tp=11.66]
07956>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
07957>        [InterEventTime=  12.00]
07958> #
07959> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07960> # of 1.68
07961> R0025:C00014-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07962>      CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   11.752 No_date   30:54   30.18 .406     .000
07963>        [CN= 70.0: N= 3.00: Tp= 2.51]
07964>        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
07965>        [InterEventTime=  12.00]
07966> #
07967> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07968> # of 1.82
07969> R0025:C00015-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07970>      CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   13.075 No_date   39:59   24.61 .331     .000
07971>        [CN= 62.0: N= 3.00: Tp=11.32]
07972>        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
07973>        [InterEventTime=  12.00]
07974> #
07975> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07976> # of 1.80
07977> R0025:C00016-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07978>      CONTINUOUS NASHYD     1.0 01:SW_8         131.00    2.266 No_date   28:57   25.20 .339     .000
07979>        [CN= 63.0: N= 3.00: Tp=  .90]
07980>        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
07981>        [InterEventTime=  12.00]
07982> #
07983> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07984> # of 1.65
07985> R0025:C00017-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07986>      CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   15.333 No_date   38:34   27.01 .363     .000
07987>        [CN= 66.0: N= 3.00: Tp= 8.42]
07988>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
07989>        [InterEventTime=  12.00]
07990> #
07991> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
07992> # of 1.82
07993> R0025:C00018-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07994>      CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   11.663 No_date   36:24   21.75 .292     .000
07995>        [CN= 57.0: N= 3.00: Tp= 6.65]
07996>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
07997>        [InterEventTime=  12.00]
07998> #
07999> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08000> # of 1.75
08001> R0025:C00019-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08002>      CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.076 No_date   33:03   27.63 .371     .000
08003>        [CN= 67.0: N= 3.00: Tp= 4.18]
08004>        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
08005>        [InterEventTime=  12.00]
08006> #
08007> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08008> # of 1.67
08009> R0025:C00020-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08010>      CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    7.882 No_date   35:14   31.50 .423     .000
08011>        [CN= 72.0: N= 3.00: Tp= 5.95]
08012>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08013>        [InterEventTime=  12.00]
08014> R0025:C00021-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08015>      CONTINUOUS NASHYD     1.0 01:SW_5         224.00    6.882 No_date   28:45   35.66 .479     .000
08016>        [CN= 77.0: N= 3.00: Tp=  .75]
08017>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08018>        [InterEventTime=  12.00]
08019> #
08020> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08021> # of 1.20
08022> R0025:C00022-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08023>      CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   37.664 No_date   33:18   32.85 .442     .000
08024>        [CN= 74.0: N= 3.00: Tp= 4.45]
08025>        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
08026>        [InterEventTime=  12.00]
08027> R0025:C00023-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08028>      CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .798 No_date   28:35   39.36 .529     .000
08029>        [CN= 81.0: N= 3.00: Tp=  .62]
08030>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08031>        [InterEventTime=  12.00]
08032> #
08033> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08034> # of 1.61
08035> R0025:C00024-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08036>      CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    7.480 No_date   37:50   34.24 .460     .000
08037>        [CN= 75.0: N= 3.00: Tp= 8.00]
08038>        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
08039>        [InterEventTime=  12.00]
08040> R0025:C00025-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08041>      CONTINUOUS NASHYD     1.0 01:SW_4         585.00   10.942 No_date   29:56   39.36 .529     .000
08042>        [CN= 81.0: N= 3.00: Tp= 1.75]
08043>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08044>        [InterEventTime=  12.00]
08045> R0025:C00026-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08046>      CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   14.476 No_date   30:46   38.60 .519     .000
08047>        [CN= 80.0: N= 3.00: Tp= 2.46]
08048>        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
08049>        [InterEventTime=  12.00]
08050> R0025:C00027-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08051>      CONTINUOUS NASHYD     1.0 01:SW_2         177.00    5.438 No_date   28:45   35.66 .479     .000
08052>        [CN= 77.0: N= 3.00: Tp=  .75]
08053>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08054>        [InterEventTime=  12.00]
08055> R0025:C00028-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08056>      CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   13.229 No_date   31:45   39.36 .529     .000
08057>        [CN= 81.0: N= 3.00: Tp= 3.25]
08058>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08059>        [InterEventTime=  12.00]
08060> R0025:C00029-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08061>      CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   29.508 No_date   31:30   34.94 .470     .000
08062>        [CN= 76.0: N= 3.00: Tp= 3.03]
08063>        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
08064>        [InterEventTime=  12.00]
08065> #
08066> # Routing hydrographs
08067> #
08068> # Starting with the addition of Jock River Headwater and Subwatershed 13
08069> #
08070> R0025:C00030-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08071>      ADD HYD               1.0 02:JR_HW       3680.00   15.500 No_date   36:56   25.80  n/a     .000
08072>                       +    1.0 02:SW_13        971.00    5.778 No_date   32:34   24.02  n/a     .000
08073>                     SUM=   1.0 01:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
08074> #
08075> # Sum of hydrographs from Node 13 routed to Node 13A
08076> # (Approximated cross-section - see cross-section 258)
08077> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08078> #
08079> R0025:C00031-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08080>      ROUTE CHANNEL     ->    1.0 02:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
08081>       [RD= 1.00] out<-     1.0 01:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
08082>        [L/S/n= 9074./ .022/.040]
08083>        {Vmax=  .548:Dmax= 3.659}
08084> #
08085> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
08086> #
08087> R0025:C00032-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08088>      ADD HYD               1.0 02:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
08089>                       +    1.0 02:JR_GWM      3074.00    7.521 No_date   39:59   20.65  n/a     .000
08090>                     SUM=   1.0 01:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
08091> #
08092> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
08093> #
08094> R0025:C00033-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08095>      ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
08096>                    out <=  1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08097>        {MxStoUsed=.1192E+03  m3}
08098> #
08099> R0025:C00034-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08100>      SAVE HYD              1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08101>        fname :H_RESGM
08102>        remark:Outflow from Res GM
08103> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
08104> # (Approximated cross-section - see cross-section 258)
08105> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08106> R0025:C00035-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08107>      ROUTE CHANNEL     ->    1.0 02:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08108>       [RD= 1.00] out<-     1.0 01:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
08109>        [L/S/n= 5926./ .076/.040]
08110>        {Vmax=  .552:Dmax= 1.524}
08111> #
08112> # Addition of Subwatershed Jock River at Ashton to Node 12
08113> #
08114> R0025:C00036-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08115>      ADD HYD               1.0 02:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
08116>                       +    1.0 02:JR_ASH      1781.00   14.166 No_date   32:40   31.50  n/a     .000
08117>                     SUM=   1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08118> R0025:C00037-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08119>      SAVE HYD              1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08120>        fname :H_SN12
08121>        remark:flow at S_N12 near Ashton
08122> #
08123> # Sum of hydrographs from Node 12 routed to Node 11
08124> # (Approximated cross-section - see cross-section 258)
08125> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08126> #
08127> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
08128> #
08129> R0025:C00038-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08130>      ROUTE CHANNEL     ->    1.0 02:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08131>       [RD= 1.00] out<-     1.0 01:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
08132>        [L/S/n=  972./ .054/.040]
08133>        {Vmax=  .721:Dmax= 2.847}
08134> #
08135> # Addition of Subwatershed 11 and No Name Creek to Node 11
08136> #
08137> R0025:C00039-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08138>      ADD HYD               1.0 02:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
08139>                       +    1.0 02:SW_11        500.00    7.521 No_date   29:22   27.01  n/a     .000
08140>                       +    1.0 02:NN_CK       1917.00   10.351 No_date   34:27   27.01  n/a     .000
08141>                     SUM=   1.0 01:S_N11       11923.00   27.908 No_date   33:04   25.42  n/a     .000
08142> #
08143> # Sum of hydrographs from Node 11 routed to Node 10
08144> # Section 1
08145> #
08146> R0025:C00040-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08147>      ROUTE CHANNEL     ->    1.0 02:S_N11       11923.00   27.908 No_date   33:04   25.42  n/a     .000
08148>       [RD= 1.00] out<-     1.0 01:N10         11923.00   18.039 No_date   40:01   25.42  n/a     .000
08149>        [L/S/n=14028./ .157/.040]
08150>        {Vmax=  .464:Dmax= 1.329}
08151> #
08152> # Addition of Subwatershed 10 to Node 10
08153> #
08154> R0025:C00041-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08155>      ADD HYD               1.0 02:N10         11923.00   18.039 No_date   40:01   25.42  n/a     .000
08156>                       +    1.0 02:SW_10        5666.00   27.457 No_date   37:54   31.50  n/a     .000
08157>                     SUM=   1.0 01:S_N10       17589.00   45.026 No_date   38:35   27.38  n/a     .000
08158> R0025:C00042-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08159>      SAVE HYD              1.0 01:S_N10       17589.00   45.026 No_date   38:35   27.38  n/a     .000
08160>        fname :H_SN10
08161>        remark:flow at S_N10: N10 + SW_10
08162> # Addition of Kings Creek to S_N10
08163> #
08164> R0025:C00043-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08165>      ADD HYD               1.0 02:S_N10       17589.00   45.026 No_date   38:35   27.38  n/a     .000
08166>                       +    1.0 02:KG_CK       8376.00   26.276 No_date   39:59   27.01  n/a     .000
08167>                     SUM=   1.0 01:S_N10A      25965.00   70.812 No_date   39:59   27.26  n/a     .000
08168> #
08169> # Sum of hydrographs from Node 10 routed to Node 9
08170> # Section 2
08171> #
08172> R0025:C00044-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08173>      ROUTE CHANNEL     ->    1.0 02:S_N10A      25965.00   70.812 No_date   39:59   27.26  n/a     .000
08174>       [RD= 1.00] out<-     1.0 01:N9          25965.00   69.032 No_date   39:59   27.26  n/a     .000
08175>        [L/S/n= 3982./ .075/.040]
08176>        {Vmax=  .718:Dmax= 1.889}
08177> #
08178> # Addition of Subwatershed 9 and Nichols Creek to Node 9
08179> #
08180> R0025:C00045-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08181>      ADD HYD               1.0 02:N9          25965.00   69.032 No_date   39:59   27.26  n/a     .000
08182>                       +    1.0 02:SW_9        1132.00   11.752 No_date   30:54   30.18  n/a     .000
08183>                       +    1.0 02:NC_CK       4464.00   13.075 No_date   39:59   24.61  n/a     .000
08184>                     SUM=   1.0 01:S_N9        31561.00   84.804 No_date   39:59   26.99  n/a     .000
08185> #
08186> # Sum of hydrographs from Node 9 routed to Node 8
08187> # Section 3
08188> #
08189> R0025:C00046-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08190>      ROUTE CHANNEL     ->    1.0 02:S_N9        31561.00   84.684 No_date   39:59   26.99  n/a     .000
08191>       [RD= 1.00] out<-     1.0 01:N8          31561.00   79.245 No_date   39:59   26.99  n/a     .000
08192>        [L/S/n= 2269./ .088/.045]
08193>        {Vmax=  .363:Dmax= 1.743}
08194> #
08195> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
08196> #
08197> R0025:C00047-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08198>      ADD HYD               1.0 02:N8          31561.00   79.245 No_date   39:59   26.99  n/a     .000
08199>                       +    1.0 02:SW_8         131.00    2.266 No_date   28:57   25.20  n/a     .000
08200>                       +    1.0 02:HB_DR       3854.00   15.333 No_date   38:34   27.01  n/a     .000
08201>                     SUM=   1.0 01:S_N8        35546.00   94.597 No_date   39:59   26.99  n/a     .000
08202> #
08203> # Sum of hydrographs from Node 8 routed to Node 7
08204> # Section 4
08205> #
08206> R0025:C00048-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08207>      ROUTE CHANNEL     ->    1.0 02:S_N8        35546.00   94.597 No_date   39:59   26.99  n/a     .000
08208>       [RD= 1.00] out<-     1.0 01:N7          35546.00   80.337 No_date   45:08   26.98  n/a     .000
08209>        [L/S/n= 3750./ .053/.070]
08210>        {Vmax=  .226:Dmax= 2.161}
08211> #
08212> # Addition of Subwatershed 7 to Node 7
08213> #
08214> R0025:C00049-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08215>      ADD HYD               1.0 02:N7          35546.00   80.337 No_date   45:08   26.98  n/a     .000
08216>                       +    1.0 02:SW_7        3197.00   11.663 No_date   36:24   21.75  n/a     .000
08217>                     SUM=   1.0 01:S_N7        38743.00   86.331 No_date   44:08   26.55  n/a     .000
08218> R0025:C00050-----------DTmin-ID:NHYD--------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08219>      SAVE HYD              1.0 01:S_N7        38743.00   86.331 No_date   44:08   26.55  n/a     .000
08220>        fname :H_SN7
08221>        remark:flow at S_N7: N7 + SW_7
08222> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
08223> # Storage area and volumes were estimated from available topo maps.
08224> # Release rate from fen was assumed to be controlled by the downstream
08225> # river cross-section for summer conditions.  It is was assumed that for up to
08226> # 0.75 m of water, the main channel of the river provided the storage.  Above
08227> # this depth, the wetland starts to signigicantly store water.
08228> #
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08229> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08230>     ROUTE RESERVOIR ->    1.0 02:S_N7      38743.00   86.331 No_date   44:08   26.55  n/a     .000
08231>                     out <=   1.0 01:RES_RF    38743.00   42.032 No_date   60:05   26.55  n/a     .000
08232>      {MxStoUsed=.3671E+03  m3}
08233> R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08234>     SAVE HYD              1.0 01:RES_RF    38743.00   42.032 No_date   60:05   26.55  n/a     .000
08235>       fname :H_ResRF
08236>       remark:outflow of Richmond Fen
08237> #
08238> # Sum of hydrographs from Node 7 routed to Node 6
08239> # Section 5
08240> #
08241> R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08242>     ROUTE CHANNEL   ->    1.0 02:RES_RF    38743.00   42.032 No_date   60:05   26.55  n/a     .000
08243>       [RDT= 1.00] out<-     1.0 01:N6        38743.00   41.826 No_date   61:26   26.55  n/a     .000
08244>       [L/S/n= 3056./ .082/.025]
08245>       {Vmax=  .514:Dmax= 1.120}
08246> #
08247> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
08248> #
08249> R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08250>     ADD HYD               1.0 02:N6        38743.00   41.826 No_date   61:26   26.55  n/a     .000
08251>                       +     1.0 02:SW_6       165.00    1.076 No_date   33:03   27.63  n/a     .000
08252>                       +     1.0 02:VG_DR     1332.00    7.882 No_date   35:14   31.50  n/a     .000
08253>                     SUM=    1.0 01:S_N6      40240.01   41.832 No_date   61:20   26.72  n/a     .000
08254> #
08255> # Sum of hydrographs from Node 6 routed to Node 5
08256> # Section 6
08257> #
08258> R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08259>     ROUTE CHANNEL   ->    1.0 02:S_N6      40240.01   41.832 No_date   61:20   26.72  n/a     .000
08260>       [RDT= 1.00] out<-     1.0 01:N5        40240.01   41.717 No_date   62:14   26.72  n/a     .000
08261>       [L/S/n= 1852./ .054/.035]
08262>       {Vmax=  .444:Dmax= 1.222}
08263> #
08264> # Addition of Subwatershed 5 and Flowing Creek to Node 5
08265> #
08266> R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08267>     ADD HYD               1.0 02:N5        40240.01   41.717 No_date   62:14   26.72  n/a     .000
08268>                       +     1.0 02:SW_5       224.00    6.882 No_date   28:45   35.66  n/a     .000
08269>                       +     1.0 02:FL_CK     4945.00   37.664 No_date   33:18   32.85  n/a     .000
08270>                     SUM=    1.0 01:S_N5      45409.01   62.634 No_date   34:27   27.43  n/a     .000
08271> #
08272> # Sum of hydrographs from Node 5 routed to Node 5A
08273> # Section 7
08274> #
08275> R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08276>     ROUTE CHANNEL   ->    1.0 02:S_N5      45409.01   62.634 No_date   34:27   27.43  n/a     .000
08277>       [RDT= 1.00] out<-     1.0 01:N5A       45409.01   62.487 No_date   34:43   27.43  n/a     .000
08278>       {L/S/n=  556./ .090/.040}
08279>       {Vmax=  .511:Dmax= 1.222}
08280> #
08281> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
08282> #
08283> R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08284>     ADD HYD               1.0 02:N5A       45409.01   62.487 No_date   34:43   27.43  n/a     .000
08285>                       +     1.0 02:SW_5A2      20.00    .798 No_date   28:35   39.36  n/a     .000
08286>                       +     1.0 02:SW_5A1    1412.00    7.480 No_date   37:50   34.24  n/a     .000
08287>                     SUM=    1.0 01:S_N5A     46841.01   69.334 No_date   35:01   27.64  n/a     .000
08288> #
08289> # Sum of hydrographs from Node 5A routed to Node 4
08290> # Section 8
08291> #
08292> R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08293>     ROUTE CHANNEL   ->    1.0 02:S_N5A     46841.01   69.334 No_date   35:01   27.64  n/a     .000
08294>       [RDT= 1.00] out<-     1.0 01:N4        46841.01   66.496 No_date   36:27   27.64  n/a     .000
08295>       {L/S/n= 4630./ .043/.035}
08296>       {Vmax=  .840:Dmax= 3.530}
08297> #
08298> # Addition of Subwatershed 4 and Leamy Creek to Node 4
08299> #
08300> R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08301>     ADD HYD               1.0 02:N4        46841.01   66.496 No_date   36:27   27.64  n/a     .000
08302>                       +     1.0 02:SW_4       585.00   10.942 No_date   29:56   39.36  n/a     .000
08303>                       +     1.0 02:LM_CK     1021.00   14.476 No_date   30:46   38.60  n/a     .000
08304>                     SUM=    1.0 01:S_N4      48447.00   73.819 No_date   35:41   28.02  n/a     .000
08305> R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08306>     SAVE HYD              1.0 01:S_N4      48447.00   73.819 No_date   35:41   28.02  n/a     .000
08307>       fname :S_N4.0025
08308>       remark:flow at S_N4
08309> #
08310> # Sum of hydrographs from Node 4 routed to Node 2
08311> # Section 9
08312> #
08313> R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08314>     ROUTE CHANNEL   ->    1.0 02:S_N4      48447.00   73.819 No_date   35:41   28.02  n/a     .000
08315>       [RDT= 1.00] out<-     1.0 01:N2        48447.00   73.485 No_date   35:42   28.02  n/a     .000
08316>       [L/S/n= 1667./ .060/.040]
08317>       {Vmax=  .874:Dmax= 3.570}
08318> #
08319> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
08320> #
08321> R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08322>     ADD HYD               1.0 02:N2        48447.00   73.485 No_date   35:42   28.02  n/a     .000
08323>                       +     1.0 02:SW_2       177.00    5.438 No_date   28:45   35.66  n/a     .000
08324>                       +     1.0 02:SM_DR     1122.00   13.229 No_date   31:45   39.36  n/a     .000
08325>                       +     1.0 02:MO_DR     2737.00   29.508 No_date   31:30   34.94  n/a     .000
08326>                     SUM=    1.0 01:S_N2      52483.00  106.109 No_date   33:07   28.64  n/a     .000
08327> R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08328>     SAVE HYD              1.0 01:S_N2      52483.00  106.109 No_date   33:07   28.64  n/a     .000
08329>       fname :H_SN2
08330>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
08331> #
08332> # Sum of hydrographs from Node 2 routed to Node 1
08333> # Section 10
08334> #
08335> #*******************************************************************************
08336> #
08337> # Hydrograph from Node 2 routed to Node 416
08338> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
08339> #
08340> R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08341>     ROUTE CHANNEL   ->    1.0 02:S_N2      52483.00  106.109 No_date   33:07   28.64  n/a     .000
08342>       [RDT= 1.00] out<-     1.0 01:N_416     52483.00  103.234 No_date   34:03   28.64  n/a     .000
08343>       [L/S/n= 2327./ .050/.055]
08344>       {Vmax=  .754:Dmax= 3.305}
08345> #*******************************************************************************
08346> #    Catchment SW-1a
08347> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
08348> #    - Undeveloped agricultural land
08349> #*******************************************************************************
08350> R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08351>     CONTINUOUS NASHYD     1.0 01:SW_1a        536.42    5.154 No_date   31:16   30.13 .405     .000
08352>       [CN= 72.0: N= 3.00: Tp= 2.79]
08353>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08354>       [InterEventTime=  12.00]
08355> R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08356>     CONTINUOUS NASHYD     1.0 01:S-1-Okeefe    44.93    1.029 No_date   29:07   34.14 .459     .000
08357>       [CN= 77.0: N= 3.00: Tp= 1.05]
08358>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08359>       [InterEventTime=  12.00]
08360> R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08361>     ADD HYD               1.0 02:N_416     52483.00  103.234 No_date   34:03   28.64  n/a     .000
08362>                       +     1.0 02:SW_1a      536.42    5.154 No_date   31:16   30.13  n/a     .000
08363>                       +     1.0 02:S-1-Okeefe    44.93    1.029 No_date   29:07   34.14  n/a     .000
08364>                     SUM=    1.0 01:SN_416    53064.36  107.224 No_date   33:26   28.66  n/a     .000
08365> R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08366>     SAVE HYD              1.0 01:SN_416    53064.36  107.224 No_date   33:26   28.66  n/a     .000
08367>       fname :SN_416.0025
08368>       remark:Total flows at Highway 416
08369> #
08370> # Hydrograph from Node 416 routed to Node at Okeefe drain
08371> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
08372> #
08373> R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08374>     ROUTE CHANNEL   ->    1.0 02:SN_416    53064.36  107.224 No_date   33:26   28.66  n/a     .000
08375>       [RDT= 1.00] out<-     1.0 01:N_OK      53064.36  107.100 No_date   33:50   28.66  n/a     .000
08376>       [L/S/n=  497./ .302/.055]
08377>       {Vmax= 1.568:Dmax= 2.811}
08378> #*******************************************************************************
08379> #    Catchment OKEEFE
08380> #    - To O'Keefe drain (north of the Jock)
08381> #    - Developed with assumed 43% imp.
08382> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
08383> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
08384> #*******************************************************************************
08385> R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08386>     CONTINUOUS NASHYD     1.0 01:O-1          63.72     .937 No_date   28:58   22.21 .299     .000
08387>       [CN= 61.0: N= 3.00: Tp=  .90]
08388>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
08389>       [InterEventTime=  12.00]
08390> R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08391>     ROUTE CHANNEL   ->    1.0 02:O-1       63.72     .937 No_date   28:58   22.21  n/a     .000
08392>       [RDT= 1.00] out<-     1.0 01:O-1R      63.72     .877 No_date   29:15   22.21  n/a     .000
08393>       {L/S/n=  960./ .630/.043}
08394>       {Vmax=  .829:Dmax=  .398}
08395> R0025:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08396>     CONTINUOUS NASHYD     1.0 01:O-2          28.61     .330 No_date   29:13   20.55 .276     .000
08397>       [CN= 57.0: N= 3.00: Tp= 1.10]
08398>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
08399>       [InterEventTime=  12.00]
08400> R0025:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08401>     CONTINUOUS NASHYD     1.0 01:O-4          46.94     .426 No_date   29:00   15.62 .210     .000
08402>       [CN= 49.0: N= 3.00: Tp=  .90]
08403>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
08404>       [InterEventTime=  12.00]
08405> R0025:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08406>     ADD HYD               1.0 02:O-1R      63.72     .877 No_date   29:15   22.21  n/a     .000
08407>                       +     1.0 02:O-2       28.61     .330 No_date   29:13   20.55  n/a     .000
08408>                       +     1.0 02:O-4       46.94     .426 No_date   29:00   15.62  n/a     .000
08409>                     SUM=    1.0 01:OKF-N    139.27    1.623 No_date   29:11   19.65  n/a     .000
08410> R0025:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08411>     ROUTE CHANNEL   ->    1.0 02:OKF-N     139.27    1.623 No_date   29:11   19.65  n/a     .000
08412>       [RDT= 1.00] out<-     1.0 01:OKF-NR    139.27    1.620 No_date   29:14   19.65  n/a     .000
08413>       [L/S/n=  210./ .810/.043]
08414>       {Vmax=  .998:Dmax=  .685}
08415> R0025:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08416>     CONTINUOUS NASHYD     1.0 01:O-6          16.46     .143 No_date   28:45   13.49 .181     .000
08417>       [CN= 43.0: N= 3.00: Tp=  .70]
08418>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
08419>       [InterEventTime=  12.00]
08420> R0025:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08421>     CONTINUOUS STANDHYD   1.0 01:O-3          39.67    1.013 No_date   28:23   24.45 .329     .000
08422>       [XIMP=.15:TIMP=.30]
08423>       [LOSS= 2 :CN= 50.0]
08424>       [Pervious     area: IAper= 4.67:SLPP=  .32:LGP= 440.:MNP=.035:SCP=   .0]
08425>       [Impervious   area: IAimp= 1.57:SLPI=  .32:LGI=1880.:MNI=.013:SCI=   .0]
08426>       [IaRECimp=   4.00: IaRECper=   4.00]
08427>       [SMIN= 99.77: SMAX=665.12: SK= .010]
08428> R0025:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08429>     CONTINUOUS STANDHYD   1.0 01:O-5          60.63    2.500 No_date   28:10   28.05 .377     .000
08430>       [XIMP=.13:TIMP=.26]
08431>       [LOSS= 2 :CN= 61.0]
08432>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
08433>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
08434>       [IaRECimp=   4.00: IaRECper=   4.00]
08435>       [SMIN= 64.50: SMAX=430.01: SK= .010]
08436> R0025:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08437>     ADD HYD               1.0 02:OKF-NR    139.27    1.620 No_date   29:14   19.65  n/a     .000
08438>                       +     1.0 02:O-3        39.67    1.013 No_date   28:23   24.45  n/a     .000
08439>                       +     1.0 02:O-5        60.63    2.500 No_date   28:10   28.05  n/a     .000
08440>                       +     1.0 02:O-6        16.46     .143 No_date   28:45   13.49  n/a     .000
08441>                     SUM=    1.0 01:PT1      256.03    4.071 No_date   28:22   21.98  n/a     .000
08442> R0025:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08443>     CONTINUOUS NASHYD     1.0 01:O-7           5.28     .078 No_date   28:37   18.08 .243     .000
08444>       [CN= 54.0: N= 3.00: Tp=  .60]
08445>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
08446>       [InterEventTime=  12.00]
08447> R0025:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08448>     ADD HYD               1.0 02:PT1       256.03    4.071 No_date   28:22   21.98  n/a     .000
08449>                       +     1.0 02:O-7         5.28     .078 No_date   28:37   18.08  n/a     .000
08450>                     SUM=    1.0 01:FF        261.31    4.141 No_date   28:22   21.91  n/a     .000
08451> R0025:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08452>     ROUTE CHANNEL   ->    1.0 02:FF        261.31    4.141 No_date   28:22   21.91  n/a     .000
08453>       [RDT= 1.00] out<-     1.0 01:DRAIN1    261.31    4.014 No_date   28:28   21.91  n/a     .000
08454>       [L/S/n=  302./1.000/.067]
08455>       {Vmax=  .793:Dmax=  .719}
08456> R0025:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08457>     CONTINUOUS NASHYD     1.0 01:D1            1.17     .078 No_date   28:12   37.38 .502     .000
08458>       [CN= 84.0: N= 3.00: Tp=  .28]
08459>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
08460>       [InterEventTime=  12.00]
08461> R0025:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08462>     CONTINUOUS STANDHYD   1.0 01:A1           2.50     .464 No_date   28:01   58.43 .785     .000
08463>       [XIMP=.68:TIMP=.85]
08464>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08465>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08466>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
08467>       [IaRECimp=   4.00: IaRECper=   4.00]
08468> R0025:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08469>     ROUTE RESERVOIR ->    1.0 02:A1           2.50     .464 No_date   28:01   58.43  n/a     .000
08470>                     out <=   1.0 01:A1-STR      2.50     .117 No_date   28:22   58.43  n/a     .000
08471>                overflow <=   1.0 03:A1-OVF      .00     .000 No_date    0:00     .00  n/a     .000
08472>      {MxStoUsed=.6666E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08473> R0025:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08474>     CONTINUOUS STANDHYD   1.0 01:ST-2          .59     .091 No_date   28:00   45.54 .612     .000
08475>       [XIMP=.48:TIMP=.57]
08476>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08477>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08478>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
08479>       [IaRECimp=   4.00: IaRECper=   4.00]
08480> R0025:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08481>     ROUTE RESERVOIR ->    1.0 02:ST-2          .59     .091 No_date   28:00   45.54  n/a     .000
08482>                     out <=   1.0 01:ST2STR      .59     .052 No_date   28:07   45.54  n/a     .000
08483>                overflow <=   1.0 03:ST2OVF      .00     .000 No_date    0:00     .00  n/a     .000
08484>      {MxStoUsed=.2899E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08485> R0025:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08486>     CONTINUOUS NASHYD     1.0 01:O-8          60.55    1.147 No_date   29:04   28.63 .385     .000
08487>       [CN= 69.0: N= 3.00: Tp= 1.00]
08488>       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
08489>       [InterEventTime=  12.00]
08490> R0025:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08491>     ROUTE PIPE      ->    1.0 02:O-8          60.55    1.147 No_date   29:04   28.63  n/a     .000
08492>       [RDT= 1.00] out<-     1.0 01:O8PIPE    60.55    1.141 No_date   29:08   28.63  n/a     .000
08493>       [L/S/n=  335./ .100/.013]
08494>       {Vmax= 1.178:Dmax=  .540}
08495>       {WDTH= 1.20:WDTH= 1.00}
08496> R0025:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08497>     ADD HYD               1.0 02:DRAIN1    261.31    4.014 No_date   28:28   21.91  n/a     .000
08498>                       +     1.0 02:D1          1.17     .078 No_date   28:12   37.38  n/a     .000
08499>                       +     1.0 02:A1-STR      2.50     .117 No_date   28:22   58.43  n/a     .000
08500>                       +     1.0 02:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
08501>                       +     1.0 02:ST2STR      .59     .052 No_date   28:07   45.54  n/a     .000
08502>                       +     1.0 02:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
08503>                       +     1.0 02:O8PIPE     60.55    1.141 No_date   29:08   28.63  n/a     .000
08504>                     SUM=    1.0 01:PT2ST-IN  326.12    5.017 No_date   28:36   23.53  n/a     .000
08505> R0025:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08506>     CONTINUOUS STANDHYD   1.0 01:A7           3.51     .635 No_date   28:01   58.43 .785     .000
08507>       [XIMP=.68:TIMP=.85]
08508>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08509>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08510>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
08511>       [IaRECimp=   4.00: IaRECper=   4.00]
08512> R0025:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08513>     ROUTE RESERVOIR ->    1.0 02:A7           3.51     .635 No_date   28:01   58.43  n/a     .000
08514>                     out <=   1.0 01:A7-STR      3.51     .164 No_date   28:23   58.43  n/a     .000
08515>                overflow <=   1.0 03:A7-OVF       .00     .000 No_date    0:00     .00  n/a     .000
08516>      {MxStoUsed=.9358E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08517> R0025:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08518>     CONTINUOUS STANDHYD   1.0 01:ST-3           .71     .108 No_date   28:00   45.54 .612     .000
08519>       [XIMP=.46:TIMP=.57]
08520>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08521>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08522>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
08523>       [IaRECimp=   4.00: IaRECper=   4.00]
08524> R0025:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08525>     ROUTE RESERVOIR ->    1.0 02:ST-3           .71     .108 No_date   28:00   45.54  n/a     .000
08526>                     out <=   1.0 01:ST3STR      .71     .063 No_date   28:08   45.54  n/a     .000
08527>                overflow <=   1.0 03:ST3OVF       .00     .000 No_date    0:00     .00  n/a     .000
08528>      {MxStoUsed=.3355E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08529> R0025:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08530>     ADD HYD               1.0 02:ST2-IN    326.12    5.017 No_date   28:36   23.53  n/a     .000
08531>                       +     1.0 02:ST2STR      .59     .052 No_date   28:07   45.54  n/a     .000
08532>                       +     1.0 02:A7-OVF       .00     .000 No_date    0:00     .00  n/a     .000
08533>                       +     1.0 02:ST3STR      .71     .063 No_date   28:08   45.54  n/a     .000
08534>                       +     1.0 02:ST3OVF       .00     .000 No_date    0:00     .00  n/a     .000
08535>                     SUM=    1.0 01:PT2ST3    330.34    5.204 No_date   28:28   23.95  n/a     .000
08536> R0025:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08537>     ROUTE CHANNEL   ->    1.0 02:PT2ST3    330.34    5.204 No_date   28:28   23.95  n/a     .000
08538>       [RDT= 1.00] out<-     1.0 01:DRAIN2    330.34    4.806 No_date   29:00   23.95  n/a     .000
08539>       [L/S/n=  592./ .230/.043]
08540>       {Vmax=  .581:Dmax=  .388}
08541> R0025:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08542>     CONTINUOUS NASHYD     1.0 01:D2           2.28     .062 No_date   29:03   37.38 .502     .000
08543>       [CN= 84.0: N= 3.00: Tp=  .28]
08544>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
08545>       [InterEventTime=  12.00]
08546> R0025:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08547>     CONTINUOUS STANDHYD   1.0 01:A17         12.04    1.933 No_date   28:03   58.43 .785     .000
08548>       [XIMP=.68:TIMP=.85]
08549>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08550>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08551>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
08552>       [IaRECimp=   4.00: IaRECper=   4.00]
08553> R0025:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08554>     ROUTE RESERVOIR ->    1.0 02:A17         12.04    1.933 No_date   28:03   58.43  n/a     .000
08555>                     out <=   1.0 01:A17STR     12.04     .553 No_date   28:29   58.43  n/a     .000
08556>                overflow <=   1.0 03:A17OVF       .00     .000 No_date    0:00     .00  n/a     .000
08557>      {MxStoUsed=.3155E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08558> R0025:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08559>     CONTINUOUS STANDHYD   1.0 01:ST-4           .35     .055 No_date   28:00   45.54 .612     .000
08560>       [XIMP=.46:TIMP=.57]
08561>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08562>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08563>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
08564>       [IaRECimp=   4.00: IaRECper=   4.00]
08565> R0025:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08566>     ROUTE RESERVOIR ->    1.0 02:ST-4           .35     .055 No_date   28:00   45.54  n/a     .000
08567>                     out <=   1.0 01:ST4STR      .35     .031 No_date   28:07   45.54  n/a     .000
08568>                overflow <=   1.0 03:ST4OVF       .00     .000 No_date    0:00     .00  n/a     .000
08569>      {MxStoUsed=.2092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08570> R0025:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08571>     CONTINUOUS STANDHYD   1.0 01:A18           5.30     .922 No_date   28:02   58.43 .785     .000
08572>       [XIMP=.68:TIMP=.85]
08573>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08574>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08575>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
08576>       [IaRECimp=   4.00: IaRECper=   4.00]
08577> R0025:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08578>     ROUTE RESERVOIR ->    1.0 02:A18           5.30     .922 No_date   28:02   58.43  n/a     .000
08579>                     out <=   1.0 01:A18STR      5.30     .247 No_date   28:25   58.43  n/a     .000
08580>                overflow <=   1.0 03:A18OVF       .00     .000 No_date    0:00     .00  n/a     .000
08581>      {MxStoUsed=.1498E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08582> R0025:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08583>     ADD HYD               1.0 02:DRAIN2    330.34    4.806 No_date   29:00   23.95  n/a     .000
08584>                       +     1.0 02:D2          2.28     .062 No_date   29:03   37.38  n/a     .000
08585>                       +     1.0 02:A17STR     12.04     .553 No_date   28:29   58.43  n/a     .000
08586>                       +     1.0 02:A17OVF       .00     .000 No_date    0:00     .00  n/a     .000
08587>                       +     1.0 02:ST4STR      .35     .031 No_date   28:07   45.54  n/a     .000
08588>                       +     1.0 02:ST4OVF       .00     .000 No_date    0:00     .00  n/a     .000
08589>                       +     1.0 02:A18STR      5.30     .247 No_date   28:25   58.43  n/a     .000
08590>                       +     1.0 02:A18OVF       .00     .000 No_date    0:00     .00  n/a     .000
08591>                     SUM=    1.0 01:PT3ST4    350.31    5.557 No_date   28:56   25.77  n/a     .000
08592> R0025:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08593>     ROUTE CHANNEL   ->    1.0 02:PT3ST4    350.31    5.557 No_date   28:56   25.77  n/a     .000
08594>       [RDT= 1.00] out<-     1.0 01:DRAIN3    350.31    5.293 No_date   29:13   25.77  n/a     .000
08595>       [L/S/n=  525./ .230/.043]
08596>       {Vmax=  .603:Dmax= 1.137}
08597> R0025:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08598>     CONTINUOUS NASHYD     1.0 01:D3           2.51     .095 No_date   28:43   40.67 .547     .000
08599>       [CN= 86.0: N= 3.00: Tp=  .73]
08600>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
08601>       [InterEventTime=  12.00]
08602> R0025:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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08603>     CONTINUOUS STANDHYD   1.0 01:C1                3.41     .618 No_date   28:01   58.43 .785     .000
08604>       [XIMP=.68:TIMP=.85]
08605>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08606>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08607>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
08608>       [IaRECimp=   4.00: IaRECper=    4.00]
08609> R0025:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08610>     ROUTE RESERVOIR ->    1.0 02:C1                3.41     .618 No_date   28:01   58.43  n/a     .000
08611>                   out <=  1.0 01:C1-STR            3.41     .159 No_date   28:23   58.43  n/a     .000
08612>             overflow <=   1.0 03:C1-OVF            .00     .000 No_date    0:00     .00  n/a     .000
08613>       {MxStoUsed=.9080E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08614> R0025:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08615>     CONTINUOUS STANDHYD   1.0 01:ST-5              3.41     .671 No_date   28:00   45.54 .612     .000
08616>       [XIMP=.46:TIMP=.57]
08617>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08618>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08619>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
08620>       [IaRECimp=   4.00: IaRECper=    4.00]
08621> R0025:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08622>     ROUTE RESERVOIR ->    1.0 02:ST-5              3.41     .671 No_date   28:00   45.54  n/a     .000
08623>                   out <=  1.0 01:ST6STR            3.41     .040 No_date   28:07   45.54  n/a     .000
08624>             overflow <=   1.0 03:ST5OVF            .00     .000 No_date    0:00     .00  n/a     .000
08625>       {MxStoUsed=.2455E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08626> R0025:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08627>     ADD HYD               1.0 02:DRAIN3          350.31    5.293 No_date   29:13   25.77  n/a     .000
08628>                     +     1.0 02:D3               2.51     .095 No_date   28:43   40.67  n/a     .000
08629>                     +     1.0 02:C1-STR           3.41     .159 No_date   28:23   58.43  n/a     .000
08630>                     +     1.0 02:C1-OVF            .00     .000 No_date    0:00     .00  n/a     .000
08631>                     +     1.0 02:ST5STR            .45     .040 No_date   28:07   45.54  n/a     .000
08632>                     +     1.0 02:ST5OVF            .00     .000 No_date    0:00     .00  n/a     .000
08633>                   SUM=    1.0 01:ST5-E          356.68    5.480 No_date   29:11   26.21  n/a     .000
08634> R0025:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08635>     CONTINUOUS STANDHYD   1.0 01:STRAND            7.59     .918 No_date   28:10   57.02 .767     .000
08636>       [XIMP=.64:TIMP=.85]
08637>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08638>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
08639>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
08640>       [IaRECimp=   4.00: IaRECper=    4.00]
08641> R0025:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08642>     ROUTE RESERVOIR ->    1.0 02:STRAND            7.59     .918 No_date   28:10   57.02  n/a     .000
08643>                   out <=  1.0 01:S-POND            7.59     .109 No_date   29:19   57.02  n/a     .000
08644>             overflow <=   1.0 03:S-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08645>       {MxStoUsed=.2915E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08646> R0025:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08647>     ADD HYD               1.0 02:ST5-E           356.68    5.480 No_date   29:11   26.21  n/a     .000
08648>                     +     1.0 02:S-POND            7.59     .109 No_date   29:19   57.02  n/a     .000
08649>                     +     1.0 02:S-OVF              .00     .000 No_date    0:00     .00  n/a     .000
08650>                   SUM=    1.0 01:SSAOUT          364.27    5.589 No_date   29:11   26.85  n/a     .000
08651> R0025:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08652>     SAVE HYD              1.0 01:SSAOUT          364.27    5.589 No_date   29:11   26.85  n/a     .000
08653>       fname :SSAOUT.0025
08654>       remark:SSAOUT
08655> R0025:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08656>     CONTINUOUS STANDHYD   1.0 01:Area-A            66.75    7.879 No_date   28:09   56.06 .754     .000
08657>       [XIMP=.64:TIMP=.80]
08658>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08659>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08660>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
08661>       [IaRECimp=   4.00: IaRECper=    4.00]
08662> R0025:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08663>     SAVE HYD              1.0 01:Area-A            66.75    7.879 No_date   28:09   56.06  n/a     .000
08664>       fname :Area-A.0025
08665>       remark:SMWF-A Inflow
08666> R0025:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08667>     ROUTE RESERVOIR ->    1.0 02:Area-A            66.75    7.879 No_date   28:09   56.06  n/a     .000
08668>                   out <=  1.0 01:SWMF-A            66.75     .788 No_date   29:28   56.05  n/a     .000
08669>             overflow <=   1.0 03:SWMAOV             .00     .000 No_date    0:00     .00  n/a     .000
08670>       {MxStoUsed=.2643E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08671> R0025:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08672>     SAVE HYD              1.0 01:SWMF-A            66.75     .788 No_date   29:28   56.05  n/a     .000
08673>       fname :SWMF-A.0025
08674>       remark:SMWF-A Outflow
08675> R0025:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08676>     ADD HYD               1.0 02:SSAOUT          364.27    5.589 No_date   29:11   26.85  n/a     .000
08677>                     +     1.0 02:SWMF-A            66.75     .788 No_date   29:28   56.05  n/a     .000
08678>                     +     1.0 02:SWMAOV             .00     .000 No_date    0:00     .00  n/a     .000
08679>                   SUM=    1.0 01:PT4STS          431.02    6.356 No_date   29:13   31.37  n/a     .000
08680> R0025:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08681>     CONTINUOUS STANDHYD   1.0 01:C6                1.87     .354 No_date   28:01   58.43 .785     .000
08682>       [XIMP=.68:TIMP=.85]
08683>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08684>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08685>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
08686>       [IaRECimp=   4.00: IaRECper=    4.00]
08687> R0025:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08688>     ROUTE RESERVOIR ->    1.0 02:C6                1.87     .354 No_date   28:01   58.43  n/a     .000
08689>                   out <=  1.0 01:C6-STR            1.87     .089 No_date   28:21   58.43  n/a     .000
08690>             overflow <=   1.0 03:C6-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08691>       {MxStoUsed=.5013E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08692> R0025:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08693>     CONTINUOUS STANDHYD   1.0 01:C7                1.62     .309 No_date   28:01   58.43 .785     .000
08694>       [XIMP=.68:TIMP=.85]
08695>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08696>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08697>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
08698>       [IaRECimp=   4.00: IaRECper=    4.00]
08699> R0025:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08700>     ROUTE RESERVOIR ->    1.0 02:C7                1.62     .309 No_date   28:01   58.43  n/a     .000
08701>                   out <=  1.0 01:C7-STR            1.62     .077 No_date   28:21   58.43  n/a     .000
08702>             overflow <=   1.0 03:C7-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08703>       {MxStoUsed=.4331E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08704> R0025:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08705>     CONTINUOUS STANDHYD   1.0 01:ST-6              3.41     .065 No_date   28:00   45.54 .612     .000
08706>       [XIMP=.46:TIMP=.57]
08707>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08708>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08709>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
08710>       [IaRECimp=   4.00: IaRECper=    4.00]
08711> R0025:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08712>     ROUTE RESERVOIR ->    1.0 02:ST-6              3.41     .065 No_date   28:00   45.54  n/a     .000
08713>                   out <=  1.0 01:ST6STR            3.41     .036 No_date   28:07   45.54  n/a     .000
08714>             overflow <=   1.0 03:ST6OVF             .00     .000 No_date    0:00     .00  n/a     .000
08715>       {MxStoUsed=.2356E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08716> R0025:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08717>     ADD HYD               1.0 02:PT4STS          431.02    6.356 No_date   29:13   31.37  n/a     .000
08718>                     +     1.0 02:C6-STR            1.87     .089 No_date   28:21   58.43  n/a     .000
08719>                     +     1.0 02:C6-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08720>                     +     1.0 02:C7-STR            1.62     .077 No_date   28:21   58.43  n/a     .000
08721>                     +     1.0 02:C7-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08722>                     +     1.0 02:ST6STR             .41     .036 No_date   28:07   45.54  n/a     .000
08723>                     +     1.0 02:ST6OVF             .00     .000 No_date    0:00     .00  n/a     .000
08724>                   SUM=    1.0 01:PT6STS          434.92    6.464 No_date   29:12   31.60  n/a     .000
08725> R0025:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08726>     ROUTE CHANNEL   ->    1.0 02:PT5ST6          434.92    6.464 No_date   29:12   31.60  n/a     .000
08727>       [RD= 1.00] out<-    1.0 01:DRAIN4          434.92    6.229 No_date   29:21   31.60  n/a     .000
08728>       [L/S/n=  324./ .100/.043]
08729>       [Vmax=  .475:Dmax= 1.440]
08730> R0025:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08731>     CONTINUOUS NASHYD     1.0 01:D4                1.73     .082 No_date   28:34   43.34 .583     .000
08732>       [CN= 88.0: N= 3.00: Tp=  .60]
08733>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
08734>       [InterEventTime=  12.00]
08735> R0025:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08736>     CONTINUOUS STANDHYD   1.0 01:Area-B            24.04    3.916 No_date   28:03   54.85 .737     .000
08737>       [XIMP=.62:TIMP=.77]
08738>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08739>       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
08740>       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
08741>       [IaRECimp=   4.00: IaRECper=    4.00]
08742> R0025:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08743>     ROUTE RESERVOIR ->    1.0 02:Area-B            24.04    3.916 No_date   28:03   54.85  n/a     .000
08744>                   out <=  1.0 01:SWMF-B            24.04     .492 No_date   28:44   54.85  n/a     .000
08745>             overflow <=   1.0 03:SWMBOVF            .00     .000 No_date    0:00     .00  n/a     .000
08746>       {MxStoUsed=.8178E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08747> R0025:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08748>     ADD HYD               1.0 02:DRAIN4          434.92    6.229 No_date   29:21   31.60  n/a     .000
08749>                     +     1.0 02:D4                1.73     .082 No_date   28:34   43.34  n/a     .000
08750>                     +     1.0 02:SWMF-B            24.04     .492 No_date   28:44   54.85  n/a     .000
08751>                     +     1.0 02:SWMBOVF            .00     .000 No_date    0:00     .00  n/a     .000
08752>                   SUM=    1.0 01:D4-EX           460.69    6.717 No_date   29:21   32.86  n/a     .000
08753> R0025:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08754>     ROUTE CHANNEL   ->    1.0 02:D4-EX           460.69    6.717 No_date   29:21   32.86  n/a     .000
08755>       [RD= 1.00] out<-    1.0 01:DRAIN5          460.69    6.598 No_date   29:35   32.86  n/a     .000
08756>       [L/S/n=  413./ .160/.033]
08757>       [Vmax=  .641:Dmax=  .984]
08758> R0025:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08759>     CONTINUOUS NASHYD     1.0 01:DS                1.90     .075 No_date   28:41   40.67 .547     .000
08760>       [CN= 86.0: N= 3.00: Tp=  .69]
08761>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
08762>       [InterEventTime=  12.00]
08763> R0025:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08764>     CONTINUOUS NASHYD     1.0 01:O-13SDF           9.74     .487 No_date   28:22   38.23 .514     .000
08765>       [CN= 81.0: N= 3.00: Tp=  .43]
08766>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08767>       [InterEventTime=  12.00]
08768> R0025:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08769>     ROUTE RESERVOIR ->    1.0 02:O-13SDF           9.74     .487 No_date   28:22   38.23  n/a     .000
08770>                   out <=  1.0 01:SDF               9.74     .052 No_date   31:01   38.23  n/a     .000
08771>             overflow <=   1.0 03:OVFSDF            .00     .000 No_date    0:00     .00  n/a     .000
08772>       {MxStoUsed=.2061E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08773> R0025:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08774>     ADD HYD               1.0 02:DRAIN5          460.69    6.598 No_date   29:35   32.86  n/a     .000
08775>                     +     1.0 02:DS                1.90     .075 No_date   28:41   40.67  n/a     .000
08776>                     +     1.0 02:SDF               9.74     .052 No_date   31:01   38.23  n/a     .000
08777>                   SUM=    1.0 01:PT6MC           472.33    6.689 No_date   29:35   33.00  n/a     .000
08778> R0025:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08779>     CONTINUOUS NASHYD     1.0 01:O-15              10.67     .668 No_date   28:13   37.06 .498     .000
08780>       [CN= 82.0: N= 3.00: Tp=  .30]
08781>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
08782>       [InterEventTime=  12.00]
08783> R0025:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08784>     ADD HYD               1.0 02:PT6MC           472.33    6.689 No_date   29:35   33.00  n/a     .000
08785>                     +     1.0 02:O-15              10.67     .668 No_date   28:13   37.06  n/a     .000
08786>                   SUM=    1.0 01:M-C             483.00    6.790 No_date   29:34   33.09  n/a     .000
08787> R0025:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08788>     ROUTE CHANNEL   ->    1.0 02:M-C             483.00    6.790 No_date   29:34   33.09  n/a     .000
08789>       [RD= 1.00] out<-    1.0 01:O-14Ch          483.00    6.173 No_date   30:10   33.09  n/a     .000
08790>       [L/S/n=  845./ .100/.033]
08791>       [Vmax=  .552:Dmax= 1.692]
08792> R0025:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08793>     CONTINUOUS NASHYD     1.0 01:O-14              5.00     .516 No_date   28:04   37.06 .498     .000
08794>       [CN= 82.0: N= 3.00: Tp=  .13]
08795>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
08796>       [InterEventTime=  12.00]
08797> R0025:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08798>     ADD HYD               1.0 02:O-14Ch          483.00    6.173 No_date   30:10   33.09  n/a     .000
08799>                     +     1.0 02:O-14              5.00     .516 No_date   28:04   37.06  n/a     .000
08800>                   SUM=    1.0 01:OKEEFE          488.00    6.203 No_date   30:09   33.13  n/a     .000
08801> ************************************************************************
08802> #    Okeefe Pond
08803> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
08804> #      and a ratio of the catchment area to the West Clarke pond rating curve
08805> #      from the MSS for the next coordinates
08806> ************************************************************************
08807> R0025:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08808>     CONTINUOUS NASHYD     1.0 01:S-1-D2            18.67     .408 No_date   29:12   34.14 .459     .000
08809>       [CN= 77.0: N= 3.00: Tp= 1.12]
08810>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08811>       [InterEventTime=  12.00]
08812> R0025:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08813>     CONTINUOUS NASHYD     1.0 01:S-1-D3             6.79     .134 No_date   29:24   34.14 .459     .000
08814>       [CN= 77.0: N= 3.00: Tp= 1.28]
08815>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08816>       [InterEventTime=  12.00]
08817> R0025:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08818>     ADD HYD               1.0 02:N_OK            53064.36  107.100 No_date   33:50   28.66  n/a     .000
08819>                     +     1.0 02:OKEEFE            488.00    6.203 No_date   30:09   33.13  n/a     .000
08820>                     +     1.0 02:S-1-D2             18.67     .408 No_date   29:12   34.14  n/a     .000
08821>                     +     1.0 02:S-1-D3              6.79     .134 No_date   29:24   34.14  n/a     .000
08822>                   SUM=    1.0 01:SN_OK           53577.82  109.311 No_date   33:24   28.71  n/a     .000
08823> R0025:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08824>     SAVE HYD              1.0 01:SN_OK           53577.82  109.311 No_date   33:24   28.71  n/a     .000
08825>       fname :SN_OK.0025
08826>       remark:Total Flows at Okeefe Drain
08827> #
08828> # Hydrograph from Node Okeefe routed to Node at Foster Drain
08829> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
08830> #
08831> R0025:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08832>     ROUTE CHANNEL   ->    1.0 02:SN_OK           53577.82  109.311 No_date   33:24   28.71  n/a     .000
08833>       [RD= 1.00] out<-    1.0 01:N_FO            53577.82  108.988 No_date   33:24   28.71  n/a     .000
08834>       [L/S/n= 1183./ .076/.035]
08835>       [Vmax= 1.184:Dmax= 3.160]
08836> ************************************************************************
08837> #    Catchment FOSTER
08838> #    - To Foster ditch (north of the Jock)
08839> #    - Partially developed (medium density); remaining agricultural
08840> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
08841> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
08842> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
08843> ************************************************************************
08844> R0025:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08845>     CONTINUOUS STANDHYD   1.0 01:FOSTER            325.44    28.008 No_date   28:12   52.35 .704     .000
08846>       [XIMP=.55:TIMP=.55]
08847>       [LOSS= 2 :CN= 74.0]
08848>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
08849>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
08850>       [IaRECimp=   4.00: IaRECper=    4.00]
08851>       [SMIN= 36.67: SMAX=244.49: SK= .010]
08852> ************************************************************************
08853> #    Foster Pond
08854> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
08855> #      and a ratio of the catchment area to the West Clarke pond rating curve
08856> #      from the MSS for the next coordinates
08857> ************************************************************************
08858> R0025:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08859>     ROUTE RESERVOIR ->    1.0 02:FOSTER            325.44    28.008 No_date   28:12   52.35  n/a     .000
08860>                   out <=  1.0 01:FOS               325.44     7.246 No_date   29:04   52.35  n/a     .000
08861>             overflow <=   1.0 03:FO-OVF              .00     .000 No_date    0:00     .00  n/a     .000
08862>       {MxStoUsed=.7008E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08863> R0025:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08864>     ADD HYD               1.0 02:P_FOS           325.44     7.246 No_date   29:04   52.35  n/a     .000
08865>                     +     1.0 02:FO-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08866>                   SUM=    1.0 01:FOSTER-OUT      325.44     7.246 No_date   29:04   52.35  n/a     .000
08867> ************************************************************************
08868> R0025:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08869>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA         73.29     9.076 No_date   28:05   56.82 .764     .000
08870>       [XIMP=.60:TIMP=.65]
08871>       [LOSS= 2 :CN= 77.0]
08872>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08873>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
08874>       [IaRECimp=   4.00: IaRECper=    4.00]
08875>       [SMIN= 31.15: SMAX=207.66: SK= .010]
08876> R0025:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08877>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA         73.29     9.076 No_date   28:05   56.82  n/a     .000
08878>                   out <=  1.0 01:MS_P10             73.29     1.168 No_date   29:06   56.82  n/a     .000
08879>             overflow <=   1.0 03:P10-OVF              .00     .000 No_date    0:00     .00  n/a     .000
08880>       {MxStoUsed=.1685E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08881> R0025:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08882>     CONTINUOUS NASHYD     1.0 01:S-1-FO-D2          4.94     .109 No_date   29:10   34.14 .459     .000
08883>       [CN= 77.0: N= 3.00: Tp= 1.10]
08884>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08885>       [InterEventTime=  12.00]
08886> R0025:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08887>     ADD HYD               1.0 02:FOSTER            325.44     7.246 No_date   29:04   52.35  n/a     .000
08888>                     +     1.0 02:S-1-FO-D2          4.94     .109 No_date   29:10   34.14  n/a     .000
08889>                   SUM=    1.0 01:980               330.38     7.355 No_date   29:04   52.08  n/a     .000
08890> R0025:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08891>     SAVE HYD              1.0 01:980               330.38     7.355 No_date   29:04   52.08  n/a     .000
08892>       fname :980.0025
08893>       remark:Total Flows at Station 980 on Foster Drain
08894> #
08895> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
08896> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
08897> #
08898> R0025:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08899>     ROUTE CHANNEL   ->    1.0 02:980               330.38     7.355 No_date   29:04   52.08  n/a     .000
08900> *   [RD= 1.00] out<-    1.0 01:980-out           330.38     7.085 No_date   29:14   52.08  n/a     .000
08901>       [L/S/n=  460./ .043/.035]
08902>       [Vmax=  .641:Dmax= 1.523]
08903> R0025:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08904>     CONTINUOUS NASHYD     1.0 01:S-1-FO-D1          5.11     .113 No_date   29:10   34.14 .459     .000
08905>       [CN= 77.0: N= 3.00: Tp= 1.10]
08906>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08907>       [InterEventTime=  12.00]
08908> R0025:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08909>     ADD HYD               1.0 02:980-out           330.38     7.085 No_date   29:14   52.08  n/a     .000
08910>                     +     1.0 02:S-1-FO-D1          5.11     .113 No_date   29:10   34.14  n/a     .000
08911>                   SUM=    1.0 01:520               335.49     7.198 No_date   29:14   51.81  n/a     .000
08912> R0025:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08913>     SAVE HYD              1.0 01:520               335.49     7.198 No_date   29:14   51.81  n/a     .000
08914>       fname :520.0025
08915>       remark:Total Flows at Station 520 on Foster Drain
08916> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
08917> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
08918> #
08919> R0025:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08920>     ROUTE CHANNEL   ->    1.0 02:520               335.49     7.198 No_date   29:14   51.81  n/a     .000
08921>       [RD= 1.00] out<-    1.0 01:520-out           335.49     7.146 No_date   29:30   51.81  n/a     .000
08922>       [L/S/n=  860./ .587/.035]
08923>       [Vmax= 1.480:Dmax=  .727]
08924> R0025:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08925>     CONTINUOUS NASHYD     1.0 01:S-1-FO-F-D         14.96     .353 No_date   29:04   34.14 .459     .000
08926>       [CN= 77.0: N= 3.00: Tp= .81]
08927>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08928>       [InterEventTime=  12.00]
08929> R0025:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08930>     CONTINUOUS STANDHYD   1.0 01:S-1-D8              5.27     .917 No_date   28:00   57.38 .771     .000
08931>       [XIMP=.65:TIMP=.65]
08932>       [LOSS= 2 :CN= 75.0]
08933>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
08934>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
08935>       [IaRECimp=   4.00: IaRECper=    4.00]
08936>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08937> R0025:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08938>     CONTINUOUS NASHYD     1.0 01:S-1-A              75.88     2.541 No_date   28:36   34.14 .459     .000
08939>       [CN= 77.0: N= 3.00: Tp=  .62]
08940>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08941>       [InterEventTime=  12.00]
08942> R0025:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08943>     CONTINUOUS NASHYD     1.0 01:W_CLAR_UND         35.65     .789 No_date   29:10   34.14 .459     .000
08944>       [CN= 77.0: N= 3.00: Tp= 1.10]
08945>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08946>       [InterEventTime=  12.00]
08947> R0025:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08948>     ADD HYD               1.0 02:N_FO            53577.82  108.988 No_date   33:24   28.71  n/a     .000
08949>                     +     1.0 02:520-out           335.49     7.146 No_date   29:30   51.81  n/a     .000
08950>                     +     1.0 02:MS_P10             73.29     1.168 No_date   29:06   56.82  n/a     .000
08951>                     +     1.0 02:P10-OVF             .00     .000 No_date    0:00     .00  n/a     .000
08952>                     +     1.0 02:W_CLAR_UND         35.65     .789 No_date   29:10   34.14  n/a     .000
08953>                     +     1.0 02:S-1-FO-F-D         14.96     .353 No_date   29:04   34.14  n/a     .000
08954>                     +     1.0 02:S-1-D8              5.27     .917 No_date   28:00   57.38  n/a     .000
08955>                     +     1.0 02:S-1-A              75.88    2.541 No_date   28:36   34.14  n/a     .000
08956>                
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08977>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08978>       [InterEventTime=  12.00]
08979> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
08980> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
08981> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
08982> R0025:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08983>     CONTINUOUS NASHYD     1.0 01:S-1-D1        21.67      .491 No_date   29:08   34.14 .459     .000
08984>       [CN= 77.0: N= 3.00: Tp= 1.07]
08985>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08986>       [InterEventTime=  12.00]
08987> R0025:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08988>     CONTINUOUS NASHYD     1.0 01:S-1-D4         3.28      .073 No_date   29:10   34.14 .459     .000
08989>       [CN= 77.0: N= 3.00: Tp= 1.10]
08990>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08991>       [InterEventTime=  12.00]
08992> R0025:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08993>     CONTINUOUS NASHYD     1.0 01:S-1-D5        12.84      .284 No_date   29:10   34.14 .459     .000
08994>       [CN= 77.0: N= 3.00: Tp= 1.10]
08995>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08996>       [InterEventTime=  12.00]
08997> R0025:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08998>     CONTINUOUS NASHYD     1.0 01:S-1-D6         1.75      .039 No_date   29:10   34.13 .459     .000
08999>       [CN= 77.0: N= 3.00: Tp= 1.10]
09000>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09001>       [InterEventTime=  12.00]
09002> R0025:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09003>     CONTINUOUS NASHYD     1.0 01:S-1-D7         2.03      .045 No_date   29:10   34.14 .459     .000
09004>       [CN= 77.0: N= 3.00: Tp= 1.10]
09005>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09006>       [InterEventTime=  12.00]
09007> #   Catchment W_CLAR
09008> #    - To West Clarke Drain (south of the Jock)
09009> #    - Subdivision with 43% imp. as per Barrhaven South MSS
09010> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
09011> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
09012> #*************************************************************
09013> R0025:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09014>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ       1.77      .279 No_date   28:00   52.78 .709     .000
09015>       [XIMP=.46:TIMP=.59]
09016>       [LOSS= 2 :CN= 77.0]
09017>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09018>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
09019>       [IaRECimp=  4.00: IaRECper=   4.00]
09020>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09021> # 5-Year + 12% Capture
09022> R0025:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09023>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ       1.77      .279 No_date   28:00   52.78  n/a     .000
09024>                           1.0 01:W_CLAR_MJn      1.73      .213 No_date   27:54   52.78  n/a     .000
09025>           overflow <=     1.0 03:W_CLAR_MJ        .04      .062 No_date   28:01   52.78  n/a     .000
09026>       {MxStoUsed=.1173E-03  m3, TotOvfVol=.2205E-02  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
09027> R0025:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09028>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL     119.40    15.305 No_date   28:04   56.82 .764     .000
09029>       [XIMP=.60:TIMP=.65]
09030>       [LOSS= 2 :CN= 77.0]
09031>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09032>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
09033>       [IaRECimp=  4.00: IaRECper=   4.00]
09034>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09035> R0025:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09036>     ADD HYD               1.0 02:W_CLAR_ALL     119.40    15.305 No_date   28:04   56.82  n/a     .000
09037>                       +   1.0 02:W_CLAR_MJ        .04      .062 No_date   28:01   52.78  n/a     .000
09038>                     SUM:  1.0 01:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a     .000
09039> R0025:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09040>     SAVE HYD              1.0 01:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a     .000
09041>       fname :W_CLAR.0025
09042>       remark:Total Flows to West Clarke
09043> #*************************************************************************
09044> #    West Clarke Pond 2
09045> #    - Rating curve obtained from Barrhaven South MSS modeling
09046> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
09047> #*************************************************************************
09048> R0025:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09049>     ROUTE RESERVOIR ->    1.0 02:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a     .000
09050>                 out <=    1.0 01:MS_P2          119.44     7.398 No_date   28:20   56.81  n/a     .000
09051>           overflow <=     1.0 03:P2-OVF            .00      .000 No_date    0:00     .00  n/a     .000
09052>       {MxStoUsed=.2962E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
09053> #*************************************************************************
09054> R0025:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09055>     ADD HYD               1.0 02:N_CE         54118.36  113.530 No_date   33:29   28.90  n/a     .000
09056>                       +   1.0 02:S-1-D4          3.28      .073 No_date   29:10   34.14  n/a     .000
09057>                       +   1.0 02:S-1-D5         12.84      .284 No_date   29:10   34.14  n/a     .000
09058>                       +   1.0 02:MS_P2        119.44     7.398 No_date   28:20   56.81  n/a     .000
09059>                       +   1.0 02:P2-OVF            .00      .000 No_date    0:00     .00  n/a     .000
09060>                     SUM:  1.0 01:SN_CE        54253.92  114.429 No_date   33:29   28.97  n/a     .000
09061> R0025:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09062>     SAVE HYD              1.0 01:SN_CE        54253.92  114.429 No_date   33:29   28.97  n/a     .000
09063>       fname :SN_CE.0025
09064>       remark:Total Flows before Station 5737 on Jock River
09065> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
09066> # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
09067> # JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
09068> R0025:C00183------------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09069>     ROUTE CHANNEL    ->    1.0 02:SN_CE        54253.92  114.429 No_date   33:29   28.97  n/a     .000
09070> *   [RDT= 1.00] out<-     1.0 01:5737         54253.92  109.763 No_date   35:33   28.97  n/a     .000
09071>       [L/S/n=  270./ .018/.035]
09072>       {Vmax=  .782:Dmax= 4.974}
09073> R0025:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09074>     ADD HYD               1.0 02:5737         54253.92  109.763 No_date   35:33   28.97  n/a     .000
09075>                       +   1.0 02:S-1-D1         21.67      .491 No_date   29:08   34.14  n/a     .000
09076>                       +   1.0 02:S-1-D6          1.75      .039 No_date   29:10   34.13  n/a     .000
09077>                       +   1.0 02:S-1-D7          2.03      .045 No_date   29:10   34.14  n/a     .000
09078>                     SUM:  1.0 01:5002         54279.37  109.841 No_date   35:33   28.97  n/a     .000
09079> R0025:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09080>     SAVE HYD              1.0 01:5002         54279.37  109.841 No_date   35:33   28.97  n/a     .000
09081>       fname :5002.0025
09082>       remark:Total Flows before Station 5002 on Jock River
09083> # Hydrograph from Node Cedarview Road route to Node at West Clarke Drain
09084> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
09085> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
09086> # JFSA 2021-02-19 Change the three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
09087> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
09088> R0025:C00186------------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09089>     ROUTE CHANNEL    ->    1.0 01:5002         54279.37  109.841 No_date   35:33   28.97  n/a     .000
09090> *   [RDT= 1.00] out<-     1.0 01:N_WCa        54279.37  109.813 No_date   35:41   28.97  n/a     .000
09091>       [L/S/n=  245./ .095/.035]
09092>       {Vmax= 1.217:Dmax= 2.801}
09093> R0025:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09094>     ROUTE CHANNEL    ->    1.0 02:N_WCa        54279.37  109.813 No_date   35:41   28.97  n/a     .000
09095> *   [RDT= 1.00] out<-     1.0 01:N_WCb        54279.37  109.805 No_date   35:46   28.97  n/a     .000
09096>       [L/S/n=  245./ .095/.035]
09097>       {Vmax= 1.217:Dmax= 2.801}
09098> R0025:C00188------------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09099>     ROUTE CHANNEL    ->    1.0 02:N_WCb        54279.37  109.805 No_date   35:46   28.97  n/a     .000
09100> *   [RDT= 1.00] out<-     1.0 01:N_WC         54279.37  109.787 No_date   35:53   28.97  n/a     .000
09101>       [L/S/n=  245./ .095/.035]
09102>       {Vmax= 1.217:Dmax= 2.801}
09103> #*************************************************************************
09104> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
09105> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
09106> #
09107> R0025:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09108>     ROUTE CHANNEL    ->    1.0 02:N_WC         54279.37  109.787 No_date   35:53   28.97  n/a     .000
09109> *   [RDT= 1.00] out<-     1.0 01:N_KB         54279.37  109.399 No_date   36:10   28.97  n/a     .000
09110>       [L/S/n= 1020./ .050/.035]
09111>       {Vmax= 1.078:Dmax= 3.514}
09112> #*************************************************************************
09113> #    Catchment KEN_BU
09114> #    - To Kennedy-Burnett SWM Facility
09115> #    - Outlets to Fraser-Clarke drain (north of the Jock)
09116> #    - Medium density residential subdivision
09117> #*************************************************************************
09118> #*************************************************************************
09119> #   Existing Kennedy-Burnett SWM Facility
09120> #    - Rating curve obtained from URTKBP
09121> #    - Tributary Drainage Area to Pond = 160 ha
09122> #*************************************************************************
09123> R0025:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09124>     CONTINUOUS STANDHYD   1.0 01:KB-01A        40.82     4.186 No_date   28:11   29.35 .395     .000
09125>       [XIMP=.10:TIMP=.40]
09126>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09127>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
09128>       [Impervious   area: IAimp=  .79:SLPI=  .50:LGI= 522.:MNI=.013:SCI=   .0]
09129>       [IaRECimp=  4.00: IaRECper=   4.00]
09130> R0025:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09131>     COMPUTE DUALHYD       1.0 01:KB-01A        40.82     4.186 No_date   28:11   29.35  n/a     .000
09132>       Major System   /    1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09133>       Minor System   \    1.0 03:KB-01A-MN      40.82     3.600 No_date   28:03   29.50  n/a     .000
09134>       {MjSysSto=.3786E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09135> R0025:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09136>     ADD HYD               1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09137>                       +   1.0 02:KB-01A-MN      40.82     3.600 No_date   28:03   29.50  n/a     .000
09138>                     SUM:  1.0 01:KB-01A-S       40.82     3.600 No_date   28:03   29.50  n/a     .000
09139> R0025:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09140>     CONTINUOUS STANDHYD   1.0 01:KB-01B        31.10     3.068 No_date   28:07   32.30 .434     .000
09141>       [XIMP=.19:TIMP=.38]
09142>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09143>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
09144>       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
09145>       [IaRECimp=  4.00: IaRECper=   4.00]
09146> R0025:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09147>     COMPUTE DUALHYD       1.0 01:KB-01B        31.10     3.068 No_date   28:07   32.30  n/a     .000
09148>       Major System   /    1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09149>       Minor System   \    1.0 03:KB-01B-MN      31.10     1.585 No_date   27:55   32.52  n/a     .000
09150>       {MjSysSto=.1849E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09151> R0025:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09152>     ADD HYD               1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09153>                       +   1.0 02:KB-01B-MN      31.10     1.585 No_date   27:55   32.52  n/a     .000
09154>                     SUM:  1.0 01:KB-01B-S       31.10     1.585 No_date   27:55   32.52  n/a     .000
09155> R0025:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09156>     CONTINUOUS STANDHYD   1.0 01:KB-01C        13.78     1.868 No_date   28:04   33.51 .450     .000
09157>       [XIMP=.20:TIMP=.41]
09158>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09159>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09160>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
09161>       [IaRECimp=  4.00: IaRECper=   4.00]
09162> R0025:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09163>     COMPUTE DUALHYD       1.0 01:KB-01C        13.78     1.868 No_date   28:04   33.51  n/a     .000
09164>       Major System   /    1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09165>       Minor System   \    1.0 03:KB-01C-MN      13.78     1.350 No_date   27:57   33.69  n/a     .000
09166>       {MjSysSto=.317E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09167> R0025:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09168>     ADD HYD               1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09169>                       +   1.0 02:KB-01C-MN      13.78     1.350 No_date   27:57   33.69  n/a     .000
09170>                     SUM:  1.0 01:KB-01C-S       13.78     1.350 No_date   27:57   33.69  n/a     .000
09171> R0025:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09172>     CONTINUOUS STANDHYD   1.0 01:KB-03         84.78     9.657 No_date   28:08   32.97 .443     .000
09173>       [XIMP=.20:TIMP=.39]
09174>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09175>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09176>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
09177>       [IaRECimp=  4.00: IaRECper=   4.00]
09178> R0025:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09179>     COMPUTE DUALHYD       1.0 01:KB-03         84.78     9.657 No_date   28:08   32.97  n/a     .000
09180>       Major System   /    1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09181>       Minor System   \    1.0 03:KB-03-MN       84.78     5.270 No_date   27:56   33.21  n/a     .000
09182>       {MjSysSto=.4456E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09183> R0025:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09184>     ADD HYD               1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09185>                       +   1.0 02:KB-03-MN       84.78     5.270 No_date   27:56   33.21  n/a     .000
09186>                     SUM:  1.0 01:KB-03-S        84.78     5.270 No_date   27:56   33.21  n/a     .000
09187> R0025:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09188>     CONTINUOUS STANDHYD   1.0 01:KB-04          6.95     1.434 No_date   28:00   65.29 .878     .000
09189>       [XIMP=.85:TIMP=.85]
09190>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09191>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09192>       [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
09193>       [IaRECimp=  4.00: IaRECper=   4.00]
09194> R0025:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09195>     COMPUTE DUALHYD       1.0 01:KB-04          6.95     1.434 No_date   28:00   65.29  n/a     .000
09196>       Major System   /    1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09197>       Minor System   \    1.0 03:KB-04-MN       6.95      .503 No_date   27:45   65.54  n/a     .000
09198>       {MjSysSto=.7689E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09199> R0025:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09200>     ADD HYD               1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09201>                       +   1.0 02:KB-04-MN        6.95      .503 No_date   27:45   65.54  n/a     .000
09202>                     SUM:  1.0 01:KB-04-S         6.95      .503 No_date   27:45   65.54  n/a     .000
09203> R0025:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09204>     CONTINUOUS STANDHYD   1.0 01:KB-05          5.19     1.147 No_date   28:00   69.06 .928     .000
09205>       [XIMP=.93:TIMP=.93]
09206>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09207>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09208>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
09209>       [IaRECimp=  4.00: IaRECper=   4.00]
09210> R0025:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09211>     CONTINUOUS STANDHYD   1.0 01:KB-06         12.93     2.960 No_date   28:00   66.54 .895     .000
09212>       [XIMP=.87:TIMP=.87]
09213>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09214>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09215>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
09216>       [IaRECimp=  4.00: IaRECper=   4.00]
09217> R0025:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09218>     COMPUTE DUALHYD       1.0 01:KB-06         12.93     2.960 No_date   28:00   66.54  n/a     .000
09219>       Major System   /    1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09220>       Minor System   \    1.0 03:KB-06-MN       12.93     2.262 No_date   28:07   66.58  n/a     .000
09221>       {MjSysSto=.2613E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09222> R0025:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09223>     ADD HYD               1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09224>                       +   1.0 02:KB-06-MN       12.93     2.262 No_date   28:07   66.58  n/a     .000
09225>                     SUM:  1.0 01:KB-06-S        12.93     2.262 No_date   28:07   66.58  n/a     .000
09226> R0025:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09227>     CONTINUOUS STANDHYD   1.0 01:KB-11          4.03      .817 No_date   28:00   55.88 .751     .000
09228>       [XIMP=.68:TIMP=.68]
09229>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09230>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09231>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
09232>       [IaRECimp=  4.00: IaRECper=   4.00]
09233> R0025:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09234>     COMPUTE DUALHYD       1.0 01:KB-11          4.03      .817 No_date   28:00   55.88  n/a     .000
09235>       Major System   /    1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09236>       Minor System   \    1.0 03:KB-11-MN       4.03      .577 No_date   27:53   55.96  n/a     .000
09237>       {MjSysSto=.9558E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09238> R0025:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09239>     ADD HYD               1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09240>                       +   1.0 02:KB-11-MN       4.03      .577 No_date   27:53   55.96  n/a     .000
09241>                     SUM:  1.0 01:KB-11-S        4.03      .577 No_date   27:53   55.96  n/a     .000
09242> R0025:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09243>     CONTINUOUS STANDHYD   1.0 01:S1             4.99     1.184 No_date   28:00   69.06 .928     .000
09244>       [XIMP=.93:TIMP=.93]
09245>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09246>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09247>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
09248>       [IaRECimp=  4.00: IaRECper=   4.00]
09249> R0025:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09250>     CONTINUOUS STANDHYD   1.0 01:KB-15          2.15      .447 No_date   28:00   62.65 .842     .000
09251>       [XIMP=.79:TIMP=.79]
09252>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09253>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09254>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
09255>       [IaRECimp=  4.00: IaRECper=   4.00]
09256> R0025:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09257>     ADD HYD               1.0 02:KB-01A-S         40.82     3.600 No_date   28:03   29.50  n/a     .000
09258>                       +   1.0 02:KB-01B-S         31.10     1.585 No_date   27:55   32.52  n/a     .000
09259>                       +   1.0 02:KB-01C-S         13.78     1.350 No_date   27:57   33.69  n/a     .000
09260>                       +   1.0 02:KB-03-S         84.78     5.270 No_date   27:56   33.21  n/a     .000
09261>                       +   1.0 02:KB-04-S          6.95      .503 No_date   27:45   65.54  n/a     .000
09262>                       +   1.0 02:KB-05            5.19     1.147 No_date   28:00   69.06  n/a     .000
09263>                       +   1.0 02:KB-06-S         12.93     2.262 No_date   28:07   66.58  n/a     .000
09264>                       +   1.0 02:KB-11-S          4.03      .577 No_date   27:53   55.96  n/a     .000
09265>                       +   1.0 02:KB-15            2.15      .447 No_date   28:00   62.65  n/a     .000
09266>                       +   1.0 02:S1               4.99     1.184 No_date   28:00   69.06  n/a     .000
09267>                     SUM:  1.0 01:KB-P1          206.72   17.555 No_date   28:01   38.09  n/a     .000
09268> R0025:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09269>     ROUTE RESERVOIR ->    1.0 02:KB-P1         206.72   17.555 No_date   28:01   38.09  n/a     .000
09270>                 out <=    1.0 01:KB-P1RF       201.26   12.438 No_date   28:05   38.09  n/a     .000
09271>           overflow <=     1.0 03:KB-P1ovf        5.46    4.400 No_date   28:05   38.09  n/a     .000
09272>       {MxStoUsed=.7322E+00  m3, TotOvfVol=.2079E+00  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
09273> R0025:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09274>     ADD HYD               1.0 02:KB-P1R        201.26   12.438 No_date   28:05   38.09  n/a     .000
09275>                       +   1.0 02:KB-P1ovf        5.46    4.400 No_date   28:05   38.09  n/a     .000
09276>                     SUM:  1.0 01:KB-Pond1       206.72   16.838 No_date   28:05   38.09  n/a     .000
09277> R0025:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09278>     SAVE HYD              1.0 01:KB-Pond1      206.72   16.838 No_date   28:05   38.09  n/a     .000
09279>       fname :KB-Pond1.0025
09280>       remark:Total Flows at KB first pond
09281> R0025:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09282>     CONTINUOUS STANDHYD   1.0 01:KB-07         10.86     2.392 No_date   28:00   65.97 .887     .000
09283>       [XIMP=.86:TIMP=.86]
09284>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09285>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09286>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
09287>       [IaRECimp=  4.00: IaRECper=   4.00]
09288> R0025:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09289>     COMPUTE DUALHYD       1.0 01:KB-07         10.86     2.392 No_date   28:00   65.97  n/a     .000
09290>       Major System   /    1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09291>       Minor System   \    1.0 03:KB-07-MN       10.86     2.094 No_date   27:56   66.02  n/a     .000
09292>       {MjSysSto=.7523E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09293> R0025:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09294>     ADD HYD               1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09295>                       +   1.0 02:KB-07-MN       10.86     2.094 No_date   27:56   66.02  n/a     .000
09296>                     SUM:  1.0 01:KB-07-S        10.86     2.094 No_date   27:56   66.02  n/a     .000
09297> R0025:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09298>     CONTINUOUS STANDHYD   1.0 01:KB-08          6.61     1.292 No_date   28:00   53.97 .726     .000
09299>       [XIMP=.64:TIMP=.64]
09300>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09301>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09302>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
09303>       [IaRECimp=  4.00: IaRECper=   4.00]
09304> R0025:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09305>     COMPUTE DUALHYD       1.0 01:KB-08          6.61     1.292 No_date   28:00   53.97  n/a     .000
09306>       Major System   /    1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09307>       Minor System   \    1.0 03:KB-08-MN       6.61     1.058 No_date   27:55   54.34  n/a     .000
09308>       {MjSysSto=.6817E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09309> R0025:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09310>     ADD HYD               1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09311>                       +   1.0 02:KB-08-MN        6.61     1.058 No_date   27:55   54.34  n/a     .000
09312>                     SUM:  1.0 01:KB-08-S         6.61     1.058 No_date   27:55   54.34  n/a     .000
09313> R0025:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09314>     CONTINUOUS STANDHYD   1.0 01:KB-09          2.60      .599 No_date   28:00   65.30 .878     .000
09315>       [XIMP=.86:TIMP=.86]
09316>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09317>       [Pervious     area: IAper= 4.67:SLPP=2.00:L
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09351>      CONTINUOUS STANDHYD   1.0 01:KB-13         10.19    1.930 No_date   28:00   53.97 .726     .000
09352>        [XIMP=.64:TIMP=.64]
09353>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09354>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09355>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
09356>        [IaRECimp=   4.00: IaRECper=   4.00]
09357> R0025:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09358>      COMPUTE DUALHYD       1.0 01:KB-13         10.19    1.930 No_date   28:00   53.97  n/a     .000
09359>        Major System   /    1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09360>        Minor System   \    1.0 03:KB-13-MN       10.19    1.722 No_date   27:57   53.98  n/a     .000
09361>        {MjSysSto=.4703E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09362> R0025:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09363>      ADD HYD               1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09364>                       +    1.0 02:KB-13-MN       10.19    1.722 No_date   27:57   53.98  n/a     .000
09365>                     SUM=   1.0 01:KB-13-S        10.19    1.722 No_date   27:57   53.98  n/a     .000
09366> R0025:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09367>      CONTINUOUS STANDHYD   1.0 01:KB-14         5.47    1.075 No_date   28:00   53.97 .726     .000
09368>        [XIMP=.64:TIMP=.64]
09369>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09370>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09371>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
09372>        [IaRECimp=   4.00: IaRECper=   4.00]
09373> R0025:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09374>      COMPUTE DUALHYD       1.0 01:KB-14         5.47    1.075 No_date   28:00   53.97  n/a     .000
09375>        Major System   /    1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09376>        Minor System   \    1.0 03:KB-14-MN        5.47     .873 No_date   27:55   54.32  n/a     .000
09377>        {MjSysSto=.6018E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09378> R0025:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09379>      ADD HYD               1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09380>                       +    1.0 02:KB-14-MN        5.47     .873 No_date   27:55   54.32  n/a     .000
09381>                     SUM=   1.0 01:KB-14-S         5.47     .873 No_date   27:55   54.32  n/a     .000
09382> R0025:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09383>      CONTINUOUS STANDHYD   1.0 01:KB-16_2       3.42     .649 No_date   28:04   58.24 .783     .000
09384>        [XIMP=.71:TIMP=.71]
09385>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09386>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09387>        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
09388>        [IaRECimp=   4.00: IaRECper=   4.00]
09389> R0025:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09390>      ADD HYD               1.0 02:KB-Pond1      206.72   16.838 No_date   28:05   38.09  n/a     .000
09391>                       +    1.0 02:KB-07-S        10.86    2.094 No_date   27:56   66.02  n/a     .000
09392>                       +    1.0 02:KB-08-S         6.61    1.058 No_date   27:55   54.34  n/a     .000
09393>                       +    1.0 02:KB-09           2.60     .599 No_date   28:00   65.30  n/a     .000
09394>                       +    1.0 02:KB-10_1         2.37     .550 No_date   28:00   65.30  n/a     .000
09395>                       +    1.0 02:KB-10_2         1.14     .266 No_date   28:00   65.30  n/a     .000
09396>                       +    1.0 02:KB-12-S         4.86     .867 No_date   27:54   62.20  n/a     .000
09397>                       +    1.0 02:KB-13-S        10.19    1.722 No_date   27:57   53.98  n/a     .000
09398>                       +    1.0 02:KB-14-S         5.47     .873 No_date   27:55   54.32  n/a     .000
09399>                       +    1.0 02:KB-16_2         3.42     .649 No_date   28:01   58.24  n/a     .000
09400>                     SUM=   1.0 01:KB-P2          254.24   24.423 No_date   28:05   42.08  n/a     .000
09401> R0025:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09402>      ROUTE RESERVOIR ->    1.0 02:KB-P2         254.24   24.423 No_date   28:05   42.08  n/a     .000
09403>                      out <=   1.0 01:KB-P2R      254.24   17.126 No_date   28:11   42.08  n/a     .000
09404>                overflow <=    1.0 03:KB-P2ovf       .00     .000 No_date    0:00     .00  n/a     .000
09405>        {MxStoUsed=.9755E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
09406> R0025:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09407>      ADD HYD               1.0 02:KB-P2R        254.24   17.126 No_date   28:11   42.08  n/a     .000
09408>                       +    1.0 02:KB-P2ovf       .00     .000 No_date    0:00     .00  n/a     .000
09409>                     SUM=   1.0 01:KB-Pond2      254.24   17.126 No_date   28:11   42.08  n/a     .000
09410> R0025:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09411>      SAVE HYD              1.0 01:KB-Pond2      254.24   17.126 No_date   28:11   42.08  n/a     .000
09412>        fname :KB-Pond2.0025
09413>        remark:Total Flows at KB second pond
09414> R0025:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09415>      CONTINUOUS STANDHYD   1.0 01:KB-16_1       2.80     .551 No_date   28:01   60.44 .812     .000
09416>        [XIMP=.75:TIMP=.75]
09417>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09418>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09419>        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
09420>        [IaRECimp=   4.00: IaRECper=   4.00]
09421> R0025:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09422>      ADD HYD               1.0 02:KB-Pond2      254.24   17.126 No_date   28:11   42.08  n/a     .000
09423>                       +    1.0 02:KB-16_1         2.80     .551 No_date   28:01   60.44  n/a     .000
09424>                     SUM=   1.0 01:KB-P3          257.04   17.347 No_date   28:10   42.28  n/a     .000
09425> R0025:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09426>      ROUTE RESERVOIR ->    1.0 02:KB-P3         257.04   17.347 No_date   28:10   42.28  n/a     .000
09427>                      out <=   1.0 01:KB-P3R      10.42     .051 No_date   17:19   42.28  n/a     .000
09428>                overflow <=    1.0 03:KB-P3ovf    246.62   17.293 No_date   28:10   42.28  n/a     .000
09429>        {MxStoUsed=.1993E-02  m3, TotOvfVol=.1043E+02  m3, N-Ovf=    2, TotDurOvf=  23.hrs}
09430> R0025:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09431>      ADD HYD               1.0 02:KB-P3R         10.42     .051 No_date   17:19   42.28  n/a     .000
09432>                       +    1.0 02:KB-P3ovf      246.62   17.293 No_date   28:10   42.28  n/a     .000
09433>                     SUM=   1.0 01:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
09434> R0025:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09435>      SAVE HYD              1.0 01:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
09436>        fname :KB-Pond3.0025
09437>        remark:Total Flows at KB third pond
09438> #*************************************************************************
09439> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
09440> #    - TO FRASER-CLARKE DRAIN
09441> #*************************************************************************
09442> R0025:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09443>      CONTINUOUS STANDHYD   1.0 01:FC-01          8.03    1.288 No_date   28:01   44.33 .596     .000
09444>        [XIMP=.47:TIMP=.47]
09445>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09446>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09447>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
09448>        [IaRECimp=   4.00: IaRECper=   4.00]
09449> R0025:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09450>      COMPUTE DUALHYD       1.0 01:FC-01          8.03    1.288 No_date   28:01   44.33  n/a     .000
09451>        Major System   /    1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09452>        Minor System   \    1.0 03:FC-01-MN        8.03     .756 No_date   28:25   44.53  n/a     .000
09453>        {MjSysSto=.2943E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09454> R0025:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09455>      ADD HYD               1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09456>                       +    1.0 02:FC-01-MN        8.03     .756 No_date   27:53   44.53  n/a     .000
09457>                     SUM=   1.0 01:FC-01-S         8.03     .756 No_date   27:53   44.53  n/a     .000
09458> R0025:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09459>      CONTINUOUS STANDHYD   1.0 01:FC-02         16.05    3.458 No_date   28:00   69.06 .928     .000
09460>        [XIMP=.93:TIMP=.93]
09461>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09462>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09463>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
09464>        [IaRECimp=   4.00: IaRECper=   4.00]
09465> R0025:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09466>      COMPUTE DUALHYD       1.0 01:FC-02         16.05    3.458 No_date   28:00   69.06  n/a     .000
09467>        Major System   /    1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09468>        Minor System   \    1.0 03:FC-02-MN       16.05    1.159 No_date   27:44   69.13  n/a     .000
09469>        {MjSysSto=.1941E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09470> R0025:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09471>      ADD HYD               1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09472>                       +    1.0 02:FC-02-MN       16.05    1.159 No_date   27:44   69.13  n/a     .000
09473>                     SUM=   1.0 01:FC-02-S        16.05    1.159 No_date   27:44   69.13  n/a     .000
09474> R0025:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09475>      CONTINUOUS STANDHYD   1.0 01:FC-03          7.37    1.375 No_date   28:00   53.47 .719     .000
09476>        [XIMP=.64:TIMP=.64]
09477>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09478>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09479>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
09480>        [IaRECimp=   4.00: IaRECper=   4.00]
09481> R0025:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09482>      COMPUTE DUALHYD       1.0 01:FC-03          7.37    1.375 No_date   28:00   53.47  n/a     .000
09483>        Major System   /    1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09484>        Minor System   \    1.0 03:FC-03-MN        7.37     .358 No_date   27:43   53.66  n/a     .000
09485>        {MjSysSto=.9407E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09486> R0025:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09487>      ADD HYD               1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09488>                       +    1.0 02:FC-03-MN        7.37     .358 No_date   27:43   53.66  n/a     .000
09489>                     SUM=   1.0 01:FC-03-S         7.37     .358 No_date   27:43   53.66  n/a     .000
09490> R0025:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09491>      CONTINUOUS STANDHYD   1.0 01:FC-04         12.87    2.308 No_date   28:01   53.47 .719     .000
09492>        [XIMP=.64:TIMP=.64]
09493>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09494>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09495>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
09496>        [IaRECimp=   4.00: IaRECper=   4.00]
09497> R0025:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09498>      COMPUTE DUALHYD       1.0 01:FC-04         12.87    2.308 No_date   28:01   53.47  n/a     .000
09499>        Major System   /    1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09500>        Minor System   \    1.0 03:FC-04-MN       12.87     .741 No_date   27:45   53.74  n/a     .000
09501>        {MjSysSto=.1387E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09502> R0025:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09503>      ADD HYD               1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09504>                       +    1.0 02:FC-04-MN       12.87     .741 No_date   27:45   53.74  n/a     .000
09505>                     SUM=   1.0 01:FC-04-S        12.87     .741 No_date   27:45   53.74  n/a     .000
09506> #*************************************************************************
09507> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
09508> #    - TO JOCK RIVER
09509> #*************************************************************************
09510> R0025:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09511>      CONTINUOUS STANDHYD   1.0 01:JR-01          8.24    1.515 No_date   28:00   53.47 .719     .000
09512>        [XIMP=.64:TIMP=.64]
09513>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09514>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09515>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
09516>        [IaRECimp=   4.00: IaRECper=   4.00]
09517> R0025:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09518>      COMPUTE DUALHYD       1.0 01:JR-01          8.24    1.515 No_date   28:00   53.47  n/a     .000
09519>        Major System   /    1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09520>        Minor System   \    1.0 03:JR-01-MN        8.24     .563 No_date   28:50   53.74  n/a     .000
09521>        {MjSysSto=.7433E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09522> R0025:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09523>      ADD HYD               1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09524>                       +    1.0 02:JR-01-MN        8.24     .563 No_date   27:45   53.74  n/a     .000
09525>                     SUM=   1.0 01:JR-01-S         8.24     .563 No_date   27:45   53.74  n/a     .000
09526> R0025:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09527>      CONTINUOUS STANDHYD   1.0 01:JR-02          1.59     .316 No_date   28:00   53.47 .719     .000
09528>        [XIMP=.64:TIMP=.64]
09529>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09530>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09531>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
09532>        [IaRECimp=   4.00: IaRECper=   4.00]
09533> R0025:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09534>      COMPUTE DUALHYD       1.0 01:JR-02          1.59     .316 No_date   28:00   53.47  n/a     .000
09535>        Major System   /    1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09536>        Minor System   \    1.0 03:JR-02-MN        1.59     .153 No_date   27:47   53.69  n/a     .000
09537>        {MjSysSto=.9432E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09538> R0025:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09539>      ADD HYD               1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
09540>                       +    1.0 02:JR-02-MN        1.59     .153 No_date   27:47   53.69  n/a     .000
09541>                     SUM=   1.0 01:JR-02-S         1.59     .153 No_date   27:47   53.69  n/a     .000
09542> #*************************************************************************
09543> #    Catchment FRASER
09544> #    - To Fraser-Clarke drain (north of the Jock)
09545> #    - Developed land with assumed 43% imp.
09546> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
09547> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
09548> #*************************************************************************
09549> R0025:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09550>      CONTINUOUS NASHYD     1.0 01:FRASER-DRN     13.65    .594 No_date   28:22   34.14 .459     .000
09551>        [CN= 77.0: N= 3.00: Tp=  .43]
09552>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09553>        [InterEventTime=  12.00]
09554> R0025:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09555>      CONTINUOUS NASHYD     1.0 01:FRASER-D       21.61    .681 No_date   28:40   34.14 .459     .000
09556>        [CN= 77.0: N= 3.00: Tp=  .67]
09557>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09558>        [InterEventTime=  12.00]
09559> R0025:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09560>      ADD HYD               1.0 02:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
09561>                       +    1.0 02:S-1-B          55.36    2.311 No_date   28:23   34.14  n/a     .000
09562>                       +    1.0 02:FRASER-DRN     13.65    .594 No_date   28:22   34.14  n/a     .000
09563>                       +    1.0 02:FRASER-D       21.61    .681 No_date   28:40   34.14  n/a     .000
09564>                       +    1.0 02:FC-KB      54279.37 109.399 No_date   36:10   28.97  n/a     .000
09565>                       +    1.0 02:FC-01-S         8.03    .756 No_date   27:53   44.53  n/a     .000
09566>                       +    1.0 02:FC-02-S        16.05   1.159 No_date   27:44   69.13  n/a     .000
09567>                       +    1.0 02:FC-03-S         7.37    .358 No_date   27:43   53.66  n/a     .000
09568>                     SUM=   1.0 01:4241        54658.48 110.084 No_date   36:06   29.06  n/a     .000
09569> R0025:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09570>      SAVE HYD              1.0 01:4241        54658.48 110.084 No_date   36:06   29.06  n/a     .000
09571>        fname :4241.0025
09572>        remark:Total Flows at Ken-Burnett Outlet
09573> # Hydrograph from Node Ken-Burnett to station 3633
09574> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
09575> #
09576> R0025:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09577>      ROUTE CHANNEL    ->    1.0 02:4241        54658.48 110.084 No_date   36:06   29.06  n/a     .000
09578>        [RD= 1.00] out<-     1.0 01:4241-out    54658.48 110.145 No_date   36:03   29.06  n/a     .000
09579>        [L/S/n=  294./-.109/.035]
09580>        {Vmax= 1.274:Dmax= 2.271}
09581> R0025:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09582>      ADD HYD               1.0 02:4241-out    54658.48 110.145 No_date   36:03   29.06  n/a     .000
09583>                       +    1.0 02:FC-04-S        12.87    .741 No_date   27:45   53.74  n/a     .000
09584>                       +    1.0 02:JR-01-S         8.24    .563 No_date   27:45   53.74  n/a     .000
09585>                       +    1.0 02:JR-02-S         1.59    .153 No_date   27:47   53.69  n/a     .000
09586>                     SUM=   1.0 01:SN_KB       54681.18 110.195 No_date   36:03   29.07  n/a     .000
09587> R0025:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09588>      SAVE HYD              1.0 01:SN_KB       54681.18 110.195 No_date   36:03   29.07  n/a     .000
09589>        fname :SN_KB.0025
09590>        remark:HYD_COMMENT=["Total Flows before Station 3633]
09591> # Hydrograph from Station 3633 to Node Todd
09592> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
09593> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
09594> #
09595> R0025:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09596>      ROUTE CHANNEL    ->    1.0 02:SN_KB       54681.18 110.195 No_date   36:03   29.07  n/a     .000
09597>        [RD= 1.00] out<-     1.0 01:N_TD        54681.18 110.128 No_date   36:07   29.07  n/a     .000
09598>        [L/S/n=  608./ .247/.035]
09599>        {Vmax= 1.714:Dmax= 1.705}
09600> #*************************************************************************
09601> #    Catchment Greenbank
09602> #    - To Greenbank Drain (south of the Jock)
09603> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
09604> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
09605> #*************************************************************************
09606> R0025:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09607>      CONTINUOUS STANDHYD   1.0 01:Greenbank      36.60    5.574 No_date   28:02   58.33 .784     .000
09608>        [XIMP=.64:TIMP=.68]
09609>        [LOSS= 2 :CN= 77.0]
09610>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09611>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
09612>        [IaRECimp=   4.00: IaRECper=   4.00]
09613>        [SMIN= 31.15: SMAX=207.66: SK= .010]
09614> R0025:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09615>      ROUTE RESERVOIR ->    1.0 02:Greenbank      36.60    5.574 No_date   28:02   58.33  n/a     .000
09616>                      out <=   1.0 01:GreenBM_MN    36.60    3.118 No_date   28:11   58.33  n/a     .000
09617>                overflow <=    1.0 03:GreenBM_MJ      .00     .000 No_date    0:00     .00  n/a     .000
09618>        {MxStoUsed=.8739E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
09619> R0025:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09620>      ADD HYD               1.0 02:N_TD        54681.18 110.128 No_date   36:07   29.07  n/a     .000
09621>                       +    1.0 02:GreenBM_MJ      .00     .000 No_date    0:00     .00  n/a     .000
09622>                       +    1.0 02:GreenBM_MN     36.60    3.118 No_date   28:11   58.33  n/a     .000
09623>                     SUM=   1.0 01:GreenBM      54717.78 110.282 No_date   36:07   29.09  n/a     .000
09624> R0025:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09625>      SAVE HYD              1.0 01:GreenB      54717.78 110.282 No_date   36:07   29.09  n/a     .000
09626>        fname :GreenB.0025
09627>        remark:Total Flows at Greenbank Drain
09628> #*************************************************************************
09629> #    Catchment TODD
09630> #    - To Todd Drain (south of the Jock)
09631> #    - Subdivision with 43% imp. as per Barrhaven South MSS
09632> #    - 2020-11-30 increase imp. based on P598(04)-11
09633> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
09634> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
09635> #*************************************************************************
09636> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
09637> R0025:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09638>      CONTINUOUS STANDHYD   1.0 01:TODD_MN2        2.10    .339 No_date   28:00   53.59 .720     .000
09639>        [XIMP=.53:TIMP=.57]
09640>        [LOSS= 2 :CN= 77.0]
09641>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09642>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
09643>        [IaRECimp=   4.00: IaRECper=   4.00]
09644>        [SMIN= 31.15: SMAX=207.66: SK= .010]
09645> R0025:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09646>      CONTINUOUS STANDHYD   1.0 01:TODD_MN3         .12    .020 No_date   28:00   53.57 .720     .000
09647>        [XIMP=.53:TIMP=.57]
09648>        [LOSS= 2 :CN= 77.0]
09649>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09650>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
09651>        [IaRECimp=   4.00: IaRECper=   4.00]
09652>        [SMIN= 31.15: SMAX=207.66: SK= .010]
09653> R0025:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09654>      CONTINUOUS STANDHYD   1.0 01:TODD_MJ         30.23    4.269 No_date   28:02   55.13 .741     .000
09655>        [XIMP=.52:TIMP=.64]
09656>        [LOSS= 2 :CN= 77.0]
09657>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09658>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
09659>        [IaRECimp=   4.00: IaRECper=   4.00]
09660>        [SMIN= 31.15: SMAX=207.66: SK= .010]
09661> R0025:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09662>      CONTINUOUS STANDHYD   1.0 01:TODD_ALL       112.91   13.312 No_date   28:05   53.38 .718     .000
09663>        [XIMP=.52:TIMP=.57]
09664>        [LOSS= 2 :CN= 77.0]
09665>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09666>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
09667>        [IaRECimp=   4.00: IaRECper=   4.00]
09668>        [SMIN= 31.15: SMAX=207.66: SK= .010]
09669> R0025:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09670>      CONTINUOUS STANDHYD   1.0 01:TODD_P          3.06    .535 No_date   28:00   57.01 .766     .000
09671>        [XIMP=.63:TIMP=.63]
09672>        [LOSS= 2 :CN= 77.0]
09673>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09674>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
09675>        [IaRECimp=   4.00: IaRECper=   4.00]
09676>        [SMIN= 31.15: SMAX=207.66: SK= .010]
09677> # 5-Year + 12% Capture
09678> R0025:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09679>      ROUTE RESERVOIR ->    1.0 02:TODD_MJ         30.23    4.269 No_date   28:02   55.13  n/a     .000
09680>                      out <=   1.0 01:TODD_MJn       29.48    3.314 No_date   27:57   55.13  n/a     .000
09681>                overflow <=    1.0 03:TODD_MJj         .75     .946 No_date   28:03   55.13  n/a     .000
09682>        {MxStoUsed=.1175E-03  m3, TotOvfVol=.4153E-01  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
09683> # 5-Year + 12% Capture
09684> R0025:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09685>      ROUTE RESERVOIR ->    1.0 02:TODD_MN2        2.10    .339 No_date   28:00   53.59  n/a     .000
09686>                      out <=   1.0 01:TODD_MN2n      2.06    .268 No_date   27:54   53.60  n/a     .000
09687>                overflow <=    1.0 03:TODD_MN2j        .04     .067 No_date   28:00   53.59  n/a     .000
09688>        {MxStoUsed=.8415E-04  m3, TotOvfVol=.2217E-02  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
09689> R0025:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09690>      ROUTE RESERVOIR ->    1.0 02:TODD_MN3         .12    .020 No_date   28:00   53.58  n/a     .000
09691>                      out <=   1.0 01:TODD_MN3n       .11    .016 No_date   27:53   53.58  n/a     .000
09692>                overflow <=    1.0 03:TODD_MN3j        .00     .004 No_date   28:00   53.58  n/a     .000
09693>        {MxStoUsed=.1067E-03  m3, TotOvfV
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09725>     ROUTE RESERVOIR ->    1.0 02:TODD         120.62   14.962 No_date   28:03   53.48  n/a     .000
09726>               out <=     1.0 01:MS_P3        120.62    9.717 No_date   28:14   53.48  n/a     .000
09727>          overflow <=     1.0 03:P3-OVF            .00     .000 No_date   0:00     .00  n/a     .000
09728>    {MxStoUsed=.2619E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09729> R0025:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09730>     ADD HYD             1.0 02:Green8     54717.78  110.282 No_date   36:07   29.09  n/a     .000
09731>                   +     1.0 02:MS_P3        120.62    9.717 No_date   28:14   53.48  n/a     .000
09732>                   +     1.0 02:P3-OVF            .00     .000 No_date   0:00     .00  n/a     .000
09733>                   +     1.0 02:TODD_MN2j         .04     .067 No_date   28:00   53.59  n/a     .000
09734>                   +     1.0 02:A2-MJ             .00     .000 No_date   0:00     .00  n/a     .000
09735>               SUM=       1.0 01:SN_TO      54838.44  110.670 No_date   36:07   29.14  n/a     .000
09736> R0025:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09737>     SAVE HYD            1.0 01:SN_TO      54838.44  110.670 No_date   36:07   29.14  n/a     .000
09738>       fname :SN_TO.0025
09739>       remark:Total Flows at Todd Drain
09740> #
09741> # Hydrograph from Todd Drain routed to Corrigan Drain
09742> # Channel X-Section obtained from HDCA Hydraulic Model - Station 2462
09743> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
09744> R0025:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09745>     ROUTE CHANNEL       ->    1.0 02:SN_TO      54838.44  110.670 No_date   36:07   29.14  n/a     .000
09746> *  [RDT= 1.00] out<-      1.0 01:N_TO       54838.44  110.461 No_date   36:21   29.14  n/a     .000
09747>       [L/S/n=  280./ .050/.045]
09748>       {Vmax=    905:Dmax= 3.255}
09749> R0025:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09750>     SAVE HYD            1.0 01:N_TO       54838.44  110.461 No_date   36:21   29.14  n/a     .000
09751>       fname :N_TO.0025
09752>       remark:Total inflows at Station 2462
09753> #*************************************************************************
09754> #   Catchment: CORRIG
09755> #   - To Corrigan Drain (south of the Jock)
09756> #   - Primarily Developed (medium density)
09757> #   - 2050 AMA 2021, add Corrigan subcatchments as per IBI, July 2008
09758> #*************************************************************************
09759> R0025:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09760>     CONTINUOUS STANDHYD  1.0 01:corr1         15.87    2.535 No_date   28:01   57.01 .766     .000
09761>       [XIMP=.63:TIMP=.63]
09762>       [LOSS= 2 :CN= 77.0]
09763>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09764>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
09765>       [IaRECimp=   4.00: IaRECper=   4.00]
09766>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09767> R0025:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09768>     COMPUTE DUALHYD      1.0 01:corr1         15.87    2.535 No_date   28:01   57.01  n/a     .000
09769>       Major System   /     .00     .000 No_date   0:00     .00  n/a     .000
09770>       Minor System   \    1.0 03:corr1-MN      15.87    1.818 No_date   28:15   57.37  n/a     .000
09771>       {MjSysSto=.3150E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09772> R0025:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09773>     CONTINUOUS NASHYD    1.0 01:corr2         12.47     .276 No_date   29:10   34.14 .459     .000
09774>       [CN= 77.0: N= 3.00: Tp= 1.10]
09775>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09776>       [InterEventTime=  12.00]
09777> R0025:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09778>     CONTINUOUS STANDHYD  1.0 01:A1-Corrig     15.75    2.022 No_date   28:01   49.44 .665     .000
09779>       [XIMP=.42:TIMP=.52]
09780>       [LOSS= 2 :CN= 75.0]
09781>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09782>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
09783>       [IaRECimp=   4.00: IaRECper=   4.00]
09784>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09785> R0025:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09786>     COMPUTE DUALHYD      1.0 01:A1-Corrig     15.75    2.022 No_date   28:01   49.44  n/a     .000
09787>       Major System   /     .00     .000 No_date   0:00     .00  n/a     .000
09788>       Minor System   \    1.0 03:A1-MN         15.75    1.818 No_date   27:58   49.57  n/a     .000
09789>       {MjSysSto=.4966E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09790> R0025:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09791>     CONTINUOUS NASHYD    1.0 01:B1            2.77     .097 No_date   28:09   21.19 .285     .000
09792>       [CN= 56.0: N= 3.00: Tp=  .23]
09793>       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
09794>       [InterEventTime=  12.00]
09795> R0025:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09796>     CONTINUOUS STANDHYD  1.0 01:A4            1.27     .212 No_date   28:01   57.38 .771     .000
09797>       [XIMP=.65:TIMP=.65]
09798>       [LOSS= 2 :CN= 75.0]
09799>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09800>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
09801>       [IaRECimp=   4.00: IaRECper=   4.00]
09802>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09803> R0025:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09804>     COMPUTE DUALHYD      1.0 01:A4            1.27     .212 No_date   28:01   57.38  n/a     .000
09805>       Major System   /     .00     .000 No_date   0:00     .00  n/a     .000
09806>       Minor System   \    1.0 03:A4-MN         1.27     .212 No_date   28:01   57.38  n/a     .000
09807>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09808> R0025:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09809>     ADD HYD             1.0 02:A1-MJ             .00     .000 No_date   0:00     .00  n/a     .000
09810>                   +     1.0 02:A1-MN         15.75    1.818 No_date   27:58   49.57  n/a     .000
09811>                   +     1.0 02:corr1-MJ          .00     .000 No_date   0:00     .00  n/a     .000
09812>                   +     1.0 02:corr1-MN      15.87    1.818 No_date   28:15   57.37  n/a     .000
09813>                   +     1.0 02:corr2         12.47     .276 No_date   29:10   34.14  n/a     .000
09814>                   +     1.0 02:B1             2.77     .097 No_date   28:09   21.19  n/a     .000
09815>                   +     1.0 02:A4-MN          1.27     .212 No_date   28:01   57.38  n/a     .000
09816>               SUM=       1.0 01:MH101         48.13    3.979 No_date   28:02   46.72  n/a     .000
09817> R0025:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09818>     SAVE HYD            1.0 01:MH101         48.13    3.979 No_date   28:02   46.72  n/a     .000
09819>       fname :MH101.0025
09820>       remark:Total Flows at MH101
09821> R0025:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09822>     ROUTE PIPE          ->    1.0 02:MH101         48.13    3.979 No_date   28:02   46.72  n/a     .000
09823> *  [RDT= 1.00] out<-      1.0 01:101-102       48.13    3.953 No_date   28:05   46.72  n/a     .000
09824>       [L/S/n=  368./ .540/.013]
09825>       {Vmax= 3.134:Dmax= 1.114}
09826>       [Din= 1.05:Dused= 1.36}
09827> R0025:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09828>     ADD HYD             1.0 02:A2-MN         25.50    1.818 No_date   27:54   49.64  n/a     .000
09829>                   +     1.0 02:101-102       48.13    3.953 No_date   28:05   46.72  n/a     .000
09830>               SUM=       1.0 01:MH102         73.63    5.771 No_date   28:05   47.73  n/a     .000
09831> R0025:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09832>     SAVE HYD            1.0 01:MH102         73.63    5.771 No_date   28:05   47.73  n/a     .000
09833>       fname :MH102.0025
09834>       remark:Total Flows at MH102
09835> R0025:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09836>     CONTINUOUS STANDHYD  1.0 01:A5            1.60     .279 No_date   28:01   60.02 .807     .000
09837>       [XIMP=.71:TIMP=.71]
09838>       [LOSS= 2 :CN= 75.0]
09839>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09840>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
09841>       [IaRECimp=   4.00: IaRECper=   4.00]
09842>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09843> R0025:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09844>     ADD HYD             1.0 02:A4-MJ             .00     .000 No_date   0:00     .00  n/a     .000
09845>                   +     1.0 02:A5            1.60     .279 No_date   28:01   60.02  n/a     .000
09846>               SUM=       1.0 01:A5T           1.60     .279 No_date   28:01   60.02  n/a     .000
09847> R0025:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09848>     COMPUTE DUALHYD      1.0 01:A5T           1.60     .279 No_date   28:01   60.02  n/a     .000
09849>       Major System   /     .00     .000 No_date   0:00     .00  n/a     .000
09850>       Minor System   \    1.0 03:A5-MN         1.60     .279 No_date   28:01   60.02  n/a     .000
09851>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09852> R0025:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09853>     ROUTE PIPE          ->    1.0 02:MH102         73.63    5.771 No_date   28:05   47.73  n/a     .000
09854> *  [RDT= 1.00] out<-      1.0 01:102-103       73.63    5.682 No_date   28:08   47.73  n/a     .000
09855>       [L/S/n=  504./ .280/.013]
09856>       {Vmax= 2.688:Dmax= 1.448}
09857>       [Din= 1.50:Dused= 1.76}
09858> R0025:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09859>     ADD HYD             1.0 02:102-103       73.63    5.682 No_date   28:08   47.73  n/a     .000
09860>                   +     1.0 02:A5-MN          1.60     .279 No_date   28:01   60.02  n/a     .000
09861>               SUM=       1.0 01:MH103         75.23    5.850 No_date   28:06   47.99  n/a     .000
09862> R0025:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09863>     SAVE HYD            1.0 01:MH103         75.23    5.850 No_date   28:06   47.99  n/a     .000
09864>       fname :MH103.0025
09865>       remark:Total Flows at MH103
09866> R0025:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09867>     ROUTE PIPE          ->    1.0 02:MH103         75.23    5.850 No_date   28:06   47.99  n/a     .000
09868>       [RDT= 1.00] out<-      1.0 01:103-104       75.23    5.807 No_date   28:08   47.99  n/a     .000
09869>       [L/S/n=  438./ .460/.013]
09870>       {Vmax= 3.289:Dmax= 1.280}
09871>       [Din= 1.65:Dused= 1.65}
09872> R0025:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09873>     CONTINUOUS STANDHYD  1.0 01:A6            1.56     .274 No_date   28:00   60.02 .807     .000
09874>       [XIMP=.71:TIMP=.71]
09875>       [LOSS= 2 :CN= 75.0]
09876>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09877>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
09878>       [IaRECimp=   4.00: IaRECper=   4.00]
09879>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09880> R0025:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09881>     ADD HYD             1.0 02:A5-MJ             .00     .000 No_date   0:00     .00  n/a     .000
09882>                   +     1.0 02:A6            1.56     .274 No_date   28:00   60.02  n/a     .000
09883>               SUM=       1.0 01:A6T           1.56     .274 No_date   28:00   60.02  n/a     .000
09884> R0025:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09885>     COMPUTE DUALHYD      1.0 01:A6T           1.56     .274 No_date   28:00   60.02  n/a     .000
09886>       Major System   /     .00     .000 No_date   0:00     .00  n/a     .000
09887>       Minor System   \    1.0 03:A6-MN         1.56     .274 No_date   28:00   60.02  n/a     .000
09888>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09889> R0025:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09890>     ADD HYD             1.0 02:A6-MN          1.56     .274 No_date   28:00   60.02  n/a     .000
09891>                   +     1.0 02:103-104       75.23    5.807 No_date   28:08   47.99  n/a     .000
09892>                   +     1.0 02:TODD_MJn      29.48    3.314 No_date   27:57   55.13  n/a     .000
09893>               SUM=       1.0 01:MH104        106.27    9.269 No_date   28:06   50.14  n/a     .000
09894> R0025:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09895>     SAVE HYD            1.0 01:MH104        106.27    9.269 No_date   28:06   50.14  n/a     .000
09896>       fname :MH104.0025
09897>       remark:Total Flows at MH104
09898> R0025:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09899>     CONTINUOUS STANDHYD  1.0 01:B2            12.31    1.521 No_date   28:02   49.75 .669     .000
09900>       [XIMP=.41:TIMP=.54]
09901>       [LOSS= 2 :CN= 75.0]
09902>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09903>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
09904>       [IaRECimp=   4.00: IaRECper=   4.00]
09905>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09906> R0025:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09907>     COMPUTE DUALHYD      1.0 01:B2            12.31    1.521 No_date   28:02   49.75  n/a     .000
09908>       Major System   /     .00     .000 No_date   0:00     .00  n/a     .000
09909>       Minor System   \    1.0 03:B2-MN         12.31    1.029 No_date   27:55   49.85  n/a     .000
09910>       {MjSysSto=.2691E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09911> R0025:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09912>     ROUTE PIPE          ->    1.0 02:B2-MN         12.31    1.029 No_date   27:55   49.85  n/a     .000
09913> *  [RDT= 1.00] out<-      1.0 01:315-333       12.31    1.029 No_date   28:24   49.85  n/a     .000
09914>       [L/S/n=  254./ .100/.013]
09915>       {Vmax= 1.220:Dmax=  .838}
09916>       [Din= 1.20:Dused= 1.20}
09917> R0025:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09918>     CONTINUOUS STANDHYD  1.0 01:B3             5.59     .715 No_date   28:02   49.75 .669     .000
09919>       [XIMP=.41:TIMP=.54]
09920>       [LOSS= 2 :CN= 75.0]
09921>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09922>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
09923>       [IaRECimp=   4.00: IaRECper=   4.00]
09924>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09925> R0025:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09926>     COMPUTE DUALHYD      1.0 01:B3             5.59     .715 No_date   28:02   49.75  n/a     .000
09927>       Major System   /    1.0 02:B3-MJ         .00     .000 No_date   0:00     .00  n/a     .000
09928>       Minor System   \    1.0 03:B3-MN         5.59     .459 No_date   27:54   49.80  n/a     .000
09929>       {MjSysSto=.1451E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09930> R0025:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09931>     ADD HYD             1.0 02:B3-MN          5.59     .459 No_date   27:54   49.80  n/a     .000
09932>                   +     1.0 02:315-333       12.31    1.029 No_date   28:24   49.85  n/a     .000
09933>               SUM=       1.0 01:MH333         17.90    1.488 No_date   28:24   49.83  n/a     .000
09934> R0025:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09935>     SAVE HYD            1.0 01:MH333         17.90    1.488 No_date   28:24   49.83  n/a     .000
09936>       fname :MH333.0025
09937>       remark:Total Flows at MH333
09938> R0025:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09939>     ROUTE PIPE          ->    1.0 02:MH333         17.90    1.488 No_date   28:24   49.83  n/a     .000
09940> *  [RDT= 1.00] out<-      1.0 01:333-335       17.90    1.485 No_date   28:24   49.83  n/a     .000
09941>       [L/S/n=  251./ .100/.013]
09942>       {Vmax= 1.302:Dmax= 1.057}
09943>       [Din= 1.20:Dused= 1.29}
09944> R0025:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09945>     ROUTE PIPE          ->    1.0 02:333-335       17.90    1.485 No_date   28:24   49.83  n/a     .000
09946> *  [RDT= 1.00] out<-      1.0 01:335-338       17.90    1.490 No_date   28:26   49.83  n/a     .000
09947>       [L/S/n=  185./ .100/.013]
09948>       {Vmax= 1.301:Dmax= 1.056}
09949>       [Din= 1.20:Dused= 1.29}
09950> R0025:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09951>     ROUTE PIPE          ->    1.0 02:335-338       17.90    1.490 No_date   28:26   49.83  n/a     .000
09952>     [RDT= 1.00] out<-      1.0 01:338-340       17.90    1.456 No_date   28:26   49.83  n/a     .000
09953>       [L/S/n=  233./ .100/.013]
09954>       {Vmax= 1.331:Dmax=  .985}
09955>       [Din= 1.35:Dused= 1.35}
09956> R0025:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09957>     CONTINUOUS STANDHYD  1.0 01:B4             7.60     .960 No_date   28:02   49.75 .669     .000
09958>       [XIMP=.41:TIMP=.54]
09959>       [LOSS= 2 :CN= 75.0]
09960>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09961>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
09962>       [IaRECimp=   4.00: IaRECper=   4.00]
09963>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09964> R0025:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09965>     COMPUTE DUALHYD      1.0 01:B4             7.60     .960 No_date   28:02   49.75  n/a     .000
09966>       Major System   /    1.0 02:B4-MJ         .00     .000 No_date   0:00     .00  n/a     .000
09967>       Minor System   \    1.0 03:B4-MN         7.60     .655 No_date   27:55   50.00  n/a     .000
09968>       {MjSysSto=.1611E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09969> R0025:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09970>     ADD HYD             1.0 02:338-340       17.90    1.456 No_date   28:26   49.83  n/a     .000
09971>                   +     1.0 02:B4-MN          7.60     .655 No_date   27:55   50.00  n/a     .000
09972>               SUM=       1.0 01:MH340         25.50    2.104 No_date   28:18   49.88  n/a     .000
09973> R0025:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09974>     SAVE HYD            1.0 01:MH340         25.50    2.104 No_date   28:18   49.88  n/a     .000
09975>       fname :MH340.0025
09976>       remark:Total Flows at MH340
09977> R0025:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09978>     ROUTE PIPE          ->    1.0 02:MH340         25.50    2.104 No_date   28:18   49.88  n/a     .000
09979>     [RDT= 1.00] out<-      1.0 01:340-104       25.50    2.086 No_date   28:18   49.88  n/a     .000
09980>       [L/S/n=  240./ .150/.013]
09981>       {Vmax= 1.722:Dmax=  .917}
09982>       [Din= 1.65:Dused= 1.65}
09983> R0025:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09984>     ADD HYD             1.0 02:340-104       25.50    2.086 No_date   28:18   49.88  n/a     .000
09985>                   +     1.0 02:MH104        106.27    9.269 No_date   28:06   50.14  n/a     .000
09986>               SUM=       1.0 01:MH104T       131.77   11.233 No_date   28:08   50.09  n/a     .000
09987> R0025:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09988>     ROUTE PIPE          ->    1.0 02:MH104T       131.77   11.233 No_date   28:08   50.09  n/a     .000
09989> *  [RDT= 1.00] out<-      1.0 01:104-105       131.77   10.846 No_date   28:08   50.09  n/a     .000
09990>       [L/S/n=  380./ .100/.013]
09991>       {Vmax= 2.100:Dmax= 1.992}
09992>       {HGTH= 2.35:WDTH= 2.68}
09993> R0025:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09994>     CONTINUOUS STANDHYD  1.0 01:B5             2.20     .346 No_date   28:00   53.85 .724     .000
09995>       [XIMP=.57:TIMP=.57]
09996>       [LOSS= 2 :CN= 75.0]
09997>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09998>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
09999>       [IaRECimp=   4.00: IaRECper=   4.00]
10000>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10001> R0025:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10002>     COMPUTE DUALHYD      1.0 01:B5             2.20     .346 No_date   28:00   53.85  n/a     .000
10003>       Major System   /    1.0 02:B5-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10004>       Minor System   \    1.0 03:B5-MN         2.20     .260 No_date   27:54   53.87  n/a     .000
10005>       {MjSysSto=.3304E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10006> R0025:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10007>     CONTINUOUS STANDHYD  1.0 01:A8             .96     .177 No_date   28:00   60.02 .807     .000
10008>       [XIMP=.71:TIMP=.71]
10009>       [LOSS= 2 :CN= 75.0]
10010>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10011>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
10012>       [IaRECimp=   4.00: IaRECper=   4.00]
10013>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10014> R0025:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10015>     ADD HYD             1.0 02:A6-MJ             .00     .000 No_date   0:00     .00  n/a     .000
10016>                   +     1.0 02:A8             .96     .177 No_date   28:00   60.02  n/a     .000
10017>               SUM=       1.0 01:A8T            .96     .177 No_date   28:00   60.02  n/a     .000
10018> R0025:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10019>     COMPUTE DUALHYD      1.0 01:A8T            .96     .177 No_date   28:00   60.02  n/a     .000
10020>       Major System   /    1.0 02:A8-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10021>       Minor System   \    1.0 03:A8-MN         .96     .177 No_date   28:00   60.02  n/a     .000
10022>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10023> R0025:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10024>     ADD HYD             1.0 02:104-105       131.77   10.846 No_date   28:08   50.09  n/a     .000
10025>                   +     1.0 02:B5-MN          2.20     .260 No_date   27:54   53.87  n/a     .000
10026>                   +     1.0 02:A8-MN          .96     .177 No_date   28:00   60.02  n/a     .000
10027>                   +     1.0 02:TODD_MN3j      .00     .004 No_date   28:00   53.58  n/a     .000
10028>               SUM=       1.0 01:MH105         134.93   11.175 No_date   28:08   50.23  n/a     .000
10029> R0025:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10030>     SAVE HYD            1.0 01:MH105         134.93   11.175 No_date   28:08   50.23  n/a     .000
10031>       fname :MH105.0025
10032>       remark:Total Flows at MH105
10033> R0025:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10034> *  DIVERT HYD          ->    1.0 01:A8-MJ             .00     .000 No_date   0:00     .00  n/a     .000
10035>               diverted <=    1.0 02:A8-MJ-JR          .00     .000 No_date   0:00     .00  n/a     .000
10036>               diverted <=    1.0 02:A8-MJ-B6          .00     .000 No_date   0:00     .00  n/a     .000
10037> R0025:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10038>     DIVERT HYD          ->    1.0 01:MH105         134.93   11.175 No_date   28:08   50.23  n/a     .000
10039>               diverted <=    1.0 02:MH105-JR       33.95    8.167 No_date   28:08   50.23  n/a     .000
10040>               diverted <=    1.0 03:MH105-B6      100.98    3.008 No_date   28:08   50.23  n/a     .000
10041> R0025:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10042>     CONTINUOUS STANDHYD  1.0 01:B7             7.19     .975 No_date   28:01   49.75 .669     .000
10043>       [XIMP=.41:TIMP=.54]
10044>       [LOSS= 2 :CN= 75.0]
10045>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10046>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
10047>       [IaRECimp=   4.00: IaRECper=   4.00]
10048>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10049> R0025:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10050>     ADD HYD             1.0 02:B4-MJ             .00     .000 No_date   0:00     .00  n/a     .000
10051>                   +     1.0 02:B7            7.19     .975 No_date   28:01   49.75  n/a     .000
10052>               SUM=       1.0 01:B7-B4MJ       7.19     .975 No_date   28:01   49.75  n/a     .000
10053> R0025:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10054>     COMPUTE DUALHYD      1.0 01:B7-B4MJ       7.19     .975 No_date   28:01   49.75  n/a     .000
10055>       Major System   /    1.0 02:B7R-MJ        .00     .000 No_date   0:00     .00  n/a     .000
10056>       Minor System   \    1.0 03:B7R-MN        7.19     .629 No_date   27:53   50.01  n/a     .000
10057>       {MjSysSto=.1702E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10058> R0025:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10059>     ROUTE PIPE          ->    1.0 02:B7R-MN        7.19     .629 No_date   27:53   50.01  n/a     .000
10060> *  [RDT= 1.00] out<-      1.0 01:360-106A      7.19     .629 No_date   28:21   50.01  n/a     .000
10061>       [L/S/n=  167./ .100/.013]
10062>       {Vmax= 1.009:Dmax=  .665}
10063>       [Din= 1.05:Dused= 1.05}
10064> R0025:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10065>     CONTINUOUS STANDHYD  1.0 01:B6             3.29     .465 No_date   28:00   49.75 .669     .000
10066>       [XIMP=.41:TIMP=.54]
10067>       [LOSS= 2 :CN= 75.0]
10068>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10069>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
10070>       [IaRECimp=   4.00: IaRECper=   4.00]
10071>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10072> R0025:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10073>     COMPUTE DUALHYD      1.0 01:B6             3.29     .465 No_date   28:00   49.75  n/a     .000
10074>       Major System   /    1.0 02:B6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10075>       Minor System   \    1.0 03:B6-MN         3.29     .064 No_date   27:34   49.75  n/a     .000
10076>       {MjSysSto=.5165E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10077> R0025:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms
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10099>     COMPUTE DUALHYD       1.0 01:B6-B7EXMJ      3.29     .064 No_date   27:34   49.75  n/a     .000
10100>       Major System   /     1.0 02:B6R-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10101>       Minor System   \     1.0 03:B6R-MN         3.29     .064 No_date   27:34   49.75  n/a     .000
10102>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10103> R0025:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10104>     ROUTE PIPE      ->     1.0 02:MH105-B6      100.98     3.000 No_date   28:08   50.23  n/a     .000
10105>       [RDT= 1.00] out<-    1.0 01:105-106A      100.98     3.018 No_date   28:02   50.23  n/a     .000
10106>        [L/S/n=  208./ .100/.013]
10107>        {Vmax= 1.597:Dmax= 1.249}
10108>        {Din= 1.80:Dused= 1.80}
10109> R0025:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10110>     ADD HYD                1.0 02:360-106A        7.19     .629 No_date   28:21   50.01  n/a     .000
10111>                      +     1.0 02:105-106A      100.98     3.018 No_date   28:02   50.23  n/a     .000
10112>                      +     1.0 02:B6R-MN          3.29     .064 No_date   27:34   49.75  n/a     .000
10113>                      +     1.0 02:B6R-MJ           .00     .000 No_date    0:00    .00  n/a     .000
10114>                    SUM=    1.0 01:MH106A        111.46    3.702 No_date   28:02   50.20  n/a     .000
10115> R0025:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10116>     SAVE HYD               1.0 01:MH106A        111.46    3.702 No_date   28:02   50.20  n/a     .000
10117>        fname :MH106A.0025
10118>        remark:Total Flows at MH106A
10119> R0025:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10120>     ROUTE PIPE      ->     1.0 02:MH106A        111.46    3.702 No_date   28:02   50.20  n/a     .000
10121> *   [RDT= 1.00] out<-    1.0 01:106A-106      111.46    3.699 No_date   28:16   50.20  n/a     .000
10122>        [L/S/n=  190./ .100/.013]
10123>        {Vmax= 1.635:Dmax= 1.487}
10124>        {Din= 1.80:Dused= 1.81}
10125> R0025:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10126>     CONTINUOUS STANDHYD    1.0 01:A9             2.44     .433 No_date   28:00   60.02 .807     .000
10127>        [XIMP=.71:TIMP=.71]
10128>        [LOSS= 2 :CN= 75.0]
10129>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10130>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
10131>        [IaRECimp=   4.00: IaRECper=   4.00]
10132>        {SMIN= 33.81: SMAX=225.43: Sk= .010}
10133> R0025:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10134>     COMPUTE DUALHYD        1.0 01:A9             2.44     .433 No_date   28:00   60.02 n/a       .000
10135>       Major System   /     1.0 02:A9-MJ           .00     .000 No_date    0:00    .00  n/a     .000
10136>       Minor System   \     1.0 03:A9-MN          2.44     .433 No_date   28:00   60.02 n/a       .000
10137> R0025:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10138>     ADD HYD                1.0 02:106A-106      111.46    3.699 No_date   28:16   50.20  n/a     .000
10139>                      +     1.0 02:A9-MN          2.44     .433 No_date   28:00   60.02  n/a     .000
10140>                    SUM=    1.0 01:MH106         113.90    4.090 No_date   28:01   50.41  n/a     .000
10141> R0025:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10142>     SAVE HYD               1.0 01:MH106         113.90    4.090 No_date   28:01   50.41  n/a     .000
10143>        fname :MH106.0025
10144>        remark:Total Flows at MH106
10145> R0025:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10146>     ROUTE PIPE      ->     1.0 02:MH106         113.90    4.090 No_date   28:01   50.41  n/a     .000
10147> *   [RDT= 1.00] out<-    1.0 01:106-107       113.90    4.067 No_date   28:03   50.41  n/a     .000
10148>        [L/S/n=  123./ .100/.013]
10149>        {Vmax= 1.676:Dmax= 1.544}
10150>        {Din= 1.80:Dused= 1.88}
10151> R0025:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10152>     CONTINUOUS STANDHYD    1.0 01:A10            4.14     .526 No_date   28:01   46.81 .629     .000
10153>        [XIMP=.35:TIMP=.47]
10154>        [LOSS= 2 :CN= 75.0]
10155>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10156>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
10157>        [IaRECimp=   4.00: IaRECper=   4.00]
10158>        {SMIN= 33.81: SMAX=225.43: Sk= .010}
10159> R0025:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10160>     COMPUTE DUALHYD        1.0 01:A10            4.14     .526 No_date   28:01   46.81  n/a     .000
10161>       Major System   /     1.0 02:A10-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10162>       Minor System   \     1.0 03:A10-MN         4.14     .310 No_date   27:52   46.90  n/a     .000
10163>       {MjSysSto=.1196E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10164> R0025:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10165>     CONTINUOUS STANDHYD    1.0 01:A11           10.61    1.511 No_date   28:01   54.09 .727     .000
10166>        [XIMP=.53:TIMP=.62]
10167>        [LOSS= 2 :CN= 75.0]
10168>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10169>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
10170>        [IaRECimp=   4.00: IaRECper=   4.00]
10171>        {SMIN= 33.81: SMAX=225.43: Sk= .010}
10172> R0025:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10173>     COMPUTE DUALHYD        1.0 01:A11           10.61    1.511 No_date   28:01   54.09  n/a     .000
10174>       Major System   /     1.0 02:A11-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10175>       Minor System   \     1.0 03:A11-MN        10.61     .993 No_date   27:54   54.21  n/a     .000
10176>       {MjSysSto=.2791E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10177> R0025:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10178>     ADD HYD                1.0 02:106-107       113.90    4.067 No_date   28:03   50.41  n/a     .000
10179>                      +     1.0 02:A10-MN          4.14     .310 No_date   27:52   46.90  n/a     .000
10180>                      +     1.0 02:A11-MN         10.61     .993 No_date   27:54   54.21  n/a     .000
10181>                    SUM=    1.0 01:MH107         128.65    5.370 No_date   28:03   50.61  n/a     .000
10182> R0025:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10183>     SAVE HYD               1.0 01:MH107         128.65    5.370 No_date   28:03   50.61  n/a     .000
10184>        fname :MH107.0025
10185>        remark:Total Flows at MH107
10186> R0025:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10187>     ROUTE PIPE      ->     1.0 02:MH107         128.65    5.370 No_date   28:03   50.61  n/a     .000
10188> *   [RDT= 1.00] out<-    1.0 01:107-119       128.65    5.374 No_date   28:04   50.61  n/a     .000
10189>        [L/S/n=  114./ .120/.013]
10190>        {Vmax= 1.922:Dmax= 1.653}
10191>        {Din= 1.80:Dused= 2.01}
10192> R0025:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10193>     ROUTE PIPE      ->     1.0 02:107-119       128.65    5.374 No_date   28:04   50.61  n/a     .000
10194> *   [RDT= 1.00] out<-    1.0 01:119-108       128.65    5.354 No_date   28:04   50.61  n/a     .000
10195>        [L/S/n=   66./ .120/.013]
10196>        {Vmax= 1.922:Dmax= 1.653}
10197>        {Din= 1.80:Dused= 2.01}
10198> R0025:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10199>     CONTINUOUS STANDHYD    1.0 01:A12           12.29    1.704 No_date   28:01   49.75 .669     .000
10200>        [XIMP=.41:TIMP=.54]
10201>        [LOSS= 2 :CN= 75.0]
10202>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10203>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
10204>        [IaRECimp=   4.00: IaRECper=   4.00]
10205>        {SMIN= 33.81: SMAX=225.43: Sk= .010}
10206> R0025:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10207>     COMPUTE DUALHYD        1.0 01:A12           12.29    1.704 No_date   28:01   49.75  n/a     .000
10208>       Major System   /     1.0 02:A12-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10209>       Minor System   \     1.0 03:A12-MN        12.29    1.029 No_date   27:52   49.91  n/a     .000
10210>       {MjSysSto=.3558E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10211> R0025:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10212>     CONTINUOUS STANDHYD    1.0 01:A13            2.59     .435 No_date   28:01   60.02 .807     .000
10213>        [XIMP=.71:TIMP=.71]
10214>        [LOSS= 2 :CN= 75.0]
10215>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10216>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
10217>        [IaRECimp=   4.00: IaRECper=   4.00]
10218>        [SMIN= 33.81: SMAX=225.43: Sk= .010]
10219> R0025:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10220>     COMPUTE DUALHYD        1.0 01:A13            2.59     .435 No_date   28:01   60.02  n/a     .000
10221>       Major System   /     1.0 02:A13-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10222>       Minor System   \     1.0 03:A13-MN         2.59     .435 No_date   28:01   60.02  n/a     .000
10223> R0025:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10224>     CONTINUOUS STANDHYD    1.0 01:Pond-Block     2.94     .375 No_date   28:00   47.01 .632     .000
10225>        [XIMP=.41:TIMP=.41]
10226>        [LOSS= 2 :CN= 75.0]
10227>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10228>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
10229>        [IaRECimp=   4.00: IaRECper=   4.00]
10230>        [SMIN= 33.81: SMAX=225.43: Sk= .010]
10231> R0025:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10232>     ADD HYD                1.0 02:119-108       128.65    5.354 No_date   28:04   50.61  n/a     .000
10233>                      +     1.0 02:A13-MN          2.59     .435 No_date   28:01   60.02  n/a     .000
10234>                      +     1.0 02:A12-MN         12.29    1.029 No_date   27:52   49.91  n/a     .000
10235>                    SUM=    1.0 01:MH108         143.53    6.791 No_date   28:03   50.72  n/a     .000
10236> R0025:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10237>     SAVE HYD               1.0 01:MH108         143.53    6.791 No_date   28:03   50.72  n/a     .000
10238>        fname :MH108.0025
10239>        remark:Total Flows at MH108
10240> R0025:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10241>     ROUTE PIPE      ->     1.0 02:MH108         143.53    6.791 No_date   28:03   50.72  n/a     .000
10242> *   [RDT= 1.00] out<-    1.0 01:108-116       143.53    6.772 No_date   28:04   50.72  n/a     .000
10243>        [L/S/n=   77./ .130/.013]
10244>        {Vmax= 2.100:Dmax= 1.770}
10245>        {Din= 1.80:Dused= 2.17}
10246> R0025:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10247>     ROUTE PIPE      ->     1.0 02:108-116       143.53    6.772 No_date   28:04   50.72  n/a     .000
10248> *   [RDT= 1.00] out<-    1.0 01:116-corrig    143.53    6.762 No_date   28:05   50.72  n/a     .000
10249>        [L/S/n=   80./ .130/.013]
10250>        {Vmax= 2.098:Dmax= 1.770}
10251>        {Din= 1.80:Dused= 2.16}
10252> R0025:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10253>     ADD HYD                1.0 02:116-corrig    143.53    6.762 No_date   28:05   50.72  n/a     .000
10254>                      +     1.0 02:Pond-Block      2.94     .375 No_date   28:00   47.01  n/a     .000
10255>                    SUM=    1.0 01:Corrigan      146.47    7.034 No_date   28:04   50.65  n/a     .000
10256> R0025:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10257>     SAVE HYD               1.0 01:Corrigan      146.47    7.034 No_date   28:04   50.65  n/a     .000
10258>        fname :Corrigan.0025
10259>        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
10260> R0025:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10261>     ROUTE RESERVOIR ->     1.0 02:Corrigan      146.47    7.034 No_date   28:04   50.65  n/a     .000
10262>                  out <=    1.0 01:Co-P          146.47    6.458 No_date   28:16   50.64  n/a     .000
10263>              overflow <=   1.0 03:Co-P-OVF        .00     .000 No_date    0:00    .00  n/a     .000
10264>       {MxStoUsed=.1034E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
10265> R0025:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10266>     ADD HYD                1.0 02:Co-P-OVF        .00     .000 No_date    0:00    .00  n/a     .000
10267>                      +     1.0 02:Co-P          146.47    6.458 No_date   28:16   50.64  n/a     .000
10268>                      +     1.0 02:N_TO        54838.44  110.461 No_date   36:21   29.14  n/a     .000
10269>                      +     1.0 02:MH105-JR       33.95    8.167 No_date   28:08   50.23  n/a     .000
10270>                      +     1.0 02:A8-MJ-JR        .00     .000 No_date    0:00    .00  n/a     .000
10271>                      +     1.0 02:A9-MJ           .00     .000 No_date    0:00    .00  n/a     .000
10272>                      +     1.0 02:A10-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10273>                      +     1.0 02:A11-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10274>                      +     1.0 02:A12-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10275>                      +     1.0 02:A13-MJ          .00     .000 No_date    0:00    .00  n/a     .000
10276>                    SUM=    1.0 01:corrig      55018.86  111.029 No_date   36:20   29.21  n/a     .000
10277> R0025:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10278>     SAVE HYD               1.0 01:corrig      55018.86  111.029 No_date   36:20   29.21  n/a     .000
10279>        fname :corrig.0025
10280>        remark:Total Flows at Corrigan Pond
10281> #*************************************************************************
10282> #    Corrigan Pond 1
10283> #    - Rating curve obtained from Barrhaven South MSS modeling
10284> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
10285> #*************************************************************************
10286> #
10287> # Hydrograph from Corrigan Drain routed to Jockvale Road
10288> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
10289> #
10290> R0025:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10291>     ROUTE CHANNEL   ->     1.0 02:corrig      55018.86  111.029 No_date   36:20   29.21  n/a     .000
10292>       [RDT= 1.00] out<-    1.0 01:N_MI        55018.86  111.007 No_date   36:23   29.21  n/a     .000
10293>        [L/S/n=  580./ .445/.045]
10294>        {Vmax= 1.964:Dmax= 1.850}
10295> #*************************************************************************
10296> #    Catchment MILLS
10297> #    - To SWM Facility north of the Jock
10298> #    - Primarily residental development
10299> #*************************************************************************
10300> R0025:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10301>     CONTINUOUS STANDHYD    1.0 01:MILLS         175.99   15.275 No_date   28:07   44.62 .600     .000
10302>        [XIMP=.38:TIMP=.38]
10303>        [LOSS= 2 :CN= 74.0]
10304>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10305>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
10306>        [IaRECimp=   4.00: IaRECper=   4.00]
10307>        {SMIN= 36.67: SMAX=244.49: Sk= .010}
10308> #*************************************************************************
10309> #    Chapman Mills SWM Pond
10310> #    - Rating curve obtained from CCL hydraulic modeling
10311> #*************************************************************************
10312> R0025:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10313>     ROUTE RESERVOIR ->     1.0 02:MILLS         175.99   15.275 No_date   28:07   44.62 n/a       .000
10314>                  out <=    1.0 01:MILL_P        162.60    4.050 No_date   28:16   44.62  n/a     .000
10315>              overflow <=   1.0 01:MIL-OV         13.39    8.160 No_date   28:16   44.62  n/a     .000
10316>       {MxStoUsed=.2310E+01  m3, TotOvfVol=.5973E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
10317> R0025:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10318>     ADD HYD                1.0 02:MIL-OV        13.39    8.160 No_date   28:16   44.62  n/a     .000
10319>                      +     1.0 02:MIL-OV         13.39    8.160 No_date   28:16   44.62  n/a     .000
10320>                      +     1.0 02:MILL_P        162.60    4.050 No_date   28:16   44.62  n/a     .000
10321>                    SUM=    1.0 01:SN_MI       55194.86  111.576 No_date   36:23   29.26  n/a     .000
10322> R0025:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10323>     SAVE HYD               1.0 01:SN_MI       55194.86  111.576 No_date   36:23   29.26  n/a     .000
10324>        fname :SN_MI.0025
10325>        remark:Total Flows at Jockvale Road
10326> #
10327> # Hydrograph from Jockvale Road routed to Heart's Desire
10328> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
10329> #
10330> R0025:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10331>     ROUTE CHANNEL   ->     1.0 02:SN_MI       55194.86  111.576 No_date   36:23   29.26  n/a     .000
10332>       [RDT= 1.00] out<-    1.0 01:N_DE        55194.86  111.136 No_date   36:40   29.26  n/a     .000
10333>        [L/S/n=  1962./ .223/.045]
10334>        {Vmax= 1.515:Dmax= 2.337}
10335> #*************************************************************************
10336> #    Catchment DESIRE
10337> #    - To Jock River (north of the Jock)
10338> #    - Rural-estate subdivision (Heart's Desire Community)
10339> #*************************************************************************
10340> R0025:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10341>     CONTINUOUS STANDHYD    1.0 01:DESIRE         23.78    2.161 No_date   28:03   40.77 .548     .000
10342>        [XIMP=.25:TIMP=.25]
10343>        [LOSS= 2 :CN= 77.0]
10344>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10345>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
10346>        [IaRECimp=   4.00: IaRECper=   4.00]
10347>        [SMIN= 31.15: SMAX=207.66: SK= .010]
10348> #*************************************************************************
10349> #    Catchment JOCKVA
10350> #    - To Jockvale SWM Facility
10351> #    - Residential development & golf course
10352> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
10353> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
10354> #*************************************************************************
10355> R0025:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10356>     CONTINUOUS STANDHYD    1.0 01:JOCKVA        225.13   21.797 No_date   28:07   50.08 .673     .000
10357>        [XIMP=.50:TIMP=.50]
10358>        [LOSS= 2 :CN= 74.0]
10359>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10360>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
10361>        [IaRECimp=   4.00: IaRECper=   4.00]
10362>        [SMIN= 36.67: SMAX=244.49: SK= .010]
10363> R0025:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10364>     ADD HYD                1.0 02:EX-LAND-MN     32.50    2.275 No_date   27:52   50.26  n/a     .000
10365>                      +     1.0 02:JOCKVA        225.13   21.797 No_date   28:07   50.08  n/a     .000
10366>                      +     1.0 02:B2-MJ           .00     .000 No_date    0:00    .00  n/a     .000
10367>                      +     1.0 02:B3-MJ           .00     .000 No_date    0:00    .00  n/a     .000
10368>                    SUM=    1.0 01:JOCKVA-TO     257.63   24.072 No_date   28:07   50.10  n/a     .000
10369> R0025:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10370>     SAVE HYD               1.0 01:JOCKVA-TO     257.63   24.072 No_date   28:07   50.10  n/a     .000
10371>        fname :JOCKVA-TO.0025
10372>        remark:Total Flows at KB first pond
10373> #*************************************************************************
10374> #    Jockvale SWM Facility
10375> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
10376> #*************************************************************************
10377> R0025:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10378>     ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO     257.63   24.072 No_date   28:07   50.10  n/a     .000
10379>                  out <=    1.0 01:JOCK_P        257.63    9.145 No_date   28:37   50.10  n/a     .000
10380>              overflow <=   1.0 03:JO-OVF          .00     .000 No_date    0:00    .00  n/a     .000
10381>       {MxStoUsed=.5425E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
10382> R0025:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10383>     ADD HYD                1.0 02:N_DE        55194.86  111.136 No_date   36:40   29.26  n/a     .000
10384>                      +     1.0 02:DESIRE         23.78    2.161 No_date   28:03   40.77  n/a     .000
10385>                      +     1.0 02:JO-OVF          .00     .000 No_date    0:00    .00  n/a     .000
10386>                      +     1.0 02:JOCK_P        257.63    9.145 No_date   28:37   50.10  n/a     .000
10387>                    SUM=    1.0 01:SN_DE       55476.27  111.989 No_date   36:39   29.36  n/a     .000
10388> R0025:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10389>     SAVE HYD               1.0 01:SN_DE       55476.27  111.989 No_date   36:39   29.36  n/a     .000
10390>        fname :SN_DE.0025
10391>        remark:Total Flows at Heart's Desire
10392> #
10393> # Hydrograph from Heart's Desire routed to Rideau River
10394> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
10395> #
10396> R0025:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10397>     ROUTE CHANNEL   ->     1.0 02:SN_DE       55476.27  111.989 No_date   36:39   29.36  n/a     .000
10398>       [RDT= 1.00] out<-    1.0 01:N1          55476.27  111.973 No_date   36:42   29.36  n/a     .000
10399>        [L/S/n=  563./ .967/.045]
10400>        {Vmax= 2.009:Dmax= 1.172}
10401> #*************************************************************************
10402> #    Catchment S-2
10403> #    - To Jock River (north and south)
10404> #    - Undeveloped floodplain and river
10405> #*************************************************************************
10406> R0025:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10407>     CONTINUOUS NASHYD      1.0 01:S-2           102.94    3.971 No_date   28:20   30.13 .405     .000
10408>        [CN= 72.0: N= 3.00: Tp=  .40]
10409>        [TaREC= 4.00: SMIN= 39.75: SMAX=264.99: Sk= .010]
10410>        [InterEventTime=  12.00]
10411> R0025:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10412>     ADD HYD                1.0 02:N1          55476.27  111.973 No_date   36:42   29.36  n/a     .000
10413>                      +     1.0 02:S-2           102.94    3.971 No_date   28:20   30.13  n/a     .000
10414>                    SUM=    1.0 01:SN_N1       55579.21  112.199 No_date   36:41   29.36  n/a     .000
10415> R0025:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10416>     SAVE HYD               1.0 01:SN_N1       55579.21  112.199 No_date   36:41   29.36  n/a     .000
10417>        fname :SN_N1.0025
10418>        remark:Total Flows at Rideau River
10419> ############################################################################
10420>  ** END OF RUN :  49
10421>
10422> ****************************************************************************
10423>
10424>
10425>
10426>
10427>
10428> RUN#:COMMAND#
10429> R0050:C00001------------------------------------------------------------------------------
10430>      START
10431>        [TZERO =    .00 hrs on        0]
10432>        [METOUT=   2   (1=imperial, 2=metric output)]
10433>        [NSTORM=   1 ]
10434>        [NRUN  = 0050 ]
10435> #*************************************************************************
10436> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
10437> #*************************************************************************
10438> #  Project Name: [Jock River]    Project Number: [1474-16]
10439> #  Date        : 04-03-2021
10440> #  Modeller    : [M.M.]
10441> #  Company     : JFSAinc.
10442> #  License #   : 254927
10443> #*************************************************************************
10444> # CALIBRATION OF SUMMER MODEL PARAMETERS
10445> # USING CONTINUOUS SIMULATIONS
10446> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
10447> # Use data collected from May 1st to July 14, 2003
10448> # 2020-12-30 change TMJSTO = 0.1 in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
10449> # 2020-12-01 correct pond curve values
10450> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
10451> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
10452> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
10453> # ------------------------------------------------------------------------------
10454> R0050:C00002------------------------------------------------------------------------------
10455>      READ STORM
10456>        Filename = storm.001
10457>        Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
10458>        [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
10459> R0050:C00003------------------------------------------------------------------------------
10460>      MODIFY STORM
10461>        [RFACT=  1.00:TSHIFT= 960.00 min]
10462>        [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
10463> R0050:C00004------------------------------------------------------------------------------
10464>      DEFAULT VALUES
10465>        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
10466>        ICASEdv  = 1 (read and print data)
10467>        FileTitle= File comment: [Based onvarious calibration exercises in Onta
10468>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
10469>        Horton's infiltration equation parameters:
10470>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
10471>        Parameters for PERVIOUS surfaces in STANDHYD:
10472>        [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
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10473>       Parameters for IMPERVIOUS surfaces in STANDHYD:
10474>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
10475>       Parameters used in NASHYD:
10476>       [Ia=   4.67 mm] [N= 3.00]
10477>       Average monthly Pan Evaporation data in     (mm)
10478>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
10479>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
10480>       Average monthly Potential Evapotranspiration in     (mm)
10481>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
10482>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
10483> R0050:C00005------------------------------------------------------------------------------------------
10484>       COMPUTE API
10485>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
10486>       [APImax=113.33: APIavg= 67.14: APImin= 44.87]
10487> #
10488> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10489> # of 1.32
10490> R0050:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10491>     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   18.440 No_date   36:55   30.33 .372     .000
10492>       [CN= 64.0: N= 3.00: Tp= 7.13]
10493>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
10494>       [InterEventTime=  12.00]
10495> #
10496> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10497> # of 1.32
10498> R0050:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10499>     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    6.937 No_date   32:34   28.27 .347     .000
10500>       [CN= 61.0: N= 3.00: Tp= 3.76]
10501>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
10502>       [InterEventTime=  12.00]
10503> #
10504> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10505> # of 1.80
10506> R0050:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10507>     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    8.912 No_date   39:59   24.31 .298     .000
10508>       [CN= 55.0: N= 3.00: Tp=11.33]
10509>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
10510>       [InterEventTime=  12.00]
10511> R0050:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10512>     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   16.834 No_date   32:39   36.85 .452     .000
10513>       [CN= 72.0: N= 3.00: Tp= 3.91]
10514>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10515>       [InterEventTime=  12.00]
10516> R0050:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10517>     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    9.061 No_date   29:21   31.73 .389     .000
10518>       [CN= 66.0: N= 3.00: Tp= 1.24]
10519>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10520>       [InterEventTime=  12.00]
10521> #
10522> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10523> # of 1.80
10524> R0050:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10525>     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   12.342 No_date   34:26   31.73 .389     .000
10526>       [CN= 66.0: N= 3.00: Tp= 5.29]
10527>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10528>       [InterEventTime=  12.00]
10529> #
10530> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10531> # of 1.52
10532> R0050:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10533>     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   32.402 No_date   37:52   36.85 .452     .000
10534>       [CN= 72.0: N= 3.00: Tp= 8.00]
10535>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10536>       [InterEventTime=  12.00]
10537> #
10538> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10539> # of 1.75
10540> R0050:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10541>     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   31.024 No_date   39:59   31.73 .389     .000
10542>       [CN= 66.0: N= 3.00: Tp=11.66]
10543>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10544>       [InterEventTime=  12.00]
10545> #
10546> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10547> # of 1.68
10548> R0050:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10549>     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   14.039 No_date   30:53   35.35 .434     .000
10550>       [CN= 70.0: N= 3.00: Tp= 2.51]
10551>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
10552>       [InterEventTime=  12.00]
10553> #
10554> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10555> # of 1.82
10556> R0050:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10557>     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   15.472 No_date   39:59   28.95 .355     .000
10558>       [CN= 62.0: N= 3.00: Tp=11.32]
10559>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
10560>       [InterEventTime=  12.00]
10561> #
10562> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10563> # of 1.80
10564> R0050:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10565>     CONTINUOUS NASHYD     1.0 01:SW_8         131.00    2.740 No_date   28:57   29.64 .364     .000
10566>       [CN= 63.0: N= 3.00: Tp=  .90]
10567>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
10568>       [InterEventTime=  12.00]
10569> #
10570> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10571> # of 1.65
10572> R0050:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10573>     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   18.180 No_date   38:32   31.73 .389     .000
10574>       [CN= 66.0: N= 3.00: Tp= 8.42]
10575>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10576>       [InterEventTime=  12.00]
10577> #
10578> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10579> # of 1.82
10580> R0050:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10581>     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   13.937 No_date   36:23   25.61 .314     .000
10582>       [CN= 57.0: N= 3.00: Tp= 6.65]
10583>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
10584>       [InterEventTime=  12.00]
10585> #
10586> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10587> # of 1.75
10588> R0050:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10589>     CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.285 No_date   33:02   32.44 .398     .000
10590>       [CN= 67.0: N= 3.00: Tp= 4.18]
10591>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
10592>       [InterEventTime=  12.00]
10593> #
10594> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10595> # of 1.67
10596> R0050:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10597>     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    9.332 No_date   35:12   36.85 .452     .000
10598>       [CN= 72.0: N= 3.00: Tp= 5.95]
10599>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10600>       [InterEventTime=  12.00]
10601> R0050:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10602>     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    8.187 No_date   28:45   41.51 .509     .000
10603>       [CN= 77.0: N= 3.00: Tp=  .75]
10604>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
10605>       [InterEventTime=  12.00]
10606> #
10607> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10608> # of 1.20
10609> R0050:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10610>     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   44.623 No_date   33:18   38.37 .471     .000
10611>       [CN= 74.0: N= 3.00: Tp= 4.45]
10612>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
10613>       [InterEventTime=  12.00]
10614> R0050:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10615>     CONTINUOUS NASHYD     1.0 01:SW_SA2       20.00      .943 No_date   28:35   45.60 .560     .000
10616>       [CN= 81.0: N= 3.00: Tp=  .62]
10617>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
10618>       [InterEventTime=  12.00]
10619> #
10620> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10621> # of 1.61
10622> R0050:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10623>     CONTINUOUS NASHYD     1.0 01:SW_SA1      1412.00    8.794 No_date   37:48   39.93 .490     .000
10624>       [CN= 75.0: N= 3.00: Tp= 8.00]
10625>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
10626>       [InterEventTime=  12.00]
10627> R0050:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10628>     CONTINUOUS NASHYD     1.0 01:SW_4         585.00   12.896 No_date   29:55   45.60 .560     .000
10629>       [CN= 81.0: N= 3.00: Tp= 1.75]
10630>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
10631>       [InterEventTime=  12.00]
10632> R0050:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10633>     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   17.059 No_date   30:46   44.77 .549     .000
10634>       [CN= 80.0: N= 3.00: Tp= 2.46]
10635>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
10636>       [InterEventTime=  12.00]
10637> R0050:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10638>     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    6.469 No_date   28:45   41.51 .509     .000
10639>       [CN= 77.0: N= 3.00: Tp=  .75]
10640>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
10641>       [InterEventTime=  12.00]
10642> R0050:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10643>     CONTINUOUS NASHYD     1.0 01:SW_DR       1122.00   15.544 No_date   31:43   45.60 .560     .000
10644>       [CN= 81.0: N= 3.00: Tp= 3.25]
10645>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
10646>       [InterEventTime=  12.00]
10647> R0050:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10648>     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   34.946 No_date   31:29   40.72 .500     .000
10649>       [CN= 76.0: N= 3.00: Tp= 3.03]
10650>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
10651>       [InterEventTime=  12.00]
10652> #
10653> # Routing hydrographs
10654> #
10655> # Starting with the addition of Jock River Headwater and Subwatershed 13
10656> #
10657> R0050:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10658>     ADD HYD               1.0 02:JR_HW       3680.00   18.440 No_date   36:55   30.33  n/a     .000
10659>                       +   1.0 02:SW_13        971.00    6.937 No_date   32:34   28.27  n/a     .000
10660>                           SUM=     1.0 01:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
10661> #
10662> # Sum of hydrographs from Node 13 routed to Node 13A
10663> # (Approximated cross-section - see cross-section 258)
10664> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
10665> #
10666> R0050:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10667>     ROUTE CHANNEL     ->    1.0 02:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
10668>       [RDT= 1.00] out<-     1.0 01:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
10669>       [L/S/n= 9074./ .022/.040]
10670>       {Vmax=  .574:Dmax= 3.920}
10671> #
10672> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
10673> #
10674> R0050:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10675>     ADD HYD               1.0 02:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
10676>                       +   1.0 02:JR_GWM      3074.00    8.912 No_date   39:59   24.31  n/a     .000
10677>                           SUM=     1.0 01:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
10678> #
10679> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
10680> #
10681> R0050:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10682>     ROUTE RESERVOIR   ->    1.0 02:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
10683>                       out <=    1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
10684>       {MxStoUsed=.1481E+03  m3}
10685> #
10686> R0050:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10687>     SAVE HYD              1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
10688>       fname :H_RESGM
10689>       remark:Outflow from Res GM
10690> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
10691> # (Approximated cross-section - see cross-section 258)
10692> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
10693> R0050:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10694>     ROUTE CHANNEL     ->    1.0 02:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
10695>       [RDT= 1.00] out<-     1.0 01:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
10696>       [L/S/n= 5926./ .076/.040]
10697>       {Vmax=  .556:Dmax= 1.541}
10698> #
10699> # Addition of Subwatershed Jock River at Ashton to Node 12
10700> #
10701> R0050:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10702>     ADD HYD               1.0 02:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
10703>                       +   1.0 02:JR_ASH      1781.00   16.834 No_date   32:39   36.85  n/a     .000
10704>                           SUM=     1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
10705> R0050:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10706>     SAVE HYD              1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
10707>       fname :H_SN12
10708>       remark:flow at S_N12 near Ashton
10709> #
10710> # Sum of hydrographs from Node 12 routed to Node 11
10711> # (Approximated cross-section - see cross-section 258)
10712> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
10713> #
10714> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
10715> #
10716> R0050:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10717>     ROUTE CHANNEL     ->    1.0 02:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
10718>       [RDT= 1.00] out<-     1.0 01:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
10719>       [L/S/n=  972./ .054/.040]
10720>       {Vmax=  .751:Dmax= 3.029}
10721> #
10722> # Addition of Subwatershed 11 and No Name Creek to Node 11
10723> #
10724> R0050:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10725>     ADD HYD               1.0 02:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
10726>                       +   1.0 02:SW_11        500.00    9.061 No_date   29:21   31.73  n/a     .000
10727>                       +   1.0 02:NN_CK       1917.00   12.342 No_date   34:26   31.73  n/a     .000
10728>                           SUM=     1.0 01:S_N11       11923.00   32.851 No_date   33:00   29.87  n/a     .000
10729> #
10730> # Sum of hydrographs from Node 11 routed to Node 10
10731> # Section 1
10732> #
10733> R0050:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10734>     ROUTE CHANNEL     ->    1.0 02:S_N11       11923.00   32.851 No_date   33:00   29.87  n/a     .000
10735>       [RDT= 1.00] out<-     1.0 01:N10         11923.00   20.490 No_date   40:02   29.87  n/a     .000
10736>       [L/S/n=14828./ .157/.040]
10737>       {Vmax=  .474:Dmax= 1.423}
10738> #
10739> # Addition of Subwatershed 10 to Node 10
10740> #
10741> R0050:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10742>     ADD HYD               1.0 02:N10         11923.00   20.490 No_date   40:02   29.87  n/a     .000
10743>                       +   1.0 02:SW_10       5666.00   32.402 No_date   37:52   36.85  n/a     .000
10744>                           SUM=     1.0 01:S_N10       17589.00   52.600 No_date   38:19   32.12  n/a     .000
10745> R0050:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10746>     SAVE HYD              1.0 01:S_N10       17589.00   52.600 No_date   38:19   32.12  n/a     .000
10747>       fname :H_SN10
10748>       remark:flow at S_N10: N10 + SW_10
10749> # Addition of Kings Creek to S_N10
10750> #
10751> R0050:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10752>     ADD HYD               1.0 02:S_N10       17589.00   52.600 No_date   38:19   32.12  n/a     .000
10753>                       +   1.0 02:KG_CK       8376.00   31.024 No_date   39:59   31.73  n/a     .000
10754>                           SUM=     1.0 01:S_N10A      25965.00   82.746 No_date   39:45   31.99  n/a     .000
10755> #
10756> # Sum of hydrographs from Node 10 routed to Node 9
10757> # Section 2
10758> #
10759> R0050:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10760>     ROUTE CHANNEL     ->    1.0 02:S_N10A      25965.00   82.746 No_date   39:45   31.99  n/a     .000
10761>       [RDT= 1.00] out<-     1.0 01:N9          25965.00   80.980 No_date   39:59   31.99  n/a     .000
10762>       [L/S/n= 3982./ .075/.040]
10763>       {Vmax=  .744:Dmax= 2.015}
10764> #
10765> # Addition of Subwatershed 9 and Nichols Creek to Node 9
10766> #
10767> R0050:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10768>     ADD HYD               1.0 02:N9          25965.00   80.980 No_date   39:59   31.99  n/a     .000
10769>                       +   1.0 02:SW_9        1132.00   14.039 No_date   30:53   35.35  n/a     .000
10770>                       +   1.0 02:NC_CK       4464.00   15.472 No_date   39:59   28.95  n/a     .000
10771>                           SUM=     1.0 01:S_N9        31561.00   99.424 No_date   39:59   31.68  n/a     .000
10772> #
10773> # Sum of hydrographs from Node 9 routed to Node 8
10774> # Section 3
10775> #
10776> R0050:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10777>     ROUTE CHANNEL     ->    1.0 02:S_N9        31561.00   99.424 No_date   39:59   31.68  n/a     .000
10778>       [RDT= 1.00] out<-     1.0 01:N8          31561.00   93.665 No_date   39:59   31.68  n/a     .000
10779>       [L/S/n= 2269./ .088/.045]
10780>       {Vmax=  .367:Dmax= 1.834}
10781> #
10782> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
10783> #
10784> R0050:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10785>     ADD HYD               1.0 02:N8          31561.00   93.665 No_date   39:59   31.68  n/a     .000
10786>                       +   1.0 02:SW_8         131.00    2.740 No_date   28:57   29.64  n/a     .000
10787>                       +   1.0 02:HB_DR       3854.00   18.180 No_date   38:32   31.73  n/a     .000
10788>                           SUM=     1.0 01:S_N8        35546.00  111.843 No_date   39:59   31.68  n/a     .000
10789> #
10790> # Sum of hydrographs from Node 8 routed to Node 7
10791> # Section 4
10792> #
10793> R0050:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10794>     ROUTE CHANNEL     ->    1.0 02:S_N8        35546.00  111.843 No_date   39:59   31.68  n/a     .000
10795>       [RDT= 1.00] out<-     1.0 01:N7          35546.00   95.475 No_date   44:55   31.68  n/a     .000
10796>       [L/S/n= 3750./ .053/.070]
10797>       {Vmax=  .231:Dmax= 2.290}
10798> #
10799> # Addition of Subwatershed 7 to Node 7
10800> #
10801> R0050:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10802>     ADD HYD               1.0 02:N7          35546.00   95.475 No_date   44:55   31.68  n/a     .000
10803>                       +   1.0 02:SW_7        3197.00   13.937 No_date   36:23   25.61  n/a     .000
10804>                           SUM=     1.0 01:S_N7        38743.00  102.892 No_date   43:46   31.18  n/a     .000
10805> R0050:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10806>     SAVE HYD              1.0 01:S_N7        38743.00  102.892 No_date   43:46   31.18  n/a     .000
10807>       fname :H_SN7
10808>       remark:flow at S_N7: N7 + SW_7
10809> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
10810> # Storage area and volumes were estimated from available topo maps.
10811> # Release rate from fen was assumed to be controlled by the downstream
10812> # river cross-section for summer conditions.  It is was assumed that for up to
10813> # 0.75 m of water, the main channel of the river provided the storage.  Above
10814> # this depth, the wetland starts to signigicantly store water.
10815> #
10816> R0050:C00051-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10817>     ROUTE RESERVOIR   ->    1.0 02:S_N7        38743.00  102.892 No_date   43:46   31.18  n/a     .000
10818>                       out <=    1.0 01:RES_RF      38743.00   52.029 No_date   59:07   31.18  n/a     .000
10819>       {MxStoUsed=.4394E+03  m3}
10820> R0050:C00052-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10821>     SAVE HYD              1.0 01:RES_RF      38743.00   52.029 No_date   59:07   31.18  n/a     .000
10822>       fname :H_ResRF
10823>       remark:outflow of Richmond Fen
10824> #
10825> # Sum of hydrographs from Node 7 routed to Node 6
10826> # Section 5
10827> #
10828> R0050:C00053-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10829>     ROUTE CHANNEL     ->    1.0 02:RES_RF      38743.00   52.029 No_date   59:07   31.18  n/a     .000
10830>       [RDT= 1.00] out<-     1.0 01:N6          38743.00   51.784 No_date   60:27   31.18  n/a     .000
10831>       [L/S/n= 3056./ .082/.025]
10832>       {Vmax=  .538:Dmax= 1.253}
10833> #
10834> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
10835> #
10836> R0050:C00054-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10837>     ADD HYD               1.0 02:N6          38743.00   51.784 No_date   60:27   31.18  n/a     .000
10838>                       +   1.0 02:SW_6         165.00    1.285 No_date   33:02   32.44  n/a     .000
10839>                       +   1.0 02:VG_DR       1332.00    9.332 No_date   35:12   36.85  n/a     .000
10840>                           SUM=     1.0 01:S_N6        40240.01   51.810 No_date   60:20   31.37  n/a     .000
10841> #
10842> # Sum of hydrographs from Node 6 routed to Node 5
10843> # Section 6
10844> #
10845> R0050:C00055-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10846>     ROUTE CHANNEL     ->    1.0 02:S_N6        40240.01   51.810 No_date   60:20   31.37  n/a     .000
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10847>      [RDT= 1.00] out<-    1.0 01:N5          40240.01   51.693 No_date   61:06   31.37  n/a     .000
10848>       {L/S/n= 1852./ .054/.035]
10849>       {Vmax=  .469:Dmax= 1.351}
10850> #
10851> # Addition of Subwatershed 5 and Flowing Creek to Node 5
10852> #
10853> R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10854>     ADD HYD              1.0 02:N5          40240.01   51.693 No_date   61:06   31.37  n/a     .000
10855>                    +     1.0 02:SW_5          224.00    8.187 No_date   28:45   41.51  n/a     .000
10856>                    +     1.0 02:FL_CK        4945.00   44.623 No_date   33:18   38.37  n/a     .000
10857>                SUM=      1.0 01:S_N5        45409.01   71.514 No_date   34:20   32.18  n/a     .000
10858> #
10859> # Sum of hydrographs from Node 5 routed to Node 5A
10860> # Section 7
10861> #
10862> R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10863>     ROUTE CHANNEL    ->    1.0 02:S_N5        45409.01   71.514 No_date   34:20   32.18  n/a     .000
10864>      [RDT= 1.00] out<-    1.0 02:N1_5A       45409.01   71.311 No_date   34:15   32.18  n/a     .000
10865>       {L/S/n=  556./ .090/.040]
10866>       {Vmax=  .530:Dmax= 1.290}
10867> #
10868> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
10869> #
10870> R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10871>     ADD HYD              1.0 02:N5A         45409.01   71.311 No_date   34:15   32.18  n/a     .000
10872>                    +     1.0 02:SW_5A2         20.00     .943 No_date   28:35   45.60  n/a     .000
10873>                    +     1.0 02:NO_5A1       1412.00    8.794 No_date   37:48   35.93  n/a     .000
10874>                SUM=      1.0 01:S_N5A       46841.01   79.247 No_date   34:46   32.42  n/a     .000
10875> #
10876> # Sum of hydrographs from Node 5A routed to Node 4
10877> # Section 8
10878> #
10879> R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10880>     ROUTE CHANNEL    ->    1.0 02:S_N5A       46841.01   79.247 No_date   34:46   32.42  n/a     .000
10881>      [RDT= 1.00] out<-    1.0 01:N4          46841.01   75.833 No_date   36:02   32.42  n/a     .000
10882>       {L/S/n= 4630./ .043/.035]
10883>       {Vmax=  .874:Dmax= 3.702}
10884> #
10885> # Addition of Subwatershed 4 and Leamy Creek to Node 4
10886> #
10887> R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10888>     ADD HYD              1.0 02:N4          46841.01   75.833 No_date   36:02   32.42  n/a     .000
10889>                    +     1.0 02:SW_4          585.00   12.896 No_date   29:55   45.60  n/a     .000
10890>                    +     1.0 02:LM_CK        1021.00   17.059 No_date   30:46   44.77  n/a     .000
10891>                SUM=      1.0 01:S_N4        48447.00   84.908 No_date   35:20   32.84  n/a     .000
10892> R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10893>     SAVE HYD             1.0 01:S_N4        48447.00   84.908 No_date   35:20   32.84  n/a     .000
10894>       fname :S_N4.0050
10895>       remark:flow at S_N4
10896> #
10897> # Sum of hydrographs from Node 4 routed to Node 2
10898> # Section 9
10899> #
10900> R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10901>     ROUTE CHANNEL    ->    1.0 02:S_N4        48447.00   84.908 No_date   35:20   32.84  n/a     .000
10902>      [RDT= 1.00] out<-    1.0 01:N2          48447.00   84.582 No_date   35:30   32.84  n/a     .000
10903>       {L/S/n= 1667./ .060/.040]
10904>       {Vmax=  .909:Dmax= 3.749}
10905> #
10906> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
10907> #
10908> R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10909>     ADD HYD              1.0 02:N2          48447.00   84.582 No_date   35:30   32.84  n/a     .000
10910>                    +     1.0 02:SW_2          177.00    6.469 No_date   28:45   41.51  n/a     .000
10911>                    +     1.0 02:SM_DR        1122.00   15.544 No_date   31:43   45.60  n/a     .000
10912>                    +     1.0 02:MO_DR        2737.00   34.946 No_date   31:29   40.72  n/a     .000
10913>                SUM=      1.0 01:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
10914> R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10915>     SAVE HYD             1.0 01:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
10916>       fname :H_SN2
10917>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
10918> #
10919> # Sum of hydrographs from Node 2 routed to Node 1
10920> # Section 10
10921> #
10922> #*******************************************************************************
10923> #
10924> # Hydrograph from Node 2 routed to Node 416
10925> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
10926> #
10927> R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10928>     ROUTE CHANNEL    ->    1.0 02:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
10929>      [RDT= 1.00] out<-    1.0 01:N_416       52483.00  120.589 No_date   33:57   33.56  n/a     .000
10930>       {L/S/n= 2327./ .050/.055]
10931>       {Vmax=  .781:Dmax= 3.561}
10932> #*******************************************************************************
10933> #    Catchment SW-1a
10934> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
10935> #    - Undeveloped agricultural land
10936> #*******************************************************************************
10937> R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10938>     CONTINUOUS NASHYD    1.0 01:SW_1a       536.42    6.175 No_date   31:15   35.39 .434    .000
10939>       [CN= 72.0: N= 3.00: Tp= 2.79]
10940>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10941>       [InterEventTime=  12.00]
10942> R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10943>     CONTINUOUS NASHYD    1.0 01:S-1-Okeefe    44.93    1.231 No_date   29:06   39.91 .490    .000
10944>       [CN= 77.0: N= 3.00: Tp= 1.05]
10945>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
10946>       [InterEventTime=  12.00]
10947> R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10948>     ADD HYD              1.0 02:N_416       52483.00  120.589 No_date   33:57   33.56  n/a     .000
10949>                    +     1.0 02:SW_1a         536.42    6.175 No_date   31:15   35.39  n/a     .000
10950>                    +     1.0 02:S-1-Okeefe    44.93    1.231 No_date   29:06   39.91  n/a     .000
10951>                SUM=      1.0 01:SN_416      53064.36  125.484 No_date   33:19   33.58  n/a     .000
10952> R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10953>     SAVE HYD             1.0 01:SN_416      53064.36  125.484 No_date   33:19   33.58  n/a     .000
10954>       fname :SN_416.0050
10955>       remark:Total Flows at Highway 416
10956> #
10957> # Hydrograph from Node 416 routed to Node at Okeefe drain
10958> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
10959> #
10960> R0050:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10961>     ROUTE CHANNEL    ->    1.0 02:SN_416      53064.36  125.484 No_date   33:19   33.58  n/a     .000
10962>      [RDT= 1.00] out<-    1.0 01:N_OK        53064.36  125.374 No_date   33:43   33.58  n/a     .000
10963>       {L/S/n=  497./ .302/.055]
10964>       {Vmax= 1.649:Dmax= 3.038}
10965> #*******************************************************************************
10966> #    Catchment OKEEFE
10967> #    - To O'Keefe drain (north of the Jock)
10968> #    - Developed with assumed 43% imp.
10969> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
10970> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
10971> #*******************************************************************************
10972> R0050:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10973>     CONTINUOUS NASHYD    1.0 01:O-1         63.72    1.147 No_date   28:58   26.31 .323    .000
10974>       [CN= 61.0: N= 3.00: Tp=  .90]
10975>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
10976>       [InterEventTime=  12.00]
10977> R0050:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10978>     ROUTE CHANNEL    ->    1.0 02:O-1         63.72    1.147 No_date   28:58   26.31  n/a     .000
10979>      [RDT= 1.00] out<-    1.0 01:O-1R        63.72    1.084 No_date   29:14   26.31  n/a     .000
10980>       [L/S/n=  960./ .630/.040]
10981>       {Vmax=  .880:Dmax=  .445}
10982> R0050:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10983>     CONTINUOUS NASHYD    1.0 01:O-2         28.61     .404 No_date   29:13   24.30 .298    .000
10984>       [CN= 57.0: N= 3.00: Tp= 1.10]
10985>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
10986>       [InterEventTime=  12.00]
10987> R0050:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10988>     CONTINUOUS NASHYD    1.0 01:O-4         46.94     .531 No_date   29:00   18.55 .228    .000
10989>       [CN= 49.0: N= 3.00: Tp=  .90]
10990>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
10991>       [InterEventTime=  12.00]
10992> R0050:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10993>     ADD HYD              1.0 02:O-1R        63.72    1.084 No_date   29:14   26.31  n/a     .000
10994>                    +     1.0 02:O-2         28.61     .404 No_date   29:13   24.30  n/a     .000
10995>                    +     1.0 02:O-4         46.94     .531 No_date   29:00   18.55  n/a     .000
10996>                SUM=      1.0 01:OKF-N      139.27    2.005 No_date   29:11   23.28  n/a     .000
10997> R0050:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10998>     ROUTE CHANNEL    ->    1.0 02:OKF-N       139.27    2.005 No_date   29:11   23.28  n/a     .000
10999>      [RDT= 1.00] out<-    1.0 01:OKF-NR      139.27    2.004 No_date   29:13   23.28  n/a     .000
11000>       [L/S/n=  210./ .810/.043]
11001>       {Vmax= 1.081:Dmax=  .751}
11002> R0050:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11003>     CONTINUOUS NASHYD    1.0 01:O-6         16.46     .179 No_date   28:45   15.94 .196    .000
11004>       [CN= 43.0: N= 3.00: Tp=  .70]
11005>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
11006>       [InterEventTime=  12.00]
11007> R0050:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11008>     CONTINUOUS STANDHYD   1.0 01:O-3         39.67    1.212 No_date   28:22   28.54 .350    .000
11009>       [XIMP=.15:TIMP=.30]
11010>       [LOSS= 2 :CN= 50.0]
11011>       [Pervious     area: IAper= 4.67:SLPP=  .32:LGP= 440.:MNP=.035:SCP=   .0]
11012>       [Impervious   area: IAimp= 1.57:SLPI=  .32:LGI=1880.:MNI=.013:SCI=   .0]
11013>       [IaRECimp=   4.00: IaRECper=   4.00]
11014>       [SMIN= 99.77: SMAX=665.12: SK= .010]
11015> R0050:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11016>     CONTINUOUS STANDHYD   1.0 01:O-5         60.63    3.085 No_date   28:10   32.89 .403    .000
11017>       [XIMP=.13:TIMP=.26]
11018>       [LOSS= 2 :CN= 61.0]
11019>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
11020>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
11021>       [IaRECimp=   4.00: IaRECper=   4.00]
11022>       [SMIN= 64.50: SMAX=430.01: SK= .010]
11023> R0050:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11024>     ADD HYD              1.0 02:OKF-NR      139.27    2.004 No_date   29:13   23.28  n/a     .000
11025>                    +     1.0 02:O-3         39.67    1.212 No_date   28:22   28.54  n/a     .000
11026>                    +     1.0 02:O-5         60.63    3.085 No_date   28:10   32.89  n/a     .000
11027>                    +     1.0 02:O-6         16.46     .179 No_date   28:45   15.94  n/a     .000
11028>                SUM=      1.0 01:PT1        256.03    4.968 No_date   28:20   25.90  n/a     .000
11029> R0050:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11030>     CONTINUOUS NASHYD    1.0 01:O-7          5.28     .096 No_date   28:37   21.46 .263    .000
11031>       [CN= 54.0: N= 3.00: Tp=  .60]
11032>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
11033>       [InterEventTime=  12.00]
11034> R0050:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11035>     ADD HYD              1.0 02:PT1         256.03    4.968 No_date   28:20   25.90  n/a     .000
11036>                    +     1.0 02:O-7          5.28     .096 No_date   28:37   21.46  n/a     .000
11037>                SUM=      1.0 01:FF          261.31    5.051 No_date   28:20   25.81  n/a     .000
11038> R0050:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11039>     ROUTE CHANNEL    ->    1.0 02:FF          261.31    5.051 No_date   28:20   25.81  n/a     .000
11040>      [RDT= 1.00] out<-    1.0 01:DRAIN1      261.31    4.883 No_date   28:25   25.81  n/a     .000
11041>       [L/S/n=  302./1.000/.043]
11042>       {Vmax=  .822:Dmax=  .759}
11043> R0050:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11044>     CONTINUOUS NASHYD    1.0 01:D1           1.17     .094 No_date   28:12   43.70 .536    .000
11045>       [CN= 84.0: N= 3.00: Tp=  .28]
11046>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
11047>       [InterEventTime=  12.00]
11048> R0050:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11049>     CONTINUOUS STANDHYD   1.0 01:A1          2.50     .517 No_date   28:01   64.42 .790    .000
11050>       [XIMP=.68:TIMP=.85]
11051>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11052>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11053>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 224.:MNI=.013:SCI=   .0]
11054>       [IaRECimp=   4.00: IaRECper=   4.00]
11055> R0050:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11056>     ROUTE RESERVOIR  ->    1.0 02:A1          2.50     .517 No_date   28:01   64.42  n/a     .000
11057>                 out <=    1.0 01:A1-STR      2.50     .146 No_date   28:19   64.42  n/a     .000
11058>            overflow <=    1.0 03:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
11059>     {MxStoUsed=.7243E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11060> R0050:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11061>     CONTINUOUS STANDHYD   1.0 01:ST-2          .59     .103 No_date   28:00   50.67 .622    .000
11062>       [XIMP=.46:TIMP=.57]
11063>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11064>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11065>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 109.:MNI=.013:SCI=   .0]
11066>       [IaRECimp=   4.00: IaRECper=   4.00]
11067> R0050:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11068>     ROUTE RESERVOIR  ->    1.0 02:ST-2          .59     .103 No_date   28:00   50.67  n/a     .000
11069>                 out <=    1.0 01:ST2STR        .59     .052 No_date   28:11   50.67  n/a     .000
11070>            overflow <=    1.0 03:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
11071>     {MxStoUsed=.3952E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11072> R0050:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11073>     CONTINUOUS NASHYD    1.0 01:O-8          60.55    1.383 No_date   29:04   33.66 .413    .000
11074>       [CN= 69.0: N= 3.00: Tp= 1.00]
11075>       [IaREC= 4.00: SMIN= 44.02: SMAX=298.82: SK= .010]
11076>       [InterEventTime=  12.00]
11077> R0050:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11078>     ROUTE PIPE       ->    1.0 02:O-8          60.55    1.383 No_date   29:04   33.66  n/a     .000
11079>      [RDT= 1.00] out<-    1.0 01:O8PIPE       60.55    1.376 No_date   29:07   33.66  n/a     .000
11080>       [L/S/n=  335./ .100/.013]
11081>       {Vmax= 1.244:Dmax=  .617}
11082>       {HGT= 1.20:WDTH= 1.80}
11083> R0050:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11084>     ADD HYD              1.0 02:DRAIN1      261.31    4.883 No_date   28:25   25.81  n/a     .000
11085>                    +     1.0 02:D1           1.17     .094 No_date   28:12   43.70  n/a     .000
11086>                    +     1.0 02:A1-STR       2.50     .146 No_date   28:19   64.42  n/a     .000
11087>                    +     1.0 02:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
11088>                    +     1.0 02:ST2STR        .59     .052 No_date   28:11   50.67  n/a     .000
11089>                    +     1.0 02:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
11090>                    +     1.0 02:O8PIPE       60.55    1.376 No_date   29:07   33.66  n/a     .000
11091>                SUM=      1.0 01:ST2-IN      326.12    6.061 No_date   28:35   27.67  n/a     .000
11092> R0050:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11093>     CONTINUOUS STANDHYD   1.0 01:A7          3.51     .704 No_date   28:01   64.42 .790    .000
11094>       [XIMP=.68:TIMP=.85]
11095>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11096>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11097>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 265.:MNI=.013:SCI=   .0]
11098>       [IaRECimp=   4.00: IaRECper=   4.00]
11099> R0050:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11100>     ROUTE RESERVOIR  ->    1.0 02:A7          3.51     .704 No_date   28:01   64.42  n/a     .000
11101>                 out <=    1.0 01:A7-STR      3.51     .199 No_date   28:21   64.42  n/a     .000
11102>            overflow <=    1.0 03:A7-OVF       .00     .000 No_date    0:00     .00  n/a     .000
11103>     {MxStoUsed=.1019E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11104> R0050:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11105>     CONTINUOUS STANDHYD   1.0 01:ST-3          .71     .123 No_date   28:00   50.67 .622    .000
11106>       [XIMP=.46:TIMP=.57]
11107>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11108>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11109>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 119.:MNI=.013:SCI=   .0]
11110>       [IaRECimp=   4.00: IaRECper=   4.00]
11111> R0050:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11112>     ROUTE RESERVOIR  ->    1.0 02:ST-3          .71     .123 No_date   28:00   50.67  n/a     .000
11113>                 out <=    1.0 01:ST3STR        .71     .063 No_date   28:11   50.67  n/a     .000
11114>            overflow <=    1.0 03:ST3OVF       .00     .000 No_date    0:00     .00  n/a     .000
11115>     {MxStoUsed=.4527E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11116> R0050:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11117>     ADD HYD              1.0 02:ST2-IN      326.12    6.061 No_date   28:35   27.67  n/a     .000
11118>                    +     1.0 02:A7-STR       3.51     .199 No_date   28:21   64.42  n/a     .000
11119>                    +     1.0 02:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
11120>                    +     1.0 02:ST3STR        .71     .063 No_date   28:11   50.67  n/a     .000
11121>                    +     1.0 02:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
11122>                SUM=      1.0 01:PT2ST3      330.34    6.299 No_date   28:33   28.11  n/a     .000
11123> R0050:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11124>     ROUTE CHANNEL    ->    1.0 02:PT2ST3      330.34    6.299 No_date   28:33   28.11  n/a     .000
11125>      [RDT= 1.00] out<-    1.0 01:DRAIN2      330.34    5.789 No_date   28:58   28.11  n/a     .000
11126>       [L/S/n=  592./ .230/.043]
11127>       {Vmax=  .593:Dmax= 1.152}
11128> R0050:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11129>     CONTINUOUS NASHYD    1.0 01:D2           2.28     .074 No_date   29:02   43.70 .536    .000
11130>       [CN= 84.0: N= 3.00: Tp=  .99]
11131>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
11132>       [InterEventTime=  12.00]
11133> R0050:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11134>     CONTINUOUS STANDHYD   1.0 01:A17         12.04    2.163 No_date   28:03   64.42 .790    .000
11135>       [XIMP=.68:TIMP=.85]
11136>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11137>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11138>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 491.:MNI=.013:SCI=   .0]
11139>       [IaRECimp=   4.00: IaRECper=   4.00]
11140> R0050:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11141>     ROUTE RESERVOIR  ->    1.0 02:A17         12.04    2.163 No_date   28:03   64.42  n/a     .000
11142>                 out <=    1.0 01:A17STR      12.04     .654 No_date   28:27   64.42  n/a     .000
11143>            overflow <=    1.0 03:A17OVF       .00     .000 No_date    0:00     .00  n/a     .000
11144>     {MxStoUsed=.3445E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11145> R0050:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11146>     CONTINUOUS STANDHYD   1.0 01:ST-4          .35     .063 No_date   28:00   50.67 .622    .000
11147>       [XIMP=.46:TIMP=.57]
11148>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11149>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11150>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=  84.:MNI=.013:SCI=   .0]
11151>       [IaRECimp=   4.00: IaRECper=   4.00]
11152> R0050:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11153>     ROUTE RESERVOIR  ->    1.0 02:ST-4          .35     .063 No_date   28:00   50.67  n/a     .000
11154>                 out <=    1.0 01:ST4STR        .35     .031 No_date   28:10   50.67  n/a     .000
11155>            overflow <=    1.0 03:ST4OVF       .00     .000 No_date    0:00     .00  n/a     .000
11156>     {MxStoUsed=.2719E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11157> R0050:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11158>     CONTINUOUS STANDHYD   1.0 01:A18          5.30    1.036 No_date   28:01   64.42 .790    .000
11159>       [XIMP=.68:TIMP=.85]
11160>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11161>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11162>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 326.:MNI=.013:SCI=   .0]
11163>       [IaRECimp=   4.00: IaRECper=   4.00]
11164> R0050:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11165>     ROUTE RESERVOIR  ->    1.0 02:A18          5.30    1.036 No_date   28:01   64.42  n/a     .000
11166>                 out <=    1.0 01:A18STR       5.30     .300 No_date   28:22   64.42  n/a     .000
11167>            overflow <=    1.0 03:A18OVF       .00     .000 No_date    0:00     .00  n/a     .000
11168>     {MxStoUsed=.1532E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11169> R0050:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11170>     ADD HYD              1.0 02:DRAIN2      330.34    5.789 No_date   28:58   28.11  n/a     .000
11171>                    +     1.0 02:D2           2.28     .074 No_date   29:02   43.70  n/a     .000
11172>                    +     1.0 02:A17STR      12.04     .654 No_date   28:27   64.42  n/a     .000
11173>                    +     1.0 02:A17OVF       .00     .000 No_date    0:00     .00  n/a     .000
11174>                    +     1.0 02:ST4STR       .35     .031 No_date   28:10   50.67  n/a     .000
11175>                    +     1.0 02:ST4OVF       .00     .000 No_date    0:00     .00  n/a     .000
11176>                    +     1.0 02:A18STR      5.30     .300 No_date   28:22   64.42  n/a     .000
11177>                    +     1.0 02:A18OVF       .00     .000 No_date    0:00     .00  n/a     .000
11178>                SUM=      1.0 01:PT3ST4      350.31    6.632 No_date   28:55   30.03  n/a     .000
11179> R0050:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11180>     ROUTE CHANNEL    ->    1.0 02:PT3ST4      350.31    6.632 No_date   28:55   30.03  n/a     .000
11181>      [RDT= 1.00] out<-    1.0 01:DRAIN3      350.31    6.350 No_date   29:11   30.03  n/a     .000
11182>       [L/S/n=  525./ .230/.043]
11183>       {Vmax=  .613:Dmax= 1.197}
11184> R0050:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11185>     CONTINUOUS NASHYD    1.0 01:D3           2.51     .113 No_date   28:43   47.27 .580    .000
11186>       [CN= 86.0: N= 3.00: Tp=  .73]
11187>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
11188>       [InterEventTime=  12.00]
11189> R0050:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11190>     CONTINUOUS STANDHYD   1.0 01:C1          3.41     .690 No_date   28:01   64.42 .790    .000
11191>       [XIMP=.68:TIMP=.85]
11192>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11193>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11194>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 261.:MNI=.013:SCI=   .0]
11195>       [IaRECimp=   4.00: IaRECper=   4.00]
11196> R0050:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11197>     ROUTE RESERVOIR  ->    1.0 02:C1          3.41     .690 No_date   28:01   64.42  n/a     .000
11198>                 out <=    1.0 01:C1-STR      3.41     .194 No_date   28:20   64.42  n/a     .000
11199>            overflow <=    1.0 03:C1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
11200>     {MxStoUsed=.9900E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11201> R0050:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11202>     CONTINUOUS STANDHYD   1.0 01:ST-5          .45     .079 No_date   28:00   50.67 .622    .000
11203>       [XIMP=.46:TIMP=.57]
11204>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11205>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
11206>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=  95.:MNI=.013:SCI=   .0]
11207>       [IaRECimp=   4.00: IaRECper=   4.00]
11208> R0050:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11209>     ROUTE RESERVOIR  ->    1.0 02:ST-5          .45     .079 No_date   28:00   50.67  n/a     .000
11210>                 out <=    1.0 01:ST5STR        .45     .040 No_date   28:10   50.67  n/a     .000
11211>            overflow <=    1.0 03:ST5OVF       .00     .000 No_date    0:00     .00  n/a     .000
11212>     {MxStoUsed=.3164E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11213> R0050:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11214>     ADD HYD              1.0 02:DRAIN3      350.31    6.350 No_date   29:11   30.03  n/a     .000
11215>                    +     1.0 02:D3           2.51     .113 No_date   28:43   47.27  n/a     .000
11216>                    +     1.0 02:C1-STR       3.41     .194 No_date   28:20   64.42  n/
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11221> R0050:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11222>      CONTINUOUS STANDHYD    1.0 01:STRAND         7.59     1.038 No_date   28:09   62.95 .772     .000
11223>        [XIMP=.64:TIMP=.85]
11224>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11225>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
11226>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
11227>        [IaREcimp=   4.00: IaRECper=    4.00]
11228> R0050:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11229>      ROUTE RESERVOIR ->     1.0 02:STRAND         7.59     1.038 No_date   28:09   62.95  n/a     .000
11230>                   out <=    1.0 01:S-POND         7.59     .137 No_date   29:13   62.95  n/a     .000
11231>              overflow <=    1.0 03:S-OVF           .00     .000 No_date    0:00    .00  n/a     .000
11232>        {MxStoUsed=.3159E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11233> R0050:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11234>      ADD HYD                1.0 02:ST5-E          356.68    6.575 No_date   29:09   30.51  n/a     .000
11235>                       +     1.0 02:S-POND         7.59     .137 No_date   29:13   62.95  n/a     .000
11236>                       +     1.0 02:S-OVF           .00     .000 No_date    0:00    .00  n/a     .000
11237>                      SUM:   1.0 01:SSAOUT        364.27    6.711 No_date   29:09   31.19  n/a     .000
11238> R0050:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11239>      SAVE HYD               1.0 01:SSAOUT        364.27    6.711 No_date   29:09   31.19  n/a     .000
11240>        fname :SSAOUT.0050
11241>        remark:SSAOUT
11242> R0050:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11243>      CONTINUOUS STANDHYD    1.0 01:Area-A         66.75    8.917 No_date   28:08   61.83 .759     .000
11244>        [XIMP=.64:TIMP=.88]
11245>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11246>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11247>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
11248>        [IaREcimp=   4.00: IaRECper=    4.00]
11249> R0050:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11250>      SAVE HYD               1.0 01:Area-A         66.75    8.917 No_date   28:08   61.83  n/a     .000
11251>        fname :Area-A.0050
11252>        remark:SMWF-A Inflow
11253> R0050:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11254>      ROUTE RESERVOIR ->     1.0 02:Area-A         66.75    8.917 No_date   28:08   61.83  n/a     .000
11255>                   out <=    1.0 01:SWMF-A         66.75    1.070 No_date   29:16   61.83  n/a     .000
11256>              overflow <=    1.0 02:SWMAOV          .00     .000 No_date    0:00    .00  n/a     .000
11257>        {MxStoUsed=.2845E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11258> R0050:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11259>      SAVE HYD               1.0 01:SWMF-A         66.75    1.070 No_date   29:16   61.83  n/a     .000
11260>        fname :SWMF-A.0050
11261>        remark:SMWF-A Outflow
11262> R0050:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11263>      ADD HYD                1.0 02:SSAOUT         364.27    6.711 No_date   29:09   31.19  n/a     .000
11264>                       +     1.0 02:SWMF-A          66.75    1.070 No_date   29:16   61.83  n/a     .000
11265>                       +     1.0 02:SWMAOV           .00     .000 No_date    0:00    .00  n/a     .000
11266>                      SUM:   1.0 01:PT4ST5         431.02    7.776 No_date   29:10   35.93  n/a     .000
11267> R0050:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11268>      CONTINUOUS STANDHYD    1.0 01:C6             1.87     .395 No_date   28:01   64.42 .790     .000
11269>        [XIMP=.68:TIMP=.85]
11270>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11271>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11272>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
11273>        [IaREcimp=   4.00: IaRECper=    4.00]
11274> R0050:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11275>      ROUTE RESERVOIR ->     1.0 02:C6             1.87     .395 No_date   28:01   64.42  n/a     .000
11276>                   out <=    1.0 01:C6-STR         1.87     .110 No_date   28:18   64.42  n/a     .000
11277>              overflow <=    1.0 03:C6-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11278>        {MxStoUsed=.5452E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11279> R0050:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11280>      CONTINUOUS STANDHYD    1.0 01:C7             1.62     .347 No_date   28:00   64.42 .790     .000
11281>        [XIMP=.68:TIMP=.85]
11282>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11283>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11284>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
11285>        [IaREcimp=   4.00: IaRECper=    4.00]
11286> R0050:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11287>      ROUTE RESERVOIR ->     1.0 02:C7             1.62     .347 No_date   28:00   64.42  n/a     .000
11288>                   out <=    1.0 01:C7-STR         1.62     .096 No_date   28:17   64.42  n/a     .000
11289>              overflow <=    1.0 03:C7-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11290>        {MxStoUsed=.4698E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11291> R0050:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11292>      CONTINUOUS STANDHYD    1.0 01:ST-6            .41     .073 No_date   28:00   50.67 .622     .000
11293>        [XIMP=.46:TIMP=.57]
11294>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11295>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11296>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
11297>        [IaREcimp=   4.00: IaRECper=    4.00]
11298> R0050:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11299>      ROUTE RESERVOIR ->     1.0 02:ST-6            .41     .073 No_date   28:00   50.67  n/a     .000
11300>                   out <=    1.0 01:ST6STR          .41     .036 No_date   28:10   50.67  n/a     .000
11301>              overflow <=    1.0 03:ST6OVF          .00     .000 No_date    0:00    .00  n/a     .000
11302>        {MxStoUsed=.3103E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11303> R0050:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11304>      ADD HYD                1.0 02:PT4ST5         431.02    7.776 No_date   29:10   35.93  n/a     .000
11305>                       +     1.0 02:C6-STR         1.87     .110 No_date   28:18   64.42  n/a     .000
11306>                       +     1.0 02:C6-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11307>                       +     1.0 02:C7-STR         1.62     .096 No_date   28:17   64.42  n/a     .000
11308>                       +     1.0 02:C7-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11309>                       +     1.0 02:ST6STR          .41     .036 No_date   28:10   50.67  n/a     .000
11310>                       +     1.0 02:ST6OVF          .00     .000 No_date    0:00    .00  n/a     .000
11311>                      SUM:   1.0 01:PTSST6         434.92    7.904 No_date   29:09   36.17  n/a     .000
11312> R0050:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11313>      ROUTE CHANNEL   ->     1.0 02:PTSST6         434.92    7.904 No_date   29:09   36.17  n/a     .000
11314>        [RDT= 1.00] out<-    1.0 01:DRAIN4         434.92    7.615 No_date   29:20   36.17  n/a     .000
11315>        [L/S/n=  324./ .100/.043]
11316>        [Vmax=  .490:Dmax= 1.531]
11317> R0050:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11318>      CONTINUOUS NASHYD      1.0 01:D4             1.73     .097 No_date   28:34   50.14 .615     .000
11319>        [CN= 88.0: N= 3.00: Tp=  .60]
11320>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
11321>        [InterEventTime=  12.00]
11322> R0050:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11323>      CONTINUOUS STANDHYD    1.0 01:Area-B         24.04    4.418 No_date   28:02   60.51 .742     .000
11324>        [XIMP=.62:TIMP=.77]
11325>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11326>        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
11327>        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
11328>        [IaREcimp=   4.00: IaRECper=    4.00]
11329> R0050:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11330>      ROUTE RESERVOIR ->     1.0 02:Area-B         24.04    4.418 No_date   28:02   60.51  n/a     .000
11331>                   out <=    1.0 01:SWMF-B         24.04     .566 No_date   28:42   60.51  n/a     .000
11332>              overflow <=    1.0 03:SWMBOVF         .00     .000 No_date    0:00    .00  n/a     .000
11333>        {MxStoUsed=.3944E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11334> R0050:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11335>      ADD HYD                1.0 02:DRAIN4         434.92    7.615 No_date   29:20   36.17  n/a     .000
11336>                       +     1.0 02:D4              1.73     .097 No_date   28:34   50.14  n/a     .000
11337>                       +     1.0 02:SWMF-B         24.04     .566 No_date   28:42   60.51  n/a     .000
11338>                       +     1.0 02:SWMBOVF         .00     .000 No_date    0:00    .00  n/a     .000
11339>                      SUM:   1.0 01:D4-EX         460.69    8.190 No_date   29:19   37.49  n/a     .000
11340> R0050:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11341>      ROUTE CHANNEL   ->     1.0 02:D4-EX          460.69    8.190 No_date   29:19   37.49  n/a     .000
11342>        [RDT= 1.00] out<-    1.0 01:DRAIN5         460.69    8.038 No_date   29:27   37.49  n/a     .000
11343>        [L/S/n=  413./ .160/.033]
11344>        [Vmax=  .675:Dmax= 1.051]
11345> R0050:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11346>      CONTINUOUS NASHYD      1.0 01:D5             1.90     .089 No_date   28:40   47.27 .580     .000
11347>        [CN= 86.0: N= 3.00: Tp=  .69]
11348>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
11349>        [InterEventTime=  12.00]
11350> R0050:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11351>      CONTINUOUS NASHYD      1.0 01:O-13SDF         9.74     .578 No_date   28:21   44.42 .545     .000
11352>        [CN= 81.0: N= 3.00: Tp=  .43]
11353>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
11354>        [InterEventTime=  12.00]
11355> R0050:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11356>      ROUTE RESERVOIR ->     1.0 02:O-13SDF         9.74     .578 No_date   28:21   44.42  n/a     .000
11357>                   out <=    1.0 01:SDF             9.74     .061 No_date   30:55   44.42  n/a     .000
11358>              overflow <=    1.0 03:OVFSDF          .00     .000 No_date    0:00    .00  n/a     .000
11359>        {MxStoUsed=.2427E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11360> R0050:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11361>      ADD HYD                1.0 02:DRAIN5         460.69    8.038 No_date   29:27   37.49  n/a     .000
11362>                       +     1.0 02:D5              1.90     .089 No_date   28:40   47.27  n/a     .000
11363>                       +     1.0 02:SDF             9.74     .061 No_date   30:55   44.42  n/a     .000
11364>                      SUM:   1.0 01:PT6MC         472.33    8.151 No_date   29:27   37.68  n/a     .000
11365> R0050:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11366>      CONTINUOUS NASHYD      1.0 01:O-15           10.67     .800 No_date   28:13   43.28 .531     .000
11367>        [CN= 82.0: N= 3.00: Tp=  .30]
11368>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
11369>        [InterEventTime=  12.00]
11370> R0050:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11371>      ADD HYD                1.0 02:PT6MC          472.33    8.151 No_date   29:27   37.68  n/a     .000
11372>                       +     1.0 02:O-15            10.67     .800 No_date   28:13   43.28  n/a     .000
11373>                      SUM:   1.0 01:M-C            483.00    8.281 No_date   29:26   37.80  n/a     .000
11374> R0050:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11375>      ROUTE CHANNEL   ->     1.0 02:M-C            483.00    8.281 No_date   29:26   37.80  n/a     .000
11376>        [RDT= 1.00] out<-    1.0 01:O-14Ch         483.00    7.494 No_date   29:58   37.80  n/a     .000
11377>        [L/S/n=  845./ .100/.033]
11378>        [Vmax=  .549:Dmax= 1.780]
11379> R0050:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11380>      CONTINUOUS NASHYD      1.0 01:O-14            5.00     .616 No_date   28:04   43.28 .531     .000
11381>        [CN= 82.0: N= 3.00: Tp=  .13]
11382>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
11383>        [InterEventTime=  12.00]
11384> R0050:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11385>      ADD HYD                1.0 02:O-14Ch         483.00    7.494 No_date   29:58   37.80  n/a     .000
11386>                       +     1.0 02:O-14            5.00     .616 No_date   28:04   43.28  n/a     .000
11387>                      SUM:   1.0 01:OKEEFE         488.00    7.533 No_date   29:58   37.86  n/a     .000
11388> #*************************************************************************
11389> #    Okeefe Pond
11390> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
11391> #      and a ratio of the catchment area to the West Clarke pond rating curve
11392> #      from the MSS for the next coordinates
11393> #*************************************************************************
11394> R0050:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11395>      CONTINUOUS NASHYD      1.0 01:S-1-D2         18.67     .488 No_date   29:12   39.91 .490     .000
11396>        [CN= 77.0: N= 3.00: Tp= 1.12]
11397>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11398>        [InterEventTime=  12.00]
11399> R0050:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11400>      CONTINUOUS NASHYD      1.0 01:S-1-D3          6.79     .161 No_date   29:23   39.91 .490     .000
11401>        [CN= 77.0: N= 3.00: Tp= 1.28]
11402>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11403>        [InterEventTime=  12.00]
11404> R0050:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11405>      ADD HYD                1.0 02:N_OK       53064.36  125.374 No_date   33:43   33.58  n/a     .000
11406>                       +     1.0 02:OKEEFE         488.00    7.533 No_date   29:58   37.86  n/a     .000
11407>                       +     1.0 02:S-1-D2          18.67     .488 No_date   29:12   39.91  n/a     .000
11408>                       +     1.0 02:S-1-D3          6.79     .161 No_date   29:23   39.91  n/a     .000
11409>                      SUM=    1.0 01:SN_OK       53577.82  128.132 No_date   33:19   33.62  n/a     .000
11410> R0050:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11411>      SAVE HYD               1.0 01:SN_OK       53577.82  128.132 No_date   33:19   33.62  n/a     .000
11412>        fname :SN_OK.0050
11413>        remark:Total Flows at Okeefe Drain
11414> #
11415> # Hydrograph from Node Okeefe routed to Node at Foster Drain
11416> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
11417> #
11418> R0050:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11419>      ROUTE CHANNEL   ->     1.0 02:SN_OK       53577.82  128.132 No_date   33:19   33.62  n/a     .000
11420>        [RDT= 1.00] out<-    1.0 01:N_FO        53577.82  127.740 No_date   33:20   33.62  n/a     .000
11421>        [L/S/n= 1183./ .076/.035]
11422>        [Vmax=  1.239:Dmax= 3.375]
11423> #*************************************************************************
11424> #    Catchment FOSTER
11425> #    - To Foster ditch (north of the Jock)
11426> #    - Partially developed (medium density); remaining agricultural
11427> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
11428> #    - 2020-12-01 increase Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
11429> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
11430> #*************************************************************************
11431> R0050:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11432>      CONTINUOUS STANDHYD    1.0 01:FOSTER        325.44   32.213 No_date   28:11   58.69 .720     .000
11433>        [XIMP=.55:TIMP=.55]
11434>        [LOSS= 2 :CN= 74.0]
11435>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
11436>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
11437>        [IaREcimp=   4.00: IaRECper=    4.00]
11438>        [SMN= 36.67: SMAX=244.49: SK= .010]
11439> #*************************************************************************
11440> #    Foster Pond
11441> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
11442> #      and a ratio of the catchment area to the West Clarke pond rating curve
11443> #      from the MSS for the next coordinates
11444> #*************************************************************************
11445> R0050:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11446>      ROUTE RESERVOIR ->     1.0 02:FOSTER        325.44   32.213 No_date   28:11   58.69  n/a     .000
11447>                   out <=    1.0 01:P_FOS         325.44    8.155 No_date   29:03   58.69  n/a     .000
11448>              overflow <=    1.0 03:FO-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11449>        {MxStoUsed=.7887E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11450> R0050:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11451>      ADD HYD                1.0 02:P_FOS          325.44    8.155 No_date   29:03   58.69  n/a     .000
11452>                       +     1.0 02:FO-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11453>                      SUM:   1.0 01:FOSTER-OUT     325.44    8.155 No_date   29:03   58.69  n/a     .000
11454> #*************************************************************************
11455> R0050:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11456>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29   10.462 No_date   28:05   63.49 .779     .000
11457>        [XIMP=.60:TIMP=.65]
11458>        [LOSS= 2 :CN= 77.0]
11459>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11460>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
11461>        [IaREcimp=   4.00: IaRECper=    4.00]
11462>        [SMN= 31.15: SMAX=207.66: SK= .010]
11463> R0050:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11464>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29   10.462 No_date   28:05   63.49  n/a     .000
11465>                   out <=    1.0 01:MS_P10         73.29    1.204 No_date   29:09   63.49  n/a     .000
11466>              overflow <=    1.0 03:P10-OVF         .00     .000 No_date    0:00    .00  n/a     .000
11467>        {MxStoUsed=.1956E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11468> R0050:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11469>      CONTINUOUS NASHYD      1.0 01:S-1-FO-D2       4.94     .131 No_date   29:10   39.91 .490     .000
11470>        [CN= 77.0: N= 3.00: Tp= 1.08]
11471>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11472>        [InterEventTime=  12.00]
11473> R0050:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11474>      ADD HYD                1.0 02:FOSTER-OUT     325.44    8.155 No_date   29:03   58.69  n/a     .000
11475>                       +     1.0 02:S-1-FO-D2       4.94     .131 No_date   29:10   39.91  n/a     .000
11476>                      SUM:   1.0 01:980            330.38    8.285 No_date   29:03   58.41  n/a     .000
11477> R0050:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11478>      SAVE HYD               1.0 01:980            330.38    8.285 No_date   29:03   58.41  n/a     .000
11479>        fname :980.0050
11480>        remark:Total Flows at Station 980 on Foster Drain
11481> #
11482> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
11483> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
11484> #
11485> R0050:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11486>      ROUTE CHANNEL   ->     1.0 02:980            330.38    8.285 No_date   29:03   58.41  n/a     .000
11487> *    [RDT= 1.00] out<-    1.0 01:980-out        330.38    7.901 No_date   29:23   58.41  n/a     .000
11488>        [L/S/n=  460./ .043/.035]
11489>        [Vmax=  .590:Dmax= 1.605]
11490> R0050:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11491>      CONTINUOUS NASHYD      1.0 01:S-1-FO-D1       5.11     .135 No_date   29:10   39.91 .490     .000
11492>        [CN= 77.0: N= 3.00: Tp= 1.10]
11493>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11494>        [InterEventTime=  12.00]
11495> R0050:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11496>      ADD HYD                1.0 02:980-out        330.38    7.901 No_date   29:23   58.41  n/a     .000
11497>                       +     1.0 02:S-1-FO-D1       5.11     .135 No_date   29:10   39.91  n/a     .000
11498>                      SUM:   1.0 01:520            335.49    8.034 No_date   29:23   58.13  n/a     .000
11499> R0050:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11500>      SAVE HYD               1.0 01:520            335.49    8.034 No_date   29:23   58.13  n/a     .000
11501>        fname :520.0050
11502>        remark:Total Flows at Station 520 on Foster Drain
11503> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
11504> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
11505> #
11506> R0050:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11507>      ROUTE CHANNEL   ->     1.0 02:520            335.49    8.034 No_date   29:23   58.13  n/a     .000
11508>        [RDT= 1.00] out<-    1.0 01:520-out        335.49    7.994 No_date   29:28   58.13  n/a     .000
11509>        [L/S/n=  860./ .587/.035]
11510>        [Vmax=  1.541:Dmax=  .767]
11511> R0050:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11512>      CONTINUOUS NASHYD      1.0 01:S-1-FO-F-D      14.96     .422 No_date   29:03   39.91 .490     .000
11513>        [CN= 77.0: N= 3.00: Tp= 1.01]
11514>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11515>        [InterEventTime=  12.00]
11516> R0050:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11517>      CONTINUOUS STANDHYD    1.0 01:S-1-DB          5.27     1.023 No_date   28:00   63.95 .785     .000
11518>        [XIMP=.65:TIMP=.65]
11519>        [LOSS= 2 :CN= 75.0]
11520>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11521>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
11522>        [IaREcimp=   4.00: IaRECper=    4.00]
11523>        [SMN= 33.81: SMAX=225.43: SK= .010]
11524> R0050:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11525>      CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    3.042 No_date   28:36   39.91 .490     .000
11526>        [CN= 77.0: N= 3.00: Tp=  .62]
11527>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11528>        [InterEventTime=  12.00]
11529> R0050:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11530>      CONTINUOUS NASHYD      1.0 01:W_CLAR_UND      35.65     .943 No_date   29:10   39.91 .490     .000
11531>        [CN= 77.0: N= 3.00: Tp= 1.10]
11532>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11533>        [InterEventTime=  12.00]
11534> R0050:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11535>      ADD HYD                1.0 02:N_FO         53577.82  127.740 No_date   33:20   33.62  n/a     .000
11536>                       +     1.0 02:520-out        335.49    7.994 No_date   29:28   58.13  n/a     .000
11537>                       +     1.0 02:MS_P10          73.29    1.204 No_date   29:09   63.49  n/a     .000
11538>                       +     1.0 02:P10-OVF          .00     .000 No_date    0:00    .00  n/a     .000
11539>                       +     1.0 02:W_CLAR_UND      35.65     .943 No_date   29:10   39.91  n/a     .000
11540>                       +     1.0 02:S-1-FO-F-D      14.96     .422 No_date   29:03   39.91  n/a     .000
11541>                       +     1.0 02:S-1-DB           5.27    1.023 No_date   28:00   63.95  n/a     .000
11542>                       +     1.0 02:S-1-A           75.88    3.042 No_date   28:36   39.91  n/a     .000
11543>                      SUM:   1.0 01:SN_FO        54118.36  132.970 No_date   33:19   33.83  n/a     .000
11544> R0050:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11545>      SAVE HYD               1.0 01:SN_FO       54118.36  132.970 No_date   33:19   33.83  n/a     .000
11546>        fname :SN_FO.0050
11547>        remark:Total Flows at Foster Drain
11548> # Hydrograph from Node Foster routed to Node at Cedarview Road
11549> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
11550> #
11551> R0050:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11552>      ROUTE CHANNEL   ->     1.0 02:SN_FO       54118.36  132.970 No_date   33:19   33.83  n/a     .000
11553> *    [RDT= 1.00] out<-    1.0 01:M_CE        54118.36  132.590 No_date   33:34   33.83  n/a     .000
11554>        [L/S/n=  159./ .082/.035]
11555>        [Vmax=  1.439:Dmax= 4.175]
11556> #*************************************************************************
11557> #    Catchment S-1
11558> #    - To Jock River (north and south of Jock)
11559> #    - Primarily agricultural fields; portion of sand quarry
11560> #*************************************************************************
11561> R0050:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11562>      CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    2.770 No_date   28:23   39.91 .490     .000
11563>        [CN= 77.0: N= 3.00: Tp=  .45]
11564>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11565>        [InterEventTime=  12.00]
11566> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
11567> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
11568> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
11569> R0050:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11570>      CONTINUOUS NASHYD      1.0 01:S-1-D1         21.67     .587 No_date   29:08   39.91 .490     .000
11571>        [CN= 77.0: N= 3.00: Tp= 1.07]
11572>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11573>        [InterEventTime=  12.00]
11574> R0050:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11575>      CONTINUOUS NASHYD      1.0 01:S-1-D4          3.28     .087 No_date   29:10   39.91 .490     .000
11576>        [CN= 77.0: N= 3.00: Tp= 1.10]
11577>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11578>        [InterEventTime=  12.00]
11579> R0050:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11580>      CONTINUOUS NASHYD      1.0 01:S-1-D5         12.84     .340
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```
11595> #    - To West Clarke Drain (south of the Jock)
11596> #    - Subdivision with 43% imp. as per Barrhaven South MSS
11597> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on PS98(04)-11
11598> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
11599> #*******************************************************************************
11600> R0050:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11601>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ      1.77     .319 No_date   28:00   59.44 .729    .000
11602>        [XIMP=.46:TIMP=.59]
11603>        [LOSS= 2 :CN= 77.0]
11604>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11605>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
11606>        [IaRECimp=   4.00: IaRECper=   4.00]
11607>        {SMIN= 31.15: SMAX=207.66: SK= .010}
11608> # 5-Year + 12% Capture
11609> R0050:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11610>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ      1.77     .319 No_date   28:00   59.44  n/a     .000
11611>                      out <=   1.0 01:W_CLAR_MJn    1.70     .213 No_date   27:53   59.44  n/a     .000
11612>                overflow <=    1.0 03:W_CLAR_MJ      .08     .102 No_date   28:01   59.44  n/a     .000
11613>        {MxStoUsed=.1125E-03  m3, TotOvfVol=.4485E-02  m3, N-Ovf=     1, TotDurOvf=   0.hrs}
11614> R0050:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11615>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL   119.40   17.358 No_date   28:04   63.49 .779    .000
11616>        [XIMP=.60:TIMP=.65]
11617>        [LOSS= 2 :CN= 77.0]
11618>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11619>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
11620>        [IaRECimp=   4.00: IaRECper=   4.00]
11621>        {SMIN= 31.15: SMAX=207.66: SK= .010}
11622> R0050:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11623>      ADD HYD               1.0 02:W_CLAR_ALL   119.40   17.358 No_date   28:04   63.49  n/a     .000
11624>                        +    1.0 02:W_CLAR_MJ      .08     .102 No_date   28:01   59.44  n/a     .000
11625>                      SUM=   1.0 01:W_CLAR      119.47   17.371 No_date   28:04   63.49  n/a     .000
11626> R0050:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11627>      SAVE HYD              1.0 01:W_CLAR      119.47   17.371 No_date   28:04   63.49  n/a     .000
11628>        fname :W_CLAR.0050
11629>        remark:Total Flows to West Clarke
11630> #*******************************************************************************
11631> #    West Clarke Pond 2
11632> #    - Rating curve obtained from Barrhaven South MSS modeling
11633> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
11634> #*******************************************************************************
11635> R0050:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11636>      ROUTE RESERVOIR ->     1.0 02:W_CLAR      119.47   17.371 No_date   28:04   63.49  n/a     .000
11637>                      out <=   1.0 01:MS_P2      119.47   10.246 No_date   28:16   63.49  n/a     .000
11638>                overflow <=    1.0 03:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
11639>        {MxStoUsed=.3670E01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=   0.hrs}
11640> #*******************************************************************************
11641> R0050:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11642>      ADD HYD               1.0 02:N_CE       54118.36  132.590 No_date   33:24   33.83  n/a     .000
11643>                        +    1.0 02:S-1-D4        3.28     .087 No_date   29:10   39.91  n/a     .000
11644>                        +    1.0 02:S-1-D5       12.84     .340 No_date   29:10   39.91  n/a     .000
11645>                        +    1.0 02:MS_P2       119.47   10.246 No_date   28:16   63.49  n/a     .000
11646>                        +    1.0 02:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
11647>                      SUM=   1.0 01:SN_CE      54253.95  133.524 No_date   33:22   33.90  n/a     .000
11648> R0050:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11649>      SAVE HYD              1.0 01:SN_CE      54253.95  133.524 No_date   33:22   33.90  n/a     .000
11650>        fname :SN_CE.0050
11651>        remark:Total Flows before Station 5737 on Jock River
11652> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
11653> # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
11654> # JFSA 2021-03-02  change the slope to 0.1% instead of 0.015% to stabilize the model
11655> R0050:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11656>      ROUTE CHANNEL   ->     1.0 02:SN_CE      54253.95  133.524 No_date   33:22   33.90  n/a     .000
11657> *    [RDT= 1.00] out<-     1.0 01:5737       54253.95  127.934 No_date   35:32   33.90  n/a     .000
11658>        [L/S/n=  270./ .018/.035]
11659>        {Vmax=  .826:Dmax= 5.268}
11660> R0050:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11661>      ADD HYD               1.0 02:5737       54253.95  127.934 No_date   35:32   33.90  n/a     .000
11662>                        +    1.0 02:S-1-D1        21.67     .587 No_date   29:08   39.91  n/a     .000
11663>                        +    1.0 02:S-1-D6         1.75     .046 No_date   29:10   39.91  n/a     .000
11664>                        +    1.0 02:S-1-D7         2.03     .054 No_date   29:10   39.91  n/a     .000
11665>                      SUM=   1.0 01:5002      54279.41  128.023 No_date   35:32   33.90  n/a     .000
11666> R0050:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11667>      SAVE HYD              1.0 01:5002       54279.41  128.023 No_date   35:32   33.90  n/a     .000
11668>        fname :5002.0050
11669>        remark:Total Flows before Station 5002 on Jock River
11670> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
11671> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
11672> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
11673> # JFSA 2021-02-19 change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
11674> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
11675> R0050:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11676>      ROUTE CHANNEL   ->     1.0 02:5002       54279.41  128.023 No_date   35:32   33.90  n/a     .000
11677> *    [RDT= 1.00] out<-     1.0 01:N_WCa      54279.41  127.998 No_date   35:39   33.90  n/a     .000
11678>        [L/S/n=  245./ .095/.035]
11679>        {Vmax= 1.271:Dmax= 2.986}
11680> R0050:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11681>      ROUTE CHANNEL   ->     1.0 02:N_WCa      54279.41  127.998 No_date   35:39   33.90  n/a     .000
11682> *    [RDT= 1.00] out<-     1.0 01:N_WCb      54279.41  127.975 No_date   35:46   33.90  n/a     .000
11683>        [L/S/n=  245./ .095/.035]
11684>        {Vmax= 1.271:Dmax= 2.986}
11685> R0050:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11686>      ROUTE CHANNEL   ->     1.0 02:N_WCb      54279.41  127.975 No_date   35:46   33.90  n/a     .000
11687> *    [RDT= 1.00] out<-     1.0 01:N_WC       54279.41  127.967 No_date   35:50   33.90  n/a     .000
11688>        [L/S/n=  245./ .095/.035]
11689>        {Vmax= 1.271:Dmax= 2.983}
11690> #*******************************************************************************
11691> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
11692> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
11693> #
11694> R0050:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11695>      ROUTE CHANNEL   ->     1.0 02:N_WC       54279.41  127.967 No_date   35:50   33.90  n/a     .000
11696> *    [RDT= 1.00] out<-     1.0 01:N_KB       54279.41  127.622 No_date   36:14   33.90  n/a     .000
11697>        [L/S/n= 1020./ .050/.035]
11698>        {Vmax= 1.317:Dmax= 3.767}
11699> #*******************************************************************************
11700> #    Catchment KEN_BU
11701> #    - To Kennedy-Burnett SWM Facility
11702> #    - Outlets to Fraser-Clarke drain (north of the Jock)
11703> #    - Medium density residential subdivision
11704> #*******************************************************************************
11705> #*******************************************************************************
11706> #    Existing Kennedy-Burnett SWM Facility
11707> #    - Rating curve obtained from URTKBP
11708> #    - Tributary Drainage Area to Pond = 160 ha
11709> #*******************************************************************************
11710> R0050:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11711>      CONTINUOUS STANDHYD   1.0 01:KB-01A       40.82    4.812 No_date   28:10   33.07 .406    .000
11712>        [XIMP=.10:TIMP=.40]
11713>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11714>        [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
11715>        [Impervious  area: IAimp=  .79:SLPI=  .50:LGI= 522.:MNI=.013:SCI=   .0]
11716>        [IaRECimp=   4.00: IaRECper=   4.00]
11717> R0050:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11718>      COMPUTE DUALHYD       1.0 01:KB-01A       40.82    4.812 No_date   28:10   33.07  n/a     .000
11719>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11720>        Minor System   \    1.0 03:KB-01A-MN    40.82    3.600 No_date   28:00   33.14  n/a     .000
11721>        {MjSysSto=.1012E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11722> R0050:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11723>      ADD HYD               1.0 02:KB-01A-MJ      .00     .000 No_date    0:00     .00  n/a     .000
11724>                        +    1.0 02:KB-01A-MN    40.82    3.600 No_date   28:00   33.14  n/a     .000
11725>                      SUM=   1.0 01:KB-01A-S     40.82    3.600 No_date   28:00   33.14  n/a     .000
11726> R0050:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11727>      CONTINUOUS STANDHYD   1.0 01:KB-01B       31.10    3.541 No_date   28:07   36.47 .447    .000
11728>        [XIMP=.19:TIMP=.38]
11729>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11730>        [Pervious    area: IAper= 4.67:SLPP=  .42:LGP=  40.:MNP=.250:SCP=   .0]
11731>        [Impervious  area: IAimp=  .79:SLPI=  .42:LGI= 455.:MNI=.013:SCI=   .0]
11732>        [IaRECimp=   4.00: IaRECper=   4.00]
11733> R0050:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11734>      COMPUTE DUALHYD       1.0 01:KB-01B       31.10    3.541 No_date   28:07   36.47  n/a     .000
11735>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11736>        Minor System   \    1.0 03:KB-01B-MN    31.10    1.585 No_date   27:53   36.51  n/a     .000
11737>        {MjSysSto=.2627E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11738> R0050:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11739>      ADD HYD               1.0 02:KB-01B-MJ      .00     .000 No_date    0:00     .00  n/a     .000
11740>                        +    1.0 02:KB-01B-MN    31.10    1.585 No_date   27:53   36.51  n/a     .000
11741>                      SUM=   1.0 01:KB-01B-S     31.10    1.585 No_date   27:53   36.51  n/a     .000
11742> R0050:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11743>      CONTINUOUS STANDHYD   1.0 01:KB-01C       13.78    2.163 No_date   28:04   37.72 .463    .000
11744>        [XIMP=.20:TIMP=.41]
11745>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11746>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11747>        [Impervious  area: IAimp=  .79:SLPI=  .50:LGI= 303.:MNI=.013:SCI=   .0]
11748>        [IaRECimp=   4.00: IaRECper=   4.00]
11749> R0050:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11750>      COMPUTE DUALHYD       1.0 01:KB-01C       13.78    2.163 No_date   28:04   37.72  n/a     .000
11751>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11752>        Minor System   \    1.0 03:KB-01C-MN    13.78    1.350 No_date   27:55   37.86  n/a     .000
11753>        {MjSysSto=.5764E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11754> R0050:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11755>      ADD HYD               1.0 02:KB-01C-MJ      .00     .000 No_date    0:00     .00  n/a     .000
11756>                        +    1.0 02:KB-01C-MN    13.78    1.350 No_date   27:55   37.86  n/a     .000
11757>                      SUM=   1.0 01:KB-01C-S     13.78    1.350 No_date   27:55   37.86  n/a     .000
11758> R0050:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11759>      CONTINUOUS STANDHYD   1.0 01:KB-03        84.78   11.183 No_date   28:07   37.17 .456    .000
11760>        [XIMP=.20:TIMP=.39]
11761>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11762>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11763>        [Impervious  area: IAimp=  .79:SLPI=  .63:LGI= 752.:MNI=.013:SCI=   .0]
11764>        [IaRECimp=   4.00: IaRECper=   4.00]
11765> R0050:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11766>      COMPUTE DUALHYD       1.0 01:KB-03        84.78   11.183 No_date   28:07   37.17  n/a     .000
11767>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11768>        Minor System   \    1.0 03:KB-03-MN     84.78    5.270 No_date   27:54   37.24  n/a     .000
11769>        {MjSysSto=.6453E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11770> R0050:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11771>      ADD HYD               1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
11772>                        +    1.0 02:KB-03-MN     84.78    5.270 No_date   27:54   37.24  n/a     .000
11773>                      SUM=   1.0 01:KB-03-S      84.78    5.270 No_date   27:54   37.24  n/a     .000
11774> R0050:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11775>      CONTINUOUS STANDHYD   1.0 01:KB-04         6.95    1.592 No_date   28:00   71.86 .882    .000
11776>        [XIMP=.85:TIMP=.85]
11777>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11778>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11779>        [Impervious  area: IAimp=  .94:SLPI=  .50:LGI= 215.:MNI=.013:SCI=   .0]
11780>        [IaRECimp=   4.00: IaRECper=   4.00]
11781> R0050:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11782>      COMPUTE DUALHYD       1.0 01:KB-04         6.95    1.592 No_date   28:00   71.86  n/a     .000
11783>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11784>        Minor System   \    1.0 03:KB-04-MN      6.95     .503 No_date   27:44   72.11  n/a     .000
11785>        {MjSysSto=.9423E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11786> R0050:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11787>      ADD HYD               1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
11788>                        +    1.0 02:KB-04-MN      6.95     .503 No_date   27:44   72.11  n/a     .000
11789>                      SUM=   1.0 01:KB-04-S       6.95     .503 No_date   27:44   72.11  n/a     .000
11790> R0050:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11791>      CONTINUOUS STANDHYD   1.0 01:KB-05         5.19    1.270 No_date   28:00   75.92 .931    .000
11792>        [XIMP=.93:TIMP=.93]
11793>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11794>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11795>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 186.:MNI=.013:SCI=   .0]
11796>        [IaRECimp=   4.00: IaRECper=   4.00]
11797> R0050:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11798>      CONTINUOUS STANDHYD   1.0 01:KB-06        12.93    3.268 No_date   28:00   73.20 .898    .000
11799>        [XIMP=.87:TIMP=.87]
11800>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11801>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11802>        [Impervious  area: IAimp= 1.94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
11803>        [IaRECimp=   4.00: IaRECper=   4.00]
11804> R0050:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11805>      COMPUTE DUALHYD       1.0 01:KB-06        12.93    3.268 No_date   28:00   73.20  n/a     .000
11806>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11807>        Minor System   \    1.0 03:KB-06-MN     12.93    2.262 No_date   27:52   73.67  n/a     .000
11808>        {MjSysSto=.4323E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11809> R0050:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11810>      ADD HYD               1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
11811>                        +    1.0 02:KB-06-MN     12.93    2.262 No_date   27:52   73.67  n/a     .000
11812>                      SUM=   1.0 01:KB-06-S      12.93    2.262 No_date   27:52   73.67  n/a     .000
11813> R0050:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11814>      CONTINUOUS STANDHYD   1.0 01:KB-11         4.03     .921 No_date   28:00   61.82 .758    .000
11815>        [XIMP=.68:TIMP=.68]
11816>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11817>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11818>        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
11819>        [IaRECimp=   4.00: IaRECper=   4.00]
11820> R0050:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11821>      COMPUTE DUALHYD       1.0 01:KB-11         4.03     .921 No_date   28:00   61.82  n/a     .000
11822>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11823>        Minor System   \    1.0 03:KB-11-MN      4.03     .577 No_date   27:52   62.10  n/a     .000
11824>        {MjSysSto=.1581E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11825> R0050:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11826>      ADD HYD               1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
11827>                        +    1.0 02:KB-11-MN      4.03     .577 No_date   27:52   62.10  n/a     .000
11828>                      SUM=   1.0 01:KB-11-S       4.03     .577 No_date   27:52   62.10  n/a     .000
11829> R0050:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11830>      CONTINUOUS STANDHYD   1.0 01:S1           4.99    1.304 No_date   28:00   75.92 .931    .000
11831>        [XIMP=.93:TIMP=.93]
11832>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11833>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11834>        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
11835>        [IaRECimp=   4.00: IaRECper=   4.00]
11836> R0050:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11837>      CONTINUOUS STANDHYD   1.0 01:KB-15         2.15     .497 No_date   28:00   69.00 .847    .000
11838>        [XIMP=.79:TIMP=.79]
11839>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11840>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11841>        [Impervious  area: IAimp=  .16:SLPI=  .30:LGI= 120.:MNI=.013:SCI=   .0]
11842>        [IaRECimp=   4.00: IaRECper=   4.00]
11843> R0050:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11844>      ADD HYD               1.0 02:KB-01A-S      40.82    3.600 No_date   28:00   33.14  n/a     .000
11845>                        +    1.0 02:KB-01B-S      31.10    1.585 No_date   27:53   36.51  n/a     .000
11846>                        +    1.0 02:KB-01C-S      13.78    1.350 No_date   27:55   37.86  n/a     .000
11847>                        +    1.0 02:KB-03-S       84.78    5.270 No_date   27:54   37.24  n/a     .000
11848>                        +    1.0 02:KB-04-S        6.95     .503 No_date   27:44   72.11  n/a     .000
11849>                        +    1.0 02:KB-05          5.19    1.270 No_date   28:00   75.92  n/a     .000
11850>                        +    1.0 02:KB-06-S       12.93    2.262 No_date   27:52   73.67  n/a     .000
11851>                        +    1.0 02:KB-11-S        4.03     .577 No_date   27:52   62.10  n/a     .000
11852>                        +    1.0 02:KB-15          2.15     .497 No_date   28:00   69.00  n/a     .000
11853>                        +    1.0 02:S1             4.99    1.304 No_date   28:00   75.92  n/a     .000
11854>                      SUM=   1.0 01:KB-P1       206.72   18.218 No_date   28:00   42.53  n/a     .000
11855> R0050:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11856>      ROUTE RESERVOIR ->     1.0 02:KB-P1       206.72   18.218 No_date   28:00   42.53  n/a     .000
11857>                      out <=   1.0 01:KB-P1R      198.38   12.438 No_date   28:02   42.53  n/a     .000
11858>                overflow <=    1.0 03:KB-P1ovf      8.34    5.573 No_date   28:02   42.53  n/a     .000
11859>        {MxStoUsed=.7313E+00  m3, TotOvfVol=.3545E+00  m3, N-Ovf=     2, TotDurOvf=    1.hrs}
11860> R0050:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11861>      ADD HYD               1.0 02:KB-P1R      198.38   12.438 No_date   28:02   42.53  n/a     .000
11862>                        +    1.0 02:KB-P1ovf      8.34    5.573 No_date   28:02   42.53  n/a     .000
11863>                      SUM=   1.0 01:KB-Pond1    206.72   18.011 No_date   28:02   42.53  n/a     .000
11864> R0050:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11865>      SAVE HYD              1.0 01:KB-Pond1     206.72   18.011 No_date   28:02   42.53  n/a     .000
11866>        fname :KB-Pond1.0050
11867>        remark:Total Flows at KB first pond
11868> R0050:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11869>      CONTINUOUS STANDHYD   1.0 01:KB-07        10.86    2.656 No_date   28:00   72.58 .890    .000
11870>        [XIMP=.86:TIMP=.86]
11871>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11872>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11873>        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
11874>        [IaRECimp=   4.00: IaRECper=   4.00]
11875> R0050:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11876>      COMPUTE DUALHYD       1.0 01:KB-07        10.86    2.656 No_date   28:00   72.58  n/a     .000
11877>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11878>        Minor System   \    1.0 03:KB-07-MN      10.86    2.094 No_date   28:08   72.95  n/a     .000
11879>        {MjSysSto=.1956E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11880> R0050:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11881>      ADD HYD               1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
11882>                        +    1.0 02:KB-07-MN     10.86    2.094 No_date   28:08   72.95  n/a     .000
11883>                      SUM=   1.0 01:KB-07-S      10.86    2.094 No_date   28:08   72.95  n/a     .000
11884> R0050:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11885>      CONTINUOUS STANDHYD   1.0 01:KB-08         6.61    1.444 No_date   28:00   59.78 .733    .000
11886>        [XIMP=.64:TIMP=.64]
11887>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11888>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11889>        [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
11890>        [IaRECimp=   4.00: IaRECper=   4.00]
11891> R0050:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11892>      COMPUTE DUALHYD       1.0 01:KB-08         6.61    1.444 No_date   28:00   59.78  n/a     .000
11893>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11894>        Minor System   \    1.0 03:KB-08-MN      6.61    1.058 No_date   27:53   60.05  n/a     .000
11895>        {MjSysSto=.1439E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11896> R0050:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11897>      ADD HYD               1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
11898>                        +    1.0 02:KB-08-MN      6.61    1.058 No_date   27:53   60.05  n/a     .000
11899>                      SUM=   1.0 01:KB-08-S       6.61    1.058 No_date   27:53   60.05  n/a     .000
11900> R0050:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11901>      CONTINUOUS STANDHYD   1.0 01:KB-09         2.60     .665 No_date   28:00   71.90 .882    .000
11902>        [XIMP=.86:TIMP=.86]
11903>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11904>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11905>        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
11906>        [IaRECimp=   4.00: IaRECper=   4.00]
11907> R0050:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11908>      CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37     .607 No_date   28:00   71.90 .882    .000
11909>        [XIMP=.86:TIMP=.86]
11910>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11911>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11912>        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
11913>        [IaRECimp=   4.00: IaRECper=   4.00]
11914> R0050:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11915>      CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14     .295 No_date   28:00   71.90 .882    .000
11916>        [XIMP=.86:TIMP=.86]
11917>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11918>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11919>        [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
11920>        [IaRECimp=   4.00: IaRECper=   4.00]
11921> R0050:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11922>      CONTINUOUS STANDHYD   1.0 01:KB-12         4.86    1.174 No_date   28:00   68.26 .837    .000
11923>        [XIMP=.79:TIMP=.79]
11924>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11925>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11926>        [Impervious  area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
11927>        [IaRECimp=   4.00: IaRECper=   4.00]
11928> R0050:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11929>      COMPUTE DUALHYD       1.0 01:KB-12         4.86    1.174 No_date   28:00   68.26  n/a     .000
11930>        Major System   /     .00     .000 No_date    0:00     .00  n/a     .000
11931>        Minor System   \    1.0 03:KB-12-MN      4.86     .867 No_date   28:09   68.93  n/a     .000
11932>        {MjSysSto=.1203E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
11933> R0050:C00229------------DTmin-ID:NHYD---------AREAha-Q
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11969> R0050:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11970>      CONTINUOUS STANDHYD    1.0 01:KB-16_2        3.42     .724 No_date   28:01   64.30 .789    .000
11971>        [XIMP=.71:TIMP=.71]
11972>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
11973>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11974>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 151.:MNI=.013:SCI=   .0]
11975>        [IaRECimp=  4.00: IaRECper=   4.00]
11976> R0050:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11977>      ADD HYD                1.0 02:KB-Pond1     206.72   18.011 No_date   28:02   42.53  n/a     .000
11978>                       +     1.0 02:KB-07-S       10.86    2.094 No_date   28:08   72.95  n/a     .000
11979>                       +     1.0 02:KB-08-S        6.61    1.058 No_date   27:53   60.05  n/a     .000
11980>                       +     1.0 02:KB-12-S        2.60     .665 No_date   28:00   71.90  n/a     .000
11981>                       +     1.0 02:KB-10_1        2.37     .607 No_date   28:00   71.90  n/a     .000
11982>                       +     1.0 02:KB-10_2        1.14     .295 No_date   28:00   71.90  n/a     .000
11983>                       +     1.0 02:KB-11-S        4.86     .867 No_date   28:09   68.93  n/a     .000
11984>                       +     1.0 02:KB-13-S       10.19    1.722 No_date   27:55   60.01  n/a     .000
11985>                       +     1.0 02:KB-14-S        5.47     .873 No_date   27:53   60.02  n/a     .000
11986>                       +     1.0 02:KB-16_2        3.42     .724 No_date   28:01   64.30  n/a     .000
11987>                   SUM=      1.0 01:KB-P2        254.24   26.339 No_date   28:02   46.87  n/a     .000
11988> R0050:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11989>      ROUTE RESERVOIR ->     1.0 02:KB-P2        254.24   26.339 No_date   28:02   46.87  n/a     .000
11990>                    out <=    1.0 01:KB-P2R       253.10   17.634 No_date   28:09   46.87  n/a     .000
11991>              overflow <=     1.0 03:KB-P2ovf       1.14    5.257 No_date   28:09   46.87  n/a     .000
11992>        {MxStoUsed=.1398E+01  m3, TotOrfVol= 5351E-01  m3, No-Ovf=    1, TotDurOvf=    0.hrs}
11993> R0050:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11994>      ADD HYD                1.0 02:KB-P2R       253.10   17.634 No_date   28:09   46.87  n/a     .000
11995>                       +     1.0 02:KB-P2ovf       1.14    5.257 No_date   28:09   46.87  n/a     .000
11996>                   SUM=      1.0 01:KB-Pond2     254.24   22.891 No_date   28:09   46.87  n/a     .000
11997> R0050:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11998>      SAVE HYD               1.0 01:KB-Pond2     254.24   22.891 No_date   28:09   46.87  n/a     .000
11999>        fname :KB-Pond2.0050
12000>        remark:Total Flows at KB second pond
12001> R0050:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12002>      CONTINUOUS STANDHYD    1.0 01:KB-16_1        2.80     .624 No_date   28:00   66.65 .818    .000
12003>        [XIMP=.75:TIMP=.75]
12004>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12005>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12006>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 137.:MNI=.013:SCI=   .0]
12007>        [IaRECimp=  4.00: IaRECper=   4.00]
12008> R0050:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12009>      ADD HYD                1.0 02:KB-Pond2     254.24   22.891 No_date   28:09   46.87  n/a     .000
12010>                       +     1.0 02:KB-16_1        2.80     .624 No_date   28:00   66.65  n/a     .000
12011>                   SUM=      1.0 01:KB-P3        257.04   23.147 No_date   28:09   47.08  n/a     .000
12012> R0050:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12013>      ROUTE RESERVOIR ->     1.0 02:KB-P3        257.04   23.147 No_date   28:09   47.08  n/a     .000
12014>                    out <=    1.0 01:KB-P3R         9.40     .051 No_date   17:13   47.07  n/a     .000
12015>              overflow <=     1.0 03:KB-P3ovf     247.64   22.286 No_date   28:10   47.08  n/a     .000
12016>        {MxStoUsed=.1988E-02  m3, TotOrfVol= 1166E+02  m3, No-Ovf=    1, TotDurOvf=   23.hrs}
12017> R0050:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12018>      ADD HYD                1.0 02:KB-P3R         9.40     .051 No_date   17:13   47.07  n/a     .000
12019>                       +     1.0 02:KB-P3ovf     247.64   22.286 No_date   28:10   47.08  n/a     .000
12020>                   SUM=      1.0 01:KB-Pond3     257.04   22.337 No_date   28:10   47.08  n/a     .000
12021> R0050:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12022>      SAVE HYD               1.0 01:KB-Pond3     257.04   22.337 No_date   28:10   47.08  n/a     .000
12023>        fname :KB-Pond3.0050
12024>        remark:Total Flows at KB third pond
12025> #*************************************************************************
12026> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
12027> #    - TO FRASER-CLARKE DRAIN
12028> #*************************************************************************
12029> R0050:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12030>      CONTINUOUS STANDHYD    1.0 01:FC-01          8.03    1.483 No_date   28:01   49.52 .608    .000
12031>        [XIMP=.47:TIMP=.47]
12032>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12033>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12034>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
12035>        [IaRECimp=  4.00: IaRECper=   4.00]
12036> R0050:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12037>      COMPUTE DUALHYD        1.0 01:FC-01          8.03    1.483 No_date   28:01   49.52  n/a     .000
12038>        Major System   /     1.0 02:FC-01-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12039>        Minor System   \     1.0 03:FC-01-MN       8.03     .756 No_date   28:32   49.91  n/a     .000
12040>          {MjSysSto=.4662E+03, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12041> R0050:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12042>      ADD HYD                1.0 02:FC-01-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12043>                       +     1.0 02:FC-01-MN       8.03     .756 No_date   27:51   49.91  n/a     .000
12044>                   SUM=      1.0 01:FC-01-S        8.03     .756 No_date   27:51   49.91  n/a     .000
12045> R0050:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12046>      CONTINUOUS STANDHYD    1.0 01:FC-02         16.05    3.831 No_date   28:00   75.92 .931    .000
12047>        [XIMP=.93:TIMP=.93]
12048>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12049>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12050>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
12051>        [IaRECimp=  4.00: IaRECper=   4.00]
12052> R0050:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12053>      COMPUTE DUALHYD        1.0 01:FC-02         16.05    3.831 No_date   28:00   75.92  n/a     .000
12054>        Major System   /     1.0 02:FC-02-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12055>        Minor System   \     1.0 03:FC-02-MN      16.05    1.159 No_date   27:43   75.94  n/a     .000
12056>          {MjSysSto=.2348E+04, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12057> R0050:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12058>      ADD HYD                1.0 02:FC-02-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12059>                       +     1.0 02:FC-02-MN      16.05    1.159 No_date   27:43   75.94  n/a     .000
12060>                   SUM=      1.0 01:FC-02-S       16.05    1.159 No_date   27:43   75.94  n/a     .000
12061> R0050:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12062>      CONTINUOUS STANDHYD    1.0 01:FC-03          7.37    1.540 No_date   28:00   59.28 .727    .000
12063>        [XIMP=.64:TIMP=.64]
12064>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12065>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12066>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
12067>        [IaRECimp=  4.00: IaRECper=   4.00]
12068> R0050:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12069>      COMPUTE DUALHYD        1.0 01:FC-03          7.37    1.540 No_date   28:00   59.28  n/a     .000
12070>        Major System   /     1.0 02:FC-03-MJ       .02     .092 No_date   28:14   59.28  n/a     .000
12071>        Minor System   \     1.0 03:FC-03-MN       7.35     .358 No_date   27:42   59.51  n/a     .000
12072>          {MjSysSto=.1375E+04, TotOrfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
12073> R0050:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12074>      ADD HYD                1.0 02:FC-03-MJ       .02     .092 No_date   28:14   59.28  n/a     .000
12075>                       +     1.0 02:FC-03-MN       7.35     .358 No_date   27:42   59.51  n/a     .000
12076>                   SUM=      1.0 01:FC-03-S        7.37     .450 No_date   28:14   59.51  n/a     .000
12077> R0050:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12078>      CONTINUOUS STANDHYD    1.0 01:FC-04         12.87    2.587 No_date   28:01   59.28 .727    .000
12079>        [XIMP=.64:TIMP=.64]
12080>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12081>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12082>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
12083>        [IaRECimp=  4.00: IaRECper=   4.00]
12084> R0050:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12085>      COMPUTE DUALHYD        1.0 01:FC-04         12.87    2.587 No_date   28:01   59.28  n/a     .000
12086>        Major System   /     1.0 02:FC-04-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12087>        Minor System   \     1.0 03:FC-04-MN      12.87     .741 No_date   27:44   59.54  n/a     .000
12088>          {MjSysSto=.1729E+04, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12089> R0050:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12090>      ADD HYD                1.0 02:FC-04-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12091>                       +     1.0 02:FC-04-MN      12.87     .741 No_date   27:44   59.54  n/a     .000
12092>                   SUM=      1.0 01:FC-04-S       12.87     .741 No_date   27:44   59.54  n/a     .000
12093> #*************************************************************************
12094> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
12095> #    - TO JOCK RIVER
12096> #*************************************************************************
12097> R0050:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12098>      CONTINUOUS STANDHYD    1.0 01:JR-01          8.24    1.714 No_date   28:00   59.28 .727    .000
12099>        [XIMP=.64:TIMP=.64]
12100>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12101>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12102>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
12103>        [IaRECimp=  4.00: IaRECper=   4.00]
12104> R0050:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12105>      COMPUTE DUALHYD        1.0 01:JR-01          8.24    1.714 No_date   28:00   59.28  n/a     .000
12106>        Major System   /     1.0 02:JR-01-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12107>        Minor System   \     1.0 03:JR-01-MN       8.24     .563 No_date   28:59   59.48  n/a     .000
12108>          {MjSysSto=.9643E+03, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12109> R0050:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12110>      ADD HYD                1.0 02:JR-01-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12111>                       +     1.0 02:JR-01-MN       8.24     .563 No_date   27:44   59.48  n/a     .000
12112>                   SUM=      1.0 01:JR-01-S        8.24     .563 No_date   27:44   59.48  n/a     .000
12113> R0050:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12114>      CONTINUOUS STANDHYD    1.0 01:JR-02          1.59     .357 No_date   28:00   59.28 .727    .000
12115>        [XIMP=.64:TIMP=.64]
12116>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
12117>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12118>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
12119>        [IaRECimp=  4.00: IaRECper=   4.00]
12120> R0050:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12121>      COMPUTE DUALHYD        1.0 01:JR-02          1.59     .357 No_date   28:00   59.28  n/a     .000
12122>        Major System   /     1.0 02:JR-02-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12123>        Minor System   \     1.0 03:JR-02-MN       1.59     .153 No_date   27:45   59.66  n/a     .000
12124>          {MjSysSto=.1319E+03, TotOrfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12125> R0050:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12126>      ADD HYD                1.0 02:JR-02-MJ       .00     .000 No_date   0:00     .00  n/a     .000
12127>                       +     1.0 02:JR-02-MN       1.59     .153 No_date   27:45   59.66  n/a     .000
12128>                   SUM=      1.0 01:JR-02-S        1.59     .153 No_date   27:45   59.66  n/a     .000
12129> #*************************************************************************
12130> #    Catchment FRASER
12131> #    - To Fraser-Clarke drain (north of the Jock)
12132> #    - Developed land with assumed 43% imp.
12133> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
12134> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
12135> #*************************************************************************
12136> R0050:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12137>      CONTINUOUS NASHYD      1.0 01:FRASER-DRN    13.65     .711 No_date   28:22   39.91 .490    .000
12138>        [CN= 77.0: N= 3.00: Tp=  .43]
12139>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12140>        [InterEventTime=  12.00]
12141> R0050:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12142>      CONTINUOUS NASHYD      1.0 01:FRASER-D      21.61     .816 No_date   28:40   39.91 .490    .000
12143>        [CN= 77.0: N= 3.00: Tp=  .67]
12144>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12145>        [InterEventTime=  12.00]
12146> R0050:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12147>      ADD HYD                1.0 02:KB-Pond3     257.04   22.337 No_date   28:10   47.08  n/a     .000
12148>                       +     1.0 02:S-1-B          55.36    2.770 No_date   28:23   39.91  n/a     .000
12149>                       +     1.0 02:FRASER-DRN     13.65     .711 No_date   28:22   39.91  n/a     .000
12150>                       +     1.0 02:FRASER-D       21.61     .816 No_date   28:40   39.91  n/a     .000
12151>                       +     1.0 02:N_KB        54279.41  127.622 No_date   36:14   33.90  n/a     .000
12152>                       +     1.0 02:FC-01-S         8.03     .756 No_date   27:51   49.91  n/a     .000
12153>                       +     1.0 02:FC-02-S        16.05    1.159 No_date   27:43   75.94  n/a     .000
12154>                       +     1.0 02:FC-03-S         7.37     .450 No_date   28:14   59.51  n/a     .000
12155>                   SUM=      1.0 01:4241       54658.52  128.395 No_date   35:50   33.99  n/a     .000
12156> R0050:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12157>      SAVE HYD               1.0 01:4241       54658.52  128.395 No_date   35:50   33.99  n/a     .000
12158>        fname :4241.0050
12159>        remark:Total Flows at Ken-Burnett Outlet
12160> # Hydrograph from Node Ken-Burnett to station 3633
12161> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
12162> #
12163> R0050:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12164>      ROUTE CHANNEL     ->     1.0 02:4241       54658.52  128.395 No_date   35:50   33.99  n/a     .000
12165>        [RDT= 1.00] out<-     1.0 01:4241-out   54658.52  128.422 No_date   36:04   33.99  n/a     .000
12166>        [L/S/n=  294./ .109/.035]
12167>        [Vmax= 1.338:Dmax= 2.446]
12168> R0050:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12169>      ADD HYD                1.0 02:4241-out   54658.52  128.422 No_date   36:04   33.99  n/a     .000
12170>                       +     1.0 02:FC-04-S        12.87     .741 No_date   27:44   59.54  n/a     .000
12171>                       +     1.0 02:JR-01-S         8.24     .563 No_date   27:44   59.48  n/a     .000
12172>                       +     1.0 02:JR-02-S         1.59     .153 No_date   27:45   59.66  n/a     .000
12173>                   SUM=      1.0 01:KB           54681.21  128.479 No_date   35:47   34.00  n/a     .000
12174> R0050:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12175>      SAVE HYD               1.0 01:SN_KB      54681.21  128.479 No_date   35:47   34.00  n/a     .000
12176>        fname :SN_KB.0050
12177>        remark:HYD_COMMENT=["Total Flows before Station 3633]
12178> # Hydrograph from Station 3633 to Node Todd
12179> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
12180> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
12181> #
12182> R0050:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12183>      ROUTE CHANNEL     ->     1.0 02:SN_KB      54681.21  128.479 No_date   35:47   34.00  n/a     .000
12184>        [RDT= 1.00] out<-     1.0 01:N_TO       54681.21  128.396 No_date   36:11   34.00  n/a     .000
12185>        [L/S/n=  608./ .247/.035]
12186>        [Vmax= 1.819:Dmax= 1.834]
12187> #*************************************************************************
12188> #    Catchment Greenbank
12189> #    - To Greenbank Drain (south of the Jock)
12190> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
12191> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
12192> #*************************************************************************
12193> R0050:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12194>      CONTINUOUS STANDHYD    1.0 01:Greenbank     36.60    6.286 No_date   28:02   65.04 .798    .000
12195>        [XIMP=.64:TIMP=.68]
12196>        [LOSS= 2 :CN= 77.0]
12197>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12198>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
12199>        [IaRECimp=  4.00: IaRECper=   4.00]
12200>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12201> R0050:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12202>      ROUTE RESERVOIR ->     1.0 02:Greenbank     36.60    6.286 No_date   28:02   65.04  n/a     .000
12203>                    out <=    1.0 01:Greenbank_MN  36.60    4.176 No_date   28:09   65.04  n/a     .000
12204>              overflow <=     1.0 03:GreenBnk_MJ     .00     .000 No_date   0:00     .00  n/a     .000
12205>        {MxStoUsed=.9063E+00  m3, TotOrfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12206> R0050:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12207>      ADD HYD                1.0 02:N_TO       54681.21  128.396 No_date   36:11   34.00  n/a     .000
12208>                       +     1.0 02:GreenBnk_MJ     .00     .000 No_date   0:00     .00  n/a     .000
12209>                       +     1.0 02:GreenBnk_MN   36.60    4.176 No_date   28:09   65.04  n/a     .000
12210>                   SUM=      1.0 01:GreenB     54717.81  128.564 No_date   36:11   34.02  n/a     .000
12211> R0050:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12212>      SAVE HYD               1.0 01:GreenB     54717.81  128.564 No_date   36:11   34.02  n/a     .000
12213>        fname :GreenB.0050
12214>        remark:Total Flows at Greenbank Drain
12215> #*************************************************************************
12216> #    Catchment TODD
12217> #    - To Todd Drain (south of the Jock)
12218> #    - Subdivision with 43% imp. as per Barrhaven South MSS
12219> #    - 2020-11-30 increase imp. based on P598(04)-11
12220> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
12221> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
12222> #*************************************************************************
12223> #       JFSA 2021-01-19 add "TODD_MNi" as part of Clarke("W_CLAR_MJ") and remove it from Todd
12224> R0050:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12225>      CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10     .384 No_date   28:00   60.14 .738    .000
12226>        [XIMP=.53:TIMP=.57]
12227>        [LOSS= 2 :CN= 77.0]
12228>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12229>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
12230>        [IaRECimp=  4.00: IaRECper=   4.00]
12231>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12232> R0050:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12233>      CONTINUOUS STANDHYD    1.0 01:TODD_MN3        .12     .022 No_date   28:00   60.13 .738    .000
12234>        [XIMP=.53:TIMP=.57]
12235>        [LOSS= 2 :CN= 77.0]
12236>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12237>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
12238>        [IaRECimp=  4.00: IaRECper=   4.00]
12239>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12240> R0050:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12241>      CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23    4.894 No_date   28:02   61.85 .759    .000
12242>        [XIMP=.52:TIMP=.64]
12243>        [LOSS= 2 :CN= 77.0]
12244>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12245>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
12246>        [IaRECimp=  4.00: IaRECper=   4.00]
12247>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12248> R0050:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12249>      CONTINUOUS STANDHYD    1.0 01:TODD_ALL      112.91   15.270 No_date   28:04   59.95 .735    .000
12250>        [XIMP=.52:TIMP=.57]
12251>        [LOSS= 2 :CN= 77.0]
12252>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12253>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
12254>        [IaRECimp=  4.00: IaRECper=   4.00]
12255>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12256> R0050:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12257>      CONTINUOUS STANDHYD    1.0 01:TODD_P         3.06     .600 No_date   28:00   63.61 .780    .000
12258>        [XIMP=.63:TIMP=.63]
12259>        [LOSS= 2 :CN= 77.0]
12260>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12261>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
12262>        [IaRECimp=  4.00: IaRECper=   4.00]
12263>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12264> # 5-Year + 12% Capture
12265> R0050:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12266>      ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23    4.894 No_date   28:02   61.85  n/a     .000
12267>                    out <=    1.0 01:TODD_MJn       28.89    3.314 No_date   27:54   61.87  n/a     .000
12268>              overflow <=     1.0 03:TODD_MJ2        1.34    1.567 No_date   28:02   61.85  n/a     .000
12269>        {MxStoUsed=.1169E-02  m3, TotOrfVol=.8285E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12270> # 5-Year + 12% Capture
12271> R0050:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12272>      ROUTE RESERVOIR ->     1.0 02:TODD_MN2       2.10     .384 No_date   28:00   60.14  n/a     .000
12273>                    out <=    1.0 01:TODD_MN2n      2.02     .268 No_date   27:53   60.14  n/a     .000
12274>              overflow <=     1.0 03:TODD_MN2j       .08     .111 No_date   28:00   60.14  n/a     .000
12275>        {MxStoUsed=.1643E-03  m3, TotOrfVol=.4631E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12276> R0050:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12277>      ROUTE RESERVOIR ->     1.0 02:TODD_MN3        .12     .022 No_date   28:00   60.13  n/a     .000
12278>                    out <=    1.0 01:TODD_MN3n       .11     .016 No_date   27:52   60.13  n/a     .000
12279>              overflow <=     1.0 03:TODD_MN3j       .00     .006 No_date   28:00   60.13  n/a     .000
12280>        {MxStoUsed=.8712E-04  m3, TotOrfVol=.2472E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12281> R0050:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12282>      CONTINUOUS STANDHYD    1.0 01:A2            25.50    3.441 No_date   28:03   55.89 .686    .000
12283>        [XIMP=.42:TIMP=.52]
12284>        [LOSS= 2 :CN= 75.0]
12285>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12286>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
12287>        [IaRECimp=  4.00: IaRECper=   4.00]
12288>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12289> R0050:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12290>      COMPUTE DUALHYD        1.0 01:A2            25.50    3.441 No_date   28:03   55.89  n/a     .000
12291>        Major System   /     1.0 02:A2-MJ          .64    1.180 No_date   28:07   55.89  n/a     .000
12292>        Minor System   \     1.0 03:A2-MN        24.86    1.818 No_date   28:39   56.08  n/a     .000
12293>          {MjSysSto=.9240E+03, TotOrfVol=.3586E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
12294> R0050:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12295>      ADD HYD                1.0 02:TODD_MN2n      2.02     .268 No_date   27:53   60.14  n/a     .000
12296>                       +     1.0 02:TODD_MN3n       .11     .016 No_date   27:52   60.13  n/a     .000
12297>                       +     1.0 02:TODD_MJ        1.34    1.567 No_date   28:02   61.85  n/a     .000
12298>                       +     1.0 02:TODD_P         3.06     .600 No_date   28:00   63.61  n/a     .000
12299>                       +     1.0 02:TODD_ALL     112.91   15.270 No_date   28:04   59.95  n/a     .000
12300>                       +     1.0 02:W_CLAR_MJn      .70     .213 No_date   27:53   59.44  n/a     .000
12301>                   SUM=      1.0 01:TODD         121.14   17.643 No_date   28:03   60.06  n/a     .000
12302> R0050:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12303>      SAVE HYD               1.0 01:TODD         121.14   17.643 No_date   28:03   60.06  n/a     .000
12304>        fname :TODD.0050
12305>        remark:Total Flows at Todd Drain
12306> #*************************************************************************
12307> #    Todd Pond 3
12308> #    - Rating curve obtained from Barrhaven South MSS modeling
12309> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
12310> #*************************************************************************
12311> R0050:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12312>      ROUTE RESERVOIR ->     1.0 02:TODD         121.14   17.643 No_date   28:03   60.06  n/a     .000
12313>                    out <=    1.0 01:MS_P3        121.14   12.815 No_date   28:18   60.05  n/a     .000
12314>              overflow <=     1.0 03:P3-OVF          .00     .000 No_date
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12343> #    - Primarily Developed (medium density)
12344> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
12345> #*************************************************************************
12346> R0050:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12347>      CONTINUOUS STANDHYD    1.0 01:corr1          15.87    2.851 No_date   28:01   63.61 .780    .000
12348>        [XIMP=.63:TIMP=.63]
12349>        [LOSS= 2 :CN= 77.0]
12350>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12351>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
12352>        [IaRECimp=  4.00: IaRECper=   4.00]
12353>        [SMIN= 31.15: SMAX=207.66: SK= .010]
12354> R0050:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12355>      COMPUTE DUALHYD        1.0 01:corr1          15.87    2.851 No_date   28:01   63.61 n/a     .000
12356>        Major System   /      1.0 02:corr1-MJ        .00     .000 No_date    0:00     .00 n/a     .000
12357>        Minor System   \      1.0 03:corr1-MN       15.87    1.818 No_date   28:19   63.67 n/a     .000
12358>        {MjSysSto=.5297E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12359> R0050:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12360>      CONTINUOUS NASHYD      1.0 01:corr2          12.47     .330 No_date   29:10   39.91 .490    .000
12361>        [CN= 77.0: N= 3.00: Tp= 1.10]
12362>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12363>        [InterEventTime=  12.00]
12364> R0050:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12365>      CONTINUOUS STANDHYD    1.0 01:A1-Corrig      15.75    2.330 No_date   28:01   55.89 .686    .000
12366>        [XIMP=.42:TIMP=.52]
12367>        [LOSS= 2 :CN= 75.0]
12368>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12369>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
12370>        [IaRECimp=  4.00: IaRECper=   4.00]
12371>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12372> R0050:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12373>      COMPUTE DUALHYD        1.0 01:A1-Corrig      15.75    2.330 No_date   28:01   55.89 n/a     .000
12374>        Major System   /      1.0 02:A1-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12375>        Minor System   \      1.0 03:A1-MN          15.75    1.818 No_date   27:56   56.07 n/a     .000
12376>        {MjSysSto=.1953E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12377> R0050:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12378>      CONTINUOUS NASHYD      1.0 01:B1             2.77     .119 No_date   28:09   24.96 .306    .000
12379>        [CN= 56.0: N= 3.00: Tp=  .23]
12380>        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
12381>        [InterEventTime=  12.00]
12382> R0050:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12383>      CONTINUOUS STANDHYD    1.0 01:A4             1.27     .239 No_date   28:00   63.95 .785    .000
12384>        [XIMP=.65:TIMP=.65]
12385>        [LOSS= 2 :CN= 75.0]
12386>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12387>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
12388>        [IaRECimp=  4.00: IaRECper=   4.00]
12389>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12390> R0050:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12391>      COMPUTE DUALHYD        1.0 01:A4             1.27     .239 No_date   28:00   63.95 n/a     .000
12392>        Major System   /      1.0 02:A4-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12393>        Minor System   \      1.0 03:A4-MN          1.27     .239 No_date   28:00   63.95 n/a     .000
12394>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12395> R0050:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12396>      ADD HYD                +      1.0 02:A1-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12397>                             +      1.0 02:A1-MN          15.75    1.818 No_date   27:56   56.07 n/a     .000
12398>                             +      1.0 02:corr1-MJ        .00     .000 No_date    0:00     .00 n/a     .000
12399>                             +      1.0 02:corr1-MN       15.87    1.818 No_date   28:19   63.67 n/a     .000
12400>                             +      1.0 02:corr2          12.47     .330 No_date   29:10   39.91 n/a     .000
12401>                             +      1.0 02:B1              2.77     .119 No_date   28:09   24.96 n/a     .000
12402>                             +      1.0 02:A4-MN           1.27     .239 No_date   28:00   63.95 n/a     .000
12403>                           SUM=     1.0 01:MH101          48.13    4.028 No_date   28:02   52.81 n/a     .000
12404> R0050:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12405>      SAVE HYD               1.0 01:MH101          48.13    4.028 No_date   28:02   52.81 n/a     .000
12406>        fname :MH101.0050
12407>        remark:Total Flows at MH101
12408> R0050:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12409>      ROUTE PIPE     ->      1.0 02:MH101          48.13    4.028 No_date   28:02   52.81 n/a     .000
12410> *  [RDT= 1.00] out<-      1.0 01:101-102        48.13    4.005 No_date   28:03   52.81 n/a     .000
12411>        [L/S/n=  368./ .540/.013]
12412>        {Vmax= 3.143:Dmax= 1.119}
12413>        [Din= 1.05:Dused= 1.36]
12414> R0050:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12415>      ADD HYD                +      1.0 02:A2-MN          24.86    1.818 No_date   28:39   56.08 n/a     .000
12416>                             +      1.0 02:101-102        48.13    4.005 No_date   28:03   52.81 n/a     .000
12417>                           SUM=     1.0 01:MH102          72.99    5.823 No_date   28:03   53.92 n/a     .000
12418> R0050:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12419>      SAVE HYD               1.0 01:MH102          72.99    5.823 No_date   28:03   53.92 n/a     .000
12420>        fname :MH102.0050
12421>        remark:Total Flows at MH102
12422> R0050:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12423>      CONTINUOUS STANDHYD    1.0 01:A5             1.60     .312 No_date   28:01   66.69 .818    .000
12424>        [XIMP=.71:TIMP=.71]
12425>        [LOSS= 2 :CN= 75.0]
12426>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12427>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
12428>        [IaRECimp=  4.00: IaRECper=   4.00]
12429>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12430> R0050:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12431>      ADD HYD                +      1.0 02:A4-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12432>                             +      1.0 02:A5             1.60     .312 No_date   28:01   66.69 n/a     .000
12433>                           SUM=     1.0 01:A5T            1.60     .312 No_date   28:01   66.69 n/a     .000
12434> R0050:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12435>      COMPUTE DUALHYD        1.0 01:A5T            1.60     .312 No_date   28:01   66.69 n/a     .000
12436>        Major System   /      1.0 02:A5-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12437>        Minor System   \      1.0 03:A5-MN          1.60     .312 No_date   28:01   66.69 n/a     .000
12438>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12439> R0050:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12440>      ROUTE PIPE     ->      1.0 02:MH102          72.99    5.823 No_date   28:03   53.92 n/a     .000
12441> *  [RDT= 1.00] out<-      1.0 01:102-103        72.99    5.773 No_date   28:14   53.92 n/a     .000
12442>        [L/S/n=  504./ .280/.013]
12443>        {Vmax= 2.694:Dmax= 1.453}
12444>        [Din= 1.50:Dused= 1.77]
12445> R0050:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12446>      ADD HYD                +      1.0 02:102-103        72.99    5.773 No_date   28:14   53.92 n/a     .000
12447>                             +      1.0 02:A5-MN          1.60     .312 No_date   28:01   66.69 n/a     .000
12448>                           SUM=     1.0 01:MH103          74.59    5.961 No_date   28:03   54.19 n/a     .000
12449> R0050:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12450>      SAVE HYD               1.0 01:MH103          74.59    5.961 No_date   28:03   54.19 n/a     .000
12451>        fname :MH103.0050
12452>        remark:Total Flows at MH103
12453> R0050:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12454>      ROUTE PIPE     ->      1.0 02:MH103          74.59    5.961 No_date   28:03   54.19 n/a     .000
12455> *  [RDT= 1.00] out<-      1.0 01:103-104        74.59    5.915 No_date   28:07   54.19 n/a     .000
12456>        [L/S/n=  438./ .460/.013]
12457>        {Vmax= 3.295:Dmax= 1.301}
12458>        [Din= 1.65:Dused= 1.65]
12459> R0050:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12460>      CONTINUOUS STANDHYD    1.0 01:A6             1.56     .306 No_date   28:00   66.69 .818    .000
12461>        [XIMP=.71:TIMP=.71]
12462>        [LOSS= 2 :CN= 75.0]
12463>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12464>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
12465>        [IaRECimp=  4.00: IaRECper=   4.00]
12466>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12467> R0050:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12468>      ADD HYD                +      1.0 02:A5-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12469>                             +      1.0 02:A6             1.56     .306 No_date   28:00   66.69 n/a     .000
12470>                           SUM=     1.0 01:A6T            1.56     .306 No_date   28:00   66.69 n/a     .000
12471> R0050:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12472>      COMPUTE DUALHYD        1.0 01:A6T            1.56     .306 No_date   28:00   66.69 n/a     .000
12473>        Major System   /      1.0 02:A6-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12474>        Minor System   \      1.0 03:A6-MN          1.56     .306 No_date   28:00   66.69 n/a     .000
12475>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12476> R0050:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12477>      ADD HYD                +      1.0 02:A6-MN          1.56     .306 No_date   28:00   66.69 n/a     .000
12478>                             +      1.0 02:103-104        74.59    5.915 No_date   28:07   54.19 n/a     .000
12479>                             +      1.0 02:TODD_MJn       20.89    3.314 No_date   27:54   61.87 n/a     .000
12480>                           SUM=     1.0 01:MH104         105.04    9.444 No_date   28:04   56.49 n/a     .000
12481> R0050:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12482>      SAVE HYD               1.0 01:MH104         105.04    9.444 No_date   28:04   56.49 n/a     .000
12483>        fname :MH104.0050
12484>        remark:Total Flows at MH104
12485> R0050:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12486>      CONTINUOUS STANDHYD    1.0 01:B2             12.31    1.758 No_date   28:02   56.26 .690    .000
12487>        [XIMP=.41:TIMP=.54]
12488>        [LOSS= 2 :CN= 75.0]
12489>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12490>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
12491>        [IaRECimp=  4.00: IaRECper=   4.00]
12492>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12493> R0050:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12494>      COMPUTE DUALHYD        1.0 01:B2             12.31    1.758 No_date   28:02   56.26 n/a     .000
12495>        Major System   /      1.0 02:B2-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12496>        Minor System   \      1.0 03:B2-MN          12.31    1.029 No_date   27:53   56.54 n/a     .000
12497>        {MjSysSto=.4799E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12498> R0050:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12499>      ROUTE PIPE     ->      1.0 02:B2-MN          12.31    1.029 No_date   27:53   56.54 n/a     .000
12500> *  [RDT= 1.00] out<-      1.0 01:315-333        12.31    1.029 No_date   28:33   56.54 n/a     .000
12501>        [L/S/n=  254./ .100/.013]
12502>        {Vmax= 1.220:Dmax=  .838}
12503>        [Din= 1.20:Dused= 1.20]
12504> R0050:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12505>      CONTINUOUS STANDHYD    1.0 01:B3             5.59     .825 No_date   28:01   56.26 .690    .000
12506>        [XIMP=.41:TIMP=.54]
12507>        [LOSS= 2 :CN= 75.0]
12508>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12509>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
12510>        [IaRECimp=  4.00: IaRECper=   4.00]
12511>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12512> R0050:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12513>      COMPUTE DUALHYD        1.0 01:B3             5.59     .825 No_date   28:01   56.26 n/a     .000
12514>        Major System   /      1.0 02:B3-MJ           .02     .083 No_date   28:09   56.26 n/a     .000
12515>        Minor System   \      1.0 03:B3-MN          5.57     .459 No_date   27:52   56.28 n/a     .000
12516>        {MjSysSto=.2270E+03, TotOvfVol=.1279E+02, N-Ovf=    1, ToTDurOvf=    0.hrs}
12517> R0050:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12518>      ADD HYD                +      1.0 02:B3-MN          5.57     .459 No_date   27:52   56.28 n/a     .000
12519>                             +      1.0 02:315-333        12.31    1.029 No_date   28:33   56.54 n/a     .000
12520>                           SUM=     1.0 01:MH333          17.88    1.488 No_date   28:32   56.46 n/a     .000
12521> R0050:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12522>      SAVE HYD               1.0 01:MH333          17.88    1.488 No_date   28:32   56.46 n/a     .000
12523>        fname :MH333.0050
12524>        remark:Total Flows at MH333
12525> R0050:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12526>      ROUTE PIPE     ->      1.0 02:MH333          17.88    1.488 No_date   28:32   56.46 n/a     .000
12527> *  [RDT= 1.00] out<-      1.0 01:333-335        17.88    1.479 No_date   28:19   56.46 n/a     .000
12528>        [L/S/n=  251./ .100/.013]
12529>        {Vmax= 1.302:Dmax= 1.057}
12530>        [Din= 1.20:Dused= 1.29]
12531> R0050:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12532>      ROUTE PIPE     ->      1.0 02:333-335        17.88    1.479 No_date   28:19   56.46 n/a     .000
12533> *  [RDT= 1.00] out<-      1.0 01:335-338        17.88    1.478 No_date   28:16   56.46 n/a     .000
12534>        [L/S/n=  185./ .100/.013]
12535>        {Vmax= 1.300:Dmax= 1.054}
12536>        [Din= 1.20:Dused= 1.28]
12537> R0050:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12538>      ROUTE PIPE     ->      1.0 02:335-338        17.88    1.478 No_date   28:16   56.46 n/a     .000
12539>        [RDT= 1.00] out<-      1.0 01:338-340        17.88    1.454 No_date   28:18   56.46 n/a     .000
12540>        [L/S/n=  233./ .100/.013]
12541>        {Vmax= 1.330:Dmax=  .979}
12542>        [Din= 1.35:Dused= 1.35]
12543> R0050:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12544>      CONTINUOUS STANDHYD    1.0 01:B4             7.60    1.094 No_date   28:02   56.26 .690    .000
12545>        [XIMP=.41:TIMP=.54]
12546>        [LOSS= 2 :CN= 75.0]
12547>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12548>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
12549>        [IaRECimp=  4.00: IaRECper=   4.00]
12550>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12551> R0050:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12552>      COMPUTE DUALHYD        1.0 01:B4             7.60    1.094 No_date   28:02   56.26 n/a     .000
12553>        Major System   /      1.0 02:B4-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12554>        Minor System   \      1.0 03:B4-MN          7.60     .655 No_date   27:53   56.27 n/a     .000
12555>        {MjSysSto=.2780E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12556> R0050:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12557>      ADD HYD                +      1.0 02:338-340        17.88    1.454 No_date   28:18   56.46 n/a     .000
12558>                             +      1.0 02:B4-MN          7.60     .655 No_date   27:53   56.27 n/a     .000
12559>                           SUM=     1.0 01:MH340          25.48    2.109 No_date   28:18   56.41 n/a     .000
12560> R0050:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12561>      SAVE HYD               1.0 01:MH340          25.48    2.109 No_date   28:18   56.41 n/a     .000
12562>        fname :MH340.0050
12563>        remark:Total Flows at MH340
12564> R0050:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12565>      ROUTE PIPE     ->      1.0 02:MH340          25.48    2.109 No_date   28:18   56.41 n/a     .000
12566>        [RDT= 1.00] out<-      1.0 01:340-104        25.48    2.090 No_date   28:18   56.41 n/a     .000
12567>        [L/S/n=  249./ .150/.013]
12568>        {Vmax= 1.723:Dmax=  .918}
12569>        [Din= 1.65:Dused= 1.65]
12570> R0050:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12571>      ADD HYD                +      1.0 02:340-104        25.48    2.090 No_date   28:18   56.41 n/a     .000
12572>                             +      1.0 02:MH104         105.04    9.444 No_date   28:04   56.49 n/a     .000
12573>                           SUM=     1.0 01:MH104T         130.52   11.391 No_date   28:07   56.48 n/a     .000
12574> R0050:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12575>      ROUTE PIPE     ->      1.0 02:MH104T         130.52   11.391 No_date   28:07   56.48 n/a     .000
12576> *  [RDT= 1.00] out<-      1.0 01:104-105        130.52   11.118 No_date   28:10   56.48 n/a     .000
12577>        [L/S/n=  380./ .100/.013]
12578>        {Vmax= 2.107:Dmax= 2.003}
12579>        {HGTH= 2.36:WDTH= 2.70}
12580> R0050:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12581>      CONTINUOUS STANDHYD    1.0 01:B5             2.20     .390 No_date   28:00   60.29 .740    .000
12582>        [XIMP=.57:TIMP=.57]
12583>        [LOSS= 2 :CN= 75.0]
12584>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12585>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
12586>        [IaRECimp=  4.00: IaRECper=   4.00]
12587>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12588> R0050:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12589>      COMPUTE DUALHYD        1.0 01:B5             2.20     .390 No_date   28:00   60.29 n/a     .000
12590>        Major System   /      1.0 02:B5-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12591>        Minor System   \      1.0 03:B5-MN          2.20     .260 No_date   27:53   60.60 n/a     .000
12592>        {MjSysSto=.5913E+02, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12593> R0050:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12594>      CONTINUOUS STANDHYD    1.0 01:A8              .96     .198 No_date   28:00   66.69 .818    .000
12595>        [XIMP=.71:TIMP=.71]
12596>        [LOSS= 2 :CN= 75.0]
12597>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12598>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
12599>        [IaRECimp=  4.00: IaRECper=   4.00]
12600>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12601> R0050:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12602>      ADD HYD                +      1.0 02:A6-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12603>                             +      1.0 02:A8              .96     .198 No_date   28:00   66.69 n/a     .000
12604>                           SUM=     1.0 01:A8T             .96     .198 No_date   28:00   66.69 n/a     .000
12605> R0050:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12606>      COMPUTE DUALHYD        1.0 01:A8T             .96     .198 No_date   28:00   66.69 n/a     .000
12607>        Major System   /      1.0 02:A8-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12608>        Minor System   \      1.0 03:A8-MN           .96     .198 No_date   28:00   66.69 n/a     .000
12609>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12610> R0050:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12611>      ADD HYD                +      1.0 02:104-105        130.52   11.118 No_date   28:10   56.48 n/a     .000
12612>                             +      1.0 02:B5-MN          2.20     .260 No_date   27:53   60.60 n/a     .000
12613>                             +      1.0 02:A8-MN           .96     .198 No_date   28:00   66.69 n/a     .000
12614>                             +      1.0 02:TODD_MN3j       .00     .006 No_date   28:00   60.13 n/a     .000
12615>                           SUM=     1.0 01:MH105          133.68   11.441 No_date   28:10   56.62 n/a     .000
12616> R0050:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12617>      SAVE HYD               1.0 01:MH105          133.68   11.441 No_date   28:10   56.62 n/a     .000
12618>        fname :MH105.0050
12619>        remark:Total Flows at MH105
12620> R0050:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12621> *  DIVERT HYD     ->      1.0 01:A8-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12622>                     diverted <=  1.0 02:A8-MJ-JR        .00     .000 No_date    0:00     .00 n/a     .000
12623>                     diverted <=  1.0 03:A8-MJ-B6        .00     .000 No_date    0:00     .00 n/a     .000
12624> R0050:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12625>      DIVERT HYD     ->      1.0 01:MH105          133.68   11.441 No_date   28:10   56.62 n/a     .000
12626>                     diverted <=  1.0 02:MH105-JR       35.42    8.432 No_date   28:10   56.62 n/a     .000
12627>                     diverted <=  1.0 03:MH105-B6       98.26    3.009 No_date   28:10   56.62 n/a     .000
12628> R0050:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12629>      CONTINUOUS STANDHYD    1.0 01:B7             7.19    1.124 No_date   28:01   56.26 .690    .000
12630>        [XIMP=.41:TIMP=.54]
12631>        [LOSS= 2 :CN= 75.0]
12632>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12633>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
12634>        [IaRECimp=  4.00: IaRECper=   4.00]
12635>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12636> R0050:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12637>      ADD HYD                +      1.0 02:B4-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12638>                             +      1.0 02:B7             7.19    1.124 No_date   28:01   56.26 n/a     .000
12639>                           SUM=     1.0 01:B7-B4MJ        7.19    1.124 No_date   28:01   56.26 n/a     .000
12640> R0050:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12641>      COMPUTE DUALHYD        1.0 01:B7-B4MJ        7.19    1.124 No_date   28:01   56.26 n/a     .000
12642>        Major System   /      1.0 02:B7R-MJ          .00     .000 No_date    0:00     .00 n/a     .000
12643>        Minor System   \      1.0 03:B7R-MN         7.19     .629 No_date   27:51   56.37 n/a     .000
12644>        {MjSysSto=.2888E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12645> R0050:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12646>      ROUTE PIPE     ->      1.0 02:B7R-MN         7.19     .629 No_date   27:51   56.37 n/a     .000
12647> *  [RDT= 1.00] out<-      1.0 01:360-106A       7.19     .629 No_date   28:28   56.37 n/a     .000
12648>        [L/S/n=  167./ .100/.013]
12649>        {Vmax= 1.089:Dmax=  .665}
12650>        [Din= 1.05:Dused= 1.05]
12651> R0050:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12652>      CONTINUOUS STANDHYD    1.0 01:B6             3.29     .535 No_date   28:00   56.26 .690    .000
12653>        [XIMP=.41:TIMP=.54]
12654>        [LOSS= 2 :CN= 75.0]
12655>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12656>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
12657>        [IaRECimp=  4.00: IaRECper=   4.00]
12658>        [SMIN= 33.81: SMAX=225.43: SK= .010]
12659> R0050:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12660>      COMPUTE DUALHYD        1.0 01:B6             3.29     .535 No_date   28:00   56.26 n/a     .000
12661>        Major System   /      1.0 02:B6-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12662>        Minor System   \      1.0 03:B6-MN          3.29     .064 No_date   27:33   56.32 n/a     .000
12663>        {MjSysSto=.6238E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTDurOvf=    0.hrs}
12664> R0050:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12665>      CONTINUOUS STANDHYD    1.0 01:EX-LAND       32.50    4.637 No_date   28:02   56.33 .691    .000
12666>        [XIMP=.50:TIMP=.50]
12667>        [LOSS= 2 :CN= 74.0]
12668>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12669>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
12670>        [IaRECimp=  4.00: IaRECper=   4.00]
12671>        [SMIN= 36.67: SMAX=244.49: SK= .010]
12672> R0050:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12673>      COMPUTE DUALHYD        1.0 01:EX-LAND       32.50    4.637 No_date   28:02   56.33 n/a     .000
12674>        Major System   /      1.0 02:EX-LAND-MJ      .76    1.533 No_date   28:06   56.33 n/a     .000
12675>        Minor System   \      1.0 03:EX-LAND-MN     31.74    2.275 No_date   27:49   56.55 n/a     .000
12676>        {MjSysSto=.1365E+04, TotOvfVol=.4274E+03, N-Ovf=    1, ToTDurOvf=    0.hrs}
12677> R0050:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12678>      ADD HYD                +      1.0 02:B7R-MN         7.19     .629 No_date   27:51   56.37 n/a     .000
12679>                             +      1.0 02:EX-LAND-MJ      .76    1.533 No_date   28:06   56.33 n/a     .000
12680>                             +      1.0 02:B5-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12681>                             +      1.0 02:B6-MJ           .00     .000 No_date    0:00     .00 n/a     .000
12682>                             +      1.0 02:B6-MN          3.29     .064 No_date   27:33   56.32 n/a     .000
12683>                             +      1.0 02:B7-B4MJ-B6      .00     .000 No_date    0:00     .00 n/a     .000
12684>                           SUM=     1.0 01:B6-B7ExMJ      4.05    1.597 No_date   28:06   56.32 n/a     .000
12685> R0050:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12686>      COMPUTE DUALHYD        1.0 01:B6-B7ExMJ      4.05    1.597 No_date   28:06   56.32 n/a     .
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12717>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
12718>       [IaRECimp=   4.00: IaRECper=   4.00]
12719>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12720> R0050:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12721>     COMPUTE DUALHYD       1.0 01:A9              2.44      .481 No_date   28:00   66.69  n/a     .000
12722>       Major System   /     1.0 02:A9-MJ            .00      .000 No_date   0:00     .00  n/a     .000
12723>       Minor System   \     1.0 03:A9-MN           2.44      .481 No_date   28:00   66.69  n/a     .000
12724> R0050:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12725>     ADD HYD               1.0 02:106A-106      109.50    3.702 No_date   27:59   56.59  n/a     .000
12726>                   +       1.0 02:A9-MN           2.44      .481 No_date   28:00   66.69  n/a     .000
12727>                  SUM=     1.0 01:MH106         111.94    4.177 No_date   28:00   56.81  n/a     .000
12728> R0050:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12729>     SAVE HYD              1.0 01:MH106         111.94    4.177 No_date   28:00   56.81  n/a     .000
12730>       fname :MH106.0050
12731>       remark:Total Flows at MH106
12732> R0050:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12733>     ROUTE PIPE      ->    1.0 02:MH106         111.94    4.177 No_date   28:00   56.81  n/a     .000
12734> *   [RDT= 1.00] out<-     1.0 01:106-107       111.94    4.129 No_date   28:00   56.81  n/a     .000
12735>       [L/S/n=  123./ .100/.013]
12736>       [Vmax= 1.685:Dmax= 1.556]
12737>       [Din= 1.80:Dused= 1.90]
12738> R0050:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12739>     CONTINUOUS STANDHYD    1.0 01:A10             4.14      .602 No_date   28:01   53.20 .653     .000
12740>       [XIMP=.35:TIMP=.47]
12741>       [LOSS= 2 :CN= 75.0]
12742>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12743>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
12744>       [IaRECimp=   4.00: IaRECper=   4.00]
12745>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12746> R0050:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12747>     COMPUTE DUALHYD       1.0 01:A10             4.14      .602 No_date   28:01   53.20  n/a     .000
12748>       Major System   /     1.0 02:A10-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12749>       Minor System   \     1.0 03:A10-MN          4.14      .310 No_date   27:50   53.25  n/a     .000
12750>       {MjSysSto=.1897E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12751> R0050:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12752>     CONTINUOUS STANDHYD    1.0 01:A11            10.61     1.720 No_date   28:02   60.69 .745     .000
12753>       [XIMP=.53:TIMP=.62]
12754>       [LOSS= 2 :CN= 75.0]
12755>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12756>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
12757>       [IaRECimp=   4.00: IaRECper=   4.00]
12758>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12759> R0050:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12760>     COMPUTE DUALHYD       1.0 01:A11            10.61     1.720 No_date   28:02   60.69  n/a     .000
12761>       Major System   /     1.0 02:A11-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12762>       Minor System   \     1.0 03:A11-MN         10.61      .993 No_date   27:52   60.86  n/a     .000
12763>       {MjSysSto=.4540E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12764> R0050:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12765>     ADD HYD               1.0 02:106-107       111.94    4.129 No_date   28:00   56.81  n/a     .000
12766>                   +       1.0 02:A10-MN          4.14      .310 No_date   27:50   53.25  n/a     .000
12767>                   +       1.0 02:A11-MN         10.61      .993 No_date   27:52   60.86  n/a     .000
12768>                  SUM=     1.0 01:MH107         126.69    5.432 No_date   28:00   57.03  n/a     .000
12769> R0050:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12770>     SAVE HYD              1.0 01:MH107         126.69    5.432 No_date   28:00   57.03  n/a     .000
12771>       fname :MH107.0050
12772>       remark:Total Flows at MH107
12773> R0050:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12774>     ROUTE PIPE      ->    1.0 02:MH107         126.69    5.432 No_date   28:00   57.03  n/a     .000
12775> *   [RDT= 1.00] out<-     1.0 01:107-119       126.69    5.345 No_date   28:00   57.03  n/a     .000
12776>       [L/S/n=  114./ .120/.013]
12777>       {Vmax= 1.927:Dmax= 1.660}
12778>       [Din= 1.80:Dused= 2.02]
12779> R0050:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12780>     ROUTE PIPE      ->    1.0 02:107-119       126.69    5.345 No_date   28:00   57.03  n/a     .000
12781> *   [RDT= 1.00] out<-     1.0 01:119-108       126.69    5.334 No_date   28:01   57.03  n/a     .000
12782>       [L/S/n=   66./ .120/.013]
12783>       {Vmax= 1.919:Dmax= 1.650}
12784>       [Din= 1.80:Dused= 2.01]
12785> R0050:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12786>     CONTINUOUS STANDHYD    1.0 01:A12            12.29     1.938 No_date   28:01   56.26 .690     .000
12787>       [XIMP=.41:TIMP=.54]
12788>       [LOSS= 2 :CN= 75.0]
12789>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12790>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
12791>       [IaRECimp=   4.00: IaRECper=   4.00]
12792>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12793> R0050:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12794>     COMPUTE DUALHYD       1.0 01:A12            12.29     1.938 No_date   28:01   56.26  n/a     .000
12795>       Major System   /     1.0 02:A12-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12796>       Minor System   \     1.0 03:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a     .000
12797>       {MjSysSto=.5545E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12798> R0050:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12799>     CONTINUOUS STANDHYD    1.0 01:A13             2.59      .487 No_date   28:01   66.69 .818     .000
12800>       [XIMP=.71:TIMP=.71]
12801>       [LOSS= 2 :CN= 75.0]
12802>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12803>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
12804>       [IaRECimp=   4.00: IaRECper=   4.00]
12805>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12806> R0050:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12807>     COMPUTE DUALHYD       1.0 01:A13             2.59      .487 No_date   28:01   66.69  n/a     .000
12808>       Major System   /     1.0 02:A13-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12809>       Minor System   \     1.0 03:A13-MN          2.59      .487 No_date   28:01   66.69  n/a     .000
12810> R0050:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12811>     CONTINUOUS STANDHYD    1.0 01:Pond-Block      2.94      .430 No_date   28:00   53.21 .653     .000
12812>       [XIMP=.41:TIMP=.41]
12813>       [LOSS= 2 :CN= 75.0]
12814>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12815>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
12816>       [IaRECimp=   4.00: IaRECper=   4.00]
12817>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12818> R0050:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12819>     ADD HYD               1.0 02:119-108       126.69    5.334 No_date   28:01   57.03  n/a     .000
12820>                   +       1.0 02:A13-MN          2.59      .487 No_date   28:01   66.69  n/a     .000
12821>                   +       1.0 02:A12-MN         12.29     1.029 No_date   27:50   56.44  n/a     .000
12822>                  SUM=     1.0 01:MH108         141.57    6.850 No_date   28:01   57.16  n/a     .000
12823> R0050:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12824>     SAVE HYD              1.0 01:MH108         141.57    6.850 No_date   28:01   57.16  n/a     .000
12825>       fname :MH108.0050
12826>       remark:Total Flows at MH108
12827> R0050:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12828>     ROUTE PIPE      ->    1.0 02:MH108         141.57    6.850 No_date   28:01   57.16  n/a     .000
12829> *   [RDT= 1.00] out<-     1.0 01:108-116       141.57    6.810 No_date   28:02   57.16  n/a     .000
12830>       [L/S/n=   77./ .130/.013]
12831>       {Vmax= 2.104:Dmax= 1.784}
12832>       [Din= 1.80:Dused= 2.17]
12833> R0050:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12834>     ROUTE PIPE      ->    1.0 02:108-116       141.57    6.810 No_date   28:02   57.16  n/a     .000
12835> *   [RDT= 1.00] out<-     1.0 01:116-corrig    141.57    6.771 No_date   28:02   57.16  n/a     .000
12836>       [L/S/n=   80./ .130/.013]
12837>       {Vmax= 2.101:Dmax= 1.780}
12838>       [Din= 1.80:Dused= 2.17]
12839> R0050:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12840>     ADD HYD               1.0 02:116-corrig    141.57    6.771 No_date   28:02   57.16  n/a     .000
12841>                   +       1.0 02:Pond-Block      2.94      .430 No_date   28:00   53.21  n/a     .000
12842>                  SUM=     1.0 01:Corrigan      144.51    7.185 No_date   28:02   57.08  n/a     .000
12843> R0050:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12844>     SAVE HYD              1.0 01:Corrigan      144.51    7.185 No_date   28:02   57.08  n/a     .000
12845>       fname :Corrigan.0050
12846>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
12847> R0050:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12848>     ROUTE RESERVOIR ->    1.0 02:Corrigan      144.51    7.185 No_date   28:02   57.08  n/a     .000
12849>                 out <=    1.0 01:Co-P          144.51    6.335 No_date   28:26   57.08  n/a     .000
12850>           overflow <=     1.0 03:Co-P-OVF         .00      .000 No_date   0:00     .00  n/a     .000
12851>       {MxStoUsed=.1027E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12852> R0050:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12853>     ADD HYD               1.0 02:Co-P-OVF         .00      .000 No_date   0:00     .00  n/a     .000
12854>                   +       1.0 02:Co-P          144.51    6.335 No_date   28:26   57.08  n/a     .000
12855>                   +       1.0 02:N_TO        54839.66  128.918 No_date   36:18   34.08  n/a     .000
12856>                   +       1.0 02:MH105-JR       35.42    8.432 No_date   28:10   56.62  n/a     .000
12857>                   +       1.0 02:A8-MJ-JR         .00      .000 No_date   0:00     .00  n/a     .000
12858>                   +       1.0 02:A9-MJ            .00      .000 No_date   0:00     .00  n/a     .000
12859>                   +       1.0 02:A10-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12860>                   +       1.0 02:A11-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12861>                   +       1.0 02:A12-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12862>                   +       1.0 02:A13-MJ           .00      .000 No_date   0:00     .00  n/a     .000
12863>                  SUM=     1.0 01:corrig      55019.59  129.561 No_date   36:17   34.16  n/a     .000
12864> R0050:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12865>     SAVE HYD              1.0 01:corrig      55019.59  129.561 No_date   36:17   34.16  n/a     .000
12866>       fname :corrig.0050
12867>       remark:Total Flows at Corrigan Pond
12868> #*************************************************************************
12869> #    Corrigan Pond 1
12870> #    - Rating curve obtained from Barrhaven South MSS modeling
12871> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
12872> #*************************************************************************
12873> #
12874> # Hydrograph from Corrigan Drain routed to Jockvale Road
12875> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
12876> #
12877> R0050:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12878>     ROUTE CHANNEL   ->    1.0 02:corrig        55019.59  129.561 No_date   36:17   34.16  n/a     .000
12879>       [RDT= 1.00] out<-     1.0 01:N_MI        55019.59  129.543 No_date   36:20   34.16  n/a     .000
12880>       [L/S/n=  580./ .445/.045]
12881>       {Vmax= 2.080:Dmax= 2.001}
12882> #*************************************************************************
12883> #    Catchment MILLS
12884> #    - To SWM Facility north of the Jock
12885> #    - Primarily residental development
12886> #*************************************************************************
12887> R0050:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12888>     CONTINUOUS STANDHYD    1.0 01:MILLS         175.99   17.756 No_date   28:06   50.66 .622     .000
12889>       [XIMP=.38:TIMP=.38]
12890>       [LOSS= 2 :CN= 74.0]
12891>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12892>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
12893>       [IaRECimp=   4.00: IaRECper=   4.00]
12894>       [SMIN= 36.67: SMAX=244.49: SK= .010]
12895> #*************************************************************************
12896> #    Chapman Mills SWM Pond
12897> #    - Rating curve obtained from CCL hydraulic modeling
12898> #*************************************************************************
12899> R0050:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12900>     ROUTE RESERVOIR ->    1.0 02:MILLS         175.99   17.756 No_date   28:06   50.66  n/a     .000
12901>                 out <=    1.0 01:MILL_P        153.87    4.050 No_date   28:11   50.66  n/a     .000
12902>           overflow <=     1.0 03:MIL-OV         22.12   12.440 No_date   28:11   50.66  n/a     .000
12903>       {MxStoUsed=.2310E+01  m3, TotOvfVol=.1121E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
12904> R0050:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12905>     ADD HYD               1.0 02:N_MI        55019.59  129.543 No_date   36:20   34.16  n/a     .000
12906>                   +       1.0 02:MIL-OV         22.12   12.440 No_date   28:11   50.66  n/a     .000
12907>                   +       1.0 02:MILL_P        153.87    4.050 No_date   28:11   50.66  n/a     .000
12908>                  SUM=     1.0 01:SN_MI       55195.58  130.186 No_date   36:19   34.21  n/a     .000
12909> R0050:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12910>     SAVE HYD              1.0 01:SN_MI       55195.58  130.186 No_date   36:19   34.21  n/a     .000
12911>       fname :SN_MI.0050
12912>       remark:Total Flows at Jockvale Road
12913> #
12914> # Hydrograph from Jockvale Road routed to Heart's Desire
12915> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
12916> #
12917> R0050:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12918>     ROUTE CHANNEL   ->    1.0 02:SN_MI       55195.58  130.186 No_date   36:19   34.21  n/a     .000
12919>       [RDT= 1.00] out<-     1.0 01:N_DE        55195.58  129.897 No_date   36:32   34.21  n/a     .000
12920>       [L/S/n=  1962./ .223/.045]
12921>       {Vmax= 1.586:Dmax= 2.514}
12922> #*************************************************************************
12923> #    Catchment DESIRE
12924> #    - To Jock River (north of the Jock)
12925> #    - Rural-estate subdivision (Heart's Desire Community)
12926> #*************************************************************************
12927> R0050:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12928>     CONTINUOUS STANDHYD    1.0 01:DESIRE         23.78    2.563 No_date   28:03   46.85 .575     .000
12929>       [XIMP=.25:TIMP=.25]
12930>       [LOSS= 2 :CN= 77.0]
12931>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12932>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
12933>       [IaRECimp=   4.00: IaRECper=   4.00]
12934>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12935> #*************************************************************************
12936> #    Catchment JOCKVA
12937> #    - To Jockvale SWM Facility
12938> #    - Residential development & golf course
12939> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
12940> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
12941> #*************************************************************************
12942> R0050:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12943>     CONTINUOUS STANDHYD    1.0 01:JOCKVA        225.13   25.253 No_date   28:07   56.33 .691     .000
12944>       [XIMP=.50:TIMP=.50]
12945>       [LOSS= 2 :CN= 74.0]
12946>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12947>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
12948>       [IaRECimp=   4.00: IaRECper=   4.00]
12949>       [SMIN= 36.67: SMAX=244.49: SK= .010]
12950> R0050:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12951>     ADD HYD               1.0 02:EX-LAND-MN     31.74    2.275 No_date   27:49   56.55  n/a     .000
12952>                   +       1.0 02:JOCKVA        225.13   25.253 No_date   28:07   56.33  n/a     .000
12953>                   +       1.0 02:B2-MJ            .00      .000 No_date   0:00     .00  n/a     .000
12954>                   +       1.0 02:B3-MJ            .02      .003 No_date   28:09   56.26  n/a     .000
12955>                  SUM=     1.0 01:JOCKVA-TO      256.89   27.528 No_date   28:07   56.36  n/a     .000
12956> R0050:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12957>     SAVE HYD              1.0 01:JOCKVA-TO      256.89   27.528 No_date   28:07   56.36  n/a     .000
12958>       fname :JOCKVA-TO.0050
12959>       remark:Total Flows at KB first pond
12960> #*************************************************************************
12961> #    Jockvale SWM Facility
12962> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
12963> #*************************************************************************
12964> R0050:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12965>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO      256.89   27.528 No_date   28:07   56.36  n/a     .000
12966>                 out <=    1.0 01:JOCK_P         256.89   10.991 No_date   28:38   56.36  n/a     .000
12967>           overflow <=     1.0 03:JO-OVF            .00      .000 No_date   0:00     .00  n/a     .000
12968>       {MxStoUsed=.592BE+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12969> R0050:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12970>     ADD HYD               1.0 02:N_DE        55195.58  129.897 No_date   36:32   34.21  n/a     .000
12971>                   +       1.0 02:DESIRE         23.78    2.563 No_date   28:03   46.85  n/a     .000
12972>                   +       1.0 02:JO-OVF            .00      .000 No_date   0:00     .00  n/a     .000
12973>                   +       1.0 02:JOCK_P         256.89   10.991 No_date   28:38   56.36  n/a     .000
12974>                  SUM=     1.0 01:SN_DE       55476.26  130.865 No_date   36:30   34.32  n/a     .000
12975> R0050:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12976>     SAVE HYD              1.0 01:SN_DE       55476.26  130.865 No_date   36:30   34.32  n/a     .000
12977>       fname :SN_DE.0050
12978>       remark:Total Flows at Heart's Desire
12979> #
12980> # Hydrograph from Heart's Desire routed to Rideau River
12981> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
12982> #
12983> R0050:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12984>     ROUTE CHANNEL   ->    1.0 02:SN_DE       55476.26  130.865 No_date   36:30   34.32  n/a     .000
12985>       [RDT= 1.00] out<-     1.0 01:N1          55476.26  130.849 No_date   36:34   34.32  n/a     .000
12986>       [L/S/n=  563./ .067/.045]
12987>       {Vmax= 2.136:Dmax= 1.260}
12988> #*************************************************************************
12989> #    Catchment S-2
12990> #    - To Jock River (north and south)
12991> #    - Undeveloped floodplain and river
12992> #*************************************************************************
12993> R0050:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12994>     CONTINUOUS NASHYD     1.0 01:S-2            102.94    4.795 No_date   28:20   35.39 .434     .000
12995>       [CN= 72.0: N= 3.00: Tp=   .00]
12996>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
12997>       [InterEventTime=  12.00]
12998> R0050:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12999>     ADD HYD               1.0 02:N1          55476.26  130.849 No_date   36:34   34.32  n/a     .000
13000>                   +       1.0 02:S-2           102.94    4.795 No_date   28:20   35.39  n/a     .000
13001>                  SUM=     1.0 01:SN_N1       55579.20  131.124 No_date   36:33   34.32  n/a     .000
13002> R0050:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13003>     SAVE HYD              1.0 01:SN_N1       55579.20  131.124 No_date   36:33   34.32  n/a     .000
13004>       fname :SN_N1.0050
13005>       remark:Total Flows at Rideau River
13006> ##############################################################################
13007>   ** END OF RUN :   99
13008>
13009> ******************************************************************************************************
13010>
13011>
13012>
13013>
13014>
13015>  RUN#:COMMAND#
13016> R0100:C00001------------------------------------------------------------------------------------------
13017>      START
13018>       [TZERO =    .00 hrs on      0]
13019>       [METOUT=   2   (1=imperial, 2=metric output)]
13020>       [NSTORM=   1 ]
13021>       [NRUN  = 0100 ]
13022> #*************************************************************************
13023> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
13024> #*************************************************************************
13025> #  Project Name: [Jock River]    Project Number: [1474-16]
13026> #  Date        : 04-03-2021
13027> #  Modeller    : [M.M.]
13028> #  Company     : JFSAinc.
13029> #  License #   :  2549237
13030> #*************************************************************************
13031> # CALIBRATION OF SUMMER MODEL PARAMETERS
13032> # USING CONTINUOUS SIMULATIONS
13033> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
13034> # Use data collected from May 1st to July 14, 2003
13035> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
13036> # 2020-12-01 correct pond curve values
13037> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
13038> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO" ,NHYDin=["SN_TO"]) from 0.033 % (as per S
13039> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC" ,NHYDin=["SN_CE"]) from 0.01 % (as per St
13040> # ---------------------------------------------------------------------------
13041> R0100:C00002------------------------------------------------------------------------------------------
13042>      READ STORM
13043>       Filename = storm.001
13044>       Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
13045>       [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
13046> R0100:C00003------------------------------------------------------------------------------------------
13047>      MODIFY STORM
13048>       [RFACT=  1.00:TSHIFT= 960.00 min]
13049>       [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
13050> R0100:C00004------------------------------------------------------------------------------------------
13051>      DEFAULT VALUES
13052>       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
13053>       ICASEdv  = 1 (read and print data)
13054>       FileTitle= File comment: [Based onvarious calibration exercises in Onta
13055>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
13056>       Horton's infiltration equation parameters:
13057>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
13058>       Parameters for PERVIOUS surfaces in STANDHYD:
13059>       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
13060>       Parameters for IMPERVIOUS surfaces in STANDHYD:
13061>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
13062>       Parameters used in NASHYD:
13063>       [Ia=   4.67 mm] [N= 3.00]
13064>       Average monthly Pan Evaporation data in    (mm)
13065>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
13066>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
13067>       Average monthly Potential Evapotranspiration in    (mm)
13068>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
13069>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
13070> R0100:C00005------------------------------------------------------------------------------------------
13071>      COMPUTE API
13072>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
13073>       {APImax=119.84: APIavg= 69.19: APImin= 44.87}
13074> #
13075> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13076> # of 1.32
13077> R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13078>     CONTINUOUS NASHYD     1.0 01:JR_HW         3680.00   21.616 No_date   36:52   35.18 .397     .000
13079>       [CN= 64.0: N= 3.00: Tp= 7.13]
13080>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
13081>       [InterEventTime=  12.00]
13082> #
13083> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13084> # of 1.32
13085> R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13086>     CONTINUOUS NASHYD     1.0 01:SW_13          971.00    8.203 No_date   32:33   32.84 .371     .000
13087>       [CN= 61.0: N= 3.00: Tp= 3.76]
13088>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
13089>       [InterEventTime=  12.00]
13090> #
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13091> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13092> # of 1.80
13093> R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13094>     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00   10.428 No_date   39:59   28.29 .319     .000
13095>       [CN= 55.0: N= 3.00: Tp=11.33]
13096>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
13097>       [InterEventTime=  12.00]
13098> R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13099>     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   19.695 No_date   32:38   42.49 .480     .000
13100>       [CN= 72.0: N= 3.00: Tp= 3.91]
13101>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13102>       [InterEventTime=  12.00]
13103> R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13104>     CONTINUOUS NASHYD     1.0 01:SW_11        500.00   10.735 No_date   29:21   36.76 .415     .000
13105>       [CN= 66.0: N= 3.00: Tp= 1.24]
13106>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13107>       [InterEventTime=  12.00]
13108> #
13109> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13110> # of 1.80
13111> R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13112>     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   14.496 No_date   34:24   36.76 .415     .000
13113>       [CN= 66.0: N= 3.00: Tp= 5.29]
13114>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13115>       [InterEventTime=  12.00]
13116> #
13117> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13118> # of 1.52
13119> R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13120>     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   37.663 No_date   37:48   42.49 .480     .000
13121>       [CN= 72.0: N= 3.00: Tp= 8.00]
13122>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13123>       [InterEventTime=  12.00]
13124> #
13125> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13126> # of 1.75
13127> R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13128>     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   36.118 No_date   39:59   36.76 .415     .000
13129>       [CN= 66.0: N= 3.00: Tp=11.66]
13130>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13131>       [InterEventTime=  12.00]
13132> #
13133> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13134> # of 1.68
13135> R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13136>     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   16.501 No_date   30:52   40.82 .461     .000
13137>       [CN= 70.0: N= 3.00: Tp= 2.51]
13138>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
13139>       [InterEventTime=  12.00]
13140> #
13141> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13142> # of 1.82
13143> R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13144>     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   18.060 No_date   39:59   33.61 .380     .000
13145>       [CN= 62.0: N= 3.00: Tp=11.32]
13146>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
13147>       [InterEventTime=  12.00]
13148> #
13149> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13150> # of 1.80
13151> R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13152>     CONTINUOUS NASHYD     1.0 01:SW_8         131.00    3.259 No_date   28:57   34.39 .388     .000
13153>       [CN= 63.0: N= 3.00: Tp=  .90]
13154>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
13155>       [InterEventTime=  12.00]
13156> #
13157> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13158> # of 1.65
13159> R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13160>     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   21.238 No_date   38:28   36.76 .415     .000
13161>       [CN= 66.0: N= 3.00: Tp= 8.42]
13162>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13163>       [InterEventTime=  12.00]
13164> #
13165> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13166> # of 1.82
13167> R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13168>     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   16.421 No_date   36:21   29.79 .336     .000
13169>       [CN= 57.0: N= 3.00: Tp= 6.65]
13170>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
13171>       [InterEventTime=  12.00]
13172> #
13173> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13174> # of 1.75
13175> R0100:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13176>     CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.511 No_date   33:01   37.57 .424     .000
13177>       [CN= 67.0: N= 3.00: Tp= 4.18]
13178>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
13179>       [InterEventTime=  12.00]
13180> #
13181> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13182> # of 1.67
13183> R0100:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13184>     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00   10.882 No_date   35:10   42.49 .480     .000
13185>       [CN= 72.0: N= 3.00: Tp= 5.95]
13186>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13187>       [InterEventTime=  12.00]
13188> R0100:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13189>     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    9.576 No_date   28:44   47.62 .538     .000
13190>       [CN= 77.0: N= 3.00: Tp=  .75]
13191>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13192>       [InterEventTime=  12.00]
13193> #
13194> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13195> # of 1.20
13196> R0100:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13197>     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   52.056 No_date   33:16   44.17 .499     .000
13198>       [CN= 74.0: N= 3.00: Tp= 4.45]
13199>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
13200>       [InterEventTime=  12.00]
13201> R0100:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13202>     CONTINUOUS NASHYD     1.0 01:SW_SA2        20.00    1.097 No_date   28:35   52.06 .588     .000
13203>       [CN= 81.0: N= 3.00: Tp=  .62]
13204>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13205>       [InterEventTime=  12.00]
13206> #
13207> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13208> # of 1.61
13209> R0100:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13210>     CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00   10.184 No_date   37:44   45.88 .518     .000
13211>       [CN= 75.0: N= 3.00: Tp= 8.00]
13212>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
13213>       [InterEventTime=  12.00]
13214> R0100:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13215>     CONTINUOUS NASHYD     1.0 01:SW_4         585.00   14.953 No_date   29:55   52.06 .588     .000
13216>       [CN= 81.0: N= 3.00: Tp= 1.75]
13217>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13218>       [InterEventTime=  12.00]
13219> R0100:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13220>     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   19.782 No_date   30:45   51.16 .578     .000
13221>       [CN= 80.0: N= 3.00: Tp= 2.46]
13222>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
13223>       [InterEventTime=  12.00]
13224> R0100:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13225>     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    7.567 No_date   28:44   47.62 .538     .000
13226>       [CN= 77.0: N= 3.00: Tp=  .75]
13227>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13228>       [InterEventTime=  12.00]
13229> R0100:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13230>     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   17.981 No_date   31:42   52.06 .588     .000
13231>       [CN= 81.0: N= 3.00: Tp= 3.25]
13232>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13233>       [InterEventTime=  12.00]
13234> R0100:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13235>     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   40.730 No_date   31:28   46.75 .528     .000
13236>       [CN= 76.0: N= 3.00: Tp= 3.03]
13237>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
13238>       [InterEventTime=  12.00]
13239> #
13240> # Routing hydrographs
13241> #
13242> # Starting with the addition of Jock River Headwater and Subwatershed 13
13243> #
13244> R0100:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13245>     ADD HYD               1.0 02:JR_HW       3680.00   21.616 No_date   36:52   35.18 n/a      .000
13246>                     +     1.0 02:SW_13        971.00    8.203 No_date   32:33   32.84 n/a      .000
13247>                   SUM=    1.0 01:S_N13       4651.00   27.660 No_date   35:21   34.69 n/a      .000
13248> #
13249> # Sum of hydrographs from Node 13 routed to Node 13A
13250> # (Approximated cross-section - see cross-section 258)
13251> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
13252> #
13253> R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13254>     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   27.660 No_date   35:21   34.69 n/a      .000
13255>       [RDT= 1.00] out<-     1.0 01:N13A        4651.00   22.598 No_date   38:56   34.69 n/a      .000
13256>         [L/S/n= 9674./ .022/.040]
13257>         {Vmax=  .598:Dmax= 4.178}
13258> #
13259> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
13260> #
13261> R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13262>     ADD HYD               1.0 02:N13A        4651.00   22.598 No_date   38:56   34.69 n/a      .000
13263>                     +     1.0 02:JR_GWM      3074.00   10.428 No_date   39:59   28.29 n/a      .000
13264>                   SUM=    1.0 01:SN13A       7725.00   32.845 No_date   39:44   32.14 n/a      .000
13265> #
13266> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
13267> #
13268> R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13269>     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   32.845 No_date   39:44   32.14 n/a      .000
13270>                 out <=    1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14 n/a      .000
13271>       {MxStoUsed=.1796E+03  m3}
13272> #
13273> R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13274>     SAVE HYD              1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14 n/a      .000
13275>         fname :H_RESGM
13276>         remark:Outflow from Res GM
13277> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
13278> # (Approximated cross-section - see cross-section 258)
13279> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
13280> R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13281>     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.950 No_date   62:26   32.14 n/a      .000
13282>       [RDT= 1.00] out<-     1.0 01:N12         7725.00    3.947 No_date   64:43   32.14 n/a      .000
13283>         [L/S/n= 5926./ .076/.040]
13284>         {Vmax=  .560:Dmax= 1.560}
13285> #
13286> # Addition of Subwatershed Jock River at Ashton to Node 12
13287> #
13288> R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13289>     ADD HYD               1.0 02:N12         7725.00    3.947 No_date   64:43   32.14 n/a      .000
13290>                     +     1.0 02:JR_ASH      1781.00   19.695 No_date   32:38   42.49 n/a      .000
13291>                   SUM=    1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08 n/a      .000
13292> R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13293>     SAVE HYD              1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08 n/a      .000
13294>         fname :H_SN12
13295>         remark:flow at S_N12 near Ashton
13296> #
13297> # Sum of hydrographs from Node 12 routed to Node 11
13298> # (Approximated cross-section - see cross-section 258)
13299> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
13300> #
13301> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
13302> #
13303> R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13304>     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   21.745 No_date   32:41   34.08 n/a      .000
13305>       [RDT= 1.00] out<-     1.0 01:Dum11       9506.00   21.522 No_date   32:57   34.08 n/a      .000
13306>         [L/S/n=  972./ .054/.040]
13307>         {Vmax=  .777:Dmax= 3.194}
13308> #
13309> # Addition of Subwatershed 11 and No Name Creek to Node 11
13310> #
13311> R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13312>     ADD HYD               1.0 02:Dum11       9506.00   21.522 No_date   32:57   34.08 n/a      .000
13313>                     +     1.0 02:SW_11        500.00   10.735 No_date   29:21   36.76 n/a      .000
13314>                     +     1.0 02:NN_CK       1917.00   14.496 No_date   34:24   36.76 n/a      .000
13315>                   SUM=    1.0 01:S_N11       11923.00   38.138 No_date   32:59   34.62 n/a      .000
13316> #
13317> # Sum of hydrographs from Node 11 routed to Node 10
13318> # Section 1
13319> #
13320> R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13321>     ROUTE CHANNEL   ->    1.0 02:S_N11       11923.00   38.138 No_date   32:59   34.62 n/a      .000
13322>       [RDT= 1.00] out<-     1.0 01:N10         11923.00   23.609 No_date   39:19   34.62 n/a      .000
13323>         [L/S/n=14028./ .157/.040]
13324>         {Vmax=  .486:Dmax= 1.492}
13325> #
13326> # Addition of Subwatershed 10 to Node 10
13327> #
13328> R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13329>     ADD HYD               1.0 02:N10         11923.00   23.609 No_date   39:19   34.62 n/a      .000
13330>                     +     1.0 02:SW_10        5666.00   37.663 No_date   37:48   42.49 n/a      .000
13331>                   SUM=    1.0 01:S_N10       17589.00   61.058 No_date   38:16   37.16 n/a      .000
13332> R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13333>     SAVE HYD              1.0 01:S_N10       17589.00   61.058 No_date   38:16   37.16 n/a      .000
13334>         fname :H_SN10
13335>         remark:flow at S_N10: N10 + SW_10
13336> # Addition of Kings Creek to S_N10
13337> #
13338> R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13339>     ADD HYD               1.0 02:S_N10       17589.00   61.058 No_date   38:16   37.16 n/a      .000
13340>                     +     1.0 02:KG_CK       8376.00   36.118 No_date   39:59   36.76 n/a      .000
13341>                   SUM=    1.0 01:S_N10A      25965.00   96.054 No_date   39:40   37.03 n/a      .000
13342> #
13343> # Sum of hydrographs from Node 10 routed to Node 9
13344> # Section 2
13345> #
13346> R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13347>     ROUTE CHANNEL   ->    1.0 02:S_N10A      25965.00   96.054 No_date   39:40   37.03 n/a      .000
13348>       [RDT= 1.00] out<-     1.0 01:N9          25965.00   94.262 No_date   39:59   37.03 n/a      .000
13349>         [L/S/n= 3982./ .075/.040]
13350>         {Vmax=  .775:Dmax= 2.151}
13351> #
13352> # Addition of Subwatershed 9 and Nichols Creek to Node 9
13353> #
13354> R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13355>     ADD HYD               1.0 02:N9          25965.00   94.262 No_date   39:59   37.03 n/a      .000
13356>                     +     1.0 02:SW_9        1132.00   16.501 No_date   30:52   40.83 n/a      .000
13357>                     +     1.0 02:NC_CK       4464.00   18.060 No_date   39:59   33.61 n/a      .000
13358>                   SUM=    1.0 01:S_N9        31561.00   115.681 No_date   39:59   36.68 n/a      .000
13359> #
13360> # Sum of hydrographs from Node 9 routed to Node 8
13361> # Section 3
13362> #
13363> R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13364>     ROUTE CHANNEL   ->    1.0 02:S_N9        31561.00   115.681 No_date   39:59   36.68 n/a      .000
13365>       [RDT= 1.00] out<-     1.0 01:N8          31561.00   109.395 No_date   39:59   36.68 n/a      .000
13366>         [L/S/n= 2269./ .088/.045]
13367>         {Vmax=  .374:Dmax= 1.924}
13368> #
13369> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
13370> #
13371> R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13372>     ADD HYD               1.0 02:N8          31561.00   109.395 No_date   39:59   36.68 n/a      .000
13373>                     +     1.0 02:SW_8         131.00    3.259 No_date   28:57   34.39 n/a      .000
13374>                     +     1.0 02:HB_DR       3854.00   21.238 No_date   38:28   36.76 n/a      .000
13375>                   SUM=    1.0 01:S_N8        35546.00   130.593 No_date   39:59   36.68 n/a      .000
13376> #
13377> # Sum of hydrographs from Node 8 routed to Node 7
13378> # Section 4
13379> #
13380> R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13381>     ROUTE CHANNEL   ->    1.0 02:S_N8        35546.00   130.593 No_date   39:59   36.68 n/a      .000
13382>       [RDT= 1.00] out<-     1.0 01:N7          35546.00   111.942 No_date   44:52   36.68 n/a      .000
13383>         [L/S/n= 3750./ .053/.070]
13384>         {Vmax=  .237:Dmax= 2.412}
13385> #
13386> # Addition of Subwatershed 7 to Node 7
13387> #
13388> R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13389>     ADD HYD               1.0 02:N7          35546.00   111.942 No_date   44:52   36.68 n/a      .000
13390>                     +     1.0 02:SW_7        3197.00   16.421 No_date   36:21   29.79 n/a      .000
13391>                   SUM=    1.0 01:S_N7        38743.00   120.740 No_date   43:36   36.11 n/a      .000
13392> R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13393>     SAVE HYD              1.0 01:S_N7        38743.00   120.740 No_date   43:36   36.11 n/a      .000
13394>         fname :H_SN7
13395>         remark:flow at S_N7: N7 + SW_7
13396> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
13397> # Storage area and volumes were estimated from available topo maps.
13398> # Release rate from fen was assumed to be controlled by the downstream
13399> # river cross-section for summer conditions.  It is was assumed that for up to
13400> # 0.75 m of water, the main channel of the river provided the storage.  Above
13401> # this depth, the wetland starts to signigicantly store water.
13402> #
13403> R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13404>     ROUTE RESERVOIR ->    1.0 02:S_N7        38743.00   120.740 No_date   43:36   36.11 n/a      .000
13405>                 out <=    1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11 n/a      .000
13406>       {MxStoUsed=.5140E+03  m3}
13407> R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13408>     SAVE HYD              1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11 n/a      .000
13409>         fname :H_ResRF
13410>         remark:outflow of Richmond Fen
13411> #
13412> # Sum of hydrographs from Node 7 routed to Node 6
13413> # Section 5
13414> #
13415> R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13416>     ROUTE CHANNEL   ->    1.0 02:RES_RF      38743.00   62.351 No_date   58:25   36.11 n/a      .000
13417>       [RDT= 1.00] out<-     1.0 01:N6          38743.00   62.067 No_date   59:46   36.11 n/a      .000
13418>         [L/S/n= 3056./ .082/.025]
13419>         {Vmax=  .556:Dmax= 1.373}
13420> #
13421> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
13422> #
13423> R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13424>     ADD HYD               1.0 02:N6          38743.00   62.067 No_date   59:46   36.11 n/a      .000
13425>                     +     1.0 02:SW_6         165.00    1.511 No_date   33:01   37.57 n/a      .000
13426>                     +     1.0 02:VG_DR       1332.00   10.882 No_date   35:10   42.49 n/a      .000
13427>                   SUM=    1.0 01:S_N6        40240.01   62.114 No_date   59:39   36.33 n/a      .000
13428> #
13429> # Sum of hydrographs from Node 6 routed to Node 5
13430> # Section 6
13431> #
13432> R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13433>     ROUTE CHANNEL   ->    1.0 02:S_N6        40240.01   62.114 No_date   59:39   36.33 n/a      .000
13434>       [RDT= 1.00] out<-     1.0 01:N5          40240.01   61.991 No_date   60:21   36.33 n/a      .000
13435>         [L/S/n= 1852./ .054/.035]
13436>         {Vmax=  .494:Dmax= 1.468}
13437> #
13438> # Addition of Subwatershed 5 and Flowing Creek to Node 5
13439> #
13440> R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13441>     ADD HYD               1.0 02:N5          40240.01   61.991 No_date   60:21   36.33 n/a      .000
13442>                     +     1.0 02:SW_5         224.00    9.576 No_date   28:44   47.62 n/a      .000
13443>                     +     1.0 02:FL_CK       4945.00   52.056 No_date   33:16   44.17 n/a      .000
13444>                   SUM=    1.0 01:S_N5        45409.01   80.898 No_date   34:11   37.24 n/a      .000
13445> #
13446> # Sum of hydrographs from Node 5 routed to Node 5A
13447> # Section 7
13448> #
13449> R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13450>     ROUTE CHANNEL   ->    1.0 02:S_N5        45409.01   80.898 No_date   34:11   37.24 n/a      .000
13451>       [RDT= 1.00] out<-     1.0 01:N5A         45409.01   80.666 No_date   34:28   37.24 n/a      .000
13452>         [L/S/n=  556./ .090/.040]
13453>         {Vmax=  .546:Dmax= 1.353}
13454> #
13455> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
13456> #
13457> R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13458>     ADD HYD               1.0 02:N5A         45409.01   80.666 No_date   34:28   37.24 n/a      .000
13459>                     +     1.0 02:SW_5A2        20.00    1.097 No_date   28:35   52.06 n/a      .000
13460>                     +     1.0 02:SW_5A1      1412.00   10.184 No_date   37:44   45.88 n/a      .000
13461>                   SUM=    1.0 01:S_N5A       46841.01   89.756 No_date   34:38   37.51 n/a      .000
13462> #
13463> # Sum of hydrographs from Node 5A routed to Node 4
13464> # Section 8
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13465> #
13466> R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13467>      ROUTE CHANNEL    ->     1.0 02:S_NSA      46841.01   89.756 No_date   34:38   37.51  n/a     .000
13468>        [RDT= 1.00] out<-     1.0 01:N4         46841.01   85.943 No_date   36:10   37.51  n/a     .000
13469>        [L/S/n= 4630./ .043/.035]
13470>        {Vmax=  .904:Dmax= 3.866}
13471> #
13472> # Addition of Subwatershed 4 and Leamy Creek to Node 4
13473> #
13474> R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13475>      ADD HYD              1.0 02:N4         46841.01   85.943 No_date   36:10   37.51  n/a     .000
13476>                       +   1.0 02:SW_4        585.00   14.953 No_date   29:55   52.06  n/a     .000
13477>                       +   1.0 02:LM_CK      1021.00   19.782 No_date   30:45   51.16  n/a     .000
13478>                     SUM:  1.0 01:S_N4      48447.00   96.618 No_date   35:12   37.97  n/a     .000
13479> R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13480>      SAVE HYD             1.0 01:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
13481>        fname :S_N4.0100
13482>        remark:flow at S_N4
13483> #
13484> # Sum of hydrographs from Node 4 routed to Node 2
13485> # Section 9
13486> #
13487> R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13488>      ROUTE CHANNEL    ->     1.0 02:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
13489>        [RDT= 1.00] out<-     1.0 01:N2         48447.00   96.322 No_date   35:13   37.97  n/a     .000
13490>        [L/S/n= 1667./ .060/.040]
13491>        {Vmax=  .944:Dmax= 3.929}
13492> #
13493> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
13494> #
13495> R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13496>      ADD HYD              1.0 02:N2         48447.00   96.322 No_date   35:13   37.97  n/a     .000
13497>                       +   1.0 02:SW_2        177.00    7.567 No_date   28:44   47.02  n/a     .000
13498>                       +   1.0 02:SM_DR      1122.00   17.981 No_date   31:42   52.06  n/a     .000
13499>                       +   1.0 02:MO_DR      2737.00   40.730 No_date   31:28   46.75  n/a     .000
13500>                     SUM:  1.0 01:S_N2      52483.00  143.580 No_date   32:59   38.76  n/a     .000
13501> R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13502>      SAVE HYD             1.0 01:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
13503>        fname :H_SN2
13504>        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
13505> #
13506> # Sum of hydrographs from Node 2 routed to Node 1
13507> # Section 10
13508> #
13509> #*******************************************************************************
13510> #
13511> # Hydrograph from Node 2 routed to Node 416
13512> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
13513> #
13514> R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13515>      ROUTE CHANNEL    ->     1.0 02:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
13516>        [RDT= 1.00] out<-     1.0 01:N_416      52483.00  139.298 No_date   33:45   38.76  n/a     .000
13517>        [L/S/n= 2327./ .050/.055]
13518>        {Vmax=  .801:Dmax= 3.814}
13519> #*******************************************************************************
13520> #    Catchment SW-1a
13521> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
13522> #    - Undeveloped agricultural land
13523> #*******************************************************************************
13524> R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13525>      CONTINUOUS NASHYD    1.0 01:SW_1a       536.42     7.274 No_date   31:14   40.95  .462     .000
13526>        [CN= 72.0: N= 3.00: Tp= 2.79]
13527>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13528>        [InterEventTime=  12.00]
13529> R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13530>      CONTINUOUS NASHYD    1.0 01:S-1-Okeefe    44.93     1.446 No_date   29:06   45.95 .519     .000
13531>        [CN= 77.0: N= 3.00: Tp= 1.05]
13532>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13533>        [InterEventTime=  12.00]
13534> R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13535>      ADD HYD              1.0 02:N_416      52483.00  139.298 No_date   33:45   38.76  n/a     .000
13536>                       +   1.0 02:SW_1a       536.42     7.274 No_date   31:14   40.95  n/a     .000
13537>                       +   1.0 02:S-1-Okeefe    44.93     1.446 No_date   29:06   45.95  n/a     .000
13538>                     SUM:  1.0 01:SN_416     53064.36  145.020 No_date   33:31   38.79  n/a     .000
13539> R0100:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13540>      SAVE HYD             1.0 01:SN_416     53064.36  145.020 No_date   33:31   38.79  n/a     .000
13541>        fname :SN_416.0100
13542>        remark:Total Flows at Highway 416
13543> #
13544> # Hydrograph from Node 416 routed to Node at Okeefe drain
13545> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
13546> #
13547> R0100:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13548>      ROUTE CHANNEL    ->     1.0 02:SN_416     53064.36  145.020 No_date   33:31   38.79  n/a     .000
13549>        [RDT= 1.00] out<-     1.0 01:N_OK       53064.36  144.944 No_date   33:32   38.79  n/a     .000
13550>        [L/S/n=  497./ .302/.055]
13551>        {Vmax= 1.728:Dmax= 3.267}
13552> #*******************************************************************************
13553> #    Catchment OKEEFE
13554> #    - To O'Keefe drain (north of the Jock)
13555> #    - Developed with assumed 43% imp.
13556> #    - 2020-10-22 Added detailed model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
13557> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
13558> #*******************************************************************************
13559> R0100:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13560>      CONTINUOUS NASHYD    1.0 01:O-1         63.72     1.380 No_date   28:58   30.74 .347     .000
13561>        [CN= 61.0: N= 3.00: Tp=  .90]
13562>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
13563>        [InterEventTime=  12.00]
13564> R0100:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13565>      ROUTE CHANNEL    ->     1.0 02:O-1         63.72     1.380 No_date   28:58   30.74  n/a     .000
13566>        [RDT= 1.00] out<-     1.0 01:O-1R        63.72     1.307 No_date   29:13   30.74  n/a     .000
13567>        [L/S/n=  960./ .630/.043]
13568>        {Vmax=  .926:Dmax=  .493}
13569> R0100:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13570>      CONTINUOUS NASHYD    1.0 01:O-2         28.61      .485 No_date   29:13   28.38 .320     .000
13571>        [CN= 57.0: N= 3.00: Tp= 1.10]
13572>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
13573>        [InterEventTime=  12.00]
13574> R0100:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13575>      CONTINUOUS NASHYD    1.0 01:O-4         46.94      .650 No_date   28:59   21.79 .246     .000
13576>        [CN= 49.0: N= 3.00: Tp=  .90]
13577>        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
13578>        [InterEventTime=  12.00]
13579> R0100:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13580>      ADD HYD              1.0 02:O-1R        63.72     1.307 No_date   29:13   30.74  n/a     .000
13581>                       +   1.0 02:O-2        28.61      .485 No_date   29:13   28.38  n/a     .000
13582>                       +   1.0 02:O-4        46.94      .650 No_date   28:59   21.79  n/a     .000
13583>                     SUM:  1.0 01:OKF-N     139.27     2.427 No_date   29:10   27.24  n/a     .000
13584> R0100:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13585>      ROUTE CHANNEL    ->     1.0 02:OKF-N      139.27     2.427 No_date   29:10   27.24  n/a     .000
13586>        [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27     2.423 No_date   29:12   27.24  n/a     .000
13587>        [L/S/n=  210./ .810/.043]
13588>        {Vmax= 1.130:Dmax=  .796}
13589> R0100:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13590>      CONTINUOUS NASHYD    1.0 01:O-6         16.46      .220 No_date   28:45   18.67 .211     .000
13591>        [CN= 43.0: N= 3.00: Tp=  .70]
13592>        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
13593>        [InterEventTime=  12.00]
13594> R0100:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13595>      CONTINUOUS STANDHYD  1.0 01:O-3         39.67     1.454 No_date   28:21   32.90 .371     .000
13596>        [XIMP=.15:TIMP=.30]
13597>        [LOSS= 2 :CN= 50.0]
13598>        [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
13599>        [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
13600>        [IaRECimp=   4.00: IaRECper=  4.00]
13601>        [SMIN= 99.77: SMAX=665.12: SK= .010]
13602> R0100:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13603>      CONTINUOUS STANDHYD  1.0 01:O-5         60.63     3.669 No_date   28:10   38.00 .429     .000
13604>        [XIMP=.13:TIMP=.26]
13605>        [LOSS= 2 :CN= 61.0]
13606>        [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
13607>        [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
13608>        [IaRECimp=   4.00: IaRECper=  4.00]
13609>        [SMIN= 64.50: SMAX=430.01: SK= .010]
13610> R0100:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13611>      ADD HYD              1.0 02:OKF-NR     139.27     2.423 No_date   29:12   27.24  n/a     .000
13612>                       +   1.0 02:O-3        39.67     1.454 No_date   28:21   32.90  n/a     .000
13613>                       +   1.0 02:O-5        60.63     3.669 No_date   28:10   38.00  n/a     .000
13614>                       +   1.0 02:O-6        16.46      .220 No_date   28:45   18.67  n/a     .000
13615>                     SUM:  1.0 01:PT1       256.03     5.938 No_date   28:19   30.11  n/a     .000
13616> R0100:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13617>      CONTINUOUS NASHYD    1.0 01:O-7          5.28      .117 No_date   28:37   25.16 .284     .000
13618>        [CN= 54.0: N= 3.00: Tp=  .60]
13619>        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
13620>        [InterEventTime=  12.00]
13621> R0100:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13622>      ADD HYD              1.0 02:PT1        256.03     5.938 No_date   28:19   30.11  n/a     .000
13623>                       +   1.0 02:O-7          5.28      .117 No_date   28:37   25.16  n/a     .000
13624>                     SUM:  1.0 01:FF        261.31     6.036 No_date   28:19   30.01  n/a     .000
13625> R0100:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13626>      ROUTE CHANNEL    ->     1.0 02:FF         261.31     6.036 No_date   28:19   30.01  n/a     .000
13627>        [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31     5.843 No_date   28:23   30.01  n/a     .000
13628>        [L/S/n=  302./1.000/.043]
13629>        {Vmax=  .853:Dmax=  .797}
13630> R0100:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13631>      CONTINUOUS NASHYD    1.0 01:D1          1.17      .110 No_date   28:12   50.22 .567     .000
13632>        [CN= 84.0: N= 3.00: Tp=  .28]
13633>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
13634>        [InterEventTime=  12.00]
13635> R0100:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13636>      CONTINUOUS STANDHYD  1.0 01:A1          2.50      .572 No_date   28:01   70.42 .795     .000
13637>        [XIMP=.68:TIMP=.85]
13638>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13639>        [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
13640>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 224.:MNI=.013:SCI=   .0]
13641>        [IaRECimp=   4.00: IaRECper=  4.00]
13642> R0100:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13643>      ROUTE RESERVOIR ->     1.0 02:A1          2.50      .572 No_date   28:01   70.42  n/a     .000
13644>                 out <=     1.0 01:A1-STR      2.50      .173 No_date   28:17   70.42  n/a     .000
13645>             overflow <=    1.0 03:A1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
13646>      {MxStoUsed=.7765E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13647> R0100:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13648>      CONTINUOUS STANDHYD  1.0 01:ST-2         .59      .115 No_date   28:00   55.78 .630     .000
13649>        [XIMP=.46:TIMP=.57]
13650>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13651>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13652>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
13653>        [IaRECimp=   4.00: IaRECper=  4.00]
13654> R0100:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13655>      ROUTE RESERVOIR ->     1.0 02:ST-2          .59      .115 No_date   28:00   55.78  n/a     .000
13656>                 out <=     1.0 01:ST2STR        .59      .053 No_date   28:13   55.78  n/a     .000
13657>             overflow <=    1.0 03:ST2OVF        .00      .000 No_date    0:00     .00  n/a     .000
13658>      {MxStoUsed=.5215E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13659> R0100:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13660>      CONTINUOUS NASHYD    1.0 01:O-8         60.55     1.639 No_date   29:04   38.99 .440     .000
13661>        [CN= 69.0: N= 3.00: Tp= 1.00]
13662>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
13663>        [InterEventTime=  12.00]
13664> R0100:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13665>      ROUTE PIPE       ->     1.0 02:O-8         60.55     1.639 No_date   29:04   38.99  n/a     .000
13666>        [RDT= 1.00] out<-     1.0 01:OBPIPE      60.55     1.631 No_date   29:07   38.99  n/a     .000
13667>        [L/S/n=  335./ .100/.013]
13668>        {Vmax= 1.305:Dmax=  .697}
13669>        {HGTH= 1.20:WDTH= 1.80}
13670> R0100:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13671>      ADD HYD              1.0 02:DRAIN1     261.31     5.843 No_date   28:23   30.01  n/a     .000
13672>                       +   1.0 02:D1          1.17      .110 No_date   28:12   50.22  n/a     .000
13673>                       +   1.0 02:A1-STR      2.50      .173 No_date   28:17   70.42  n/a     .000
13674>                       +   1.0 02:A1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
13675>                       +   1.0 02:ST2STR       .59      .053 No_date   28:13   55.78  n/a     .000
13676>                       +   1.0 02:ST2OVF       .00      .000 No_date    0:00     .00  n/a     .000
13677>                       +   1.0 02:OBPIPE     60.55     1.631 No_date   29:07   38.99  n/a     .000
13678>                     SUM:  1.0 01:ST2-IN     326.12     7.203 No_date   28:33   32.11  n/a     .000
13679> R0100:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13680>      CONTINUOUS STANDHYD  1.0 01:A7          3.51      .784 No_date   28:01   70.42 .795     .000
13681>        [XIMP=.68:TIMP=.85]
13682>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13683>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13684>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
13685>        [IaRECimp=   4.00: IaRECper=  4.00]
13686> R0100:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13687>      ROUTE RESERVOIR ->     1.0 02:A7          3.51      .784 No_date   28:01   70.42  n/a     .000
13688>                 out <=     1.0 01:A7-STR      3.51      .240 No_date   28:18   70.42  n/a     .000
13689>             overflow <=    1.0 03:A7-OVF       .00      .000 No_date    0:00     .00  n/a     .000
13690>      {MxStoUsed=.1088E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13691> R0100:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13692>      CONTINUOUS STANDHYD  1.0 01:ST-3          .71      .138 No_date   28:00   55.78 .630     .000
13693>        [XIMP=.46:TIMP=.57]
13694>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13695>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13696>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
13697>        [IaRECimp=   4.00: IaRECper=  4.00]
13698> R0100:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13699>      ROUTE RESERVOIR ->     1.0 02:ST-3          .71      .138 No_date   28:00   55.78  n/a     .000
13700>                 out <=     1.0 01:ST3STR        .71      .064 No_date   28:13   55.78  n/a     .000
13701>             overflow <=    1.0 03:ST3OVF       .00      .000 No_date    0:00     .00  n/a     .000
13702>      {MxStoUsed=.6042E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13703> R0100:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13704>      ADD HYD              1.0 02:ST2-IN     326.12     7.203 No_date   28:33   32.11  n/a     .000
13705>                       +   1.0 02:A7-STR      3.51      .240 No_date   28:18   70.42  n/a     .000
13706>                       +   1.0 02:A7-OVF       .00      .000 No_date    0:00     .00  n/a     .000
13707>                       +   1.0 02:ST3STR       .71      .064 No_date   28:13   55.78  n/a     .000
13708>                       +   1.0 02:ST3OVF       .00      .000 No_date    0:00     .00  n/a     .000
13709>                     SUM:  1.0 01:PT2ST3     330.34     7.487 No_date   28:31   32.57  n/a     .000
13710> R0100:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13711>      ROUTE CHANNEL    ->     1.0 02:PT2ST3     330.34     7.487 No_date   28:31   32.57  n/a     .000
13712>        [RDT= 1.00] out<-     1.0 01:DRAIN2     330.34     6.868 No_date   28:55   32.57  n/a     .000
13713>        [L/S/n=  592./ .230/.043]
13714>        {Vmax=  .611:Dmax= 1.215}
13715> R0100:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13716>      CONTINUOUS NASHYD    1.0 01:D2          2.28      .087 No_date   29:02   50.22 .567     .000
13717>        [CN= 84.0: N= 3.00: Tp=  .90]
13718>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
13719>        [InterEventTime=  12.00]
13720> R0100:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13721>      CONTINUOUS STANDHYD  1.0 01:A17         12.04     2.382 No_date   28:03   70.42 .795     .000
13722>        [XIMP=.68:TIMP=.85]
13723>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13724>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13725>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
13726>        [IaRECimp=   4.00: IaRECper=  4.00]
13727> R0100:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13728>      ROUTE RESERVOIR ->     1.0 02:A17         12.04     2.382 No_date   28:03   70.42  n/a     .000
13729>                 out <=     1.0 01:A17STR      12.04      .801 No_date   28:24   70.42  n/a     .000
13730>             overflow <=    1.0 03:A17OVF       .00      .000 No_date    0:00     .00  n/a     .000
13731>      {MxStoUsed=.3671E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13732> R0100:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13733>      CONTINUOUS STANDHYD  1.0 01:ST-4          .35      .069 No_date   28:00   55.78 .630     .000
13734>        [XIMP=.46:TIMP=.57]
13735>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13736>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13737>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
13738>        [IaRECimp=   4.00: IaRECper=  4.00]
13739> R0100:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13740>      ROUTE RESERVOIR ->     1.0 02:ST-4          .35      .069 No_date   28:00   55.78  n/a     .000
13741>                 out <=     1.0 01:ST4STR        .35      .032 No_date   28:13   55.78  n/a     .000
13742>             overflow <=    1.0 03:ST4OVF       .00      .000 No_date    0:00     .00  n/a     .000
13743>      {MxStoUsed=.3372E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13744> R0100:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13745>      CONTINUOUS STANDHYD  1.0 01:A18          5.30     1.139 No_date   28:01   70.42 .795     .000
13746>        [XIMP=.68:TIMP=.85]
13747>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13748>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13749>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
13750>        [IaRECimp=   4.00: IaRECper=  4.00]
13751> R0100:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13752>      ROUTE RESERVOIR ->     1.0 02:A18          5.30     1.139 No_date   28:01   70.42  n/a     .000
13753>                 out <=     1.0 01:A18STR       5.30      .360 No_date   28:20   70.42  n/a     .000
13754>             overflow <=    1.0 03:A18OVF       .00      .000 No_date    0:00     .00  n/a     .000
13755>      {MxStoUsed=.1636E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13756> R0100:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13757>      ADD HYD              1.0 02:DRAIN2     330.34     6.868 No_date   28:55   32.57  n/a     .000
13758>                       +   1.0 02:D2          2.28      .087 No_date   29:02   50.22  n/a     .000
13759>                       +   1.0 02:A17STR      12.04      .801 No_date   28:24   70.42  n/a     .000
13760>                       +   1.0 02:A17OVF       .00      .000 No_date    0:00     .00  n/a     .000
13761>                       +   1.0 02:ST4STR       .35      .032 No_date   28:13   55.78  n/a     .000
13762>                       +   1.0 02:ST4OVF       .00      .000 No_date    0:00     .00  n/a     .000
13763>                       +   1.0 02:A18STR       5.30      .360 No_date   28:20   70.42  n/a     .000
13764>                       +   1.0 02:A18OVF       .00      .000 No_date    0:00     .00  n/a     .000
13765>                     SUM:  1.0 01:PT3ST4     350.31     7.785 No_date   28:52   34.58  n/a     .000
13766> R0100:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13767>      ROUTE CHANNEL    ->     1.0 02:PT3ST4     350.31     7.785 No_date   28:52   34.58  n/a     .000
13768>        [RDT= 1.00] out<-     1.0 01:DRAIN3     350.31     7.474 No_date   29:08   34.58  n/a     .000
13769>        [L/S/n=  525./ .230/.043]
13770>        {Vmax=  .628:Dmax= 1.257}
13771> R0100:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13772>      CONTINUOUS NASHYD    1.0 01:D3          2.51      .132 No_date   28:43   54.04 .610     .000
13773>        [CN= 86.0: N= 3.00: Tp=  .73]
13774>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
13775>        [InterEventTime=  12.00]
13776> R0100:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13777>      CONTINUOUS STANDHYD  1.0 01:C1          3.41      .763 No_date   28:01   70.42 .795     .000
13778>        [XIMP=.68:TIMP=.85]
13779>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13780>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13781>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
13782>        [IaRECimp=   4.00: IaRECper=  4.00]
13783> R0100:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13784>      ROUTE RESERVOIR ->     1.0 02:C1          3.41      .763 No_date   28:01   70.42  n/a     .000
13785>                 out <=     1.0 01:C1-STR      3.41      .232 No_date   28:18   70.42  n/a     .000
13786>             overflow <=    1.0 03:C1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
13787>      {MxStoUsed=.1056E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13788> R0100:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13789>      CONTINUOUS STANDHYD  1.0 01:ST-5          .45      .088 No_date   28:00   55.78 .630     .000
13790>        [XIMP=.46:TIMP=.57]
13791>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13792>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13793>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
13794>        [IaRECimp=   4.00: IaRECper=  4.00]
13795> R0100:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13796>      ROUTE RESERVOIR ->     1.0 02:ST-5          .45      .088 No_date   28:00   55.78  n/a     .000
13797>                 out <=     1.0 01:ST5STR        .45      .041 No_date   28:13   55.78  n/a     .000
13798>             overflow <=    1.0 03:ST5OVF       .00      .000 No_date    0:00     .00  n/a     .000
13799>      {MxStoUsed=.4111E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13800> R0100:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13801>      ADD HYD              1.0 02:DRAIN3     350.31     7.474 No_date   29:08   34.58  n/a     .000
13802>                       +   1.0 02:D3          2.51      .132 No_date   28:43   54.04  n/a     .000
13803>                       +   1.0 02:C1-STR      3.41      .232 No_date   28:18   70.42  n/a     .000
13804>                       +   1.0 02:C1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
13805>                       +   1.0 02:ST5STR       .45      .041 No_date   28:13   55.78  n/a     .000
13806>                       +   1.0 02:ST5OVF       .00      .000 No_date    0:00     .00  n/a     .000
13807>                     SUM:  1.0 01:ST5-E       356.68     7.731 No_date   29:07   35.08  n/a     .000
13808> R0100:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13809>      CONTINUOUS STANDHYD  1.0 01:STRAND       7.59     1.163 No_date   28:08   68.85 .777     .000
13810>        [XIMP=.64:TIMP=.85]
13811>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13812>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
13813>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
13814>        [IaRECimp=   4.00: IaRECper=  4.00]
13815> R0100:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13816>      ROUTE RESERVOIR ->     1.0 02:STRAND       7.59     1.163 No_date   28:08   68.85  n/a     .000
13817>                 out <=     1.0 01:S-POND       7.59      .200 No_date   29:01   68.85  n/a     .000
13818>             overflow <=    1.0 03:S-OVF        .00      .000 No_date    0:00     .00  n/a     .000
13819>      {MxStoUsed=.3382E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13820> R0100:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13821>      ADD HYD              1.0 02:ST5-E       356.68     7.731 No_date   29:07   35.08  n/a     .000
13822>                       +   1.0 02:S-POND       7.59      .200 No_date   29:01   68.85  n/a     .000
13823>                       +   1.0 02:S-OVF        .00      .000 No_date    0:00     .00  n/a     .000
13824>                     SUM:  1.0 01:SSAOUT      364.27     7.924 No_date   29:06   35.79
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13839>       remark:SMWF-A Inflow
13840> R0100:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13841>     ROUTE RESERVOIR ->    1.0 02:Area-A       66.75     9.945 No_date   28:08   67.64  n/a     .000
13842>               out <=    1.0 01:SWMF-A       66.75     1.357 No_date   29:10   67.64  n/a     .000
13843>           overflow <=   1.0 03:SWMAOV         .00      .000 No_date    0:00     .00  n/a     .000
13844>     {MxStoUsed=.3051E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13845> R0100:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13846>     SAVE HYD            1.0 01:SWMF-A       66.75     1.357 No_date   29:10   67.64  n/a     .000
13847>       fname :SWMF-A.0100
13848>       remark:SMWF-A Outflow
13849> R0100:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13850>     ADD HYD             1.0 02:SSAOUT       364.27     7.924 No_date   29:06   35.79  n/a     .000
13851>                   +     1.0 02:SWMF-A        66.75     1.357 No_date   29:10   67.64  n/a     .000
13852>                   +     1.0 02:SWMAOV          .00      .000 No_date    0:00     .00  n/a     .000
13853>                 SUM=    1.0 01:PT4ST5       431.02     9.279 No_date   29:07   40.72  n/a     .000
13854> R0100:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13855>     CONTINUOUS STANDHYD    1.0 01:C6            1.87      .433 No_date   28:01   70.42 .795     .000
13856>       [XIMP=.68:TIMP=.85]
13857>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  Fe= .00]
13858>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
13859>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 193.:MNI=.013:SCI=   .0]
13860>       [IaREC1mp=   4.00: IaRECper=    4.00]
13861> R0100:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13862>     ROUTE RESERVOIR ->    1.0 01:C6            1.87      .433 No_date   28:01   70.42  n/a     .000
13863>               out <=    1.0 01:C6-STR        1.87      .129 No_date   28:16   70.42  n/a     .000
13864>           overflow <=   1.0 03:C6-OVF         .00      .000 No_date    0:00     .00  n/a     .000
13865>     {MxStoUsed=.5845E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13866> R0100:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13867>     CONTINUOUS STANDHYD    1.0 01:C7            1.62      .381 No_date   28:00   70.42 .795     .000
13868>       [XIMP=.68:TIMP=.85]
13869>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  Fe= .00]
13870>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
13871>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 180.:MNI=.013:SCI=   .0]
13872>       [IaREC1mp=   4.00: IaRECper=    4.00]
13873> R0100:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13874>     ROUTE RESERVOIR ->    1.0 02:C7            1.62      .381 No_date   28:00   70.42  n/a     .000
13875>               out <=    1.0 01:C7-STR        1.62      .112 No_date   28:16   70.42  n/a     .000
13876>           overflow <=   1.0 03:C7-OVF         .00      .000 No_date    0:00     .00  n/a     .000
13877>     {MxStoUsed=.5636E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13878> R0100:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13879>     CONTINUOUS STANDHYD    1.0 01:ST-6           .41      .081 No_date   28:00   55.78 .630     .000
13880>       [XIMP=.46:TIMP=.57]
13881>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  Fe= .00]
13882>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
13883>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=  91.:MNI=.013:SCI=   .0]
13884>       [IaREC1mp=   4.00: IaRECper=    4.00]
13885> R0100:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13886>     ROUTE RESERVOIR ->    1.0 02:ST-6           .41      .081 No_date   28:00   55.78  n/a     .000
13887>               out <=    1.0 01:ST6STR         .41      .037 No_date   28:13   55.78  n/a     .000
13888>           overflow <=   1.0 03:ST6OVF         .00      .000 No_date    0:00     .00  n/a     .000
13889>     {MxStoUsed=.3877E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13890> R0100:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13891>     ADD HYD             1.0 02:PT4ST5       431.02     9.279 No_date   29:07   40.72  n/a     .000
13892>                   +     1.0 02:C6-STR        1.87      .129 No_date   28:16   70.42  n/a     .000
13893>                   +     1.0 02:C6-OVF         .00      .000 No_date    0:00     .00  n/a     .000
13894>                   +     1.0 02:C7-STR        1.62      .112 No_date   28:16   70.42  n/a     .000
13895>                   +     1.0 02:C7-OVF         .00      .000 No_date    0:00     .00  n/a     .000
13896>                   +     1.0 02:ST6STR         .41      .037 No_date   28:13   55.78  n/a     .000
13897>                   +     1.0 02:ST6OVF         .00      .000 No_date    0:00     .00  n/a     .000
13898>                 SUM=    1.0 01:PTSST6       434.92     9.426 No_date   29:06   40.97  n/a     .000
13899> R0100:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13900>     ROUTE CHANNEL   ->    1.0 02:PTSST6       434.92     9.426 No_date   29:06   40.97  n/a     .000
13901>       [RDT= 1.00] out<-   1.0 01:DRAIN4       434.92     9.061 No_date   29:16   40.97  n/a     .000
13902>       [L/S/n=  324./ .100/.043]
13903>       {Vmax=  .507:Dmax= 1.619}
13904> R0100:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13905>     CONTINUOUS NASHYD      1.0 01:D4            1.73      .112 No_date   28:33   57.07 .644     .000
13906>       [CN= 88.0: N= 3.00: Tp=  .60]
13907>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
13908>       [InterEventTime=  12.00]
13909> R0100:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13910>     CONTINUOUS STANDHYD    1.0 01:Area-B       24.04     4.871 No_date   28:02   66.17 .747     .000
13911>       [XIMP=.62:TIMP=.77]
13912>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  Fe= .00]
13913>       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
13914>       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
13915>       [IaREC1mp=   4.00: IaRECper=    4.00]
13916> R0100:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13917>     ROUTE RESERVOIR ->    1.0 02:Area-B       24.04     4.871 No_date   28:02   66.17  n/a     .000
13918>               out <=    1.0 01:SWMF-B       24.04      .641 No_date   28:41   66.17  n/a     .000
13919>           overflow <=   1.0 03:SWMBOVF        .00      .000 No_date    0:00     .00  n/a     .000
13920>     {MxStoUsed=.9727E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13921> R0100:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13922>     ADD HYD             1.0 02:DRAIN4       434.92     9.061 No_date   29:16   40.97  n/a     .000
13923>                   +     1.0 02:D4            1.73      .112 No_date   28:33   57.07  n/a     .000
13924>                   +     1.0 02:SWMF-B       24.04      .641 No_date   28:41   66.17  n/a     .000
13925>                   +     1.0 02:SWMBOVF        .00      .000 No_date    0:00     .00  n/a     .000
13926>                 SUM=    1.0 01:D4-EX        460.69     9.722 No_date   29:15   42.35  n/a     .000
13927> R0100:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13928>     ROUTE CHANNEL   ->    1.0 02:D4-EX        460.69     9.722 No_date   29:15   42.35  n/a     .000
13929>       [RDT= 1.00] out<-   1.0 01:DRAIN5       460.69     9.564 No_date   29:26   42.35  n/a     .000
13930>       [L/S/n=  413./ .160/.033]
13931>       {Vmax=  .703:Dmax= 1.106}
13932> R0100:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13933>     CONTINUOUS NASHYD      1.0 01:D5            1.90      .104 No_date   28:40   54.04 .610     .000
13934>       [CN= 86.0: N= 3.00: Tp=  .69]
13935>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
13936>       [InterEventTime=  12.00]
13937> R0100:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13938>     CONTINUOUS NASHYD      1.0 01:O-13SDF       9.74      .675 No_date   28:21   50.83 .574     .000
13939>       [CN= 81.0: N= 3.00: Tp=  .43]
13940>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13941>       [InterEventTime=  12.00]
13942> R0100:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13943>     ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74      .675 No_date   28:21   50.83  n/a     .000
13944>               out <=    1.0 01:SDF           9.74      .070 No_date   30:50   50.83  n/a     .000
13945>           overflow <=   1.0 03:OVFSDF         .00      .000 No_date    0:00     .00  n/a     .000
13946>     {MxStoUsed=.2813E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13947> R0100:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13948>     ADD HYD             1.0 02:DRAIN5       460.69     9.564 No_date   29:26   42.35  n/a     .000
13949>                   +     1.0 02:D5            1.90      .104 No_date   28:40   54.04  n/a     .000
13950>                   +     1.0 02:SDF           9.74      .070 No_date   30:50   50.83  n/a     .000
13951>                 SUM=    1.0 01:PT6MC       472.33     9.694 No_date   29:26   42.57  n/a     .000
13952> R0100:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13953>     CONTINUOUS NASHYD      1.0 01:O-15          10.67      .940 No_date   28:13   49.72 .561     .000
13954>       [CN= 82.0: N= 3.00: Tp=  .30]
13955>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
13956>       [InterEventTime=  12.00]
13957> R0100:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13958>     ADD HYD             1.0 02:PT6MC       472.33     9.694 No_date   29:26   42.57  n/a     .000
13959>                   +     1.0 02:O-15          10.67      .940 No_date   28:13   49.72  n/a     .000
13960>                 SUM=    1.0 01:M-C         483.00     9.844 No_date   29:26   42.73  n/a     .000
13961> R0100:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13962>     ROUTE CHANNEL   ->    1.0 02:M-C         483.00     9.844 No_date   29:26   42.73  n/a     .000
13963>       [RDT= 1.00] out<-   1.0 01:O-14Ch      483.00     8.880 No_date   29:52   42.73  n/a     .000
13964>       [L/S/n=  845./ .100/.033]
13965>       {Vmax=  .556:Dmax= 1.861}
13966> R0100:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13967>     CONTINUOUS NASHYD      1.0 01:O-14          5.00      .722 No_date   28:04   49.72 .561     .000
13968>       [CN= 82.0: N= 3.00: Tp=  .13]
13969>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
13970>       [InterEventTime=  12.00]
13971> R0100:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13972>     ADD HYD             1.0 02:O-14Ch      483.00     8.880 No_date   29:52   42.73  n/a     .000
13973>                   +     1.0 02:O-14          5.00      .722 No_date   28:04   49.72  n/a     .000
13974>                 SUM=    1.0 01:OKEEFE      488.00     8.925 No_date   29:52   42.80  n/a     .000
13975> #*************************************************************************
13976> #    Okeefe Pond
13977> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
13978> #      and a ratio of the catchment area to the West Clarke pond rating curve
13979> #      from the MSS for the next coordinates
13980> #*************************************************************************
13981> R0100:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13982>     CONTINUOUS NASHYD      1.0 01:S-1-D2        18.67      .573 No_date   29:11   45.95 .519     .000
13983>       [CN= 77.0: N= 3.00: Tp= 1.12]
13984>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13985>       [InterEventTime=  12.00]
13986> R0100:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13987>     CONTINUOUS NASHYD      1.0 01:S-1-D3         6.79      .189 No_date   29:23   45.95 .519     .000
13988>       [CN= 77.0: N= 3.00: Tp= 1.28]
13989>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13990>       [InterEventTime=  12.00]
13991> R0100:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13992>     ADD HYD             1.0 02:N_OK        53064.36  144.944 No_date   33:32   38.79  n/a     .000
13993>                   +     1.0 02:OKEEFE        488.00    8.925 No_date   29:52   42.80  n/a     .000
13994>                   +     1.0 02:S-1-D2         18.67     .573 No_date   29:11   45.95  n/a     .000
13995>                   +     1.0 02:S-1-D3          6.79     .189 No_date   29:23   45.95  n/a     .000
13996>                 SUM=    1.0 01:SN_OK       53577.82  147.990 No_date   33:31   38.83  n/a     .000
13997> R0100:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13998>     SAVE HYD            1.0 01:SN_OK       53577.82  147.990 No_date   33:31   38.83  n/a     .000
13999>       fname :SN_OK.0100
14000>       remark:Total Flows at Okeefe Drain
14001> #
14002> # Hydrograph from Node Okeefe routed to Node at Foster Drain
14003> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
14004> #
14005> R0100:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14006>     ROUTE CHANNEL   ->    1.0 02:SN_OK       53577.82  147.990 No_date   33:31   38.83  n/a     .000
14007>       [RDT= 1.00] out<-   1.0 01:N_FO        53577.82  147.849 No_date   33:32   38.83  n/a     .000
14008>       [L/S/n= 1183./ .076/.035]
14009>       {Vmax= 1.294:Dmax= 3.587}
14010> #*************************************************************************
14011> #    Catchment FOSTER
14012> #    - To Foster ditch (north of the Jock)
14013> #    - Partially developed (medium density); remaining agricultural
14014> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
14015> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
14016> #    - 2021-02-12  area to 325.44 ha as measured from QGIS
14017> #*************************************************************************
14018> R0100:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14019>     CONTINUOUS STANDHYD    1.0 01:FOSTER       325.44    36.526 No_date   28:10   65.13 .735     .000
14020>       [XIMP=.55:TIMP=.55]
14021>       [LOSS= 2 :CN= 74.0]
14022>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
14023>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=1473.:MNI=.013:SCI=   .0]
14024>       [IaREC1mp=   4.00: IaRECper=    4.00]
14025>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14026> #*************************************************************************
14027> #    Foster Pond
14028> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
14029> #      and a ratio of the catchment area to the West Clarke pond rating curve
14030> #      from the MSS for the next coordinates
14031> #*************************************************************************
14032> R0100:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14033>     ROUTE RESERVOIR ->    1.0 02:FOSTER       325.44    36.526 No_date   28:10   65.13  n/a     .000
14034>               out <=    1.0 01:P_FOS        325.44     9.091 No_date   29:01   65.13  n/a     .000
14035>           overflow <=   1.0 03:FO-OVF         .00      .000 No_date    0:00     .00  n/a     .000
14036>     {MxStoUsed=.8792E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14037> R0100:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14038>     ADD HYD             1.0 02:P_FOS        325.44     9.091 No_date   29:01   65.13  n/a     .000
14039>                   +     1.0 02:FO-OVF         .00      .000 No_date    0:00     .00  n/a     .000
14040>                 SUM=    1.0 01:FOSTER-OUT   325.44     9.091 No_date   29:01   65.13  n/a     .000
14041> #*************************************************************************
14042> R0100:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14043>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA    73.29    11.683 No_date   28:05   70.23 .793     .000
14044>       [XIMP=.60:TIMP=.65]
14045>       [LOSS= 2 :CN= 77.0]
14046>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14047>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 699.:MNI=.013:SCI=   .0]
14048>       [IaREC1mp=   4.00: IaRECper=    4.00]
14049>       [SMIN= 31.15: SMAX=207.66: SK= .010]
14050> R0100:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14051>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA    73.29    11.683 No_date   28:05   70.23  n/a     .000
14052>               out <=    1.0 01:MS_P10        73.29     1.240 No_date   29:12   70.23  n/a     .000
14053>           overflow <=   1.0 03:P10-OVF         .00      .000 No_date    0:00     .00  n/a     .000
14054>     {MxStoUsed=.2223E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14055> R0100:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14056>     CONTINUOUS NASHYD      1.0 01:S-1-FO-D2      4.94      .154 No_date   29:10   45.95 .519     .000
14057>       [CN= 77.0: N= 3.00: Tp= 1.10]
14058>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14059>       [InterEventTime=  12.00]
14060> R0100:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14061>     ADD HYD             1.0 02:FOSTER-OUT   325.44     9.091 No_date   29:01   65.13  n/a     .000
14062>                   +     1.0 02:S-1-FO-D2      4.94      .154 No_date   29:10   45.95  n/a     .000
14063>                 SUM=    1.0 01:980          330.38     9.242 No_date   29:01   64.84  n/a     .000
14064> R0100:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14065>     SAVE HYD            1.0 01:980          330.38     9.242 No_date   29:01   64.84  n/a     .000
14066>       fname :980.0100
14067>       remark:Total Flows at Station 980 on Foster Drain
14068> #
14069> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
14070> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
14071> #
14072> R0100:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14073>     ROUTE CHANNEL   ->    1.0 01:980          330.38     9.242 No_date   29:01   64.84  n/a     .000
14074> *   [RDT= 1.00] out<-    1.0 01:980-out      330.38     8.718 No_date   29:20   64.84  n/a     .000
14075>       [L/S/n=  460./ .043/.035]
14076>       {Vmax=  .535:Dmax= 1.743}
14077> R0100:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14078>     CONTINUOUS NASHYD      1.0 01:S-1-FO-D1      5.11      .159 No_date   29:10   45.95 .519     .000
14079>       [CN= 77.0: N= 3.00: Tp= 1.00]
14080>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14081>       [InterEventTime=  12.00]
14082> R0100:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14083>     ADD HYD             1.0 02:980-out      330.38     8.718 No_date   29:20   64.84  n/a     .000
14084>                   +     1.0 02:S-1-FO-D1      5.11      .159 No_date   29:10   45.95  n/a     .000
14085>                 SUM=    1.0 01:520          335.49     8.875 No_date   29:20   64.55  n/a     .000
14086> R0100:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14087>     SAVE HYD            1.0 01:520          335.49     8.875 No_date   29:20   64.55  n/a     .000
14088>       fname :520.0100
14089>       remark:Total Flows at Sation 520 on Foster Drain
14090> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
14091> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
14092> #
14093> R0100:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14094>     ROUTE CHANNEL   ->    1.0 02:520          335.49     8.875 No_date   29:20   64.55  n/a     .000
14095>       [RDT= 1.00] out<-   1.0 01:520-out      335.49     8.790 No_date   29:26   64.55  n/a     .000
14096>       [L/S/n=  860./ .587/.035]
14097>       {Vmax= 1.604:Dmax=  .806}
14098> R0100:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14099>     CONTINUOUS NASHYD      1.0 01:S-1-FO-F-D    14.96      .496 No_date   29:03   45.95 .519     .000
14100>       [CN= 77.0: N= 3.00: Tp= 1.01]
14101>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14102>       [InterEventTime=  12.00]
14103> R0100:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14104>     CONTINUOUS STANDHYD    1.0 01:S-1-D8         5.27     1.102 No_date   28:00   70.58 .797     .000
14105>       [XIMP=.66:TIMP=.65]
14106>       [LOSS= 2 :CN= 75.0]
14107>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14108>       [Impervious   area: IAimp= 1.57:SLPI=  .75:LGI= 187.:MNI=.013:SCI=   .0]
14109>       [IaREC1mp=   4.00: IaRECper=    4.00]
14110>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14111> R0100:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14112>     CONTINUOUS NASHYD      1.0 01:S-1-A         75.88     3.578 No_date   28:36   45.95 .519     .000
14113>       [CN= 77.0: N= 3.00: Tp=  .62]
14114>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14115>       [InterEventTime=  12.00]
14116> R0100:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14117>     CONTINUOUS NASHYD      1.0 01:W_CLAR_UND    35.65     1.108 No_date   29:10   45.95 .519     .000
14118>       [CN= 77.0: N= 3.00: Tp= 1.10]
14119>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14120>       [InterEventTime=  12.00]
14121> R0100:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14122>     ADD HYD             1.0 02:N_FO        53577.82  147.849 No_date   33:32   38.83  n/a     .000
14123>                   +     1.0 02:P_FOS         325.44    9.091 No_date   29:26   64.55  n/a     .000
14124>                   +     1.0 02:MS_P10         73.29    1.240 No_date   29:12   70.23  n/a     .000
14125>                   +     1.0 02:P10-OVF         .00      .000 No_date    0:00     .00  n/a     .000
14126>                   +     1.0 02:W_CLAR_UND    35.65     1.108 No_date   29:10   45.95  n/a     .000
14127>                   +     1.0 02:S-1-FO-F-D    14.96      .496 No_date   29:03   45.95  n/a     .000
14128>                   +     1.0 02:S-1-D8         5.27     1.102 No_date   28:00   70.58  n/a     .000
14129>                   +     1.0 02:S-1-A         75.88     3.578 No_date   28:36   45.95  n/a     .000
14130>                 SUM=    1.0 01:SN_FO       54118.36  153.577 No_date   33:32   39.05  n/a     .000
14131> R0100:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14132>     SAVE HYD            1.0 01:SN_FO       54118.36  153.577 No_date   33:32   39.05  n/a     .000
14133>       fname :SN_FO.0100
14134>       remark:Total Flows at Foster Drain
14135> # Hydrograph from Node Foster routed to Node at Cedarview Road
14136> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
14137> #
14138> R0100:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14139>     ROUTE CHANNEL   ->    1.0 02:SN_FO       54118.36  153.577 No_date   33:32   39.05  n/a     .000
14140> *   [RDT= 1.00] out<-    1.0 01:N_CE        54118.36  153.492 No_date   33:33   39.05  n/a     .000
14141>       [L/S/n=  159./ .082/.035]
14142>       {Vmax= 1.456:Dmax= 4.474}
14143> #*************************************************************************
14144> #    Catchment S-1
14145> #    - To Jock River (north and south of Jock)
14146> #    - Primarily agricultural fields; portion of sand quarry
14147> #*************************************************************************
14148> R0100:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14149>     CONTINUOUS NASHYD      1.0 01:S-1-B         55.36     3.260 No_date   28:23   45.95 .519     .000
14150>       [CN= 77.0: N= 3.00: Tp= 1.05]
14151>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14152>       [InterEventTime=  12.00]
14153> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
14154> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
14155> #       JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
14156> R0100:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14157>     CONTINUOUS NASHYD      1.0 01:S-1-D1        21.67      .689 No_date   29:07   45.95 .519     .000
14158>       [CN= 77.0: N= 3.00: Tp= 1.07]
14159>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14160>       [InterEventTime=  12.00]
14161> R0100:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14162>     CONTINUOUS NASHYD      1.0 01:S-1-D4         3.28      .102 No_date   29:10   45.95 .519     .000
14163>       [CN= 77.0: N= 3.00: Tp= 1.10]
14164>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14165>       [InterEventTime=  12.00]
14166> R0100:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14167>     CONTINUOUS NASHYD      1.0 01:S-1-D5        12.84      .399 No_date   29:10   45.95 .519     .000
14168>       [CN= 77.0: N= 3.00: Tp= 1.10]
14169>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14170>       [InterEventTime=  12.00]
14171> R0100:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14172>     CONTINUOUS NASHYD      1.0 01:S-1-D6         1.75      .054 No_date   29:10   45.95 .519     .000
14173>       [CN= 77.0: N= 3.00: Tp= 1.10]
14174>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14175>       [InterEventTime=  12.00]
14176> R0100:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14177>     CONTINUOUS NASHYD      1.0 01:S-1-D7         2.03      .063 No_date   29:10   45.95 .519     .000
14178>       [CN= 77.0: N= 3.00: Tp= 1.10]
14179>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14180>       [InterEventTime=  12.00]
14181> #    Catchment W_CLAR
14182> #    - To West Clarke Drain (south of the Jock)
14183> #    - Subdivision with 43% imp. as per Barrhaven South MSS
14184> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
14185> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
14186> #*************************************************************************
14187> R0100:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14188>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ      1.77      .332 No_date   28:00   66.20 .747     .000
14189>       [XIMP=.46:TIMP=.59]
14190>       [LOSS= 2 :CN= 77.0]
14191>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14192>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
14193>       [IaREC1mp=   4.00: IaRECper=    4.00]
14194>       [SMIN= 31.15: SMAX=207.66: SK= .010]
14195> # 5-Year + 12% Capture
14196> R0100:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14197>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ      1.77      .332 No_date   28:00   66.20  n/a     .000
14198>               out <=    1.0 01:W_CLAR_MJn     1.69      .213 No_date   27:52   66.22  n/a     .000
14199>           overflow <=   1.0 03:W_CLAR_MJj      .08      .115 No_date   28:01   66.20  n/a     .000
14200>     {MxStoUsed=.1530E-03  m3, TotOvfVol=.5337E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
14201> R0100:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14202>     CONTINUOUS STANDHYD    1.0 01:W_
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14213> R0100:C00179-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14214>     SAVE HYD              1.0 01:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
14215>       fname :W_CLAR.0100
14216>       remark:Total Flows to West Clarke
14217> #*************************************************************************
14218> #    West Clarke Pond 2
14219> #  - Rating curve obtained from Barrhaven South MSS modeling
14220> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
14221> #*************************************************************************
14222> R0100:C00180-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14223>     ROUTE RESERVOIR ->    1.0 02:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
14224>                   out <-  1.0 02:MS_P2       119.48   13.064 No_date   28:13   70.22  n/a     .000
14225>           overflow <=     1.0 03:P2-OVF        .00     .000 No_date    0:00     .00  n/a     .000
14226>       {MxStoUsed=.3189E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14227> #*************************************************************************
14228> R0100:C00181-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14229>     ADD HYD               1.0 02:N_CE      54118.36  153.492 No_date   33:33   39.05  n/a     .000
14230>                     +     1.0 02:S-1-D4        3.28     .102 No_date   29:10   45.95  n/a     .000
14231>                     +     1.0 02:S-1-D5       12.84     .399 No_date   29:10   45.95  n/a     .000
14232>                     +     1.0 02:MS_P2       119.48   13.064 No_date   28:13   70.22  n/a     .000
14233>                     +     1.0 02:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
14234>                   SUM=    1.0 01:SN_CE      54253.96  154.467 No_date   33:33   39.12  n/a     .000
14235> R0100:C00182-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14236>     SAVE HYD              1.0 01:SN_CE      54253.96  154.467 No_date   33:33   39.12  n/a     .000
14237>       fname :SN_CE.0100
14238>       remark:Total Flows before Station 5737 on Jock River
14239> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
14240> # JFSA 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-1
14241> # JFSA 2021-03-02  change the slope to 0.1% instead of 0.0175 to stabilize the model
14242> R0100:C00183-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14243>     ROUTE CHANNEL     ->    1.0 02:SN_CE      54253.96  154.467 No_date   33:33   39.12  n/a     .000
14244> *   {RDT= 1.00} out<-       1.0 01:5737       54253.96  147.337 No_date   35:20   39.12  n/a     .000
14245>       {L/S/n=  270./ .018/.035}
14246>       {Vmax=  .872:Dmax= 5.575}
14247> R0100:C00184-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14248>     ADD HYD               1.0 02:5737       54253.96  147.337 No_date   35:20   39.12  n/a     .000
14249>                     +     1.0 02:S-1-D1        21.67     .689 No_date   29:07   45.95  n/a     .000
14250>                     +     1.0 02:S-1-D6         1.75     .054 No_date   29:10   45.95  n/a     .000
14251>                     +     1.0 02:S-1-D7         2.03     .063 No_date   29:10   45.95  n/a     .000
14252>                   SUM=    1.0 01:5002       54279.41  147.438 No_date   35:20   39.13  n/a     .000
14253> R0100:C00185-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14254>     SAVE HYD              1.0 01:5002       54279.41  147.438 No_date   35:20   39.13  n/a     .000
14255>       fname :5002.0100
14256>       remark:Total Flows before Station 5002 on Jock River
14257> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
14258> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
14259> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
14260> # JFSA 2021-02-25 change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
14261> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
14262> R0100:C00186-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14263>     ROUTE CHANNEL     ->    1.0 02:5002       54279.41  147.438 No_date   35:20   39.13  n/a     .000
14264> *   {RDT= 1.00} out<-       1.0 01:N_WCa      54279.41  147.366 No_date   35:29   39.13  n/a     .000
14265>       {L/S/n=  245./ .095/.035}
14266>       {Vmax= 1.325:Dmax= 3.172}
14267> R0100:C00187-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14268>     ROUTE CHANNEL     ->    1.0 02:N_WCa      54279.41  147.366 No_date   35:29   39.13  n/a     .000
14269> *   {RDT= 1.00} out<-       1.0 01:N_WCb      54279.41  147.339 No_date   35:35   39.13  n/a     .000
14270>       {L/S/n=  245./ .095/.035}
14271>       {Vmax= 1.325:Dmax= 3.172}
14272> R0100:C00188-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14273>     ROUTE CHANNEL     ->    1.0 02:N_WCb      54279.41  147.339 No_date   35:35   39.13  n/a     .000
14274> *   {RDT= 1.00} out<-       1.0 01:N_WC       54279.41  147.314 No_date   35:41   39.13  n/a     .000
14275>       {L/S/n=  245./ .095/.035}
14276>       {Vmax= 1.325:Dmax= 3.171}
14277> #*************************************************************************
14278> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
14279> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
14280> #
14281> R0100:C00189-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14282>     ROUTE CHANNEL     ->    1.0 02:N_WC       54279.41  147.314 No_date   35:41   39.13  n/a     .000
14283> *   {RDT= 1.00} out<-       1.0 01:N_KB       54279.41  146.607 No_date   35:56   39.13  n/a     .000
14284>       {L/S/n= 1020./ .050/.035}
14285>       {Vmax=  .987:Dmax= 3.884}
14286> #*************************************************************************
14287> #    Catchment KEN_BU
14288> #    - To Kennedy-Burnett SWM Facility
14289> #    - Outlets to Fraser-Clarke drain (north of the Jock)
14290> #    - Medium density residential subdivision
14291> #*************************************************************************
14292> #*************************************************************************
14293> #   Existing Kennedy-Burnett SWM Facility
14294> #   - Rating curve obtained from URTKBP
14295> #     - Tributary Drainage Area to Pond = 160 ha
14296> #*************************************************************************
14297> R0100:C00190-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14298>     CONTINUOUS STANDHYD   1.0 01:KB-01A       40.82    5.490 No_date   28:09   36.71 .415     .000
14299>       [XIMP=.10:TIMP=.40]
14300>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14301>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
14302>       [Impervious   area: IAimp=  .79:SLPI=  .50:LGI= 522.:MNI=.013:SCI=   .0]
14303>       [IaRECimp=  4.00: IaRECper=   4.00]
14304> R0100:C00191-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14305>     COMPUTE DUALHYD       1.0 01:KB-01A       40.82    5.490 No_date   28:09   36.71  n/a     .000
14306>       Major System  /     1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14307>       Minor System  \     1.0 03:KB-01A-MN     40.82    3.600 No_date   28:44   36.91  n/a     .000
14308>       {MjSysSto=.1774E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14309> R0100:C00192-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14310>     ADD HYD               1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14311>                     +     1.0 02:KB-01A-MN     40.82    3.600 No_date   28:44   36.91  n/a     .000
14312>                   SUM=    1.0 01:KB-01A-S      40.82    3.600 No_date   28:44   36.91  n/a     .000
14313> R0100:C00193-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14314>     CONTINUOUS STANDHYD   1.0 01:KB-01B       31.10    4.072 No_date   28:06   40.61 .458     .000
14315>       [XIMP=.19:TIMP=.38]
14316>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14317>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
14318>       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
14319>       [IaRECimp=  4.00: IaRECper=   4.00]
14320> R0100:C00194-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14321>     COMPUTE DUALHYD       1.0 01:KB-01B       31.10    4.072 No_date   28:06   40.61  n/a     .000
14322>       Major System  /     1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14323>       Minor System  \     1.0 03:KB-01B-MN     31.10    1.585 No_date   27:51   40.77  n/a     .000
14324>       {MjSysSto=.3465E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14325> R0100:C00195-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14326>     ADD HYD               1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14327>                     +     1.0 02:KB-01B-MN     31.10    1.585 No_date   27:51   40.77  n/a     .000
14328>                   SUM=    1.0 01:KB-01B-S      31.10    1.585 No_date   27:51   40.77  n/a     .000
14329> R0100:C00196-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14330>     CONTINUOUS STANDHYD   1.0 01:KB-01C       13.78    2.471 No_date   28:03   41.89 .473     .000
14331>       [XIMP=.20:TIMP=.41]
14332>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14333>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14334>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
14335>       [IaRECimp=  4.00: IaRECper=   4.00]
14336> R0100:C00197-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14337>     COMPUTE DUALHYD       1.0 01:KB-01C       13.78    2.471 No_date   28:03   41.89  n/a     .000
14338>       Major System  /     1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14339>       Minor System  \     1.0 03:KB-01C-MN     13.78    1.350 No_date   28:37   42.09  n/a     .000
14340>       {MjSysSto=.2658E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14341> R0100:C00198-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14342>     ADD HYD               1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14343>                     +     1.0 02:KB-01C-MN     13.78    1.350 No_date   28:37   42.09  n/a     .000
14344>                   SUM=    1.0 01:KB-01C-S      13.78    1.350 No_date   28:37   42.09  n/a     .000
14345> R0100:C00199-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14346>     CONTINUOUS STANDHYD   1.0 01:KB-03        84.78   12.777 No_date   28:07   41.33 .467     .000
14347>       [XIMP=.20:TIMP=.39]
14348>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14349>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14350>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
14351>       [IaRECimp=  4.00: IaRECper=   4.00]
14352> R0100:C00200-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14353>     COMPUTE DUALHYD       1.0 01:KB-03        84.78   12.777 No_date   28:07   41.33  n/a     .000
14354>       Major System  /     1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14355>       Minor System  \     1.0 03:KB-03-MN     84.78    5.270 No_date   29:11   41.33  n/a     .000
14356>       {MjSysSto=.8591E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14357> R0100:C00201-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14358>     ADD HYD               1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14359>                     +     1.0 02:KB-03-MN     84.78    5.270 No_date   29:11   41.33  n/a     .000
14360>                   SUM=    1.0 01:KB-03-S      84.78    5.270 No_date   29:11   41.33  n/a     .000
14361> R0100:C00202-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14362>     CONTINUOUS STANDHYD   1.0 01:KB-04         6.95    1.754 No_date   28:00   78.30 .884     .000
14363>       [XIMP=.85:TIMP=.85]
14364>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14365>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14366>       [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
14367>       [IaRECimp=  4.00: IaRECper=   4.00]
14368> R0100:C00203-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14369>     COMPUTE DUALHYD       1.0 01:KB-04         6.95    1.754 No_date   28:00   78.30  n/a     .000
14370>       Major System  /     1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14371>       Minor System  \     1.0 03:KB-04-MN      6.95     .503 No_date   27:43   78.64  n/a     .000
14372>       {MjSysSto=.1121E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14373> R0100:C00204-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14374>     ADD HYD               1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14375>                     +     1.0 02:KB-04-MN      6.95     .503 No_date   27:43   78.64  n/a     .000
14376>                   SUM=    1.0 01:KB-04-S       6.95     .503 No_date   27:43   78.64  n/a     .000
14377> R0100:C00205-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14378>     CONTINUOUS STANDHYD   1.0 01:KB-05         5.19    1.406 No_date   28:00   82.69 .934     .000
14379>       [XIMP=.93:TIMP=.93]
14380>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14381>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14382>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
14383>       [IaRECimp=  4.00: IaRECper=   4.00]
14384> R0100:C00206-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14385>     CONTINUOUS STANDHYD   1.0 01:KB-06        12.93    3.585 No_date   28:00   79.73 .900     .000
14386>       [XIMP=.87:TIMP=.87]
14387>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14388>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14389>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
14390>       [IaRECimp=  4.00: IaRECper=   4.00]
14391> R0100:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14392>     COMPUTE DUALHYD       1.0 01:KB-06        12.93    3.585 No_date   28:00   79.73  n/a     .000
14393>       Major System  /     1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14394>       Minor System  \     1.0 03:KB-06-MN     12.93    2.262 No_date   27:51   79.89  n/a     .000
14395>       {MjSysSto=.6247E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14396> R0100:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14397>     ADD HYD               1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14398>                     +     1.0 02:KB-06-MN     12.93    2.262 No_date   27:51   79.89  n/a     .000
14399>                   SUM=    1.0 01:KB-06-S      12.93    2.262 No_date   27:51   79.89  n/a     .000
14400> R0100:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14401>     CONTINUOUS STANDHYD   1.0 01:KB-11         4.03    1.012 No_date   28:00   67.54 .763     .000
14402>       [XIMP=.68:TIMP=.68]
14403>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14404>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14405>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
14406>       [IaRECimp=  4.00: IaRECper=   4.00]
14407> R0100:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14408>     COMPUTE DUALHYD       1.0 01:KB-11         4.03    1.012 No_date   28:00   67.54  n/a     .000
14409>       Major System  /     1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14410>       Minor System  \     1.0 03:KB-11-MN      4.03     .577 No_date   27:51   67.60  n/a     .000
14411>       {MjSysSto=.2184E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14412> R0100:C00211-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14413>     ADD HYD               1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14414>                     +     1.0 02:KB-11-MN      4.03     .577 No_date   27:51   67.60  n/a     .000
14415>                   SUM=    1.0 01:KB-11-S       4.03     .577 No_date   27:51   67.60  n/a     .000
14416> R0100:C00212-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14417>     CONTINUOUS STANDHYD   1.0 01:S1           4.99    1.426 No_date   28:00   82.69 .934     .000
14418>       [XIMP=.93:TIMP=.93]
14419>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14420>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14421>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
14422>       [IaRECimp=  4.00: IaRECper=   4.00]
14423> R0100:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14424>     CONTINUOUS STANDHYD   1.0 01:KB-15         2.15     .548 No_date   28:00   75.20 .849     .000
14425>       [XIMP=.79:TIMP=.79]
14426>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14427>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14428>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
14429>       [IaRECimp=  4.00: IaRECper=   4.00]
14430> R0100:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14431>     ADD HYD               1.0 02:KB-01A-S      40.82    3.600 No_date   28:44   36.91  n/a     .000
14432>                     +     1.0 02:KB-01B-S      31.10    1.585 No_date   27:51   40.77  n/a     .000
14433>                     +     1.0 02:KB-01C-S      13.78    1.350 No_date   28:37   42.09  n/a     .000
14434>                     +     1.0 02:KB-03-S       84.78    5.270 No_date   29:11   41.33  n/a     .000
14435>                     +     1.0 02:KB-04-S        6.95     .503 No_date   27:43   78.64  n/a     .000
14436>                     +     1.0 02:KB-05          5.19    1.406 No_date   28:00   82.69  n/a     .000
14437>                     +     1.0 02:KB-06-S       12.93    2.262 No_date   27:51   79.89  n/a     .000
14438>                     +     1.0 02:KB-11-S        4.03     .577 No_date   27:51   67.60  n/a     .000
14439>                     +     1.0 02:KB-15          2.15     .548 No_date   28:00   75.20  n/a     .000
14440>                     +     1.0 02:S1             4.99    1.426 No_date   28:00   82.69  n/a     .000
14441>                   SUM=    1.0 01:KB-P1        206.72   18.527 No_date   28:00   46.99  n/a     .000
14442> R0100:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14443>     ROUTE RESERVOIR ->    1.0 02:KB-P1        206.72   18.527 No_date   28:00   46.99  n/a     .000
14444>                   out <-  1.0 01:KB-P1R       196.58   12.438 No_date   28:00   46.99  n/a     .000
14445>           overflow <=     1.0 03:KB-P1ovf      10.14    6.062 No_date   28:00   46.99  n/a     .000
14446>       {MxStoUsed=.7330E+00  m3, TotOvfVol=.4763E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
14447> R0100:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14448>     ADD HYD               1.0 02:KB-P1R       196.58   12.438 No_date   28:00   46.99  n/a     .000
14449>                     +     1.0 02:KB-P1ovf      10.14    6.062 No_date   28:00   46.99  n/a     .000
14450>                   SUM=    1.0 01:KB-Pond1     206.72   18.500 No_date   28:00   46.99  n/a     .000
14451> R0100:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14452>     SAVE HYD              1.0 01:KB-Pond1     206.72   18.500 No_date   28:00   46.99  n/a     .000
14453>       fname :KB-Pond1.0100
14454>       remark:Total Flows at KB first pond
14455> R0100:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14456>     CONTINUOUS STANDHYD   1.0 01:KB-07        10.86    2.908 No_date   28:00   79.06 .893     .000
14457>       [XIMP=.86:TIMP=.86]
14458>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14459>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14460>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
14461>       [IaRECimp=  4.00: IaRECper=   4.00]
14462> R0100:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14463>     COMPUTE DUALHYD       1.0 01:KB-07        10.86    2.908 No_date   28:00   79.06  n/a     .000
14464>       Major System  /     1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14465>       Minor System  \     1.0 03:KB-07-MN     10.86    2.094 No_date   27:53   79.26  n/a     .000
14466>       {MjSysSto=.3334E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14467> R0100:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14468>     ADD HYD               1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14469>                     +     1.0 02:KB-07-MN     10.86    2.094 No_date   27:53   79.26  n/a     .000
14470>                   SUM=    1.0 01:KB-07-S      10.86    2.094 No_date   27:53   79.26  n/a     .000
14471> R0100:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14472>     CONTINUOUS STANDHYD   1.0 01:KB-08         6.61    1.609 No_date   28:00   65.36 .738     .000
14473>       [XIMP=.64:TIMP=.64]
14474>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14475>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14476>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
14477>       [IaRECimp=  4.00: IaRECper=   4.00]
14478> R0100:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14479>     COMPUTE DUALHYD       1.0 01:KB-08         6.61    1.609 No_date   28:00   65.36  n/a     .000
14480>       Major System  /     1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14481>       Minor System  \     1.0 03:KB-08-MN      6.61    1.058 No_date   27:52   65.50  n/a     .000
14482>       {MjSysSto=.2397E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14483> R0100:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14484>     ADD HYD               1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14485>                     +     1.0 02:KB-08-MN      6.61    1.058 No_date   27:52   65.50  n/a     .000
14486>                   SUM=    1.0 01:KB-08-S       6.61    1.058 No_date   27:52   65.50  n/a     .000
14487> R0100:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14488>     CONTINUOUS STANDHYD   1.0 01:KB-09         2.60     .727 No_date   28:00   78.38 .885     .000
14489>       [XIMP=.86:TIMP=.86]
14490>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14491>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14492>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
14493>       [IaRECimp=  4.00: IaRECper=   4.00]
14494> R0100:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14495>     CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37     .663 No_date   28:00   78.39 .885     .000
14496>       [XIMP=.86:TIMP=.86]
14497>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14498>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14499>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
14500>       [IaRECimp=  4.00: IaRECper=   4.00]
14501> R0100:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14502>     CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14     .322 No_date   28:00   78.39 .885     .000
14503>       [XIMP=.86:TIMP=.86]
14504>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14505>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14506>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
14507>       [IaRECimp=  4.00: IaRECper=   4.00]
14508> R0100:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14509>     CONTINUOUS STANDHYD   1.0 01:KB-12         4.86    1.294 No_date   28:00   74.45 .841     .000
14510>       [XIMP=.79:TIMP=.79]
14511>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14512>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14513>       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
14514>       [IaRECimp=  4.00: IaRECper=   4.00]
14515> R0100:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14516>     COMPUTE DUALHYD       1.0 01:KB-12         4.86    1.294 No_date   28:00   74.45  n/a     .000
14517>       Major System  /     1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14518>       Minor System  \     1.0 03:KB-12-MN      4.86     .867 No_date   28:11   74.79  n/a     .000
14519>       {MjSysSto=.1873E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14520> R0100:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14521>     ADD HYD               1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14522>                     +     1.0 02:KB-12-MN      4.86     .867 No_date   28:11   74.79  n/a     .000
14523>                   SUM=    1.0 01:KB-12-S       4.86     .867 No_date   28:11   74.79  n/a     .000
14524> R0100:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14525>     CONTINUOUS STANDHYD   1.0 01:KB-13        10.19    2.407 No_date   28:00   65.36 .738     .000
14526>       [XIMP=.64:TIMP=.64]
14527>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14528>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14529>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
14530>       [IaRECimp=  4.00: IaRECper=   4.00]
14531> R0100:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14532>     COMPUTE DUALHYD       1.0 01:KB-13        10.19    2.407 No_date   28:00   65.36  n/a     .000
14533>       Major System  /     1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14534>       Minor System  \     1.0 03:KB-13-MN     10.19    1.722 No_date   27:54   65.63  n/a     .000
14535>       {MjSysSto=.2806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14536> R0100:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14537>     ADD HYD               1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
14538>                     +     1.0 02:KB-13-MN     10.19    1.722 No_date   27:54   65.63  n/a     .000
14539>                   SUM=    1.0 01:KB-13-S      10.19    1.722 No_date   27:54   65.63  n/a     .000
14540> R0100:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14541>     CONTINUOUS STANDHYD   1.0 01:KB-14         5.47    1.338 No_date   28:00   65.36 .738     .000
14542>       [XIMP=.64:TIMP=.64]
14543>       [Horton parameters: Fo= 76.20:Fc= 13.
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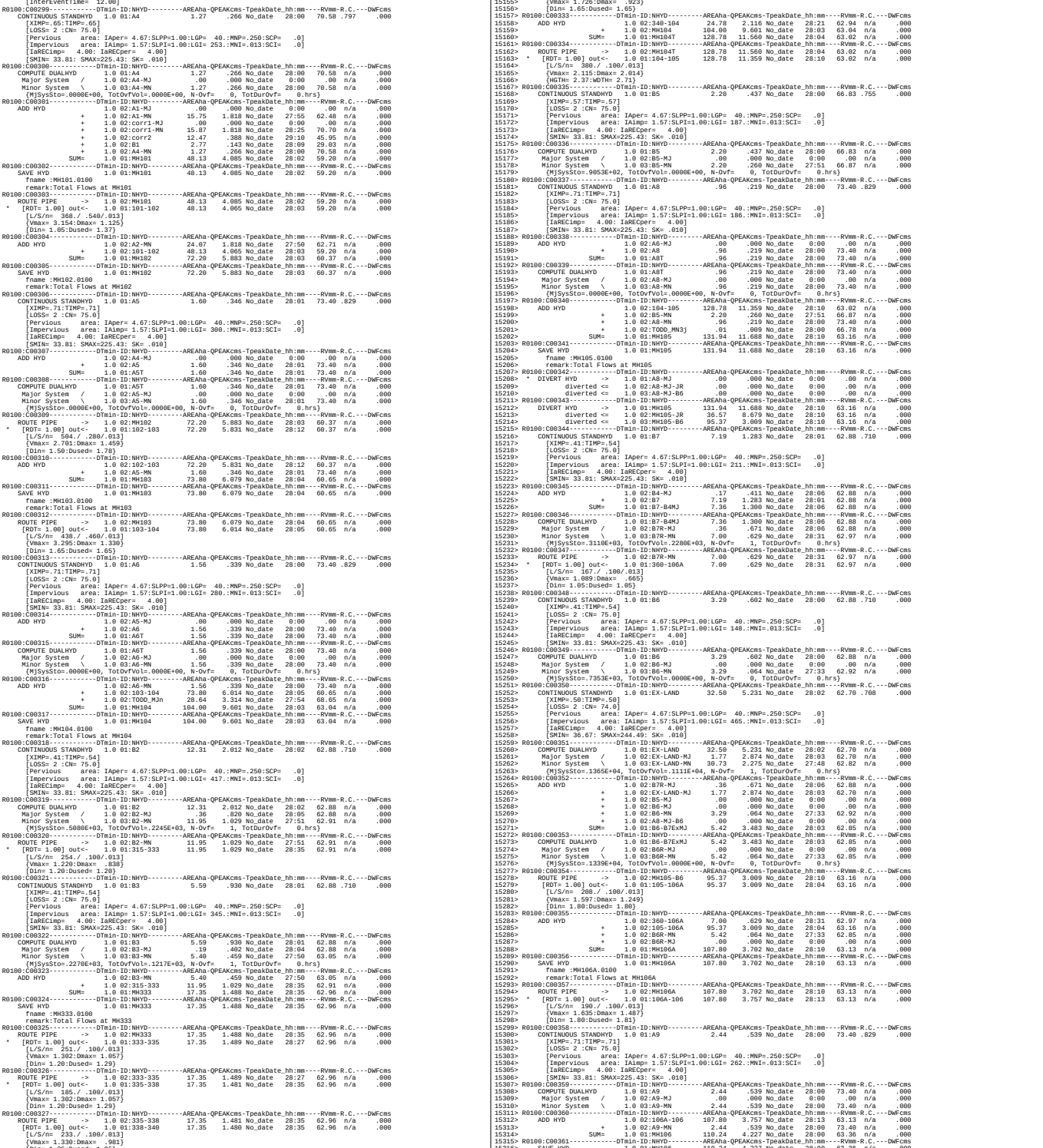
14587>       remark:Total Flows at KB second pond
14588> R0100:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14589>       CONTINUOUS STANDHYD   1.0 01:KB-16_1        2.80    .686 No_date   28:00   72.68 .821    .000
14590>          [XIMP:.75:TIMP:.75]
14591>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14592>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14593>          [Impervious   area: IAimp= .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
14594>          [IaRECimp=   4.00: IaRECper=     4.00]
14595> R0100:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14596>       ADD HYD               1.0 02:KB-Pond2     254.24   24.544 No_date   28:06   51.59  n/a    .000
14597>                        +    1.0 02:KB-16_1        2.80    .686 No_date   28:00   72.68  n/a    .000
14598>                       SUM=  1.0 01:KB-P3        257.04   24.930 No_date   28:06   51.82  n/a    .000
14599> R0100:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14600>       ROUTE RESERVOIR ->    1.0 02:KB-P3        257.04   24.930 No_date   28:06   51.82  n/a    .000
14601>                        out <=   1.0 01:KB-P3R       8.56    .051 No_date   17:08   51.81  n/a    .000
14602>                   overflow <=   1.0 03:KB-P3ovf     248.48   24.659 No_date   28:07   51.82  n/a    .000
14603>          {MxStoUsed=.1991E-02  m3, TotOvfVol=.1288E+02  m3, N-Ovf=    1, TotDurOvf=  23.hrs}
14604> R0100:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14605>       ADD HYD               1.0 02:KB-P3R         8.56    .051 No_date   17:08   51.81  n/a    .000
14606>                        +    1.0 02:KB-P3ovf     248.48   24.659 No_date   28:07   51.82  n/a    .000
14607>                       SUM=  1.0 01:KB-Pond3     257.04   24.710 No_date   28:07   51.82  n/a    .000
14608> R0100:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14609>       SAVE HYD              1.0 01:KB-Pond3     257.04   24.710 No_date   28:07   51.82  n/a    .000
14610>          fname :KB-Pond3.0100
14611>          remark:Total Flows at KB third pond
14612> #*************************************************************************
14613> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
14614> #    - TO FRASER-CLARKE DRAIN
14615> #*************************************************************************
14616> R0100:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14617>       CONTINUOUS STANDHYD   1.0 01:FC-01          8.03   1.646 No_date   28:01   54.40 .614    .000
14618>          [XIMP=.47:TIMP=.47]
14619>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14620>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14621>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
14622>          [IaRECimp=   4.00: IaRECper=     4.00]
14623> R0100:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14624>       COMPUTE DUALHYD       1.0 01:FC-01          8.03   1.646 No_date   28:01   54.40  n/a    .000
14625>          Major System   /    1.0 02:FC-01-MJ       .00    .000 No_date    0:00     .00  n/a    .000
14626>          Minor System   \    1.0 03:FC-01-MN       8.03    .756 No_date   27:49   54.46  n/a    .000
14627>          {MjSysSto=.6274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
14628> R0100:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14629>       ADD HYD               1.0 02:FC-01-MJ       .00    .000 No_date    0:00     .00  n/a    .000
14630>                        +    1.0 02:FC-01-MN       8.03    .756 No_date   27:49   54.46  n/a    .000
14631>                       SUM=  1.0 01:FC-01-S        8.03    .756 No_date   27:49   54.46  n/a    .000
14632> R0100:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14633>       CONTINUOUS STANDHYD   1.0 01:FC-02         16.05   4.197 No_date   28:00   82.69 .934    .000
14634>          [XIMP=.93:TIMP=.93]
14635>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14636>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14637>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
14638>          [IaRECimp=   4.00: IaRECper=     4.00]
14639> R0100:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14640>       COMPUTE DUALHYD       1.0 01:FC-02         16.05   4.197 No_date   28:00   82.69  n/a    .000
14641>          Major System   /    1.0 02:FC-02-MJ       .45   1.768 No_date   28:05   82.69  n/a    .000
14642>          Minor System   \    1.0 03:FC-02-MN      15.60   1.159 No_date   27:43   82.88  n/a    .000
14643>          {MjSysSto=.2385E+04, TotOvfVol=.3716E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
14644> R0100:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14645>       ADD HYD               1.0 02:FC-02-MJ       .45   1.768 No_date   28:05   82.69  n/a    .000
14646>                        +    1.0 02:FC-02-MN      15.60   1.159 No_date   27:43   82.88  n/a    .000
14647>                       SUM=  1.0 01:FC-02-S       16.05   2.927 No_date   28:05   82.87  n/a    .000
14648> R0100:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14649>       CONTINUOUS STANDHYD   1.0 01:FC-03          7.37   1.717 No_date   28:00   64.86 .732    .000
14650>          [XIMP=.64:TIMP=.64]
14651>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14652>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14653>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
14654>          [IaRECimp=   4.00: IaRECper=     4.00]
14655> R0100:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14656>       COMPUTE DUALHYD       1.0 01:FC-03          7.37   1.717 No_date   28:00   64.86  n/a    .000
14657>          Major System   /    1.0 02:FC-03-MJ       .34    .661 No_date   28:06   64.86  n/a    .000
14658>          Minor System   \    1.0 03:FC-03-MN       7.03    .358 No_date   27:41   64.90  n/a    .000
14659>          {MjSysSto=.1131E+04, TotOvfVol=.2188E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
14660> R0100:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14661>       ADD HYD               1.0 02:FC-03-MJ       .34    .661 No_date   28:06   64.86  n/a    .000
14662>                        +    1.0 02:FC-03-MN       7.03    .358 No_date   27:41   64.90  n/a    .000
14663>                       SUM=  1.0 01:FC-03-S        7.37   1.019 No_date   28:06   64.90  n/a    .000
14664> R0100:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14665>       CONTINUOUS STANDHYD   1.0 01:FC-04         12.87   2.884 No_date   28:01   64.86 .732    .000
14666>          [XIMP=.64:TIMP=.64]
14667>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14668>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14669>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
14670>          [IaRECimp=   4.00: IaRECper=     4.00]
14671> R0100:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14672>       COMPUTE DUALHYD       1.0 01:FC-04         12.87   2.884 No_date   28:01   64.86  n/a    .000
14673>          Major System   /    1.0 02:FC-04-MJ       .44    .978 No_date   28:07   64.86  n/a    .000
14674>          Minor System   \    1.0 03:FC-04-MN      12.43    .741 No_date   27:43   65.10  n/a    .000
14675>          {MjSysSto=.1794E+04, TotOvfVol=.2828E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
14676> R0100:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14677>       ADD HYD               1.0 02:FC-04-MJ       .44    .978 No_date   28:07   64.86  n/a    .000
14678>                        +    1.0 02:FC-04-MN      12.43    .741 No_date   27:43   65.10  n/a    .000
14679>                       SUM=  1.0 01:FC-04-S       12.87   1.719 No_date   28:07   65.09  n/a    .000
14680> #*************************************************************************
14681> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
14682> #    - TO JOCK RIVER
14683> #*************************************************************************
14684> R0100:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14685>       CONTINUOUS STANDHYD   1.0 01:JR-01          8.24   1.891 No_date   28:00   64.86 .732    .000
14686>          [XIMP=.64:TIMP=.64]
14687>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14688>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14689>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
14690>          [IaRECimp=   4.00: IaRECper=     4.00]
14691> R0100:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14692>       COMPUTE DUALHYD       1.0 01:JR-01          8.24   1.891 No_date   28:00   64.86  n/a    .000
14693>          Major System   /    1.0 02:JR-01-MJ       .20    .471 No_date   28:06   64.86  n/a    .000
14694>          Minor System   \    1.0 03:JR-01-MN       8.04    .563 No_date   27:44   64.95  n/a    .000
14695>          {MjSysSto=.1040E+04, TotOvfVol=.1267E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
14696> R0100:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14697>       ADD HYD               1.0 02:JR-01-MJ       .20    .471 No_date   28:06   64.86  n/a    .000
14698>                        +    1.0 02:JR-01-MN       8.04    .563 No_date   27:44   64.95  n/a    .000
14699>                       SUM=  1.0 01:JR-01-S        8.24   1.034 No_date   28:06   64.95  n/a    .000
14700> R0100:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14701>       CONTINUOUS STANDHYD   1.0 01:JR-02          1.59    .393 No_date   28:00   64.86 .732    .000
14702>          [XIMP=.64:TIMP=.64]
14703>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14704>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14705>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
14706>          [IaRECimp=   4.00: IaRECper=     4.00]
14707> R0100:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14708>       COMPUTE DUALHYD       1.0 01:JR-02          1.59    .393 No_date   28:00   64.85  n/a    .000
14709>          Major System   /    1.0 02:JR-02-MJ       .02    .087 No_date   28:03   64.85  n/a    .000
14710>          Minor System   \    1.0 03:JR-02-MN       1.57    .153 No_date   27:44   65.24  n/a    .000
14711>          {MjSysSto=.1538E+03, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=   0.hrs}
14712> R0100:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14713>       ADD HYD               1.0 02:JR-02-MJ       .02    .087 No_date   28:03   64.85  n/a    .000
14714>                        +    1.0 02:JR-02-MN       1.57    .153 No_date   27:44   65.24  n/a    .000
14715>                       SUM=  1.0 01:JR-02-S        1.59    .240 No_date   28:03   65.23  n/a    .000
14716> #*************************************************************************
14717> #    Catchment FRASER
14718> #    - To Fraser-Clarke drain (north of the Jock)
14719> #    - Developed land with assumed 43% imp.
14720> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
14721> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
14722> #*************************************************************************
14723> R0100:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14724>       CONTINUOUS NASHYD     1.0 01:FRASER-DRN    13.65    .837 No_date   28:21   45.95 .519    .000
14725>          [CN= 77.0: N= 3.00: Tp=  .43]
14726>          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14727>          [InterEventTime=  12.00]
14728> R0100:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14729>       CONTINUOUS NASHYD     1.0 01:FRASER-D      21.61    .959 No_date   28:40   45.95 .519    .000
14730>          [CN= 77.0: N= 3.00: Tp=  .67]
14731>          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14732>          [InterEventTime=  12.00]
14733> R0100:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14734>       ADD HYD               1.0 02:KB-Pond3      257.04   24.710 No_date   28:07   51.82  n/a    .000
14735>                        +    1.0 02:S-1-B         55.36    3.200 No_date   28:23   45.95  n/a    .000
14736>                        +    1.0 02:FRASER-DRN    13.65    .837 No_date   28:21   45.95  n/a    .000
14737>                        +    1.0 02:FRASER-D      21.61    .959 No_date   28:40   45.95  n/a    .000
14738>                        +    1.0 02:N_KB       54279.41  146.607 No_date   35:56   39.13  n/a    .000
14739>                        +    1.0 02:FC-01-S        8.03    .756 No_date   27:49   54.46  n/a    .000
14740>                        +    1.0 02:FC-02-S       16.05   2.927 No_date   28:05   82.87  n/a    .000
14741>                        +    1.0 02:FC-03-S        7.37   1.019 No_date   28:06   64.90  n/a    .000
14742>                       SUM=  1.0 01:4241       54658.52  147.494 No_date   35:56   39.22  n/a    .000
14743> R0100:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14744>       SAVE HYD              1.0 01:4241         54658.52  147.494 No_date   35:56   39.22  n/a    .000
14745>          fname :4241.0100
14746>          remark:Total Flows at Ken-Burnett Outlet
14747> # Hydrograph from Node Ken-Burnett to station 3633
14748> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
14749> #
14750> R0100:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14751>       ROUTE CHANNEL   ->    1.0 02:4241         54658.52  147.494 No_date   35:56   39.22  n/a    .000
14752> *     [RDT= 1.00] out<-     1.0 01:4241-out     54658.52  147.461 No_date   35:49   39.22  n/a    .000
14753>          [L/S/n=  294./ .109/.035]
14754>          {Vmax= 1.403:Dmax= 2.621}
14755> R0100:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14756>       ADD HYD               1.0 02:4241-out     54658.52  147.461 No_date   35:49   39.22  n/a    .000
14757>                        +    1.0 02:FC-04-S       12.87   1.719 No_date   28:07   65.09  n/a    .000
14758>                        +    1.0 02:JR-01-S        8.24   1.034 No_date   28:06   64.95  n/a    .000
14759>                        +    1.0 02:JR-02-S        1.59    .240 No_date   28:03   65.23  n/a    .000
14760>                       SUM=  1.0 01:SN_KB      54681.21  147.525 No_date   35:49   39.23  n/a    .000
14761> R0100:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14762>       SAVE HYD              1.0 01:SN_KB        54681.21  147.525 No_date   35:49   39.23  n/a    .000
14763>          fname :SN_KB.0100
14764>          remark:HYD_COMMENT=["Total Flows before Station 3633]
14765> # Hydrograph from Station 3633 to Node Todd
14766> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
14767> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
14768> #
14769> R0100:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14770>       ROUTE CHANNEL   ->    1.0 02:SN_KB        54681.21  147.525 No_date   35:49   39.23  n/a    .000
14771>          [RDT= 1.00] out<-     1.0 01:N_TO         54681.21  147.299 No_date   35:49   39.23  n/a    .000
14772>          [L/S/n=  608./ .247/.035]
14773>          {Vmax= 1.918:Dmax= 1.962}
14774> #*************************************************************************
14775> #    Catchment Greenbank
14776> #    - To Greenbank Drain (south of the Jock)
14777> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
14778> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
14779> #*************************************************************************
14780> R0100:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14781>       CONTINUOUS STANDHYD   1.0 01:Greenbank     36.60    7.069 No_date   28:01   71.80 .811    .000
14782>          [XIMP=.64:TIMP=.68]
14783>          [LOSS= 2 :CN= 77.0]
14784>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14785>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
14786>          [IaRECimp=   4.00: IaRECper=     4.00]
14787>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14788> R0100:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14789>       ROUTE RESERVOIR ->    1.0 02:Greenbank     36.60    7.069 No_date   28:01   71.80  n/a    .000
14790>                        out <=   1.0 01:GreenB_MN    36.60    5.350 No_date   28:07   71.80  n/a    .000
14791>                   overflow <=   1.0 03:GreenB_MJ      .00    .000 No_date    0:00     .00  n/a    .000
14792>          {MxStoUsed=.9351E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
14793> R0100:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14794>       ADD HYD               1.0 02:N_TO         54681.21  147.299 No_date   35:49   39.23  n/a    .000
14795>                        +    1.0 02:GreenB_MJ      .00    .000 No_date    0:00     .00  n/a    .000
14796>                        +    1.0 02:GreenB_MN     36.60    5.350 No_date   28:07   71.80  n/a    .000
14797>                       SUM=  1.0 01:GreenB       54717.82  147.488 No_date   35:49   39.25  n/a    .000
14798> R0100:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14799>       SAVE HYD              1.0 01:GreenB       54717.82  147.488 No_date   35:49   39.25  n/a    .000
14800>          fname :GreenB.0100
14801>          remark:Total Flows at Greenbank Drain
14802> #*************************************************************************
14803> #    Catchment TODD
14804> #    - To Todd Drain (south of the Jock)
14805> #    - Subdivision with 43% imp. as per Barrhaven South MSS
14806> #    - 2020-11-30 increase area to be based on P598(04)-11
14807> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
14808> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
14809> #*************************************************************************
14810> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
14811> R0100:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14812>       CONTINUOUS STANDHYD   1.0 01:TODD_MN2       2.10    .428 No_date   28:00   66.78 .754    .000
14813>          [XIMP=.53:TIMP=.57]
14814>          [LOSS= 2 :CN= 77.0]
14815>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14816>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
14817>          [IaRECimp=   4.00: IaRECper=     4.00]
14818>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14819> R0100:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14820>       CONTINUOUS STANDHYD   1.0 01:TODD_MN3        .12     .025 No_date   28:00   66.78 .754    .000
14821>          [XIMP=.53:TIMP=.57]
14822>          [LOSS= 2 :CN= 77.0]
14823>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14824>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
14825>          [IaRECimp=   4.00: IaRECper=     4.00]
14826>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14827> R0100:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14828>       CONTINUOUS STANDHYD   1.0 01:TODD_MJ        30.23    5.210 No_date   28:02   68.65 .775    .000
14829>          [XIMP=.52:TIMP=.64]
14830>          [LOSS= 2 :CN= 77.0]
14831>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14832>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
14833>          [IaRECimp=   4.00: IaRECper=     4.00]
14834>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14835> R0100:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14836>       CONTINUOUS STANDHYD   1.0 01:TODD_ALL      112.91   17.286 No_date   28:04   66.60 .752    .000
14837>          [XIMP=.52:TIMP=.57]
14838>          [LOSS= 2 :CN= 77.0]
14839>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14840>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
14841>          [IaRECimp=   4.00: IaRECper=     4.00]
14842>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14843> R0100:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14844>       CONTINUOUS STANDHYD   1.0 01:TODD_P         3.06     .669 No_date   28:00   70.28 .794    .000
14845>          [XIMP=.63:TIMP=.63]
14846>          [LOSS= 2 :CN= 77.0]
14847>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14848>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
14849>          [IaRECimp=   4.00: IaRECper=     4.00]
14850>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14851> # 5-Year + 12% Capture
14852> R0100:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14853>       ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23    5.210 No_date   28:02   68.65  n/a    .000
14854>                        out <=   1.0 01:TODD_MJn      28.64    3.314 No_date   27:54   68.65  n/a    .000
14855>                   overflow <=   1.0 03:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a    .000
14856>          {MxStoUsed=.1512E-03  m3, TotOvfVol=.1094E+00  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
14857> # 5-Year + 12% Capture
14858> R0100:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14859>       ROUTE RESERVOIR ->    1.0 02:TODD_MN2       2.10    .428 No_date   28:00   66.78  n/a    .000
14860>                        out <=   1.0 01:TODD_MN2n     1.99    .268 No_date   27:52   66.78  n/a    .000
14861>                   overflow <=   1.0 03:TODD_MN2j      .11    .155 No_date   28:00   66.78  n/a    .000
14862>          {MxStoUsed=.1294E-03  m3, TotOvfVol=.7282E-02  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
14863> R0100:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14864>       ROUTE RESERVOIR ->    1.0 02:TODD_MN3        .12     .025 No_date   28:00   66.78  n/a    .000
14865>                        out <=   1.0 01:TODD_MN3n      .11     .016 No_date   27:52   66.78  n/a    .000
14866>                   overflow <=   1.0 03:TODD_MN3j      .01     .009 No_date   28:00   66.78  n/a    .000
14867>          {MxStoUsed=.9808E-04  m3, TotOvfVol=.3933E-03  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
14868> R0100:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14869>       CONTINUOUS STANDHYD   1.0 01:A2            25.50    3.884 No_date   28:03   62.46 .705    .000
14870>          [XIMP=.42:TIMP=.52]
14871>          [LOSS= 2 :CN= 75.0]
14872>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14873>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
14874>          [IaRECimp=   4.00: IaRECper=     4.00]
14875>          [SMIN= 33.81: SMAX=225.43: SK= .010]
14876> R0100:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14877>       COMPUTE DUALHYD       1.0 01:A2            25.50    3.884 No_date   28:03   62.46  n/a    .000
14878>          Major System   /    1.0 02:A2-MJ         1.43   2.026 No_date   28:04   62.46  n/a    .000
14879>          Minor System   \    1.0 03:A2-MN        24.07   1.818 No_date   27:50   62.71  n/a    .000
14880>          {MjSysSto=.9246E+03, TotOvfVol=.8908E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
14881> R0100:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14882>       ADD HYD               1.0 02:TODD_MN2       1.99    .268 No_date   27:52   66.78  n/a    .000
14883>                        +    1.0 02:TODD_MN3n      .11     .016 No_date   27:52   66.78  n/a    .000
14884>                        +    1.0 02:TODD_MJj       1.59   1.889 No_date   28:02   68.65  n/a    .000
14885>                        +    1.0 02:TODD_P         3.06    .669 No_date   28:00   70.28  n/a    .000
14886>                        +    1.0 02:TODD_ALL     112.91  17.286 No_date   28:04   66.60  n/a    .000
14887>                        +    1.0 02:W_CLAR_MJn     1.69    .213 No_date   27:52   66.22  n/a    .000
14888>                       SUM=  1.0 01:TODD         121.35  20.000 No_date   28:03   66.72  n/a    .000
14889> R0100:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14890>       SAVE HYD              1.0 01:TODD         121.35   20.000 No_date   28:03   66.72  n/a    .000
14891>          fname :TODD.0100
14892>          remark:Total Flows at Todd Drain
14893> #*************************************************************************
14894> #    Todd Pond 3
14895> #    - Rating curve obtained from Barrhaven South MSS modeling
14896> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
14897> #*************************************************************************
14898> R0100:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14899>       ROUTE RESERVOIR ->    1.0 02:TODD         121.35   20.000 No_date   28:03   66.72  n/a    .000
14900>                        out <=   1.0 01:MS_P3       121.35   15.844 No_date   28:09   66.71  n/a    .000
14901>                   overflow <=   1.0 03:TODD_OVF       .00     .000 No_date    0:00     .00  n/a    .000
14902>          {MxStoUsed=.2834E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
14903> R0100:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14904>       ADD HYD               1.0 02:TODD         121.35   20.000 No_date   28:03   66.72  n/a    .000
14905>                        +    1.0 02:MS_P3        121.35   15.844 No_date   28:09   66.71  n/a    .000
14906>                        +    1.0 02:P3-OVF         .00     .000 No_date    0:00     .00  n/a    .000
14907>                        +    1.0 02:TODD_MN2j      .11     .155 No_date   28:00   66.78  n/a    .000
14908>                        +    1.0 02:A2-MJ         1.43   2.026 No_date   28:04   62.46  n/a    .000
14909>                       SUM=  1.0 01:SN_TO       54840.70  147.973 No_date   35:49   39.31  n/a    .000
14910> R0100:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14911>       SAVE HYD              1.0 01:SN_TO        54840.70  147.973 No_date   35:49   39.31  n/a    .000
14912>          fname :SN_TO.0100
14913>          remark:Total Flows at Todd Drain
14914> #
14915> # Hydrograph from Todd Drain routed to Corrigan Drain
14916> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
14917> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
14918> R0100:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14919>       ROUTE CHANNEL   ->    1.0 02:SN_TO        54840.70  147.973 No_date   35:49   39.31  n/a    .000
14920> *     [RDT= 1.00] out<-     1.0 01:N_TO         54840.70  147.653 No_date   36:19   39.31  n/a    .000
14921>          [L/S/n=  280./ .050/.045]
14922>          {Vmax=  .880:Dmax= 3.715}
14923> R0100:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14924>       SAVE HYD              1.0 01:N_TO         54840.70  147.653 No_date   36:19   39.31  n/a    .000
14925>          fname :N_TO.0100
14926>          remark:Total inflows at Station 2462
14927> #*************************************************************************
14928> #    Catchment CORRIG
14929> #    - To Corrigan Drain (south of the Jock)
14930> #    - Primarily Developed (medium density)
14931> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
14932> #*************************************************************************
14933> R0100:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14934>       CONTINUOUS STANDHYD   1.0 01:corr1         15.87    3.185 No_date   28:01   70.28 .794    .000
14935>          [XIMP=.63:TIMP=.63]
14936>          [LOSS= 2 :CN= 77.0]
14937>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14938>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
14939>          [IaRECimp=   4.00: IaRECper=     4.00]
14940>          [SMIN= 31.15: SMAX=207.66: SK= .010]
14941> R0100:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh
```



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15335>       Major System   /     1.0 02:A10-MJ          .09     .218 No_date   28:05   59.73  n/a     .000
15336>       Minor System   \     1.0 03:A10-MN         4.05     .310 No_date   27:48   60.02  n/a     .000
15337>         {MjSysSto=.2280E+03, TotOvfVol=.5334E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
15338> R0100:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15339>     CONTINUOUS STANDHYD   1.0 01:A11            10.61    1.941 No_date   28:01   67.38 .761    .000
15340>       [XIMP=.53:TIMP=.62]
15341>       [LOSS= 2 :CN= 75.0]
15342>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15343>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
15344>       [IaREClmp=   4.00: IaRECper=   4.00]
15345>       [SMIN= 33.81: SMAX=225.43: SK= .010]
15346> R0100:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15347>     COMPUTE DUALHYD       1.0 01:A11            10.61    1.941 No_date   28:01   67.38  n/a     .000
15348>       Major System   /     1.0 02:A11-MJ          .16     .564 No_date   28:06   67.38  n/a     .000
15349>       Minor System   \     1.0 03:A11-MN        10.45     .993 No_date   28:34   67.69  n/a     .000
15350>         {MjSysSto=.5560E+03, TotOvfVol=.1090E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
15351> R0100:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15352>     ADD HYD               1.0 02:106-107        110.24    4.179 No_date   28:02   63.36  n/a     .000
15353>                       +     1.0 02:A10-MN         4.05     .310 No_date   27:48   60.02  n/a     .000
15354>                       +     1.0 02:A11-MN        10.45     .993 No_date   28:34   67.69  n/a     .000
15355>                   SUM=      1.0 01:MH107         124.74   5.482 No_date   28:02   63.62  n/a     .000
15356> R0100:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15357>     SAVE HYD              1.0 01:MH107          124.74   5.482 No_date   28:02   63.62  n/a     .000
15358>       fname :MH107.0100
15359>       remark:Total Flows at MH107
15360> R0100:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15361>     ROUTE PIPE       ->     1.0 02:MH107          124.74   5.482 No_date   28:02   63.62  n/a     .000
15362> *   [RDT= 1.00] out<-     1.0 01:107-119        124.74   5.468 No_date   28:04   63.62  n/a     .000
15363>       [L/S/n=  114./ .120/.013]
15364>       [Vmax= 1.932:Dmax= 1.665]
15365>       [Din= 1.80:Dused= 2.03]
15366> R0100:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15367>     ROUTE PIPE       ->     1.0 02:107-119        124.74   5.468 No_date   28:04   63.62  n/a     .000
15368> *   [RDT= 1.00] out<-     1.0 01:119-108        124.74   5.480 No_date   28:05   63.62  n/a     .000
15369>       [L/S/n=   66./ .120/.013]
15370>       [Vmax= 1.930:Dmax= 1.664]
15371>       [Din= 1.80:Dused= 2.03]
15372> R0100:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15373>     CONTINUOUS STANDHYD   1.0 01:A12            12.29    2.213 No_date   28:01   62.88 .710    .000
15374>       [XIMP=.41:TIMP=.54]
15375>       [LOSS= 2 :CN= 75.0]
15376>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15377>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
15378>       [IaREClmp=   4.00: IaRECper=   4.00]
15379>       [SMIN= 33.81: SMAX=225.43: SK= .010]
15380> R0100:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15381>     COMPUTE DUALHYD       1.0 01:A12            12.29    2.213 No_date   28:01   62.88  n/a     .000
15382>       Major System   /     1.0 02:A12-MJ          .23     .599 No_date   28:05   62.88  n/a     .000
15383>       Minor System   \     1.0 03:A12-MN        12.06    1.029 No_date   27:48   63.11  n/a     .000
15384>         {MjSysSto=.6720E+03, TotOvfVol=.1477E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
15385> R0100:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15386>     CONTINUOUS STANDHYD   1.0 01:A13             2.59     .540 No_date   28:01   73.40 .829    .000
15387>       [XIMP=.71:TIMP=.71]
15388>       [LOSS= 2 :CN= 75.0]
15389>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15390>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
15391>       [IaREClmp=   4.00: IaRECper=   4.00]
15392>       [SMIN= 33.81: SMAX=225.43: SK= .010]
15393> R0100:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15394>     COMPUTE DUALHYD       1.0 01:A13             2.59     .540 No_date   28:01   73.40  n/a     .000
15395>       Major System   /     1.0 02:A13-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15396>       Minor System   \     1.0 03:A13-MN         2.59     .540 No_date   28:01   73.40  n/a     .000
15397> R0100:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15398>     CONTINUOUS STANDHYD   1.0 01:Pond-Block      2.94     .490 No_date   28:00   59.56 .673    .000
15399>       [XIMP=.41:TIMP=.41]
15400>       [LOSS= 2 :CN= 75.0]
15401>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15402>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
15403>       [IaREClmp=   4.00: IaRECper=   4.00]
15404>       [SMIN= 33.81: SMAX=225.43: SK= .010]
15405> R0100:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15406>     ADD HYD               1.0 02:119-108        124.74   5.480 No_date   28:05   63.62  n/a     .000
15407>                       +     1.0 02:A13-MN         2.59     .540 No_date   28:01   73.40  n/a     .000
15408>                       +     1.0 02:A12-MN        12.06    1.029 No_date   27:48   63.11  n/a     .000
15409>                   SUM=      1.0 01:MH108         139.38   6.996 No_date   28:03   63.75  n/a     .000
15410> R0100:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15411>     SAVE HYD              1.0 01:MH108          139.38   6.996 No_date   28:03   63.75  n/a     .000
15412>       fname :MH108.0100
15413>       remark:Total Flows at MH108
15414> R0100:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15415>     ROUTE PIPE       ->     1.0 02:MH108          139.38   6.996 No_date   28:03   63.75  n/a     .000
15416> *   [RDT= 1.00] out<-     1.0 01:108-116        139.38   6.987 No_date   28:04   63.75  n/a     .000
15417>       [L/S/n=   77./ .130/.013]
15418>       [Vmax= 2.116:Dmax= 1.798]
15419>       [Din= 1.80:Dused= 2.19]
15420> R0100:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15421>     ROUTE PIPE       ->     1.0 02:108-116        139.38   6.987 No_date   28:04   63.75  n/a     .000
15422> *   [RDT= 1.00] out<-     1.0 01:116-corrig     139.38   6.949 No_date   28:06   63.75  n/a     .000
15423>       [L/S/n=   80./ .130/.013]
15424>       [Vmax= 2.115:Dmax= 1.797]
15425>       [Din= 1.80:Dused= 2.19]
15426> R0100:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15427>     ADD HYD               1.0 02:116-corrig     139.38   6.949 No_date   28:06   63.75  n/a     .000
15428>                       +     1.0 02:Pond-Block     2.94     .490 No_date   28:00   59.56  n/a     .000
15429>                   SUM=      1.0 01:Corrigan      142.32   7.300 No_date   28:04   63.67  n/a     .000
15430> R0100:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15431>     SAVE HYD              1.0 01:Corrigan       142.32   7.300 No_date   28:04   63.67  n/a     .000
15432>       fname :Corrigan.0100
15433>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
15434> R0100:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15435>     ROUTE RESERVOIR  ->     1.0 02:Corrigan       142.32   7.300 No_date   28:04   63.67  n/a     .000
15436>                  out <=     1.0 01:Co-P           142.32   6.658 No_date   28:15   63.67  n/a     .000
15437>              overflow <=     1.0 03:Co-P-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15438>         {MxStoUsed=.1144E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15439> R0100:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15440>     ADD HYD               1.0 02:Co-P-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15441>                       +     1.0 02:Co-P           142.32   6.658 No_date   28:15   63.67  n/a     .000
15442>                       +     1.0 02:N_TO         54840.70 147.653 No_date   36:19   39.31  n/a     .000
15443>                       +     1.0 01:MH105-JR        36.57   8.679 No_date   28:10   63.16  n/a     .000
15444>                       +     1.0 02:A8-MJ-JR         .00     .000 No_date   0:00     .00  n/a     .000
15445>                       +     1.0 02:A9-MJ            .00     .000 No_date   0:00     .00  n/a     .000
15446>                       +     1.0 02:A10-MJ           .09     .218 No_date   28:05   59.73  n/a     .000
15447>                       +     1.0 02:A11-MJ           .16     .564 No_date   28:06   67.38  n/a     .000
15448>                       +     1.0 02:A12-MJ           .23     .599 No_date   28:05   62.88  n/a     .000
15449>                       +     1.0 02:A13-MJ           .00     .000 No_date   0:00     .00  n/a     .000
15450>                   SUM=      1.0 01:corrig       55020.08 148.408 No_date   36:18   39.39  n/a     .000
15451> R0100:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15452>     SAVE HYD              1.0 01:corrig       55020.08 148.408 No_date   36:18   39.39  n/a     .000
15453>       fname :corrig.0100
15454>       remark:Total Flows at Corrigan Pond
15455> #*************************************************************************
15456> #    Corrigan Pond 1
15457> #    - Rating curve obtained from Barrhaven South MSS modeling
15458> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
15459> #*************************************************************************
15460> #
15461> # Hydrograph from Corrigan Drain routed to Jockvale Road
15462> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
15463> #
15464> R0100:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15465>     ROUTE CHANNEL    ->     1.0 02:corrig       55020.08 148.408 No_date   36:18   39.39  n/a     .000
15466>       [RDT= 1.00] out<-     1.0 01:N_MI         55020.08 148.389 No_date   36:21   39.39  n/a     .000
15467>       [L/S/n=  580./ .445/.045]
15468>       {Vmax= 2.187:Dmax= 2.147}
15469> #*************************************************************************
15470> #    Catchment MILLS
15471> #    - To SWM Facility north of the Jock
15472> #    - Primarily residental development
15473> #*************************************************************************
15474> R0100:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15475>     CONTINUOUS STANDHYD   1.0 01:MILLS          175.99   20.390 No_date   28:06   56.87 .642    .000
15476>       [XIMP=.38:TIMP=.38]
15477>       [LOSS= 2 :CN= 74.0]
15478>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15479>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
15480>       [IaREClmp=   4.00: IaRECper=   4.00]
15481>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15482> #*************************************************************************
15483> #    Chapman Mills SWM Pond
15484> #    - Rating curve obtained from CCL hydraulic modeling
15485> #*************************************************************************
15486> R0100:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15487>     ROUTE RESERVOIR  ->     1.0 02:MILLS          175.99   20.390 No_date   28:06   56.87  n/a     .000
15488>                  out <=     1.0 01:MILL_P         146.22    4.050 No_date   28:08   56.87  n/a     .000
15489>              overflow <=     1.0 03:MIL-OV          29.77   16.228 No_date   28:08   56.87  n/a     .000
15490>         {MxStoUsed=.2310E+01  m3, TotOvfVol=.1693E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
15491> R0100:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15492>     ADD HYD               1.0 02:N_MI         55020.08 148.389 No_date   36:21   39.39  n/a     .000
15493>                       +     1.0 02:MIL-OV          29.77   16.228 No_date   28:08   56.87  n/a     .000
15494>                       +     1.0 02:MILL_P         146.22    4.050 No_date   28:08   56.87  n/a     .000
15495>                   SUM=      1.0 01:SN_MI        55196.07 149.100 No_date   36:20   39.44  n/a     .000
15496> R0100:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15497>     SAVE HYD              1.0 01:SN_MI        55196.07 149.100 No_date   36:20   39.44  n/a     .000
15498>       fname :SN_MI.0100
15499>       remark:Total Flows at Jockvale Road
15500> #
15501> # Hydrograph from Jockvale Road routed to Heart's Desire
15502> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
15503> #
15504> R0100:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15505>     ROUTE CHANNEL    ->     1.0 02:SN_MI        55196.07 149.100 No_date   36:20   39.44  n/a     .000
15506>       [RDT= 1.00] out<-     1.0 01:N_DE         55196.07 148.761 No_date   36:32   39.44  n/a     .000
15507>       [L/S/n= 1962./ .223/.045]
15508>       {Vmax= 1.650:Dmax= 2.683}
15509> #*************************************************************************
15510> #    Catchment DESIRE
15511> #    - To Jock River (north of the Jock)
15512> #    - Rural-estate subdivision (Heart's Desire Community)
15513> #*************************************************************************
15514> R0100:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15515>     CONTINUOUS STANDHYD   1.0 01:DESIRE          23.78    3.004 No_date   28:03   53.11 .600    .000
15516>       [XIMP=.25:TIMP=.25]
15517>       [LOSS= 2 :CN= 77.0]
15518>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15519>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
15520>       [IaREClmp=   4.00: IaRECper=   4.00]
15521>       [SMIN= 31.15: SMAX=207.66: SK= .010]
15522> #*************************************************************************
15523> #    Catchment JOCKVA
15524> #    - To Jockvale SWM Facility
15525> #    - Residential development & golf course
15526> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
15527> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
15528> #*************************************************************************
15529> R0100:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15530>     CONTINUOUS STANDHYD   1.0 01:JOCKVA         225.13   28.623 No_date   28:07   62.70 .708    .000
15531>       [XIMP=.50:TIMP=.50]
15532>       [LOSS= 2 :CN= 74.0]
15533>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15534>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
15535>       [IaREClmp=   4.00: IaRECper=   4.00]
15536>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15537> R0100:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15538>     ADD HYD               1.0 02:EX-LAND-MN      30.73    2.275 No_date   27:48   62.82  n/a     .000
15539>                       +     1.0 02:JOCKVA        225.13   28.623 No_date   28:07   62.70  n/a     .000
15540>                       +     1.0 02:B2-MJ            .36     .820 No_date   28:05   62.88  n/a     .000
15541>                       +     1.0 02:B3-MJ            .19     .402 No_date   28:04   62.88  n/a     .000
15542>                   SUM=      1.0 01:JOCKVA-TO     256.41   31.850 No_date   28:06   62.71  n/a     .000
15543> R0100:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15544>     SAVE HYD              1.0 01:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
15545>       fname :JOCKVA-TO.0100
15546>       remark:Total Flows at KB first pond
15547> #*************************************************************************
15548> #    Jockvale SWM Facility
15549> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
15550> #*************************************************************************
15551> R0100:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15552>     ROUTE RESERVOIR  ->     1.0 02:JOCKVA-TO      256.41   31.850 No_date   28:06   62.71  n/a     .000
15553>                  out <=     1.0 01:JOCK_P         256.41   12.850 No_date   28:35   62.71  n/a     .000
15554>              overflow <=     1.0 03:JO-OVF           .00     .000 No_date   0:00     .00  n/a     .000
15555>         {MxStoUsed=.6430E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15556> R0100:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15557>     ADD HYD               1.0 02:N_DE         55196.07 148.761 No_date   36:32   39.44  n/a     .000
15558>                       +     1.0 02:DESIRE        23.78    3.004 No_date   28:03   53.11  n/a     .000
15559>                       +     1.0 02:JO-OVF           .00     .000 No_date   0:00     .00  n/a     .000
15560>                   SUM=      1.0 02:JOCK_P        256.41   12.850 No_date   28:35   62.71  n/a     .000
15561>                       +     1.0 01:SN_DE        55476.26 149.819 No_date   36:30   39.56  n/a     .000
15562> R0100:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15563>     SAVE HYD              1.0 01:SN_DE        55476.26 149.819 No_date   36:30   39.56  n/a     .000
15564>       fname :SN_DE.0100
15565>       remark:Total Flows at Heart's Desire
15566> #
15567> # Hydrograph from Heart's Desire routed to Rideau River
15568> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
15569> #
15570> R0100:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15571>     ROUTE CHANNEL    ->     1.0 02:SN_DE        55476.26 149.819 No_date   36:30   39.56  n/a     .000
15572>       [RDT= 1.00] out<-     1.0 01:N1           55476.26 149.806 No_date   36:33   39.56  n/a     .000
15573>       [L/S/n=  563./ .967/.045]
15574>       {Vmax= 2.234:Dmax= 1.340}
15575> #*************************************************************************
15576> #    Catchment S-2
15577> #    - To Jock River (north and south)
15578> #    - Undeveloped floodplain and river
15579> #*************************************************************************
15580> R0100:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15581>     CONTINUOUS NASHYD     1.0 01:S-2            102.94    5.685 No_date   28:20   40.95 .462    .000
15582>       [CN= 72.0: N= 3.00: Tp=  .40]
15583>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
15584>       [InterEventTime=  12.00]
15585> R0100:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15586>     ADD HYD               1.0 02:N1           55476.26 149.806 No_date   36:33   39.56  n/a     .000
15587>                       +     1.0 02:S-2           102.94    5.685 No_date   28:20   40.95  n/a     .000
15588>                   SUM=      1.0 01:SN_N1        55579.20 150.120 No_date   36:32   39.56  n/a     .000
15589> R0100:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15590>     SAVE HYD              1.0 01:SN_N1        55579.20 150.120 No_date   36:32   39.56  n/a     .000
15591>       fname :SN_N1.0100
15592>       remark:Total Flows at Rideau River
15593> ##########################################################################
15594> R0100:C00002------------------------------------------------------------------------------------------
15595>       FINISH
15596> ------------------------------------------------------------------------------------------
15597> ******************************************************************************
15598>       WARNINGS / ERRORS / NOTES
15599> ------------------------------------------------------------------------------
15600> R0002:C00281  ROUTE RESERVOIR
15601> *** WARNING: Inflow peak was not reduced! Check OUTFLOW/STORAGE table or reduce DT.
15602> R0002:C00303  ROUTE PIPE     ->
15603> *** WARNING: New pipe size used for routing.
15604> R0002:C00309  ROUTE PIPE     ->
15605> *** WARNING: New pipe size used for routing.
15606> R0002:C00342  DIVERT HYD     ->
15607> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15608> R0002:C00362  ROUTE PIPE     ->
15609> *** WARNING: New pipe size used for routing.
15610> R0002:C00369  ROUTE PIPE     ->
15611> *** WARNING: New pipe size used for routing.
15612> R0002:C00370  ROUTE PIPE     ->
15613> *** WARNING: New pipe size used for routing.
15614> R0002:C00378  ROUTE PIPE     ->
15615> *** WARNING: New pipe size used for routing.
15616> R0002:C00379  ROUTE PIPE     ->
15617> *** WARNING: New pipe size used for routing.
15618> R0005:C00281  ROUTE RESERVOIR
15619> *** WARNING: Inflow peak was not reduced! Check OUTFLOW/STORAGE table or reduce DT.
15620> R0005:C00303  ROUTE PIPE     ->
15621> *** WARNING: New pipe size used for routing.
15622> R0005:C00309  ROUTE PIPE     ->
15623> *** WARNING: New pipe size used for routing.
15624> R0005:C00325  ROUTE PIPE     ->
15625> *** WARNING: New pipe size used for routing.
15626> R0005:C00326  ROUTE PIPE     ->
15627> *** WARNING: New pipe size used for routing.
15628> R0005:C00334  ROUTE PIPE     ->
15629> *** WARNING: New pipe size used for routing.
15630> R0005:C00342  DIVERT HYD     ->
15631> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15632> R0005:C00357  ROUTE PIPE     ->
15633> *** WARNING: New pipe size used for routing.
15634> R0005:C00362  ROUTE PIPE     ->
15635> *** WARNING: New pipe size used for routing.
15636> R0005:C00369  ROUTE PIPE     ->
15637> *** WARNING: New pipe size used for routing.
15638> R0005:C00370  ROUTE PIPE     ->
15639> *** WARNING: New pipe size used for routing.
15640> R0005:C00378  ROUTE PIPE     ->
15641> *** WARNING: New pipe size used for routing.
15642> R0005:C00379  ROUTE PIPE     ->
15643> *** WARNING: New pipe size used for routing.
15644> R0010:C00303  ROUTE PIPE     ->
15645> *** WARNING: New pipe size used for routing.
15646> R0010:C00309  ROUTE PIPE     ->
15647> *** WARNING: New pipe size used for routing.
15648> R0010:C00325  ROUTE PIPE     ->
15649> *** WARNING: New pipe size used for routing.
15650> R0010:C00326  ROUTE PIPE     ->
15651> *** WARNING: New pipe size used for routing.
15652> R0010:C00334  ROUTE PIPE     ->
15653> *** WARNING: New pipe size used for routing.
15654> R0010:C00342  DIVERT HYD     ->
15655> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15656> R0010:C00357  ROUTE PIPE     ->
15657> *** WARNING: New pipe size used for routing.
15658> R0010:C00362  ROUTE PIPE     ->
15659> *** WARNING: New pipe size used for routing.
15660> R0010:C00369  ROUTE PIPE     ->
15661> *** WARNING: New pipe size used for routing.
15662> R0010:C00370  ROUTE PIPE     ->
15663> *** WARNING: New pipe size used for routing.
15664> R0010:C00378  ROUTE PIPE     ->
15665> *** WARNING: New pipe size used for routing.
15666> R0010:C00379  ROUTE PIPE     ->
15667> *** WARNING: New pipe size used for routing.
15668> R0025:C00303  ROUTE PIPE     ->
15669> *** WARNING: New pipe size used for routing.
15670> R0025:C00309  ROUTE PIPE     ->
15671> *** WARNING: New pipe size used for routing.
15672> R0025:C00325  ROUTE PIPE     ->
15673> *** WARNING: New pipe size used for routing.
15674> R0025:C00326  ROUTE PIPE     ->
15675> *** WARNING: New pipe size used for routing.
15676> R0025:C00334  ROUTE PIPE     ->
15677> *** WARNING: New pipe size used for routing.
15678> R0025:C00342  DIVERT HYD     ->
15679> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15680> R0025:C00357  ROUTE PIPE     ->
15681> *** WARNING: New pipe size used for routing.
15682> R0025:C00362  ROUTE PIPE     ->
15683> *** WARNING: New pipe size used for routing.
15684> R0025:C00369  ROUTE PIPE     ->
15685> *** WARNING: New pipe size used for routing.
15686> R0025:C00370  ROUTE PIPE     ->
15687> *** WARNING: New pipe size used for routing.
15688> R0025:C00378  ROUTE PIPE     ->
15689> *** WARNING: New pipe size used for routing.
15690> R0025:C00379  ROUTE PIPE     ->
15691> *** WARNING: New pipe size used for routing.
15692> R0050:C00303  ROUTE PIPE     ->
15693> *** WARNING: New pipe size used for routing.
15694> R0050:C00309  ROUTE PIPE     ->
15695> *** WARNING: New pipe size used for routing.
15696> R0050:C00325  ROUTE PIPE     ->
15697> *** WARNING: New pipe size used for routing.
15698> R0050:C00326  ROUTE PIPE     ->
15699> *** WARNING: New pipe size used for routing.
15700> R0050:C00334  ROUTE PIPE     ->
15701> *** WARNING: New pipe size used for routing.
15702> R0050:C00342  DIVERT HYD     ->
15703> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15704> R0050:C00357  ROUTE PIPE     ->
15705> *** WARNING: New pipe size used for routing.
15706> R0050:C00362  ROUTE PIPE     ->
15707> *** WARNING: New pipe size used for routing.
15708> R0050:C00369  ROUTE PIPE     ->
```

```
15709> *** WARNING: New pipe size used for routing.
15710> R0050:C00370  ROUTE PIPE      ->
15711> *** WARNING: New pipe size used for routing.
15712> R0050:C00378  ROUTE PIPE      ->
15713> *** WARNING: New pipe size used for routing.
15714> R0050:C00379  ROUTE PIPE      ->
15715> *** WARNING: New pipe size used for routing.
15716> R0100:C00303  ROUTE PIPE      ->
15717> *** WARNING: New pipe size used for routing.
15718> R0100:C00309  ROUTE PIPE      ->
15719> *** WARNING: New pipe size used for routing.
15720> R0100:C00325  ROUTE PIPE      ->
15721> *** WARNING: New pipe size used for routing.
15722> R0100:C00326  ROUTE PIPE      ->
15723> *** WARNING: New pipe size used for routing.
15724> R0100:C00334  ROUTE PIPE      ->
15725> *** WARNING: New pipe size used for routing.
15726> R0100:C00342  DIVERT HYD      ->
15727> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15728> R0100:C00357  ROUTE PIPE      ->
15729> *** WARNING: New pipe size used for routing.
15730> R0100:C00362  ROUTE PIPE      ->
15731> *** WARNING: New pipe size used for routing.
15732> R0100:C00369  ROUTE PIPE      ->
15733> *** WARNING: New pipe size used for routing.
15734> R0100:C00370  ROUTE PIPE      ->
15735> *** WARNING: New pipe size used for routing.
15736> R0100:C00378  ROUTE PIPE      ->
15737> *** WARNING: New pipe size used for routing.
15738> R0100:C00379  ROUTE PIPE      ->
15739> *** WARNING: New pipe size used for routing.
15740>    Simulation ended on 2021-03-04     at 11:53:36
15741> ================================================================================================
15742>
15743>
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment D

Model 4A – Jock River Reach One Future Conditions – Without SWM controls

JFSA, 2021

SWMHYMO Input & Summary files

```
20    Metric units / ID numbers OFF
*#*************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*************************************************************************
*#  Project Name: [Jock River]    Project Number: [1474-16]
*#  Date        : 04-03-2021
*#  Modeller    : [M.M.]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
*# 2020-12-01 correct pond curve values
*# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and
LGI up to 700m
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"]
,NHYDin=["SN_TO"]) from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"]
,NHYDin=["SN_CE"]) from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
                     ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
READ STORM           STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------------|
MODIFY STORM         ICASEms=[1],  NSHIFT=[96],
                     RedFACT=[1],
*%-----------------|-------------------------------------------------------------|
DEFAULT VALUES       ICASEdef=[1],  read and print values
                     DEFVAL_FILENAME=["CitiGate.DEF"]
*%-----------------|-------------------------------------------------------------|
COMPUTE API          APII=[50], APIK=[.85]/day
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["JR_HW"], DT=[1]min, AREA=[3680](ha),
                     DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                     N=[3.0], TP=[7.13]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_13"], DT=[1]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_GWM"], DT=[1]min, AREA=[3074](ha),
                    DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_ASH"], DT=[1]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_11"], DT=[1]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NN_CK"], DT=[1]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
```

```
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_10"], DT=[1]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["KG_CK"], DT=[1]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_9"], DT=[1]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NC_CK"], DT=[1]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"], DT=[1]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"], DT=[1]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"], DT=[1]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"], DT=[1]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["VG_DR"], DT=[1]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5"], DT=[1]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["FL_CK"], DT=[1]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5A2"], DT=[1]min, AREA=[20](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS NASHYD   NHYD=["SW_5A1"], DT=[1]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_4"], DT=[1]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["LM_CK"], DT=[1]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_2"], DT=[1]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SM_DR"], DT=[1]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["MO_DR"], DT=[1]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2020 replaced SW_1 with a detailed model from Stantec Report 2007
*CONTINUOUS NASHYD   NHYD=["SW_1"], DT=[1]min, AREA=[3176](ha),
*                   DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
*                   N=[3.0], TP=[3.56]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL       NHYDout=["N13A"] ,NHYDin=["S_N13"],
                    RDT=[1](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR     NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0 ]
                                      [1.991, 2.144    ]
                                      [2.693, 39.826   ]
                                      [3.509, 81.697   ]
                                      [4.578, 318.774  ]
                                      [5.647, 594.947  ]
                                      [7.109, 910.219  ]
                                      [8.616, 1264.589  ]
                                      [10.371, 1658.057  ]
                                      [12.402, 2090.622 ]
                                      [22.056, 3462.487 ]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
*#
SAVE HYD            NHYD=["RES_GM"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                    RDT=[1](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD            NHYD=["S_N12"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*ROUTE CHANNEL       NHYDout=["N11"] ,NHYDin=["S_N12"] ,
*                    RDT=[1](min),
*                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
*                                        FPSLOPE=[0.0514](%),
*                    SECNUM=[1.0],       NSEG=[1]
*                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
*                    ( DISTANCE (m), ELEVATION (m))=
```

```
*                          [-40, 132.5]
*                          [-30, 132]
*                          [-25, 131.5]
*                          [-13, 130]
*                          [-8, 127.00]
*                          [-7, 126.50]
*                          [-6, 126]
*                          [-5.5, 125.50]
*                          [0, 123.75]
*                          [4.5, 125.50]
*                          [6, 126]
*                          [7.5, 126.5]
*                          [9, 127]
*                          [10, 127.5]
*                          [11.5, 128.00]
*                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                    RDT=[1](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                    RDT=[1](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
```

```
                          [-167.50 ,111.50]
                          [-106.81 ,111.00]
                          [-92.37 ,110.00]
                          [-52.82 ,109.00]
                          [-24.90, 109.00]
                          [-17.02, 108.50]
                          [-6.47, 108.00]
                          [6.47, 108.00]
                          [15.67, 108.50]
                          [18.95, 109.00]
                          [45.36, 109.50]
                          [120.79, 110.00]
                          [145.72, 111.00]
                          [181.56, 111.50]
                          [423.88, 112.50]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["S_N10"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|---------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|---------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                    RDT=[1](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
                          [68.80, 101.50]
                          [79.66, 103.00]
                          [91.50, 103.50]
                          [131.58, 104.00]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
*#
ADD HYD             NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                    RDT=[1](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-201.19,100.50]
                         [-135.21, 100.00]
                         [-94.83, 99.50]
                         [-67.05, 99.00]
                         [-17.99, 98.50]
                         [-16.02, 98.00]
                         [-13.95, 97.50]
                         [13.95, 97.50]
                         [15.64, 98.00]
                         [17.31, 98.50]
                         [162.02, 98.50]
                         [172.89 ,99.00]
                         [314.38, 99.00]
                         [343.78, 99.50]
                         [365.67, 100.00]
                         [376.68, 100.00 ]
                         [393.11, 99.50]
                         [404.97, 99.50]
                         [431.70, 100.00]
                         [456.58, 100.50 ]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout=["N7"] ,NHYDin=["S_N8"],
                    RDT=[1](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-433.21, 102.00]
                         [-425.34, 101.50]
                         [-377.56, 101.50]
                         [-366.23, 101.00]
                         [-202.60, 100.50]
                         [-96.25, 99.50]
                         [-68.36 99.00]
                         [-18.11, 98.50]
                         [-13.81, 97.50]
```

```
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,     0.0 ]
                                   [0.9051,    2.40]
                                   [2.907,     4.13]
                                   [9.744,     9.18]
                                   [20.304,   14.96]
                                   [34.167,  310.21]
                                   [74.993,  605.46]
                                   [104.876, 900.71]
                                   [140.56, 2892.00]
                                   [225.00, 3615.63]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                    RDT=[1](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
```

```
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-100.8, 97.00]
                                    [-70.8, 96.50]
                                    [-52.0, 96.00]
                                    [-35.1, 95.50]
                                    [-30.6, 95.00]
                                    [-23.9, 94.54]
                                    [23.9, 94.54]
                                    [39.8, 95.00]
                                    [50.4, 95.50]
                                    [93.5, 96.00]
                                    [94.9, 96.50]
                                    [96.3, 97.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                    RDT=[1](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-686.30, 94.50]
                                    [-675.70, 94.00]
                                    [-492.52, 93.00]
                                    [-467.28, 94.00]
                                    [-131.59, 94.00]
                                    [-92.79, 92.50]
                                    [-18.06, 91.00]
                                    [18.06, 91.00]
                                    [43.47, 92.50]
                                    [48.96, 94.00]
                                    [177.43, 94.00]
                                    [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD             NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                    RDT=[1](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-275.8, 93.00]
                                    [-248.6, 92.50]
                                    [-237.0, 92.00]
                                    [-219.3, 91.50]
                                    [-202.1, 91.50]
                                    [-186.0, 92.00]
                                    [-129.2, 92.00]
                                    [-117.6, 91.50]
                                    [-100.6, 91.00]
                                    [-41.5, 91.00]
                                    [-20.0, 91.00]
                                    [-14.0, 90.54]
                                    [14.0, 90.54]
                                    [15.3, 91.00]
                                    [17.3, 91.50]
                                    [38.4, 92.00]
                                    [39.8, 92.50]
                                    [41.1, 93.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                    RDT=[1](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-38.9, 92.00]
                                    [-35.8, 91.50]
                                    [-33.3, 91.00]
                                    [-28.2, 90.50]
                                    [-15.0, 87.48]
                                    [-5.0, 88.34]
                                    [5.0, 86.20]
                                    [15.0, 88.55]
                                    [28.2, 90.50]
                                    [29.7, 91.00]
                                    [46.5, 91.00]
                                    [127.8, 91.00]
                                    [148.7, 91.50]
                                    [173.1, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout=["N2"] ,NHYDin=["S_N4"] ,
```

```
                    RDT=[1](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N2"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
*#*****************************************************************************
*%READ HYD            NHYD=["S_N2"],
*%                   HYD_FILENAME=["H-S_N2"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL       NHYDout=["N_416"] ,NHYDin=["S_N2"] ,
                    RDT=[1](min),
                    CHLGTH=[2327](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-23.96
                      -0.055,23.96
                      0.075,157.38]  NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-336.97,93.5]
                    [-318.85,93]
                    [-259,92.5]
                    [-133.18,92]
                    [-33.17,92]
                    [-27.21,92]
                    [-26.14,91.5]
                    [-24.99,91]
                    [-23.96,90.5]
                    [-14.33,88.26]
                    [-0.68,88.12]
```

```
                    [14.33,88.26]
                    [23.96,90.5]
                    [32.12,91]
                    [43.74,91.5]
                    [57.09,92]
                    [73.53,92.5]
                    [108.27,93]
                    [125.88,93.5]
                    [144.81,94]
                    [157.38,94.5]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment SW-1a
*#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#    - Undeveloped agricultural land
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["SW_1a"], DT=[1]min, AREA=[536.42](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[2.79]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                    MajNHYD=["S-1-OkMJ"]
*                    MinNHYD=["S-1-OkMN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|---------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|---------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.5370, 1.7917 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-OkSovf"]
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_416"], NHYDs to add=["N_416"+"SW_1a"+"S-1-Okeefe"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["SN_416"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Highway 416"]
*%-----------------|---------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
```

```
*#
ROUTE CHANNEL       NHYDout=["N_OK"] ,NHYDin=["SN_416"] ,
                    RDT=[1](min),
                    CHLGTH=[497](m),  CHSLOPE=[0.3018](%),
                                        FPSLOPE=[0.3018](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-19.40
                      -0.055,19.40
                      0.075,377.02] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1061.41, 92.50]
                    [-945.91, 92.00]
                    [-783.64, 91.50]
                    [-136.74, 91.00]
                    [-86.04, 91.00]
                    [-20.86, 91.00]
                    [-20.18, 90.50]
                    [-19.40, 90.00]
                    [-11.68, 86.89]
                    [0.00, 86.10]
                    [12.09, 86.81]
                    [19.40, 90.00]
                    [34.68, 90.50]
                    [60.56, 91.00]
                    [170.14, 91.00]
                    [175.05, 90.50]
                    [180.29, 90.00]
                    [193.41, 90.00]
                    [195.98, 90.50]
                    [377.02, 92.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment OKEEFE
*#    - To O'Keefe drain (north of the Jock)
*#    - Developed with assumed 43% imp.
*#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area
513.02 HA)
*#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model
(Citi-Gate 2014).
*%-----------------|---------------------------------------------------------------|
*POST DEVELOPMENT CONDITIONS
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["O-1"], DT=[1]min, AREA=[63.72](ha),
                    DWF=[0](cms), CN/C=[61], IA=[6.2](mm), N=[3], TP=[.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------------
------------------------------|
*ROUTE FLOW THROUGH AREA 0-2
ROUTE CHANNEL       NHYDout=["O-1R"], NHYDin=["O-1"], RDT=[1](min),
                    CHLGTH=[960](m), CHSLOPE=[0.63](%), FPSLOPE=[0.63](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.06,4 -.043,6 0.06,10] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.0]
                    [0.0, 2.0]
                    [4.0, 0.0]
                    [6.0, 0.0]
                    [10.0, 2.0]
```

```
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-2"], DT=[1]min, AREA=[28.61](ha),
                    DWF=[0](cms), CN/C=[57], IA=[5.2](mm), N=[3], TP=[1.1]hrs,
                   Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-4"], DT=[1]min, AREA=[46.94](ha),
                    DWF=[0](cms), CN/C=[49], IA=[9.2](mm), N=[3], TP=[0.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
*TOTAL EXTERNAL FLOW NORTH OF O'KEEFE CT. CROSSING
ADD HYD             NHYDsum=["OKF-N"], NHYDs to add=["O-1R"+"O-2"+"O-4"]
*%-----------------|---------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-6
ROUTE CHANNEL       ROUTE CHANNEL NHYDout=["OKF-NR"], NHYDin=["OKF-N"], RDT=[1](min),
                    CHLGTH=[210](m), CHSLOPE=[.81](%), FPSLOPE=[.81](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.043,22.43 -0.043,25.07
                    0.043,45.54] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 3.73]
                    (14.62, 1.56)
                    (18.41, 1.44)
                    (22.43, 0.00)
                    (25.07, 0.70)
                    (29.10, 1.79)
                    (33.73, 2.71)
                    (45.54, 3.58)
*%-----------------|---------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-6"], DT=[1]min, AREA=[16.46](ha),
                    DWF=[0](cms), CN/C=[43], IA=[9.2](mm), N=[3], TP=[0.7]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-3"], DT=[1](min), AREA=[39.67](ha), XIMP=[0.15],
TIMP=[0.30], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[50], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[0.32](%),
                    LGP=[440](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.32](%),
                    LGI=[1880](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-5"], DT=[1](min), AREA=[60.63](ha), XIMP=[0.13],
TIMP=[0.26], DWF=[0](cms),
```

```
                    LOSS=[2], SCS curve number CN=[61],
                    Pervious surfaces: IAper=[4.67](mm), SLPP=[1.38](%),
                    LGP=[550](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[1.38](%),
                    LGI=[1450](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOWS WEST OF THE SITE AND NORTH OF O'KEEFE CRT
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT1"], NHYDs to add=["OKF-NR"+"O-3"+"O-5"+"O-6"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-7"], DT=[1]min, AREA=[5.28](ha),
                    DWF=[0](cms), CN/C=[54], IA=[7.5](mm), N=[3], TP=[0.6]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 1 - TOTAL FLOW NORTH OF FALLOWFIELD DR. AND O'KEEFE CRT.
ADD HYD             NHYDsum=["FF"], NHYDs to add=["PT1"+"O-7"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 1
ROUTE CHANNEL       NHYDout=["DRAIN1"], NHYDin=["FF"], RDT=[1](min),
                    CHLGTH=[302]{m), CHSLOPE=[1.00](%), FPSLOPE=[1.00](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,13.45 -0.043,16.55 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (3.45, 0.60)
                    (13.45, 0.50)
                    (14.45, 0.00)
                    (15.55, 0.00)
                    (16.55, 0.50)
                    (26.55, 0.60)
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D1"], DT=[1]min, AREA=[1.17](ha),
                    DWF=[0](cms), CN/C=[84], IA=[9.0](mm), N=[3], TP=[0.28]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A1"], DT=[1]min, AREA=[2.50](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[223.607](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
```

```
ROUTE RESERVOIR     NHYDout=["A1-STR"], NHYDin=["A1"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.035 , 0.038 ]
                                  [ 0.072 , 0.051 ]
                                  [ 0.100 , 0.059 ]
                                  [ 0.125 , 0.070 ]
                                  [ 0.160 , 0.074 ]
                                  [ 0.185 , 0.081 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-2"], DT=[1]min, AREA=[0.59](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[108.628](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST2STR"], NHYDin=["ST-2"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.052 , 0.0010 ]
                                  [ 0.053 , 0.0080 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST2OVF"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF STRANDHERD DR. (EAST BRANCH) CROSSING
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-8"], DT=[1]min, AREA=[60.55](ha),
                    DWF=[0](cms), CN/C=[69], IA=[4.0](mm), N=[3], TP=[1.0]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["O8PIPE"], RNUMBER=[1], PWIDTH=[1800](mm),
PHEIGHT=[1200](mm), PLNGTH=[335.1](m),
                    PROUGH=[0.013], PSLOPE=[0.001](m/m), NHYDin=["O-8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST2-IN"], NHYDs to
add=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A7"], DT=[1]min, AREA=[3.51](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[264.953](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
```

```
                        END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A7-STR"], NHYDin=["A7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.049 , 0.054 ]
                                  [ 0.102 , 0.072 ]
                                  [ 0.140 , 0.082 ]
                                  [ 0.175 , 0.099 ]
                                  [ 0.225 , 0.105 ]
                                  [ 0.260 , 0.114 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-3"], DT=[1]min, AREA=[0.71](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[119.164](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST3STR"], NHYDin=["ST-3"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.063 , 0.0010 ]
                                  [ 0.064 , 0.0094 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST3OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 2 - TOTAL FLOW AT OUTLET OF STREET 2/3 INTERSECTION
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT2ST3"], NHYDs to
add=["ST2-IN"+"A7-STR"+"A7-OVF"+"ST3STR"+"ST3OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 2
ROUTE CHANNEL       NHYDout=["DRAIN2"], NHYDin=["PT2ST3"], RDT=[1](min),
                    CHLGTH=[592]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                                       SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.60 -0.043,17.40 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (2.60, 0.95)
                    (12.60, 0.75)
                    (14.10, 0.00)
                    (15.90, 0.00)
                    (17.40, 0.75)
                    (27.40, 0.95)
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D2"], DT=[1]min, AREA=[2.28](ha), DWF=[0](cms), CN/C=[84],
IA=[9.0](mm),
                    N=[3], TP=[0.99]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
```

```
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A17"], DT=[1]min, AREA=[12.04](ha), XIMP=[0.68],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[490.714](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A17STR"], NHYDin=["A17"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.169 , 0.185 ]
                                  [ 0.349 , 0.248 ]
                                  [ 0.482 , 0.283 ]
                                  [ 0.602 , 0.338 ]
                                  [ 0.771 , 0.359 ]
                                  [ 0.891 , 0.391 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A17OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-4"], DT=[1]min, AREA=[0.35](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[83.666](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST4STR"], NHYDin=["ST-4"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.031 , 0.0010 ]
                                  [ 0.032 , 0.0050 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST4OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A18"], DT=[1]min, AREA=[5.30](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[325.576](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A18STR"], NHYDin=["A18"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.074 , 0.082 ]
                                  [ 0.154 , 0.109 ]
```

```
                                  [ 0.212 , 0.125 ]
                                  [ 0.265 , 0.149 ]
                                  [ 0.339 , 0.158 ]
                                  [ 0.392 , 0.172 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 3 - TOTAL FLOW AT OUTLET OF STREET 4
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT3ST4"], NHYDs to
add=["DRAIN2"+"D2"+"A17STR"+"A17OVF"+"ST4STR"+"ST4OVF"+"A18STR"+"A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 3
ROUTE CHANNEL       NHYDout=["DRAIN3"], NHYDin=["PT3ST4"], RDT=[1](min),
                    CHLGTH=[525]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.50 -0.043,17.50 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (2.50, 1.00)
                    (12.50, 0.80)
                    (14.10, 0.00)
                    (15.90, 0.00)
                    (17.50, 0.80)
                    (27.50, 1.00)
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D3"], DT=[1]min, AREA=[2.51](ha),
                    DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.73]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C1"], DT=[1]min, AREA=[3.41](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[261.151](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C1-STR"], NHYDin=["C1"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.048 , 0.052 ]
                                  [ 0.099 , 0.070 ]
                                  [ 0.136 , 0.080 ]
                                  [ 0.170 , 0.096 ]
                                  [ 0.218 , 0.102 ]
                                  [ 0.252 , 0.111 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-5"], DT=[1]min, AREA=[0.45](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
```

```
                    F=[0.00](mm),
1451                Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
1452                Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[94.868](m),
                    MNI=[0.013], SCI=[0](min),
1453                Continuous simulation parameters:
1454                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
1455  *%----------------|-------------------------------------------------------------|
1456  ROUTE RESERVOIR   NHYDout=["ST5STR"], NHYDin=["ST-5"], RDT=[1](min),
1457                         TABLE of ( OUTFLOW-STORAGE ) values
1458                                   (cms) - (ha-m)
1459                                 [ 0.000 , 0.0000 ]
1460                                 [ 0.040 , 0.0010 ]
1461                                 [ 0.041 , 0.0062 ]
1462                                 [ -1 , -1 ] (max twenty pts)
1463                                 NHYDovf=["ST5OVF"]
1464  *%----------------|-------------------------------------------------------------|
1465  ADD HYD           NHYDsum=["ST5-E"], NHYDs to
      add=["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]
1466  *%----------------|-------------------------------------------------------------|
1467  CONTINUOUS STANDHYD NHYD=["STRAND"], DT=[1](min), AREA=[7.59](ha),
1468                XIMP=[0.64], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
1469                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
1470                Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
1471                Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[1230](m),
                    MNI=[0.013], SCI=[0](min),
1472                Continuous simulation parameters:
1473                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
1474  *%----------------|-------------------------------------------------------------|
1475  ROUTE RESERVOIR   NHYDout=["S-POND"], NHYDin=["STRAND"], RDT=[1](min),
1476                         TABLE of ( OUTFLOW-STORAGE ) values
1477                                   (cms) - (ha-m)
1478                                 [ 0.000 , 0.000 ]
1479                                 [ 0.033 , 0.188 ]
1480                                 [ 0.057 , 0.253 ]
1481                                 [ 0.104 , 0.287 ]
1482                                 [ 0.160 , 0.336 ]
1483                                 [ 0.340 , 0.346 ]
1484                                 [ 0.471 , 0.360 ]
1485                                 [ 0.824 , 0.390 ]
1486                                 [ -1 , -1 ] (max twenty pts)
1487                                 NHYDovf=["S-OVF"]
1488  *%----------------|-------------------------------------------------------------|
1489  ADD HYD           NHYDsum=["SSAOUT"], NHYDs to add=["ST5-E"+"S-POND"+"S-OVF"]
1490  *%----------------|-------------------------------------------------------------|
1491  SAVE HYD          NHYD=["SSAOUT"], # OF PCYCLES=[5], ICASEsh=[1]
1492                    HYD_COMMENT=["SSAOUT"]
1493  *%----------------|-------------------------------------------------------------|
1494  CONTINUOUS STANDHYD NHYD=["Area-A"], DT=[1]min, AREA=[66.75](ha), XIMP=[0.64],
      TIMP=[0.80], DWF=[0](cms), LOSS=[1]:
1495                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
1496                Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
1497                Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[1155.422](m), MNI=[0.013], SCI=[0](min),
1498                Continuous simulation parameters:
1499                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
1500  *%----------------|-------------------------------------------------------------|
1501  SAVE HYD          NHYD=["Area-A"], # OF PCYCLES=[1], ICASEsh=[1]
1502                    HYD_COMMENT=["SMWF-A Inflow"]
```

```
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["SWMF-A"], NHYDin=["Area-A"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.103 , 1.077 ]
                                  [ 0.128 , 1.749 ]
                                  [ 0.382 , 2.282 ]
                                  [ 0.703 , 2.582 ]
                                  [ 1.256 , 2.978 ]
                                  [ 1.567 , 3.202 ]
                                  [ 1.955 , 3.493 ]
                                  [ 2.100 , 3.600 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["SWMAOV"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SWMF-A"], # OF PCYCLES=[1], ICASEsh=[1]
                    HYD_COMMENT=["SMWF-A Outflow"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 4 - TOTAL FLOW AT OUTLET OF STREET 5
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT4ST5"], NHYDs to add=["SSAOUT"+"SWMF-A"+"SWMAOV"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C6"], DT=[1]min, AREA=[1.87](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[193.391](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C6-STR"], NHYDin=["C6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.026 , 0.029 ]
                                  [ 0.054 , 0.038 ]
                                  [ 0.075 , 0.044 ]
                                  [ 0.093 , 0.052 ]
                                  [ 0.120 , 0.056 ]
                                  [ 0.138 , 0.061 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C6-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C7"], DT=[1]min, AREA=[1.62](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C7-STR"], NHYDin=["C7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.023 , 0.025 ]
                                  [ 0.047 , 0.033 ]
```

```
                                  [ 0.065 , 0.038 ]
                                  [ 0.081 , 0.045 ]
                                  [ 0.104 , 0.048 ]
                                  [ 0.120 , 0.053 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-6"], DT=[1]min, AREA=[0.41](ha),XIMP=[0.46], TIMP=[0.57],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[90.554](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST6STR"], NHYDin=["ST-6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.036 , 0.0010 ]
                                  [ 0.037 , 0.0058 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 5 - TOTAL FLOW AT OUTLET OF STREET 6
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT5ST6"], NHYDs to
add=["PT4ST5"+"C6-STR"+"C6-OVF"+"C7-STR"+"C7-OVF"+"ST6STR"+"ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 4
ROUTE CHANNEL       NHYDout=["DRAIN4"], NHYDin=["PT5ST6"], RDT=[1](min),
                    CHLGTH=[324]{m), CHSLOPE=[.10](%), FPSLOPE=[.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.00 -0.043,18.00 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.00]
                    (2.00, 1.20)
                    (12.00, 1.00)
                    (14.00, 0.00)
                    (16.00, 0.00)
                    (18.00, 1.00)
                    (28.00, 1.20)
                    (30.00, 2.00)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D4"], DT=[1]min, AREA=[1.73](ha), DWF=[0](cms), CN/C=[88],
IA=[8.4](mm),
                    N=[3], TP=[0.60]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-B"], DT=[1]min, AREA=[24.04](ha), XIMP=[0.62],
TIMP=[0.77], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[1.4](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
```

```
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.4](%),
                    LGI=[693.397](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["SWMF-B"], NHYDin=["Area-B"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.025 , 0.090 ]
                                 [ 0.175 , 0.510 ]
                                 [ 0.350 , 0.710 ]
                                 [ 0.495 , 0.820 ]
                                 [ 0.648 , 0.980 ]
                                 [ 0.965 , 1.045 ]
                                 [ 1.072 , 1.140 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["SWMBOVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["D4-EX"], NHYDs to add=["DRAIN4"+"D4"+"SWMF-B"+"SWMBOVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH O'Keefe Drain 5
* JFSA: Nov. 2020, added en points to close X-Section
ROUTE CHANNEL       NHYDout=["DRAIN5"], NHYDin=["D4-EX"], RDT=[1](min),
                    CHLGTH=[413.0](m), CHSLOPE=[0.16](%), FPSLOPE=[0.16](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.043,12.29 -0.033,17.97
                    0.043,32.84] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=(-0.01, 2.50)
                    [0.00, 1.41]
                    [6.13, 0.97]
                    [12.29, 0.89]
                    [15.71, 0.00]
                    [17.97, 0.39]
                    [23.04, 0.35]
                    [32.83, 0.96]
                    (32.84, 2.50)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D5"], DT=[1]min, AREA=[1.90](ha),
                    DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.69]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*EXTERNAL FLOWS SOUTHEAST OF THE SITE NORTH OF McKENNA CASEY DR.
CONTINUOUS NASHYD   NHYD=["O-13SDF"], DT=[1]min, AREA=[9.74](ha),
                    DWF=[0](cms), CN/C=[81], IA=[4.0](mm), N=[3], TP=[.43]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*SNOW DISPOSAL FACILITY
*PARAMETERS BASED ON ROBINSON 2006 MODEL
ROUTE RESERVOIR     NHYDout=["SDF"], NHYDin=["O-13SDF"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                    (cms) - (ha-m)
                                  [0.000,0.000]
                                  [0.150,0.600]
                                  (0.200,1.500)
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["OVFSDF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 6 - McKenna Casey Dr.
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT6MC"], NHYDs to add=["DRAIN5"+"D5"+"SDF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-15"], DT=[1]min, AREA=[10.67](ha),
                    DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.30]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF McKENNA CASEY DR.
ADD HYD             NHYDsum=["M-C"], NHYDs to add=["PT6MC"+"O-15"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-14
* JFSA: Nov. 2020, added end points to close X-section
ROUTE CHANNEL       NHYDout=["O-14Ch"], NHYDin=["M-C"], RDT=[1](min),
                    CHLGTH=[845.3](m), CHSLOPE=[0.10](%), FPSLOPE=[0.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.06,15.00 -0.033,18.04 0.06,31.85] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[-0.01, 2.5
                    (0.00, 1.53]
                    (5.56, 1.47)
                    (9.21, 1.45)
                    (12.45, 1.53)
                    (13.70, 1.50)
                    (15.00, 0.69)
                    (15.34, 0.00)
                    (16.51, 0.05)
                    (17.30, 0.17)
                    (18.04, 0.74)
                    (19.29, 1.32)
                    (22.73, 1.47)
                    (31.84, 1.41)
                    (31.85, 2.50)
*%-----------------|-------------------------------------------------------------|
*%    -Change O-14 from NASHYD to STANDHYD, name it "S-1-Okeefe" and add it to S-1
subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -JFSA 2021-02-16, add detailed subcatchment drainage area for each subcatchment
in Corrigan sub-catchment. After adding part of  O-14 to S_1 sub-catchment so O-14
becomes 5 ha instead of 30.02 ha and TP becomes 0.133 (5*0.8/30.02) instead of 0.8
CONTINUOUS NASHYD   NHYD=["O-14"], DT=[1]min, AREA=[5](ha),
                    DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.133]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 7 - JOCK RIVER
```

```
* 2020-12-01 To Foster Drain
* 2020-12-01  replace ("PT7JR") by ("OKEEFE")
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["OKEEFE"], NHYDs to add=["O-14Ch"+"O-14"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["OKEEFE"], DT=[1](min), AREA=[448](ha),
*                   XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[77],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[1728](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["P_OKE"], NHYDin=["OKEEFE"],
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                  (cms) - (ha-m)
*                                [   0.0  ,  0.0]
*                                [  14.13 , 13.0]
*                                [   -1   ,  -1  ]  (maximum one hundred pairs of points)
*                               NHYDovf=["ok-OVF"],
*%-----------------|-------------------------------------------------------------
-----------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are
moved to drain before station 6215 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.120]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                    MajNHYD=["S-1-D2J"]
*                    MinNHYD=["S-1-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
```

```
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.2231, 0.7445 ]
*                                     [    -1   ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.281]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                    MajNHYD=["S-1-D3J"]
*                    MinNHYD=["S-1-D3N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                    RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                       (cms) - (ha-m)
*                                     [ 0.0     , 0.0 ]
*                                     [ 0.0811, 0.2708 ]
*                                     [    -1   ,   -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_OK"], NHYDs to add=["N_OK"+"OKEEFE"+"S-1-D2"+"S-1-D3"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_OK"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL       NHYDout=["N_FO"] ,NHYDin=["SN_OK"] ,
                    RDT=[1](min),
                    CHLGTH=[1183](m),  CHSLOPE=[0.0761](%),
                                        FPSLOPE=[0.0761](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-33.89
                      -0.035,31.59
                      0.050,34.41] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                    [-794.18, 91.00]
                    [-775.41, 91.50]
                    [-702.63, 91.50]
                    [-546.19, 91.50]
                    [-529.54, 91.50]
                    [-323.44, 91.00]
                    [-320.71, 91.00]
                    [-183.59, 91.00]
                    [-182.54, 90.50]
                    [-181.36, 90.00]
                    [-177.37, 90.00]
                    [-87.70, 90.00]
                    [-33.89, 90.00]
                    [-18.52, 86.88]
                    [0.00,85.20]
                    [16.20, 86.83]
                    [31.59, 90.00]
                    [33.03, 90.50]
                    [34.41, 91.00]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study
Report, CH2MHILL, Aug 2013.
*#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after
increasing Okeefe drainage area to (513.02 HA) so the total drainage area remains the
same
*#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FOSTER"], DT=[1]min, AREA=[325.44](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[1472.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["P_FOS"],  NHYDin=["FOSTER"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   10.34 , 10]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["FO-OVF"]
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["FOSTER-OUT"], NHYDs to add=["P_FOS"+"FO-OVF"]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*    -Brazeau area from P 1800-19 =[71.751], change to 63.59 ha based on GIS measurements
*     -JFSA, 2021-01-19  update "W_CLAR_BRAZ" to 73.29 ha based on GIS measurements
*     -JFSA, 2021-01-22  Brazeau ("MS_P10"+"P10-OVF")brazeau pond discharges directly
to the jock river through a road side ditch on the west side of Borrisokane road
(station 6016)
```

```
CONTINUOUS STANDHYD NHYD=["W_CLAR_BRAZ"], DT=[1]min, AREA=[73.29](ha),
                    XIMP=[0.6], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[699.00](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
* 2020-12-01 correct pond curve values
ROUTE RESERVOIR     NHYDout=["MS_P10"],  NHYDin=["W_CLAR_BRAZ"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [ 0.068 , 0.001 ]
                                   [ 0.271 , 0.022 ]
                                   [ 0.379 , 0.051 ]
                                   [ 0.48 , 0.091 ]
                                   [ 0.853 , 0.341 ]
                                   [ 1.005 , 0.61 ]
                                   [ 1.128 , 1.231 ]
                                   [ 1.155 , 1.592 ]
                                   [ 1.194 , 1.876 ]
                                   [ 1.2 , 1.921 ]
                                   [ 1.259 , 2.369 ]
                                   [ 1.3 , 2.665 ]
                                   [ 1.349 , 2.813 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["P10-OVF"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
before station 980 on Foster Drain
CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D2J"]
*                    MinNHYD=["S-1-FO-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
```

```
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0590, 0.1970 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["980"], NHYDs to add=["FOSTER-OUT"+"S-1-FO-D2"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["980"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Station 980 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
*#
ROUTE CHANNEL        NHYDout=["980-out"] ,NHYDin=["980"] ,
                     RDT=[1](min),
                     CHLGTH=[460](m),  CHSLOPE=[0.04348](%),
                                         FPSLOPE=[0.04348](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,45.90
                       -0.035,53.30
                       0.050,100] NSEG times
                     ( DISTANCE (m), ELEVATION (m))=
                     [0, 91.75 ]
                     [42.4, 92.18 ]
                     [43.5, 92.16 ]
                     [44.1, 92.1 ]
                     [44.6, 92 ]
                     [44.8, 91.86 ]
                     [45.9, 91.04 ]
                     [46.4, 90.65 ]
                     [46.8, 90.36 ]
                     [47.9, 90.32 ]
                     [48.7, 90.35 ]
                     [50.7, 90.33 ]
                     [52.2, 90.38 ]
                     [52.5, 90.59 ]
                     [53.3, 91.28 ]
                     [54, 91.83 ]
                     [54.3, 92 ]
                     [54.8, 92.08 ]
                     [55.4, 92.12 ]
                     [100, 91.84 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
CONTINUOUS STANDHYD  NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
                     XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[74],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                             LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD      NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                     MajNHYD=["S-1-FO-D1J"]
```

```
*                    MinNHYD=["S-1-FO-D1N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0611, 0.2038 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["520"], NHYDs to add=["980-out"+"S-1-FO-D1"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["520"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Sation 520 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock
River)
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
*#
ROUTE CHANNEL       NHYDout=["520-out"] ,NHYDin=["520"] ,
                    RDT=[1](min),
                    CHLGTH=[860](m),  CHSLOPE=[0.5872](%),
                                        FPSLOPE=[0.5872](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,45.90
                      -0.035,54.3
                      0.050,100.1097] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [0, 91.26 ]
                    [44.9, 91.46 ]
                    [45.1, 91.37 ]
                    [45.9, 90.84 ]
                    [47, 90.32 ]
                    [47.5, 90.22 ]
                    [48, 90.17 ]
                    [50.7, 90.19 ]
                    [51.5, 90.17 ]
                    [52.2, 90.13 ]
                    [52.7, 90.12 ]
                    [53.3, 90.14 ]
                    [53.5, 90.31 ]
                    [53.9, 90.59 ]
                    [54.3, 90.87 ]
                    [54.7, 91.04 ]
                    [55.3, 91.24 ]
                    [55.5, 91.26 ]
                    [63.7, 91.37 ]
                    [100.1097, 91.43 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                    MajNHYD=["S-1FO-F-DJ"]
*                    MinNHYD=["S-1FO-F-DN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.1788, 0.5966 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha), XIMP=[0.325],
TIMP=[0.65], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.75](%),
                    LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D8J"]
*                    MinNHYD=["S-1-D8N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
```

```
*                    MajNHYD=["S-1-D-MJ"]
*                    MinNHYD=["S-1-D-MN"]
*                    TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0630, 0.2102 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.619]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
CONTINUOUS NASHYD   NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_FO"], NHYDs to
add=["N_FO"+"520-out"+"MS_P10"+"P10-OVF"+"W_CLAR_UNDE"+"S-1-FO-F-D"+"S-1-D8"+"S-1-A"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_FO"],   # OF PCYCLES=[-1],  ICASESh=[1]
                    HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL       NHYDout=["N_CE"] ,NHYDin=["SN_FO"] ,
                    RDT=[1](min),
                    CHLGTH=[159](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-15.46
                      -0.035,26.55
                      0.050,116.76] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-645.23, 91.50]
                    [-391.20, 91.50]
                    [-91.00, 91.50]
```

```
                     [-85.52, 91.50]
                     [-15.46, 89.40]
                     [-9.79, 89.31]
                     [-3.22, 86.24]
                     [3.22, 85.07]
                     [10.96, 85.79]
                     [16.44, 86.49]
                     [26.55, 89.45]
                     [29.03, 90.27]
                     [35.76, 90.67]
                     [36.67, 91.00]
                     [108.08, 91.00]
                     [109.82, 90.50]
                     [112.04, 90.50]
                     [114.62, 91.00]
                     [116.76, 91.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-1
*#    - To Jock River (north and south of Jock)
*#    - Primarily agricultural fields; portion of sand quarry
*%-----------------|---------------------------------------------------------------|
*%    -2020-12-17 "S-1-Undev" and "S-1-Fost" was a part of Foster drain, they are below the foster pond. Now they are added to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Change O-14 (it was part of Okeefe drain) to "S-1-Okeefe" and add it to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Add "S-1-BCDC" as NASHYD
*%    -2020-12-17 all other S-1 subcatchment as STANDHYD with DUALHYD and ROUTE RESERVOIR
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[0.619]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-B"], DT=[1]min, AREA=[55.36](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.451]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
*#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas compared to the old ones.
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC"], DT=[1]min, AREA=[134.9](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
```

```
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and "S-1-BCDC-2" is part of "S-1-D2" and "S-1-D3"
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-1"], DT=[1]min, AREA=[0.3](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-2"], DT=[1]min, AREA=[1.3](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-3"], DT=[1]min, AREA=[3.9](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                   LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                   LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                   LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                   MajNHYD=["S-1-OkMJ"]
*                   MinNHYD=["S-1-OkMN"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-------------------------------------------------------|
```

```
*ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                   (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.5370, 1.7917 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-OkSovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.049]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D1J"]
*                    MinNHYD=["S-1-FO-D1N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                   (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0611, 0.2038 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
```

```
*                   XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[74],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                          LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD  NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD    NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                   MajNHYD=["S-1-FO-D2J"]
*                   MinNHYD=["S-1-FO-D2N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD            NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR    NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                   RDT=[1](min),
*                        TABLE of ( OUTFLOW-STORAGE ) values
*                                   (cms) - (ha-m)
*                                 [ 0.0     , 0.0 ]
*                                 [ 0.0590, 0.1970 ]
*                                 [    -1  ,  -1    ]  (max twenty pts)
*                        NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                   XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[74],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                          LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD  NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.007]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD    NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
```

```
*                    MajNHYD=["S-1FO-F-DJ"]
*                    MinNHYD=["S-1FO-F-DN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.1788, 0.5966 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D1"], DT=[1](min), AREA=[21.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[380.088](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D1"], DT=[1]min, AREA=[21.67](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.066]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D1"], CINLET=[2.482](cms), NINLET=[1],
*                    MajNHYD=["S-1-D1J"]
*                    MinNHYD=["S-1-D1N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D1S"], NHYDs to add=["S-1-D1J"+"S-1-D1N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D1R"] ,NHYDin=["S-1-D1S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.2590, 0.8642 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D1Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are
moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

```
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.120]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                   MajNHYD=["S-1-D2J"]
*                   MinNHYD=["S-1-D2N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.2231, 0.7445 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                   LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                   LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                   LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.281]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                   MajNHYD=["S-1-D3J"]
*                   MinNHYD=["S-1-D3N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
```

```
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0811, 0.2708 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                             NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D4"], DT=[1](min), AREA=[3.28](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[147.874](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D4"], DT=[1]min, AREA=[3.28](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D4"], CINLET=[0.373](cms), NINLET=[1],
*                    MajNHYD=["S-1-D4J"]
*                    MinNHYD=["S-1-D4N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D4S"], NHYDs to add=["S-1-D4J"+"S-1-D4N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D4R"] ,NHYDin=["S-1-D4S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0392, 0.1308 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                             NHYDovf=["S-1-D4Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D5"], DT=[1](min), AREA=[12.84](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[292.57](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D5"], DT=[1]min, AREA=[12.84](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
```

```
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D5"], CINLET=[1.395](cms), NINLET=[1],
*                    MajNHYD=["S-1-D5J"]
*                    MinNHYD=["S-1-D5N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D5S"], NHYDs to add=["S-1-D5J"+"S-1-D5N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D5R"] ,NHYDin=["S-1-D5S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.1535, 0.5120 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D5Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D6"], DT=[1](min), AREA=[1.75](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[108.01](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D6"], DT=[1]min, AREA=[1.75](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D6"], CINLET=[0.218](cms), NINLET=[1],
*                    MajNHYD=["S-1-D6J"]
*                    MinNHYD=["S-1-D6N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D6S"], NHYDs to add=["S-1-D6J"+"S-1-D6N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D6R"] ,NHYDin=["S-1-D6S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0209, 0.0698 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D6Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D7"], DT=[1](min), AREA=[2.03](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[116.33](m), MNI=[0.013], SCI=[0](min),
```

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                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D7"], DT=[1]min, AREA=[2.03](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D7"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D7J"]
*                    MinNHYD=["S-1-D7N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D7S"], NHYDs to add=["S-1-D7J"+"S-1-D7N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D7R"] ,NHYDin=["S-1-D7S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0243, 0.0810 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                    MajNHYD=["S-1-D8J"]
*                    MinNHYD=["S-1-D8N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------|
```

```
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                    MajNHYD=["S-1-D-MJ"]
*                    MinNHYD=["S-1-D-MN"]
*                    TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0630, 0.2102 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
*#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["W_CLAR_MJ"], DT=[1]min, AREA=[1.772](ha),
                    XIMP=[0.46], TIMP=[0.59], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["W_CLAR_MJ"], CINLET=[0.213](cms), NINLET=[1],
*                    MajNHYD=["W_CLAR_MJj"]
*                    MinNHYD=["W_CLAR_MJn"]
*                    TMJSTO=[0.1](cu-m)
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
ROUTE RESERVOIR     NHYDout=["W_CLAR_MJn"] ,NHYDin=["W_CLAR_MJ"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.213 , 0.0001 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["W_CLAR_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*     -Clarke_All area from  P 598(04)-11 = 120.207 ha, change to 127.298 ha based on GIS measurements,
*     -JFSA, 2021-01-19  update W_CLAR_ALL to (121.17-1.772=119.398) ha based on GIS measurements W_CLAR is 121.17 ha and W_CLAR_MJ is 1.772 ha
CONTINUOUS STANDHYD NHYD=["W_CLAR_ALL"], DT=[1]min, AREA=[119.398](ha),
                    XIMP=[0.60], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[892.18](m), MNI=[0.013], SCI=[0](min),
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["W_CLAR"], NHYDs to add=["W_CLAR_ALL"+"W_CLAR_MJj"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["W_CLAR"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows to West Clarke"]
*#*****************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P2"],  NHYDin=["W_CLAR"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [ 0.128 , 0.161 ]
                                   [ 0.138 , 0.409 ]
                                   [ 0.148 , 0.68 ]
                                   [ 0.227 , 0.931 ]
                                   [ 0.354 , 1.223 ]
                                   [ 0.505 , 1.52 ]
                                   [ 0.666 , 1.821 ]
                                   [ 0.831 , 2.123 ]
                                   [ 0.995 , 2.434 ]
                                   [ 1.069 , 2.583 ]
                                   [ 1.51 , 2.647 ]
                                   [ 4.904 , 2.861 ]
                                   [ 13.048 , 3.188 ]
                                   [ 23.745 , 3.523 ]
                                   [ 36.474 , 3.871 ]
                                   [ 45.938 , 4.127 ]
                                   [ 61.652 , 4.539 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                              NHYDovf=["P2-OVF"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
*CONTINUOUS NASHYD   NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_CE"], NHYDs to
add=["N_CE"+"S-1-D4"+"S-1-D5"+"MS_P2"+"P2-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_CE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 5737 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
*# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the
HEC-RAS model
T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\HEC-RAS\JockLidar2005
*# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
```

```
ROUTE CHANNEL       NHYDout=["5737"] ,NHYDin=["SN_CE"] ,
                    RDT=[1](min),
                    CHLGTH=[270](m),  CHSLOPE=[0.0175](%),
                                        FPSLOPE=[0.0175](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-24.04
                      -0.035,23.92
                      0.050,1130.8] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1060.52, 94 ]
                    [-268.6, 91.5 ]
                    [-259.43, 91.5 ]
                    [-179.48, 91.5 ]
                    [-67.9, 91.5 ]
                    [-59.21, 91.5 ]
                    [-33.19, 91 ]
                    [-26.08, 90.5 ]
                    [-24.04, 90 ]
                    [-13.14, 86.77 ]
                    [0, 85 ]
                    [14.68, 86.74 ]
                    [23.92, 90 ]
                    [25.78, 90.5 ]
                    [31.91, 91 ]
                    [91.95, 91.5 ]
                    [772.15, 92 ]
                    [961.49, 92.5 ]
                    [1044.69, 93 ]
                    [1130.8, 95 ]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["5002"], NHYDs to add=["5737"+"S-1-D1"+"S-1-D6"+"S-1-D7"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["5002"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 5002 on Jock River"]
*%-----------------|---------------------------------------------------------|
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
*# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255
% so the model will be more stable and give reasonable results. It is justifiable as
ROUTE CHANNELs aren't well suited to really flat slopes.
*# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one
with 825 m length so the model will be more stable
*# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is
because of adding station 5737 between station 6016 and station 5002. Then the length
from station 5737 to station 5002 is 736 m. Change the slope from 0.0255 % to 0.09511 %
*
ROUTE CHANNEL       NHYDout=["N_WCa"] ,NHYDin=["5002"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                        FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
```

```
*                    [161.44, 91.50]
*                    [236.48, 93.00]
*                    [385.47, 92.50]
*                    [390.78, 92.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["N_WCb"] ,NHYDin=["N_WCa"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["N_WC"] ,NHYDin=["N_WCb"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*#*****************************************************************************
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area
(W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*ADD HYD             NHYDsum=["SN_WC"], NHYDs to
add=["MS_P2"+"P2-OVF"+"N_WC"+"W_CLAR_UNDE"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD           NHYD=["SN_WC"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                   HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL       NHYDout=["N_KB"] ,NHYDin=["N_WC"] ,
                    RDT=[1](min),
                    CHLGTH=[1020](m),  CHSLOPE=[0.0498](%),
                                            FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.63
                      -0.035,23.63
                      0.050,728.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
```

```
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment KEN_BU
*#    - To Kennedy-Burnett SWM Facility
*#    - Outlets to Fraser-Clarke drain (north of the Jock)
*#    - Medium density residential subdivision
*     - Add Kennedy Burnett model (Convert PCSWMM from NOVATECH June, 2020 to SWMHYMO)
*#*****************************************************************************
*CONTINUOUS STANDHYD NHYD=["KEN_BU"], DT=[1]min, AREA=[281](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[71],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[1369](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#    - Rating curve obtained from URTKBP
*#    - Tributary Drainage Area to Pond = 160 ha
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["KEN_P"],  NHYDin=["KEN_BU"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [   0.0 ,  0.0 ]
*                                   [   0.13 , 0.26]
*                                   [   0.43 , 0.56]
*                                   [   0.67 , 0.90]
*                                   [   0.86 , 1.32]
*                                   [   1.01 , 1.79]
*                                   [   1.15 , 2.33]
*                                   [   -1   ,  -1  ]  (max twenty pts)
*                             NHYDovf=["KEN-OV"]
*%-----------------|---------------------------------------------------------------|
*     -JFSA, 2021-01-19  update all KEN_BU areas based on GIS measurements
CONTINUOUS STANDHYD NHYD=["KB-01A"], DT=[1]min, AREA=[40.82](ha), XIMP=[0.097],
TIMP=[0.4], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[521.664](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
```

```
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01A"], CINLET=[3.6](cms), NINLET=[1],
                    MajNHYD=["KB-01A-MJ"]
                    MinNHYD=["KB-01A-MN"]
                    TMJSTO=[4995](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01A-S"], NHYDs to add=["KB-01A-MJ"+"KB-01A-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01B"], DT=[1]min, AREA=[31.1](ha), XIMP=[0.1875],
TIMP=[0.375], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.42](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.42](%),
                    LGI=[455.339](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01B"], CINLET=[1.585](cms), NINLET=[1],
                    MajNHYD=["KB-01B-MJ"]
                    MinNHYD=["KB-01B-MN"]
                    TMJSTO=[6075](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01B-S"], NHYDs to add=["KB-01B-MJ"+"KB-01B-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01C"], DT=[1]min, AREA=[13.78](ha), XIMP=[0.2045],
TIMP=[0.409], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[303.095](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01C"], CINLET=[1.35](cms), NINLET=[1],
                    MajNHYD=["KB-01C-MJ"]
                    MinNHYD=["KB-01C-MN"]
                    TMJSTO=[1880](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01C-S"], NHYDs to add=["KB-01C-MJ"+"KB-01C-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-03"], DT=[1]min, AREA=[84.78](ha), XIMP=[0.197],
TIMP=[0.394], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.63](%),
                    LGI=[751.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-03"], CINLET=[5.27](cms), NINLET=[1],
                    MajNHYD=["KB-03-MJ"]
                    MinNHYD=["KB-03-MN"]
                    TMJSTO=[15500](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-03-S"], NHYDs to add=["KB-03-MJ"+"KB-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-04"], DT=[1]min, AREA=[6.95](ha), XIMP=[0.85],
```

```
    TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
3155                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
3156                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
3157                    Impervious areas: IAimp=[0.942](mm), SLPI=[0.5](%),
                        LGI=[215.252](m), MNI=[0.013], SCI=[0](min),
3158                    Continuous simulation parameters:
3159                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
3160    *%----------------|-------------------------------------------------------------|
3161    COMPUTE DUALHYD     NHYDin=["KB-04"], CINLET=[0.503](cms), NINLET=[1],
3162                        MajNHYD=["KB-04-MJ"]
3163                        MinNHYD=["KB-04-MN"]
3164                        TMJSTO=[1972](cu-m)
3165    *%----------------|-------------------------------------------------------------|
3166    ADD HYD             NHYDsum=["KB-04-S"], NHYDs to add=["KB-04-MJ"+"KB-04-MN"]
3167    *%----------------|-------------------------------------------------------------|
3168    CONTINUOUS STANDHYD NHYD=["KB-05"], DT=[1]min, AREA=[5.19](ha), XIMP=[0.93],
    TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
3169                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
3170                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
3171                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                        LGI=[186.011](m), MNI=[0.013], SCI=[0](min),
3172                    Continuous simulation parameters:
3173                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
3174    *%----------------|-------------------------------------------------------------|
3175    *%----------------|-------------------------------------------------------------|
3176    CONTINUOUS STANDHYD NHYD=["KB-06"], DT=[1]min, AREA=[12.93](ha), XIMP=[0.873],
    TIMP=[0.873], DWF=[0](cms), LOSS=[1]:
3177                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
3178                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
3179                    Impervious areas: IAimp=[0.942](mm), SLPI=[4.75](%),
                        LGI=[293.598](m), MNI=[0.013], SCI=[0](min),
3180                    Continuous simulation parameters:
3181                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
3182    *%----------------|-------------------------------------------------------------|
3183    COMPUTE DUALHYD     NHYDin=["KB-06"], CINLET=[2.262](cms), NINLET=[1],
3184                        MajNHYD=["KB-06-MJ"]
3185                        MinNHYD=["KB-06-MN"]
3186                        TMJSTO=[1950](cu-m)
3187    *%----------------|-------------------------------------------------------------|
3188    ADD HYD             NHYDsum=["KB-06-S"], NHYDs to add=["KB-06-MJ"+"KB-06-MN"]
3189    *%----------------|-------------------------------------------------------------|
3190    CONTINUOUS STANDHYD NHYD=["KB-11"], DT=[1]min, AREA=[4.03](ha), XIMP=[0.675],
    TIMP=[0.675], DWF=[0](cms), LOSS=[1]:
3191                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
3192                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                        MNP=[0.250], SCP=[0](min),
3193                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                        LGI=[163.911](m), MNI=[0.013], SCI=[0](min),
3194                    Continuous simulation parameters:
3195                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
3196    *%----------------|-------------------------------------------------------------|
3197    COMPUTE DUALHYD     NHYDin=["KB-11"], CINLET=[0.5773](cms), NINLET=[1],
3198                        MajNHYD=["KB-11-MJ"]
3199                        MinNHYD=["KB-11-MN"]
3200                        TMJSTO=[597](cu-m)
```

```
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-11-S"], NHYDs to add=["KB-11-MJ"+"KB-11-MN"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S1"], DT=[1]min, AREA=[4.99](ha), XIMP=[0.93], TIMP=[0.93],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[182.392](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-15"], DT=[1]min, AREA=[2.15](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[119.722](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P1"], NHYDs to
add=["KB-01A-S"+"KB-01B-S"+"KB-01C-S"+"KB-03-S"+"KB-04-S"+"KB-05"+"KB-06-S"+"KB-11-S"+"KB
-15"+"S1"]
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["KB-P1R"],  NHYDin=["KB-P1"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [0.076,0.003]
                                   [0.088,0.006]
                                   [0.136,0.011]
                                   [0.301,0.017]
                                   [0.454,0.027]
                                   [0.631,0.041]
                                   [1.173,0.068]
                                   [1.91,0.111]
                                   [4.847,0.231]
                                   [9.813,0.436]
                                   [12.134,0.617]
                                   [12.438,0.732]
                                   [12.424,0.811]
                                   [12.425,0.894]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["KB-P1ovf"]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond1"], NHYDs to add=["KB-P1R"+"KB-P1ovf"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-07"], DT=[1]min, AREA=[10.86](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
```

```
                    LGI=[269.072](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-07"], CINLET=[2.094](cms), NINLET=[1],
                    MajNHYD=["KB-07-MJ"]
                    MinNHYD=["KB-07-MN"]
                    TMJSTO=[1378](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-07-S"], NHYDs to add=["KB-07-MJ"+"KB-07-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-08"], DT=[1]min, AREA=[6.61](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[209.921](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-08"], CINLET=[1.058](cms), NINLET=[1],
                    MajNHYD=["KB-08-MJ"]
                    MinNHYD=["KB-08-MN"]
                    TMJSTO=[787](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-08-S"], NHYDs to add=["KB-08-MJ"+"KB-08-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-09"], DT=[1]min, AREA=[2.6](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[131.656](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_1"], DT=[1]min, AREA=[2.37](ha),  XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[125.698](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_2"], DT=[1]min, AREA=[1.14](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%), LGI=[87.178](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
```

```
                    END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-12"], DT=[1]min, AREA=[4.86](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.099](mm), SLPI=[2.0](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-12"], CINLET=[0.8665](cms), NINLET=[1],
                    MajNHYD=["KB-12-MJ"]
                    MinNHYD=["KB-12-MN"]
                    TMJSTO=[632](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-12-S"], NHYDs to add=["KB-12-MJ"+"KB-12-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-13"], DT=[1]min, AREA=[10.19](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[260.640](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-13"], CINLET=[1.722](cms), NINLET=[1],
                    MajNHYD=["KB-13-MJ"]
                    MinNHYD=["KB-13-MN"]
                    TMJSTO=[1077](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-13-S"], NHYDs to add=["KB-13-MJ"+"KB-13-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-14"], DT=[1]min, AREA=[5.47](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[190.962](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-14"], CINLET=[0.8734](cms), NINLET=[1],
                    MajNHYD=["KB-14-MJ"]
                    MinNHYD=["KB-14-MN"]
                    TMJSTO=[631](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-14-S"], NHYDs to add=["KB-14-MJ"+"KB-14-MN"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_2"], DT=[1]min, AREA=[3.42](ha), XIMP=[0.71],
TIMP=[0.71], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
```

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                    MNP=[0.250], SCP=[0](min),
3345                Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[150.997](m), MNI=[0.013], SCI=[0](min),
3346                Continuous simulation parameters:
3347                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3348 *%-----------------|-------------------------------------------------------------|
3349 ADD HYD            NHYDsum=["KB-P2"], NHYDs to
add=["KB-Pond1"+"KB-07-S"+"KB-08-S"+"KB-09"+"KB-10_1"+"KB-10_2"+"KB-12-S"+"KB-13-S"+"KB-1
4-S"+"KB-16_2"]
3350 *%-----------------|-------------------------------------------------------------|
3351 ROUTE RESERVOIR    NHYDout=["KB-P2R"],  NHYDin=["KB-P2"],
3352                    RDT=[1](min),
3353                          TABLE of ( OUTFLOW-STORAGE ) values
3354                                    (cms) - (ha-m)
3355                                  [   0.0 ,  0.0 ]
3356                                  [0.053,0.005]
3357                                  [0.132,0.009]
3358                                  [0.269,0.014]
3359                                  [0.455,0.023]
3360                                  [0.699,0.037]
3361                                  [0.947,0.056]
3362                                  [1.853,0.09]
3363                                  [2.712,0.146]
3364                                  [6.626,0.287]
3365                                  [11.228,0.515]
3366                                  [14.885,0.738]
3367                                  [16.473,0.893]
3368                                  [17.311,0.998]
3369                                  [17.633,1.063]
3370                                  [17.634,1.112]
3371                                  [   -1  ,  -1  ]  (max twenty pts)
3372                          NHYDovf=["KB-P2ovf"]
3373 *%-----------------|-------------------------------------------------------------|
3374 ADD HYD            NHYDsum=["KB-Pond2"], NHYDs to add=["KB-P2R"+"KB-P2ovf"]
3375 *%-----------------|-------------------------------------------------------------|
3376 SAVE HYD           NHYD=["KB-Pond2"],   # OF PCYCLES=[-1],  ICASEsh=[1]
3377                    HYD_COMMENT=["Total Flows at KB second pond"]
3378 *%-----------------|-------------------------------------------------------------|
3379 CONTINUOUS STANDHYD NHYD=["KB-16_1"], DT=[1]min, AREA=[2.8](ha), XIMP=[0.75],
TIMP=[0.75], DWF=[0](cms), LOSS=[1]:
3380                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3381                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3382                Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[136.626](m), MNI=[0.013], SCI=[0](min),
3383                Continuous simulation parameters:
3384                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3385 *%-----------------|-------------------------------------------------------------|
3386 ADD HYD            NHYDsum=["KB-P3"], NHYDs to add=["KB-Pond2"+"KB-16_1"]
3387 *%-----------------|-------------------------------------------------------------|
3388 *%-----------------|-------------------------------------------------------------|
3389 * One inflow node from pond 3 is added to the model (ROUTE RESERVOIR)
3390 * Another inflow node from right side of pond 3 is not added to the model
3391 ROUTE RESERVOIR    NHYDout=["KB-P3R"],  NHYDin=["KB-P3"],
3392                    RDT=[1](min),
3393                          TABLE of ( OUTFLOW-STORAGE ) values
3394                                    (cms) - (ha-m)
3395                                  [   0.0 ,  0.0 ]
3396                                  [0.051,0.002]
3397                                  [0.048,0.003]
3398                                  [0.057,0.029]
3399                                  [0.089,0.045]
3400                                  [0.133,0.069]
```

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                                    [0.199,0.106]
                                    [0.321,0.172]
                                    [1.029,0.306]
                                    [4.036,0.527]
                                    [8.332,0.761]
                                    [11.727,0.941]
                                    [14.125,1.067]
                                    [15.675,1.149]
                                    [16.555,1.196]
                                    [16.911,1.214]
                                    [   -1  ,  -1  ]   (max twenty pts)
                          NHYDovf=["KB-P3ovf"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond3"], NHYDs to add=["KB-P3R"+"KB-P3ovf"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond3"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB third pond"]
*%-----------------|-------------------------------------------------------|
*#*****************************************************************************
*#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
*#    - TO FRASER-CLARKE DRAIN
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FC-01"], DT=[1]min, AREA=[8.03](ha), XIMP=[0.47], TIMP=[0.47], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[231.373](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-01"], CINLET=[0.756](cms), NINLET=[1],
                    MajNHYD=["FC-01-MJ"]
                    MinNHYD=["FC-01-MN"]
                    TMJSTO=[714](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["FC-01-S"], NHYDs to add=["FC-01-MJ"+"FC-01-MN"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-02"], DT=[1]min, AREA=[16.05](ha), XIMP=[0.93], TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[327.109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-02"], CINLET=[1.159](cms), NINLET=[1],
                    MajNHYD=["FC-02-MJ"]
                    MinNHYD=["FC-02-MN"]
                    TMJSTO=[2385](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["FC-02-S"], NHYDs to add=["FC-02-MJ"+"FC-02-MN"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-03"], DT=[1]min, AREA=[7.37](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
```

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                    MNP=[0.250], SCP=[0](min),
3454                Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[221.660](m), MNI=[0.013], SCI=[0](min),
3455                Continuous simulation parameters:
3456                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3457 *%----------------|-------------------------------------------------------------|
3458 COMPUTE DUALHYD    NHYDin=["FC-03"], CINLET=[0.358](cms), NINLET=[1],
3459                    MajNHYD=["FC-03-MJ"]
3460                    MinNHYD=["FC-03-MN"]
3461                    TMJSTO=[1131](cu-m)
3462 *%----------------|-------------------------------------------------------------|
3463 ADD HYD            NHYDsum=["FC-03-S"], NHYDs to add=["FC-03-MJ"+"FC-03-MN"]
3464 *%----------------|-------------------------------------------------------------|
3465 CONTINUOUS STANDHYD NHYD=["FC-04"], DT=[1]min, AREA=[12.87](ha), XIMP=[0.64],
    TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
3466                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3467                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3468                Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[292.916](m), MNI=[0.013], SCI=[0](min),
3469                Continuous simulation parameters:
3470                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3471 *%----------------|-------------------------------------------------------------|
3472 COMPUTE DUALHYD    NHYDin=["FC-04"], CINLET=[0.741](cms), NINLET=[1],
3473                    MajNHYD=["FC-04-MJ"]
3474                    MinNHYD=["FC-04-MN"]
3475                    TMJSTO=[1794](cu-m)
3476 *%----------------|-------------------------------------------------------------|
3477 ADD HYD            NHYDsum=["FC-04-S"], NHYDs to add=["FC-04-MJ"+"FC-04-MN"]
3478 *%----------------|-------------------------------------------------------------|
3479 *#*************************************************************************
3480 *#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling
    Approach, NOVATECH Report June, 2020)
3481 *#    - TO JOCK RIVER
3482 *#*************************************************************************
3483 CONTINUOUS STANDHYD NHYD=["JR-01"], DT=[1]min, AREA=[8.24](ha), XIMP=[0.64],
    TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
3484                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3485                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3486                Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[234.379](m), MNI=[0.013], SCI=[0](min),
3487                Continuous simulation parameters:
3488                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3489 *%----------------|-------------------------------------------------------------|
3490 COMPUTE DUALHYD    NHYDin=["JR-01"], CINLET=[0.563](cms), NINLET=[1],
3491                    MajNHYD=["JR-01-MJ"]
3492                    MinNHYD=["JR-01-MN"]
3493                    TMJSTO=[1040](cu-m)
3494 *%----------------|-------------------------------------------------------------|
3495 ADD HYD            NHYDsum=["JR-01-S"], NHYDs to add=["JR-01-MJ"+"JR-01-MN"]
3496 *%----------------|-------------------------------------------------------------|
3497 CONTINUOUS STANDHYD NHYD=["JR-02"], DT=[1]min, AREA=[1.59](ha), XIMP=[0.64],
    TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
3498                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3499                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3500                Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[102.956](m), MNI=[0.013], SCI=[0](min),
3501                Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-02"], CINLET=[0.153](cms), NINLET=[1],
                    MajNHYD=["JR-02-MJ"]
                    MinNHYD=["JR-02-MN"]
                    TMJSTO=[153](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-02-S"], NHYDs to add=["JR-02-MJ"+"JR-02-MN"]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment FRASER
*#    - To Fraser-Clarke drain (north of the Jock)
*#    - Developed land with assumed 43% imp.
*#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
*#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
*#*************************************************************************
CONTINUOUS NASHYD   NHYD=["FRASER-DRN"], DT=[1]min, AREA=[13.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.4258]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*
CONTINUOUS STANDHYD NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
                    XIMP=[0.585], TIMP=[0.585], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[80],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379.561](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FRASER-D"], CINLET=[2.281](cms), NINLET=[1],
                    MajNHYD=["FRASER-J"]
                    MinNHYD=["FRASER-N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FRASER-S"], NHYDs to add=["FRASER-J"+"FRASER-N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["MS_P20"],  NHYDin=["FRASER"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [   0.0 ,  0.0 ]
*                                  [   0.04 , 0.36]
*                                  [   -1  ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P20-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["4241"], NHYDs to
add=["KB-Pond3"+"S-1-B"+"FRASER-DRN"+"FRASER-S"+"N_KB"+"FC-01-S"+"FC-02-S"+"FC-03-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["4241"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Ken-Burnett to station 3633
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
*#
```

```
ROUTE CHANNEL       NHYDout=["4241-out"], NHYDin=["4241"],  RDT=[1](min),
                    CHLGTH=[294](m),  CHSLOPE=[0.1088](%), FPSLOPE=[0.1088](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.05, -20.12
                                             -0.035, 45.26
                                              0.05, 403.84] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[]
                    [-909.72, 95 ]
                    [-907.09, 94.5 ]
                    [-904.65, 94 ]
                    [-902.26, 93.5 ]
                    [-44.51, 91.5 ]
                    [-25.1, 91.5 ]
                    [-20.98, 91 ]
                    [-20.61, 90.5 ]
                    [-20.12, 90 ]
                    [-6.13, 87.26 ]
                    [17.51, 86.56 ]
                    [31.37, 87.2 ]
                    [45.26, 90 ]
                    [50.41, 90.5 ]
                    [63.06, 91 ]
                    [134.5, 91.5 ]
                    [190.63, 92 ]
                    [251.98, 92.5 ]
                    [321.32, 93.5 ]
                    [403.84, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_KB"], NHYDs to
add=["4241-out"+"FC-04-S"+"JR-01-S"+"JR-02-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_KB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 3633]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Station 3633 to Node Todd
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and
change the slope from 0.0498% to 0.24671%. That is because of adding station 4241
between station 4534 and  station 3633
*#
ROUTE CHANNEL       NHYDout=["N_TO"], NHYDin=["SN_KB"],  RDT=[1](min),
                    CHLGTH=[608](m),  CHSLOPE=[0.24671](%), FPSLOPE=[0.24671](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.05, -23.74
                                             -0.035, 23.74
                                              0.05, 26.50] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[]
                    -29.24, 91.0
                    -27.41, 90.5
                    -25.64, 90
                    -23.74, 89.5
                    -22, 89.26
                    -20, 88.51
                    -19, 88.32
                    -15, 88.1
                    -10, 88.11
                    -5, 88.17
                    0, 88.27
                    5, 88.19
                    10, 88.06
                    15, 88.48
                    16, 88.7
                    23.74, 89.5
                    24.68, 90
                    25.57, 90.5
                    26.50, 91.0
```

```
*                                       [-29.24, 91]
*                                       [-27.41, 90.5]
*                                       [-25.64, 90]
*                                       [-23.74, 89.5]
*                                       [-22, 89. 26]
*                                       [-20, 88.51]
*                                       [-19, 88.32]
*                                       [-15, 88.1]
*                                       [-10, 88.11]
*                                       [-5, 88.17]
*                                       [0, 88.27]
*                                       [5, 88.19]
*                                       [10, 88.06]
*                                       [15, 88.48]
*                                       [16, 88.7]
*                                       [23.74, 89.5]
*                                       [24.68, 90]
*                                       [25.57, 90.5]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment Greenbank
*#    - To Greenbank Drain (south of the Jock)
*#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
*#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["Greenbank"], DT=[1]min, AREA=[36.6](ha),
                   XIMP=[0.639], TIMP=[0.682], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[77],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                          LGI=[493.96](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    NHYDout=["GreenB_MN"] ,NHYDin=["Greenbank"] ,
                   RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 0.033 , 0.084 ]
                                  [ 0.039 , 0.201 ]
                                  [ 0.113 , 0.292 ]
                                  [ 0.237 , 0.386 ]
                                  [ 0.382 , 0.484 ]
                                  [ 0.539 , 0.585 ]
                                  [ 0.7 , 0.692 ]
                                  [ 0.86 , 0.804 ]
                                  [ 4.684 , 0.922 ]
                                  [ 11.539 , 1.052 ]
                                  [ 20.867 , 1.168 ]
                                  [ 103.616 , 1.974 ]
                                  [    -1   ,  -1    ]  (max twenty pts)
                         NHYDovf=["GreenB_MJ"] ,
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["GreenB"], NHYDs to add=["N_TO"+"GreenB_MJ"+"GreenB_MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["GreenB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at Greenbank Drain"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
```

```
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 increase imp. based on P598(04)-11
*#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
*#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
*#*************************************************************************
*#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
*CONTINUOUS STANDHYD NHYD=["TODD_MN1"], DT=[1]min, AREA=[1.772](ha),
*                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[108.689](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN2"], DT=[1]min, AREA=[2.1](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[118.322](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN3"], DT=[1]min, AREA=[0.117](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[27.928](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MJ"], DT=[1]min, AREA=[30.230](ha),
                    XIMP=[0.52], TIMP=[0.64], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[448.925](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*     -JFSA, 2021-01-19  update "TODD_ALL" area from 108.741 ha to 112.908 ha based on GIS measurements (148.41-30.23-0.117-2.1-3.055=112.908 ha)
CONTINUOUS STANDHYD NHYD=["TODD_ALL"], DT=[1]min, AREA=[112.908](ha),
                    XIMP=[0.52], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[867.594](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_P"], DT=[1]min, AREA=[3.055](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[142.712](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
and its parameters remain the same.
*CONTINUOUS STANDHYD NHYD=["TODD_DEVL"], DT=[1]min, AREA=[15.87](ha),
*                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now
is called "corr2" and its parameters remain the same.
*CONTINUOUS NASHYD   NHYD=["TODD_UnD"], DT=[1]min, AREA=[12.47](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MJ"], CINLET=[3.314](cms), NINLET=[1],
*                    MajNHYD=["TODD_MJj"]
*                    MinNHYD=["TODD_MJn"]
*                    TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MJn"] ,NHYDin=["TODD_MJ"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [    0.0 , 0.0    ]
                                 [ 3.314  , 0.0001 ]
                                 [    -1  ,  -1    ]  (max twenty pts)
                         NHYDovf=["TODD_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MN1"], CINLET=[0.227](cms), NINLET=[1],
*                    MajNHYD=["TODD_MN1j"]
*                    MinNHYD=["TODD_MN1n"]
*                    TMJSTO=[0.1](cu-m)
*ROUTE RESERVOIR     NHYDout=["TODD_MN1n"] ,NHYDin=["TODD_MN1"] ,
```

```
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                   (cms) - (ha-m)
*                                  [    0.0 , 0.0    ]
*                                  [ 0.227  , 0.0001 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                          NHYDovf=["TODD_MN1j"] ,
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["TODD_MN2"], CINLET=[0.268](cms), NINLET=[1],
*                    MajNHYD=["TODD_MN2j"]
*                    MinNHYD=["TODD_MN2n"]
*                    TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MN2n"] ,NHYDin=["TODD_MN2"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 0.268  , 0.0001 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["TODD_MN2j"] ,
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["TODD_MN3"], CINLET=[0.016](cms), NINLET=[1],
*                    MajNHYD=["TODD_MN3j"]
*                    MinNHYD=["TODD_MN3n"]
*                    TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MN3n"] ,NHYDin=["TODD_MN3"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 0.016  , 0.0001 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["TODD_MN3j"] ,
*%-----------------|-------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[566](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A2-MJ"]
                    MinNHYD=["A2-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["TODD"], NHYDs to
add=["TODD_MN2n"+"TODD_MN3n"+"TODD_MJj"+"TODD_P"+"TODD_ALL"+"W_CLAR_MJn"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["TODD"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------|
*#*********************************************************************
*#    Todd Pond 3
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*********************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P3"],  NHYDin=["TODD"],
                    RDT=[1](min),
```

```
                              TABLE of ( OUTFLOW-STORAGE ) values
                                         (cms) - (ha-m)
                                       [   0.0 ,  0.0 ]
                                       [ 0.014 , 0.155 ]
                                       [ 0.048 , 0.394 ]
                                       [ 0.061 , 0.56 ]
                                       [ 0.08 , 0.909 ]
                                       [ 0.088 , 1.089 ]
                                       [ 0.109 , 1.652 ]
                                       [ 0.118 , 1.952 ]
                                       [ 0.122 , 2.099 ]
                                       [ 1.972 , 2.269 ]
                                       [ 9.135 , 2.598 ]
                                       [ 15.608 , 2.826 ]
                                       [ 19.256 , 2.942 ]
                                       [ 27.282 , 3.181 ]
                                       [ 40.957 , 3.55 ]
                                       [ 56.372 , 3.929 ]
                                       [ 73.349 , 4.317 ]
                                       [ 85.469 , 4.579 ]
                                       [ 104.771 , 4.977 ]
                                       [   -1  ,  -1  ]  (max twenty pts)
                              NHYDovf=["P3-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_TO"], NHYDs to
add=["GreenB"+"MS_P3"+"P3-OVF"+"TODD_MN2j"+"A2-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so
the model will be more stable and give reasonable results. It is justifiable as ROUTE
CHANNELs aren't well suited to really flat slopes.
*
ROUTE CHANNEL       NHYDout=["N_TO"] ,NHYDin=["SN_TO"] ,
                    RDT=[1](min),
                    CHLGTH=[280](m),  CHSLOPE=[0.05](%),
                                        FPSLOPE=[0.05](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["N_TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total inflows at Station 2462"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment CORRIG
*#    - To Corrigan Drain (south of the Jock)
*#    - Primarily Developed (medium density)
*#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [   0.0 ,  0.0 ]
*                                  [   0.06 , 0.58]
*                                  [   -1  ,  -1  ]  (max twenty pts)
*                         NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD            NHYD=["SN_CO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                    HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
and its parameters remain the same.
CONTINUOUS STANDHYD NHYD=["corr1"], DT=[1]min, AREA=[15.87](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*      -JFSA 2021-02-23 add DUALHYD for "corr1". "corr1" DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to "corr1".
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD     NHYDin=["corr1"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["corr1-MJ"]
                    MinNHYD=["corr1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now
is called "corr2" and its parameters remain the same.
CONTINUOUS NASHYD   NHYD=["corr2"], DT=[1]min, AREA=[12.47](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change A1-Corrig to be developed as per geoottawa website and
apply the parameters of A2, the nearest sub-catchment to A1-Corrig, LGI is calculated
based on A1-Corrig area
*     -JFSA 2021-01-19 update all Corrigan areas based on GIS measurements, and keep
```

```
LGI as it is from Corrigan Report, IBI Group, 2008 because LGI calculated is less than
LGI from the Corrigan Report
CONTINUOUS STANDHYD NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[324.037](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*
*      -JFSA 2021-01-25 add DUALHYD for A1-Corrig. A1-Corrig DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to A1-Corrig.
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD     NHYDin=["A1-Corrig"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A1-MJ"]
                    MinNHYD=["A1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
*                   DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
*                   N=[3.0], TP=[0.36]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["B1"], DT=[1]min, AREA=[2.77](ha),
                    DWF=[0](cms),  CN/C=[56], IA=[2.5](mm),
                    N=[3.0], TP=[0.23]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A4"], DT=[1]min, AREA=[1.27](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[253](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A4"], CINLET=[0.405](cms), NINLET=[1],
                    MajNHYD=["A4-MJ"]
                    MinNHYD=["A4-MN"]
                    TMJSTO=[68](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH101"], NHYDs to
add=["A1-MJ"+"A1-MN"+"corr1-MJ"+"corr1-MN"+"corr2"+"B1"+"A4-MN"]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["MH101"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at MH101"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE         PTYPE=[1]circ, NHYDout=["101-102"], RNUMBER=[1.0], PDIAM=[1050](mm),
                   PLNGTH=[368](m), PROUGH=[0.013], PSLOPE=[0.0054](m/m),
                   NHYDin=["MH101"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
*CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
*                   XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[75],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                          LGI=[566](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD    NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
*                   MajNHYD=["A2-MJ"]
*                   MinNHYD=["A2-MN"]
*                   TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["MH102"], NHYDs to add=["A2-MN"+"101-102"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["MH102"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at MH102"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A5"], DT=[1]min, AREA=[1.6](ha),
                   XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[75],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                          LGI=[300](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["A5T"], NHYDs to add=["A4-MJ"+"A5"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD    NHYDin=["A5T"], CINLET=[0.357](cms), NINLET=[1],
                   MajNHYD=["A5-MJ"]
                   MinNHYD=["A5-MN"]
                   TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA Jan. 2021, A3 is a part of Todd so it is removed
*   -JFSA Jan. 2021, "A2-MJ" added to "Todd"
*CONTINUOUS STANDHYD NHYD=["A3"], DT=[1]min, AREA=[18.4](ha),
*                   XIMP=[0.58], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[75],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                          LGI=[450](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*ADD HYD            NHYDsum=["A3-A2MJ"], NHYDs to add=["A2-MJ"+"A3"]
```

```
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A3-A2MJ"], CINLET=[2.208](cms), NINLET=[1],
*                    MajNHYD=["A3R-MJ"]
*                    MinNHYD=["A3R-MN"]
*                    TMJSTO=[908](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["102-103"], RNUMBER=[1.0], PDIAM=[1500](mm),
                     PLNGTH=[504](m), PROUGH=[0.013], PSLOPE=[0.0028](m/m),
                     NHYDin=["MH102"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["MH103"], NHYDs to add=["102-103"+"A5-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["MH103"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at MH103"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["103-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                     PLNGTH=[438](m), PROUGH=[0.013], PSLOPE=[0.0046](m/m),
                     NHYDin=["MH103"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A6"], DT=[1]min, AREA=[1.56](ha),
                     XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[280](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["A6T"], NHYDs to add=["A5-MJ"+"A6"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["A6T"], CINLET=[0.357](cms), NINLET=[1],
                     MajNHYD=["A6-MJ"]
                     MinNHYD=["A6-MN"]
                     TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA Jan. 2021, A7-corrig is a part of Todd so it is removed
*CONTINUOUS STANDHYD NHYD=["A7-corrig"], DT=[1]min, AREA=[11.8](ha),
*                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[438](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*ADD HYD              NHYDsum=["A7-A3RMJ"], NHYDs to add=["A3R-MJ"+"A7-corrig"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A7-A3RMJ"], CINLET=[1.003](cms), NINLET=[1],
*                    MajNHYD=["A7R-MJ"]
*                    MinNHYD=["A7R-MN"]
*                    TMJSTO=[496](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["MH104"], NHYDs to add=["A6-MN"+"103-104"+"TODD_MJn"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["MH104"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at MH104"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B2"], DT=[1]min, AREA=[12.31](ha),
                     XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
```

```
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[417](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B2"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["B2-MJ"]
                    MinNHYD=["B2-MN"]
                    TMJSTO=[508](cu-m)
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["315-333"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[254](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["B2-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B3"], DT=[1]min, AREA=[5.59](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[345](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B3"], CINLET=[0.459](cms), NINLET=[1],
                    MajNHYD=["B3-MJ"]
                    MinNHYD=["B3-MN"]
                    TMJSTO=[227](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH333"], NHYDs to add=["B3-MN"+"315-333"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH333"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH333"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["333-335"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[251](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH333"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["335-338"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[185](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["333-335"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["338-340"], RNUMBER=[1.0], PDIAM=[1350](mm),
                    PLNGTH=[233](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["335-338"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B4"], DT=[1]min, AREA=[7.6](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[388](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B4"], CINLET=[0.655](cms), NINLET=[1],
                    MajNHYD=["B4-MJ"]
```

```
                    MinNHYD=["B4-MN"]
                    TMJSTO=[323](cu-m)
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["MH340"], NHYDs to add=["338-340"+"B4-MN"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["MH340"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH340"]
*%-----------------|---------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["340-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                    PLNGTH=[240](m), PROUGH=[0.013], PSLOPE=[0.0015](m/m),
                    NHYDin=["MH340"], RDT=[1]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["MH104T"], NHYDs to add=["340-104"+"MH104"]
*%-----------------|---------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["104-105"], RNUMBER=[1.0],
PWIDTH=[2400](mm)  by PHEIGHT=[2100](mm),
                    PLNGTH=[380](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH104T"], RDT=[1]
*%-----------------|-------------------------------------------------------------
-----------------------------|
CONTINUOUS STANDHYD NHYD=["B5"], DT=[1]min, AREA=[2.2](ha),
                    XIMP=[0.57], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[187](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B5"], CINLET=[0.260](cms), NINLET=[1],
                    MajNHYD=["B5-MJ"]
                    MinNHYD=["B5-MN"]
                    TMJSTO=[250](cu-m)
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A8"], DT=[1]min, AREA=[0.96](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[186](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["A8T"], NHYDs to add=["A6-MJ"+"A8"]
*%-----------------|---------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A8T"], CINLET=[0.238](cms), NINLET=[1],
                    MajNHYD=["A8-MJ"]
                    MinNHYD=["A8-MN"]
                    TMJSTO=[40](cu-m)
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["MH105"], NHYDs to
add=["104-105"+"B5-MN"+"A8-MN"+"TODD_MN3j"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["MH105"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH105"]
*%-----------------|---------------------------------------------------------|
DIVERT HYD          NHYDin=["A8-MJ"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["A8-MJ-JR" "A8-MJ-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
```

```
                      QIDi +  QIDii  =  QTOTAL
                     [   0  +    0    =    0   ]                    ]
                     [   50 +   50    =    100  ] end
*%-----------------|-------------------------------------------------------------------------
-----------------------------|
DIVERT HYD           NHYDin=["MH105"] NIDout=[2]max five,
                     outflow hydrographs (NHYDs)=["MH105-JR"  "MH105-B6"]
                     flow distribution table: (modify as necessary)
                     Note: all flows are in (cms)
                       QIDi +  QIDii  =  QTOTAL
                     [   0  +    0    =    0   ]
                     [   0  +   3.0   =   3.0  ]
                     [  96.9+  3.1    =   100  ] end
*%-----------------|-------------------------------------------------------------------------
-----------------------------|
CONTINUOUS STANDHYD NHYD=["B7"], DT=[1]min, AREA=[7.19](ha),
                     XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[211](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["B7-B4MJ"], NHYDs to add=["B4-MJ"+"B7"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["B7-B4MJ"], CINLET=[0.629](cms), NINLET=[1],
                     MajNHYD=["B7R-MJ"]
                     MinNHYD=["B7R-MN"]
                     TMJSTO=[311](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE           PTYPE=[1]circ, NHYDout=["360-106A"], RNUMBER=[1.0], PDIAM=[1050](mm),
                     PLNGTH=[167](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                     NHYDin=["B7R-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change B6 to be developed as per geoottawa website and apply the
parameters of A7, the nearest sub-catchment to B6, LGI is calculated based on B6 area
CONTINUOUS STANDHYD NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
                     XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                     SCS curve number CN=[75],
                     Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                     Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[148.099](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-25   add B1 DUALHYD as per Corrigan Report, IBI Group, 2008
COMPUTE DUALHYD      NHYDin=["B6"], CINLET=[0.064](cms), NINLET=[1],
                     MajNHYD=["B6-MJ"]
                     MinNHYD=["B6-MN"]
                     TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
*                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
```

```
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*%    -EX-LAND is external land. It is a part of JOCKVA sub-catchment as per Corrigan Report, IBI Group, 2008
CONTINUOUS STANDHYD NHYD=["EX-LAND"], DT=[1]min, AREA=[32.5](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[465.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["EX-LAND"], CINLET=[2.275](cms), NINLET=[1],
                    MajNHYD=["EX-LAND-MJ"]
                    MinNHYD=["EX-LAND-MN"]
                    TMJSTO=[1365](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["B6-B7ExMJ"], NHYDs to add=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B6-B7ExMJ"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6R-MJ"]
                    MinNHYD=["B6R-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["105-106A"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[208](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH105-B6"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106A"], NHYDs to add=["360-106A"+"105-106A"+"B6R-MN"+"B6R-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH106A"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106A"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH106 is called MH117/106 in Corrigan Report, IBI Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106A-106"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[190](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106A"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A9"], DT=[1]min, AREA=[2.44](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[262](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A9"], CINLET=[0.547](cms), NINLET=[1],
                    MajNHYD=["A9-MJ"]
                    MinNHYD=["A9-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106"], NHYDs to add=["106A-106"+"A9-MN"]
```

```
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["MH106"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at MH106"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH107 is called MH118/107 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE         PTYPE=[1]circ, NHYDout=["106-107"], RNUMBER=[1.0], PDIAM=[1800](mm),
                   PLNGTH=[122.5](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                   NHYDin=["MH106"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A10"], DT=[1]min, AREA=[4.14](ha),
                   XIMP=[0.35], TIMP=[0.47], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[75],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                          LGI=[183](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD    NHYDin=["A10"], CINLET=[0.310](cms), NINLET=[1],
                   MajNHYD=["A10-MJ"]
                   MinNHYD=["A10-MN"]
                   TMJSTO=[228](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A11"], DT=[1]min, AREA=[10.61](ha),
                   XIMP=[0.53], TIMP=[0.62], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[75],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                          LGI=[379](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD    NHYDin=["A11"], CINLET=[0.993](cms), NINLET=[1],
                   MajNHYD=["A11-MJ"]
                   MinNHYD=["A11-MN"]
                   TMJSTO=[556](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["MH107"], NHYDs to add=["106-107"+"A10-MN"+"A11-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["MH107"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at MH107"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE         PTYPE=[1]circ, NHYDout=["107-119"], RNUMBER=[1.0], PDIAM=[1800](mm),
                   PLNGTH=[114](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                   NHYDin=["MH107"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH108 is called MH120/108 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE         PTYPE=[1]circ, NHYDout=["119-108"], RNUMBER=[1.0], PDIAM=[1800](mm),
                   PLNGTH=[65.8](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                   NHYDin=["107-119"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A12"], DT=[1]min, AREA=[12.29](ha),
                   XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                   SCS curve number CN=[75],
                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
```

```
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A12"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["A12-MJ"]
                    MinNHYD=["A12-MN"]
                    TMJSTO=[672](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A13"], DT=[1]min, AREA=[2.59](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A13"], CINLET=[0.571](cms), NINLET=[1],
                    MajNHYD=["A13-MJ"]
                    MinNHYD=["A13-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-01-22 add the Corrigan pond area ("Pond-Block")
CONTINUOUS STANDHYD NHYD=["Pond-Block"], DT=[1]min, AREA=[2.94](ha),
                    XIMP=[0.415], TIMP=[0.415], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH108"], NHYDs to add=["119-108"+"A13-MN"+"A12-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH108"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH108"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["108-116"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[76.6](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["MH108"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["116-corrig"], RNUMBER=[1.0],
PDIAM=[1800](mm),
                    PLNGTH=[79.5](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["108-116"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["Corrigan"], NHYDs to add=["116-corrig"+"Pond-Block"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["Corrigan"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Pond]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["Co-P"],  NHYDin=["Corrigan"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                [   0.0 ,  0.0 ]
```

```
                                    [   0.015 , 0.04118]
                                    [   0.030 , 0.08297]
                                    [   0.045 , 0.12537]
                                    [   0.060 , 0.16837]
                                    [   0.075 , 0.21199]
                                    [   0.090 , 0.27545]
                                    [   0.105 , 0.34650]
                                    [   0.120 , 0.42049]
                                    [   0.135 , 0.50188]
                                    [   0.186 , 0.60307]
                                    [   2.110 , 0.79083]
                                    [   5.874 , 1.00271]
                                    [   11.395 , 1.29643]
                                    [   18.770 , 1.62054]
                                    [   28.143 , 1.97516]
                                    [   -1  ,  -1  ]  (max twenty pts)
                           NHYDovf=["Co-P-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["corrig"], NHYDs to
add=["Co-P-OVF"+"Co-P"+"N_TO"+"MH105-JR"+"A8-MJ-JR"+"A9-MJ"+"A10-MJ"+"A11-MJ"+"A12-MJ"+"A
13-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD           NHYD=["corrig"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                   HYD_COMMENT=["Total Flows at Corrigan Pond"]
*%-----------------|-------------------------------------------------------------|
*#*********************************************************************
*#    Corrigan Pond 1
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*********************************************************************
*ROUTE RESERVOIR     NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [   0.0 ,  0.0 ]
*                                    [   0.06 , 0.58]
*                                    [   -1  ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD           NHYD=["SN_CO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                   HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL       NHYDout=["N_MI"] ,NHYDin=["corrig"] ,
                    RDT=[1](min),
                    CHLGTH=[580](m),  CHSLOPE=[0.4448](%),
                                        FPSLOPE=[0.4448](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
```

```
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment MILLS
*#    - To SWM Facility north of the Jock
*#    - Primarily residental development
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["MILLS"], DT=[1]min, AREA=[175.99](ha),
                    XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1118.123](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Chapman Mills SWM Pond
*#    - Rating curve obtained from CCL hydraulic modeling
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["MILL_P"],  NHYDin=["MILLS"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.01 , 0.01]
                                   [   0.05 , 0.06]
                                   [   0.09 , 0.11]
                                   [   0.13 , 0.15]
                                   [   0.18 , 0.19]
                                   [   0.28 , 0.28]
                                   [   0.37 , 0.34]
                                   [   0.45 , 0.40]
                                   [   0.51 , 0.44]
                                   [   0.56 , 0.47]
                                   [   0.64 , 0.52]
                                   [   0.76 , 0.59]
                                   [   0.86 , 0.65]
                                   [   1.09 , 0.78]
                                   [   1.44 , 0.96]
                                   [   3.18 , 1.84]
                                   [   4.05 , 2.31]
                                   [   -1   ,  -1  ]  (max twenty pts)
                             NHYDovf=["MIL-OV"]
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_MI"], NHYDs to add=["N_MI"+"MIL-OV"+"MILL_P"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["SN_MI"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|---------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
```

```
*#
ROUTE CHANNEL       NHYDout=["N_DE"] ,NHYDin=["SN_MI"] ,
                    RDT=[1](min),
                    CHLGTH=[1962](m),  CHSLOPE=[0.2227](%),
                                        FPSLOPE=[0.2227](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.56
                      -0.045,18.27
                      0.075,32.51] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-54.07, 85.00]
                    [-39.43, 84.50]
                    [-28.30, 84.00]
                    [-24.12, 83.50]
                    [-22.30, 83.00]
                    [-20.55, 82.50]
                    [-17.56, 82.00]
                    [-12.63, 81.22]
                    [-0.11, 80.75]
                    [11.55, 81.22]
                    [18.27, 82.00]
                    [19.82, 82.50]
                    [22.48, 83.00]
                    [27.90, 83.50]
                    [29.31, 84.00]
                    [30.81, 84.50]
                    [32.51, 85.00]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment DESIRE
*#    - To Jock River (north of the Jock)
*#    - Rural-estate subdivision (Heart's Desire Community)
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["DESIRE"], DT=[1]min, AREA=[23.78](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[400](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment JOCKVA
*#    - To Jockvale SWM Facility
*#    - Residential development & golf course
*#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
*#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two
areas JOCKVA and EX-LAND 32.5 ha as per IBI GROUP, July 2008.
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["JOCKVA"], DT=[1]min, AREA=[225.13](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1310.55](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
```

```
ADD HYD             NHYDsum=["JOCKVA-TO"], NHYDs to
add=["EX-LAND-MN"+"JOCKVA"+"B2-MJ"+"B3-MJ"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["JOCKVA-TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|---------------------------------------------------------|
*#*************************************************************************
*#    Jockvale SWM Facility
*#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*************************************************************************
ROUTE RESERVOIR     NHYDout=["JOCK_P"],  NHYDin=["JOCKVA-TO"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.27 , 0.03]
                                   [   0.28 , 0.55]
                                   [   0.29 , 1.14]
                                   [   0.30 , 1.80]
                                   [   0.31 , 2.32]
                                   [   1.12 , 2.87]
                                   [   2.92 , 3.45]
                                   [   4.64 , 4.07]
                                   [   6.69 , 4.72]
                                   [   9.02 , 5.39]
                                   [   11.62 , 6.10]
                                   [   14.42 , 6.85]
                                   [   17.45 , 7.62]
                                   [   20.69 , 8.44]
                                   [   24.08 , 9.28]
                                   [   27.68 , 10.17]
                                   [   -1  ,  -1  ]  (max twenty pts)
                             NHYDovf=["JO-OVF"]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["SN_DE"], NHYDs to add=["N_DE"+"DESIRE"+"JO-OVF"+"JOCK_P"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["SN_DE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|---------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL       NHYDout=["N1"] ,NHYDin=["SN_DE"] ,
                    RDT=[1](min),
                    CHLGTH=[563](m),  CHSLOPE=[0.9668](%),
                                        FPSLOPE=[0.9668](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-30.20
                      -0.045,30.20
                      0.075,48.48] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-98.46, 81.50]
                    [-92.24, 81.00]
                    [-86.88, 80.50]
                    [-81.54, 80.00]
                    [-74.36, 79.50]
                    [-63.54, 79.00]
                    [-39.23, 78.50]
                    [-34.51, 78.00]
                    [-33.01, 77.50]
                    [-30.20, 77.00]
                    [-13.42, 76.18]
                    [-1.14, 76.09]
                    [17.06, 76.18]
```

```
                    [30.20, 77.00]
                    [32.95, 77.50]
                    [34.06, 78.00]
                    [35.11, 78.50]
                    [36.32, 79.00]
                    [37.74, 79.50]
                    [48.48, 81.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-2
*#    - To Jock River (north and south)
*#    - Undeveloped floodplain and river
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["S-2"], DT=[1]min, AREA=[102.94](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[0.40]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_N1"], NHYDs to add=["N1"+"S-2"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["SN_N1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|---------------------------------------------------------------|
*#############################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                   ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                   ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                   ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["100YC3H.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[101]
*%                   ["A24SC100.stm"] <--storm filename, one per line for NSTORM time
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
*%                   ["A24SC100_60.stm"] <--storm filename, one per line for NSTORM time
FINISH
```

```
===============================================================================================
 
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11   5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11   5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11   555    FEB  2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO         2      0   0   11     5    =========
                                                             2      0   0   11     5    # 2549237
      StormWater Management HYdrologic Model                 222     000    11   555    =========
 
***********************************************************************************************
**************************************  SWMHYMO Ver 5.500  ************************************
******************  A single event and continuous hydrologic simulation model  ****************
******************     based on the principles of HYMO and its successors      ****************
******************                 OTTHYMO-83 and OTTHYMO-89.                  ****************
***********************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.          ****************
******************                  Ottawa,  Ontario: (613) 836-3884           ****************
******************                  Gatineau, Quebec: (819) 243-6858           ****************
******************                  E-Mail: swmhymo@jfsa.Com                   ****************
***********************************************************************************************
 
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                     +++++++++++++++++
++++++++++++++++++                Ottawa                SERIAL#:2549237        +++++++++++++++++
+++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 
***********************************************************************************************
******************             ++++++ PROGRAM ARRAY DIMENSIONS ++++++          ****************
******************             Maximum value for ID numbers  :     11          ****************
******************             Max. number of rainfall points: 105408          ****************
******************             Max. number of flow points    : 105408          ****************
***********************************************************************************************
 
 
********************************  S U M M A R Y   O U T P U T  *******************************
***********************************************************************************************
*                 RUN DATE: 2021-03-04     TIME: 11:54:16     RUN COUNTER: 002083             *
***********************************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_S-Fr_SD.dat                                                         *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_S-Fr_SD.out                                                         *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_S-Fr_SD.sum                                                         *
* User comments:                                                                              *
* 1:__________________________________________________________________________________________*
* 2:__________________________________________________________________________________________*
* 3:__________________________________________________________________________________________*
***********************************************************************************************
 
 
#******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#******************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [M.M.]
#  Company      : JFSAinc.
#  License #    :  2549237
#******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
# ---------------------------------------------------------------------------
  ** END OF RUN :    1
 
***********************************************************************************************
 
 
 
 
 
 RUN#:COMMAND#
R0002:C00001-------------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0002 ]
#******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#******************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date         : 04-03-2021
#  Modeller     : [M.M.]
#  Company      : JFSAinc.
#  License #    :  2549237
#******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
# ---------------------------------------------------------------------------
R0002:C00002-------------------------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003-------------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004-------------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
   JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0002:C00005-------------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00    6.204 No_date   37:06   11.47 .252     .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    2.187 No_date   32:37   10.75 .236     .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    3.218 No_date   39:59    9.43 .207     .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00    5.504 No_date   32:45   13.94 .306     .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    2.720 No_date   29:22   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00    4.042 No_date   34:34   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   11.228 No_date   38:07   13.94 .306     .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   11.072 No_date   39:59   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    4.434 No_date   30:56   13.35 .293     .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00    5.504 No_date   39:59   10.98 .241     .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8         131.00     .805 No_date   28:57   11.22 .247     .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00    6.242 No_date   38:46   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    4.651 No_date   36:31    9.85 .217     .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .413 No_date   33:07   12.24 .269     .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    3.148 No_date   35:23   13.94 .306     .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    2.597 No_date   28:45   15.91 .350     .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   14.839 No_date   33:25   14.57 .320     .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .309 No_date   28:36   17.79 .391     .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    3.090 No_date   38:04   15.22 .334     .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4         585.00    4.325 No_date   29:58   17.79 .391     .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00    5.747 No_date   30:50   17.39 .382     .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    2.052 No_date   28:45   15.91 .350     .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00    5.337 No_date   31:50   17.79 .391     .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   11.528 No_date   31:35   15.56 .342     .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW       3680.00    6.204 No_date   37:06   11.47  n/a     .000
                     +     1.0 02:SW_13        971.00    2.187 No_date   32:37   10.75  n/a     .000
                  SUM=     1.0 01:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .429:Dmax= 2.557}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
                     +     1.0 02:JR_GWM      3074.00    3.218 No_date   39:59    9.43  n/a     .000
                  SUM=     1.0 01:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
                out <=     1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      {MxStoUsed=.3585E+02  m3}
#
R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N12         7725.00    2.609 No_date   58:09   10.57  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .501:Dmax= 1.329}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N12         7725.00    2.609 No_date   58:08   10.57  n/a     .000
                     +     1.0 02:JR_ASH      1781.00    5.504 No_date   32:45   13.94  n/a     .000
                  SUM=     1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
R0002:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
      [RDT= 1.00] out<-    1.0 01:Dum11       9506.00    7.379 No_date   33:12   11.20  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .591:Dmax= 2.108}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
```

```
00375> #
00376> R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00377>     ADD HYD                1.0 02:Dum11      9506.00    7.379 No_date   33:12   11.20  n/a     .000
00378>                       +    1.0 02:SW_11       500.00    2.720 No_date   29:22   11.98  n/a     .000
00379>                       +    1.0 02:NN_CK      1917.00    4.042 No_date   34:34   11.98  n/a     .000
00380>                     SUM=   1.0 01:S_N11     11923.00   12.077 No_date   33:14   11.36  n/a     .000
00381> #
00382> # Sum of hydrographs from Node 11 routed to Node 10
00383> # Section 1
00384> #
00385> R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00386>     ROUTE CHANNEL   ->     1.0 02:S_N11     11923.00   12.077 No_date   33:14   11.36  n/a     .000
00387>       [RDT= 1.00] out<-    1.0 01:N10       11923.00    8.276 No_date   39:46   11.36  n/a     .000
00388>         [L/S/n=14028./ .157/.040]
00389>         {Vmax=  .462:Dmax=  .886}
00390> #
00391> # Addition of Subwatershed 10 to Node 10
00392> #
00393> R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00394>     ADD HYD                1.0 02:N10       11923.00    8.276 No_date   39:46   11.36  n/a     .000
00395>                       +    1.0 02:SW_10      5666.00   11.228 No_date   38:07   13.94  n/a     .000
00396>                     SUM=   1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
00397> R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00398>     SAVE HYD               1.0 01:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
00399>       fname :H_SN10
00400>       remark:flow at S_N10: N10 + SW_10
00401> # Addition of Kings Creek to S_N10
00402> #
00403> R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00404>     ADD HYD                1.0 02:S_N10      17589.00   19.451 No_date   38:31   12.19  n/a     .000
00405>                       +    1.0 02:KG_CK      8376.00   11.072 No_date   39:59   11.98  n/a     .000
00406>                     SUM=   1.0 01:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
00407> #
00408> # Sum of hydrographs from Node 10 routed to Node 9
00409> # Section 2
00410> #
00411> R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00412>     ROUTE CHANNEL   ->     1.0 02:S_N10A     25965.00   30.328 No_date   39:58   12.12  n/a     .000
00413>       [RDT= 1.00] out<-    1.0 01:N9        25965.00   29.579 No_date   39:59   12.12  n/a     .000
00414>         [L/S/n= 3982./ .075/.040]
00415>         {Vmax=  .595:Dmax= 1.208}
00416> #
00417> # Addition of Subwatershed 9 and Nichols Creek to Node 9
00418> #
00419> R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00420>     ADD HYD                1.0 02:N9        25965.00   29.579 No_date   39:59   12.12  n/a     .000
00421>                       +    1.0 02:SW_9       1132.00    4.434 No_date   30:56   13.35  n/a     .000
00422>                       +    1.0 02:NC_CK      4464.00    5.504 No_date   39:59   10.98  n/a     .000
00423>                     SUM=   1.0 01:S_N9       31561.00   36.313 No_date   39:59   12.00  n/a     .000
00424> #
00425> # Sum of hydrographs from Node 9 routed to Node 8
00426> # Section 3
00427> #
00428> R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00429>     ROUTE CHANNEL   ->     1.0 02:S_N9      31561.00   36.313 No_date   39:59   12.00  n/a     .000
00430>       [RDT= 1.00] out<-    1.0 01:N8        31561.00   34.173 No_date   39:59   12.00  n/a     .000
00431>         [L/S/n= 2269./ .088/.045]
00432>         {Vmax=  .418:Dmax= 1.281}
00433> #
00434> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
00435> #
00436> R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00437>     ADD HYD                1.0 02:N8        31561.00   34.173 No_date   39:59   12.00  n/a     .000
00438>                       +    1.0 02:SW_8       131.00    .805 No_date   28:57   11.22  n/a     .000
00439>                       +    1.0 02:HB_DR      3854.00    6.242 No_date   38:46   11.98  n/a     .000
00440>                     SUM=   1.0 01:S_N8       35546.00   40.474 No_date   39:59   12.00  n/a     .000
00441> #
00442> # Sum of hydrographs from Node 8 routed to Node 7
00443> # Section 4
00444> #
00445> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00446>     ROUTE CHANNEL   ->     1.0 02:S_N8      35546.00   40.474 No_date   39:59   12.00  n/a     .000
00447>       [RDT= 1.00] out<-    1.0 01:N7        35546.00   32.891 No_date   44:30   12.00  n/a     .000
00448>         [L/S/n= 3750./ .055/.070]
00449>         {Vmax=  .208:Dmax= 1.651}
00450> #
00451> # Addition of Subwatershed 7 to Node 7
00452> #
00453> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00454>     ADD HYD                1.0 02:N7        35546.00   32.891 No_date   44:30   12.00  n/a     .000
00455>                       +    1.0 02:SW_7       3197.00    4.651 No_date   36:31   9.85   n/a     .000
00456>                     SUM=   1.0 01:S_N7       38743.00   35.071 No_date   43:33   11.82  n/a     .000
00457> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00458>     SAVE HYD               1.0 01:S_N7      38743.00   35.071 No_date   43:33   11.82  n/a     .000
00459>       fname :H_SN7
00460>       remark:flow at S_N7: N7 + SW_7
00461> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
00462> # Storage area and volumes were estimated from available topo maps.
00463> # Release rate from fen was assumed to be controlled by the downstream
00464> # river cross-section for summer conditions.  It is was assumed that for up to
00465> # 0.75 m of water, the main channel of the river provided the storage.  Above
00466> # this depth, the wetland starts to signigicantly store water.
00467> #
00468> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>     ROUTE RESERVOIR ->     1.0 02:S_N7      38743.00   35.071 No_date   43:33   11.82  n/a     .000
00470>                        out <=  1.0 01:RES_RF    38743.00   23.265 No_date   55:09   11.82  n/a     .000
00471>         (MxStoUsed=.7801E+02  m3)
00472> R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00473>     SAVE HYD               1.0 01:RES_RF    38743.00   23.265 No_date   55:09   11.82  n/a     .000
00474>       fname :H_ResRF
00475>       remark:outflow of Richmond Fen
00476> #
00477> # Sum of hydrographs from Node 7 routed to Node 6
00478> # Section 5
00479> #
00480> R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00481>     ROUTE CHANNEL   ->     1.0 02:S_RES_RF  38743.00   23.265 No_date   55:09   11.82  n/a     .000
00482>       [RDT= 1.00] out<-    1.0 01:N6        38743.00   23.228 No_date   56:38   11.82  n/a     .000
00483>         [L/S/n= 3056./ .082/.025]
00484>         {Vmax=  .432:Dmax=  .808}
00485> #
00486> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
00487> #
00488> R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00489>     ADD HYD                1.0 02:N6        38743.00   23.228 No_date   56:38   11.82  n/a     .000
00490>                       +    1.0 02:SW_6       165.00    .413 No_date   33:07   12.24  n/a     .000
00491>                       +    1.0 02:VG_DR      1332.00    3.148 No_date   35:23   13.94  n/a     .000
00492>                     SUM=   1.0 01:S_N6       40240.01   23.318 No_date   39:59   11.89  n/a     .000
00493> #
00494> # Sum of hydrographs from Node 6 routed to Node 5
00495> # Section 6
00496> #
00497> R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00498>     ROUTE CHANNEL   ->     1.0 02:S_N6      40240.01   23.318 No_date   39:59   11.89  n/a     .000
00499>       [RDT= 1.00] out<-    1.0 01:N5        40240.01   23.285 No_date   56:09   11.89  n/a     .000
00500>         [L/S/n= 1852./ .054/.035]
00501>         {Vmax=  .378:Dmax=  .917}
00502> #
00503> # Addition of Subwatershed 5 and Flowing Creek to Node 5
00504> #
00505> R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00506>     ADD HYD                1.0 02:N5        40240.01   23.285 No_date   56:09   11.89  n/a     .000
00507>                       +    1.0 02:SW_5       224.00    2.597 No_date   28:45   15.91  n/a     .000
00508>                       +    1.0 02:FL_CK      4945.00   14.839 No_date   33:25   14.57  n/a     .000
00509>                     SUM=   1.0 01:S_N5       45409.01   33.166 No_date   37:08   12.20  n/a     .000
00510> #
00511> # Sum of hydrographs from Node 5 routed to Node 5A
00512> # Section 7
00513> #
00514> R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00515>     ROUTE CHANNEL   ->     1.0 02:S_N5      45409.01   33.166 No_date   37:08   12.20  n/a     .000
00516>       [RDT= 1.00] out<-    1.0 01:N5A       45409.01   33.135 No_date   37:20   12.20  n/a     .000
00517>         [L/S/n=  556./ .090/.040]
00518>         {Vmax=  .443:Dmax=  .937}
00519> #
00520> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
00521> #
00522> R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00523>     ADD HYD                1.0 02:N5A       45409.01   33.135 No_date   37:20   12.20  n/a     .000
00524>                       +    1.0 02:SW_5A2       20.00    .309 No_date   28:36   17.79  n/a     .000
00525>                       +    1.0 02:SW_5A1     1412.00    3.090 No_date   38:06   15.22  n/a     .000
00526>                     SUM=   1.0 01:S_N5A      46841.01   36.236 No_date   37:28   12.30  n/a     .000
00527> #
00528> # Sum of hydrographs from Node 5A routed to Node 4
00529> # Section 8
00530> #
00531> R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00532>     ROUTE CHANNEL   ->     1.0 02:S_N5A     46841.01   36.236 No_date   37:28   12.30  n/a     .000
00533>       [RDT= 1.00] out<-    1.0 01:N4        46841.01   35.288 No_date   39:22   12.30  n/a     .000
00534>         [L/S/n= 4630./ .043/.035]
00535>         {Vmax=  .695:Dmax= 2.844}
00536> #
00537> # Addition of Subwatershed 4 and Leamy Creek to Node 4
00538> #
00539> R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00540>     ADD HYD                1.0 02:N4        46841.01   35.288 No_date   39:22   12.30  n/a     .000
00541>                       +    1.0 02:SW_4       585.00    4.325 No_date   29:58   17.79  n/a     .000
00542>                       +    1.0 02:LM_CK      1021.00    5.747 No_date   30:50   17.39  n/a     .000
00543>                     SUM=   1.0 01:S_N4       48447.00   37.581 No_date   38:13   12.47  n/a     .000
00544> R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00545>     SAVE HYD               1.0 01:S_N4      48447.00   37.581 No_date   38:13   12.47  n/a     .000
00546>       fname :S_N4.0002
00547>       remark:flow at S_N4
00548> #
00549> # Sum of hydrographs from Node 4 routed to Node 2
00550> # Section 9
00551> #
00552> R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00553>     ROUTE CHANNEL   ->     1.0 02:S_N4      48447.00   37.581 No_date   38:13   12.47  n/a     .000
00554>       [RDT= 1.00] out<-    1.0 01:N2        48447.00   37.455 No_date   38:49   12.47  n/a     .000
00555>         [L/S/n= 1667./ .060/.040]
00556>         {Vmax=  .715:Dmax= 2.845}
00557> #
00558> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
00559> #
00560> R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00561>     ADD HYD                1.0 02:N2        48447.00   37.455 No_date   38:49   12.47  n/a     .000
00562>                       +    1.0 02:SW_2       177.00    2.052 No_date   28:45   15.91  n/a     .000
00563>                       +    1.0 02:SM_DR      1122.00    5.337 No_date   31:50   17.79  n/a     .000
00564>                       +    1.0 02:MO_DR      2737.00   11.528 No_date   31:35   15.56  n/a     .000
00565>                     SUM=   1.0 01:S_N2       52483.00   46.294 No_date   33:33   12.76  n/a     .000
00566> R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00567>     SAVE HYD               1.0 01:S_N2      52483.00   46.294 No_date   33:33   12.76  n/a     .000
00568>       fname :H_SN2
00569>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
00570> #
00571> # Sum of hydrographs from Node 2 routed to Node 1
00572> # Section 10
00573> #
00574> #*************************************************************************
00575> #
00576> # Hydrograph from Node 2 routed to Node 416
00577> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
00578> #
00579> R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00580>     ROUTE CHANNEL   ->     1.0 02:S_N2      52483.00   46.294 No_date   33:33   12.76  n/a     .000
00581>       [RDT= 1.00] out<-    1.0 01:N_416     52483.00   45.431 No_date   35:37   12.76  n/a     .000
00582>         [L/S/n= 2327./ .050/.055]
00583>         {Vmax=  .577:Dmax= 2.212}
00584> #*************************************************************************
00585> #    Catchment SW-1a
00586> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
00587> #    - Undeveloped agricultural land
00588> #*************************************************************************
00589> R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00590>     CONTINUOUS NASHYD    1.0 01:SW_1a       536.42    1.885 No_date   31:21   13.01 .286     .000
00591>       [CN= 72.0: N= 3.00: Tp= 1.70]
00592>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00593>       [InterEventTime= 12.00]
00594> R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00595>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    3.420 No_date   28:04   32.20 .707     .000
00596>       [XIMP=.65:TIMP=.65]
00597>       [LOSS= 2 :CN= 75.0]
00598>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00599>       [Impervious   area: IAimp= 1.57:SLPI=.75:LGI= 547.:MNI=.013:SCI=   .0]
00600>       [IaRECimp=   4.00: IaRECper=   4.00]
00601>       [SMIN= 33.81: SMAX=225.43: SK= .010]
00602> R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00603>     ADD HYD                1.0 02:N_416     52483.00   45.431 No_date   35:37   12.76  n/a     .000
00604>                       +    1.0 02:SW_1a      536.42    1.885 No_date   31:21   13.01  n/a     .000
00605>                       +    1.0 02:S-1-Okeefe  44.93    3.420 No_date   28:04   32.20  n/a     .000
00606>                     SUM=   1.0 01:SN_416     53064.36   46.619 No_date   35:24   12.78  n/a     .000
00607> R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00608>     SAVE HYD               1.0 01:SN_416    53064.36   46.619 No_date   35:24   12.78  n/a     .000
00609>       fname :SN_416.0002
00610>       remark:Total Flows at Highway 416
00611> #
00612> # Hydrograph from Node 416 routed to Node at Okeefe drain
00613> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
00614> #
00615> R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00616>     ROUTE CHANNEL   ->     1.0 02:SN_416    53064.36   46.619 No_date   35:24   12.78  n/a     .000
00617>       [RDT= 1.00] out<-    1.0 01:N_OK      53064.36   46.610 No_date   35:24   12.78  n/a     .000
00618>         [L/S/n=  497./ .302/.055]
00619>         {Vmax= 1.190:Dmax= 1.879}
00620> #*************************************************************************
00621> #    Catchment OKEEFE
00622> #    - To O'Keefe drain (north of the Jock)
00623> #    - Developed with assumed 43% imp.
00624> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
00625> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
00626> #*************************************************************************
00627> R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00628>     CONTINUOUS NASHYD    1.0 01:O-1         63.72     .305 No_date   28:59    9.62 .211     .000
00629>       [CN= 61.0: N= 3.00: Tp=  .90]
00630>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
00631>       [InterEventTime= 12.00]
00632> R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00633>     ROUTE CHANNEL   ->     1.0 02:O-1         63.72     .305 No_date   28:59    9.62  n/a     .000
00634>       [RDT= 1.00] out<-    1.0 01:O-1R        63.72     .272 No_date   29:20    9.62  n/a     .000
00635>         [L/S/n=  960./ .630/.043]
00636>         {Vmax=  .589:Dmax=  .212}
00637> R0002:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00638>     CONTINUOUS NASHYD    1.0 01:O-2         28.61     .110 No_date   29:14    9.11 .200     .000
00639>       [CN= 57.0: N= 3.00: Tp= 1.10]
00640>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
00641>       [InterEventTime= 12.00]
00642> R0002:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00643>     CONTINUOUS NASHYD    1.0 01:O-4         46.94     .126 No_date   29:02    7.06 .155     .000
00644>       [CN= 49.0: N= 3.00: Tp=  .90]
00645>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
00646>       [InterEventTime= 12.00]
00647> R0002:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00648>     ADD HYD                1.0 02:O-1R        63.72     .272 No_date   29:20    9.62  n/a     .000
00649>                       +    1.0 02:O-2         28.61     .110 No_date   29:14    9.11  n/a     .000
00650>                       +    1.0 02:O-4         46.94     .126 No_date   29:02    7.06  n/a     .000
00651>                     SUM=   1.0 01:OKF-N      139.27     .504 No_date   29:15    8.65  n/a     .000
00652> R0002:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00653>     ROUTE CHANNEL   ->     1.0 02:OKF-N     139.27     .504 No_date   29:15    8.65  n/a     .000
00654>       [RDT= 1.00] out<-    1.0 01:OKF-NR    139.27     .502 No_date   29:20    8.65  n/a     .000
00655>         [L/S/n=  210./ .810/.043]
00656>         {Vmax=  .722:Dmax=  .437}
00657> R0002:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00658>     CONTINUOUS NASHYD    1.0 01:O-6         16.46     .042 No_date   28:47    6.40 .141     .000
00659>       [CN= 43.0: N= 3.00: Tp=  .60]
00660>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
00661>       [InterEventTime= 12.00]
00662> R0002:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00663>     CONTINUOUS STANDHYD   1.0 01:O-3         39.67     .402 No_date   28:28   11.03 .242     .000
00664>       [XIMP=.15:TIMP=.30]
00665>       [LOSS= 2 :CN= 50.0]
00666>       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
00667>       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
00668>       [IaRECimp=   4.00: IaRECper=   4.00]
00669>       [SMIN= 99.77: SMAX=665.12: SK= .010]
00670> R0002:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00671>     CONTINUOUS STANDHYD   1.0 01:O-5         60.63     .937 No_date   28:10   12.08 .265     .000
00672>       [XIMP=.13:TIMP=.26]
00673>       [LOSS= 2 :CN= 61.0]
00674>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
00675>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
00676>       [IaRECimp=   4.00: IaRECper=   4.00]
00677>       [SMIN= 64.50: SMAX=430.01: SK= .010]
00678> R0002:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00679>     ADD HYD                1.0 02:OKF-NR      139.27     .502 No_date   29:20    8.65  n/a     .000
00680>                       +    1.0 02:O-3         39.67     .402 No_date   28:28   11.03  n/a     .000
00681>                       +    1.0 02:O-5         60.63     .937 No_date   28:10   12.08  n/a     .000
00682>                       +    1.0 02:O-6         16.46     .042 No_date   28:47    6.40  n/a     .000
00683>                     SUM=   1.0 01:PT1       256.03    1.441 No_date   28:30    9.69  n/a     .000
00684> R0002:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00685>     CONTINUOUS NASHYD    1.0 01:O-7          5.28     .024 No_date   28:38    8.02 .176     .000
00686>       [CN= 54.0: N= 3.00: Tp=  .60]
00687>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
00688>       [InterEventTime= 12.00]
00689> R0002:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00690>     ADD HYD                1.0 02:PT1       256.03    1.441 No_date   28:30    9.69  n/a     .000
00691>                       +    1.0 02:O-7         5.28     .024 No_date   28:38    8.02  n/a     .000
00692>                     SUM=   1.0 01:FF        261.31    1.465 No_date   28:30    9.65  n/a     .000
00693> R0002:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00694>     ROUTE CHANNEL   ->     1.0 02:FF        261.31    1.465 No_date   28:30    9.65  n/a     .000
00695>       [RDT= 1.00] out<-    1.0 01:DRAIN1    261.31    1.440 No_date   28:36    9.65  n/a     .000
00696>         [L/S/n=  302./1.000/.043]
00697>         {Vmax=  .953:Dmax=  .543}
00698> R0002:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00699>     CONTINUOUS NASHYD    1.0 01:D1          1.17     .026 No_date   28:12   15.66 .344     .000
00700>       [CN= 84.0: N= 3.00: Tp=  .20]
00701>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
00702>       [InterEventTime= 12.00]
00703> R0002:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00704>     CONTINUOUS STANDHYD   1.0 01:A1          2.50     .256 No_date   28:01   34.35 .755     .000
00705>       [XIMP=.68:TIMP=.85]
00706>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00707>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00708>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
00709>       [IaRECimp=   4.00: IaRECper=   4.00]
00710> R0002:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00711>     ROUTE RESERVOIR ->     1.0 02:A1          2.50     .256 No_date   28:01   34.35  n/a     .000
00712>                        out <=  1.0 01:A1-STR     2.50     .048 No_date   28:35   34.35  n/a     .000
00713>              overflow <=  1.0 03:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
00714>         (MxStoUsed=.4261E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00715> R0002:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00716>     CONTINUOUS STANDHYD   1.0 01:ST-2         .59     .044 No_date   28:00   25.32 .556     .000
00717>       [XIMP=.46:TIMP=.57]
00718>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00719>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00720>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
00721>       [IaRECimp=   4.00: IaRECper=   4.00]
00722> R0002:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00723>     ROUTE RESERVOIR ->     1.0 02:ST-2         .59     .044 No_date   28:00   25.32  n/a     .000
00724>                        out <=  1.0 01:ST2STR     .59     .041 No_date   28:02   25.32  n/a     .000
00725>              overflow <=  1.0 03:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
00726>         (MxStoUsed=.7924E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs)
00727> R0002:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00728>     CONTINUOUS NASHYD    1.0 01:O-8         60.55     .405 No_date   29:05   12.46 .274     .000
00729>       [CN= 69.0: N= 3.00: Tp= 1.00]
00730>       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
00731>       [InterEventTime= 12.00]
00732> R0002:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00733>     ROUTE PIPE      ->     1.0 02:O-8         60.55     .405 No_date   29:05   12.46  n/a     .000
00734>       [RDT= 1.00] out<-    1.0 01:O8PIPE      60.55     .402 No_date   29:10   12.46  n/a     .000
00735>         [L/S/n=  335./ .100/.013]
00736>         {Vmax=  .842:Dmax=  .265}
00737>         {HGT= 1.20:WDTH= 1.80}
00738> R0002:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00739>     ADD HYD                1.0 02:DRAIN1     261.31    1.440 No_date   28:36    9.65  n/a     .000
00740>                       +    1.0 02:D1          1.17     .026 No_date   28:12   15.66  n/a     .000
00741>                       +    1.0 02:A1-STR      2.50     .048 No_date   28:35   34.35  n/a     .000
00742>                       +    1.0 02:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
00743>                       +    1.0 02:ST2STR       .59     .041 No_date   28:02   25.32  n/a     .000
00744>                       +    1.0 02:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
00745>                       +    1.0 02:O8PIPE     60.55     .402 No_date   29:10   12.46  n/a     .000
00746>                     SUM=   1.0 01:ST2-IN      326.12    1.834 No_date   28:39   10.41  n/a     .000
00747> R0002:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00748>     CONTINUOUS STANDHYD   1.0 01:A7          3.51     .348 No_date   28:02   34.35 .755     .000
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00749>      [XIMP=.68:TIMP=.85]
00750>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00751>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00752>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
00753>      [IaRECimp=   4.00: IaRECper=    4.00]
00754> R0002:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00755>     ROUTE RESERVOIR ->     1.0 02:A7           3.51     .348 No_date   28:02   34.35  n/a     .000
00756>               out <=      1.0 01:A7-STR       3.51     .067 No_date   28:36   34.35  n/a     .000
00757>          overflow <=      1.0 03:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00758>    {MxStoUsed=.6002E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00759> R0002:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00760>     CONTINUOUS STANDHYD    1.0 01:ST-3          .71     .053 No_date   28:00   25.32 .556     .000
00761>      [XIMP=.46:TIMP=.57]
00762>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00763>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00764>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
00765>      [IaRECimp=   4.00: IaRECper=    4.00]
00766> R0002:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00767>     ROUTE RESERVOIR ->     1.0 02:ST-3                .71     .053 No_date   28:00   25.32  n/a     .000
00768>               out <=      1.0 01:ST3STR              .71     .050 No_date   28:02   25.32  n/a     .000
00769>          overflow <=      1.0 03:ST3OVF              .00     .000 No_date    0:00     .00  n/a     .000
00770>    {MxStoUsed=.7947E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00771> R0002:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00772>     ADD HYD                1.0 02:ST2-IN        326.12    1.834 No_date   28:39   10.41  n/a     .000
00773>                       +    1.0 02:A7-STR          3.51     .067 No_date   28:36   34.35  n/a     .000
00774>                       +    1.0 02:A7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
00775>                       +    1.0 02:ST3STR           .71     .050 No_date   28:02   25.32  n/a     .000
00776>                       +    1.0 02:ST3OVF           .00     .000 No_date    0:00     .00  n/a     .000
00777>                     SUM=   1.0 01:PT2ST3         330.34    1.912 No_date   28:38   10.70  n/a     .000
00778> R0002:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00779>     ROUTE CHANNEL     ->     1.0 02:PT2ST3       330.34    1.912 No_date   28:38   10.70  n/a     .000
00780>      [RDT= 1.00] out<-      1.0 01:DRAIN2       330.34    1.821 No_date   28:57   10.70  n/a     .000
00781>       [L/S/n=  592./ .230/.043]
00782>      {Vmax=  .681:Dmax=  .785}
00783> R0002:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00784>     CONTINUOUS NASHYD      1.0 01:D2            2.28     .021 No_date   29:07   15.66 .344     .000
00785>      [CN= 84.0: N= 3.00: Tp=  .99]
00786>      [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
00787>      [InterEventTime=  12.00]
00788> R0002:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00789>     CONTINUOUS STANDHYD    1.0 01:A17          12.04    1.030 No_date   28:04   34.35 .755     .000
00790>      [XIMP=.68:TIMP=.85]
00791>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00792>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00793>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
00794>      [IaRECimp=   4.00: IaRECper=    4.00]
00795> R0002:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00796>     ROUTE RESERVOIR ->     1.0 02:A17                 12.04    1.030 No_date   28:04   34.35  n/a     .000
00797>               out <=      1.0 01:A17STR              12.04     .220 No_date   28:42   34.35  n/a     .000
00798>          overflow <=      1.0 03:A17OVF               .00     .000 No_date    0:00     .00  n/a     .000
00799>    {MxStoUsed=.2038E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00800> R0002:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00801>     CONTINUOUS STANDHYD    1.0 01:ST-4          .35     .027 No_date   28:00   25.32 .556     .000
00802>      [XIMP=.46:TIMP=.57]
00803>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00804>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00805>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
00806>      [IaRECimp=   4.00: IaRECper=    4.00]
00807> R0002:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00808>     ROUTE RESERVOIR ->     1.0 02:ST-4                  .35     .027 No_date   28:00   25.32  n/a     .000
00809>               out <=      1.0 01:ST4STR                .35     .023 No_date   28:03   25.32  n/a     .000
00810>          overflow <=      1.0 03:ST4OVF                .00     .000 No_date    0:00     .00  n/a     .000
00811>    {MxStoUsed=.7487E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00812> R0002:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00813>     CONTINUOUS STANDHYD    1.0 01:A18           5.30     .500 No_date   28:03   34.35 .755     .000
00814>      [XIMP=.68:TIMP=.85]
00815>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00816>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00817>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
00818>      [IaRECimp=   4.00: IaRECper=    4.00]
00819> R0002:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00820>     ROUTE RESERVOIR ->     1.0 02:A18                  5.30     .500 No_date   28:03   34.35  n/a     .000
00821>               out <=      1.0 01:A18STR               5.30     .099 No_date   28:38   34.35  n/a     .000
00822>          overflow <=      1.0 03:A18OVF                .00     .000 No_date    0:00     .00  n/a     .000
00823>    {MxStoUsed=.9042E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00824> R0002:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00825>     ADD HYD                1.0 02:DRAIN2        330.34    1.821 No_date   28:57   10.70  n/a     .000
00826>                       +    1.0 02:D2              2.28     .021 No_date   29:07   15.66  n/a     .000
00827>                       +    1.0 02:A17STR         12.04     .220 No_date   28:42   34.35  n/a     .000
00828>                       +    1.0 02:A17OVF          .00     .000 No_date    0:00     .00  n/a     .000
00829>                       +    1.0 02:ST4STR          .35     .023 No_date   28:03   25.32  n/a     .000
00830>                       +    1.0 02:ST4OVF          .00     .000 No_date    0:00     .00  n/a     .000
00831>                       +    1.0 02:A18STR         5.30     .099 No_date   28:38   34.35  n/a     .000
00832>                       +    1.0 02:A18OVF          .00     .000 No_date    0:00     .00  n/a     .000
00833>                     SUM=   1.0 01:PT3ST4         350.31    2.146 No_date   28:54   11.92  n/a     .000
00834> R0002:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00835>     ROUTE CHANNEL     ->     1.0 02:PT3ST4       350.31    2.146 No_date   28:54   11.92  n/a     .000
00836>      [RDT= 1.00] out<-      1.0 01:DRAIN3       350.31    2.088 No_date   29:08   11.92  n/a     .000
00837>       [L/S/n=  525./ .230/.043]
00838>      {Vmax=  .707:Dmax=  .833}
00839> R0002:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00840>     CONTINUOUS NASHYD      1.0 01:D3            2.51     .033 No_date   28:46   17.40 .382     .000
00841>      [CN= 86.0: N= 3.00: Tp=  .73]
00842>      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
00843>      [InterEventTime=  12.00]
00844> R0002:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00845>     CONTINUOUS STANDHYD    1.0 01:C1            3.41     .339 No_date   28:02   34.35 .755     .000
00846>      [XIMP=.68:TIMP=.85]
00847>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00848>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00849>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
00850>      [IaRECimp=   4.00: IaRECper=    4.00]
00851> R0002:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00852>     ROUTE RESERVOIR ->     1.0 02:C1                   3.41     .339 No_date   28:02   34.35  n/a     .000
00853>               out <=      1.0 01:C1-STR               3.41     .065 No_date   28:36   34.35  n/a     .000
00854>          overflow <=      1.0 03:C1-OVF                .00     .000 No_date    0:00     .00  n/a     .000
00855>    {MxStoUsed=.5806E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00856> R0002:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00857>     CONTINUOUS STANDHYD    1.0 01:ST-5          .45     .034 No_date   28:00   25.32 .556     .000
00858>      [XIMP=.46:TIMP=.57]
00859>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00860>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00861>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
00862>      [IaRECimp=   4.00: IaRECper=    4.00]
00863> R0002:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00864>     ROUTE RESERVOIR ->     1.0 02:ST-5                  .45     .034 No_date   28:00   25.32  n/a     .000
00865>               out <=      1.0 01:ST5STR                .45     .031 No_date   28:03   25.32  n/a     .000
00866>          overflow <=      1.0 03:ST5OVF                .00     .000 No_date    0:00     .00  n/a     .000
00867>    {MxStoUsed=.7682E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00868> R0002:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00869>     ADD HYD                1.0 02:DRAIN3        350.31    2.088 No_date   29:08   11.92  n/a     .000
00870>                       +    1.0 02:D3              2.51     .033 No_date   28:46   17.40  n/a     .000
00871>                       +    1.0 02:C1-STR          3.41     .065 No_date   28:36   34.35  n/a     .000
00872>                       +    1.0 02:C1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
00873>                       +    1.0 02:ST5STR           .45     .031 No_date   28:03   25.32  n/a     .000
00874>                       +    1.0 02:ST5OVF           .00     .000 No_date    0:00     .00  n/a     .000
00875>                     SUM=   1.0 01:ST5-E          356.68    2.174 No_date   29:07   12.19  n/a     .000
00876> R0002:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00877>     CONTINUOUS STANDHYD    1.0 01:STRAND        7.59     .471 No_date   28:13   33.47 .735     .000
00878>      [XIMP=.64:TIMP=.85]
00879>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00880>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
00881>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
00882>      [IaRECimp=   4.00: IaRECper=    4.00]
00883> R0002:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00884>     ROUTE RESERVOIR ->     1.0 02:STRAND                7.59     .471 No_date   28:13   33.47  n/a     .000
00885>               out <=      1.0 01:S-POND                7.59     .032 No_date   30:14   33.47  n/a     .000
00886>          overflow <=      1.0 03:S-OVF                  .00     .000 No_date    0:00     .00  n/a     .000
00887>    {MxStoUsed=.1805E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00888> R0002:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00889>     ADD HYD                1.0 02:ST5-E         356.68    2.174 No_date   29:07   12.19  n/a     .000
00890>                       +    1.0 02:S-POND          7.59     .032 No_date   30:14   33.47  n/a     .000
00891>                       +    1.0 02:S-OVF            .00     .000 No_date    0:00     .00  n/a     .000
00892>                     SUM=   1.0 01:SSAOUT         364.27    2.204 No_date   29:07   12.63  n/a     .000
00893> R0002:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00894>     SAVE HYD               1.0 01:SSAOUT        364.27    2.204 No_date   29:07   12.63  n/a     .000
00895>       fname :SSAOUT.0002
00896>       remark:SSAOUT
00897> R0002:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00898>     CONTINUOUS STANDHYD    1.0 01:Area-A        66.75    3.902 No_date   28:13   32.66 .718     .000
00899>      [XIMP=.64:TIMP=.80]
00900>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00901>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00902>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
00903>      [IaRECimp=   4.00: IaRECper=    4.00]
00904> R0002:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00905>     SAVE HYD               1.0 01:Area-A        66.75    3.902 No_date   28:13   32.66  n/a     .000
00906>       fname :Area-A.0002
00907>       remark:SMWF-A Inflow
00908> R0002:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00909>     ROUTE RESERVOIR ->     1.0 02:Area-A                66.75    3.902 No_date   28:13   32.66  n/a     .000
00910>               out <=      1.0 01:SWMF-A                66.75     .126 No_date   32:26   32.66  n/a     .000
00911>          overflow <=      1.0 03:SWMAOV                 .00     .000 No_date    0:00     .00  n/a     .000
00912>    {MxStoUsed=.1708E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00913> R0002:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00914>     SAVE HYD               1.0 01:SWMF-A        66.75     .126 No_date   32:26   32.66  n/a     .000
00915>       fname :SWMF-A.0002
00916>       remark:SMWF-A Outflow
00917> R0002:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00918>     ADD HYD                1.0 02:SSAOUT        364.27    2.204 No_date   29:07   12.63  n/a     .000
00919>                       +    1.0 02:SWMF-A         66.75     .126 No_date   32:26   32.66  n/a     .000
00920>                       +    1.0 02:SWMAOV          .00     .000 No_date    0:00     .00  n/a     .000
00921>                     SUM=   1.0 01:PT4ST5         431.02    2.323 No_date   29:07   15.73  n/a     .000
00922> R0002:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00923>     CONTINUOUS STANDHYD    1.0 01:C6            1.87     .196 No_date   28:01   34.35 .755     .000
00924>      [XIMP=.68:TIMP=.85]
00925>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00926>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00927>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
00928>      [IaRECimp=   4.00: IaRECper=    4.00]
00929> R0002:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00930>     ROUTE RESERVOIR ->     1.0 02:C6                    1.87     .196 No_date   28:01   34.35  n/a     .000
00931>               out <=      1.0 01:C6-STR                1.87     .036 No_date   28:34   34.35  n/a     .000
00932>          overflow <=      1.0 03:C6-OVF                 .00     .000 No_date    0:00     .00  n/a     .000
00933>    {MxStoUsed=.3218E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00934> R0002:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00935>     CONTINUOUS STANDHYD    1.0 01:C7            1.62     .171 No_date   28:01   34.35 .755     .000

00936>      [XIMP=.68:TIMP=.85]
00937>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00938>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00939>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
00940>      [IaRECimp=   4.00: IaRECper=    4.00]
00941> R0002:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00942>     ROUTE RESERVOIR ->     1.0 02:C7                    1.62     .171 No_date   28:01   34.35  n/a     .000
00943>               out <=      1.0 01:C7-STR                1.62     .031 No_date   28:34   34.35  n/a     .000
00944>          overflow <=      1.0 03:C7-OVF                 .00     .000 No_date    0:00     .00  n/a     .000
00945>    {MxStoUsed=.2774E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00946> R0002:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00947>     CONTINUOUS STANDHYD    1.0 01:ST-6          .41     .031 No_date   28:00   25.32 .556     .000
00948>      [XIMP=.46:TIMP=.57]
00949>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00950>      [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00951>      [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
00952>      [IaRECimp=   4.00: IaRECper=    4.00]
00953> R0002:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00954>     ROUTE RESERVOIR ->     1.0 02:ST-6                  .41     .031 No_date   28:00   25.32  n/a     .000
00955>               out <=      1.0 01:ST6STR                .41     .028 No_date   28:03   25.32  n/a     .000
00956>          overflow <=      1.0 03:ST6OVF                .00     .000 No_date    0:00     .00  n/a     .000
00957>    {MxStoUsed=.7725E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00958> R0002:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00959>     ADD HYD                1.0 02:PT4ST5        431.02    2.323 No_date   29:07   15.73  n/a     .000
00960>                       +    1.0 02:C6-STR          1.87     .036 No_date   28:34   34.35  n/a     .000
00961>                       +    1.0 02:C6-OVF           .00     .000 No_date    0:00     .00  n/a     .000
00962>                       +    1.0 02:C7-STR          1.62     .031 No_date   28:34   34.35  n/a     .000
00963>                       +    1.0 02:C7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
00964>                       +    1.0 02:ST6STR           .41     .028 No_date   28:03   25.32  n/a     .000
00965>                       +    1.0 02:ST6OVF           .00     .000 No_date    0:00     .00  n/a     .000
00966>                     SUM=   1.0 01:PT5ST6         434.92    2.379 No_date   29:06   15.89  n/a     .000
00967> R0002:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00968>     ROUTE CHANNEL     ->     1.0 02:PT5ST6       434.92    2.379 No_date   29:06   15.89  n/a     .000
00969>      [RDT= 1.00] out<-      1.0 01:DRAIN4       434.92    2.319 No_date   29:17   15.89  n/a     .000
00970>       [L/S/n=  324./ .100/.043]
00971>      {Vmax=  .532:Dmax=  1.041}
00972> R0002:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00973>     CONTINUOUS NASHYD      1.0 01:D4            1.73     .030 No_date   28:36   18.93 .416     .000
00974>      [CN= 88.0: N= 3.00: Tp=  .60]
00975>      [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
00976>      [InterEventTime=  12.00]
00977> R0002:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00978>     CONTINUOUS STANDHYD    1.0 01:Area-B        24.04    2.028 No_date   28:04   31.71 .697     .000
00979>      [XIMP=.62:TIMP=.77]
00980>      [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
00981>      [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
00982>      [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
00983>      [IaRECimp=   4.00: IaRECper=    4.00]
00984> R0002:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00985>     ROUTE RESERVOIR ->     1.0 02:Area-B                24.04    2.028 No_date   28:04   31.71  n/a     .000
00986>               out <=      1.0 01:SWMF-B                24.04     .169 No_date   29:09   31.71  n/a     .000
00987>          overflow <=      1.0 03:SWMBOVF                .00     .000 No_date    0:00     .00  n/a     .000
00988>    {MxStoUsed=.4926E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00989> R0002:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00990>     ADD HYD                1.0 02:DRAIN4        434.92    2.319 No_date   29:17   15.89  n/a     .000
00991>                       +    1.0 02:D4              1.73     .030 No_date   28:36   18.93  n/a     .000
00992>                       +    1.0 02:SWMF-B         24.04     .169 No_date   29:09   31.71  n/a     .000
00993>                       +    1.0 02:SWMBOVF         .00     .000 No_date    0:00     .00  n/a     .000
00994>                     SUM=   1.0 01:D4-EX          460.69    2.507 No_date   29:17   16.73  n/a     .000
00995> R0002:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00996>     ROUTE CHANNEL     ->     1.0 02:D4-EX         460.69    2.507 No_date   29:17   16.73  n/a     .000
00997>      [RDT= 1.00] out<-      1.0 01:DRAIN5         460.69    2.448 No_date   29:30   16.73  n/a     .000
00998>       [L/S/n=  413./ .160/.033]
00999>      {Vmax=  .501:Dmax=  .708}
01000> R0002:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01001>     CONTINUOUS NASHYD      1.0 01:D5            1.90     .026 No_date   28:43   17.40 .382     .000
01002>      [CN= 86.0: N= 3.00: Tp=  .69]
01003>      [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
01004>      [InterEventTime=  12.00]
01005> R0002:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01006>     CONTINUOUS NASHYD      1.0 01:D-13SDF       9.74     .182 No_date   28:22   16.95 .372     .000
01007>      [CN= 81.0: N= 3.00: Tp=  .43]
01008>      [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01009>      [InterEventTime=  12.00]
01010> R0002:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01011>     ROUTE RESERVOIR ->     1.0 02:D-13SDF               9.74     .182 No_date   28:22   16.95  n/a     .000
01012>               out <=      1.0 01:SDF                   9.74     .021 No_date   32:19   16.95  n/a     .000
01013>          overflow <=      1.0 03:OVFSDF                 .00     .000 No_date    0:00     .00  n/a     .000
01014>    {MxStoUsed=.8320E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01015> R0002:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01016>     ADD HYD                1.0 02:DRAIN5        460.69    2.448 No_date   29:30   16.73  n/a     .000
01017>                       +    1.0 02:D5              1.90     .026 No_date   28:43   17.40  n/a     .000
01018>                       +    1.0 02:SDF             9.74     .021 No_date   32:19   16.95  n/a     .000
01019>                     SUM=   1.0 01:PT6MC          472.33    2.484 No_date   29:30   16.73  n/a     .000
01020> R0002:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01021>     CONTINUOUS NASHYD      1.0 01:D-15          10.67     .230 No_date   28:14   15.77 .347     .000
01022>      [CN= 82.0: N= 3.00: Tp=  .30]
01023>      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
01024>      [InterEventTime=  12.00]
01025> R0002:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01026>     ADD HYD                1.0 02:PT6MC         472.33    2.484 No_date   29:30   16.73  n/a     .000
01027>                       +    1.0 02:D-15           10.67     .230 No_date   28:14   15.77  n/a     .000
01028>                     SUM=   1.0 01:M-C           483.00    2.528 No_date   29:29   16.71  n/a     .000
01029> R0002:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01030>     ROUTE CHANNEL     ->     1.0 02:M-C                  483.00    2.528 No_date   29:29   16.71  n/a     .000
01031>      [RDT= 1.00] out<-      1.0 01:O-14Ch               483.00    2.419 No_date   29:44   16.71  n/a     .000
01032>       [L/S/n=  845./ .100/.033]
01033>      {Vmax=  .756:Dmax= 1.160}
01034> R0002:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01035>     CONTINUOUS NASHYD      1.0 01:O-14          5.00     .181 No_date   28:04   15.77 .347     .000
01036>      [CN= 82.0: N= 3.00: Tp=  .33]
01037>      [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
01038>      [InterEventTime=  12.00]
01039> R0002:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01040>     ADD HYD                1.0 02:O-14Ch        483.00    2.419 No_date   29:44   16.71  n/a     .000
01041>                       +    1.0 02:O-14            5.00     .181 No_date   28:04   15.77  n/a     .000
01042>                     SUM=   1.0 01:OKEEFE        488.00    2.434 No_date   29:44   16.70  n/a     .000
01043> #*************************************************************************
01044> #    Okeefe Pond
01045> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01046> #      and a ratio of the catchment area to the West Clarke pond rating curve
01047> #      from the MSS for the next coordinates
01048> #*************************************************************************
01049> R0002:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01050>     CONTINUOUS STANDHYD    1.0 01:S-1-D2        18.67    1.588 No_date   28:02   32.20 .707     .000
01051>      [XIMP=.65:TIMP=.65]
01052>      [LOSS= 2 :CN= 75.0]
01053>      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01054>      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
01055>      [IaRECimp=   4.00: IaRECper=    4.00]
01056>      [SMIN= 33.81: SMAX=225.43: SK= .010]
01057> R0002:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01058>     CONTINUOUS STANDHYD    1.0 01:S-1-D3         6.79     .628 No_date   28:01   32.20 .707     .000
01059>      [XIMP=.65:TIMP=.65]
01060>      [LOSS= 2 :CN= 75.0]
01061>      [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01062>      [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
01063>      [IaRECimp=   4.00: IaRECper=    4.00]
01064>      [SMIN= 33.81: SMAX=225.43: SK= .010]
01065> R0002:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01066>     ADD HYD                1.0 02:S-1-D2        53064.36   46.610 No_date   35:24   12.78  n/a     .000
01067>                       +    1.0 02:OKEEFE        488.00    2.434 No_date   29:44   16.70  n/a     .000
01068>                       +    1.0 02:S-1-D2          18.67    1.588 No_date   28:02   32.20  n/a     .000
01069>                       +    1.0 02:S-1-D3           6.79     .628 No_date   28:01   32.20  n/a     .000
01070>                     SUM=   1.0 01:SN_OK        53577.82   47.451 No_date   34:58   12.82  n/a     .000
01071> R0002:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01072>     SAVE HYD               1.0 01:SN_OK         53577.82   47.451 No_date   34:58   12.82  n/a     .000
01073>       fname :SN_OK.0002
01074>       remark:Total Flows at Okeefe Drain
01075> #
01076> # Hydrograph from Node Okeefe routed to Node at Foster Drain
01077> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
01078> #
01079> R0002:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01080>     ROUTE CHANNEL     ->     1.0 02:SN_OK         53577.82   47.451 No_date   34:58   12.82  n/a     .000
01081>      [RDT= 1.00] out<-      1.0 01:M_FO          53577.82   47.426 No_date   35:25   12.82  n/a     .000
01082>       [L/S/n= 1183./ .076/.035]
01083>      {Vmax=  .918:Dmax= 2.261}
01084> #*************************************************************************
01085> #    Catchment FOSTER
01086> #    - To Foster Ditch (north of the Jock)
01087> #    - Partially developed (medium density); remaining agricultural
01088> #    - 2020-12-01 JFS
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01123>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01124> R0002:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01125>      ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA    73.29     4.584 No_date   28:07   31.34  n/a     .000
01126>                  out <=    1.0 01:MS_P10        73.29     1.033 No_date   28:50   31.34  n/a     .000
01127>              overflow <=   1.0 03:P10-OVF         .00      .000 No_date    0:00     .00  n/a     .000
01128>       {MxStoUsed=.7493E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01129> R0002:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01130>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2      4.94      .383 No_date   28:01   28.56 .628     .000
01131>        [XIMP=.55:TIMP=.55]
01132>        [LOSS= 2 :CN= 74.0]
01133>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
01134>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
01135>        [IaRECimp=   4.00: IaRECper=   4.00]
01136>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01137> R0002:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01138>      ADD HYD                1.0 02:FOSTER-OUT   325.44    3.894 No_date   29:12   28.56  n/a     .000
01139>                       +     1.0 02:S-1-FO-D2      4.94      .383 No_date   28:01   28.56  n/a     .000
01140>                     SUM=    1.0 01:980          330.38    3.925 No_date   29:11   28.56  n/a     .000
01141> R0002:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01142>      SAVE HYD               1.0 01:980          330.38    3.925 No_date   29:11   28.56  n/a     .000
01143>        fname :980.0002
01144>        remark:Total Flows at Station 980 on Foster Drain
01145> #
01146> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
01147> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
01148> #
01149> R0002:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01150>      ROUTE CHANNEL   ->    1.0 02:980          330.38    3.925 No_date   29:11   28.56  n/a     .000
01151>        [RDT= 1.00] out<-    1.0 01:980-out     330.38    3.801 No_date   29:21   28.56  n/a     .000
01152>          [L/S/n=  460./ .043/ .035]
01153>          {Vmax=  .544:Dmax= 1.093}
01154> R0002:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01155>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1      5.11      .460 No_date   28:01   31.98 .703     .000
01156>        [XIMP=.65:TIMP=.65]
01157>        [LOSS= 2 :CN= 74.0]
01158>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
01159>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
01160>        [IaRECimp=   4.00: IaRECper=   4.00]
01161>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01162> R0002:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01163>      ADD HYD                1.0 02:980-out      330.38    3.801 No_date   29:21   28.56  n/a     .000
01164>                       +     1.0 02:S-1-FO-D1      5.11      .460 No_date   28:01   31.98  n/a     .000
01165>                     SUM=    1.0 01:520          335.49    3.832 No_date   29:21   28.62  n/a     .000
01166> R0002:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01167>      SAVE HYD               1.0 01:520          335.49    3.832 No_date   29:21   28.62  n/a     .000
01168>        fname :520.0002
01169>        remark:Total Flows at Station 520 on Foster Drain
01170> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
01171> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
01172> #
01173> R0002:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01174>      ROUTE CHANNEL   ->    1.0 02:520          335.49    3.832 No_date   29:21   28.62  n/a     .000
01175>        [RDT= 1.00] out<-    1.0 01:520-out     335.49    3.792 No_date   29:34   28.62  n/a     .000
01176>          [L/S/n=  860./ .587/ .035]
01177>          {Vmax= 1.197:Dmax=  .521}
01178> R0002:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01179>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D     14.96     1.215 No_date   28:02   31.98 .703     .000
01180>        [XIMP=.65:TIMP=.65]
01181>        [LOSS= 2 :CN= 74.0]
01182>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
01183>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
01184>        [IaRECimp=   4.00: IaRECper=   4.00]
01185>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01186> R0002:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01187>      CONTINUOUS STANDHYD    1.0 01:S-1-D8         5.27      .475 No_date   28:02   23.32 .512     .000
01188>        [XIMP=.32:TIMP=.65]
01189>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01190>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01191>        [Impervious   area: IAimp= .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
01192>        [IaRECimp=   4.00: IaRECper=   4.00]
01193> R0002:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01194>      CONTINUOUS NASHYD      1.0 01:S-1-A          75.88      .912 No_date   28:37   14.83 .326     .000
01195>        [CN= 77.0: N= 3.00: Tp=  .62]
01196>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01197>        [InterEventTime=  12.00]
01198> R0002:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01199>      CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65      .286 No_date   29:12   14.83 .326     .000
01200>        [CN= 77.0: N= 3.00: Tp= 1.10]
01201>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01202>        [InterEventTime=  12.00]
01203> R0002:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01204>      ADD HYD                1.0 02:N_FO       53577.82   47.426 No_date   35:25   12.82  n/a     .000
01205>                       +     1.0 02:S2-520-out     335.49    3.792 No_date   29:34   28.62  n/a     .000
01206>                       +     1.0 02:MS_P10        73.29     1.033 No_date   28:50   31.34  n/a     .000
01207>                       +     1.0 02:P10-OVF         .00      .000 No_date    0:00     .00  n/a     .000
01208>                       +     1.0 02:W_CLAR_UND     35.65      .286 No_date   29:12   14.83  n/a     .000
01209>                       +     1.0 02:S-1-FO-F-D     14.96     1.215 No_date   28:02   31.98  n/a     .000
01210>                       +     1.0 02:S-1-D8          5.27      .475 No_date   28:02   23.32  n/a     .000
01211>                       +     1.0 02:S-1-A          75.88      .912 No_date   28:37   14.83  n/a     .000
01212>                     SUM=    1.0 01:SN_FO      54118.36   49.014 No_date   34:32   12.96  n/a     .000
01213> R0002:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01214>      SAVE HYD               1.0 01:SN_FO      54118.36   49.014 No_date   34:32   12.96  n/a     .000
01215>        fname :SN_FO.0002
01216>        remark:Total Flows at Foster Drain
01217> # Hydrograph from Node Foster routed to Node at Cedarview Road
01218> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
01219> #
01220> R0002:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01221>      ROUTE CHANNEL   ->    1.0 02:SN_FO      54118.36   49.014 No_date   34:32   12.96  n/a     .000
01222>  *     [RDT= 1.00] out<-    1.0 01:N_CE       54118.36   49.006 No_date   34:39   12.96  n/a     .000
01223>          [L/S/n=  159./ .082/ .035]
01224>          {Vmax= 1.113:Dmax= 2.623}
01225> #*************************************************************************
01226> #   Catchment S-1
01227> #   - To Jock River (north and south of Jock)
01228> #   - Primarily agricultural fields; portion of sand quarry
01229> #*************************************************************************
01230> R0002:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01231>      CONTINUOUS NASHYD      1.0 01:S-1-B          55.36      .825 No_date   28:24   14.83 .326     .000
01232>        [CN= 77.0: N= 3.00: Tp=  .45]
01233>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01234>        [InterEventTime=  12.00]
01235> #   - JFSA 2021-02-24 Change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
01236> #   - JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
01237> #   - JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
01238> R0002:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01239>      CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67     1.802 No_date   28:02   32.20 .707     .000
01240>        [XIMP=.65:TIMP=.65]
01241>        [LOSS= 2 :CN= 75.0]
01242>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01243>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
01244>        [IaRECimp=   4.00: IaRECper=   4.00]
01245>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01246> R0002:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01247>      CONTINUOUS STANDHYD    1.0 01:S-1-D4         3.28      .322 No_date   28:00   32.20 .707     .000
01248>        [XIMP=.65:TIMP=.65]
01249>        [LOSS= 2 :CN= 75.0]
01250>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01251>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
01252>        [IaRECimp=   4.00: IaRECper=   4.00]
01253>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01254> R0002:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01255>      CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84     1.124 No_date   28:02   32.20 .707     .000
01256>        [XIMP=.65:TIMP=.65]
01257>        [LOSS= 2 :CN= 75.0]
01258>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01259>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
01260>        [IaRECimp=   4.00: IaRECper=   4.00]
01261>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01262> R0002:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01263>      CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75      .176 No_date   28:00   32.20 .707     .000
01264>        [XIMP=.65:TIMP=.65]
01265>        [LOSS= 2 :CN= 75.0]
01266>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01267>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
01268>        [IaRECimp=   4.00: IaRECper=   4.00]
01269>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01270> R0002:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01271>      CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03      .204 No_date   28:00   32.20 .707     .000
01272>        [XIMP=.65:TIMP=.65]
01273>        [LOSS= 2 :CN= 75.0]
01274>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01275>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
01276>        [IaRECimp=   4.00: IaRECper=   4.00]
01277>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01278> #    Catchment W_CLAR
01279> #   - To West Clarke Drain (south of the Jock)
01280> #   - Subdivision with 43% imp. as per Barrhaven South MSS
01281> #   - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
01282> #   - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
01283> #*************************************************************************
01284> R0002:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01285>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ      1.77      .141 No_date   28:00   27.78 .610     .000
01286>        [XIMP=.46:TIMP=.59]
01287>        [LOSS= 2 :CN= 77.0]
01288>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01289>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
01290>        [IaRECimp=   4.00: IaRECper=   4.00]
01291>        [SMIN= 31.15: SMAX=207.66: SK= .010]
01292> # 5-Year + 12% Capture
01293> R0002:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01294>      ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ      1.77      .141 No_date   28:00   27.78  n/a     .000
01295>                  out <=    1.0 01:W_CLAR_MJn     1.77      .141 No_date   28:00   27.78  n/a     .000
01296>              overflow <=   1.0 03:W_CLAR_MJ         .00      .000 No_date    0:00     .00  n/a     .000
01297>       {MxStoUsed=.6675E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01298> R0002:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01299>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40     7.746 No_date   28:06   31.34 .689     .000
01300>        [XIMP=.60:TIMP=.65]
01301>        [LOSS= 2 :CN= 77.0]
01302>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01303>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
01304>        [IaRECimp=   4.00: IaRECper=   4.00]
01305>        [SMIN= 31.15: SMAX=207.66: SK= .010]
01306> R0002:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01307>      ADD HYD                1.0 02:W_CLAR_ALL    119.40     7.746 No_date   28:06   31.34  n/a     .000
01308>                       +     1.0 02:W_CLAR_MJ         .00      .000 No_date    0:00     .00  n/a     .000
01309>                     SUM=    1.0 01:W_CLAR        119.40     7.746 No_date   28:06   31.34  n/a     .000
01310> R0002:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01311>      SAVE HYD               1.0 01:W_CLAR        119.40     7.746 No_date   28:06   31.34  n/a     .000
01312>        fname :W_CLAR.0002
01313>        remark:Total Flows to West Clarke
01314> #*************************************************************************
01315> #   West Clarke Pond 2
01316> #   - Rating curve obtained from Barrhaven South MSS modeling
01317> #   - Tributary Drainage Area to MSS Pond 2 = 241 ha
01318> #*************************************************************************
01319> R0002:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01320>      ROUTE RESERVOIR ->    1.0 02:W_CLAR        119.40     7.746 No_date   28:06   31.34  n/a     .000
01321>                  out <=    1.0 01:MS_P2         119.40      .816 No_date   29:25   31.34  n/a     .000
01322>              overflow <=   1.0 03:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
01323>       {MxStoUsed=.2096E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01324> #*************************************************************************
01325> R0002:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01326>      ADD HYD                1.0 02:N_CE       54118.36   49.006 No_date   34:39   12.96  n/a     .000
01327>                       +     1.0 02:S-1-D4         3.28      .322 No_date   28:00   32.20  n/a     .000
01328>                       +     1.0 02:S-1-D5        12.84     1.124 No_date   28:02   32.20  n/a     .000
01329>                       +     1.0 02:MS_P2        119.40      .816 No_date   29:25   31.34  n/a     .000
01330>                       +     1.0 02:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
01331>                     SUM=    1.0 01:SN_CE      54253.88   49.530 No_date   34:38   13.00  n/a     .000
01332> R0002:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01333>      SAVE HYD               1.0 01:SN_CE      54253.88   49.530 No_date   34:38   13.00  n/a     .000
01334>        fname :SN_CE.0002
01335>        remark:Total Flows before Station 5737 on Jock River
01336> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
01337> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
01338> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
01339> R0002:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01340>      ROUTE CHANNEL   ->    1.0 02:SN_CE      54253.88   49.530 No_date   34:38   13.00  n/a     .000
01341>  *     [RDT= 1.00] out<-    1.0 01:5737       54253.88   48.266 No_date   37:41   13.00  n/a     .000
01342>          [L/S/n=  270./ .018/ .035]
01343>          {Vmax=  .610:Dmax= 3.450}
01344> R0002:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01345>      ADD HYD                1.0 02:5737       54253.88   48.266 No_date   37:41   13.00  n/a     .000
01346>                       +     1.0 02:S-1-D1         21.67     1.802 No_date   28:02   32.20  n/a     .000
01347>                       +     1.0 02:S-1-D6          1.75      .176 No_date   28:00   32.20  n/a     .000
01348>                       +     1.0 02:S-1-D7          2.03      .204 No_date   28:00   32.20  n/a     .000
01349>                     SUM=    1.0 01:5002       54279.33   48.297 No_date   37:41   13.01  n/a     .000
01350> R0002:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01351>      SAVE HYD               1.0 01:5002       54279.33   48.297 No_date   37:41   13.01  n/a     .000
01352>        fname :5002.0002
01353>        remark:Total Flows before Station 5002 on Jock River
01354> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
01355> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
01356> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
01357> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model will
01358> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
01359> R0002:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01360>      ROUTE CHANNEL   ->    1.0 02:5002       54279.33   48.297 No_date   37:41   13.01  n/a     .000
01361>        [RDT= 1.00] out<-    1.0 01:N_WCa      54279.33   48.300 No_date   37:38   13.01  n/a     .000
01362>          [L/S/n=  245./ .095/ .035]
01363>          {Vmax=  .958:Dmax= 2.005}
01364> R0002:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01365>      ROUTE CHANNEL   ->    1.0 02:N_WCa      54279.33   48.300 No_date   37:38   13.01  n/a     .000
01366>        [RDT= 1.00] out<-    1.0 01:N_WCb      54279.33   48.303 No_date   37:37   13.01  n/a     .000
01367>          [L/S/n=  245./ .095/ .035]
01368>          {Vmax=  .958:Dmax= 2.005}
01369> R0002:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01370>      ROUTE CHANNEL   ->    1.0 02:N_WCb      54279.33   48.303 No_date   37:37   13.01  n/a     .000
01371>        [RDT= 1.00] out<-    1.0 01:N_WC       54279.33   48.466 No_date   39:38   13.01  n/a     .000
01372>          [L/S/n=  245./ .095/ .035]
01373>          {Vmax=  .958:Dmax= 2.005}
01374> #*************************************************************************
01375> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
01376> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
01377> #
01378> R0002:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01379>      ROUTE CHANNEL   ->    1.0 02:N_WC       54279.33   48.466 No_date   39:38   13.01  n/a     .000
01380>        [RDT= 1.00] out<-    1.0 01:N_KB       54279.33   48.418 No_date   39:39   13.01  n/a     .000
01381>          [L/S/n=  1020./ .050/ .035]
01382>          {Vmax=  .847:Dmax= 2.418}
01383> #*************************************************************************
01384> #    Catchment KEN_BU
01385> #    - To Kennedy-Burnett SWM Facility
01386> #    - Outlets to Fraser-Clarke Drain (north of the Jock)
01387> #    - Medium density residential subdivision
01388> #*************************************************************************
01389> #*************************************************************************
01390> #   Existing Kennedy-Burnett SWM Facility
01391> #    - Rating curve obtained from URTKBP
01392> #    - Tributary Drainage Area to Pond = 160 ha
01393> #*************************************************************************
01394> R0002:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01395>      CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82     1.627 No_date   28:18   14.35 .315     .000
01396>        [XIMP=.10:TIMP=.40]
01397>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01398>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
01399>        [Impervious   area: IAimp= .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
01400>        [IaRECimp=   4.00: IaRECper=   4.00]
01401> R0002:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01402>      COMPUTE DUALHYD        1.0 01:KB-01A         40.82     1.627 No_date   28:18   14.35  n/a     .000
01403>        Major System   /     1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a     .000
01404>        Minor System   \     1.0 03:KB-01A-MN      40.82     1.627 No_date   28:18   14.35  n/a     .000
01405>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01406> R0002:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01407>      ADD HYD                1.0 02:KB-01A-MJ         .00      .000 No_date    0:00     .00  n/a     .000
01408>                       +     1.0 02:KB-01A-MN      40.82     1.627 No_date   28:18   14.35  n/a     .000
01409>                     SUM=    1.0 01:KB-01A-S       40.82     1.627 No_date   28:18   14.35  n/a     .000
01410> R0002:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01411>      CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10     1.062 No_date   28:08   16.28 .358     .000
01412>        [XIMP=.19:TIMP=.38]
01413>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01414>        [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
01415>        [Impervious   area: IAimp= .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
01416>        [IaRECimp=   4.00: IaRECper=   4.00]
01417> R0002:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01418>      COMPUTE DUALHYD        1.0 01:KB-01B         31.10     1.062 No_date   28:08   16.28  n/a     .000
01419>        Major System   /     1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a     .000
01420>        Minor System   \     1.0 03:KB-01B-MN      31.10     1.062 No_date   28:08   16.28  n/a     .000
01421>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01422> R0002:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01423>      ADD HYD                1.0 02:KB-01B-MJ         .00      .000 No_date    0:00     .00  n/a     .000
01424>                       +     1.0 02:KB-01B-MN      31.10     1.062 No_date   28:08   16.28  n/a     .000
01425>                     SUM=    1.0 01:KB-01B-S       31.10     1.062 No_date   28:08   16.28  n/a     .000
01426> R0002:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01427>      CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78      .776 No_date   28:06   17.09 .375     .000
01428>        [XIMP=.20:TIMP=.41]
01429>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01430>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01431>        [Impervious   area: IAimp= .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
01432>        [IaRECimp=   4.00: IaRECper=   4.00]
01433> R0002:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01434>      COMPUTE DUALHYD        1.0 01:KB-01C         13.78      .776 No_date   28:06   17.09  n/a     .000
01435>        Major System   /     1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a     .000
01436>        Minor System   \     1.0 03:KB-01C-MN      13.78      .776 No_date   28:06   17.09  n/a     .000
01437>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01438> R0002:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01439>      ADD HYD                1.0 02:KB-01C-MJ         .00      .000 No_date    0:00     .00  n/a     .000
01440>                       +     1.0 02:KB-01C-MN      13.78      .776 No_date   28:06   17.09  n/a     .000
01441>                     SUM=    1.0 01:KB-01C-S       13.78      .776 No_date   28:06   17.09  n/a     .000
01442> R0002:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01443>      CONTINUOUS STANDHYD    1.0 01:KB-03          84.78     3.788 No_date   28:12   16.73 .368     .000
01444>        [XIMP=.20:TIMP=.39]
01445>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01446>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01447>        [Impervious   area: IAimp= .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
01448>        [IaRECimp=   4.00: IaRECper=   4.00]
01449> R0002:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01450>      COMPUTE DUALHYD        1.0 01:KB-03          84.78     3.788 No_date   28:12   16.73  n/a     .000
01451>        Major System   /     1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a     .000
01452>        Minor System   \     1.0 03:KB-03-MN       84.78     3.788 No_date   28:12   16.73  n/a     .000
01453>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01454> R0002:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01455>      ADD HYD                1.0 02:KB-03-MJ          .00      .000 No_date    0:00     .00  n/a     .000
01456>                       +     1.0 02:KB-03-MN       84.78     3.788 No_date   28:12   16.73  n/a     .000
01457>                     SUM=    1.0 01:KB-03-S        84.78     3.788 No_date   28:12   16.73  n/a     .000
01458> R0002:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01459>      CONTINUOUS STANDHYD    1.0 01:KB-04          6.95      .792 No_date   28:01   38.80 .853     .000
01460>        [XIMP=.85:TIMP=.85]
01461>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01462>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01463>        [Impervious   area: IAimp= .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
01464>        [IaRECimp=   4.00: IaRECper=   4.00]
01465> R0002:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01466>      COMPUTE DUALHYD        1.0 01:KB-04          6.95      .792 No_date   28:01   38.80  n/a     .000
01467>        Major System   /     1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a     .000
01468>        Minor System   \     1.0 03:KB-04-MN       6.95      .503 No_date   27:53   39.02  n/a     .000
01469>        {MjSysSto=.1541E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01470> R0002:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01471>      ADD HYD                1.0 02:KB-04-MJ          .00      .000 No_date    0:00     .00  n/a     .000
01472>                       +     1.0 02:KB-04-MN       6.95      .503 No_date   27:53   39.02  n/a     .000
01473>                     SUM=    1.0 01:KB-04-S        6.95      .503 No_date   27:53   39.02  n/a     .000
01474> R0002:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01475>      CONTINUOUS STANDHYD    1.0 01:KB-05          5.19      .653 No_date   28:01   41.29 .907     .000
01476>        [XIMP=.93:TIMP=.93]
01477>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01478>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01479>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
01480>        [IaRECimp=   4.00: IaRECper=   4.00]
01481> R0002:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01482>      CONTINUOUS STANDHYD    1.0 01:KB-06          12.93     1.683 No_date   28:00   39.68 .872     .000
01483>        [XIMP=.87:TIMP=.87]
01484>        [Horton parameters: Fo= 76.20:F
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01497> R0002:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01498>      CONTINUOUS STANDHYD    1.0 01:KB-11          4.03     .425 No_date   28:00   32.17 .707     .000
01499>          [XIMP=.68:TIMP=.68]
01500>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01501>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01502>          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
01503>          [IaRECimp=   4.00: IaRECper=   4.00]
01504> R0002:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01505>      COMPUTE DUALHYD        1.0 01:KB-11          4.03     .425 No_date   28:00   32.17  n/a     .000
01506>       Major System   /     1.0 02:KB-11-MJ        .00     .000 No_date   0:00     .00  n/a     .000
01507>       Minor System   \     1.0 03:KB-11-MN        4.03     .425 No_date   28:00   32.17  n/a     .000
01508>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01509> R0002:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01510>      ADD HYD                1.0 02:KB-11-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01511>                           + 1.0 02:KB-11-MN        4.03     .425 No_date   28:00   32.17  n/a     .000
01512>                     SUM=    1.0 01:KB-11-S         4.03     .425 No_date   28:00   32.17  n/a     .000
01513> R0002:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01514>      CONTINUOUS STANDHYD    1.0 01:S1             4.99     .689 No_date   28:00   41.29 .907     .000
01515>          [XIMP=.93:TIMP=.93]
01516>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01517>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01518>          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
01519>          [IaRECimp=   4.00: IaRECper=   4.00]
01520> R0002:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01521>      CONTINUOUS STANDHYD    1.0 01:KB-15          2.15     .241 No_date   28:00   37.11 .815     .000
01522>          [XIMP=.79:TIMP=.79]
01523>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01524>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01525>          [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
01526>          [IaRECimp=   4.00: IaRECper=   4.00]
01527> R0002:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01528>      ADD HYD                1.0 02:KB-01A-S       40.82    1.627 No_date   28:18   14.35  n/a     .000
01529>                           + 1.0 02:KB-01B-S       31.10    1.062 No_date   28:08   16.28  n/a     .000
01530>                           + 1.0 02:KB-01C-S       13.78     .776 No_date   28:06   17.09  n/a     .000
01531>                           + 1.0 02:KB-03-S        84.78    3.788 No_date   28:12   16.73  n/a     .000
01532>                           + 1.0 02:KB-04-S         6.95     .503 No_date   27:53   39.02  n/a     .000
01533>                           + 1.0 02:KB-05           5.19     .653 No_date   28:01   41.29  n/a     .000
01534>                           + 1.0 02:KB-06-S        12.93    1.683 No_date   28:00   39.68  n/a     .000
01535>                           + 1.0 02:KB-11-S         4.03     .425 No_date   28:00   32.17  n/a     .000
01536>                           + 1.0 02:KB-15           2.15     .241 No_date   28:00   37.11  n/a     .000
01537>                           + 1.0 02:S1              4.99     .689 No_date   28:00   41.29  n/a     .000
01538>                     SUM=    1.0 01:KB-P1          206.72   9.491 No_date   28:02   20.13  n/a     .000
01539> R0002:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01540>      ROUTE RESERVOIR ->     1.0 02:KB-P1          206.72   9.491 No_date   28:02   20.13  n/a     .000
01541>                       out <= 1.0 01:KB-P1R         206.72   8.405 No_date   28:13   20.13  n/a     .000
01542>                overflow <=   1.0 03:KB-P1ovf         .00     .000 No_date   0:00      .00  n/a     .000
01543>          {MxStoUsed=.3779E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovfs=    0, TotDurOvf=    0.hrs}
01544> R0002:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01545>      ADD HYD                1.0 02:KB-P1R         206.72   8.405 No_date   28:13   20.13  n/a     .000
01546>                           + 1.0 02:KB-P1ovf         .00     .000 No_date   0:00      .00  n/a     .000
01547>                     SUM=    1.0 01:KB-Pond1       206.72   8.405 No_date   28:13   20.13  n/a     .000
01548> R0002:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01549>      SAVE HYD               1.0 01:KB-Pond1       206.72   8.405 No_date   28:13   20.13  n/a     .000
01550>          fname :KB-Pond1.0002
01551>          remark:Total Flows at KB first pond
01552> R0002:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01553>      CONTINUOUS STANDHYD    1.0 01:KB-07          10.86    1.337 No_date   28:00   39.32 .864     .000
01554>          [XIMP=.86:TIMP=.86]
01555>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01556>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01557>          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
01558>          [IaRECimp=   4.00: IaRECper=   4.00]
01559> R0002:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01560>      COMPUTE DUALHYD        1.0 01:KB-07          10.86    1.337 No_date   28:00   39.32  n/a     .000
01561>       Major System   /     1.0 02:KB-07-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01562>       Minor System   \     1.0 03:KB-07-MN        10.86    1.337 No_date   28:00   39.32  n/a     .000
01563>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01564> R0002:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01565>      ADD HYD                1.0 02:KB-07-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01566>                           + 1.0 02:KB-07-MN        10.86    1.337 No_date   28:00   39.32  n/a     .000
01567>                     SUM=    1.0 01:KB-07-S         10.86    1.337 No_date   28:00   39.32  n/a     .000
01568> R0002:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01569>      CONTINUOUS STANDHYD    1.0 01:KB-08           6.61     .651 No_date   28:00   30.82 .677     .000
01570>          [XIMP=.64:TIMP=.64]
01571>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01572>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01573>          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
01574>          [IaRECimp=   4.00: IaRECper=   4.00]
01575> R0002:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01576>      COMPUTE DUALHYD        1.0 01:KB-08           6.61     .651 No_date   28:00   30.82  n/a     .000
01577>       Major System   /     1.0 02:KB-08-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01578>       Minor System   \     1.0 03:KB-08-MN        6.61     .651 No_date   28:00   30.82  n/a     .000
01579>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01580> R0002:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01581>      ADD HYD                1.0 02:KB-08-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01582>                           + 1.0 02:KB-08-MN        6.61     .651 No_date   28:00   30.82  n/a     .000
01583>                     SUM=    1.0 01:KB-08-S         6.61     .651 No_date   28:00   30.82  n/a     .000
01584> R0002:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01585>      CONTINUOUS STANDHYD    1.0 01:KB-09           2.60     .344 No_date   28:00   38.64 .849     .000
01586>          [XIMP=.86:TIMP=.86]
01587>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01588>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01589>          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
01590>          [IaRECimp=   4.00: IaRECper=   4.00]
01591> R0002:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01592>      CONTINUOUS STANDHYD    1.0 01:KB-10_1         2.37     .314 No_date   28:00   38.64 .849     .000
01593>          [XIMP=.86:TIMP=.86]
01594>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01595>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01596>          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
01597>          [IaRECimp=   4.00: IaRECper=   4.00]
01598> R0002:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01599>      CONTINUOUS STANDHYD    1.0 01:KB-10_2         1.14     .153 No_date   28:00   38.64 .849     .000
01600>          [XIMP=.86:TIMP=.86]
01601>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01602>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01603>          [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
01604>          [IaRECimp=   4.00: IaRECper=   4.00]
01605> R0002:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01606>      CONTINUOUS STANDHYD    1.0 01:KB-12           4.86     .581 No_date   28:00   36.37 .799     .000
01607>          [XIMP=.79:TIMP=.79]
01608>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01609>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01610>          [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
01611>          [IaRECimp=   4.00: IaRECper=   4.00]
01612> R0002:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01613>      COMPUTE DUALHYD        1.0 01:KB-12           4.86     .581 No_date   28:00   36.37  n/a     .000
01614>       Major System   /     1.0 02:KB-12-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01615>       Minor System   \     1.0 03:KB-12-MN        4.86     .581 No_date   28:00   36.37  n/a     .000
01616>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01617> R0002:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01618>      ADD HYD                1.0 02:KB-12-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01619>                           + 1.0 02:KB-12-MN        4.86     .581 No_date   28:00   36.37  n/a     .000
01620>                     SUM=    1.0 01:KB-12-S         4.86     .581 No_date   28:00   36.37  n/a     .000
01621> R0002:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01622>      CONTINUOUS STANDHYD    1.0 01:KB-13          10.19     .970 No_date   28:00   30.82 .677     .000
01623>          [XIMP=.64:TIMP=.64]
01624>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01625>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01626>          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
01627>          [IaRECimp=   4.00: IaRECper=   4.00]
01628> R0002:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01629>      COMPUTE DUALHYD        1.0 01:KB-13          10.19     .970 No_date   28:00   30.82  n/a     .000
01630>       Major System   /     1.0 02:KB-13-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01631>       Minor System   \     1.0 03:KB-13-MN        10.19     .970 No_date   28:00   30.82  n/a     .000
01632>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01633> R0002:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01634>      ADD HYD                1.0 02:KB-13-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01635>                           + 1.0 02:KB-13-MN        10.19     .970 No_date   28:00   30.82  n/a     .000
01636>                     SUM=    1.0 01:KB-13-S         10.19     .970 No_date   28:00   30.82  n/a     .000
01637> R0002:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01638>      CONTINUOUS STANDHYD    1.0 01:KB-14           5.47     .543 No_date   28:00   30.82 .677     .000
01639>          [XIMP=.64:TIMP=.64]
01640>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01641>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01642>          [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
01643>          [IaRECimp=   4.00: IaRECper=   4.00]
01644> R0002:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01645>      COMPUTE DUALHYD        1.0 01:KB-14           5.47     .543 No_date   28:00   30.82  n/a     .000
01646>       Major System   /     1.0 02:KB-14-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01647>       Minor System   \     1.0 03:KB-14-MN        5.47     .543 No_date   28:00   30.82  n/a     .000
01648>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01649> R0002:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01650>      ADD HYD                1.0 02:KB-14-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01651>                           + 1.0 02:KB-14-MN        5.47     .543 No_date   28:00   30.82  n/a     .000
01652>                     SUM=    1.0 01:KB-14-S         5.47     .543 No_date   28:00   30.82  n/a     .000
01653> R0002:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01654>      CONTINUOUS STANDHYD    1.0 01:KB-16_2         3.42     .337 No_date   28:01   33.97 .746     .000
01655>          [XIMP=.71:TIMP=.71]
01656>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01657>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01658>          [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
01659>          [IaRECimp=   4.00: IaRECper=   4.00]
01660> R0002:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01661>      ADD HYD                1.0 02:KB-Pond1       206.72   8.405 No_date   28:13   20.13  n/a     .000
01662>                           + 1.0 02:KB-01B-S       31.10    1.062 No_date   28:08   16.28  n/a     .000
01663>                           + 1.0 02:KB-08-S         6.61     .651 No_date   28:00   30.82  n/a     .000
01664>                           + 1.0 02:KB-09           2.60     .344 No_date   28:00   38.64  n/a     .000
01665>                           + 1.0 02:KB-10_1         2.37     .314 No_date   28:00   38.64  n/a     .000
01666>                           + 1.0 02:KB-10_2         1.14     .153 No_date   28:00   38.64  n/a     .000
01667>                           + 1.0 02:KB-12-S         4.86     .581 No_date   28:00   36.37  n/a     .000
01668>                           + 1.0 02:KB-13-S        10.19     .970 No_date   28:00   30.82  n/a     .000
01669>                           + 1.0 02:KB-14-S         5.47     .543 No_date   28:00   30.82  n/a     .000
01670>                           + 1.0 02:KB-16_2         3.42     .337 No_date   28:01   33.97  n/a     .000
01671>                     SUM=    1.0 01:KB-P2          254.24   11.772 No_date   28:02   22.82  n/a     .000
01672> R0002:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01673>      ROUTE RESERVOIR ->     1.0 02:KB-P2          254.24   11.772 No_date   28:02   22.82  n/a     .000
01674>                       out <= 1.0 01:KB-P2R         254.24   9.930 No_date   28:12   22.82  n/a     .000
01675>                overflow <=   1.0 03:KB-P2ovf         .00     .000 No_date   0:00      .00  n/a     .000
01676>          {MxStoUsed=.4507E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovfs=    0, TotDurOvf=    0.hrs}
01677> R0002:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01678>      ADD HYD                1.0 02:KB-P2R         254.24   9.930 No_date   28:12   22.82  n/a     .000
01679>                           + 1.0 02:KB-P2ovf         .00     .000 No_date   0:00      .00  n/a     .000
01680>                     SUM=    1.0 01:KB-Pond2       254.24   9.930 No_date   28:12   22.82  n/a     .000
01681> R0002:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01682>      SAVE HYD               1.0 01:KB-Pond2       254.24   9.930 No_date   28:12   22.82  n/a     .000
01683>          fname :KB-Pond2.0002
01684>          remark:Total Flows at KB second pond
01685> R0002:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01686>      CONTINUOUS STANDHYD    1.0 01:KB-16_1         2.80     .293 No_date   28:01   35.54 .781     .000
01687>          [XIMP=.75:TIMP=.75]
01688>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01689>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01690>          [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
01691>          [IaRECimp=   4.00: IaRECper=   4.00]
01692> R0002:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01693>      ADD HYD                1.0 02:KB-Pond2       254.24    9.930 No_date   28:12   22.82  n/a     .000
01694>                           + 1.0 02:KB-16_1         2.80     .293 No_date   28:01   35.54  n/a     .000
01695>                     SUM=    1.0 01:KB-Pond3       257.04   10.048 No_date   28:11   22.96  n/a     .000
01696> R0002:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01697>      ROUTE RESERVOIR ->     1.0 02:KB-P3          257.04   10.049 No_date   28:11   22.96  n/a     .000
01698>                       out <= 1.0 01:KB-P3R         18.54     .051 No_date   18:09   22.96  n/a     .000
01699>                overflow <=   1.0 03:KB-P3ovf       238.50    9.997 No_date   28:11   22.96  n/a     .000
01700>          {MxStoUsed=.2001E-02  m3, TotOvfVol=.5477E+01  m3, N-Ovfs=    1, TotDurOvf=   22.hrs}
01701> R0002:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01702>      ADD HYD                1.0 02:KB-P3R         18.54     .051 No_date   18:09   22.96  n/a     .000
01703>                           + 1.0 02:KB-P3ovf       238.50    9.997 No_date   28:11   22.96  n/a     .000
01704>                     SUM=    1.0 01:KB-Pond3       257.04   10.048 No_date   28:11   22.96  n/a     .000
01705> R0002:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01706>      SAVE HYD               1.0 01:KB-Pond3       257.04   10.048 No_date   28:11   22.96  n/a     .000
01707>          fname :KB-Pond3.0002
01708>          remark:Total Flows at KB third pond
01709> #*************************************************************************
01710> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
01711> #    - TO FRASER-CLARKE DRAIN
01712> #*************************************************************************
01713> R0002:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01714>      CONTINUOUS STANDHYD    1.0 01:FC-01           8.03     .575 No_date   28:01   23.89 .525     .000
01715>          [XIMP=.47:TIMP=.47]
01716>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01717>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01718>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
01719>          [IaRECimp=   4.00: IaRECper=   4.00]
01720> R0002:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01721>      COMPUTE DUALHYD        1.0 01:FC-01           8.03     .575 No_date   28:01   23.89  n/a     .000
01722>       Major System   /     1.0 02:FC-01-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01723>       Minor System   \     1.0 03:FC-01-MN        8.03     .575 No_date   28:01   23.89  n/a     .000
01724>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01725> R0002:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01726>      ADD HYD                1.0 02:FC-01-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01727>                           + 1.0 02:FC-01-MN        8.03     .575 No_date   28:01   23.89  n/a     .000
01728>                     SUM=    1.0 01:FC-01-S         8.03     .575 No_date   28:01   23.89  n/a     .000
01729> R0002:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01730>      CONTINUOUS STANDHYD    1.0 01:FC-02          16.05    1.936 No_date   28:01   41.29 .907     .000
01731>          [XIMP=.93:TIMP=.93]
01732>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01733>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01734>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
01735>          [IaRECimp=   4.00: IaRECper=   4.00]
01736> R0002:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01737>      COMPUTE DUALHYD        1.0 01:FC-02          16.05    1.936 No_date   28:01   41.29  n/a     .000
01738>       Major System   /     1.0 02:FC-02-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01739>       Minor System   \     1.0 03:FC-02-MN        16.05    1.159 No_date   27:52   41.31  n/a     .000
01740>         {MjSysSto=.4641E+03, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01741> R0002:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01742>      ADD HYD                1.0 02:FC-02-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01743>                           + 1.0 02:FC-02-MN        16.05    1.159 No_date   27:52   41.31  n/a     .000
01744>                     SUM=    1.0 01:FC-02-S         16.05    1.159 No_date   27:52   41.31  n/a     .000
01745> R0002:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01746>      CONTINUOUS STANDHYD    1.0 01:FC-03           7.37     .687 No_date   28:01   30.32 .666     .000
01747>          [XIMP=.64:TIMP=.64]
01748>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01749>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01750>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
01751>          [IaRECimp=   4.00: IaRECper=   4.00]
01752> R0002:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01753>      COMPUTE DUALHYD        1.0 01:FC-03           7.37     .687 No_date   28:01   30.32  n/a     .000
01754>       Major System   /     1.0 02:FC-03-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01755>       Minor System   \     1.0 03:FC-03-MN        7.37     .358 No_date   27:49   30.49  n/a     .000
01756>         {MjSysSto=.2043E+03, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01757> R0002:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01758>      ADD HYD                1.0 02:FC-03-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01759>                           + 1.0 02:FC-03-MN        7.37     .358 No_date   27:49   30.49  n/a     .000
01760>                     SUM=    1.0 01:FC-03-S         7.37     .358 No_date   27:49   30.49  n/a     .000
01761> R0002:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01762>      CONTINUOUS STANDHYD    1.0 01:FC-04          12.87    1.148 No_date   28:01   30.32 .666     .000
01763>          [XIMP=.64:TIMP=.64]
01764>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01765>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01766>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
01767>          [IaRECimp=   4.00: IaRECper=   4.00]
01768> R0002:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01769>      COMPUTE DUALHYD        1.0 01:FC-04          12.87    1.148 No_date   28:01   30.32  n/a     .000
01770>       Major System   /     1.0 02:FC-04-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01771>       Minor System   \     1.0 03:FC-04-MN        12.87    .741 No_date   27:53   30.44  n/a     .000
01772>         {MjSysSto=.2134E+03, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01773> R0002:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01774>      ADD HYD                1.0 02:FC-04-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01775>                           + 1.0 02:FC-04-MN        12.87    .741 No_date   27:53   30.44  n/a     .000
01776>                     SUM=    1.0 01:FC-04-S         12.87    .741 No_date   27:53   30.44  n/a     .000
01777> #*************************************************************************
01778> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
01779> #    - TO JOCK RIVER
01780> #*************************************************************************
01781> R0002:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01782>      CONTINUOUS STANDHYD    1.0 01:JR-01           8.24     .764 No_date   28:01   30.32 .666     .000
01783>          [XIMP=.64:TIMP=.64]
01784>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01785>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01786>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
01787>          [IaRECimp=   4.00: IaRECper=   4.00]
01788> R0002:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01789>      COMPUTE DUALHYD        1.0 01:JR-01           8.24     .764 No_date   28:01   30.32  n/a     .000
01790>       Major System   /     1.0 02:JR-01-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01791>       Minor System   \     1.0 03:JR-01-MN        8.24     .563 No_date   28:13   30.43  n/a     .000
01792>         {MjSysSto=.8257E+02, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01793> R0002:C00260------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01794>      ADD HYD                1.0 02:JR-01-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01795>                           + 1.0 02:JR-01-MN        8.24     .563 No_date   27:55   30.43  n/a     .000
01796>                     SUM=    1.0 01:JR-01-S         8.24     .563 No_date   27:55   30.43  n/a     .000
01797> R0002:C00261------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01798>      CONTINUOUS STANDHYD    1.0 01:JR-02           1.59     .162 No_date   28:00   30.32 .666     .000
01799>          [XIMP=.64:TIMP=.64]
01800>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
01801>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01802>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
01803>          [IaRECimp=   4.00: IaRECper=   4.00]
01804> R0002:C00262------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01805>      COMPUTE DUALHYD        1.0 01:JR-02           1.59     .162 No_date   28:00   30.32  n/a     .000
01806>       Major System   /     1.0 02:JR-02-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01807>       Minor System   \     1.0 03:JR-02-MN        1.59     .153 No_date   27:58   30.45  n/a     .000
01808>         {MjSysSto=.1236E+01, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
01809> R0002:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01810>      ADD HYD                1.0 02:JR-02-MJ        .00     .000 No_date   0:00      .00  n/a     .000
01811>                           + 1.0 02:JR-02-MN        1.59     .153 No_date   27:58   30.45  n/a     .000
01812>                     SUM=    1.0 01:JR-02-S         1.59     .153 No_date   27:58   30.45  n/a     .000
01813> #*************************************************************************
01814> #    Catchment FRASER
01815> #    - To Fraser-Clarke drain (north of the Jock)
01816> #    - Developed land with assumed 43% imp.
01817> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
01
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01871>     SAVE HYD              1.0 01:SN_KB      54681.13   48.551 No_date   39:29   13.09  n/a     .000
01872>       fname :SN_KB.0002
01873>       remark:HYD_COMMENT=["Total Flows before Station 3633]
01874> # Hydrograph from Station 3633 to Node Todd
01875> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
01876> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
01877> #
01878> R0002:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01879>     ROUTE CHANNEL         1.0 02:SN_KB      54681.13   48.551 No_date   39:29   13.09  n/a     .000
01880>     [RDT= 1.00] out<-     1.0 01:N_TO       54681.13   48.522 No_date   37:57   13.09  n/a     .000
01881>       [L/S/n=  608./ .247/.035]
01882>       [Vmax= 1.295:Dmax= 1.131]
01883> #*************************************************************************
01884> #    Catchment Greenbank
01885> #    - To Greenbank Drain (south of the Jock)
01886> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, R598(06)-15, June 2016
01887> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
01888> #*************************************************************************
01889> R0002:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01890>     CONTINUOUS STANDHYD    1.0 01:Greenbank     36.60     2.954 No_date   28:02   32.54 .715    .000
01891>       [XIMP=.64:TIMP=.68]
01892>       [LOSS= 2 :CN= 77.0]
01893>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01894>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
01895>       [IaRECimp=   4.00: IaRECper=   4.00]
01896>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01897> R0002:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01898>     ROUTE RESERVOIR ->    1.0 02:Greenbank     36.60     2.954 No_date   28:02   32.54 n/a     .000
01899>                  out <=   1.0 01:GreenB_MN     36.60     .569 No_date   28:38   32.54 n/a     .000
01900>             overflow <=   1.0 03:GreenB_MJ       .00     .000 No_date    0:00     .00 n/a     .000
01901>     {MxStoUsed=.6052E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01902> R0002:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01903>     ADD HYD               1.0 02:N_TO       54681.13   48.522 No_date   37:57   13.09  n/a     .000
01904>                     +     1.0 02:GreenB_MJ      .00     .000 No_date    0:00     .00 n/a     .000
01905>                     +     1.0 02:GreenB_MN    36.60     .569 No_date   28:38   32.54 n/a     .000
01906>                   SUM=    1.0 03:GreenB       54717.73   48.599 No_date   37:56   13.10 n/a     .000
01907> R0002:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01908>     SAVE HYD              1.0 01:GreenB     54717.73   48.599 No_date   37:56   13.10  n/a     .000
01909>       fname :GreenB.0002
01910>       remark:Total Flows at Greenbank Drain
01911> #*************************************************************************
01912> #    Catchment TODD
01913> #    - To Todd Drain (south of the Jock)
01914> #    - Subdivision with 43% imp. as per Barrhaven South MSS
01915> #    - 2020-11-30 increase imp. based on R598(04)-11
01916> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on R598(04)-11
01917> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
01918> #*************************************************************************
01919> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
01920> R0002:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01921>     CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10     .179 No_date   28:00   28.91 .635    .000
01922>       [XIMP=.53:TIMP=.57]
01923>       [LOSS= 2 :CN= 77.0]
01924>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01925>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
01926>       [IaRECimp=   4.00: IaRECper=   4.00]
01927>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01928> R0002:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01929>     CONTINUOUS STANDHYD    1.0 01:TODD_MN3        .12      .011 No_date   28:00   28.91 .635    .000
01930>       [XIMP=.53:TIMP=.57]
01931>       [LOSS= 2 :CN= 77.0]
01932>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01933>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
01934>       [IaRECimp=   4.00: IaRECper=   4.00]
01935>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01936> R0002:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01937>     CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23     2.154 No_date   28:03   29.64 .651    .000
01938>       [XIMP=.52:TIMP=.64]
01939>       [LOSS= 2 :CN= 77.0]
01940>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01941>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
01942>       [IaRECimp=   4.00: IaRECper=   4.00]
01943>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01944> R0002:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01945>     CONTINUOUS STANDHYD    1.0 01:TODD_ALL      112.91     6.553 No_date   28:06   28.70 .631    .000
01946>       [XIMP=.52:TIMP=.57]
01947>       [LOSS= 2 :CN= 77.0]
01948>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01949>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
01950>       [IaRECimp=   4.00: IaRECper=   4.00]
01951>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01952> R0002:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01953>     CONTINUOUS STANDHYD    1.0 01:TODD_P         3.06      .295 No_date   28:00   31.76 .698    .000
01954>       [XIMP=.63:TIMP=.63]
01955>       [LOSS= 2 :CN= 77.0]
01956>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01957>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
01958>       [IaRECimp=   4.00: IaRECper=   4.00]
01959>       [SMIN= 31.15: SMAX=207.66: SK= .010]
01960> # 5-Year + 12% Capture
01961> R0002:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01962>     ROUTE RESERVOIR ->    1.0 02:TODD_MJ        30.23     2.154 No_date   28:03   29.64 n/a     .000
01963> *                  out <=   1.0 01:TODD_MJn      30.23     2.154 No_date   28:03   29.64  n/a     .000
01964>             overflow <=   1.0 03:TODD_MJj        .00      .000 No_date    0:00     .00 n/a     .000
01965>     {MxStoUsed=.6551E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01966> # 5-Year + 12% Capture
01967> R0002:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01968>     ROUTE RESERVOIR ->    1.0 02:TODD_MN2       2.10     .179 No_date   28:00   28.91 n/a     .000
01969>                  out <=   1.0 01:TODD_MN2n      2.10     .179 No_date   28:00   28.91  n/a     .000
01970>             overflow <=   1.0 03:TODD_MN2j        .00      .000 No_date    0:00     .00 n/a     .000
01971>     {MxStoUsed=.861E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01972> R0002:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01973>     ROUTE RESERVOIR ->    1.0 02:TODD_MN3        .12      .011 No_date   28:00   28.91 n/a     .000
01974>                  out <=   1.0 01:TODD_MN3n       .12      .010 No_date   28:00   28.91  n/a     .000
01975>             overflow <=   1.0 03:TODD_MN3j        .00      .000 No_date    0:00     .00 n/a     .000
01976>     {MxStoUsed=.6566E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01977> R0002:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01978>     CONTINUOUS STANDHYD    1.0 01:A2             25.50     1.427 No_date   28:04   25.60 .563    .000
01979>       [XIMP=.42:TIMP=.52]
01980>       [LOSS= 2 :CN= 75.0]
01981>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01982>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
01983>       [IaRECimp=   4.00: IaRECper=   4.00]
01984>       [SMIN= 33.81: SMAX=225.43: SK= .010]
01985> R0002:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01986>     COMPUTE DUALHYD       1.0 01:A2             25.50     1.427 No_date   28:04   25.60 n/a     .000
01987>       Major System   /     1.0 02:A2-MJ           .00      .000 No_date    0:00     .00 n/a     .000
01988>       Minor System   \     1.0 03:A2-MN         25.50     1.427 No_date   28:04   25.60  n/a     .000
01989>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01990> R0002:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01991>     ADD HYD               1.0 02:TODD_MN2n      2.10     .179 No_date   28:00   28.91 n/a     .000
01992>                     +     1.0 02:TODD_MN3n       .12      .010 No_date   28:00   28.91 n/a     .000
01993>                     +     1.0 02:TODD_MJj        .00      .000 No_date    0:00     .00 n/a     .000
01994>                     +     1.0 02:TODD_P         3.06      .295 No_date   28:00   31.77 n/a     .000
01995>                     +     1.0 02:TODD_ALL     112.91     6.553 No_date   28:06   28.70 n/a     .000
01996>                     +     1.0 02:W_CLAR_MJn     1.77      .141 No_date   28:00   27.78 n/a     .000
01997>                   SUM=    1.0 01:TODD         119.95     6.882 No_date   28:05   28.77 n/a     .000
01998> R0002:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01999>     SAVE HYD              1.0 01:TODD         119.95     6.882 No_date   28:05   28.77 n/a     .000
02000>       fname :TODD.0002
02001>       remark:Total Flows at Todd Drain
02002> #*************************************************************************
02003> #    Todd Pond 3
02004> #    - Rating curve obtained from Barrhaven South MSS modelling
02005> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
02006> #*************************************************************************
02007> R0002:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02008>     ROUTE RESERVOIR ->    1.0 02:TODD         119.95     6.882 No_date   28:05   28.77  n/a     .000
02009>                  out <=   1.0 01:MS_P3        119.95     1.033 No_date   29:08   28.76 n/a     .000
02010>             overflow <=   1.0 03:P3-OVF          .00      .000 No_date    0:00     .00 n/a     .000
02011>     {MxStoUsed=.2183E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02012> R0002:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02013>     ADD HYD               1.0 02:GreenB       54717.73   48.599 No_date   37:56   13.10  n/a     .000
02014>                     +     1.0 02:MS_P3        119.95     1.033 No_date   29:08   28.76 n/a     .000
02015>                     +     1.0 02:P3-OVF          .00      .000 No_date    0:00     .00 n/a     .000
02016>                     +     1.0 02:TODD_MN2j       .00      .000 No_date    0:00     .00 n/a     .000
02017>                     +     1.0 02:A2-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02018>                   SUM=    1.0 01:SN_TO        54837.69   48.739 No_date   37:56   13.13 n/a     .000
02019> R0002:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02020>     SAVE HYD              1.0 01:SN_TO        54837.69   48.739 No_date   37:56   13.13  n/a     .000
02021>       fname :SN_TO.0002
02022>       remark:Total Flows at Todd Drain
02023> #
02024> # Hydrograph from Todd Drain routed to Corrigan Drain
02025> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
02026> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
02027> R0002:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02028>     ROUTE CHANNEL         1.0 02:SN_TO        54837.69   48.739 No_date   37:56   13.13 n/a     .000
02029> *   [RDT= 1.00] out<-     1.0 01:N_TO         54837.69   48.720 No_date   38:09   13.13  n/a     .000
02030>       [L/S/n=  200./ .050/.045]
02031>       [Vmax=  .727:Dmax= 2.123]
02032> R0002:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02033>     SAVE HYD              1.0 01:N_TO         54837.69   48.720 No_date   38:09   13.13  n/a     .000
02034>       fname :N_TO.0002
02035>       remark:Total inflows at Station 2462
02036> #*************************************************************************
02037> #    Catchment CORRIG
02038> #    - To Corrigan Drain (south of the Jock)
02039> #    - Primarily developed (medium density)
02040> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
02041> #*************************************************************************
02042> R0002:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02043>     CONTINUOUS STANDHYD    1.0 01:corr1          15.87     1.352 No_date   28:02   31.77 .698    .000
02044>       [XIMP=.63:TIMP=.63]
02045>       [LOSS= 2 :CN= 77.0]
02046>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02047>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
02048>       [IaRECimp=   4.00: IaRECper=   4.00]
02049>       [SMIN= 31.15: SMAX=207.66: SK= .010]
02050> R0002:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02051>     COMPUTE DUALHYD       1.0 01:corr1          15.87     1.352 No_date   28:02   31.77  n/a     .000
02052>       Major System   /     1.0 02:corr1-MJ        .00      .000 No_date    0:00     .00 n/a     .000
02053>       Minor System   \     1.0 03:corr1-MN      15.87     1.352 No_date   28:02   31.77 n/a     .000
02054>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02055> R0002:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02056>     CONTINUOUS NASHYD     1.0 01:corr2          12.47      .100 No_date   29:12   14.83 .326    .000
02057>       [CN= 77.0: N= 3.00: Tp= 1.10]
02058>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02059>       [InterEventTime=  12.00]
02060> R0002:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02061>     CONTINUOUS STANDHYD    1.0 01:A1-Corrig      15.75      .982 No_date   28:02   25.60 .563    .000
02062>       [XIMP=.42:TIMP=.52]
02063>       [LOSS= 2 :CN= 75.0]
02064>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02065>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
02066>       [IaRECimp=   4.00: IaRECper=   4.00]
02067>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02068> R0002:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02069>     COMPUTE DUALHYD       1.0 01:A1-Corrig      15.75      .982 No_date   28:02   25.60  n/a     .000
02070>       Major System   /     1.0 02:A1-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02071>       Minor System   \     1.0 03:A1-MN         15.75      .982 No_date   28:02   25.60 n/a     .000
02072>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02073> R0002:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02074>     CONTINUOUS NASHYD     1.0 01:B1             2.77      .033 No_date   28:09    9.64 .212    .000
02075>       [CN= 56.0: N= 3.00: Tp= 1.23]
02076>       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
02077>       [InterEventTime=  12.00]
02078> R0002:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02079>     CONTINUOUS STANDHYD    1.0 01:A4             1.27      .116 No_date   28:01   32.20 .707    .000
02080>       [XIMP=.65:TIMP=.65]
02081>       [LOSS= 2 :CN= 75.0]
02082>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02083>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
02084>       [IaRECimp=   4.00: IaRECper=   4.00]
02085>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02086> R0002:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02087>     COMPUTE DUALHYD       1.0 01:A4             1.27      .116 No_date   28:01   32.20  n/a     .000
02088>       Major System   /     1.0 02:A4-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02089>       Minor System   \     1.0 03:A4-MN          1.27      .116 No_date   28:01   32.20 n/a     .000
02090>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02091> R0002:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02092>     ADD HYD               1.0 02:A1-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02093>                     +     1.0 02:A4-MN          15.75      .982 No_date   28:02   25.60 n/a     .000
02094>                     +     1.0 02:corr1-MJ        .00      .000 No_date    0:00     .00 n/a     .000
02095>                     +     1.0 02:corr1-MN      15.87     1.352 No_date   28:02   31.77 n/a     .000
02096>                     +     1.0 02:corr2         12.47      .100 No_date   29:12   14.83 n/a     .000
02097>                     +     1.0 02:B1             2.77      .033 No_date   28:09    9.64 n/a     .000
02098>                     +     1.0 02:A4-MN          1.27      .116 No_date   28:01   32.20 n/a     .000
02099>                   SUM=    1.0 01:MH101         48.13     2.497 No_date   28:02   24.10 n/a     .000
02100> R0002:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02101>     SAVE HYD              1.0 01:MH101         48.13     2.497 No_date   28:02   24.10  n/a     .000
02102>       fname :MH101.0002
02103>       remark:Total Flows at MH101
02104> R0002:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02105>     ROUTE PIPE            ->    1.0 02:MH101         48.13     2.497 No_date   28:02   24.10 n/a     .000
02106> *   [RDT= 1.00] out<-     1.0 01:101-102       48.13     2.412 No_date   28:03   24.10  n/a     .000
02107>       [L/S/n=  368./ .540/.013]
02108>       [Vmax= 2.789:Dmax=  .935]
02109>       [Din= 1.05:Dused= 1.14]
02110> R0002:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02111>     ADD HYD               1.0 02:A2-MN          25.50     1.427 No_date   28:04   25.60 n/a     .000
02112>                     +     1.0 02:101-102        48.13     2.412 No_date   28:03   24.10 n/a     .000
02113>                   SUM=    1.0 01:MH102          73.63     3.837 No_date   28:03   24.62 n/a     .000
02114> R0002:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02115>     SAVE HYD              1.0 01:MH102          73.63     3.837 No_date   28:03   24.62  n/a     .000
02116>       fname :MH102.0002
02117>       remark:Total Flows at MH102
02118> R0002:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02119>     CONTINUOUS STANDHYD    1.0 01:A5             1.60      .155 No_date   28:01   34.21 .752    .000
02120>       [XIMP=.71:TIMP=.71]
02121>       [LOSS= 2 :CN= 75.0]
02122>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02123>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
02124>       [IaRECimp=   4.00: IaRECper=   4.00]
02125>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02126> R0002:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02127>     ADD HYD               1.0 02:A4-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02128>                     +     1.0 02:A5             1.60      .155 No_date   28:01   34.21 n/a     .000
02129>                   SUM=    1.0 01:A5T            1.60      .155 No_date   28:01   34.21 n/a     .000
02130> R0002:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02131>     COMPUTE DUALHYD       1.0 01:A5T            1.60      .155 No_date   28:01   34.21  n/a     .000
02132>       Major System   /     1.0 02:A5-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02133>       Minor System   \     1.0 03:A5-MN          1.60      .155 No_date   28:01   34.21 n/a     .000
02134>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02135> R0002:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02136>     ROUTE PIPE            ->    1.0 02:MH102         73.63     3.837 No_date   28:03   24.62 n/a     .000
02137> *   [RDT= 1.00] out<-     1.0 01:102-103       73.63     3.600 No_date   28:05   24.62  n/a     .000
02138>       [L/S/n=  504./ .280/.013]
02139>       [Vmax= 2.428:Dmax= 1.243]
02140>       [Din= 1.50:Dused= 1.51]
02141> R0002:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02142>     ADD HYD               1.0 02:102-103        73.63     3.600 No_date   28:05   24.62 n/a     .000
02143>                     +     1.0 02:A5-MN          1.60      .155 No_date   28:01   34.21 n/a     .000
02144>                   SUM=    1.0 01:MH103          75.23     3.728 No_date   28:05   24.82 n/a     .000
02145> R0002:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02146>     SAVE HYD              1.0 01:MH103          75.23     3.728 No_date   28:05   24.82  n/a     .000
02147>       fname :MH103.0002
02148>       remark:Total Flows at MH103
02149> R0002:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02150>     ROUTE PIPE            ->    1.0 02:MH103         75.23     3.728 No_date   28:05   24.82 n/a     .000
02151>     [RDT= 1.00] out<-     1.0 01:103-104       75.23     3.629 No_date   28:07   24.82  n/a     .000
02152>       [L/S/n=  438./ .460/.013]
02153>       [Vmax= 3.024:Dmax=  .924]
02154>       [Din= 1.65:Dused= 1.65]
02155> R0002:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02156>     CONTINUOUS STANDHYD    1.0 01:A6             1.56      .152 No_date   28:01   34.21 .752    .000
02157>       [XIMP=.71:TIMP=.71]
02158>       [LOSS= 2 :CN= 75.0]
02159>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02160>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
02161>       [IaRECimp=   4.00: IaRECper=   4.00]
02162>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02163> R0002:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02164>     ADD HYD               1.0 02:A5-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02165>                     +     1.0 02:A6             1.56      .152 No_date   28:01   34.21 n/a     .000
02166>                   SUM=    1.0 01:A6T            1.56      .152 No_date   28:01   34.21 n/a     .000
02167> R0002:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02168>     COMPUTE DUALHYD       1.0 01:A6T            1.56      .152 No_date   28:01   34.21  n/a     .000
02169>       Major System   /     1.0 02:A6-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02170>       Minor System   \     1.0 03:A6-MN          1.56      .152 No_date   28:01   34.21 n/a     .000
02171>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02172> R0002:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02173>     ADD HYD               1.0 02:A4-MN          1.56      .152 No_date   28:01   34.21 n/a     .000
02174>                     +     1.0 02:103-104        75.23     3.629 No_date   28:07   24.82 n/a     .000
02175>                     +     1.0 02:TODD_MJn       30.23     2.154 No_date   28:03   29.64 n/a     .000
02176>                   SUM=    1.0 01:MH104         107.02     5.765 No_date   28:05   26.32 n/a     .000
02177> R0002:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02178>     SAVE HYD              1.0 01:MH104         107.02     5.765 No_date   28:05   26.32  n/a     .000
02179>       fname :MH104.0002
02180>       remark:Total Flows at MH104
02181> R0002:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02182>     CONTINUOUS STANDHYD    1.0 01:B2             12.31      .731 No_date   28:03   25.66 .564    .000
02183>       [XIMP=.41:TIMP=.54]
02184>       [LOSS= 2 :CN= 75.0]
02185>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02186>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
02187>       [IaRECimp=   4.00: IaRECper=   4.00]
02188>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02189> R0002:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02190>     COMPUTE DUALHYD       1.0 01:B2             12.31      .731 No_date   28:03   25.66  n/a     .000
02191>       Major System   /     1.0 02:B2-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02192>       Minor System   \     1.0 03:B2-MN         12.31      .731 No_date   28:03   25.66 n/a     .000
02193>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02194> R0002:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02195>     ROUTE PIPE            ->    1.0 02:B2-MN         12.31      .731 No_date   28:03   25.66 n/a     .000
02196>     [RDT= 1.00] out<-     1.0 01:315-333       12.31      .675 No_date   28:04   25.66  n/a     .000
02197>       [L/S/n=  254./ .100/.013]
02198>       [Vmax= 1.136:Dmax=  .665]
02199>       [Din= 1.20:Dused= 1.20]
02200> R0002:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02201>     CONTINUOUS STANDHYD    1.0 01:B3             5.59      .346 No_date   28:02   25.66 .564    .000
02202>       [XIMP=.41:TIMP=.54]
02203>       [LOSS= 2 :CN= 75.0]
02204>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02205>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
02206>       [IaRECimp=   4.00: IaRECper=   4.00]
02207>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02208> R0002:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02209>     COMPUTE DUALHYD       1.0 01:B3             5.59      .346 No_date   28:02   25.66 n/a     .000
02210>       Major System   /     1.0 02:B3-MJ           .00      .000 No_date    0:00     .00 n/a     .000
02211>       Minor System   \     1.0 03:B3-MN          5.59      .346 No_date   28:02   25.66 n/a     .000
02212>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02213> R0002:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02214>     ADD HYD               1.0 02:B3-MN          5.59      .346 No_date   28:02   25.66 n/a     .000
02215>                     +     1.0 02:315-333        12.31      .675 No_date   28:04   25.66 n/a     .000
02216>                   SUM=    1.0 01:MH333          17.90     1.009 No_date   28:04   25.66 n/a     .000
02217> R0002:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02218>     SAVE HYD              1.0 01:MH333          17.90     1.009 No_date   28:04   25.66  n/a     .000
02219>       fname :MH333.0002
02220>       remark:Total Flows at MH333
02221> R0002:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02222>     ROUTE PIPE            ->    1.0 02:MH333          17.90     1.009 No_date   28:04   25.66 n/a     .000
02223>     [RDT= 1.00] out<-     1.0 01:333-335       17.90      .937 No_date   28:05   25.66  n/a     .000
02224>       [L/S/n=  251./ .100/.013]
02225>       [Vmax= 1.217:Dmax=  .826]
02226>       [Din= 1.20:Dused= 1.20]
02227> R0002:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02228>     ROUTE PIPE            ->    1.0 02:333-335        17.90      .937 No_date   28:05   25.66 n/a     .000
02229>     [RDT= 1.00] out<-     1.0 01:335-338       17.90      .888 No_date   28:07   25.66  n/a     .000
02230>       [L/S/n=  185./ .100/.013]
02231>       [Vmax= 1.199:Dmax=  .782]
02232>       [Din= 1.20:Dused= 1.20]
02233> R0002:C00329-----------DTmin-ID:NHYD---------AREAha-QP
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02245>       [IaRECimp=   4.00: IaRECper=   4.00]
02246>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02247> R0002:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02248>     COMPUTE DUALHYD       1.0 01:B4           7.60     .459 No_date   28:02   25.66  n/a     .000
02249>       Major System   /     1.0 02:B4-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02250>       Minor System   \     1.0 03:B4-MN         7.60     .459 No_date   28:02   25.66  n/a     .000
02251>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02252> R0002:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02253>     ADD HYD               1.0 02:338-340      17.90     .830 No_date   28:08   25.66  n/a     .000
02254>                       +     1.0 02:B4-MN         7.60     .459 No_date   28:02   25.66  n/a     .000
02255>                     SUM=    1.0 01:MH340        25.50    1.234 No_date   28:05   25.66  n/a     .000
02256> R0002:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02257>     SAVE HYD              1.0 01:MH340        25.50    1.234 No_date   28:05   25.66  n/a     .000
02258>       fname :MH340.0002
02259>       remark:Total Flows at MH340
02260> R0002:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02261>     ROUTE PIPE        ->    1.0 02:MH340        25.50    1.234 No_date   28:05   25.66  n/a     .000
02262>       [RDT= 1.00] out<-     1.0 01:340-104      25.50    1.182 No_date   28:07   25.66  n/a     .000
02263>       [L/S/n=  240./ .150/.013]
02264>       {Vmax= 1.502:Dmax=  .672}
02265>       [Din= 1.65:Dused= 1.65]
02266> R0002:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02267>     ADD HYD               1.0 02:340-104      25.50    1.182 No_date   28:07   25.66  n/a     .000
02268>                       +     1.0 02:MH104       107.02    5.765 No_date   28:05   26.32  n/a     .000
02269>                     SUM=    1.0 01:MH104T      132.52    6.925 No_date   28:05   26.19  n/a     .000
02270> R0002:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02271>     ROUTE PIPE        ->    1.0 02:MH104T      132.52    6.925 No_date   28:05   26.19  n/a     .000
02272>       [RDT= 1.00] out<-     1.0 01:104-105      132.52    6.452 No_date   28:06   26.19  n/a     .000
02273>       {L/S/n=  300./ .100/.013}
02274>       {Vmax= 1.871:Dmax=  1.542}
02275>       {HGTH= 2.10:WDTH= 2.40}
02276> R0002:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02277>     CONTINUOUS STANDHYD   1.0 01:B5           2.20     .187 No_date   28:00   29.51  .648    .000
02278>       [XIMP=.57:TIMP=.57]
02279>       [LOSS= 2 :CN= 75.0]
02280>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02281>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
02282>       [IaRECimp=   4.00: IaRECper=   4.00]
02283>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02284> R0002:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02285>     COMPUTE DUALHYD       1.0 01:B5           2.20     .187 No_date   28:00   29.51  n/a     .000
02286>       Major System   /     1.0 02:B5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02287>       Minor System   \     1.0 03:B5-MN         2.20     .187 No_date   28:00   29.51  n/a     .000
02288>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02289> R0002:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02290>     CONTINUOUS STANDHYD   1.0 01:A8           .96     .099 No_date   28:00   34.21  .752    .000
02291>       [XIMP=.71:TIMP=.71]
02292>       [LOSS= 2 :CN= 75.0]
02293>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02294>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
02295>       [IaRECimp=   4.00: IaRECper=   4.00]
02296>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02297> R0002:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02298>     ADD HYD               1.0 02:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02299>                       +     1.0 02:A8           .96     .099 No_date   28:00   34.21  n/a     .000
02300>                     SUM=    1.0 01:A8T          .96     .099 No_date   28:00   34.21  n/a     .000
02301> R0002:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02302>     COMPUTE DUALHYD       1.0 01:A8T          .96     .099 No_date   28:00   34.21  n/a     .000
02303>       Major System   /     1.0 02:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02304>       Minor System   \     1.0 03:A8-MN          .96     .099 No_date   28:00   34.21  n/a     .000
02305>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02306> R0002:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02307>     ADD HYD               1.0 02:104-105      132.52    6.452 No_date   28:06   26.19  n/a     .000
02308>                       +     1.0 02:B5-MN         2.20     .187 No_date   28:00   29.51  n/a     .000
02309>                       +     1.0 02:A8-MN          .96     .099 No_date   28:00   34.21  n/a     .000
02310>                       +     1.0 02:TODD_MNJ       .00     .000 No_date   0:00     .00  n/a     .000
02311>                     SUM=    1.0 01:MH105        135.68    6.624 No_date   28:06   26.30  n/a     .000
02312> R0002:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02313>     SAVE HYD              1.0 01:MH105        135.68    6.624 No_date   28:06   26.30  n/a     .000
02314>       fname :MH105.0002
02315>       remark:Total Flows at MH105
02316> R0002:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02317> *  DIVERT HYD         ->    1.0 01:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02318>             diverted <=     1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
02319>             diverted <=     1.0 03:A8-MJ-B6       .00     .000 No_date   0:00     .00  n/a     .000
02320> R0002:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02321>     DIVERT HYD        ->    1.0 01:MH105        135.68    6.624 No_date   28:06   26.30  n/a     .000
02322>             diverted <=     1.0 02:MH105-JR      16.59    3.620 No_date   28:06   26.30  n/a     .000
02323>             diverted <=     1.0 03:MH105-B6     119.09    3.004 No_date   28:06   26.30  n/a     .000
02324> R0002:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02325>     CONTINUOUS STANDHYD   1.0 01:B7           7.19     .479 No_date   28:01   25.66  .564    .000
02326>       [XIMP=.41:TIMP=.54]
02327>       [LOSS= 2 :CN= 75.0]
02328>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02329>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
02330>       [IaRECimp=   4.00: IaRECper=   4.00]
02331>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02332> R0002:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02333>     ADD HYD               1.0 02:B4-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02334>                       +     1.0 02:B7           7.19     .479 No_date   28:01   25.66  n/a     .000
02335>                     SUM=    1.0 01:B7-B4MJ      7.19     .479 No_date   28:01   25.66  n/a     .000
02336> R0002:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02337>     COMPUTE DUALHYD       1.0 01:B7-B4MJ      7.19     .479 No_date   28:01   25.66  n/a     .000
02338>       Major System   /     1.0 02:B7R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02339>       Minor System   \     1.0 03:B7R-MN        7.19     .479 No_date   28:01   25.66  n/a     .000
02340>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02341> R0002:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02342>     ROUTE PIPE        ->    1.0 02:B7R-MN        7.19     .479 No_date   28:01   25.66  n/a     .000
02343>       [RDT= 1.00] out<-     1.0 01:360-106A      7.19     .451 No_date   28:02   25.66  n/a     .000
02344>       [L/S/n=  167./ .100/.013]
02345>       {Vmax= 1.023:Dmax=  .558}
02346>       [Din= 1.05:Dused= 1.05]
02347> R0002:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02348>     CONTINUOUS STANDHYD   1.0 01:B6           3.29     .229 No_date   28:00   25.66  .564    .000
02349>       [XIMP=.41:TIMP=.54]
02350>       [LOSS= 2 :CN= 75.0]
02351>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02352>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
02353>       [IaRECimp=   4.00: IaRECper=   4.00]
02354>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02355> R0002:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02356>     COMPUTE DUALHYD       1.0 01:B6           3.29     .229 No_date   28:00   25.66  n/a     .000
02357>       Major System   /     1.0 02:B6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02358>       Minor System   \     1.0 03:B6-MN         3.29     .064 No_date   27:43   25.67  n/a     .000
02359>       {MjSysSto=.1576E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02360> R0002:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02361>     CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50    2.093 No_date   28:02   26.85  .590    .000
02362>       [XIMP=.50:TIMP=.50]
02363>       [LOSS= 2 :CN= 74.0]
02364>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02365>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
02366>       [IaRECimp=   4.00: IaRECper=   4.00]
02367>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02368> R0002:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02369>     COMPUTE DUALHYD       1.0 01:EX-LAND      32.50    2.093 No_date   28:02   26.85  n/a     .000
02370>       Major System   /     1.0 02:EX-LAND-MJ     .00     .000 No_date   0:00     .00  n/a     .000
02371>       Minor System   \     1.0 03:EX-LAND-MN    32.50    2.093 No_date   28:02   26.85  n/a     .000
02372>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02373> R0002:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02374>     ADD HYD               1.0 02:B7R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02375>                       +     1.0 02:EX-LAND-MJ     .00     .000 No_date   0:00     .00  n/a     .000
02376>                       +     1.0 02:B5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02377>                       +     1.0 02:B6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02378>                       +     1.0 02:B6-MN         3.29     .064 No_date   27:43   25.67  n/a     .000
02379>                       +     1.0 02:A8-MJ-B6       .00     .000 No_date   0:00     .00  n/a     .000
02380>                     SUM=    1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:43   25.67  n/a     .000
02381> R0002:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02382>     COMPUTE DUALHYD       1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:43   25.67  n/a     .000
02383>       Major System   /     1.0 02:B6R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02384>       Minor System   \     1.0 03:B6R-MN        3.29     .064 No_date   27:43   25.67  n/a     .000
02385>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02386> R0002:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02387>     ROUTE PIPE        ->    1.0 02:MH105-B6     119.09    3.004 No_date   28:06   26.30  n/a     .000
02388>       [RDT= 1.00] out<-     1.0 01:105-106A     119.09    3.006 No_date   28:08   26.30  n/a     .000
02389>       [L/S/n=  208./ .100/.013]
02390>       {Vmax= 1.596:Dmax= 1.247}
02391>       [Din= 1.80:Dused= 1.80]
02392> R0002:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02393>     ADD HYD               1.0 02:360-106A      7.19     .451 No_date   28:02   25.66  n/a     .000
02394>                       +     1.0 02:105-106A     119.09    3.006 No_date   28:08   26.30  n/a     .000
02395>                       +     1.0 02:B6R-MN        3.29     .064 No_date   27:43   25.67  n/a     .000
02396>                       +     1.0 02:B6R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02397>                     SUM=    1.0 01:MH106A       129.57    3.466 No_date   28:03   26.25  n/a     .000
02398> R0002:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02399>     SAVE HYD              1.0 01:MH106A       129.57    3.466 No_date   28:03   26.25  n/a     .000
02400>       fname :MH106A.0002
02401>       remark:Total Flows at MH106A
02402> R0002:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02403>     ROUTE PIPE        ->    1.0 02:MH106A       129.57    3.466 No_date   28:03   26.25  n/a     .000
02404> *  [RDT= 1.00] out<-     1.0 01:106A-106     129.57    3.450 No_date   28:04   26.25  n/a     .000
02405>       [L/S/n=  190./ .100/.013]
02406>       {Vmax= 1.626:Dmax= 1.406}
02407>       [Din= 1.80:Dused= 1.80]
02408> R0002:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02409>     CONTINUOUS STANDHYD   1.0 01:A9           2.44     .240 No_date   28:01   34.21  .752    .000
02410>       [XIMP=.71:TIMP=.71]
02411>       [LOSS= 2 :CN= 75.0]
02412>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02413>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
02414>       [IaRECimp=   4.00: IaRECper=   4.00]
02415>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02416> R0002:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02417>     COMPUTE DUALHYD       1.0 01:A9           2.44     .240 No_date   28:01   34.21  n/a     .000
02418>       Major System   /     1.0 02:A9-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02419>       Minor System   \     1.0 03:A9-MN         2.44     .240 No_date   28:01   34.21  n/a     .000
02420> R0002:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02421>     ADD HYD               1.0 02:106A-106     129.57    3.450 No_date   28:04   26.25  n/a     .000
02422>                       +     1.0 02:A9-MN         2.44     .240 No_date   28:01   34.21  n/a     .000
02423>                     SUM=    1.0 01:MH106        132.01    3.666 No_date   28:03   26.40  n/a     .000
02424> R0002:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02425>     SAVE HYD              1.0 01:MH106        132.01    3.666 No_date   28:03   26.40  n/a     .000
02426>       fname :MH106.0002
02427>       remark:Total Flows at MH106
02428> R0002:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02429>     ROUTE PIPE        ->    1.0 02:MH106        132.01    3.666 No_date   28:03   26.40  n/a     .000
02430> *  [RDT= 1.00] out<-     1.0 01:106-107      132.01    3.602 No_date   28:06   26.40  n/a     .000
02431>       [L/S/n=  123./ .100/.013]
02432>       {Vmax= 1.631:Dmax= 1.482}
02433>       [Din= 1.80:Dused= 1.81]
02434> R0002:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02435>     CONTINUOUS STANDHYD   1.0 01:A10          4.14     .246 No_date   28:01   23.49  .516    .000
02436>       [XIMP=.35:TIMP=.47]
02437>       [LOSS= 2 :CN= 75.0]
02438>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02439>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02440>       [IaRECimp=   4.00: IaRECper=   4.00]
02441>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02442> R0002:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02443>     COMPUTE DUALHYD       1.0 01:A10          4.14     .246 No_date   28:01   23.49  n/a     .000
02444>       Major System   /     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02445>       Minor System   \     1.0 03:A10-MN        4.14     .246 No_date   28:01   23.49  n/a     .000
02446>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02447> R0002:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02448>     CONTINUOUS STANDHYD   1.0 01:A11          10.61     .781 No_date   28:02   29.20  .642    .000
02449>       [XIMP=.53:TIMP=.62]
02450>       [LOSS= 2 :CN= 75.0]
02451>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02452>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
02453>       [IaRECimp=   4.00: IaRECper=   4.00]
02454>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02455> R0002:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02456>     COMPUTE DUALHYD       1.0 01:A11          10.61     .781 No_date   28:02   29.20  n/a     .000
02457>       Major System   /     1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02458>       Minor System   \     1.0 03:A11-MN        10.61     .781 No_date   28:02   29.20  n/a     .000
02459>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02460> R0002:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02461>     ADD HYD               1.0 02:106-107      132.01    3.602 No_date   28:06   26.40  n/a     .000
02462>                       +     1.0 02:A10-MN        4.14     .246 No_date   28:01   23.49  n/a     .000
02463>                       +     1.0 02:A11-MN       10.61     .781 No_date   28:02   29.20  n/a     .000
02464>                     SUM=    1.0 01:MH107        146.76    4.589 No_date   28:02   26.52  n/a     .000
02465> R0002:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02466>     SAVE HYD              1.0 01:MH107        146.76    4.589 No_date   28:02   26.52  n/a     .000
02467>       fname :MH107.0002
02468>       remark:Total Flows at MH107
02469> R0002:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02470>     ROUTE PIPE        ->    1.0 02:MH107        146.76    4.589 No_date   28:02   26.52  n/a     .000
02471> *  [RDT= 1.00] out<-     1.0 01:107-119      146.76    4.493 No_date   28:07   26.52  n/a     .000
02472>       [L/S/n=  114./ .120/.013]
02473>       {Vmax= 1.848:Dmax=  1.553}
02474>       [Din= 1.80:Dused= 1.90]
02475> R0002:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02476>     ROUTE PIPE        ->    1.0 02:MH107        146.76    4.493 No_date   28:07   26.52  n/a     .000
02477> *  [RDT= 1.00] out<-     1.0 01:119-108      146.76    4.469 No_date   28:07   26.52  n/a     .000
02478>       [L/S/n=   66./ .120/.013]
02479>       {Vmax= 1.838:Dmax=  1.539}
02480>       [Din= 1.80:Dused= 1.88]
02481> R0002:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02482>     CONTINUOUS STANDHYD   1.0 01:A12          12.29     .834 No_date   28:01   25.66  .564    .000
02483>       [XIMP=.41:TIMP=.54]
02484>       [LOSS= 2 :CN= 75.0]
02485>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02486>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02487>       [IaRECimp=   4.00: IaRECper=   4.00]
02488>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02489> R0002:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02490>     COMPUTE DUALHYD       1.0 01:A12          12.29     .834 No_date   28:01   25.66  n/a     .000
02491>       Major System   /     1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02492>       Minor System   \     1.0 03:A12-MN        12.29     .834 No_date   28:01   25.66  n/a     .000
02493>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02494> R0002:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02495>     CONTINUOUS STANDHYD   1.0 01:A13           2.59     .239 No_date   28:02   34.21  .752    .000
02496>       [XIMP=.71:TIMP=.71]
02497>       [LOSS= 2 :CN= 75.0]
02498>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02499>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
02500>       [IaRECimp=   4.00: IaRECper=   4.00]
02501>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02502> R0002:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02503>     COMPUTE DUALHYD       1.0 01:A13           2.59     .239 No_date   28:02   34.21  n/a     .000
02504>       Major System   /     1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02505>       Minor System   \     1.0 03:A13-MN        2.59     .239 No_date   28:02   34.21  n/a     .000
02506> R0002:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02507>     CONTINUOUS STANDHYD   1.0 01:Pond-Block     2.94     .190 No_date   28:01   24.31  .534    .000
02508>       [XIMP=.41:TIMP=.41]
02509>       [LOSS= 2 :CN= 75.0]
02510>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02511>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02512>       [IaRECimp=   4.00: IaRECper=   4.00]
02513>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02514> R0002:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02515>     ADD HYD               1.0 02:119-108      146.76    4.469 No_date   28:07   26.52  n/a     .000
02516>                       +     1.0 02:A13-MN        2.59     .239 No_date   28:02   34.21  n/a     .000
02517>                       +     1.0 02:A12-MN       12.29     .834 No_date   28:01   25.66  n/a     .000
02518>                     SUM=    1.0 01:MH108        161.64    5.450 No_date   28:03   26.58  n/a     .000
02519> R0002:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02520>     SAVE HYD              1.0 01:MH108        161.64    5.450 No_date   28:03   26.58  n/a     .000
02521>       fname :MH108.0002
02522>       remark:Total Flows at MH108
02523> R0002:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02524>     ROUTE PIPE        ->    1.0 02:MH108        161.64    5.450 No_date   28:03   26.58  n/a     .000
02525> *  [RDT= 1.00] out<-     1.0 01:108-116      161.64    5.396 No_date   28:04   26.58  n/a     .000
02526>       [L/S/n=   77./ .130/.013]
02527>       {Vmax= 1.987:Dmax= 1.637}
02528>       [Din= 1.80:Dused= 1.99]
02529> R0002:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02530>     ROUTE PIPE        ->    1.0 02:108-116      161.64    5.396 No_date   28:04   26.58  n/a     .000
02531> *  [RDT= 1.00] out<-     1.0 01:116-corrig   161.64    5.363 No_date   28:04   26.58  n/a     .000
02532>       [L/S/n=   80./ .130/.013]
02533>       {Vmax= 1.983:Dmax= 1.631}
02534>       [Din= 1.80:Dused= 1.99]
02535> R0002:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02536>     ADD HYD               1.0 02:116-corrig   161.64    5.363 No_date   28:04   26.58  n/a     .000
02537>                       +     1.0 02:Pond-Block     2.94     .190 No_date   28:01   24.31  n/a     .000
02538>                     SUM=    1.0 01:Corrigan     164.58    5.522 No_date   28:04   26.54  n/a     .000
02539> R0002:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02540>     SAVE HYD              1.0 01:Corrigan     164.58    5.522 No_date   28:04   26.54  n/a     .000
02541>       fname :Corrigan.0002
02542>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
02543> R0002:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02544>     ROUTE RESERVOIR   ->    1.0 02:Corrigan     164.58    5.522 No_date   28:04   26.54  n/a     .000
02545>                       out <=  1.0 01:Co-P       164.58    4.479 No_date   28:12   26.54  n/a     .000
02546>                     overflow <=  1.0 03:Co-P-OVF      .00     .000 No_date   0:00     .00  n/a     .000
02547>       {MxStoUsed=.9246E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02548> R0002:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02549>     ADD HYD               1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
02550>                       +     1.0 02:Co-P       164.58    4.479 No_date   28:12   26.54  n/a     .000
02551>                       +     1.0 02:N_TO      54837.69   48.720 No_date   38:09   13.13  n/a     .000
02552>                       +     1.0 02:MH105-JR      16.59    3.620 No_date   28:06   26.30  n/a     .000
02553>                       +     1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
02554>                       +     1.0 02:A9-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02555>                       +     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02556>                       +     1.0 02:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02557>                       +     1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02558>                       +     1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02559>                     SUM=    1.0 01:corrig     55018.86   48.929 No_date   38:09   13.18  n/a     .000
02560> R0002:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02561>     SAVE HYD              1.0 01:corrig     55018.86   48.929 No_date   38:09   13.18  n/a     .000
02562>       fname :corrig.0002
02563>       remark:Total Flows at Corrigan Pond
02564> #*************************************************************************
02565> #    Corrigan Pond 1
02566> #    - Rating curve obtained from Barrhaven South MSS modeling
02567> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
02568> #*************************************************************************
02569> #
02570> # Hydrograph from Corrigan Drain routed to Jockvale Road
02571> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
02572> #
02573> R0002:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02574>     ROUTE CHANNEL     ->    1.0 02:corrig     55018.86   48.929 No_date   38:09   13.18  n/a     .000
02575>       [RDT= 1.00] out<-     1.0 01:N_MI       55018.86   48.925 No_date   38:13   13.18  n/a     .000
02576>       [L/S/n=  580./ .445/.045]
02577>       {Vmax= 1.453:Dmax= 1.221}
02578> #*************************************************************************
02579> #    Catchment MILLS
02580> #    - To SWM Facility north of the Jock
02581> #    - Primarily residental development
02582> #*************************************************************************
02583> R0002:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02584>     CONTINUOUS STANDHYD   1.0 01:MILLS         175.99    7.048 No_date   28:08   22.75  .500    .000
02585>       [XIMP=.38:TIMP=.38]
02586>       [LOSS= 2 :CN= 74.0]
02587>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02588>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
02589>       [IaRECimp=   4.00: IaRECper=   4.00]
02590>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02591> #*************************************************************************
02592> #    Chapman Mills SWM Pond
02593> #    - Rating curve obtained from CCL hydraulic modeling
02594> #*************************************************************************
02595> R0002:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02596>     ROUTE RESERVOIR   ->    1.0 02:MILLS        175.99    7.048 No_date   28:08   22.75  n/a     .000
02597>                       out <=  1.0 01:MILL_P     175.99    2.401 No_date   28:46   22.75  n/a     .000
02598>                     overflow <=  1.0 03:MIL-OV        .00     .000 No_date   0:00     .00  n/a     .000
02599>       {MxStoUsed=.1446E+01  m3, TotOvfVol=.0000E+00  m3, N-
```

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02619> #    Catchment DESIRE
02620> #    - To Jock River (north of the Jock)
02621> #    - Rural-estate subdivision (Heart's Desire Community)
02622> #*******************************************************************************
02623> R0002:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02624>      CONTINUOUS STANDHYD    1.0 01:DESIRE        23.78     .936 No_date   28:03   19.26 .423     .000
02625>       [XIMP=.25:TIMP=.25]
02626>       [LOSS= 2 :CN= 77.0]
02627>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02628>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
02629>       [IaRECimp=   4.00: IaRECper=   4.00]
02630>       [SMIN= 15.15: SMAX=267.66: SK= .010]
02631> #*******************************************************************************
02632> #    Catchment JOCKVA
02633> #    - To Jockvale SWM Facility
02634> #    - Residential development & golf course
02635> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
02636> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
02637> #*******************************************************************************
02638> R0002:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02639>      CONTINUOUS STANDHYD    1.0 01:JOCKVA        225.13   10.636 No_date   28:10   26.85 .590     .000
02640>       [XIMP=.50:TIMP=.50]
02641>       [LOSS= 2 :CN= 74.0]
02642>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02643>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
02644>       [IaRECimp=   4.00: IaRECper=   4.00]
02645>       [SMIN= 30.67: SMAX=244.49: SK= .010]
02646> R0002:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02647>      ADD HYD                1.0 02:EX-LAND-MN     32.50    2.093 No_date   28:02   26.85  n/a     .000
02648>                         +    1.0 02:JOCKVA        225.13   10.636 No_date   28:10   26.85  n/a     .000
02649>                         +    1.0 02:B2-MJ            .00     .000 No_date   0:00     .00  n/a     .000
02650>                         +    1.0 02:B3-MJ            .00     .000 No_date   0:00     .00  n/a     .000
02651>                       SUM=   1.0 01:JOCKVA-TO     257.63   12.234 No_date   28:07   26.85  n/a     .000
02652> R0002:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02653>      SAVE HYD               1.0 01:JOCKVA-TO     257.63   12.234 No_date   28:07   26.85  n/a     .000
02654>       fname :JOCKVA-TO.0002
02655>       remark:Total Flows at KB first pond
02656> #*******************************************
02657> #    Jockvale SWM Facility
02658> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
02659> #*******************************************
02660> R0002:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02661>      ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO     257.63   12.234 No_date   28:07   26.85  n/a     .000
02662>                     out <=  1.0 01:JOCK_P        257.63    2.560 No_date   29:05   26.85  n/a     .000
02663>                overflow <=  1.0 01:JO-OVF            .00     .000 No_date   0:00     .00  n/a     .000
02664>       {MxStoUsed=.3334E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02665> R0002:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02666>      ADD HYD                1.0 02:N_DE          55194.85   49.114 No_date   38:33   13.21  n/a     .000
02667>                         +    1.0 02:DESIRE        23.78     .936 No_date   28:03   19.26  n/a     .000
02668>                         +    1.0 02:JO-OVF            .00     .000 No_date   0:00     .00  n/a     .000
02669>                         +    1.0 02:JOCK_P        257.63    2.560 No_date   29:05   26.85  n/a     .000
02670>                       SUM=   1.0 01:SN_DE       55476.26   49.482 No_date   38:27   13.27  n/a     .000
02671> R0002:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02672>      SAVE HYD               1.0 01:SN_DE       55476.26   49.482 No_date   38:27   13.27  n/a     .000
02673>       fname :SN_DE.0002
02674>       remark:Total Flows at Heart's Desire
02675> #
02676> # Hydrograph from Heart's Desire routed to Rideau River
02677> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
02678> #
02679> R0002:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02680>      ROUTE CHANNEL    ->     1.0 02:SN_DE       55476.26   49.482 No_date   38:27   13.27  n/a     .000
02681>       [RDT= 1.00] out<-     1.0 01:N1          55476.26   49.480 No_date   38:33   13.27  n/a     .000
02682>       [L/S/n=  563./ .967/.045]
02683>       {Vmax= 1.489:Dmax=   .800}
02684> #*******************************************************************************
02685> #    Catchment S-2
02686> #    - To Jock River (north and south)
02687> #    - Undeveloped floodplain and river
02688> #*******************************************************************************
02689> R0002:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02690>      CONTINUOUS NASHYD      1.0 01:S-2           102.94    1.373 No_date   28:20   13.01 .286     .000
02691>       [CN= 72.0: N= 3.00: Tp=  .40]
02692>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02693>       [InterEventTime=  12.00]
02694> R0002:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02695>      ADD HYD                1.0 02:N1          55476.26   49.480 No_date   38:33   13.27  n/a     .000
02696>                         +    1.0 02:S-2           102.94    1.373 No_date   28:20   13.01  n/a     .000
02697>                       SUM=   1.0 01:SN_N1       55579.20   49.578 No_date   38:33   13.27  n/a     .000
02698> R0002:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02699>      SAVE HYD               1.0 01:SN_N1       55579.20   49.578 No_date   38:33   13.27  n/a     .000
02700>       fname :SN_N1.0002
02701>       remark:Total Flows at Rideau River
02702> ###############################################################################
02703>   ** END OF RUN :    4
02704>
02705> ************************************************************************************************************
02706>
02707>
02708>
02709>
02710>
02711>  RUN#:COMMAND#
02712> R0005:C00001------------------------------------------------------------------------------------------------
02713>      START
02714>       [TZERO =    .00 hrs on       0]
02715>       [METOUT=   2   (1=imperial, 2=metric output)]
02716>       [NSTORM=   1 ]
02717>       [NRUN  = 0005 ]
02718> #*******************************************************************************
02719> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
02720> #*******************************************************************************
02721> #  Project Name: [Jock River]    Project Number: [1474-16]
02722> #  Date        : 04-03-2021
02723> #  Modeller    : [M.M.]
02724> #  Company     : JFSAinc.
02725> #  License #   : 2542037
02726> #*******************************************************************************
02727> # CALIBRATION OF SUMMER MODEL PARAMETERS
02728> # USING CONTINUOUS SIMULATIONS
02729> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
02730> # Use data collected from May 1st to July 14, 2003
02731> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
02732> # 2020-12-01 correct pond curve values
02733> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5]{%} (impervious slope), and LGI up to 700m
02734> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
02735> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
02736> # ------------------------------------------------------------------------------
02737> R0005:C00002------------------------------------------------------------------------------------------------
02738>      READ STORM
02739>       Filename = storm.001
02740>       Comment  = Pluie 5CS de 24 hres 1:5 ans pour Ottawa CDA
02741>       [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
02742> R0005:C00003------------------------------------------------------------------------------------------------
02743>      MODIFY STORM
02744>       [RFACT=  1.00:TSHIFT= 960.00 min]
02745>       [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
02746> R0005:C00004------------------------------------------------------------------------------------------------
02747>      DEFAULT VALUES
02748>       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
02749>       ICASEdv  = 1 (read and print data)
02750>       FileTitle= File comment: [Based onvarious calibration exercises in Onta
02751>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02752>       Horton's infiltration equation parameters:
02753>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02754>       Parameters for PERVIOUS surfaces in STANDHYD:
02755>       [IAper=   4.67 mm] [LGP=50.00 m] [MNP=  .250]
02756>       Parameters for IMPERVIOUS surfaces in STANDHYD:
02757>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02758>       Parameters used in NASHYD:
02759>       [Ia=   4.67 mm] [N= 3.00]
02760>       Average monthly Pan Evaporation data in    (mm)
02761>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02762>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02763>       Average monthly Potential Evapotranspiration in   (mm)
02764>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02765>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02766> R0005:C00005------------------------------------------------------------------------------------------------
02767>      COMPUTE API
02768>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
02769>       [APImax= 90.83: APIavg= 60.09: APImin= 44.87]
02770> #
02771> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02772> # of 1.32
02773> R0005:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02774>      CONTINUOUS NASHYD      1.0 01:JR_HW        3680.00    9.398 No_date   37:02   16.41 .287     .000
02775>       [CN= 64.0: N= 3.00: Tp= 7.13]
02776>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
02777>       [InterEventTime=  12.00]
02778> #
02779> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02780> # of 1.32
02781> R0005:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02782>      CONTINUOUS NASHYD      1.0 01:SW_13         971.00    3.405 No_date   32:36   15.29 .268     .000
02783>       [CN= 61.0: N= 3.00: Tp= 3.76]
02784>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
02785>       [InterEventTime=  12.00]
02786> #
02787> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02788> # of 1.80
02789> R0005:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02790>      CONTINUOUS NASHYD      1.0 01:JR_GWM       3074.00    4.682 No_date   39:59   13.23 .232     .000
02791>       [CN= 55.0: N= 3.00: Tp=11.33]
02792>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
02793>       [InterEventTime=  12.00]
02794> R0005:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02795>      CONTINUOUS NASHYD      1.0 01:JR_ASH       1781.00    8.521 No_date   32:43   20.12 .352     .000
02796>       [CN= 72.0: N= 3.00: Tp= 3.91]
02797>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02798>       [InterEventTime=  12.00]
02799> R0005:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02800>      CONTINUOUS NASHYD      1.0 01:SW_11         500.00    4.354 No_date   29:22   17.18 .301     .000
02801>       [CN= 66.0: N= 3.00: Tp= 1.24]
02802>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02803>       [InterEventTime=  12.00]
02804> #
02805> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02806> # of 1.80
02807> R0005:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02808>      CONTINUOUS NASHYD      1.0 01:NN_CK        1917.00    6.210 No_date   34:31   17.18 .301     .000
02809>       [CN= 66.0: N= 3.00: Tp= 5.29]
02810>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02811>       [InterEventTime=  12.00]
02812> #
02813> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02814> # of 1.52
02815> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02816>      CONTINUOUS NASHYD      1.0 01:SW_10        5666.00   16.924 No_date   38:02   20.12 .352     .000
02817>       [CN= 72.0: N= 3.00: Tp= 8.00]
02818>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02819>       [InterEventTime=  12.00]
02820> #
02821> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02822> # of 1.75
02823> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02824>      CONTINUOUS NASHYD      1.0 01:KG_CK        8376.00   16.342 No_date   39:59   17.18 .301     .000
02825>       [CN= 66.0: N= 3.00: Tp=11.66]
02826>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02827>       [InterEventTime=  12.00]
02828> #
02829> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02830> # of 1.68
02831> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02832>      CONTINUOUS NASHYD      1.0 01:SW_9         1132.00    6.963 No_date   30:55   19.24 .337     .000
02833>       [CN= 70.0: N= 3.00: Tp= 2.51]
02834>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
02835>       [InterEventTime=  12.00]
02836> #
02837> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02838> # of 1.82
02839> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02840>      CONTINUOUS NASHYD      1.0 01:NC_CK        4464.00    8.109 No_date   39:59   15.66 .274     .000
02841>       [CN= 62.0: N= 3.00: Tp=11.32]
02842>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
02843>       [InterEventTime=  12.00]
02844> #
02845> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02846> # of 1.80
02847> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02848>      CONTINUOUS NASHYD      1.0 01:SW_8          131.00    1.298 No_date   28:57   16.03 .281     .000
02849>       [CN= 63.0: N= 3.00: Tp=  .90]
02850>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
02851>       [InterEventTime=  12.00]
02852> #
02853> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02854> # of 1.65
02855> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02856>      CONTINUOUS NASHYD      1.0 01:HB_DR        3854.00    9.385 No_date   38:41   17.18 .301     .000
02857>       [CN= 66.0: N= 3.00: Tp= 8.42]
02858>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02859>       [InterEventTime=  12.00]
02860> #
02861> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02862> # of 1.82
02863> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02864>      CONTINUOUS NASHYD      1.0 01:SW_7         3197.00    7.027 No_date   36:28   13.89 .243     .000
02865>       [CN= 57.0: N= 3.00: Tp= 6.65]
02866>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
02867>       [InterEventTime=  12.00]
02868> #
02869> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02870> # of 1.75
02871> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02872>      CONTINUOUS NASHYD      1.0 01:SW_6          165.00     .641 No_date   33:06   17.58 .308     .000
02873>       [CN= 67.0: N= 3.00: Tp= 4.18]
02874>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
02875>       [InterEventTime=  12.00]
02876> #
02877> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02878> # of 1.67
02879> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02880>      CONTINUOUS NASHYD      1.0 01:VG_DR        1332.00    4.803 No_date   35:19   20.12 .352     .000
02881>       [CN= 72.0: N= 3.00: Tp= 5.95]
02882>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02883>       [InterEventTime=  12.00]
02884> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02885>      CONTINUOUS NASHYD      1.0 01:SW_5          224.00    4.100 No_date   28:45   22.97 .402     .000
02886>       [CN= 77.0: N= 3.00: Tp=  .75]
02887>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02888>       [InterEventTime=  12.00]
02889> #
02890> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02891> # of 1.20
02892> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02893>      CONTINUOUS NASHYD      1.0 01:FL_CK        4945.00   22.837 No_date   33:22   21.04 .368     .000
02894>       [CN= 74.0: N= 3.00: Tp= 4.45]
02895>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
02896>       [InterEventTime=  12.00]
02897> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02898>      CONTINUOUS NASHYD      1.0 01:SW_5A2         20.00     .483 No_date   28:36   25.62 .448     .000
02899>       [CN= 81.0: N= 3.00: Tp=  .62]
02900>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02901>       [InterEventTime=  12.00]
02902> #
02903> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02904> # of 1.61
02905> R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02906>      CONTINUOUS NASHYD      1.0 01:SW_5A1       1412.00    4.646 No_date   37:58   21.98 .385     .000
02907>       [CN= 75.0: N= 3.00: Tp= 8.00]
02908>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
02909>       [InterEventTime=  12.00]
02910> R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02911>      CONTINUOUS NASHYD      1.0 01:SW_4          585.00    6.688 No_date   29:57   25.62 .448     .000
02912>       [CN= 81.0: N= 3.00: Tp= 1.75]
02913>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02914>       [InterEventTime=  12.00]
02915> R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02916>      CONTINUOUS NASHYD      1.0 01:LM_CK        1021.00    8.861 No_date   30:48   25.07 .439     .000
02917>       [CN= 80.0: N= 3.00: Tp= 2.46]
02918>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
02919>       [InterEventTime=  12.00]
02920> R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02921>      CONTINUOUS NASHYD      1.0 01:SW_2          177.00    3.240 No_date   28:45   22.97 .402     .000
02922>       [CN= 77.0: N= 3.00: Tp=  .75]
02923>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
02924>       [InterEventTime=  12.00]
02925> R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02926>      CONTINUOUS NASHYD      1.0 01:SM_DR        1122.00    8.165 No_date   31:48   25.62 .448     .000
02927>       [CN= 81.0: N= 3.00: Tp= 3.25]
02928>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
02929>       [InterEventTime=  12.00]
02930> R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02931>      CONTINUOUS NASHYD      1.0 01:MO_DR        2737.00   17.859 No_date   31:33   22.47 .393     .000
02932>       [CN= 76.0: N= 3.00: Tp= 3.03]
02933>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
02934>       [InterEventTime=  12.00]
02935> #
02936> # Routing hydrographs
02937> #
02938> # Starting with the addition of Jock River Headwater and Subwatershed 13
02939> #
02940> R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02941>      ADD HYD                1.0 02:JR_HW        3680.00    9.398 No_date   37:02   16.41  n/a     .000
02942>                         +    1.0 02:SW_13         971.00    3.405 No_date   32:36   15.29  n/a     .000
02943>                       SUM=   1.0 01:S_N13        4651.00   11.949 No_date   35:33   16.17  n/a     .000
02944> #
02945> # Sum of hydrographs from Node 13 routed to Node 13A
02946> # (Approximated cross-section - see cross-section 258)
02947> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02948> #
02949> R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02950>      ROUTE CHANNEL    ->     1.0 02:S_N13        4651.00   11.949 No_date   35:33   16.17  n/a     .000
02951>       [RDT= 1.00] out<-     1.0 01:N13A         4651.00    9.514 No_date   39:57   16.17  n/a     .000
02952>       [L/S/n= 9074./ .022/.040]
02953>       {Vmax=  .478:Dmax= 3.020}
02954> #
02955> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
02956> #
02957> R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02958>      ADD HYD                1.0 02:N13A         4651.00    9.514 No_date   39:57   16.17  n/a     .000
02959>                         +    1.0 02:JR_GWM       3074.00    4.682 No_date   39:59   13.23  n/a     .000
02960>                       SUM=   1.0 01:SN13A        7725.00   14.196 No_date   39:59   15.00  n/a     .000
02961> #
02962> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
02963> #
02964> R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02965>      ROUTE RESERVOIR ->     1.0 02:SN13A        7725.00   14.196 No_date   39:59   15.00  n/a     .000
02966>                     out <=  1.0 01:RES_GM       7725.00    3.149 No_date   57:25   15.00  n/a     .000
02967>       {MxStoUsed=.6321E+02  m3}
02968> #
02969> R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02970>      SAVE HYD               1.0 01:RES_GM       7725.00    3.149 No_date   57:25   15.00  n/a     .000
02971>       fname :H_RESGM
02972>       remark:Outflow from Res GM
02973> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
02974> # (Approximated cross-section - see cross-section 258)
02975> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02976> R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02977>      ROUTE CHANNEL    ->     1.0 02:RES_GM       7725.00    3.149 No_date   57:25   15.00  n/a     .000
02978>       [RDT= 1.00] out<-     1.0 01:N12          7725.00    3.137 No_date   60:12   15.00  n/a     .000
02979>       [L/S/n= 5926./ .076/.040]
02980>       {Vmax=  .527:Dmax= 1.429}
02981> #
02982> # Addition of Subwatershed Jock River at Ashton to Node 12
02983> #
02984> R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02985>      ADD HYD                1.0 02:N12          7725.00    3.137 No_date   60:12   15.00  n/a     .000
02986>                         +    1.0 02:JR_ASH       1781.00    8.521 No_date   32:43   20.12  n/a     .000
02987>                       SUM=   1.0 01:S_N12        9506.00   10.498 No_date   32:46   15.96  n/a     .000
02988> R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02989>      SAVE HYD               1.0 01:S_N12        9506.00   10.498 No_date   32:46   15.96  n/a     .000
02990>       fname :H_SN12
02991>       remark:flow at S_N12 near Ashton
02992> #
```

```
02993> # Sum of hydrographs from Node 12 routed to Node 11
02994> # (Approximated cross-section - see cross-section 258)
02995> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
02996> #
02997> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
02998> #
02999> R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03000>      ROUTE CHANNEL   ->     1.0 02:S_N12       9506.00   10.498 No_date   32:46   15.96  n/a      .000
03001>        [RDT= 1.00] out<-     1.0 01:Dum11       9506.00   10.383 No_date   33:07   15.96  n/a      .000
03002>          [L/S/n=  972./ .054/.040]
03003>          {Vmax=  .648:Dmax= 2.406}
03004> #
03005> # Addition of Subwatershed 11 and No Name Creek to Node 11
03006> #
03007> R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03008>      ADD HYD             1.0 02:Dum11       9506.00   10.383 No_date   33:07   15.96  n/a      .000
03009>                        +     1.0 02:SW_11        500.00    4.354 No_date   29:22   17.18  n/a      .000
03010>                        +     1.0 02:NN_CK       1917.00    6.210 No_date   34:31   17.18  n/a      .000
03011>                    SUM=      1.0 01:S_N11       11923.00   17.560 No_date   33:09   16.21  n/a      .000
03012> #
03013> # Sum of hydrographs from Node 11 routed to Node 10
03014> # Section 1
03015> #
03016> R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03017>      ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00   17.560 No_date   33:09   16.21  n/a      .000
03018>        [RDT= 1.00] out<-     1.0 01:N10         11923.00   12.006 No_date   38:17   16.21  n/a      .000
03019>          [L/S/n=14028./ .157/.040]
03020>          {Vmax=  .461:Dmax= 1.087}
03021> #
03022> # Addition of Subwatershed 10 to Node 10
03023> #
03024> R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03025>      ADD HYD             1.0 02:N10         11923.00   12.006 No_date   38:17   16.21  n/a      .000
03026>                        +     1.0 02:SW_10       5666.00   16.924 No_date   38:02   20.12  n/a      .000
03027>                    SUM=      1.0 01:S_N10       17589.00   28.927 No_date   38:09   17.47  n/a      .000
03028> R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03029>      SAVE HYD            1.0 01:S_N10       17589.00   28.927 No_date   38:09   17.47  n/a      .000
03030>          fname :H_SN10
03031>          remark:flow at S_N10: N10 + SW_10
03032> # Addition of Kings Creek to S_N10
03033> #
03034> R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03035>      ADD HYD             1.0 02:S_N10       17589.00   28.927 No_date   38:09   17.47  n/a      .000
03036>                        +     1.0 02:KG_CK       8376.00   16.342 No_date   39:59   17.18  n/a      .000
03037>                    SUM=      1.0 01:S_N10A      25965.00   44.722 No_date   39:35   17.37  n/a      .000
03038> #
03039> # Sum of hydrographs from Node 10 routed to Node 9
03040> # Section 2
03041> #
03042> R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03043>      ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00   44.722 No_date   39:35   17.37  n/a      .000
03044>        [RDT= 1.00] out<-     1.0 01:N9          25965.00   43.534 No_date   39:59   17.37  n/a      .000
03045>          [L/S/n= 3982./ .075/.040]
03046>          {Vmax=  .664:Dmax= 1.502}
03047> #
03048> # Addition of Subwatershed 9 and Nichols Creek to Node 9
03049> #
03050> R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03051>      ADD HYD             1.0 02:N9          25965.00   43.534 No_date   39:59   17.37  n/a      .000
03052>                        +     1.0 02:SW_9        1132.00    6.963 No_date   39:55   19.24  n/a      .000
03053>                        +     1.0 02:NC_CK       4464.00    8.109 No_date   39:59   15.66  n/a      .000
03054>                    SUM=      1.0 01:S_N9        31561.00   53.366 No_date   39:59   17.20  n/a      .000
03055> #
03056> # Sum of hydrographs from Node 9 routed to Node 8
03057> # Section 3
03058> #
03059> R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03060>      ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00   53.366 No_date   39:59   17.20  n/a      .000
03061>        [RDT= 1.00] out<-     1.0 01:N8          31561.00   49.404 No_date   39:59   17.20  n/a      .000
03062>          [L/S/n= 2269./ .088/.045]
03063>          {Vmax=  .370:Dmax= 1.520}
03064> #
03065> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
03066> #
03067> R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03068>      ADD HYD             1.0 02:N8          31561.00   49.404 No_date   39:59   17.20  n/a      .000
03069>                        +     1.0 02:SW_8        131.00    1.298 No_date   28:57   16.03  n/a      .000
03070>                        +     1.0 02:HB_DR       3854.00    9.385 No_date   38:41   17.18  n/a      .000
03071>                    SUM=      1.0 01:S_N8        35546.00   58.845 No_date   39:59   17.19  n/a      .000
03072> #
03073> # Sum of hydrographs from Node 8 routed to Node 7
03074> # Section 4
03075> #
03076> R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03077>      ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00   58.845 No_date   39:59   17.19  n/a      .000
03078>        [RDT= 1.00] out<-     1.0 01:N7          35546.00   48.127 No_date   45:08   17.19  n/a      .000
03079>          [L/S/n= 3750./ .053/.070]
03080>          {Vmax=  .208:Dmax= 1.855}
03081> #
03082> # Addition of Subwatershed 7 to Node 7
03083> #
03084> R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03085>      ADD HYD             1.0 02:N7          35546.00   48.127 No_date   45:08   17.19  n/a      .000
03086>                        +     1.0 02:SW_7        3197.00    7.027 No_date   36:28   13.89  n/a      .000
03087>                    SUM=      1.0 01:S_N7        38743.00   51.395 No_date   44:14   16.92  n/a      .000
03088> R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03089>      SAVE HYD            1.0 01:S_N7        38743.00   51.395 No_date   44:14   16.92  n/a      .000
03090>          fname :H_SN7
03091>          remark:flow at S_N7: N7 + SW_7
03092> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
03093> # Storage area and volumes were estimated from available topo maps.
03094> # Release rate from fen was assumed to be controlled by the downstream
03095> # river cross-section for summer conditions.  It is was assumed that for up to
03096> # 0.75 m of water, the main channel of the river provided the storage.  Above
03097> # this depth, the wetland starts to signigicantly store water.
03098> #
03099> R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03100>      ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00   51.395 No_date   44:14   16.92  n/a      .000
03101>                       out <=     1.0 01:RES_RF      38743.00   27.976 No_date   59:12   16.92  n/a      .000
03102>          {MxStoUsed=.1784E+03  m3}
03103> R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03104>      SAVE HYD            1.0 01:RES_RF      38743.00   27.976 No_date   59:12   16.92  n/a      .000
03105>          fname :H_ResRF
03106>          remark:outflow of Richmond Fen
03107> #
03108> # Sum of hydrographs from Node 7 routed to Node 6
03109> # Section 5
03110> #
03111> R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03112>      ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   27.976 No_date   59:12   16.92  n/a      .000
03113>        [RDT= 1.00] out<-     1.0 01:N6          38743.00   27.930 No_date   60:29   16.92  n/a      .000
03114>          [L/S/n= 3056./ .082/.025]
03115>          {Vmax=  .460:Dmax=  .895}
03116> #
03117> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
03118> #
03119> R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03120>      ADD HYD             1.0 02:N6          38743.00   27.930 No_date   60:29   16.92  n/a      .000
03121>                        +     1.0 02:SW_6        165.00     .641 No_date   33:06   17.58  n/a      .000
03122>                        +     1.0 02:VG_DR       1332.00    4.803 No_date   35:19   20.12  n/a      .000
03123>                    SUM=      1.0 01:S_N6        40240.01   27.944 No_date   60:06   17.03  n/a      .000
03124> #
03125> # Sum of hydrographs from Node 6 routed to Node 5
03126> # Section 6
03127> #
03128> R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03129>      ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   27.944 No_date   60:06   17.03  n/a      .000
03130>        [RDT= 1.00] out<-     1.0 01:N5          40240.01   27.922 No_date   60:57   17.03  n/a      .000
03131>          [L/S/n= 1852./ .054/.035]
03132>          {Vmax=  .397:Dmax= 1.002}
03133> #
03134> # Addition of Subwatershed 5 and Flowing Creek to Node 5
03135> #
03136> R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03137>      ADD HYD             1.0 02:N5          40240.01   27.922 No_date   60:57   17.03  n/a      .000
03138>                        +     1.0 02:SW_5        224.00    4.100 No_date   28:45   22.97  n/a      .000
03139>                        +     1.0 02:FL_CK       4945.00   22.837 No_date   33:22   21.04  n/a      .000
03140>                    SUM=      1.0 01:S_N5        45409.01   43.566 No_date   35:28   17.49  n/a      .000
03141> #
03142> # Sum of hydrographs from Node 5 routed to Node 5A
03143> # Section 7
03144> #
03145> R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03146>      ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   43.566 No_date   35:28   17.49  n/a      .000
03147>        [RDT= 1.00] out<-     1.0 01:N5A         45409.01   43.490 No_date   35:47   17.49  n/a      .000
03148>          [L/S/n=  556./ .090/.040]
03149>          {Vmax=  .465:Dmax= 1.060}
03150> #
03151> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
03152> #
03153> R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03154>      ADD HYD             1.0 02:N5A         45409.01   43.490 No_date   35:47   17.49  n/a      .000
03155>                        +     1.0 02:SW_5A2       20.00     .483 No_date   28:36   25.62  n/a      .000
03156>                        +     1.0 02:SW_5A1      1412.00    4.646 No_date   37:58   21.98  n/a      .000
03157>                    SUM=      1.0 01:S_N5A       46841.01   47.976 No_date   35:58   17.63  n/a      .000
03158> #
03159> # Sum of hydrographs from Node 5A routed to Node 4
03160> # Section 8
03161> #
03162> R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03163>      ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   47.976 No_date   35:58   17.63  n/a      .000
03164>        [RDT= 1.00] out<-     1.0 01:N4          46841.01   46.217 No_date   37:26   17.63  n/a      .000
03165>          [L/S/n= 4630./ .043/.035]
03166>          {Vmax=  .756:Dmax= 3.116}
03167> #
03168> # Addition of Subwatershed 4 and Leamy Creek to Node 4
03169> #
03170> R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03171>      ADD HYD             1.0 02:N4          46841.01   46.217 No_date   37:26   17.63  n/a      .000
03172>                        +     1.0 02:SW_4        585.00    6.688 No_date   29:57   25.62  n/a      .000
03173>                        +     1.0 02:LM_CK       1021.00    8.861 No_date   30:48   25.07  n/a      .000
03174>                    SUM=      1.0 01:S_N4        48447.00   50.308 No_date   36:47   17.89  n/a      .000
03175> R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03176>      SAVE HYD            1.0 01:S_N4        48447.00   50.308 No_date   36:47   17.89  n/a      .000
03177>          fname :S_N4.0005
03178>          remark:flow at S_N4
03179> #

03180> # Sum of hydrographs from Node 4 routed to Node 2
03181> # Section 9
03182> #
03183> R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03184>      ROUTE CHANNEL   ->     1.0 02:S_N4        48447.00   50.308 No_date   36:47   17.89  n/a      .000
03185>        [RDT= 1.00] out<-     1.0 01:N2          48447.00   50.131 No_date   37:08   17.89  n/a      .000
03186>          [L/S/n= 1667./ .060/.040]
03187>          {Vmax=  .781:Dmax= 3.131}
03188> #
03189> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
03190> #
03191> R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03192>      ADD HYD             1.0 02:N2          48447.00   50.131 No_date   37:08   17.89  n/a      .000
03193>                        +     1.0 02:SW_2        177.00    3.240 No_date   28:45   22.97  n/a      .000
03194>                        +     1.0 02:SM_DR       1122.00    8.165 No_date   31:48   25.62  n/a      .000
03195>                        +     1.0 02:MO_DR       2737.00   17.859 No_date   31:33   22.47  n/a      .000
03196>                    SUM=      1.0 01:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a      .000
03197> R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03198>      SAVE HYD            1.0 01:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a      .000
03199>          fname :H_SN2
03200>          remark:flow at S_N2 Jock River Gauge at Moodie Dr.
03201> #
03202> # Sum of hydrographs from Node 2 routed to Node 1
03203> # Section 10
03204> #
03205> #*************************************************************************
03206> #
03207> # Hydrograph from Node 2 routed to Node 416
03208> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
03209> #
03210> R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03211>      ROUTE CHANNEL   ->     1.0 02:S_N2        52483.00   67.222 No_date   33:17   18.31  n/a      .000
03212>        [RDT= 1.00] out<-     1.0 01:N_416       52483.00   65.664 No_date   34:34   18.31  n/a      .000
03213>          [L/S/n= 2327./ .050/.055]
03214>          {Vmax=  .658:Dmax= 2.660}
03215> #*************************************************************************
03216> #    Catchment SW-1a
03217> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
03218> #    - Undeveloped agricultural land
03219> #*************************************************************************
03220> R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03221>      CONTINUOUS NASHYD     1.0 01:SW_1a       536.42     3.012 No_date   31:18   19.00 .333     .000
03222>          [CN= 72.0: N= 3.00: Tp= 2.79]
03223>          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
03224>          [InterEventTime=  12.00]
03225> R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03226>      CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93     4.591 No_date   28:03   42.00 .735     .000
03227>          [XIMP=.65:TIMP=.65]
03228>          [LOSS= 2 :CN= 75.0]
03229>          [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  49.:MNP=.250:SCP=   .0]
03230>          [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
03231>          [IaRECimp=   4.00: IaRECper=   4.00]
03232>          [SMIN= 33.81: SMAX=225.43: SK= .010]
03233> R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03234>      ADD HYD             1.0 02:N_416       52483.00   65.664 No_date   34:34   18.31  n/a      .000
03235>                        +     1.0 02:SW_1a       536.42     3.012 No_date   31:18   19.00  n/a      .000
03236>                        +     1.0 02:S-1-Okeefe    44.93     4.591 No_date   28:03   42.00  n/a      .000
03237>                    SUM=      1.0 01:SN_416      53064.36   67.942 No_date   34:06   18.33  n/a      .000
03238> R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03239>      SAVE HYD            1.0 01:SN_416      53064.36   67.942 No_date   34:06   18.33  n/a      .000
03240>          fname :SN_416.0005
03241>          remark:Total Flows at Highway 416
03242> #
03243> # Hydrograph from Node 416 routed to Node at Okeefe drain
03244> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
03245> #
03246> R0005:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03247>      ROUTE CHANNEL   ->     1.0 02:SN_416      53064.36   67.942 No_date   34:06   18.33  n/a      .000
03248>        [RDT= 1.00] out<-     1.0 01:N_OK        53064.36   67.912 No_date   34:06   18.33  n/a      .000
03249>          [L/S/n=  497./ .302/.055]
03250>          {Vmax= 1.355:Dmax= 2.252}
03251> #*************************************************************************
03252> #    Catchment OKEEFE
03253> #    - To O'Keefe drain (north of the Jock)
03254> #    - Developed with assumed 43% imp.
03255> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
03256> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Cit1-Gate 2014).
03257> #*************************************************************************
03258> R0005:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03259>      CONTINUOUS NASHYD     1.0 01:O-1         63.72      .514 No_date   28:59   13.88 .243     .000
03260>          [CN= 61.0: N= 3.00: Tp=  .90]
03261>          [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
03262>          [InterEventTime=  12.00]
03263> R0005:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03264>      ROUTE CHANNEL   ->     1.0 02:O-1         63.72      .514 No_date   28:59   13.88  n/a      .000
03265>        [RDT= 1.00] out<-     1.0 01:O-1R        63.72      .470 No_date   29:19   13.88  n/a      .000
03266>          [L/S/n=  960./ .630/.043]
03267>          {Vmax=  .682:Dmax=  .283}
03268> R0005:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03269>      CONTINUOUS NASHYD     1.0 01:O-2         28.61      .183 No_date   29:14   12.96 .227     .000
03270>          [CN= 57.0: N= 3.00: Tp= 1.10]
03271>          [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
03272>          [InterEventTime=  12.00]
03273> R0005:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03274>      CONTINUOUS NASHYD     1.0 01:O-4         46.94      .222 No_date   29:01    9.87 .173     .000
03275>          [CN= 49.0: N= 3.00: Tp=  .90]
03276>          [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
03277>          [InterEventTime=  12.00]
03278> R0005:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03279>      ADD HYD             1.0 02:O-1R        63.72      .470 No_date   29:19   13.88  n/a      .000
03280>                        +     1.0 02:O-2         28.61      .183 No_date   29:14   12.96  n/a      .000
03281>                        +     1.0 02:O-4         46.94      .222 No_date   29:01    9.87  n/a      .000
03282>                    SUM=      1.0 01:OKF-N       139.27     .867 No_date   29:14   12.34  n/a      .000
03283> R0005:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03284>      ROUTE CHANNEL   ->     1.0 02:OKF-N       139.27     .867 No_date   29:14   12.34  n/a      .000
03285>        [RDT= 1.00] out<-     1.0 01:OKF-NR      139.27     .866 No_date   29:17   12.34  n/a      .000
03286>          [L/S/n=  210./ .810/.043]
03287>          {Vmax=  .853:Dmax=  .550}
03288> R0005:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03289>      CONTINUOUS NASHYD     1.0 01:O-6         16.46      .074 No_date   28:46    8.71 .152     .000
03290>          [CN= 43.0: N= 3.00: Tp=  .70]
03291>          [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
03292>          [InterEventTime=  12.00]
03293> R0005:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03294>      CONTINUOUS STANDHYD   1.0 01:O-3         39.67      .605 No_date   28:25   15.80 .277     .000
03295>          [XIMP=.15:TIMP=.30]
03296>          [LOSS= 2 :CN= 50.0]
03297>          [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
03298>          [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
03299>          [IaRECimp=   4.00: IaRECper=   4.00]
03300>          [SMIN= 99.77: SMAX=665.12: SK= .010]
03301> R0005:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03302>      CONTINUOUS STANDHYD   1.0 01:O-5         60.63     1.453 No_date   28:11   17.75 .311     .000
03303>          [XIMP=.13:TIMP=.26]
03304>          [LOSS= 2 :CN= 61.0]
03305>          [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
03306>          [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
03307>          [IaRECimp=   4.00: IaRECper=   4.00]
03308>          [SMIN= 64.50: SMAX=430.01: SK= .010]
03309> R0005:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03310>      ADD HYD             1.0 02:OKF-NR      139.27     .866 No_date   29:17   12.34  n/a      .000
03311>                        +     1.0 02:O-3         39.67      .605 No_date   28:25   15.80  n/a      .000
03312>                        +     1.0 02:O-5         60.63     1.453 No_date   28:11   17.75  n/a      .000
03313>                        +     1.0 02:O-6         16.46      .074 No_date   28:46    8.71  n/a      .000
03314>                    SUM=      1.0 01:PT1        256.03    2.312 No_date   28:24   13.92  n/a      .000
03315> R0005:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03316>      CONTINUOUS NASHYD     1.0 01:O-7          5.28      .041 No_date   28:37   11.36 .199     .000
03317>          [CN= 54.0: N= 3.00: Tp=  .60]
03318>          [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
03319>          [InterEventTime=  12.00]
03320> R0005:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03321>      ADD HYD             1.0 02:PT1         256.03    2.312 No_date   28:24   13.92  n/a      .000
03322>                        +     1.0 02:O-7         5.28      .041 No_date   28:37   11.36  n/a      .000
03323>                    SUM=      1.0 01:FF          261.31    2.351 No_date   28:25   13.87  n/a      .000
03324> R0005:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03325>      ROUTE CHANNEL   ->     1.0 02:FF          261.31    2.351 No_date   28:25   13.87  n/a      .000
03326>        [RDT= 1.00] out<-     1.0 01:DRAIN1      261.31    2.298 No_date   28:31   13.87  n/a      .000
03327>          [L/S/n=  302./1.000/.043]
03328>          {Vmax=  .817:Dmax=  .624}
03329> R0005:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03330>      CONTINUOUS NASHYD     1.0 01:D1          1.17      .044 No_date   28:12   23.49 .411     .000
03331>          [CN= 84.0: N= 3.00: Tp=  .28]
03332>          [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
03333>          [InterEventTime=  12.00]
03334> R0005:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03335>      CONTINUOUS STANDHYD   1.0 01:A1           2.50      .337 No_date   28:01   44.03 .771     .000
03336>          [XIMP=.68:TIMP=.85]
03337>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03338>          [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03339>          [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
03340>          [IaRECimp=   4.00: IaRECper=   4.00]
03341> R0005:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03342>      ROUTE RESERVOIR ->     1.0 02:A1          2.50      .337 No_date   28:01   44.03  n/a      .000
03343>                       out <=     1.0 01:A1-STR      2.50      .076 No_date   28:28   44.03  n/a      .000
03344>              overflow <=     1.0 03:A1-OVF       .00      .000 No_date    0:00    .00  n/a      .000
03345>          {MxStoUsed=.5227E-01  m3, TotOvTVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03346> R0005:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03347>      CONTINUOUS STANDHYD   1.0 01:ST-2          .59      .062 No_date   28:00   33.25 .582     .000
03348>          [XIMP=.46:TIMP=.57]
03349>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03350>          [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03351>          [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
03352>          [IaRECimp=   4.00: IaRECper=   4.00]
03353> R0005:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03354>      ROUTE RESERVOIR ->     1.0 02:ST-2          .59      .062 No_date   28:00   33.25  n/a      .000
03355>                       out <=     1.0 01:ST2STR      .59      .052 No_date   28:03   33.25  n/a      .000
03356>              overflow <=     1.0 03:ST2OVF       .00      .000 No_date    0:00    .00  n/a      .000
03357>          {MxStoUsed=.1200E-02  m3, TotOvTVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03358> R0005:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03359>      CONTINUOUS NASHYD     1.0 01:O-8         60.55      .658 No_date   29:05   18.08 .317     .000
03360>          [CN= 69.0: N= 3.00: Tp= 1.00]
03361>          [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
03362>          [InterEventTime=  12.00]
03363> R0005:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03364>      ROUTE PIPE      ->     1.0 02:O-8         60.55      .658 No_date   29:05   18.08  n/a      .000
03365>        [RDT= 1.00] out<-     1.0 01:O8PIPE      60.55      .654 No_date   29:09   18.08  n/a      .000
03366>          [L/S/n=  335./ .100/.013]
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03367>      {Vmax=  .991:Dmax=  .368}
03368>      {HGT= 1.20:WDT= 1.80}
03369> R0005:C00091-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03370>     ADD HYD          1.0 02:DRAIN1       261.31    2.298 No_date   28:31   13.87  n/a    .000
03371>                    +    1.0 02:D1            1.17     .044 No_date   28:12   23.49  n/a    .000
03372>                    +    1.0 02:A1-STR        2.50     .076 No_date   28:28   44.03  n/a    .000
03373>                    +    1.0 02:A1-OVF         .00     .000 No_date    0:00     .00  n/a    .000
03374>                    +    1.0 02:ST2STR         .59     .052 No_date   28:03   33.25  n/a    .000
03375>                    +    1.0 02:ST2OVF         .00     .000 No_date    0:00     .00  n/a    .000
03376>                    +    1.0 02:O8PIPE       60.55     .654 No_date   29:09   18.08  n/a    .000
03377>                  SUM=   1.0 01:ST2-IN       326.12    2.907 No_date   28:39   14.95  n/a    .000
03378> R0005:C00092-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03379>     CONTINUOUS STANDHYD   1.0 01:A7           3.51     .460 No_date   28:02   44.03 .771     .000
03380>       [XIMP=.68:TIMP=.85]
03381>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03382>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03383>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
03384>       [IaRECimp=   4.00: IaRECper=   4.00]
03385> R0005:C00093-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03386>     ROUTE RESERVOIR ->    1.0 02:A7           3.51     .460 No_date   28:02   44.03  n/a    .000
03387>                    out <=   1.0 01:A7-STR       3.51     .108 No_date   28:29   44.03  n/a    .000
03388>               overflow <=   1.0 03:A7-OVF        .00     .000 No_date    0:00     .00  n/a    .000
03389>       {MxStoUsed=.7349E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03390> R0005:C00094-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03391>     CONTINUOUS STANDHYD   1.0 01:ST-3           .71     .073 No_date   28:00   33.25 .582     .000
03392>       [XIMP=.46:TIMP=.57]
03393>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03394>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03395>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
03396>       [IaRECimp=   4.00: IaRECper=   4.00]
03397> R0005:C00095-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03398>     ROUTE RESERVOIR ->    1.0 02:ST-3           .71     .073 No_date   28:00   33.25  n/a    .000
03399>                    out <=   1.0 01:ST3STR       .71     .063 No_date   28:03   33.25  n/a    .000
03400>               overflow <=   1.0 03:ST3OVF        .00     .000 No_date    0:00     .00  n/a    .000
03401>       {MxStoUsed=.1203E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03402> R0005:C00096-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03403>     ADD HYD          1.0 02:ST2-IN       326.12    2.907 No_date   28:39   14.95  n/a    .000
03404>                    +    1.0 02:A7-STR        3.51     .108 No_date   28:29   44.03  n/a    .000
03405>                    +    1.0 02:A7-OVF         .00     .000 No_date    0:00     .00  n/a    .000
03406>                    +    1.0 02:ST3STR         .71     .063 No_date   28:03   33.25  n/a    .000
03407>                    +    1.0 02:ST3OVF         .00     .000 No_date    0:00     .00  n/a    .000
03408>                  SUM=   1.0 01:PTSTS3       330.34    3.026 No_date   28:38   15.30  n/a    .000
03409> R0005:C00097-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03410>     ROUTE CHANNEL    ->    1.0 02:PT2ST3       330.34    3.026 No_date   28:38   15.30  n/a    .000
03411>       [RDT= 1.00] out<-     1.0 01:DRAIN2       330.34    2.842 No_date   29:04   15.30  n/a    .000
03412>       [L/S/n=  592./ .230/.043]
03413>       {Vmax=  .607:Dmax=  .930}
03414> R0005:C00098-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03415>     CONTINUOUS NASHYD     1.0 01:D2           2.28     .035 No_date   29:05   23.49 .411     .000
03416>       [CN= 84.0: N= 3.00: Tp=  .99]
03417>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
03418>       [InterEventTime=  12.00]
03419> R0005:C00099-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03420>     CONTINUOUS STANDHYD   1.0 01:A17          12.04    1.379 No_date   28:04   44.03 .771     .000
03421>       [XIMP=.68:TIMP=.85]
03422>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03423>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03424>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
03425>       [IaRECimp=   4.00: IaRECper=   4.00]
03426> R0005:C00100-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03427>     ROUTE RESERVOIR ->    1.0 02:A17          12.04    1.379 No_date   28:04   44.03  n/a    .000
03428>                    out <=   1.0 01:A17STR      12.04     .353 No_date   28:36   44.03  n/a    .000
03429>               overflow <=   1.0 03:A17OVF        .00     .000 No_date    0:00     .00  n/a    .000
03430>       {MxStoUsed=.2492E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03431> R0005:C00101-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03432>     CONTINUOUS STANDHYD   1.0 01:ST-4           .35     .038 No_date   28:00   33.25 .582     .000
03433>       [XIMP=.46:TIMP=.57]
03434>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03435>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03436>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
03437>       [IaRECimp=   4.00: IaRECper=   4.00]
03438> R0005:C00102-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03439>     ROUTE RESERVOIR ->    1.0 02:ST-4           .35     .038 No_date   28:00   33.25  n/a    .000
03440>                    out <=   1.0 01:ST4STR       .35     .031 No_date   28:03   33.25  n/a    .000
03441>               overflow <=   1.0 03:ST4OVF        .00     .000 No_date    0:00     .00  n/a    .000
03442>       {MxStoUsed=.1040E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03443> R0005:C00103-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03444>     CONTINUOUS STANDHYD   1.0 01:A18          5.30     .671 No_date   28:02   44.03 .771     .000
03445>       [XIMP=.68:TIMP=.85]
03446>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03447>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03448>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
03449>       [IaRECimp=   4.00: IaRECper=   4.00]
03450> R0005:C00104-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03451>     ROUTE RESERVOIR ->    1.0 02:A18          5.30     .671 No_date   28:02   44.03  n/a    .000
03452>                    out <=   1.0 01:A18STR      5.30     .160 No_date   28:31   44.03  n/a    .000
03453>               overflow <=   1.0 03:A18OVF        .00     .000 No_date    0:00     .00  n/a    .000
03454>       {MxStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03455> R0005:C00105-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03456>     ADD HYD          1.0 02:DRAIN2       330.34    2.842 No_date   29:04   15.30  n/a    .000
03457>                    +    1.0 02:D2            2.28     .035 No_date   29:05   23.49  n/a    .000
03458>                    +    1.0 02:A17STR       12.04     .353 No_date   28:36   44.03  n/a    .000
03459>                    +    1.0 02:A17OVF         .00     .000 No_date    0:00     .00  n/a    .000
03460>                    +    1.0 02:ST4STR         .35     .031 No_date   28:03   33.25  n/a    .000
03461>                    +    1.0 02:ST4OVF         .00     .000 No_date    0:00     .00  n/a    .000
03462>                    +    1.0 02:A18STR        5.30     .160 No_date   28:31   44.03  n/a    .000
03463>                    +    1.0 02:A18OVF         .00     .000 No_date    0:00     .00  n/a    .000
03464>                  SUM=   1.0 01:PTSTS4       350.31    3.317 No_date   28:57   16.79  n/a    .000
03465> R0005:C00106-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03466>     ROUTE CHANNEL    ->    1.0 02:PT3ST4       350.31    3.317 No_date   28:57   16.79  n/a    .000
03467>       [RDT= 1.00] out<-     1.0 01:DRAIN3       350.31    3.191 No_date   29:19   16.79  n/a    .000
03468>       [L/S/n=  525./ .230/.043]
03469>       {Vmax=  .635:Dmax=  .979}
03470> R0005:C00107-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03471>     CONTINUOUS NASHYD     1.0 01:D3           2.51     .055 No_date   28:45   25.92 .454     .000
03472>       [CN= 86.0: N= 3.00: Tp=  .73]
03473>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
03474>       [InterEventTime=  12.00]
03475> R0005:C00108-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03476>     CONTINUOUS STANDHYD   1.0 01:C1           3.41     .450 No_date   28:01   44.03 .771     .000
03477>       [XIMP=.68:TIMP=.85]
03478>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03479>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03480>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
03481>       [IaRECimp=   4.00: IaRECper=   4.00]
03482> R0005:C00109-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03483>     ROUTE RESERVOIR ->    1.0 02:C1           3.41     .450 No_date   28:01   44.03  n/a    .000
03484>                    out <=   1.0 01:C1-STR       3.41     .104 No_date   28:29   44.03  n/a    .000
03485>               overflow <=   1.0 03:C1-OVF        .00     .000 No_date    0:00     .00  n/a    .000
03486>       {MxStoUsed=.7123E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03487> R0005:C00110-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03488>     CONTINUOUS STANDHYD   1.0 01:ST-5           .45     .048 No_date   28:00   33.25 .582     .000
03489>       [XIMP=.46:TIMP=.57]
03490>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03491>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03492>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
03493>       [IaRECimp=   4.00: IaRECper=   4.00]
03494> R0005:C00111-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03495>     ROUTE RESERVOIR ->    1.0 02:ST-5           .45     .048 No_date   28:00   33.25  n/a    .000
03496>                    out <=   1.0 01:ST5STR       .45     .040 No_date   28:03   33.25  n/a    .000
03497>               overflow <=   1.0 03:ST5OVF        .00     .000 No_date    0:00     .00  n/a    .000
03498>       {MxStoUsed=.1108E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03499> R0005:C00112-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03500>     ADD HYD          1.0 02:DRAIN3       350.31    3.191 No_date   29:19   16.79  n/a    .000
03501>                    +    1.0 02:D3            2.51     .055 No_date   28:45   25.92  n/a    .000
03502>                    +    1.0 02:C1-STR        3.41     .104 No_date   28:29   44.03  n/a    .000
03503>                    +    1.0 02:C1-OVF         .00     .000 No_date    0:00     .00  n/a    .000
03504>                    +    1.0 02:ST5STR         .45     .040 No_date   28:03   33.25  n/a    .000
03505>                    +    1.0 02:ST5OVF         .00     .000 No_date    0:00     .00  n/a    .000
03506>                  SUM=   1.0 01:STS-E        356.68    3.312 No_date   29:13   17.14  n/a    .000
03507> R0005:C00113-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03508>     CONTINUOUS STANDHYD   1.0 01:STRAND       7.59     .640 No_date   28:12   42.86 .750     .000
03509>       [XIMP=.64:TIMP=.85]
03510>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03511>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03512>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
03513>       [IaRECimp=   4.00: IaRECper=   4.00]
03514> R0005:C00114-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03515>     ROUTE RESERVOIR ->    1.0 02:STRAND       7.59     .640 No_date   28:12   42.86  n/a    .000
03516>                    out <=   1.0 01:S-POND      7.59     .048 No_date   29:55   42.86  n/a    .000
03517>               overflow <=   1.0 03:S-OVF        .00     .000 No_date    0:00     .00  n/a    .000
03518>       {MxStoUsed=.2288E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03519> R0005:C00115-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03520>     ADD HYD          1.0 02:STS-E        356.68    3.312 No_date   29:13   17.14  n/a    .000
03521>                    +    1.0 01:S-POND        7.59     .048 No_date   29:55   42.86  n/a    .000
03522>                    +    1.0 02:S-OVF          .00     .000 No_date    0:00     .00  n/a    .000
03523>                  SUM=   1.0 01:SSAOUT       364.27    3.358 No_date   29:13   17.68  n/a    .000
03524> R0005:C00116-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03525>     SAVE HYD         1.0 01:SSAOUT       364.27    3.358 No_date   29:13   17.68  n/a    .000
03526>       fname :SSAOUT.0005
03527>       remark:SSAOUT
03528> R0005:C00117-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03529>     CONTINUOUS STANDHYD   1.0 01:Area-A        66.75    5.433 No_date   28:11   42.06 .736     .000
03530>       [XIMP=.64:TIMP=.80]
03531>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03532>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03533>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
03534>       [IaRECimp=   4.00: IaRECper=   4.00]
03535> R0005:C00118-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03536>     SAVE HYD         1.0 01:Area-A        66.75    5.433 No_date   28:11   42.06  n/a    .000
03537>       fname :Area-A.0005
03538>       remark:SMWF-A Inflow
03539> R0005:C00119-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03540>     ROUTE RESERVOIR ->    1.0 02:Area-A        66.75    5.433 No_date   28:11   42.06  n/a    .000
03541>                    out <=   1.0 01:SWMF-A       66.75     .298 No_date   30:20   42.06  n/a    .000
03542>               overflow <=   1.0 03:SWMAOV        .00     .000 No_date    0:00     .00  n/a    .000
03543>       {MxStoUsed=.2106E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03544> R0005:C00120-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03545>     SAVE HYD         1.0 01:SWMF-A        66.75     .298 No_date   30:20   42.06  n/a    .000
03546>       fname :SWMF-A.0005
03547>       remark:SMWF-A Outflow
03548> R0005:C00121-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03549>     ADD HYD          1.0 02:SSAOUT       364.27    3.358 No_date   29:13   17.68  n/a    .000
03550>                    +    1.0 02:SWMF-A        66.75     .298 No_date   30:20   42.06  n/a    .000
03551>                    +    1.0 02:SWMAOV         .00     .000 No_date    0:00     .00  n/a    .000
03552>                  SUM=   1.0 01:PT4ST5       431.02    3.613 No_date   29:19   21.45  n/a    .000
03553> R0005:C00122-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03554>     CONTINUOUS STANDHYD   1.0 01:C6           1.87     .260 No_date   28:01   44.03 .771     .000
03555>       [XIMP=.68:TIMP=.85]
03556>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03557>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03558>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
03559>       [IaRECimp=   4.00: IaRECper=   4.00]
03560> R0005:C00123-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03561>     ROUTE RESERVOIR ->    1.0 02:C6           1.87     .260 No_date   28:01   44.03  n/a    .000
03562>                    out <=   1.0 01:C6-STR       1.87     .058 No_date   28:26   44.03  n/a    .000
03563>               overflow <=   1.0 03:C6-OVF        .00     .000 No_date    0:00     .00  n/a    .000
03564>       {MxStoUsed=.3924E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03565> R0005:C00124-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03566>     CONTINUOUS STANDHYD   1.0 01:C7           1.62     .227 No_date   28:01   44.03 .771     .000
03567>       [XIMP=.68:TIMP=.85]
03568>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03569>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03570>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
03571>       [IaRECimp=   4.00: IaRECper=   4.00]
03572> R0005:C00125-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03573>     ROUTE RESERVOIR ->    1.0 02:C7           1.62     .227 No_date   28:01   44.03  n/a    .000
03574>                    out <=   1.0 01:C7-STR       1.62     .058 No_date   28:26   44.03  n/a    .000
03575>               overflow <=   1.0 03:C7-OVF        .00     .000 No_date    0:00     .00  n/a    .000
03576>       {MxStoUsed=.3391E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03577> R0005:C00126-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03578>     CONTINUOUS STANDHYD   1.0 01:ST-6           .41     .044 No_date   28:00   33.25 .582     .000
03579>       [XIMP=.46:TIMP=.57]
03580>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03581>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03582>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
03583>       [IaRECimp=   4.00: IaRECper=   4.00]
03584> R0005:C00127-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03585>     ROUTE RESERVOIR ->    1.0 02:ST-6           .41     .044 No_date   28:00   33.25  n/a    .000
03586>                    out <=   1.0 01:ST6STR       .41     .036 No_date   28:03   33.25  n/a    .000
03587>               overflow <=   1.0 03:ST6OVF        .00     .000 No_date    0:00     .00  n/a    .000
03588>       {MxStoUsed=.1092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03589> R0005:C00128-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03590>     ADD HYD          1.0 02:PT4STS       431.02    3.613 No_date   29:19   21.45  n/a    .000
03591>                    +    1.0 02:C6-STR        1.87     .058 No_date   28:26   44.03  n/a    .000
03592>                    +    1.0 02:C6-OVF         .00     .000 No_date    0:00     .00  n/a    .000
03593>                    +    1.0 02:C7-STR        1.62     .050 No_date   28:26   44.03  n/a    .000
03594>                    +    1.0 02:C7-OVF         .00     .000 No_date    0:00     .00  n/a    .000
03595>                    +    1.0 02:ST6STR         .41     .036 No_date   28:03   33.25  n/a    .000
03596>                    +    1.0 02:ST6OVF         .00     .000 No_date    0:00     .00  n/a    .000
03597>                  SUM=   1.0 01:PTSTS6       434.92    3.684 No_date   29:13   21.64  n/a    .000
03598> R0005:C00129-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03599>     ROUTE CHANNEL    ->    1.0 02:PTSTS6       434.92    3.684 No_date   29:13   21.64  n/a    .000
03600>       [RDT= 1.00] out<-     1.0 01:DRAIN4       434.92    3.572 No_date   29:35   21.64  n/a    .000
03601>       [L/S/n=  324./ .100/.043]
03602>       {Vmax=  .480:Dmax= 1.218}
03603> R0005:C00130-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03604>     CONTINUOUS NASHYD     1.0 01:D4           1.73     .049 No_date   28:35   27.98 .490     .000
03605>       [CN= 88.0: N= 3.00: Tp=  .60]
03606>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
03607>       [InterEventTime=  12.00]
03608> R0005:C00131-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03609>     CONTINUOUS STANDHYD   1.0 01:Area-B        24.04    2.784 No_date   28:04   40.98 .717     .000
03610>       [XIMP=.62:TIMP=.77]
03611>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03612>       [Pervious     area: IAper= 4.67:SLPP=3.40:LGP=  50.:MNP=.250:SCP=   .0]
03613>       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
03614>       [IaRECimp=   4.00: IaRECper=   4.00]
03615> R0005:C00132-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03616>     ROUTE RESERVOIR ->    1.0 02:Area-B        24.04    2.784 No_date   28:04   40.98  n/a    .000
03617>                    out <=   1.0 01:SWMF-B       24.04     .278 No_date   28:55   40.98  n/a    .000
03618>               overflow <=   1.0 03:SWMBOVF        .00     .000 No_date    0:00     .00  n/a    .000
03619>       {MxStoUsed=.6277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03620> R0005:C00133-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03621>     ADD HYD          1.0 02:DRAIN4       434.92    3.572 No_date   29:35   21.64  n/a    .000
03622>                    +    1.0 02:D4            1.73     .049 No_date   28:35   27.98  n/a    .000
03623>                    +    1.0 02:SWMF-B       24.04     .278 No_date   28:55   40.98  n/a    .000
03624>                    +    1.0 02:SWMBOVF        .00     .000 No_date    0:00     .00  n/a    .000
03625>                  SUM=   1.0 01:D4-EX        460.69    3.861 No_date   29:25   22.68  n/a    .000
03626> R0005:C00134-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03627>     ROUTE CHANNEL    ->    1.0 02:D4-EX        460.69    3.861 No_date   29:25   22.68  n/a    .000
03628>       [RDT= 1.00] out<-     1.0 01:DRAIN5       460.69    3.810 No_date   29:44   22.68  n/a    .000
03629>       [L/S/n=  413./ .160/.033]
03630>       {Vmax=  .561:Dmax=  .821}
03631> R0005:C00135-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03632>     CONTINUOUS NASHYD     1.0 01:D5           1.90     .044 No_date   28:42   25.92 .454     .000
03633>       [CN= 86.0: N= 3.00: Tp=  .69]
03634>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
03635>       [InterEventTime=  12.00]
03636> R0005:C00136-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03637>     CONTINUOUS NASHYD     1.0 01:O-13SDF       9.74     .290 No_date   28:22   24.64 .431     .000
03638>       [CN= 81.0: N= 3.00: Tp=  .43]
03639>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
03640>       [InterEventTime=  12.00]
03641> R0005:C00137-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03642>     ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74     .290 No_date   28:22   24.64  n/a    .000
03643>                    out <=   1.0 01:SDF         9.74     .032 No_date   32:11   24.64  n/a    .000
03644>               overflow <=   1.0 03:OVFSDF        .00     .000 No_date    0:00     .00  n/a    .000
03645>       {MxStoUsed=.1268E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
03646> R0005:C00138-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03647>     ADD HYD          1.0 02:DRAIN5       460.69    3.810 No_date   29:44   22.68  n/a    .000
03648>                    +    1.0 02:D5            1.90     .044 No_date   28:42   25.92  n/a    .000
03649>                    +    1.0 02:SDF           9.74     .032 No_date   32:11   24.64  n/a    .000
03650>                  SUM=   1.0 01:PT6MC       472.33    3.863 No_date   29:44   22.73  n/a    .000
03651> R0005:C00139-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03652>     CONTINUOUS NASHYD     1.0 01:O-15         10.67     .385 No_date   28:13   23.43 .410     .000
03653>       [CN= 82.0: N= 3.00: Tp=  .30]
03654>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
03655>       [InterEventTime=  12.00]
03656> R0005:C00140-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03657>     ADD HYD          1.0 02:PT6MC        472.33    3.863 No_date   29:44   22.73  n/a    .000
03658>                    +    1.0 02:O-15         10.67     .385 No_date   28:13   23.43  n/a    .000
03659>                  SUM=   1.0 01:M-C         483.00    3.921 No_date   29:44   22.75  n/a    .000
03660> R0005:C00141-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03661>     ROUTE CHANNEL    ->    1.0 02:M-C          483.00    3.921 No_date   29:44   22.75  n/a    .000
03662>       [RDT= 1.00] out<-     1.0 01:O-14Ch       483.00    3.787 No_date   30:06   22.75  n/a    .000
03663>       [L/S/n=  845./ .100/.033]
03664>       {Vmax=  .748:Dmax= 1.430}
03665> R0005:C00142-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03666>     CONTINUOUS NASHYD     1.0 01:O-14          5.00     .300 No_date   28:04   23.43 .410     .000
03667>       [CN= 82.0: N= 3.00: Tp=  .13]
03668>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
03669>       [InterEventTime=  12.00]
03670> R0005:C00143-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03671>     ADD HYD          1.0 02:O-14Ch       483.00    3.787 No_date   30:06   22.75  n/a    .000
03672>                    +    1.0 02:O-14          5.00     .300 No_date   28:04   23.43  n/a    .000
03673>                  SUM=   1.0 01:OKEEFE      488.00    3.807 No_date   30:06   22.75  n/a    .000
03674> #*********************************************************************
03675> #    Okeefe Pond
03676> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
03677> #      and a ratio of the catchment area to the West Clarke pond rating curve
03678> #      from the MSS for the next coordinates
03679> #*********************************************************************
03680> R0005:C00144-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03681>     CONTINUOUS STANDHYD   1.0 01:S-1-D2        18.67    2.097 No_date   28:02   42.00 .735     .000
03682>       [XIMP=.65:TIMP=.65]
03683>       [LOSS= 2 :CN= 75.0]
03684>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03685>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
03686>       [IaRECimp=   4.00: IaRECper=   4.00]
03687>       [SMIN= 33.81: SMAX=225.43: SK= .010]
03688> R0005:C00145-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03689>     CONTINUOUS STANDHYD   1.0 01:S-1-D3         6.79     .831 No_date   28:01   42.00 .735     .000
03690>       [XIMP=.65:TIMP=.65]
03691>       [LOSS= 2 :CN= 75.0]
03692>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03693>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
03694>       [IaRECimp=   4.00: IaRECper=   4.00]
03695>       [SMIN= 33.81: SMAX=225.43: SK= .010]
03696> R0005:C00146-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03697>     ADD HYD          1.0 02:N_OK         53064.36   67.912 No_date   34:06   18.33  n/a    .000
03698>                    +    1.0 02:OKEEFE       488.00    3.807 No_date   30:06   22.75  n/a    .000
03699>                    +    1.0 02:S-1-D2        18.67    2.097 No_date   28:02   42.00  n/a    .000
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03741>      {MxStoUsed=.5004E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03742> R0005:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03743>      ADD HYD                1.0 02:P_FOS      325.44    5.174 No_date   29:08   37.71  n/a     .000
03744>                   +     1.0 02:FO-OVF          .00     .000 No_date   0:00     .00  n/a     .000
03745>                SUM=     1.0 01:FOSTER-OUT   325.44    5.174 No_date   29:08   37.71  n/a     .000
03746> #*************************************************************************
03747> R0005:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03748>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA    73.29    6.276 No_date   28:06   41.22 .722     .000
03749>        [XIMP=.60:TIMP=.65]
03750>        [LOSS= 2 :CN= 77.0]
03751>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
03752>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
03753>        [IaRECimp=   4.00: IaRECper=   4.00]
03754>        [SMIN= 31.15: SMAX=207.66: SK= .010]
03755> R0005:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03756>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA    73.29    6.276 No_date   28:06   41.22  n/a     .000
03757>                   out <=    1.0 01:MS_P10        73.29    1.101 No_date   28:56   41.22  n/a     .000
03758>             overflow <=     1.0 03:P10-OVF         .00     .000 No_date   0:00     .00  n/a     .000
03759>      {MxStoUsed=.1093E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03760> R0005:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03761>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2       4.94     .508 No_date   28:01   37.71 .660     .000
03762>        [XIMP=.55:TIMP=.55]
03763>        [LOSS= 2 :CN= 74.0]
03764>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03765>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
03766>        [IaRECimp=   4.00: IaRECper=   4.00]
03767>        [SMIN= 36.67: SMAX=244.49: SK= .010]
03768> R0005:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03769>      ADD HYD                1.0 02:FOSTER-OUT   325.44    5.174 No_date   29:08   37.71  n/a     .000
03770>                   +     1.0 02:S-1-FO-D2       4.94     .508 No_date   28:01   37.71  n/a     .000
03771>                SUM=     1.0 01:980          330.38    5.218 No_date   29:07   37.71  n/a     .000
03772> R0005:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03773>      SAVE HYD               1.0 01:980          330.38    5.218 No_date   29:07   37.71  n/a     .000
03774>        fname :980.0005
03775>        remark:Total Flows at Station 980 on Foster Drain
03776> #
03777> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
03778> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
03779> #
03780> R0005:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03781>      ROUTE CHANNEL    ->     1.0 02:980          330.38    5.218 No_date   29:07   37.71  n/a     .000
03782>        [RDT= 1.00] out<-     1.0 01:980-out      330.38    5.061 No_date   29:14   37.71  n/a     .000
03783>        [L/S/n=  460./ .043/.035]
03784>        {Vmax=  .602:Dmax= 1.269}
03785> R0005:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03786>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1       5.11     .605 No_date   28:00   41.68 .730     .000
03787>        [XIMP=.65:TIMP=.65]
03788>        [LOSS= 2 :CN= 74.0]
03789>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03790>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
03791>        [IaRECimp=   4.00: IaRECper=   4.00]
03792>        [SMIN= 36.67: SMAX=244.49: SK= .010]
03793> R0005:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03794>      ADD HYD                1.0 02:980-out      330.38    5.061 No_date   29:14   37.71  n/a     .000
03795>                   +     1.0 02:S-1-FO-D1       5.11     .605 No_date   28:00   41.68  n/a     .000
03796>                SUM=     1.0 01:520          335.49    5.103 No_date   29:14   37.77  n/a     .000
03797> R0005:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03798>      SAVE HYD               1.0 01:520          335.49    5.103 No_date   29:14   37.77  n/a     .000
03799>        fname :520.0005
03800>        remark:Total Flows at Sation 520 on Foster Drain
03801> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
03802> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
03803> #
03804> R0005:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03805>      ROUTE CHANNEL    ->     1.0 02:520          335.49    5.103 No_date   29:14   37.77  n/a     .000
03806>        [RDT= 1.00] out<-     1.0 01:520-out      335.49    5.054 No_date   29:26   37.77  n/a     .000
03807>        [L/S/n=  860./ .587/.035]
03808>        {Vmax= 1.318:Dmax=  .606}
03809> R0005:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03810>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D     14.96    1.615 No_date   28:02   41.68 .730     .000
03811>        [XIMP=.65:TIMP=.65]
03812>        [LOSS= 2 :CN= 74.0]
03813>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03814>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
03815>        [IaRECimp=   4.00: IaRECper=   4.00]
03816>        [SMIN= 36.67: SMAX=244.49: SK= .010]
03817> R0005:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03818>      CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27     .672 No_date   28:02   30.94 .542     .000
03819>        [XIMP=.32:TIMP=.65]
03820>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03821>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03822>        [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
03823>        [IaRECimp=   4.00: IaRECper=   4.00]
03824> R0005:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03825>      CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    1.479 No_date   28:37   21.69 .380     .000
03826>        [CN= 77.0: N= 3.00: Tp=  .62]
03827>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03828>        [InterEventTime=  12.00]
03829> R0005:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03830>      CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .462 No_date   29:11   21.69 .380     .000
03831>        [CN= 77.0: N= 3.00: Tp= 1.10]
03832>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03833>        [InterEventTime=  12.00]
03834> R0005:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03835>      ADD HYD                1.0 02:MS_P10      53577.82   68.990 No_date   34:22   18.39  n/a     .000
03836>                   +     1.0 02:520-out       335.49    5.054 No_date   29:26   37.77  n/a     .000
03837>                   +     1.0 02:MS_P10         73.29    1.101 No_date   28:56   41.22  n/a     .000
03838>                   +     1.0 02:P10-OVF          .00     .000 No_date   0:00     .00  n/a     .000
03839>                   +     1.0 02:W_CLAR_UND     35.65     .462 No_date   29:11   21.69  n/a     .000
03840>                   +     1.0 02:S-1-FO-F-D     14.96    1.615 No_date   28:02   41.68  n/a     .000
03841>                   +     1.0 02:S-1-D8          5.27     .672 No_date   28:02   30.94  n/a     .000
03842>                   +     1.0 02:S-1-A          75.88    1.479 No_date   28:37   21.69  n/a     .000
03843>                SUM=     1.0 01:SN_FO       54118.36   71.813 No_date   33:54   18.55  n/a     .000
03844> R0005:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03845>      SAVE HYD               1.0 01:SN_FO       54118.36   71.813 No_date   33:54   18.55  n/a     .000
03846>        fname :SN_FO.0005
03847>        remark:Total Flows at Foster Drain
03848> # Hydrograph from Node Foster routed to Node at Cedarview Road
03849> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
03850> #
03851> R0005:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03852>      ROUTE CHANNEL    ->     1.0 02:SN_FO       54118.36   71.813 No_date   33:54   18.55  n/a     .000
03853> *    [RDT= 1.00] out<-     1.0 01:SN_CE       54118.36   71.742 No_date   33:55   18.55  n/a     .000
03854>        [L/S/n=  159./ .082/.035]
03855>        {Vmax= 1.246:Dmax= 3.101}
03856> #*************************************************************************
03857> #    Catchment S-1
03858> #    - To Jock River (north and south of Jock)
03859> #    - Primarily agricultural fields; portion of sand quarry
03860> #*************************************************************************
03861> R0005:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03862>      CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    1.342 No_date   28:24   21.69 .380     .000
03863>        [CN= 77.0: N= 3.00: Tp=  .45]
03864>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03865>        [InterEventTime=  12.00]
03866> #  -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
03867> #  -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
03868> #  -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
03869> R0005:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03870>      CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    2.409 No_date   28:02   42.00 .735     .000
03871>        [XIMP=.65:TIMP=.65]
03872>        [LOSS= 2 :CN= 75.0]
03873>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03874>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
03875>        [IaRECimp=   4.00: IaRECper=   4.00]
03876>        [SMIN= 33.81: SMAX=225.43: SK= .010]
03877> R0005:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03878>      CONTINUOUS STANDHYD    1.0 01:S-1-D4          3.28     .421 No_date   28:00   42.00 .735     .000
03879>        [XIMP=.65:TIMP=.65]
03880>        [LOSS= 2 :CN= 75.0]
03881>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03882>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
03883>        [IaRECimp=   4.00: IaRECper=   4.00]
03884>        [SMIN= 33.81: SMAX=225.43: SK= .010]
03885> R0005:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03886>      CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    1.500 No_date   28:01   42.00 .735     .000
03887>        [XIMP=.65:TIMP=.65]
03888>        [LOSS= 2 :CN= 75.0]
03889>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03890>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
03891>        [IaRECimp=   4.00: IaRECper=   4.00]
03892>        [SMIN= 33.81: SMAX=225.43: SK= .010]
03893> R0005:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03894>      CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .232 No_date   28:00   42.00 .735     .000
03895>        [XIMP=.65:TIMP=.65]
03896>        [LOSS= 2 :CN= 75.0]
03897>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03898>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
03899>        [IaRECimp=   4.00: IaRECper=   4.00]
03900>        [SMIN= 33.81: SMAX=225.43: SK= .010]
03901> R0005:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03902>      CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .265 No_date   28:00   42.00 .735     .000
03903>        [XIMP=.65:TIMP=.65]
03904>        [LOSS= 2 :CN= 75.0]
03905>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03906>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
03907>        [IaRECimp=   4.00: IaRECper=   4.00]
03908>        [SMIN= 33.81: SMAX=225.43: SK= .010]
03909> #    Catchment W_CLAR
03910> #    - To West Clarke Drain (south of the Jock)
03911> #    - Subdivision with 43% imp. as per Barrhaven South MSS
03912> #    - 2020-11-30 update Tributary Drainage Area to  = 121 ha based on P598(04)-11
03913> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
03914> #*************************************************************************
03915> R0005:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03916>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .192 No_date   28:00   37.36 .654     .000
03917>        [XIMP=.46:TIMP=.59]
03918>        [LOSS= 2 :CN= 77.0]
03919>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
03920>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
03921>        [IaRECimp=   4.00: IaRECper=   4.00]
03922>        [SMIN= 31.15: SMAX=207.66: SK= .010]
03923> # 5-Year + 12% Capture
03924> R0005:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03925>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .192 No_date   28:00   37.36  n/a     .000
03926>                   out <=    1.0 01:W_CLAR_MJn      1.77     .192 No_date   28:00   37.36  n/a     .000
03927>             overflow <=     1.0 03:W_CLAR_MJj       .00     .000 No_date   0:00     .00  n/a     .000
03928>      {MxStoUsed=.9116E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03929> R0005:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03930>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   10.597 No_date   28:05   41.22 .722     .000
03931>        [XIMP=.60:TIMP=.65]
03932>        [LOSS= 2 :CN= 77.0]
03933>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
03934>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
03935>        [IaRECimp=   4.00: IaRECper=   4.00]
03936>        [SMIN= 31.15: SMAX=207.66: SK= .010]
03937> R0005:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03938>      ADD HYD                1.0 02:W_CLAR_ALL    119.40   10.597 No_date   28:05   41.22  n/a     .000
03939>                   +     1.0 02:W_CLAR_MJj        .00     .000 No_date   0:00     .00  n/a     .000
03940>                SUM=     1.0 01:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
03941> R0005:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03942>      SAVE HYD               1.0 01:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
03943>        fname :W_CLAR.0005
03944>        remark:Total Flows to West Clarke
03945> #*************************************************************************
03946> #    West Clarke Pond 2
03947> #    - Rating curve obtained from Barrhaven South MSS modeling
03948> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
03949> #*************************************************************************
03950> R0005:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03951>      ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
03952>                   out <=    1.0 01:MS_P2        119.40    1.795 No_date   28:54   41.22  n/a     .000
03953>             overflow <=     1.0 03:P2-OVF          .00     .000 No_date   0:00     .00  n/a     .000
03954>      {MxStoUsed=.2665E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03955> #*************************************************************************
03956> R0005:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03957>      ADD HYD                1.0 02:S-1-D2      54118.36   71.742 No_date   33:55   18.55  n/a     .000
03958>                   +     1.0 02:S-1-D4          3.28     .421 No_date   28:00   42.00  n/a     .000
03959>                   +     1.0 02:S-1-D5         12.84    1.500 No_date   28:01   42.00  n/a     .000
03960>                   +     1.0 02:MS_P2         119.40    1.795 No_date   28:54   41.22  n/a     .000
03961>                   +     1.0 02:P2-OVF          .00     .000 No_date   0:00     .00  n/a     .000
03962>                SUM=     1.0 01:SN_CE       54253.88   72.490 No_date   33:54   18.61  n/a     .000
03963> R0005:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03964>      SAVE HYD               1.0 01:SN_CE       54253.88   72.490 No_date   33:54   18.61  n/a     .000
03965>        fname :SN_CE.0005
03966>        remark:Total Flows before Station 5737 on Jock River
03967> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
03968> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
03969> # JFSA 2021-03-02  change the slope from 0.01% (as per Stantec Report 2007) to 0.02593 to stabilize the model
03970> R0005:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03971>      ROUTE CHANNEL    ->     1.0 02:SN_CE       54253.88   72.490 No_date   33:54   18.61  n/a     .000
03972> *    [RDT= 1.00] out<-     1.0 01:5737        54253.88   69.289 No_date   36:45   18.61  n/a     .000
03973>        [L/S/n=  270./ .018/.035]
03974>        {Vmax=  .686:Dmax= 4.073}
03975> R0005:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03976>      ADD HYD                1.0 02:5737        54253.88   69.289 No_date   36:45   18.61  n/a     .000
03977>                   +     1.0 02:S-1-D6          21.67    2.409 No_date   28:02   42.00  n/a     .000
03978>                   +     1.0 02:S-1-D8           1.75     .232 No_date   28:00   42.00  n/a     .000
03979>                   +     1.0 02:S-1-D7           2.03     .265 No_date   28:00   42.00  n/a     .000
03980>                SUM=     1.0 01:5002        54279.33   69.330 No_date   36:43   18.62  n/a     .000
03981> R0005:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03982>      SAVE HYD               1.0 01:5002        54279.33   69.330 No_date   36:43   18.62  n/a     .000
03983>        fname :5002.0005
03984>        remark:Total Flows before Station 5002 on Jock River
03985> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
03986> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
03987> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
03988> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
03989> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
03990> R0005:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03991>      ROUTE CHANNEL    ->     1.0 02:5002        54279.33   69.330 No_date   36:43   18.62  n/a     .000
03992>        [RDT= 1.00] out<-     1.0 01:W_WCa       54279.33   69.338 No_date   36:38   18.62  n/a     .000
03993>        [L/S/n=  245./ .095/.035]
03994>        {Vmax= 1.066:Dmax= 2.317}
03995> R0005:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03996>      ROUTE CHANNEL    ->     1.0 02:N_WCa       54279.33   69.338 No_date   36:38   18.62  n/a     .000
03997>        [RDT= 1.00] out<-     1.0 01:N_WCb       54279.33   69.347 No_date   36:34   18.62  n/a     .000
03998>        [L/S/n=  245./ .095/.035]
03999>        {Vmax= 1.066:Dmax= 2.317}
04000> R0005:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04001>      ROUTE CHANNEL    ->     1.0 02:N_WCb       54279.33   69.347 No_date   36:34   18.62  n/a     .000
04002>        [RDT= 1.00] out<-     1.0 01:N_WC        54279.33   69.562 No_date   36:09   18.62  n/a     .000
04003>        [L/S/n=  245./ .095/.035]
04004>        {Vmax= 1.067:Dmax= 2.317}
04005> #*************************************************************************
04006> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
04007> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
04008> #
04009> R0005:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04010>      ROUTE CHANNEL    ->     1.0 02:N_WC        54279.33   69.562 No_date   36:09   18.62  n/a     .000
04011>        [RDT= 1.00] out<-     1.0 01:N_KB        54279.33   69.259 No_date   36:50   18.62  n/a     .000
04012>        [L/S/n= 1020./ .050/.035]
04013>        {Vmax=  .944:Dmax= 2.851}
04014> #*************************************************************************
04015> #    Catchment KEN_BU
04016> #    - To Kennedy-Burnett SWM Facility
04017> #    - Outlets to Fraser-Clarke drain (north of the Jock)
04018> #    - Medium density residential subdivision
04019> #*************************************************************************
04020> #*************************************************************************
04021> #   Existing Kennedy-Burnett SWM Facility
04022> #    - 5-Year rating curve obtained from GETKBP
04023> #    - Tributary Drainage Area to Pond = 160 ha
04024> #*************************************************************************
04025> R0005:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04026>      CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    2.624 No_date   28:14   20.08 .351     .000
04027>        [XIMP=.10:TIMP=.40]
04028>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04029>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
04030>        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
04031>        [IaRECimp=   4.00: IaRECper=   4.00]
04032> R0005:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04033>      COMPUTE DUALHYD        1.0 01:KB-01A         40.82    2.624 No_date   28:14   20.08  n/a     .000
04034>        Major System   /     1.0 02:KB-01A-MJ        .00     .000 No_date   0:00     .00  n/a     .000
04035>        Minor System   \     1.0 03:KB-01A-MN      40.82    2.624 No_date   28:14   20.08  n/a     .000
04036>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04037> R0005:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04038>      ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date   0:00      .00  n/a     .000
04039>                   +     1.0 02:KB-01A-MN      40.82    2.624 No_date   28:14   20.08  n/a     .000
04040>                SUM=     1.0 01:KB-01A-S       40.82    2.624 No_date   28:14   20.08  n/a     .000
04041> R0005:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04042>      CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    1.779 No_date   28:08   22.42 .393     .000
04043>        [XIMP=.19:TIMP=.38]
04044>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04045>        [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
04046>        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
04047>        [IaRECimp=   4.00: IaRECper=   4.00]
04048> R0005:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04049>      COMPUTE DUALHYD        1.0 01:KB-01B         31.10    1.779 No_date   28:08   22.42  n/a     .000
04050>        Major System   /     1.0 02:KB-01B-MJ        .00     .000 No_date   0:00      .00  n/a     .000
04051>        Minor System   \     1.0 03:KB-01B-MN      31.10    1.585 No_date   28:03   22.52  n/a     .000
04052>        {MjSysSto=.1536E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04053> R0005:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04054>      ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date   0:00      .00  n/a     .000
04055>                   +     1.0 02:KB-01B-MN      31.10    1.585 No_date   28:03   22.52  n/a     .000
04056>                SUM=     1.0 01:KB-01B-S       31.10    1.585 No_date   28:03   22.52  n/a     .000
04057> R0005:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04058>      CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    1.235 No_date   28:05   23.43 .410     .000
04059>        [XIMP=.20:TIMP=.41]
04060>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04061>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04062>        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
04063>        [IaRECimp=   4.00: IaRECper=   4.00]
04064> R0005:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04065>      COMPUTE DUALHYD        1.0 01:KB-01C         13.78    1.235 No_date   28:05   23.43  n/a     .000
04066>        Major System   /     1.0 02:KB-01C-MJ        .00     .000 No_date   0:00      .00  n/a     .000
04067>        Minor System   \     1.0 03:KB-01C-MN      13.78    1.235 No_date   28:05   23.43  n/a     .000
04068>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04069> R0005:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04070>      ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date   0:00      .00  n/a     .000
04071>                   +     1.0 02:KB-01C-MN      13.78    1.235 No_date   28:05   23.43  n/a     .000
04072>                SUM=     1.0 01:KB-01C-S       13.78    1.235 No_date   28:05   23.43  n/a     .000
04073> R0005:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04074>      CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    6.180 No_date   28:10   22.99 .402     .000
04075>        [XIMP=.20:TIMP=.39]
04076>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04077>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04078>        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
04079>        [IaRECimp=   4.00: IaRECper=   4.00]
04080> R0005:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04081>      COMPUTE DUALHYD        1.0 01:KB-03          84.78    6.180 No_date   28:10   22.99  n/a     .000
04082>        Major System   /     1.0 02:KB-03-MJ         .00     .000 No_date   0:00      .00  n/a     .000
04083>        Minor System   \     1.0 03:KB-03-MN       84.78    5.270 No_date   28:03   23.12  n/a     .000
04084>        {MjSysSto=.5145E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04085> R0005:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04086>      ADD HYD                1.0 02:KB-03-MJ         .00     .000 No_date   0:00      .00  n/a     .000
04087>                   +     1.0 02:KB-03-MN       84.78    5.270 No_date   28:03   23.12  n/a     .000
04088>                SUM=     1.0 01:KB-03-S        84.78    5.270 No_date   28:03   23.12  n/a     .000
04089> R0005:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04090>      CONTINUOUS STANDHYD    1.0 01:KB-04           6.95    1.043 No_date   28:01   49.53 .867     .000
04091>        [XIMP=.85:TIMP=.85]
04092>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04093>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04094>        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
04095>        [IaRECimp=   4.00: IaRECper=   4.00]
04096> R0005:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04097>      COMPUTE DUALHYD        1.0 01:KB-04           6.95    1.043 No_date   28:01   49.53  n/a     .000
04098>        Major System   /     1.0 02:KB-04-MJ         .00     .000 No_date   0:00      .00  n/a     .000
04099>        Minor System   \     1.0 03:KB-04-MN        6.95     .503 No_date   27:48   49.78  n/a     .000
04100>        {MjSysSto=.3742E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04101> R0005:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04102>      ADD HYD                1.0 02:KB-04-MJ
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04115>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04116>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04117>       [Impervious  area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
04118>       [IaRECimp=   4.00: IaRECper=   4.00]
04119> R0005:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04120>     COMPUTE DUALHYD      1.0 01:KB-06       12.93    2.190 No_date   28:00   50.55  n/a     .000
04121>      Major System   /    1.0 02:KB-06-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04122>      Minor System   \    1.0 03:KB-06-MN    12.93    2.190 No_date   28:00   50.55  n/a     .000
04123>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04124> R0005:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04125>     ADD HYD              1.0 02:KB-06-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04126>                    +     1.0 02:KB-06-MN    12.93    2.190 No_date   28:00   50.55  n/a     .000
04127>                SUM:      1.0 01:KB-06-S     12.93    2.190 No_date   28:00   50.55  n/a     .000
04128> R0005:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04129>     CONTINUOUS STANDHYD   1.0 01:KB-11        4.03     .584 No_date   28:00   41.88 .733     .000
04130>       [XIMP=.68:TIMP=.68]
04131>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04132>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04133>       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
04134>       [IaRECimp=   4.00: IaRECper=   4.00]
04135> R0005:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04136>     COMPUTE DUALHYD      1.0 01:KB-11        4.03     .584 No_date   28:00   41.88  n/a     .000
04137>      Major System   /    1.0 02:KB-11-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04138>      Minor System   \    1.0 03:KB-11-MN     4.03     .577 No_date   28:00   41.89  n/a     .000
04139>       {MjSysSto=.4277E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04140> R0005:C00211-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04141>     ADD HYD              1.0 02:KB-11-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04142>                    +     1.0 02:KB-11-MN     4.03     .577 No_date   28:00   41.89  n/a     .000
04143>                SUM:      1.0 01:KB-11-S      4.03     .577 No_date   28:00   41.89  n/a     .000
04144> R0005:C00212-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04145>     CONTINUOUS STANDHYD   1.0 01:S1          4.99     .892 No_date   28:00   52.49 .919     .000
04146>       {XIMP=.93:TIMP=.93}
04147>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04148>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04149>       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
04150>       [IaRECimp=   4.00: IaRECper=   4.00]
04151> R0005:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04152>     CONTINUOUS STANDHYD   1.0 01:KB-15        2.15     .321 No_date   28:00   47.49 .831     .000
04153>       [XIMP=.79:TIMP=.79]
04154>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04155>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04156>       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
04157>       [IaRECimp=   4.00: IaRECper=   4.00]
04158> R0005:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04159>     ADD HYD              1.0 02:KB-01A-S     40.82    2.624 No_date   28:14   20.08  n/a     .000
04160>                    +     1.0 02:KB-01B-S     31.10    1.585 No_date   28:03   22.52  n/a     .000
04161>                    +     1.0 02:KB-01C-S     13.78    1.235 No_date   28:05   23.43  n/a     .000
04162>                    +     1.0 02:KB-03-S      84.78    5.270 No_date   28:03   23.12  n/a     .000
04163>                    +     1.0 02:KB-04-S       6.95     .503 No_date   27:48   49.78  n/a     .000
04164>                    +     1.0 02:KB-05         5.19     .855 No_date   28:00   52.49  n/a     .000
04165>                    +     1.0 02:KB-06-S      12.93    2.190 No_date   28:00   50.55  n/a     .000
04166>                    +     1.0 02:KB-11-S       4.03     .577 No_date   28:00   41.89  n/a     .000
04167>                    +     1.0 02:KB-15         2.15     .321 No_date   28:00   47.49  n/a     .000
04168>                    +     1.0 02:S1            4.99     .892 No_date   28:00   52.49  n/a     .000
04169>                SUM:      1.0 01:KB-P1       206.72   14.564 No_date   28:02   27.13  n/a     .000
04170> R0005:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04171>     ROUTE RESERVOIR  ->     1.0 02:KB-P1       206.72   14.564 No_date   28:02   27.13  n/a     .000
04172>                    out <=   1.0 01:KB-P1R      206.72   11.746 No_date   28:15   27.13  n/a     .000
04173>          overflow <=       1.0 03:KB-P1ovf       .00     .000 No_date   0:00     .00  n/a     .000
04174>       {MxStoUsed=.5868E+00 m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
04175> R0005:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04176>     ADD HYD              1.0 02:KB-P1R      206.72   11.746 No_date   28:15   27.13  n/a     .000
04177>                    +     1.0 02:KB-P1ovf       .00     .000 No_date   0:00     .00  n/a     .000
04178>                SUM:      1.0 01:KB-Pond1    206.72   11.746 No_date   28:15   27.13  n/a     .000
04179> R0005:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04180>     SAVE HYD             1.0 01:KB-Pond1    206.72   11.746 No_date   28:15   27.13  n/a     .000
04181>       fname :KB-Pond1.0005
04182>       remark:Total Flows at KB first pond
04183> R0005:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04184>     CONTINUOUS STANDHYD   1.0 01:KB-07       10.86    1.770 No_date   28:00   50.11 .877     .000
04185>       [XIMP=.86:TIMP=.86]
04186>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04187>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04188>       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
04189>       [IaRECimp=   4.00: IaRECper=   4.00]
04190> R0005:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04191>     COMPUTE DUALHYD      1.0 01:KB-07       10.86    1.770 No_date   28:00   50.11  n/a     .000
04192>      Major System   /    1.0 02:KB-07-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04193>      Minor System   \    1.0 03:KB-07-MN    10.86    1.770 No_date   28:00   50.11  n/a     .000
04194>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04195> R0005:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04196>     ADD HYD              1.0 02:KB-07-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04197>                    +     1.0 02:KB-07-MN    10.86    1.770 No_date   28:00   50.11  n/a     .000
04198>                SUM:      1.0 01:KB-07-S     10.86    1.770 No_date   28:00   50.11  n/a     .000
04199> R0005:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04200>     CONTINUOUS STANDHYD   1.0 01:KB-08        6.61     .900 No_date   28:00   40.32 .706     .000
04201>       {XIMP=.64:TIMP=.64}
04202>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04203>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04204>       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
04205>       [IaRECimp=   4.00: IaRECper=   4.00]
04206> R0005:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04207>     COMPUTE DUALHYD      1.0 01:KB-08        6.61     .900 No_date   28:00   40.32  n/a     .000
04208>      Major System   /    1.0 02:KB-08-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04209>      Minor System   \    1.0 03:KB-08-MN     6.61     .900 No_date   28:00   40.32  n/a     .000
04210>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04211> R0005:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04212>     ADD HYD              1.0 02:KB-08-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04213>                    +     1.0 02:KB-08-MN     6.61     .900 No_date   28:00   40.32  n/a     .000
04214>                SUM:      1.0 01:KB-08-S      6.61     .900 No_date   28:00   40.32  n/a     .000
04215> R0005:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04216>     CONTINUOUS STANDHYD   1.0 01:KB-09        2.60     .448 No_date   28:00   49.44 .865     .000
04217>       [XIMP=.86:TIMP=.86]
04218>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04219>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04220>       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
04221>       [IaRECimp=   4.00: IaRECper=   4.00]
04222> R0005:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04223>     CONTINUOUS STANDHYD   1.0 01:KB-10_1      2.37     .409 No_date   28:00   49.44 .865     .000
04224>       [XIMP=.86:TIMP=.86]
04225>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04226>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04227>       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
04228>       [IaRECimp=   4.00: IaRECper=   4.00]
04229> R0005:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04230>     CONTINUOUS STANDHYD   1.0 01:KB-10_2      1.14     .199 No_date   28:00   49.44 .865     .000
04231>       [XIMP=.86:TIMP=.86]
04232>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04233>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04234>       [Impervious  area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
04235>       [IaRECimp=   4.00: IaRECper=   4.00]
04236> R0005:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04237>     CONTINUOUS STANDHYD   1.0 01:KB-12        4.86     .777 No_date   28:00   46.75 .818     .000
04238>       [XIMP=.79:TIMP=.79]
04239>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04240>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04241>       [Impervious  area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
04242>       [IaRECimp=   4.00: IaRECper=   4.00]
04243> R0005:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04244>     COMPUTE DUALHYD      1.0 01:KB-12        4.86     .777 No_date   28:00   46.75  n/a     .000
04245>      Major System   /    1.0 02:KB-12-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04246>      Minor System   \    1.0 03:KB-12-MN     4.86     .777 No_date   28:00   46.75  n/a     .000
04247>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04248> R0005:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04249>     ADD HYD              1.0 02:KB-12-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04250>                    +     1.0 02:KB-12-MN     4.86     .777 No_date   28:00   46.75  n/a     .000
04251>                SUM:      1.0 01:KB-12-S      4.86     .777 No_date   28:00   46.75  n/a     .000
04252> R0005:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04253>     CONTINUOUS STANDHYD   1.0 01:KB-13       10.19    1.364 No_date   28:00   40.32 .706     .000
04254>       [XIMP=.64:TIMP=.64]
04255>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04256>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04257>       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
04258>       [IaRECimp=   4.00: IaRECper=   4.00]
04259> R0005:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04260>     COMPUTE DUALHYD      1.0 01:KB-13       10.19    1.364 No_date   28:00   40.32  n/a     .000
04261>      Major System   /    1.0 02:KB-13-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04262>      Minor System   \    1.0 03:KB-13-MN    10.19    1.364 No_date   28:00   40.32  n/a     .000
04263>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04264> R0005:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04265>     ADD HYD              1.0 02:KB-13-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04266>                    +     1.0 02:KB-13-MN    10.19    1.364 No_date   28:00   40.32  n/a     .000
04267>                SUM:      1.0 01:KB-13-S     10.19    1.364 No_date   28:00   40.32  n/a     .000
04268> R0005:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04269>     CONTINUOUS STANDHYD   1.0 01:KB-14        5.47     .756 No_date   28:00   40.32 .706     .000
04270>       [XIMP=.64:TIMP=.64]
04271>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04272>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04273>       [Impervious  area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
04274>       [IaRECimp=   4.00: IaRECper=   4.00]
04275> R0005:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04276>     COMPUTE DUALHYD      1.0 01:KB-14        5.47     .756 No_date   28:00   40.32  n/a     .000
04277>      Major System   /    1.0 02:KB-14-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04278>      Minor System   \    1.0 03:KB-14-MN     5.47     .756 No_date   28:00   40.32  n/a     .000
04279>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04280> R0005:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04281>     ADD HYD              1.0 02:KB-14-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04282>                    +     1.0 02:KB-14-MN     5.47     .756 No_date   28:00   40.32  n/a     .000
04283>                SUM:      1.0 01:KB-14-S      5.47     .756 No_date   28:00   40.32  n/a     .000
04284> R0005:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04285>     CONTINUOUS STANDHYD   1.0 01:KB-16_2      3.42     .462 No_date   28:01   43.88 .768     .000
04286>       [XIMP=.71:TIMP=.71]
04287>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04288>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04289>       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
04290>       [IaRECimp=   4.00: IaRECper=   4.00]
04291> R0005:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04292>     ADD HYD              1.0 02:KB-Pond1    206.72   11.746 No_date   28:15   27.13  n/a     .000
04293>                    +     1.0 02:KB-07-S      10.86    1.770 No_date   28:00   50.11  n/a     .000
04294>                    +     1.0 02:KB-08-S       6.61     .900 No_date   28:00   40.32  n/a     .000
04295>                    +     1.0 02:KB-09         2.60     .448 No_date   28:00   49.44  n/a     .000
04296>                    +     1.0 02:KB-10_1       2.37     .409 No_date   28:00   49.43  n/a     .000
04297>                    +     1.0 02:KB-10_2       1.14     .199 No_date   28:00   49.44  n/a     .000
04298>                    +     1.0 02:KB-12-S       4.86     .777 No_date   28:00   46.75  n/a     .000
04299>                    +     1.0 02:KB-13-S      10.19    1.364 No_date   28:00   40.32  n/a     .000
04300>                    +     1.0 02:KB-14-S       5.47     .756 No_date   28:00   40.32  n/a     .000
04301>                    +     1.0 02:KB-16_2       3.42     .462 No_date   28:01   43.88  n/a     .000
04302>                SUM:      1.0 01:KB-P2       254.24   16.750 No_date   28:01   30.40  n/a     .000
04303> R0005:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04304>     ROUTE RESERVOIR  ->     1.0 02:KB-P2       254.24   16.750 No_date   28:01   30.40  n/a     .000
04305>                    out <=   1.0 01:KB-P2R      254.24   13.525 No_date   28:14   30.40  n/a     .000
04306>          overflow <=       1.0 03:KB-P2ovf       .00     .000 No_date   0:00     .00  n/a     .000
04307>       {MxStoUsed=.6552E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
04308> R0005:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04309>     ADD HYD              1.0 02:KB-P2R      254.24   13.525 No_date   28:14   30.40  n/a     .000
04310>                    +     1.0 02:KB-P2ovf       .00     .000 No_date   0:00     .00  n/a     .000
04311>                SUM:      1.0 01:KB-Pond2    254.24   13.525 No_date   28:14   30.40  n/a     .000
04312> R0005:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04313>       SAVE HYD           1.0 01:KB-Pond2    254.24   13.525 No_date   28:14   30.40  n/a     .000
04314>       fname :KB-Pond2.0005
04315>       remark:Total Flows at KB second pond
04316> R0005:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04317>     CONTINUOUS STANDHYD   1.0 01:KB-16_1      2.80     .398 No_date   28:01   45.69 .800     .000
04318>       [XIMP=.75:TIMP=.75]
04319>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04320>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04321>       [Impervious  area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
04322>       [IaRECimp=   4.00: IaRECper=   4.00]
04323> R0005:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04324>     ADD HYD              1.0 02:KB-Pond2    254.24   13.525 No_date   28:14   30.40  n/a     .000
04325>                    +     1.0 02:KB-16_1      2.80     .398 No_date   28:01   45.69  n/a     .000
04326>                SUM:      1.0 01:KB-P3       257.04   13.655 No_date   28:13   30.57  n/a     .000
04327> R0005:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04328>     ROUTE RESERVOIR  ->     1.0 02:KB-P3       257.04   13.655 No_date   28:13   30.57  n/a     .000
04329>                    out <=   1.0 01:KB-P3R      14.18     .051 No_date   17:43   30.57  n/a     .000
04330>          overflow <=       1.0 03:KB-P3ovf    242.86   13.603 No_date   28:13   30.57  n/a     .000
04331>       {MxStoUsed=.1998E-02  m3, TotOvfVol=.7424E+01  m3, N-Ovf=    2, TotDurOvf=  23.hrs}
04332> R0005:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04333>     ADD HYD              1.0 02:KB-P3R      14.18     .051 No_date   17:43   30.57  n/a     .000
04334>                    +     1.0 02:KB-P3ovf    242.86   13.603 No_date   28:13   30.57  n/a     .000
04335>                SUM:      1.0 01:KB-Pond3    257.04   13.654 No_date   28:13   30.57  n/a     .000
04336> R0005:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04337>       SAVE HYD           1.0 01:KB-Pond3    257.04   13.654 No_date   28:13   30.57  n/a     .000
04338>       fname :KB-Pond3.0005
04339>       remark:Total Flows at KB third pond
04340> *************************************************************************
04341> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
04342> #    - TO FRASER-CLARKE DRAIN
04343> *************************************************************************
04344> R0005:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04345>     CONTINUOUS STANDHYD   1.0 01:FC-01        8.03     .865 No_date   28:01   32.39 .567     .000
04346>       [XIMP=.47:TIMP=.47]
04347>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04348>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04349>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
04350>       [IaRECimp=   4.00: IaRECper=   4.00]
04351> R0005:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04352>     COMPUTE DUALHYD      1.0 01:FC-01        8.03     .865 No_date   28:01   32.39  n/a     .000
04353>      Major System   /    1.0 02:FC-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04354>      Minor System   \    1.0 03:FC-01-MN     8.03     .756 No_date   27:58   32.40  n/a     .000
04355>       {MjSysSto=.2912E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04356> R0005:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04357>     ADD HYD              1.0 02:FC-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04358>                    +     1.0 02:FC-01-MN     8.03     .756 No_date   27:58   32.40  n/a     .000
04359>                SUM:      1.0 01:FC-01-S      8.03     .756 No_date   27:58   32.40  n/a     .000
04360> R0005:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04361>     CONTINUOUS STANDHYD   1.0 01:FC-02       16.05    2.547 No_date   28:01   52.49 .919     .000
04362>       {XIMP=.93:TIMP=.93}
04363>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04364>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04365>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
04366>       [IaRECimp=   4.00: IaRECper=   4.00]
04367> R0005:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04368>     COMPUTE DUALHYD      1.0 01:FC-02       16.05    2.547 No_date   28:01   52.49  n/a     .000
04369>      Major System   /    1.0 02:FC-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04370>      Minor System   \    1.0 03:FC-02-MN    16.05    1.159 No_date   27:47   52.68  n/a     .000
04371>       {MjSysSto=.1011E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04372> R0005:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04373>     ADD HYD              1.0 02:FC-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04374>                    +     1.0 02:FC-02-MN    16.05    1.159 No_date   27:47   52.68  n/a     .000
04375>                SUM:      1.0 01:FC-02-S     16.05    1.159 No_date   27:47   52.68  n/a     .000
04376> R0005:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04377>     CONTINUOUS STANDHYD   1.0 01:FC-03        7.37     .956 No_date   28:01   39.82 .697     .000
04378>       [XIMP=.64:TIMP=.64]
04379>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04380>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04381>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
04382>       [IaRECimp=   4.00: IaRECper=   4.00]
04383> R0005:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04384>     COMPUTE DUALHYD      1.0 01:FC-03        7.37     .956 No_date   28:01   39.82  n/a     .000
04385>      Major System   /    1.0 02:FC-03-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04386>      Minor System   \    1.0 03:FC-03-MN     7.37     .358 No_date   27:45   39.85  n/a     .000
04387>       {MjSysSto=.4806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04388> R0005:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04389>     ADD HYD              1.0 02:FC-03-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04390>                    +     1.0 02:FC-03-MN     7.37     .358 No_date   27:45   39.85  n/a     .000
04391>                SUM:      1.0 01:FC-03-S      7.37     .358 No_date   27:45   39.85  n/a     .000
04392> R0005:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04393>     CONTINUOUS STANDHYD   1.0 01:FC-04       12.87    1.600 No_date   28:01   39.82 .697     .000
04394>       [XIMP=.64:TIMP=.64]
04395>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04396>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04397>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
04398>       [IaRECimp=   4.00: IaRECper=   4.00]
04399> R0005:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04400>     COMPUTE DUALHYD      1.0 01:FC-04       12.87    1.600 No_date   28:01   39.82  n/a     .000
04401>      Major System   /    1.0 02:FC-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04402>      Minor System   \    1.0 03:FC-04-MN    12.87    1.741 No_date   27:48   39.85  n/a     .000
04403>       {MjSysSto=.6277E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04404> R0005:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04405>     ADD HYD              1.0 02:FC-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04406>                    +     1.0 02:FC-04-MN    12.87    .741 No_date   27:48   39.85  n/a     .000
04407>                SUM:      1.0 01:FC-04-S     12.87    .741 No_date   27:48   39.85  n/a     .000
04408> *************************************************************************
04409> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
04410> #    - TO JOCK RIVER
04411> *************************************************************************
04412> R0005:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04413>     CONTINUOUS STANDHYD   1.0 01:JR-01        8.24    1.064 No_date   28:01   39.82 .697     .000
04414>       [XIMP=.64:TIMP=.64]
04415>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04416>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04417>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
04418>       [IaRECimp=   4.00: IaRECper=   4.00]
04419> R0005:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04420>     COMPUTE DUALHYD      1.0 01:JR-01        8.24    1.064 No_date   28:01   39.82  n/a     .000
04421>      Major System   /    1.0 02:JR-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04422>      Minor System   \    1.0 03:JR-01-MN     8.24     .563 No_date   28:29   40.05  n/a     .000
04423>       {MjSysSto=.3052E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04424> R0005:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04425>     ADD HYD              1.0 02:JR-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04426>                    +     1.0 02:JR-01-MN     8.24     .563 No_date   27:50   40.05  n/a     .000
04427>                SUM:      1.0 01:JR-01-S      8.24     .563 No_date   27:50   40.05  n/a     .000
04428> R0005:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04429>     CONTINUOUS STANDHYD   1.0 01:JR-02        1.59     .224 No_date   28:00   39.82 .697     .000
04430>       [XIMP=.64:TIMP=.64]
04431>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
04432>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=
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04489> #
04490> R0005:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04491>      ROUTE CHANNEL   ->     1.0 02:42:41    54658.44   69.643 No_date   36:50   18.70  n/a     .000
04492>        [RDT= 1.00] out<-     1.0 01:4241-out   54658.44   69.650 No_date   36:38   18.70  n/a     .000
04493>        [L/S/n=  294./ .109/.035]
04494>        {Vmax= 1.095:Dmax= 1.826}
04495> R0005:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04496>      ADD HYD              1.0 02:4241-out   54658.44   69.650 No_date   36:38   18.70  n/a     .000
04497>                       +     1.0 02:FC-04-S      12.87     .741 No_date   27:48   39.85  n/a     .000
04498>                       +     1.0 02:JR-01-S       8.24     .563 No_date   27:50   40.05  n/a     .000
04499>                       +     1.0 02:JR-02-S       1.59     .153 No_date   27:53   40.12  n/a     .000
04500>                   SUM=      1.0 02:SN_KB     54681.13   69.678 No_date   36:38   18.71  n/a     .000
04501> R0005:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04502>      SAVE HYD             1.0 01:SN_KB     54681.13   69.678 No_date   36:38   18.71  n/a     .000
04503>        fname :SN_KB.0005
04504>        remark:HYD_COMMENT=["Total Flows before Station 3633]
04505> # Hydrograph from Station 3633 to Node Todd
04506> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
04507> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
04508> #
04509> R0005:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04510>      ROUTE CHANNEL   ->     1.0 02:SN_KB     54681.13   69.678 No_date   36:38   18.71  n/a     .000
04511>        [RDT= 1.00] out<-     1.0 01:N_TO      54681.13   69.666 No_date   36:51   18.71  n/a     .000
04512>        [L/S/n=  608./ .247/.035]
04513>        {Vmax= 1.446:Dmax= 1.371}
04514> #*************************************************************************
04515> #    Catchment Greenbank
04516> #    - To Greenbank Drain (south of the Jock)
04517> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
04518> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
04519> #*************************************************************************
04520> R0005:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04521>      CONTINUOUS STANDHYD   1.0 01:Greenbank    36.60    3.925 No_date   28:02   42.59  n/a     .000
04522>        [XIMP=.64:TIMP=.68]
04523>        [LOSS= 2 :CN= 77.0]
04524>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04525>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
04526>        [IaRECimp=   4.00: IaRECper=   4.00]
04527>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04528> R0005:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04529>      ROUTE RESERVOIR ->     1.0 02:Greenbank    36.60    3.925 No_date   28:02   42.59  n/a     .000
04530>                        out <=     1.0 01:GreenBN   36.60     .811 No_date   28:35   42.58  n/a     .000
04531>                overflow <=     1.0 03:GreenBN_MJ      .00     .000 No_date    0:00     .00  n/a     .000
04532>        {MxStoUsed=.7695E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
04533> R0005:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04534>      ADD HYD              1.0 02:N_TO      54681.13   69.666 No_date   36:51   18.71  n/a     .000
04535>                       +     1.0 02:GreenBN_MJ      .00     .000 No_date    0:00     .00  n/a     .000
04536>                       +     1.0 02:GreenBN_MN    36.60     .811 No_date   28:35   42.58  n/a     .000
04537>                   SUM=      1.0 01:GreenB    54717.73   69.773 No_date   36:51   18.73  n/a     .000
04538> R0005:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04539>      SAVE HYD             1.0 01:GreenB    54717.73   69.773 No_date   36:51   18.73  n/a     .000
04540>        fname :GreenB.0005
04541>        remark:Total Flows at Greenbank Drain
04542> #*************************************************************************
04543> #    Catchment TODD
04544> #    - To Todd Drain (south of the Jock)
04545> #    - Subdivision with 43% imp. as per Barrhaven South MSS
04546> #    - 2020-11-30 increase imp. based on P598(04)-11
04547> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
04548> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
04549> #*************************************************************************
04550> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
04551> R0005:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04552>      CONTINUOUS STANDHYD   1.0 01:TODD_MN2     2.10     .239 No_date   28:00   38.41 .672     .000
04553>        [XIMP=.53:TIMP=.57]
04554>        [LOSS= 2 :CN= 77.0]
04555>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04556>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
04557>        [IaRECimp=   4.00: IaRECper=   4.00]
04558>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04559> R0005:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04560>      CONTINUOUS STANDHYD   1.0 01:TODD_MN3      .12     .014 No_date   28:00   38.39 .672     .000
04561>        [XIMP=.53:TIMP=.57]
04562>        [LOSS= 2 :CN= 77.0]
04563>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04564>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
04565>        [IaRECimp=   4.00: IaRECper=   4.00]
04566>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04567> R0005:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04568>      CONTINUOUS STANDHYD   1.0 01:TODD_MJ      30.23    2.959 No_date   28:02   39.47 .691     .000
04569>        [XIMP=.52:TIMP=.64]
04570>        [LOSS= 2 :CN= 77.0]
04571>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04572>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
04573>        [IaRECimp=   4.00: IaRECper=   4.00]
04574>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04575> R0005:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04576>      CONTINUOUS STANDHYD   1.0 01:TODD_ALL     112.91    9.069 No_date   28:05   38.19 .669     .000
04577>        [XIMP=.52:TIMP=.57]
04578>        [LOSS= 2 :CN= 77.0]
04579>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04580>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
04581>        [IaRECimp=   4.00: IaRECper=   4.00]
04582>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04583> R0005:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04584>      CONTINUOUS STANDHYD   1.0 01:TODD_P        3.06     .385 No_date   28:00   41.58 .728     .000
04585>        [XIMP=.63:TIMP=.63]
04586>        [LOSS= 2 :CN= 74.7]
04587>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04588>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
04589>        [IaRECimp=   4.00: IaRECper=   4.00]
04590>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04591> # 5-Year + 12% Capture
04592> R0005:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04593>      ROUTE RESERVOIR ->     1.0 02:TODD_MJ      30.23    2.959 No_date   28:02   39.47  n/a     .000
04594> *                    out <=     1.0 01:TODD_MJn     30.23    2.959 No_date   28:02   39.47  n/a     .000
04595>                overflow <=     1.0 03:TODD_MJj      .00     .000 No_date    0:00     .00  n/a     .000
04596>        {MxStoUsed=.8948E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
04597> # 5-Year + 12% Capture
04598> R0005:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04599>      ROUTE RESERVOIR ->     1.0 02:TODD_MN2     2.10     .239 No_date   28:00   38.41  n/a     .000
04600>                        out <=     1.0 01:TODD_MN2n    2.10     .238 No_date   28:00   38.41  n/a     .000
04601>                overflow <=     1.0 03:TODD_MN2j      .00     .000 No_date    0:00     .00  n/a     .000
04602>        {MxStoUsed=.8965E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
04603> R0005:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04604>      ROUTE RESERVOIR ->     1.0 02:TODD_MN3      .12     .014 No_date   28:00   38.39  n/a     .000
04605>                        out <=     1.0 01:TODD_MN3n     .12     .014 No_date   28:00   38.39  n/a     .000
04606>                overflow <=     1.0 03:TODD_MN3j      .00     .000 No_date    0:00     .00  n/a     .000
04607>        {MxStoUsed=.8651E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
04608> R0005:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04609>      CONTINUOUS STANDHYD   1.0 01:A2          25.50    1.991 No_date   28:03   34.66 .607     .000
04610>        [XIMP=.42:TIMP=.52]
04611>        [LOSS= 2 :CN= 75.0]
04612>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04613>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
04614>        [IaRECimp=   4.00: IaRECper=   4.00]
04615>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04616> R0005:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04617>      COMPUTE DUALHYD       1.0 01:A2          25.50    1.991 No_date   28:03   34.66  n/a     .000
04618>        Major System   /     1.0 02:A2-MJ         .00     .000 No_date    0:00     .00  n/a     .000
04619>        Minor System   \     1.0 03:A2-MN       25.50    1.818 No_date   28:08   34.70  n/a     .000
04620>        {MjSysSto=.5163E+02, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04621> R0005:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04622>      ADD HYD              1.0 02:TODD_MN2     2.10     .238 No_date   28:00   38.41  n/a     .000
04623>                       +     1.0 02:TODD_MN3n     .12     .014 No_date   28:00   38.39  n/a     .000
04624>                       +     1.0 02:TODD_MJj       .00     .000 No_date    0:00     .00  n/a     .000
04625>                       +     1.0 02:TODD_P        3.06     .385 No_date   28:00   41.58  n/a     .000
04626>                       +     1.0 02:TODD_ALL    112.91    9.069 No_date   28:05   38.19  n/a     .000
04627>                       +     1.0 02:W_CLAR_MJn    1.77     .192 No_date   28:00   37.36  n/a     .000
04628>                   SUM=      1.0 01:TODD      119.95    9.538 No_date   28:04   38.27  n/a     .000
04629> R0005:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04630>      SAVE HYD             1.0 01:TODD      119.95    9.538 No_date   28:04   38.27  n/a     .000
04631>        fname :TODD.0005
04632>        remark:Total Flows at Todd Drain
04633> #*************************************************************************
04634> #    Todd Pond 3
04635> #    - Rating curve obtained from Barrhaven South MSS modeling
04636> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
04637> #*************************************************************************
04638> R0005:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04639>      ROUTE RESERVOIR ->     1.0 02:TODD      119.95    9.538 No_date   28:04   38.27  n/a     .000
04640>                        out <=     1.0 01:MS_P3     119.95    3.765 No_date   28:29   38.27  n/a     .000
04641>                overflow <=     1.0 03:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
04642>        {MxStoUsed=.2351E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
04643> R0005:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04644>      ADD HYD              1.0 02:GreenB      54717.73   69.773 No_date   36:51   18.73  n/a     .000
04645>                       +     1.0 02:MS_P3       119.95    3.765 No_date   28:29   38.27  n/a     .000
04646>                       +     1.0 02:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
04647>                       +     1.0 02:TODD_MN2j      .00     .000 No_date    0:00     .00  n/a     .000
04648>                       +     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04649>                   SUM=      1.0 01:SN_TO     54837.69   69.979 No_date   36:50   18.77  n/a     .000
04650> R0005:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04651>      SAVE HYD             1.0 01:SN_TO     54837.69   69.979 No_date   36:50   18.77  n/a     .000
04652>        fname :SN_TO.0005
04653>        remark:Total Flows at Todd Drain
04654> #
04655> # Hydrograph from Todd Drain routed to Corrigan Drain
04656> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
04657> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
04658> R0005:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04659>      ROUTE CHANNEL   ->     1.0 02:SN_TO     54837.69   69.979 No_date   36:50   18.77  n/a     .000
04660> *      [RDT= 1.00] out<-     1.0 01:N_TO      54837.69   69.906 No_date   37:02   18.77  n/a     .000
04661>        [L/S/n=  280./ .050/.045]
04662>        {Vmax=  .826:Dmax= 2.561}
04663> R0005:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04664>      SAVE HYD             1.0 01:N_TO      54837.69   69.906 No_date   37:02   18.77  n/a     .000
04665>        fname :N_TO.0005
04666>        remark:Total inflows at Station 2462
04667> #*************************************************************************
04668> #    Catchment CORRIG
04669> #    - To Corrigan Drain (south of the Jock)
04670> #    - Primarily Developed (medium density)
04671> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
04672> #*************************************************************************
04673> R0005:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04674>      CONTINUOUS STANDHYD   1.0 01:corr1        15.87    1.806 No_date   28:01   41.58 .728     .000
04675>        [XIMP=.63:TIMP=.63]
04676>        [LOSS= 2 :CN= 77.0]
04677>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04678>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
04679>        [IaRECimp=   4.00: IaRECper=   4.00]
04680>        [SMIN= 31.15: SMAX=207.66: SK= .010]
04681> R0005:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04682>      COMPUTE DUALHYD       1.0 01:corr1        15.87    1.806 No_date   28:01   41.58  n/a     .000
04683>        Major System   /     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
04684>        Minor System   \     1.0 03:corr1-MN     15.87    1.806 No_date   28:01   41.58  n/a     .000
04685>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04686> R0005:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04687>      CONTINUOUS NASHYD     1.0 01:corr2        12.47     .161 No_date   29:11   21.69 .380     .000
04688>        [CN= 77.0: N= 3.00: Tp= 1.10]
04689>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
04690>        [InterEventTime=  12.00]
04691> R0005:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04692>      CONTINUOUS STANDHYD   1.0 01:A1-Corrig     15.75    1.357 No_date   28:02   34.66 .607     .000
04693>        [XIMP=.42:TIMP=.52]
04694>        [LOSS= 2 :CN= 75.0]
04695>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04696>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
04697>        [IaRECimp=   4.00: IaRECper=   4.00]
04698>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04699> R0005:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04700>      COMPUTE DUALHYD       1.0 01:A1-Corrig     15.75    1.357 No_date   28:02   34.66  n/a     .000
04701>        Major System   /     1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04702>        Minor System   \     1.0 03:A1-MN        15.75    1.357 No_date   28:02   34.66  n/a     .000
04703>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04704> R0005:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04705>      CONTINUOUS NASHYD     1.0 01:B1           2.77     .055 No_date   28:09   13.56 .237     .000
04706>        [CN= 56.0: N= 3.00: Tp=  .23]
04707>        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
04708>        [InterEventTime=  12.00]
04709> R0005:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04710>      CONTINUOUS STANDHYD   1.0 01:A4           1.27     .153 No_date   28:00   42.00 .735     .000
04711>        [XIMP=.65:TIMP=.65]
04712>        [LOSS= 2 :CN= 75.0]
04713>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04714>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
04715>        [IaRECimp=   4.00: IaRECper=   4.00]
04716>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04717> R0005:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04718>      COMPUTE DUALHYD       1.0 01:A4           1.27     .153 No_date   28:00   42.00  n/a     .000
04719>        Major System   /     1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04720>        Minor System   \     1.0 03:A4-MN        1.27     .153 No_date   28:00   42.00  n/a     .000
04721>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04722> R0005:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04723>      ADD HYD              1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04724>                       +     1.0 02:A1-MN        15.75    1.357 No_date   28:02   34.66  n/a     .000
04725>                       +     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
04726>                       +     1.0 02:corr1-MN     15.87    1.806 No_date   28:01   41.58  n/a     .000
04727>                       +     1.0 02:corr2        12.47     .161 No_date   29:11   21.69  n/a     .000
04728>                       +     1.0 02:B1            2.77     .055 No_date   28:09   13.56  n/a     .000
04729>                       +     1.0 02:A4-MN         1.27     .153 No_date   28:00   42.00  n/a     .000
04730>                   SUM=      1.0 01:MH101        48.13    3.389 No_date   28:01   32.56  n/a     .000
04731> R0005:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04732>      SAVE HYD             1.0 01:MH101        48.13    3.389 No_date   28:01   32.56  n/a     .000
04733>        fname :MH101.0005
04734>        remark:Total Flows at MH101
04735> R0005:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04736>      ROUTE PIPE      ->     1.0 02:MH101        48.13    3.389 No_date   28:01   32.56  n/a     .000
04737> *      [RDT= 1.00] out<-     1.0 01:101-102      48.13    3.277 No_date   28:03   32.56  n/a     .000
04738>        [L/S/n=  368./ .540/.013]
04739>        {Vmax= 3.010:Dmax= 1.049}
04740>        [Din= 1.05:Dused= 1.28]
04741> R0005:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04742>      ADD HYD              1.0 02:A2-MN        25.50    1.818 No_date   28:00   34.70  n/a     .000
04743>                       +     1.0 02:101-102      48.13    3.277 No_date   28:03   32.56  n/a     .000
04744>                   SUM=      1.0 01:MH102        73.63    5.095 No_date   28:03   33.30  n/a     .000
04745> R0005:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04746>      SAVE HYD             1.0 01:MH102        73.63    5.095 No_date   28:03   33.30  n/a     .000
04747>        fname :MH102.0005
04748>        remark:Total Flows at MH102
04749> R0005:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04750>      CONTINUOUS STANDHYD   1.0 01:A5           1.60     .202 No_date   28:01   44.32 .776     .000
04751>        [XIMP=.71:TIMP=.71]
04752>        [LOSS= 2 :CN= 75.0]
04753>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04754>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
04755>        [IaRECimp=   4.00: IaRECper=   4.00]
04756>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04757> R0005:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04758>      ADD HYD              1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04759>                       +     1.0 02:A5           1.60     .202 No_date   28:01   44.32  n/a     .000
04760>                   SUM=      1.0 01:A5T          1.60     .202 No_date   28:01   44.32  n/a     .000
04761> R0005:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04762>      COMPUTE DUALHYD       1.0 01:A5T          1.60     .202 No_date   28:01   44.32  n/a     .000
04763>        Major System   /     1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04764>        Minor System   \     1.0 03:A5-MN        1.60     .202 No_date   28:01   44.32  n/a     .000
04765>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04766> R0005:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04767>      ROUTE PIPE      ->     1.0 02:MH102        73.63    5.095 No_date   28:03   33.30  n/a     .000
04768> *      [RDT= 1.00] out<-     1.0 01:102-103      73.63    4.821 No_date   28:05   33.30  n/a     .000
04769>        [L/S/n=  504./ .280/.013]
04770>        {Vmax= 2.606:Dmax= 1.382}
04771>        [Din= 1.50:Dused= 1.68]
04772> R0005:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04773>      ADD HYD              1.0 02:102-103      73.63    4.821 No_date   28:05   33.30  n/a     .000
04774>                       +     1.0 02:A5-MN         1.60     .202 No_date   28:01   44.32  n/a     .000
04775>                   SUM=      1.0 01:MH103        75.23    4.991 No_date   28:04   33.53  n/a     .000
04776> R0005:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04777>      SAVE HYD             1.0 01:MH103        75.23    4.991 No_date   28:04   33.53  n/a     .000
04778>        fname :MH103.0005
04779>        remark:Total Flows at MH103
04780> R0005:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04781>      ROUTE PIPE      ->     1.0 02:MH103        75.23    4.991 No_date   28:04   33.53  n/a     .000
04782>        [RDT= 1.00] out<-     1.0 01:103-104      75.23    4.875 No_date   28:06   33.53  n/a     .000
04783>        [L/S/n=  438./ .460/.013]
04784>        {Vmax= 3.219:Dmax= 1.124}
04785>        [Din= 1.65:Dused= 1.65]
04786> R0005:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04787>      CONTINUOUS STANDHYD   1.0 01:A6           1.56     .200 No_date   28:01   44.32 .776     .000
04788>        [XIMP=.71:TIMP=.71]
04789>        [LOSS= 2 :CN= 75.0]
04790>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04791>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
04792>        [IaRECimp=   4.00: IaRECper=   4.00]
04793>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04794> R0005:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04795>      ADD HYD              1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04796>                       +     1.0 02:A6           1.56     .200 No_date   28:01   44.32  n/a     .000
04797>                   SUM=      1.0 01:A6T          1.56     .200 No_date   28:01   44.32  n/a     .000
04798> R0005:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04799>      COMPUTE DUALHYD       1.0 01:A6T          1.56     .200 No_date   28:01   44.32  n/a     .000
04800>        Major System   /     1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04801>        Minor System   \     1.0 03:A6-MN        1.56     .200 No_date   28:01   44.32  n/a     .000
04802>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04803> R0005:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04804>      ADD HYD              1.0 02:A6-MN        1.56     .200 No_date   28:01   44.32  n/a     .000
04805>                       +     1.0 02:103-104      75.23    4.875 No_date   28:06   33.53  n/a     .000
04806>                       +     1.0 02:TODD_MJn     30.23    2.959 No_date   28:02   39.47  n/a     .000
04807>                   SUM=      1.0 01:MH104       107.02    7.823 No_date   28:04   35.37  n/a     .000
04808> R0005:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04809>      SAVE HYD             1.0 01:MH104       107.02    7.823 No_date   28:04   35.37  n/a     .000
04810>        fname :MH104.0005
04811>        remark:Total Flows at MH104
04812> R0005:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04813>      CONTINUOUS STANDHYD   1.0 01:B2          12.31    1.023 No_date   28:02   34.82 .610     .000
04814>        [XIMP=.41:TIMP=.54]
04815>        [LOSS= 2 :CN= 75.0]
04816>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04817>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
04818>        [IaRECimp=   4.00: IaRECper=   4.00]
04819>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04820> R0005:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04821>      COMPUTE DUALHYD       1.0 01:B2          12.31    1.023 No_date   28:02   34.82  n/a     .000
04822>        Major System   /     1.0 02:B2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04823>        Minor System   \     1.0 03:B2-MN        12.31    1.023 No_date   28:02   34.82  n/a     .000
04824>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04825> R0005:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04826>      ROUTE PIPE      ->     1.0 02:B2-MN        12.31    1.023 No_date   28:02   34.82  n/a     .000
04827>        [RDT= 1.00] out<-     1.0 01:315-333      12.31     .941 No_date   28:04   34.82  n/a     .000
04828>        [L/S/n=  254./ .100/.013]
04829>        {Vmax= 1.219:Dmax=  .814}
04830>        [Din= 1.20:Dused= 1.20]
04831> R0005:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04832>      CONTINUOUS STANDHYD   1.0 01:B3           5.59     .477 No_date   28:02   34.82 .610     .000
04833>        [XIMP=.41:TIMP=.54]
04834>        [LOSS= 2 :CN= 75.0]
04835>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04836>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
04837>        [IaRECimp=   4.00: IaRECper=   4.00]
04838>        [SMIN= 33.81: SMAX=225.43: SK= .010]
04839> R0005:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04840>      COMPUTE DUALHYD       1.0 01:B3           5.59     .477 No_date   28:02   34.82  n/a     .000
04841>        Major System   /     1.0 02:B3-MJ          .00     .000 No_date    0:00     .00  n/a     .000
04842>        Minor System   \     1.0 03:B3-MN        5.59     .459 No_date   28:00   34.87  n/a     .000
04843>        {MjSysSto=.3219E+01, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
04844> R0005:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04845>      ADD HYD              1.0 02:B3-MN        5.59     .459 No_date   28:00   34.87  n/a     .000
04846>                       +     1.0 02:315-333      12.31     .941 No_date   28:04   34.82  n/a     .000
04847>                   SUM=      1.0 01:MH333       17.90    1.400 No_date   28:04   34.84  n/a     .000
04848> R0005:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate
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04863>       [Din= 1.20:Dused= 1.23}
04864> R0005:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04865>      ROUTE PIPE     ->     1.0 02:335-338      17.90     1.265 No_date   28:06   34.84  n/a     .000
04866>      [RDT= 1.00] out<-     1.0 01:338-340      17.90     1.183 No_date   28:06   34.84  n/a     .000
04867>       [L/S/n=  233./ .100/.013]
04868>       {Vmax= 1.294:Dmax=  .872}
04869>       {Din= 1.35:Dused= 1.35}
04870> R0005:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04871>      CONTINUOUS STANDHYD   1.0 01:B4          7.60      .638 No_date   28:02   34.82 .610     .000
04872>       [XIMP=.41:TIMP=.54]
04873>       [LOSS= 2 :CN= 75.0]
04874>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04875>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
04876>       [IaRECimp=   4.00: IaRECper=   4.00]
04877>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04878> R0005:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04879>      COMPUTE DUALHYD       1.0 01:B4          7.60      .638 No_date   28:02   34.82  n/a     .000
04880>       Major System   /     1.0 02:B4-MJ        .00      .000 No_date   0:00     .00  n/a     .000
04881>       Minor System   \     1.0 03:B4-MN        7.60      .638 No_date   28:02   34.82  n/a     .000
04882>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04883> R0005:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04884>      ADD HYD               1.0 02:338-340     17.90     1.183 No_date   28:06   34.84  n/a     .000
04885>                       +     1.0 02:B4-MN        7.60      .638 No_date   28:02   34.82  n/a     .000
04886>                     Sum=    1.0 01:MH340       25.50     1.761 No_date   28:05   34.83  n/a     .000
04887> R0005:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04888>      SAVE HYD              1.0 01:MH340       25.50     1.761 No_date   28:05   34.83  n/a     .000
04889>       fname :MH340.0005
04890>       remark:Total Flows at MH340
04891> R0005:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04892>      ROUTE PIPE     ->     1.0 02:MH340       25.50     1.761 No_date   28:05   34.83  n/a     .000
04893>      [RDT= 1.00] out<-     1.0 01:340-104     25.50     1.698 No_date   28:06   34.83  n/a     .000
04894>       [L/S/n=  240./ .150/.013]
04895>       {Vmax= 1.648:Dmax=  .823}
04896>       [Din= 1.65:Dused= 1.65}
04897> R0005:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04898>      ADD HYD               1.0 02:340-104     25.50     1.698 No_date   28:06   34.83  n/a     .000
04899>                       +     1.0 02:MH104      107.02    7.823 No_date   28:04   35.37  n/a     .000
04900>                     Sum=    1.0 01:MH104T     132.52    9.463 No_date   28:04   35.27  n/a     .000
04901> R0005:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04902>      ROUTE PIPE     ->     1.0 02:MH104T     132.52    9.463 No_date   28:04   35.27  n/a     .000
04903> *    [RDT= 1.00] out<-     1.0 01:104-105     132.52    8.848 No_date   28:06   35.27  n/a     .000
04904>       [L/S/n=  380./ .100/.013]
04905>       {Vmax= 2.012:Dmax= 1.868}
04906>       {HGTH= 2.20:WDTH= 2.52}
04907> R0005:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04908>      CONTINUOUS STANDHYD   1.0 01:B5          2.20      .248 No_date   28:00   38.90 .681     .000
04909>       [XIMP=.57:TIMP=.57]
04910>       [LOSS= 2 :CN= 75.0]
04911>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04912>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
04913>       [IaRECimp=   4.00: IaRECper=   4.00]
04914>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04915> R0005:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04916>      COMPUTE DUALHYD       1.0 01:B5          2.20      .248 No_date   28:00   38.90  n/a     .000
04917>       Major System   /     1.0 02:B5-MJ        .00      .000 No_date   0:00     .00  n/a     .000
04918>       Minor System   \     1.0 03:B5-MN        2.20      .248 No_date   28:00   38.90  n/a     .000
04919>         {MjSysSto=.000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04920> R0005:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04921>      CONTINUOUS STANDHYD   1.0 01:A8          .96      .130 No_date   28:00   44.32 .776     .000
04922>       [XIMP=.71:TIMP=.71]
04923>       [LOSS= 2 :CN= 75.0]
04924>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04925>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
04926>       [IaRECimp=   4.00: IaRECper=   4.00]
04927>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04928> R0005:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04929>      ADD HYD               1.0 02:A6-MJ        .00      .000 No_date   0:00      .00  n/a     .000
04930>                       +     1.0 02:A8          .96      .130 No_date   28:00   44.32  n/a     .000
04931>                     Sum=    1.0 01:A8T         .96      .130 No_date   28:00   44.32  n/a     .000
04932> R0005:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04933>      COMPUTE DUALHYD       1.0 01:A8T         .96      .130 No_date   28:00   44.32  n/a     .000
04934>       Major System   /     1.0 02:A8-MJ        .00      .000 No_date   0:00     .00  n/a     .000
04935>       Minor System   \     1.0 03:A8-MN        .96      .130 No_date   28:00   44.32  n/a     .000
04936>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04937> R0005:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04938>      ADD HYD               1.0 02:104-105     132.52    8.848 No_date   28:06   35.27  n/a     .000
04939>                       +     1.0 02:B5-MN        2.20      .248 No_date   28:00   38.90  n/a     .000
04940>                       +     1.0 02:A8-MN        .96      .130 No_date   28:00   44.32  n/a     .000
04941>                       +     1.0 02:TODD_MNJ     .00      .000 No_date   0:00      .00  n/a     .000
04942>                     Sum=    1.0 01:MH105       135.68    9.064 No_date   28:05   35.39  n/a     .000
04943> R0005:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04944>      SAVE HYD              1.0 01:MH105       135.68    9.064 No_date   28:05   35.39  n/a     .000
04945>       fname :MH105.0005
04946>       remark:Total Flows at MH105
04947> R0005:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04948> *    DIVERT HYD       ->     1.0 01:A8-MJ        .00      .000 No_date   0:00      .00  n/a     .000
04949>             diverted <=     1.0 02:A8-MJ-JR     .00      .000 No_date   0:00      .00  n/a     .000
04950>             diverted <=     1.0 03:A8-MJ-B6     .00      .000 No_date   0:00      .00  n/a     .000
04951> R0005:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04952>      DIVERT HYD       ->     1.0 01:MH105       135.68    9.064 No_date   28:05   35.39  n/a     .000
04953>             diverted <=     1.0 02:MH105-JR     25.07     6.058 No_date   28:05   35.39  n/a     .000
04954>             diverted <=     1.0 03:MH105-B6    110.61     3.006 No_date   28:05   35.39  n/a     .000
04955> R0005:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04956>      CONTINUOUS STANDHYD   1.0 01:B7          7.19      .661 No_date   28:01   34.82 .610     .000
04957>       [XIMP=.41:TIMP=.54]
04958>       [LOSS= 2 :CN= 75.0]
04959>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04960>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
04961>       [IaRECimp=   4.00: IaRECper=   4.00]
04962>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04963> R0005:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04964>      ADD HYD               1.0 02:B4-MJ        .00      .000 No_date   0:00      .00  n/a     .000
04965>                       +     1.0 02:B7          7.19      .661 No_date   28:01   34.82  n/a     .000
04966>                     Sum=    1.0 01:B7-B4MJ     7.19      .661 No_date   28:01   34.82  n/a     .000
04967> R0005:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04968>      COMPUTE DUALHYD       1.0 01:B7-B4MJ     7.19      .661 No_date   28:01   34.82  n/a     .000
04969>       Major System   /     1.0 02:B7B-MJ       .00      .000 No_date   0:00      .00  n/a     .000
04970>       Minor System   \     1.0 03:B7R-MN       7.19      .629 No_date   27:59   34.89  n/a     .000
04971>         {MjSysSto=.5005E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04972> R0005:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04973>      ROUTE PIPE     ->     1.0 02:B7R-MN       7.19      .629 No_date   27:59   34.89  n/a     .000
04974>      [RDT= 1.00] out<-     1.0 01:360-106A     7.19      .615 No_date   28:05   34.89  n/a     .000
04975>       [L/S/n=  167./ .100/.013]
04976>       {Vmax= 1.089:Dmax=  .665}
04977>       [Din= 1.05:Dused= 1.05}
04978> R0005:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04979>      CONTINUOUS STANDHYD   1.0 01:B6          3.29      .315 No_date   28:00   34.82 .610     .000
04980>       [XIMP=.41:TIMP=.54]
04981>       [LOSS= 2 :CN= 75.0]
04982>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04983>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
04984>       [IaRECimp=   4.00: IaRECper=   4.00]
04985>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04986> R0005:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04987>      COMPUTE DUALHYD       1.0 01:B6          3.29      .315 No_date   28:00   34.82  n/a     .000
04988>       Major System   /     1.0 02:B6-MJ        .00      .000 No_date   0:00      .00  n/a     .000
04989>       Minor System   \     1.0 03:B6-MN        3.29      .064 No_date   27:39   34.87  n/a     .000
04990>         {MjSysSto=.2841E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04991> R0005:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04992>      CONTINUOUS STANDHYD   1.0 01:EX-LAND     32.50     2.843 No_date   28:02   35.73 .626     .000
04993>       [XIMP=.50:TIMP=.50]
04994>       [LOSS= 2 :CN= 74.0]
04995>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04996>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
04997>       [IaRECimp=   4.00: IaRECper=   4.00]
04998>       [SMIN= 36.67: SMAX=244.49: SK= .010]
04999> R0005:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05000>      COMPUTE DUALHYD       1.0 01:EX-LAND     32.50     2.843 No_date   28:02   35.73  n/a     .000
05001>       Major System   /     1.0 02:EX-LAND-MJ   .00      .000 No_date   0:00      .00  n/a     .000
05002>       Minor System   \     1.0 03:EX-LAND-MN   32.50     2.275 No_date   27:57   35.73  n/a     .000
05003>         {MjSysSto=.2310E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
05004> R0005:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05005>      ADD HYD               1.0 02:B7R-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05006>                       +     1.0 02:EX-LAND-MJ   .00      .000 No_date   0:00      .00  n/a     .000
05007>                       +     1.0 02:B5-MJ        .00      .000 No_date   0:00      .00  n/a     .000
05008>                       +     1.0 02:B6-MJ        .00      .000 No_date   0:00      .00  n/a     .000
05009>                       +     1.0 02:B6-MN        3.29      .064 No_date   27:39   34.87  n/a     .000
05010>                       +     1.0 02:A8-MJ-B6     .00      .000 No_date   0:00      .00  n/a     .000
05011>                     Sum=    1.0 01:B6-B7EMJ     3.29      .064 No_date   27:39   34.87  n/a     .000
05012> R0005:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05013>      COMPUTE DUALHYD       1.0 01:B6-B7EMJ     3.29      .064 No_date   27:39   34.87  n/a     .000
05014>       Major System   /     1.0 02:B6R-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05015>       Minor System   \     1.0 03:B6R-MN       3.29      .064 No_date   27:39   34.87  n/a     .000
05016>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
05017> R0005:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05018>      ROUTE PIPE     ->     1.0 02:MH105-B6    110.61     3.006 No_date   28:05   35.39  n/a     .000
05019>      [RDT= 1.00] out<-     1.0 01:105-106A    110.61     3.005 No_date   28:08   35.39  n/a     .000
05020>       [L/S/n=  208./ .100/.013]
05021>       {Vmax= 1.597:Dmax= 1.248}
05022>       [Din= 1.80:Dused= 1.80}
05023> R0005:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05024>      ADD HYD               1.0 02:360-106A     7.19      .615 No_date   28:05   34.89  n/a     .000
05025>                       +     1.0 02:105-106A    110.61    3.005 No_date   28:08   35.39  n/a     .000
05026>                       +     1.0 02:B6R-MN       3.29      .064 No_date   27:39   34.87  n/a     .000
05027>                       +     1.0 02:B6R-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05028>                     Sum=    1.0 01:MH106A      121.09     3.682 No_date   28:05   35.35  n/a     .000
05029> R0005:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05030>      SAVE HYD              1.0 01:MH106A      121.09     3.682 No_date   28:05   35.35  n/a     .000
05031>       fname :MH106A.0005
05032>       remark:Total Flows at MH106A
05033> R0005:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05034>      ROUTE PIPE     ->     1.0 02:MH106A      121.09     3.682 No_date   28:05   35.35  n/a     .000
05035> *    [RDT= 1.00] out<-     1.0 01:106A-106    121.09     3.651 No_date   28:05   35.35  n/a     .000
05036>       [L/S/n=  190./ .100/.013]
05037>       {Vmax= 1.633:Dmax= 1.404}
05038>       [Din= 1.80:Dused= 1.81}
05039> R0005:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05040>      CONTINUOUS STANDHYD   1.0 01:A9          2.44      .316 No_date   28:00   44.32 .776     .000
05041>       [XIMP=.71:TIMP=.71]
05042>       [LOSS= 2 :CN= 75.0]
05043>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05044>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
05045>       [IaRECimp=   4.00: IaRECper=   4.00]
05046>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05047> R0005:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05048>      COMPUTE DUALHYD       1.0 01:A9          2.44      .316 No_date   28:00   44.32  n/a     .000
05049>       Major System   /     1.0 02:A9-MJ        .00      .000 No_date   0:00      .00  n/a     .000
05050>       Minor System   \     1.0 03:A9-MN        2.44      .316 No_date   28:00   44.32  n/a     .000
05051> R0005:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05052>      ADD HYD               1.0 02:106A-106    121.09     3.651 No_date   28:05   35.35  n/a     .000
05053>                       +     1.0 02:A9-MN        2.44      .316 No_date   28:00   44.32  n/a     .000
05054>                     SUM=    1.0 01:MH106       123.53     3.896 No_date   28:03   35.52  n/a     .000
05055> R0005:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05056>      SAVE HYD              1.0 01:MH106       123.53     3.896 No_date   28:03   35.52  n/a     .000
05057>       fname :MH106.0005
05058>       remark:Total Flows at MH106
05059> R0005:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05060>      ROUTE PIPE     ->     1.0 02:MH106       123.53     3.896 No_date   28:03   35.52  n/a     .000
05061> *    [RDT= 1.00] out<-     1.0 01:106-107     123.53     3.814 No_date   28:07   35.52  n/a     .000
05062>       [L/S/n=  123./ .100/.013]
05063>       {Vmax= 1.656:Dmax= 1.516}
05064>       [Din= 1.80:Dused= 1.81}
05065> R0005:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05066>      CONTINUOUS STANDHYD   1.0 01:A10          4.14      .345 No_date   28:01   32.29 .565     .000
05067>       [XIMP=.35:TIMP=.47]
05068>       [LOSS= 2 :CN= 75.0]
05069>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05070>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05071>       [IaRECimp=   4.00: IaRECper=   4.00]
05072>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05073> R0005:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05074>      COMPUTE DUALHYD       1.0 01:A10          4.14      .345 No_date   28:01   32.29  n/a     .000
05075>       Major System   /     1.0 02:A10-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05076>       Minor System   \     1.0 03:A10-MN       4.14      .310 No_date   27:58   32.34  n/a     .000
05077>         {MjSysSto=.7677E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
05078> R0005:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05079>      CONTINUOUS STANDHYD   1.0 01:A11         10.61     1.053 No_date   28:02   38.79 .679     .000
05080>       [XIMP=.53:TIMP=.62]
05081>       [LOSS= 2 :CN= 75.0]
05082>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05083>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05084>       [IaRECimp=   4.00: IaRECper=   4.00]
05085>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05086> R0005:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05087>      COMPUTE DUALHYD       1.0 01:A11         10.61     1.053 No_date   28:02   38.79  n/a     .000
05088>       Major System   /     1.0 02:A11-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05089>       Minor System   \     1.0 03:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
05090>         {MjSysSto=.1280E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
05091> R0005:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05092>      ADD HYD               1.0 02:106-107     123.53    3.814 No_date   28:07   35.52  n/a     .000
05093>                       +     1.0 02:A10-MN       4.14      .310 No_date   27:58   32.34  n/a     .000
05094>                       +     1.0 02:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
05095>                     SUM=    1.0 01:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
05096> R0005:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05097>      SAVE HYD              1.0 01:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
05098>       fname :MH107.0005
05099>       remark:Total Flows at MH107
05100> R0005:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05101>      ROUTE PIPE     ->     1.0 02:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
05102> *    [RDT= 1.00] out<-     1.0 01:107-119     138.28    5.061 No_date   28:07   35.68  n/a     .000
05103>       [L/S/n=  114./ .120/.013]
05104>       {Vmax= 1.898:Dmax= 1.622}
05105>       [Din= 1.80:Dused= 1.98}
05106> R0005:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05107>      ROUTE PIPE     ->     1.0 02:107-119     138.28    5.061 No_date   28:07   35.68  n/a     .000
05108> *    [RDT= 1.00] out<-     1.0 01:119-108     138.28    5.009 No_date   28:07   35.68  n/a     .000
05109>       [L/S/n=   66./ .120/.013]
05110>       {Vmax= 1.893:Dmax= 1.616}
05111>       [Din= 1.80:Dused= 1.97}
05112> R0005:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05113>      CONTINUOUS STANDHYD   1.0 01:A12         12.29     1.145 No_date   28:00   34.82 .610     .000
05114>       [XIMP=.41:TIMP=.54]
05115>       [LOSS= 2 :CN= 75.0]
05116>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05117>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05118>       [IaRECimp=   4.00: IaRECper=   4.00]
05119>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05120> R0005:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05121>      COMPUTE DUALHYD       1.0 01:A12         12.29     1.145 No_date   28:00   34.82  n/a     .000
05122>       Major System   /     1.0 02:A12-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05123>       Minor System   \     1.0 03:A12-MN       12.29     1.029 No_date   27:57   34.93  n/a     .000
05124>         {MjSysSto=.2567E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
05125> R0005:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05126>      CONTINUOUS STANDHYD   1.0 01:A13          2.59      .312 No_date   28:01   44.32 .776     .000
05127>       [XIMP=.71:TIMP=.71]
05128>       [LOSS= 2 :CN= 75.0]
05129>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05130>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05131>       [IaRECimp=   4.00: IaRECper=   4.00]
05132>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05133> R0005:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05134>      COMPUTE DUALHYD       1.0 01:A13          2.59      .312 No_date   28:01   44.32  n/a     .000
05135>       Major System   /     1.0 02:A13-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05136>       Minor System   \     1.0 03:A13-MN       2.59      .312 No_date   28:01   44.32  n/a     .000
05137> R0005:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05138>      CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94      .261 No_date   28:00   32.90 .576     .000
05139>       [XIMP=.41:TIMP=.41]
05140>       [LOSS= 2 :CN= 75.0]
05141>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05142>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05143>       [IaRECimp=   4.00: IaRECper=   4.00]
05144>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05145> R0005:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05146>      ADD HYD               1.0 02:119-108     138.28    5.009 No_date   28:07   35.68  n/a     .000
05147>                       +     1.0 02:A13-MN       2.59      .312 No_date   28:01   44.32  n/a     .000
05148>                       +     1.0 02:A12-MN       12.29     1.029 No_date   27:57   34.93  n/a     .000
05149>                     SUM=    1.0 01:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
05150> R0005:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05151>      SAVE HYD              1.0 01:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
05152>       fname :MH108.0005
05153>       remark:Total Flows at MH108
05154> R0005:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05155>      ROUTE PIPE     ->     1.0 02:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
05156> *    [RDT= 1.00] out<-     1.0 01:108-116     153.16    6.250 No_date   28:02   35.77  n/a     .000
05157>       [L/S/n=   77./ .130/.013]
05158>       {Vmax= 2.057:Dmax= 1.724}
05159>       [Din= 1.80:Dused= 2.10}
05160> R0005:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05161>      ROUTE PIPE     ->     1.0 02:108-116     153.16    6.250 No_date   28:02   35.77  n/a     .000
05162> *    [RDT= 1.00] out<-     1.0 01:116-corrig  153.16    6.248 No_date   28:07   35.77  n/a     .000
05163>       [L/S/n=  80./ .130/.013]
05164>       {Vmax= 2.057:Dmax= 1.723}
05165>       [Din= 1.80:Dused= 2.10}
05166> R0005:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05167>      ADD HYD               1.0 02:116-corrig  153.16    6.248 No_date   28:07   35.77  n/a     .000
05168>                       +     1.0 02:Pond-Block   2.94      .261 No_date   28:00   32.90  n/a     .000
05169>                     SUM=    1.0 01:Corrigan    156.10    6.442 No_date   28:02   35.71  n/a     .000
05170> R0005:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05171>      SAVE HYD              1.0 01:Corrigan    156.10    6.442 No_date   28:02   35.71  n/a     .000
05172>       fname :Corrigan.0005
05173>       remark:HYD_COMMENT=["Totals for Corrigan Pond]
05174> R0005:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05175>      ROUTE RESERVOIR ->     1.0 02:Corrigan    156.10    6.442 No_date   28:02   35.71  n/a     .000
05176>                       out <=     1.0 01:Co-P     156.10    5.462 No_date   28:10   35.71  n/a     .000
05177>                  overflow <=     1.0 03:Co-P-OVF     .00      .000 No_date   0:00      .00  n/a     .000
05178>       {MxStoUsed=.9809E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
05179> R0005:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05180>      ADD HYD               1.0 02:Co-P-OVF     .00      .000 No_date   0:00      .00  n/a     .000
05181>                       +     1.0 02:Co-P     156.10    5.462 No_date   28:10   35.71  n/a     .000
05182>                       +     1.0 02:N_TO     54837.69  69.906 No_date   37:02   18.77  n/a     .000
05183>                       +     1.0 02:MH105-JR     25.07     6.058 No_date   28:05   35.39  n/a     .000
05184>                       +     1.0 02:A8-MJ-JR     .00      .000 No_date   0:00      .00  n/a     .000
05185>                       +     1.0 02:A9-MJ        .00      .000 No_date   0:00      .00  n/a     .000
05186>                       +     1.0 02:A6-MJ        .00      .000 No_date   0:00      .00  n/a     .000
05187>                       +     1.0 02:A11-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05188>                       +     1.0 02:A12-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05189>                       +     1.0 02:A13-MJ       .00      .000 No_date   0:00      .00  n/a     .000
05190>                     SUM=    1.0 01:corrig     55018.86  70.243 No_date   37:00   18.83  n/a     .000
05191> R0005:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05192>      SAVE HYD              1.0 01:corrig     55018.86  70.243 No_date   37:00   18.83  n/a     .000
05193>       fname :corrig.0005
05194>       remark:Total Flows at Corrigan Pond
05195> #*************************************************************************
05196> #    Corrigan Pond 1
05197> #    - Rating curve obtained from Barrhaven South MSS modeling
05198> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
05199> #*************************************************************************
05200> #
05201> # Hydrograph from Corrigan Drain routed to Jockvale Road
05202> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
05203> #
05204> R0005:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05205>      ROUTE CHANNEL   ->     1.0 02:corrig     55018.86  70.243 No_date   37:00   18.83  n/a     .000
05206>      [RDT= 1.00] out<-     1.0 01:N_MI       55018.86  70.233 No_date   37:04   18.83  n/a     .000
05207>       [L/S/n=  580./ .445/.045]
05208>       {Vmax= 1.643:Dmax= 1.473}
05209> #*************************************************************************
05210> #    Catchment MILLS
05211> #    - To SWM Facility north of the Jock
05212> #    - Primarily residental development
05213> #*************************************************************************
05214> R0005:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05215>      CONTINUOUS STANDHYD   1.0 01:MILLS       175.99     9.992 No_date   28:07   30.98 .542     .000
05216>
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05237>     SAVE HYD                  1.0 01:SN_MI      55194.85   70.602 No_date   37:03   18.87  n/a     .000
05238>       fname :SN_MI.0005
05239>       remark:Total Flows at Jockvale Road
05240> #
05241> # Hydrograph from Jockvale Road routed to Heart's Desire
05242> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
05243> #
05244> R0005:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05245>     ROUTE CHANNEL    ->    1.0 02:SN_MI      55194.85   70.602 No_date   37:03   18.87  n/a     .000
05246>      [RDT= 1.00] out<-    1.0 01:N_DE       55194.85   70.452 No_date   37:20   18.87  n/a     .000
05247>       [L/S/n= 1962./ .223/.045]
05248>       [Vmax= 1.303:Dmax= 1.891]
05249> #*************************************************************************
05250> #    Catchment DESIRE
05251> #    - To Jock River (north of the Jock)
05252> #    - Rural-estate subdivision (Heart's Desire Community)
05253> #*************************************************************************
05254> R0005:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05255>     CONTINUOUS STANDHYD   1.0 01:DESIRE       23.78    1.359 No_date   28:03   27.22 .477     .000
05256>       [XIMP=.25:TIMP=.25]
05257>       [LOSS= 2 :CN= 77.0]
05258>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05259>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
05260>       [IaRECimp=   4.00: IaRECper=   4.00]
05261>       [SMIN= 31.15: SMAX=207.66: SK= .010]
05262> #*************************************************************************
05263> #    Catchment JOCKVA
05264> #    - To Jockvale SWM Facility
05265> #    - Residential development & golf course
05266> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
05267> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
05268> #*************************************************************************
05269> R0005:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05270>     CONTINUOUS STANDHYD   1.0 01:JOCKVA      225.13   14.675 No_date   28:09   35.73 .626     .000
05271>       [XIMP=.50:TIMP=.50]
05272>       [LOSS= 2 :CN= 74.0]
05273>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05274>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
05275>       [IaRECimp=   4.00: IaRECper=   4.00]
05276>       [SMIN= 36.67: SMAX=244.49: SK= .010]
05277> R0005:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05278>     ADD HYD                   1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:57   35.73  n/a     .000
05279>                         +     1.0 02:JOCKVA      225.13   14.675 No_date   28:09   35.73  n/a     .000
05280>                         +     1.0 02:B2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
05281>                         +     1.0 02:B3-MJ          .00     .000 No_date    0:00     .00  n/a     .000
05282>                       SUM=    1.0 01:JOCKVA-TO   257.63   16.950 No_date   28:09   35.73  n/a     .000
05283> R0005:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05284>     SAVE HYD                  1.0 01:JOCKVA-TO   257.63   16.950 No_date   28:09   35.73  n/a     .000
05285>       fname :JOCKVA-TO.0005
05286>       remark:Total Flows at KB first pond
05287> #*************************************************************************
05288> #    Jockvale SWM Facility
05289> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
05290> #*************************************************************************
05291> R0005:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05292>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73  n/a     .000
05293>                  out <-   1.0 01:JOCK_P      257.63    4.781 No_date   28:48   35.73  n/a     .000
05294>             overflow <=   1.0 03:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
05295>       {MxStoUsed=.4115E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05296> R0005:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05297>     ADD HYD                   1.0 02:N_DE       55194.85   70.452 No_date   37:20   18.87  n/a     .000
05298>                         +     1.0 02:DESIRE       23.78    1.359 No_date   28:03   27.22  n/a     .000
05299>                         +     1.0 02:JO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
05300>                         +     1.0 02:JOCK_P      257.63    4.781 No_date   28:48   35.73  n/a     .000
05301>                       SUM=    1.0 01:SN_DE      55476.26   71.017 No_date   37:17   18.95  n/a     .000
05302> R0005:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05303>     SAVE HYD                  1.0 01:SN_DE      55476.26   71.017 No_date   37:17   18.95  n/a     .000
05304>       fname :SN_DE.0005
05305>       remark:Total Flows at Heart's Desire
05306> #
05307> # Hydrograph from Heart's Desire routed to Rideau River
05308> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
05309> #
05310> R0005:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05311>     ROUTE CHANNEL    ->    1.0 02:SN_DE      55476.26   71.017 No_date   37:17   18.95  n/a     .000
05312>      [RDT= 1.00] out<-    1.0 01:N1         55476.26   71.029 No_date   37:08   18.95  n/a     .000
05313>       [L/S/n=  563./ .967/.045]
05314>       [Vmax= 1.676:Dmax=  .955]
05315> #*************************************************************************
05316> #    Catchment S-2
05317> #    - To Jock River (north and south)
05318> #    - Undeveloped floodplain and river
05319> #*************************************************************************
05320> R0005:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05321>     CONTINUOUS NASHYD     1.0 01:S-2        102.94    2.262 No_date   28:20   19.00 .333     .000
05322>       [CN= 72.0: N= 3.00: Tp=  .40]
05323>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05324>       [InterEventTime=  12.00]
05325> R0005:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05326>     ADD HYD                   1.0 02:N1         55476.26   71.029 No_date   37:08   18.95  n/a     .000
05327>                         +     1.0 02:S-2        102.94    2.262 No_date   28:20   19.00  n/a     .000
05328>                       SUM=    1.0 01:SN_N1      55579.20   71.168 No_date   37:08   18.95  n/a     .000
05329> R0005:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05330>     SAVE HYD                  1.0 01:SN_N1      55579.20   71.168 No_date   37:08   18.95  n/a     .000
05331>       fname :SN_N1.0005
05332>       remark:Total Flows at Rideau River
05333> ###########################################################################
05334>   ** END OF RUN :    9
05335>
05336>  ************************************************************************************************************
05337>
05338>
05339>
05340>
05341>
05342>  RUN#:COMMAND#
05343> R0010:C00001------------------------------------------------------------------------------------------------
05344>       START
05345>       [TZERO =      .00 hrs on       0]
05346>       [METOUT=    2    (1=imperial, 2=metric output)]
05347>       [NSTORM=   1 ]
05348>       [NRUN  = 0010 ]
05349> #*************************************************************************
05350> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
05351> #*************************************************************************
05352> #  Project Name: [Jock River]    Project Number: [1474-16]
05353> #  Date      : 04-03-2021
05354> #  Modeller  : [M.M.]
05355> #  Company   : JFSAinc.
05356> #  License #   :  2549237
05357> #*************************************************************************
05358> # CALIBRATION ON SUMMER MODEL PARAMETERS
05359> # USING CONTINUOUS SIMULATIONS
05360> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
05361> # Use data collected from May 1st to July 14, 2003
05362> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
05363> # 2020-12-01 correct pond curve values
05364> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
05365> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
05366> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
05367> # ------------------------------------------------------------------------------
05368> R0010:C00002------------------------------------------------------------------------------------------------
05369>       READ STORM
05370>        Filename = storm.001
05371>        Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
05372>        [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
05373> R0010:C00003------------------------------------------------------------------------------------------------
05374>       MODIFY STORM
05375>        [RFACT=  1.00:TSHIFT= 960.00 min]
05376>        [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
05377> R0010:C00004------------------------------------------------------------------------------------------------
05378>       DEFAULT VALUES
05379>        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
05380>        ICASEdv  = 1 (read and print data)
05381>        FileTitle= File comment: [Based onvarious calibration exercises in Onta
05382>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
05383>        Horton's infiltration equation parameters:
05384>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
05385>        Parameters for PERVIOUS surfaces in STANDHYD:
05386>        [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
05387>        Parameters for IMPERVIOUS surfaces in STANDHYD:
05388>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
05389>        Parameters used in NASHYD:
05390>        [Ia=   4.67 mm] [N= 3.00]
05391>        Average monthly Pan Evaporation data in    (mm)
05392>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
05393>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
05394>        Average monthly Potential Evapotranspiration in    (mm)
05395>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
05396>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
05397> R0010:C00005------------------------------------------------------------------------------------------------
05398>       COMPUTE API
05399>        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
05400>        [APImax= 97.81: APIavg= 62.29: APImin= 44.87]
05401> #
05402> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05403> # of 1.32
05404> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05405>     CONTINUOUS NASHYD     1.0 01:JR_HW      3680.00   11.879 No_date   36:59   20.23 .313     .000
05406>       [CN= 64.0: N= 3.00: Tp= 7.13]
05407>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
05408>       [InterEventTime=  12.00]
05409> #
05410> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05411> # of 1.32
05412> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05413>     CONTINUOUS NASHYD     1.0 01:SW_13       971.00    4.365 No_date   32:35   18.83 .291     .000
05414>       [CN= 61.0: N= 3.00: Tp= 3.76]
05415>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
05416>       [InterEventTime=  12.00]
05417> #
05418> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05419> # of 1.80
05420> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05421>     CONTINUOUS NASHYD     1.0 01:JR_GWM     3074.00    5.829 No_date   39:59   16.22 .251     .000
05422>       [CN= 55.0: N= 3.00: Tp=11.33]
05423>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
05424>       [InterEventTime=  12.00]
05425> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05426>     CONTINUOUS NASHYD     1.0 01:JR_ASH     1781.00   10.839 No_date   32:42   24.81 .383     .000
05427>       [CN= 72.0: N= 3.00: Tp= 3.91]
05428>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05429>       [InterEventTime=  12.00]
05430> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05431>     CONTINUOUS NASHYD     1.0 01:SW_11       500.00    5.639 No_date   29:22   21.19 .328     .000
05432>       [CN= 66.0: N= 3.00: Tp= 1.24]
05433>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05434>       [InterEventTime=  12.00]
05435> #
05436> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05437> # of 1.80
05438> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05439>     CONTINUOUS NASHYD     1.0 01:NN_CK      1917.00    7.897 No_date   34:28   21.19 .328     .000
05440>       [CN= 66.0: N= 3.00: Tp= 5.29]
05441>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05442>       [InterEventTime=  12.00]
05443> #
05444> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05445> # of 1.52
05446> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05447>     CONTINUOUS NASHYD     1.0 01:SW_10      5666.00   21.255 No_date   37:58   24.81 .383     .000
05448>       [CN= 72.0: N= 3.00: Tp= 8.00]
05449>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05450>       [InterEventTime=  12.00]
05451> #
05452> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05453> # of 1.75
05454> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05455>     CONTINUOUS NASHYD     1.0 01:KG_CK      8376.00   20.398 No_date   39:59   21.19 .328     .000
05456>       [CN= 66.0: N= 3.00: Tp=11.66]
05457>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05458>       [InterEventTime=  12.00]
05459> #
05460> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05461> # of 1.68
05462> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05463>     CONTINUOUS NASHYD     1.0 01:SW_9       1132.00    8.921 No_date   30:54   23.73 .367     .000
05464>       [CN= 70.0: N= 3.00: Tp= 2.51]
05465>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
05466>       [InterEventTime=  12.00]
05467> #
05468> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05469> # of 1.82
05470> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05471>     CONTINUOUS NASHYD     1.0 01:NC_CK      4464.00   10.128 No_date   39:59   19.29 .298     .000
05472>       [CN= 62.0: N= 3.00: Tp=11.32]
05473>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
05474>       [InterEventTime=  12.00]
05475> #
05476> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05477> # of 1.80
05478> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05479>     CONTINUOUS NASHYD     1.0 01:SW_8        131.00    1.689 No_date   28:57   19.76 .305     .000
05480>       [CN= 63.0: N= 3.00: Tp=  .90]
05481>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
05482>       [InterEventTime=  12.00]
05483> #
05484> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05485> # of 1.65
05486> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05487>     CONTINUOUS NASHYD     1.0 01:HB_DR      3854.00   11.811 No_date   38:37   21.19 .328     .000
05488>       [CN= 66.0: N= 3.00: Tp= 8.42]
05489>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05490>       [InterEventTime=  12.00]
05491> #
05492> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05493> # of 1.82
05494> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05495>     CONTINUOUS NASHYD     1.0 01:SW_7       3197.00    8.899 No_date   36:26   17.07 .264     .000
05496>       [CN= 57.0: N= 3.00: Tp= 6.65]
05497>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
05498>       [InterEventTime=  12.00]
05499> #
05500> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05501> # of 1.75
05502> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05503>     CONTINUOUS NASHYD     1.0 01:SW_6        165.00     .818 No_date   33:04   21.69 .335     .000
05504>       [CN= 67.0: N= 3.00: Tp= 4.18]
05505>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
05506>       [InterEventTime=  12.00]
05507> #
05508> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05509> # of 1.67
05510> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05511>     CONTINUOUS NASHYD     1.0 01:VG_DR      1332.00    6.069 No_date   35:17   24.81 .383     .000
05512>       [CN= 72.0: N= 3.00: Tp= 5.95]
05513>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05514>       [InterEventTime=  12.00]
05515> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05516>     CONTINUOUS NASHYD     1.0 01:SW_5        224.00    5.246 No_date   28:45   28.24 .437     .000
05517>       [CN= 77.0: N= 3.00: Tp=  .75]
05518>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05519>       [InterEventTime=  12.00]
05520> #
05521> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05522> # of 1.20
05523> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05524>     CONTINUOUS NASHYD     1.0 01:FL_CK      4945.00   28.945 No_date   33:21   25.91 .401     .000
05525>       [CN= 74.0: N= 3.00: Tp= 4.45]
05526>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
05527>       [InterEventTime=  12.00]
05528> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05529>     CONTINUOUS NASHYD     1.0 01:SW_5A2       20.00     .614 No_date   28:36   31.37 .485     .000
05530>       [CN= 81.0: N= 3.00: Tp=  .62]
05531>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05532>       [InterEventTime=  12.00]
05533> #
05534> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05535> # of 1.61
05536> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05537>     CONTINUOUS NASHYD     1.0 01:SW_5A1     1412.00    5.817 No_date   37:54   27.06 .418     .000
05538>       [CN= 75.0: N= 3.00: Tp= 8.00]
05539>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
05540>       [InterEventTime=  12.00]
05541> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05542>     CONTINUOUS NASHYD     1.0 01:SW_4        585.00    8.458 No_date   29:57   31.37 .485     .000
05543>       [CN= 81.0: N= 3.00: Tp= 1.75]
05544>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05545>       [InterEventTime=  12.00]
05546> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05547>     CONTINUOUS NASHYD     1.0 01:LM_CK      1021.00   11.195 No_date   30:48   30.72 .475     .000
05548>       [CN= 80.0: N= 3.00: Tp= 2.40]
05549>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
05550>       [InterEventTime=  12.00]
05551> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05552>     CONTINUOUS NASHYD     1.0 01:SW_2        177.00    4.146 No_date   28:45   28.24 .437     .000
05553>       [CN= 77.0: N= 3.00: Tp=  .75]
05554>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05555>       [InterEventTime=  12.00]
05556> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05557>     CONTINUOUS NASHYD     1.0 01:SM_DR      1122.00   10.275 No_date   31:46   31.37 .485     .000
05558>       [CN= 81.0: N= 3.00: Tp= 3.25]
05559>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05560>       [InterEventTime=  12.00]
05561> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05562>     CONTINUOUS NASHYD     1.0 01:MO_DR      2737.00   22.669 No_date   31:32   27.64 .427     .000
05563>       [CN= 76.0: N= 3.00: Tp= 3.03]
05564>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
05565>       [InterEventTime=  12.00]
05566> #
05567> # Routing hydrographs
05568> #
05569> # Starting with the addition of Jock River Headwater and Subwatershed 13
05570> #
05571> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05572>     ADD HYD                   1.0 02:JR_HW      3680.00   11.879 No_date   36:59   20.23  n/a     .000
05573>                         +     1.0 02:SW_13       971.00    4.365 No_date   32:35   18.83  n/a     .000
05574>                       SUM=    1.0 01:S_N13      4651.00   15.130 No_date   35:28   19.94  n/a     .000
05575> #
05576> # Sum of hydrographs from Node 13 routed to Node 13A
05577> # (Approximated cross-section - see cross-section 258)
05578> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05579> #
05580> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05581>     ROUTE CHANNEL    ->    1.0 02:S_N13      4651.00   15.130 No_date   35:28   19.94  n/a     .000
05582>      [RDT= 1.00] out<-    1.0 01:N13A       4651.00   12.097 No_date   39:41   19.94  n/a     .000
05583>       [L/S/n= 9074./ .022/.040]
05584>       [Vmax=  .508:Dmax= 3.307]
05585> #
05586> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
05587> #
05588> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05589>     ADD HYD                   1.0 02:N13A       4651.00   12.097 No_date   39:41   19.94  n/a     .000
05590>                         +     1.0 02:JR_GWM     3074.00    5.829 No_date   39:59   16.22  n/a     .000
05591>                       SUM=    1.0 01:SN13A      7725.00   17.918 No_date   39:59   18.46  n/a     .000
05592> #
05593> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
05594> #
05595> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05596>     ROUTE RESERVOIR ->    1.0 02:SN13A      7725.00   17.918 No_date   39:59   18.46  n/a     .000
05597>                  out <-   1.0 01:RES_GM     7725.00    3.524 No_date   58:32   18.46  n/a     .000
05598>       {MxStoUsed=.8503E+02  m3}
05599> #
05600> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05601>     SAVE HYD                  1.0 01:RES_GM     7725.00    3.524 No_date   58:32   18.46  n/a     .000
05602>       fname :H_RESGM
05603>       remark:Outflow from Res GM
05604> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
05605> # (Approximated cross-section - see cross-section 258)
05606> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05607> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05608>     ROUTE CHANNEL    ->    1.0 02:RES_GM     7725.00    3.524 No_date   58:32   18.46  n/a     .000
05609>      [RDT= 1.00] out<-    1.0 01:N12        7725.00    3.519 No_date   61:53   18.46  n/a     .000
05610>       [L/S/n= 5926./ .076/.040]
```

```
05611>       {Vmax=  .546:Dmax= 1.499}
05612> #
05613> # Addition of Subwatershed Jock River at Ashton to Node 12
05614> #
05615> R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05616>      ADD HYD              1.0 02:N12       7725.00    3.519 No_date   61:53   18.46  n/a     .000
05617>                     +     1.0 02:JR_ASH     1781.00   10.839 No_date   32:42   24.81  n/a     .000
05618>                SUM=       1.0 01:S_N12      9506.00   12.834 No_date   32:45   19.65  n/a     .000
05619> R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05620>      SAVE HYD             1.0 01:S_N12      9506.00   12.834 No_date   32:45   19.65  n/a     .000
05621>        fname :H_SN12
05622>        remark:flow at S_N12 near Ashton
05623> #
05624> # Sum of hydrographs from Node 12 routed to Node 11
05625> # (Approximated cross-section - see cross-section 258)
05626> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05627> #
05628> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
05629> #
05630> R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05631>      ROUTE CHANNEL    ->     1.0 02:S_N12      9506.00   12.834 No_date   32:45   19.65  n/a     .000
05632>        [RDT= 1.00] out<-     1.0 01:Dum11      9506.00   12.710 No_date   33:02   19.65  n/a     .000
05633>        [L/S/n=  972./ .054/.040]
05634>        {Vmax=  .680:Dmax= 2.598}
05635> #
05636> # Addition of Subwatershed 11 and No Name Creek to Node 11
05637> #
05638> R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05639>      ADD HYD              1.0 02:Dum11      9506.00   12.710 No_date   33:02   19.65  n/a     .000
05640>                     +     1.0 02:SW_11       500.00    5.639 No_date   29:22   21.19  n/a     .000
05641>                     +     1.0 02:NN_CK      1917.00    7.897 No_date   34:28   21.19  n/a     .000
05642>                SUM=       1.0 01:S_N11     11923.00   21.813 No_date   33:05   19.96  n/a     .000
05643> #
05644> # Sum of hydrographs from Node 11 routed to Node 10
05645> # Section 1
05646> #
05647> R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05648>      ROUTE CHANNEL    ->     1.0 02:S_N11     11923.00   21.813 No_date   33:05   19.96  n/a     .000
05649>        [RDT= 1.00] out<-     1.0 01:N10       11923.00   14.761 No_date   39:58   19.96  n/a     .000
05650>        [L/S/n=14028./ .157/.040]
05651>        {Vmax=  .452:Dmax= 1.212}
05652> #
05653> # Addition of Subwatershed 10 to Node 10
05654> #
05655> R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05656>      ADD HYD              1.0 02:N10       11923.00   14.761 No_date   39:58   19.96  n/a     .000
05657>                     +     1.0 02:SW_10      5666.00   21.255 No_date   37:58   24.81  n/a     .000
05658>                SUM=       1.0 01:S_N10     17589.00   35.808 No_date   38:35   21.52  n/a     .000
05659> R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05660>      SAVE HYD             1.0 01:S_N10     17589.00   35.808 No_date   38:35   21.52  n/a     .000
05661>        fname :H_SN10
05662>        remark:flow at S_N10: N10 + SW_10
05663> # Addition of Kings Creek to S_N10
05664> #
05665> R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05666>      ADD HYD              1.0 02:S_N10     17589.00   35.808 No_date   38:35   21.52  n/a     .000
05667>                     +     1.0 02:KG_CK      8376.00   20.398 No_date   39:59   21.19  n/a     .000
05668>                SUM=       1.0 01:S_N10A    25965.00   55.807 No_date   39:58   21.41  n/a     .000
05669> #
05670> # Sum of hydrographs from Node 10 routed to Node 9
05671> # Section 2
05672> #
05673> R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05674>      ROUTE CHANNEL    ->     1.0 02:S_N10A    25965.00   55.807 No_date   39:58   21.41  n/a     .000
05675>        [RDT= 1.00] out<-     1.0 01:N9        25965.00   54.076 No_date   39:59   21.41  n/a     .000
05676>        [L/S/n=  3982./ .075/.040]
05677>        {Vmax=  .682:Dmax= 1.695}
05678> #
05679> # Addition of Subwatershed 9 and Nichols Creek to Node 9
05680> #
05681> R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05682>      ADD HYD              1.0 02:N9        25965.00   54.076 No_date   39:59   21.41  n/a     .000
05683>                     +     1.0 02:SW_9       1132.00    8.921 No_date   30:54   23.73  n/a     .000
05684>                     +     1.0 02:NC_CK      4464.00   10.128 No_date   39:59   19.29  n/a     .000
05685>                SUM=       1.0 01:S_N9      31561.00   66.284 No_date   39:59   21.20  n/a     .000
05686> #
05687> # Sum of hydrographs from Node 9 routed to Node 8
05688> # Section 3
05689> #
05690> R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05691>      ROUTE CHANNEL    ->     1.0 02:S_N9      31561.00   66.284 No_date   39:59   21.20  n/a     .000
05692>        [RDT= 1.00] out<-     1.0 01:N8        31561.00   61.483 No_date   39:57   21.20  n/a     .000
05693>        [L/S/n= 2269./ .088/.045]
05694>        {Vmax=  .363:Dmax= 1.619}
05695> #
05696> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
05697> #
05698> R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05699>      ADD HYD              1.0 02:N8        31561.00   61.483 No_date   39:57   21.20  n/a     .000
05700>                     +     1.0 02:SW_8        131.00    1.689 No_date   28:57   19.76  n/a     .000
05701>                     +     1.0 02:HB_DR      3854.00   11.811 No_date   38:37   21.19  n/a     .000
05702>                SUM=       1.0 01:S_N8      35546.00   73.344 No_date   39:57   21.19  n/a     .000
05703> #
05704> # Sum of hydrographs from Node 8 routed to Node 7
05705> # Section 4
05706> #
05707> R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05708>      ROUTE CHANNEL    ->     1.0 02:S_N8      35546.00   73.344 No_date   39:57   21.19  n/a     .000
05709>        [RDT= 1.00] out<-     1.0 01:N7        35546.00   61.416 No_date   45:01   21.19  n/a     .000
05710>        [L/S/n= 3750./ .053/.070]
05711>        {Vmax=  .218:Dmax= 1.987}
05712> #
05713> # Addition of Subwatershed 7 to Node 7
05714> #
05715> R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05716>      ADD HYD              1.0 02:N7        35546.00   61.416 No_date   45:01   21.19  n/a     .000
05717>                     +     1.0 02:SW_7       3197.00    8.899 No_date   36:26   17.07  n/a     .000
05718>                SUM=       1.0 01:S_N7      38743.00   65.819 No_date   44:06   20.85  n/a     .000
05719> R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05720>      SAVE HYD             1.0 01:S_N7      38743.00   65.819 No_date   44:06   20.85  n/a     .000
05721>        fname :H_SN7
05722>        remark:flow at S_N7: N7 + SW_7
05723> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
05724> # Storage area and volumes were estimated from available topo maps.
05725> # Release rate from fen was assumed to be controlled by the downstream
05726> # river cross-section for summer conditions.  It is was assumed that for up to
05727> # 0.75 m of water, the main channel of the river provided the storage.  Above
05728> # this depth, the wetland starts to signigicantly store water.
05729> #
05730> R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05731>      ROUTE RESERVOIR ->     1.0 02:S_N7      38743.00   65.819 No_date   44:06   20.85  n/a     .000
05732>                       out <-    1.0 01:RES_RF    38743.00   31.796 No_date   60:32   20.85  n/a     .000
05733>        {MxStoUsed=.2597E+03  m3}
05734> R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05735>      SAVE HYD             1.0 01:RES_RF    38743.00   31.796 No_date   60:32   20.85  n/a     .000
05736>        fname :H_ResRF
05737>        remark:outflow of Richmond Fen
05738> #
05739> # Sum of hydrographs from Node 7 routed to Node 6
05740> # Section 5
05741> #
05742> R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05743>      ROUTE CHANNEL    ->     1.0 02:RES_RF    38743.00   31.796 No_date   60:32   20.85  n/a     .000
05744>        [RDT= 1.00] out<-     1.0 01:N6        38743.00   31.737 No_date   62:00   20.85  n/a     .000
05745>        [L/S/n= 3056./ .082/.025]
05746>        {Vmax=  .477:Dmax=  .960}
05747> #
05748> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
05749> #
05750> R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05751>      ADD HYD              1.0 02:N6        38743.00   31.737 No_date   62:00   20.85  n/a     .000
05752>                     +     1.0 02:SW_6        165.00     .818 No_date   33:04   21.69  n/a     .000
05753>                     +     1.0 02:VG_DR      1332.00    6.069 No_date   35:17   24.81  n/a     .000
05754>                SUM=       1.0 01:S_N6      40240.01   31.737 No_date   62:00   20.99  n/a     .000
05755> #
05756> # Sum of hydrographs from Node 6 routed to Node 5
05757> # Section 6
05758> #
05759> R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05760>      ROUTE CHANNEL    ->     1.0 02:S_N6      40240.01   31.737 No_date   62:00   20.99  n/a     .000
05761>        [RDT= 1.00] out<-     1.0 01:N5        40240.01   31.713 No_date   62:48   20.99  n/a     .000
05762>        [L/S/n= 1852./ .054/.035]
05763>        {Vmax=  .412:Dmax= 1.069}
05764> #
05765> # Addition of Subwatershed 5 and Flowing Creek to Node 5
05766> #
05767> R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05768>      ADD HYD              1.0 02:N5        40240.01   31.713 No_date   62:48   20.99  n/a     .000
05769>                     +     1.0 02:SW_5        224.00    5.246 No_date   28:45   28.24  n/a     .000
05770>                     +     1.0 02:FL_CK      4945.00   28.945 No_date   33:21   25.91  n/a     .000
05771>                SUM=       1.0 01:S_N5      45409.01   51.448 No_date   34:54   21.56  n/a     .000
05772> #
05773> # Sum of hydrographs from Node 5 routed to Node 5A
05774> # Section 7
05775> #
05776> R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05777>      ROUTE CHANNEL    ->     1.0 02:S_N5      45409.01   51.448 No_date   34:54   21.56  n/a     .000
05778>        [RDT= 1.00] out<-     1.0 01:N5A       45409.01   51.312 No_date   35:12   21.56  n/a     .000
05779>        [L/S/n=  556./ .090/.040]
05780>        {Vmax=  .485:Dmax= 1.131}
05781> #
05782> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
05783> #
05784> R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05785>      ADD HYD              1.0 02:N5A       45409.01   51.312 No_date   35:12   21.56  n/a     .000
05786>                     +     1.0 02:SW_5A2       20.00     .614 No_date   28:36   31.37  n/a     .000
05787>                     +     1.0 02:SW_5A1     1412.00    5.817 No_date   37:54   27.06  n/a     .000
05788>                SUM=       1.0 01:S_N5A     46841.01   56.788 No_date   35:22   21.73  n/a     .000
05789> #
05790> # Sum of hydrographs from Node 5A routed to Node 4
05791> # Section 8
05792> #
05793> R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05794>      ROUTE CHANNEL    ->     1.0 02:S_N5A     46841.01   56.788 No_date   35:22   21.73  n/a     .000
05795>        [RDT= 1.00] out<-     1.0 01:N4        46841.01   54.543 No_date   36:56   21.73  n/a     .000
05796>        [L/S/n= 4630./ .043/.035]
05797>        {Vmax=  .793:Dmax= 3.295}
05798> #
05799> # Addition of Subwatershed 4 and Leamy Creek to Node 4
05800> #
05801> R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05802>      ADD HYD              1.0 02:N4        46841.01   54.543 No_date   36:56   21.73  n/a     .000
05803>                     +     1.0 02:SW_4        585.00    8.458 No_date   29:57   31.37  n/a     .000
05804>                     +     1.0 02:LM_CK      1021.00   11.195 No_date   30:48   30.72  n/a     .000
05805>                SUM=       1.0 01:S_N4      48447.00   59.934 No_date   36:12   22.03  n/a     .000
05806> R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05807>      SAVE HYD             1.0 01:S_N4      48447.00   59.934 No_date   36:12   22.03  n/a     .000
05808>        fname :S_N4.0010
05809>        remark:flow at S_N4
05810> #
05811> # Sum of hydrographs from Node 4 routed to Node 2
05812> # Section 9
05813> #
05814> R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05815>      ROUTE CHANNEL    ->     1.0 02:S_N4      48447.00   59.934 No_date   36:12   22.03  n/a     .000
05816>        [RDT= 1.00] out<-     1.0 01:N2        48447.00   59.699 No_date   36:35   22.03  n/a     .000
05817>        [L/S/n= 1667./ .060/.040]
05818>        {Vmax=  .824:Dmax= 3.325}
05819> #
05820> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
05821> #
05822> R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05823>      ADD HYD              1.0 02:N2        48447.00   59.699 No_date   36:35   22.03  n/a     .000
05824>                     +     1.0 02:SW_2        177.00    4.148 No_date   28:45   28.24  n/a     .000
05825>                     +     1.0 02:SM_DR      1122.00   10.275 No_date   31:46   31.37  n/a     .000
05826>                     +     1.0 02:MO_DR      2737.00   22.669 No_date   31:32   27.64  n/a     .000
05827>                SUM=       1.0 01:S_N2      52483.00   83.235 No_date   33:15   22.55  n/a     .000
05828> R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05829>      SAVE HYD             1.0 01:S_N2      52483.00   83.235 No_date   33:15   22.55  n/a     .000
05830>        fname :H_SN2
05831>        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
05832> #
05833> # Sum of hydrographs from Node 2 routed to Node 1
05834> # Section 10
05835> #
05836> #*************************************************************************
05837> #
05838> # Hydrograph from Node 2 routed to Node 416
05839> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
05840> #
05841> R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05842>      ROUTE CHANNEL    ->     1.0 02:S_N2      52483.00   83.235 No_date   33:15   22.55  n/a     .000
05843>        [RDT= 1.00] out<-     1.0 01:N_416     52483.00   81.216 No_date   34:18   22.55  n/a     .000
05844>        [L/S/n= 2327./ .050/.055]
05845>        {Vmax=  .705:Dmax= 2.943}
05846> #*************************************************************************
05847> #    Catchment SW-1a
05848> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
05849> #    - Undeveloped agricultural land
05850> #*************************************************************************
05851> R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05852>      CONTINUOUS NASHYD    1.0 01:SW_1a       536.42     3.888 No_date   31:17   23.57 .364      .000
05853>        [CN= 72.0: N= 3.00: Tp= 2.79]
05854>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05855>        [InterEventTime=  12.00]
05856> R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05857>      CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93     5.420 No_date   28:03   48.63 .752      .000
05858>        [XIMP=.65:TIMP=.65]
05859>        [LOSS= 2 :CN= 75.0]
05860>        [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=    .0]
05861>        [Impervious    area: IAimp= 1.57:SLPI=  .75:LGI= 547.:MNI=.013:SCI=   .0]
05862>        [IaRECimp=   4.00: IaRECper=   4.00]
05863>        [SMIN= 33.81: SMAX=225.43: SK= .010]
05864> R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05865>      ADD HYD              1.0 02:N_416     52483.00   81.216 No_date   34:18   22.55  n/a     .000
05866>                     +     1.0 02:SW_1a       536.42     3.888 No_date   31:17   23.57  n/a     .000
05867>                     +     1.0 02:S-1-Okeefe    44.93     5.420 No_date   28:03   48.63  n/a     .000
05868>                SUM=       1.0 01:SN_416    53064.36   84.144 No_date   33:41   22.58  n/a     .000
05869> R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05870>      SAVE HYD             1.0 01:SN_416    53064.36   84.144 No_date   33:41   22.58  n/a     .000
05871>        fname :SN_416.0010
05872>        remark:Total Flows at Highway 416
05873> #
05874> # Hydrograph from Node 416 routed to Node at Okeefe drain
05875> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
05876> #
05877> R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05878>      ROUTE CHANNEL    ->     1.0 02:SN_416    53064.36   84.144 No_date   33:41   22.58  n/a     .000
05879>        [RDT= 1.00] out<-     1.0 01:N_OK      53064.36   84.064 No_date   33:41   22.58  n/a     .000
05880>        [L/S/n=  497./ .302/.055]
05881>        {Vmax= 1.450:Dmax= 2.495}
05882> #*************************************************************************
05883> #    Catchment OKEEFE
05884> #    - To O'Keefe drain (north of the Jock)
05885> #    - Developed with assumed 43% imp.
05886> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
05887> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
05888> #*************************************************************************
05889> R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05890>      CONTINUOUS NASHYD    1.0 01:O-1         63.72      .684 No_date   28:58   17.24 .266      .000
05891>        [CN= 61.0: N= 3.00: Tp=  .90]
05892>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
05893>        [InterEventTime=  12.00]
05894> R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05895>      ROUTE CHANNEL    ->     1.0 02:O-1         63.72      .684 No_date   28:58   17.24  n/a     .000
05896>        [RDT= 1.00] out<-     1.0 01:O-1R        63.72      .637 No_date   29:17   17.24  n/a     .000
05897>        [L/S/n=  960./ .630/.043]
05898>        {Vmax=  .755:Dmax=  .334}
05899> R0010:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05900>      CONTINUOUS NASHYD    1.0 01:O-2         28.61      .242 No_date   29:13   16.01 .248      .000
05901>        [CN= 57.0: N= 3.00: Tp= 1.10]
05902>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
05903>        [InterEventTime=  12.00]
05904> R0010:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05905>      CONTINUOUS NASHYD    1.0 01:O-4         46.94      .303 No_date   29:00   12.15 .188      .000
05906>        [CN= 49.0: N= 3.00: Tp=  .90]
05907>        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
05908>        [InterEventTime=  12.00]
05909> R0010:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05910>      ADD HYD              1.0 02:O-1R        63.72      .637 No_date   29:17   17.24  n/a     .000
05911>                     +     1.0 02:O-2         28.61      .242 No_date   29:13   16.01  n/a     .000
05912>                     +     1.0 02:O-4         46.94      .303 No_date   29:00   12.15  n/a     .000
05913>                SUM=       1.0 01:OKF-N      139.27     1.172 No_date   29:12   15.27  n/a     .000
05914> R0010:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05915>      ROUTE CHANNEL    ->     1.0 02:OKF-N      139.27     1.172 No_date   29:12   15.27  n/a     .000
05916>        [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27     1.170 No_date   29:16   15.27  n/a     .000
05917>        [L/S/n=  210./ .810/.043]
05918>        {Vmax=  .916:Dmax=  .609}
05919> R0010:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05920>      CONTINUOUS NASHYD    1.0 01:O-6         16.46      .101 No_date   28:45   10.60 .164      .000
05921>        [CN= 43.0: N= 3.00: Tp=  .70]
05922>        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
05923>        [InterEventTime=  12.00]
05924> R0010:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05925>      CONTINUOUS STANDHYD   1.0 01:O-3         39.67      .767 No_date   28:24   19.36 .299      .000
05926>        [XIMP=.15:TIMP=.30]
05927>        [LOSS= 2 :CN= 50.0]
05928>        [Pervious      area: IAper= 4.67:SLPP=  .32:LGP= 440.:MNP=.035:SCP=    .0]
05929>        [Impervious    area: IAimp= 1.57:SLPI=  .32:LGI=1880.:MNI=.013:SCI=   .0]
05930>        [IaRECimp=   4.00: IaRECper=   4.00]
05931>        [SMIN= 99.77: SMAX=665.12: SK= .010]
05932> R0010:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05933>      CONTINUOUS STANDHYD   1.0 01:O-5         60.63     1.881 No_date   28:10   22.00 .340      .000
05934>        [XIMP=.13:TIMP=.26]
05935>        [LOSS= 2 :CN= 61.0]
05936>        [Pervious      area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=    .0]
05937>        [Impervious    area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
05938>        [IaRECimp=   4.00: IaRECper=   4.00]
05939>        [SMIN= 64.50: SMAX=430.01: SK= .010]
05940> R0010:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05941>      ADD HYD              1.0 02:OKF-NR     139.27     1.170 No_date   29:16   15.27  n/a     .000
05942>                     +     1.0 02:O-3         39.67      .767 No_date   28:24   19.36  n/a     .000
05943>                     +     1.0 02:O-5         60.63     1.881 No_date   28:10   22.00  n/a     .000
05944>                     +     1.0 02:O-6         16.46      .101 No_date   28:45   10.60  n/a     .000
05945>                SUM=       1.0 01:PT1        256.03     3.008 No_date   28:23   17.20  n/a     .000
05946> R0010:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05947>      CONTINUOUS NASHYD    1.0 01:O-7          5.28      .056 No_date   28:37   14.05 .217      .000
05948>        [CN= 54.0: N= 3.00: Tp=  .60]
05949>        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
05950>        [InterEventTime=  12.00]
05951> R0010:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05952>      ADD HYD              1.0 02:PT1        256.03     3.008 No_date   28:23   17.20  n/a     .000
05953>                     +     1.0 02:O-7         5.28      .056 No_date   28:37   14.05  n/a     .000
05954>                SUM=       1.0 01:FF         261.31     3.058 No_date   28:23   17.14  n/a     .000
05955> R0010:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05956>      ROUTE CHANNEL    ->     1.0 02:FF         261.31     3.058 No_date   28:23   17.14  n/a     .000
05957>        [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31     2.972 No_date   28:31   17.14  n/a     .000
05958>        [L/S/n=  302./1.000/.043]
05959>        {Vmax=  .783:Dmax=  .667}
05960> R0010:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05961>      CONTINUOUS NASHYD    1.0 01:D1          1.17      .058 No_date   28:12   29.30 .453      .000
05962>        [CN= 84.0: N= 3.00: Tp=  .28]
05963>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
05964>        [InterEventTime=  12.00]
05965> R0010:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05966>      CONTINUOUS STANDHYD   1.0 01:A1          2.50      .391 No_date   28:01   50.29 .777      .000
05967>        [XIMP=.68:TIMP=.85]
05968>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05969>        [Pervious      area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=    .0]
05970>        [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=  224.:MNI=.013:SCI=   .0]
05971>        [IaRECimp=   4.00: IaRECper=   4.00]
05972> R0010:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05973>      ROUTE RESERVOIR ->     1.0 02:A1          2.50      .391 No_date   28:01   50.29  n/a     .000
05974>                       out <-    1.0 01:A1-STR      2.50      .098 No_date   28:24   50.29  n/a     .000
05975>                  overflow <-    1.0 01:A1-OVF       .00      .000 No_date   0:00     .00  n/a     .000
05976>        {MxStoUsed=.5829E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05977> R0010:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05978>      CONTINUOUS STANDHYD   1.0 01:ST-2         .59      .075 No_date   28:00   38.69 .598      .000
05979>        [XIMP=.46:TIMP=.57]
05980>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
05981>        [Pervious      area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=    .0]
05982>        [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=  109.:MNI=.013:SCI=   .0]
05983>        [IaRECimp=   4.00: IaRECper=   4.00]
05984> R0010:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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05985>     ROUTE RESERVOIR ->    1.0 02:ST-2           .59     .075 No_date   28:00   38.69  n/a     .000
05986>                out <=    1.0 01:ST2STR         .59     .052 No_date   28:05   38.69  n/a     .000
05987>           overflow <=    1.0 03:ST2OVF         .00     .000 No_date    0:00    .00  n/a     .000
05988>    {MxStoUsed=.1835E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
05989> R0010:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05990>     CONTINUOUS NASHYD     1.0 01:O-8            60.55     .857 No_date   29:04   22.40 .346     .000
05991>       [CN= 69.0: N= 3.00: Tp= 1.00]
05992>       [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
05993>       [InterEventTime=  12.00]
05994> R0010:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05995>     ROUTE PIPE      ->    1.0 02:O-8            60.55     .857 No_date   29:04   22.40  n/a     .000
05996>       [RD= 1.00] out<-    1.0 01:O8PIPE         60.55     .852 No_date   29:08   22.40  n/a     .000
05997>       [L/S/n=  335./ .100/.013]
05998>       [Vmax= 1.080:Dmax=  .441]
05999>       [HGTH= 1.20:WDTH= 1.80]
06000> R0010:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06001>     ADD HYD               1.0 02:DRAIN1       261.31   2.972 No_date   28:31   17.14  n/a     .000
06002>                       +   1.0 02:D1            1.17    .058 No_date   28:12   29.30  n/a     .000
06003>                       +   1.0 02:A1-STR        2.50    .098 No_date   28:24   50.29  n/a     .000
06004>                       +   1.0 02:A1-OVF         .00    .000 No_date    0:00    .00  n/a     .000
06005>                       +   1.0 02:ST2STR         .59    .052 No_date   28:05   38.69  n/a     .000
06006>                       +   1.0 02:ST2OVF         .00    .000 No_date    0:00    .00  n/a     .000
06007>                       +   1.0 02:O8PIPE        60.55    .852 No_date   29:08   22.40  n/a     .000
06008>                     Sum=  1.0 01:ST2-IN        326.12   3.771 No_date   28:40   18.45  n/a     .000
06009> R0010:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06010>     CONTINUOUS STANDHYD   1.0 01:A7             3.51    .538 No_date   28:01   50.29 .777     .000
06011>       [XIMP=.68:TIMP=.85]
06012>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06013>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06014>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
06015>       [IaRECimp=   4.00: IaRECper=  4.00]
06016> R0010:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06017>     ROUTE RESERVOIR ->    1.0 02:A7             3.51    .538 No_date   28:01   50.29  n/a     .000
06018>                out <=    1.0 01:A7-STR         3.51    .139 No_date   28:25   50.29  n/a     .000
06019>           overflow <=    1.0 03:A7-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06020>    {MxStoUsed=.8167E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06021> R0010:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06022>     CONTINUOUS STANDHYD   1.0 01:ST-3            .71    .089 No_date   28:00   38.69 .598     .000
06023>       [XIMP=.46:TIMP=.57]
06024>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06025>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06026>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
06027>       [IaRECimp=   4.00: IaRECper=  4.00]
06028> R0010:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06029>     ROUTE RESERVOIR ->    1.0 02:ST-3            .71    .089 No_date   28:00   38.69  n/a     .000
06030>                out <=    1.0 01:ST3STR          .71    .063 No_date   28:05   38.69  n/a     .000
06031>           overflow <=    1.0 03:ST3OVF          .00    .000 No_date    0:00    .00  n/a     .000
06032>    {MxStoUsed=.1998E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06033> R0010:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06034>     ADD HYD               1.0 02:ST2-IN       326.12   3.771 No_date   28:40   18.45  n/a     .000
06035>                       +   1.0 02:A7-STR         3.51    .139 No_date   28:25   50.29  n/a     .000
06036>                       +   1.0 02:A7-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06037>                       +   1.0 02:ST3STR          .71    .063 No_date   28:05   38.69  n/a     .000
06038>                       +   1.0 02:ST3OVF          .00    .000 No_date    0:00    .00  n/a     .000
06039>                     SUM=  1.0 01:PT2ST3        330.34   3.914 No_date   28:39   18.83  n/a     .000
06040> R0010:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06041>     ROUTE CHANNEL   ->    1.0 02:PT2ST3        330.34   3.914 No_date   28:39   18.83  n/a     .000
06042>       [RD= 1.00] out<-    1.0 01:DRAIN2        330.34   3.640 No_date   29:01   18.83  n/a     .000
06043>       [L/S/n=  592./ .230/.043]
06044>       [Vmax=  .582:Dmax= 1.002]
06045> R0010:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06046>     CONTINUOUS NASHYD     1.0 01:D2             2.28    .046 No_date   29:04   29.30 .453     .000
06047>       [CN= 84.0: N= 3.00: Tp=  .99]
06048>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
06049>       [InterEventTime=  12.00]
06050> R0010:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06051>     CONTINUOUS STANDHYD   1.0 01:A17            12.04   1.618 No_date   28:04   50.29 .777     .000
06052>       [XIMP=.68:TIMP=.85]
06053>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06054>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06055>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
06056>       [IaRECimp=   4.00: IaRECper=  4.00]
06057> R0010:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06058>     ROUTE RESERVOIR ->    1.0 02:A17            12.04   1.618 No_date   28:04   50.29  n/a     .000
06059>                out <=    1.0 01:A17STR         12.04    .400 No_date   28:31   50.29  n/a     .000
06060>           overflow <=    1.0 03:A17OVF          .00    .000 No_date    0:00    .00  n/a     .000
06061>    {MxStoUsed=.2771E+00  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06062> R0010:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06063>     CONTINUOUS STANDHYD   1.0 01:ST-4             .35    .046 No_date   28:00   38.69 .598     .000
06064>       [XIMP=.46:TIMP=.57]
06065>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06066>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06067>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
06068>       [IaRECimp=   4.00: IaRECper=  4.00]
06069> R0010:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06070>     ROUTE RESERVOIR ->    1.0 02:ST-4             .35    .046 No_date   28:00   38.69  n/a     .000
06071>                out <=    1.0 01:ST4STR          .35    .031 No_date   28:04   38.69  n/a     .000
06072>           overflow <=    1.0 03:ST4OVF          .00    .000 No_date    0:00    .00  n/a     .000
06073>    {MxStoUsed=.1424E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06074> R0010:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06075>     CONTINUOUS STANDHYD   1.0 01:A18            5.30    .780 No_date   28:02   50.29 .777     .000
06076>       [XIMP=.68:TIMP=.85]
06077>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06078>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06079>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
06080>       [IaRECimp=   4.00: IaRECper=  4.00]
06081> R0010:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06082>     ROUTE RESERVOIR ->    1.0 02:A18            5.30    .780 No_date   28:02   50.29  n/a     .000
06083>                out <=    1.0 01:A18STR         5.30    .206 No_date   28:27   50.29  n/a     .000
06084>           overflow <=    1.0 03:A18OVF          .00    .000 No_date    0:00    .00  n/a     .000
06085>    {MxStoUsed=.1232E+00  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06086> R0010:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06087>     ADD HYD               1.0 02:DRAIN2       330.34   3.640 No_date   29:01   18.83  n/a     .000
06088>                       +   1.0 02:D2            2.28    .046 No_date   29:04   29.30  n/a     .000
06089>                       +   1.0 02:A17STR        12.04    .460 No_date   28:31   50.29  n/a     .000
06090>                       +   1.0 02:A17OVF         .00    .000 No_date    0:00    .00  n/a     .000
06091>                       +   1.0 02:ST4STR         .35    .031 No_date   28:04   38.69  n/a     .000
06092>                       +   1.0 02:ST4OVF         .00    .000 No_date    0:00    .00  n/a     .000
06093>                       +   1.0 02:A18STR        5.30    .206 No_date   28:27   50.29  n/a     .000
06094>                       +   1.0 02:A18OVF         .00    .000 No_date    0:00    .00  n/a     .000
06095>                     SUM=  1.0 01:PT3ST4        350.31   4.213 No_date   28:57   20.48  n/a     .000
06096> R0010:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06097>     ROUTE CHANNEL   ->    1.0 02:PT3ST4        350.31   4.213 No_date   28:57   20.48  n/a     .000
06098>       [RD= 1.00] out<-    1.0 01:DRAIN3        350.31   4.037 No_date   29:17   20.48  n/a     .000
06099>       [L/S/n=  525./ .230/.043]
06100>       [Vmax=  .606:Dmax= 1.049]
06101> R0010:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06102>     CONTINUOUS NASHYD     1.0 01:D3             2.51    .072 No_date   28:44   32.13 .497     .000
06103>       [CN= 86.0: N= 3.00: Tp=  .73]
06104>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
06105>       [InterEventTime=  12.00]
06106> R0010:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06107>     CONTINUOUS STANDHYD   1.0 01:C1             3.41    .523 No_date   28:01   50.29 .777     .000
06108>       [XIMP=.68:TIMP=.85]
06109>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06110>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06111>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
06112>       [IaRECimp=   4.00: IaRECper=  4.00]
06113> R0010:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06114>     ROUTE RESERVOIR ->    1.0 02:C1             3.41    .523 No_date   28:01   50.29  n/a     .000
06115>                out <=    1.0 01:C1-STR         3.41    .133 No_date   28:25   50.29  n/a     .000
06116>           overflow <=    1.0 03:C1-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06117>    {MxStoUsed=.7930E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06118> R0010:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06119>     CONTINUOUS STANDHYD   1.0 01:ST-5              .45    .058 No_date   28:00   38.69 .598     .000
06120>       [XIMP=.46:TIMP=.57]
06121>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06122>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06123>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
06124>       [IaRECimp=   4.00: IaRECper=  4.00]
06125> R0010:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06126>     ROUTE RESERVOIR ->    1.0 02:ST-5              .45    .058 No_date   28:00   38.69  n/a     .000
06127>                out <=    1.0 01:ST5STR            .45    .040 No_date   28:04   38.69  n/a     .000
06128>           overflow <=    1.0 03:ST5OVF            .00    .000 No_date    0:00    .00  n/a     .000
06129>    {MxStoUsed=.1552E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06130> R0010:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06131>     ADD HYD               1.0 02:DRAIN3       350.31   4.037 No_date   29:17   20.48  n/a     .000
06132>                       +   1.0 02:D3            2.51    .072 No_date   28:44   32.13  n/a     .000
06133>                       +   1.0 02:C1-STR         3.41    .133 No_date   28:25   50.29  n/a     .000
06134>                       +   1.0 02:C1-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06135>                       +   1.0 02:ST5STR          .45    .040 No_date   28:04   38.69  n/a     .000
06136>                       +   1.0 02:ST5OVF          .00    .000 No_date    0:00    .00  n/a     .000
06137>                     SUM=  1.0 01:ST5-E         356.68   4.181 No_date   29:15   20.87  n/a     .000
06138> R0010:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06139>     CONTINUOUS STANDHYD   1.0 01:STRAND           7.59    .759 No_date   28:11   49.05 .758     .000
06140>       [XIMP=.64:TIMP=.85]
06141>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06142>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06143>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
06144>       [IaRECimp=   4.00: IaRECper=  4.00]
06145> R0010:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06146>     ROUTE RESERVOIR ->    1.0 02:STRAND           7.59    .759 No_date   28:11   49.05  n/a     .000
06147>                out <=    1.0 01:S-POND           7.59    .066 No_date   29:41   49.05  n/a     .000
06148>           overflow <=    1.0 03:S-OVF             .00    .000 No_date    0:00    .00  n/a     .000
06149>    {MxStoUsed=.2593E+00  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06150> R0010:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06151>     ADD HYD               1.0 02:ST5-E        356.68   4.181 No_date   29:15   20.87  n/a     .000
06152>                       +   1.0 02:S-POND          7.59    .066 No_date   29:41   49.05  n/a     .000
06153>                       +   1.0 02:S-OVF            .00    .000 No_date    0:00    .00  n/a     .000
06154>                     SUM=  1.0 01:SSAOUT        364.27   4.242 No_date   29:15   21.45  n/a     .000
06155> R0010:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06156>     SAVE HYD              1.0 01:SSAOUT       364.27   4.242 No_date   29:15   21.45  n/a     .000
06157>       fname :SSAOUT.0010
06158>       remark:SSAOUT
06159> R0010:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06160>     CONTINUOUS STANDHYD   1.0 01:Area-A            66.75    6.470 No_date   28:10   48.24 .746     .000
06161>       [XIMP=.64:TIMP=.80]
06162>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06163>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06164>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
06165>       [IaRECimp=   4.00: IaRECper=  4.00]
06166> R0010:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06167>     SAVE HYD              1.0 01:Area-A            66.75    6.470 No_date   28:10   48.24  n/a     .000
06168>       fname :Area-A.0010
06169>       remark:SMWF-A Inflow
06170> R0010:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06171>     ROUTE RESERVOIR ->    1.0 02:Area-A            66.75    6.470 No_date   28:10   48.24  n/a     .000
06172>                out <=    1.0 01:SWMF-A            66.75     .465 No_date   29:54   48.24  n/a     .000
06173>           overflow <=    1.0 03:SWMAOV             .00     .000 No_date    0:00    .00  n/a     .000
06174>    {MxStoUsed=.2359E+01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06175> R0010:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06176>     SAVE HYD              1.0 01:SWMF-A            66.75     .465 No_date   29:54   48.24  n/a     .000
06177>       fname :SWMF-A.0010
06178>       remark:SMWF-A Outflow
06179> R0010:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06180>     ADD HYD               1.0 02:SSAOUT       364.27   4.242 No_date   29:15   21.45  n/a     .000
06181>                       +   1.0 02:SWMF-A         66.75     .465 No_date   29:54   48.24  n/a     .000
06182>                       +   1.0 02:SWMAOV           .00     .000 No_date    0:00    .00  n/a     .000
06183>                     SUM=  1.0 01:PT4ST5        431.02   4.657 No_date   29:18   25.60  n/a     .000
06184> R0010:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06185>     CONTINUOUS STANDHYD   1.0 01:C6             1.87    .301 No_date   28:01   50.29 .777     .000
06186>       [XIMP=.68:TIMP=.85]
06187>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06188>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06189>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
06190>       [IaRECimp=   4.00: IaRECper=  4.00]
06191> R0010:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06192>     ROUTE RESERVOIR ->    1.0 02:C6             1.87    .301 No_date   28:01   50.29  n/a     .000
06193>                out <=    1.0 01:C6-STR         1.87    .074 No_date   28:22   50.29  n/a     .000
06194>           overflow <=    1.0 03:C6-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06195>    {MxStoUsed=.4376E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06196> R0010:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06197>     CONTINUOUS STANDHYD   1.0 01:C7             1.62    .262 No_date   28:01   50.29 .777     .000
06198>       [XIMP=.68:TIMP=.85]
06199>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06200>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06201>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
06202>       [IaRECimp=   4.00: IaRECper=  4.00]
06203> R0010:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06204>     ROUTE RESERVOIR ->    1.0 02:C7             1.62    .262 No_date   28:01   50.29  n/a     .000
06205>                out <=    1.0 01:C7-STR         1.62    .064 No_date   28:22   50.29  n/a     .000
06206>           overflow <=    1.0 03:C7-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06207>    {MxStoUsed=.3781E-01  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06208> R0010:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06209>     CONTINUOUS STANDHYD   1.0 01:ST-6              .41    .053 No_date   28:00   38.69 .598     .000
06210>       [XIMP=.46:TIMP=.57]
06211>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06212>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06213>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
06214>       [IaRECimp=   4.00: IaRECper=  4.00]
06215> R0010:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06216>     ROUTE RESERVOIR ->    1.0 02:ST-6              .41    .053 No_date   28:00   38.69  n/a     .000
06217>                out <=    1.0 01:ST6STR            .41    .036 No_date   28:04   38.69  n/a     .000
06218>           overflow <=    1.0 03:ST6OVF            .00    .000 No_date    0:00    .00  n/a     .000
06219>    {MxStoUsed=.1514E-02  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06220> R0010:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06221>     ADD HYD               1.0 02:PT4ST5       431.02   4.657 No_date   29:18   25.60  n/a     .000
06222>                       +   1.0 02:C6-STR         1.87    .074 No_date   28:22   50.29  n/a     .000
06223>                       +   1.0 02:C6-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06224>                       +   1.0 02:C7-STR         1.62    .064 No_date   28:22   50.29  n/a     .000
06225>                       +   1.0 02:C7-OVF          .00    .000 No_date    0:00    .00  n/a     .000
06226>                       +   1.0 02:ST6STR          .41    .036 No_date   28:04   38.69  n/a     .000
06227>                       +   1.0 02:ST6OVF          .00    .000 No_date    0:00    .00  n/a     .000
06228>                     SUM=  1.0 01:PT5ST6        434.92   4.740 No_date   29:18   25.81  n/a     .000
06229> R0010:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06230>     ROUTE CHANNEL   ->    1.0 02:PT5ST6        434.92   4.740 No_date   29:18   25.81  n/a     .000
06231>       [RD= 1.00] out<-    1.0 01:PT5ST6        434.92   4.599 No_date   29:31   25.81  n/a     .000
06232>       [L/S/n=  324./ .100/.043]
06233>       [Vmax=  .468:Dmax= 1.312]
06234> R0010:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06235>     CONTINUOUS NASHYD     1.0 01:D4             1.73    .063 No_date   28:35   34.48 .533     .000
06236>       [CN= 88.0: N= 3.00: Tp=  .60]
06237>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
06238>       [InterEventTime=  12.00]
06239> R0010:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06240>     CONTINUOUS STANDHYD   1.0 01:Area-B            24.04   3.287 No_date   28:03   47.09 .728     .000
06241>       [XIMP=.62:TIMP=.77]
06242>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06243>       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
06244>       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
06245>       [IaRECimp=   4.00: IaRECper=  4.00]
06246> R0010:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06247>     ROUTE RESERVOIR ->    1.0 02:Area-B            24.04   3.287 No_date   28:03   47.09  n/a     .000
06248>                out <=    1.0 01:SWMF-B            24.04    .356 No_date   28:50   47.09  n/a     .000
06249>           overflow <=    1.0 03:SWMBOVF            .00    .000 No_date    0:00    .00  n/a     .000
06250>    {MxStoUsed=.7142E+00  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06251> R0010:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06252>     ADD HYD               1.0 02:DRAIN4       434.92   4.599 No_date   29:31   25.81  n/a     .000
06253>                       +   1.0 02:D4            1.73    .063 No_date   28:35   34.48  n/a     .000
06254>                       +   1.0 02:SWMF-B         24.04    .356 No_date   28:50   47.09  n/a     .000
06255>                       +   1.0 02:SWMBOVF          .00    .000 No_date    0:00    .00  n/a     .000
06256>                     SUM=  1.0 01:D4-EX         460.69   4.958 No_date   29:31   26.95  n/a     .000
06257> R0010:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06258>     ROUTE CHANNEL   ->    1.0 02:D4-EX         460.69   4.958 No_date   29:31   26.95  n/a     .000
06259>       [RD= 1.00] out<-    1.0 01:DRAIN5        460.69   4.881 No_date   29:37   26.95  n/a     .000
06260>       [L/S/n=  413./ .160/.033]
06261>       [Vmax=  .599:Dmax=  .896]
06262> R0010:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06263>     CONTINUOUS NASHYD     1.0 01:D5             1.90    .057 No_date   28:41   32.13 .497     .000
06264>       [CN= 86.0: N= 3.00: Tp=  .69]
06265>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
06266>       [InterEventTime=  12.00]
06267> R0010:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06268>     CONTINUOUS NASHYD     1.0 01:O-13SDF        9.74    .371 No_date   28:22   30.32 .469     .000
06269>       [CN= 81.0: N= 3.00: Tp=  .33]
06270>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
06271>       [InterEventTime=  12.00]
06272> R0010:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06273>     ROUTE RESERVOIR ->    1.0 02:O-13SDF        9.74    .371 No_date   28:22   30.32  n/a     .000
06274>                out <=    1.0 01:SDF            9.74    .040 No_date   31:17   30.32  n/a     .000
06275>           overflow <=    1.0 03:OFFSDF          .00    .000 No_date    0:00    .00  n/a     .000
06276>    {MxStoUsed=.1596E+00  m3, TotOvfVol=.0000E+00  m3, No-Ovf=    0, TotDurOvf=    0.hrs}
06277> R0010:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06278>     ADD HYD               1.0 02:DRAIN5       460.69   4.881 No_date   29:37   26.95  n/a     .000
06279>                       +   1.0 02:D5            1.90    .057 No_date   28:41   32.13  n/a     .000
06280>                       +   1.0 02:SDF           9.74    .040 No_date   31:17   30.32  n/a     .000
06281>                     SUM=  1.0 01:PT6MC        472.33   4.951 No_date   29:37   27.04  n/a     .000
06282> R0010:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06283>     CONTINUOUS NASHYD     1.0 01:O-15           10.67    .502 No_date   28:13   29.12 .450     .000
06284>       [CN= 82.0: N= 3.00: Tp=  .38]
06285>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
06286>       [InterEventTime=  12.00]
06287> R0010:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06288>     ADD HYD               1.0 02:PT6MC        472.33   4.951 No_date   29:37   27.04  n/a     .000
06289>                       +   1.0 02:O-15          10.67    .502 No_date   28:13   29.12  n/a     .000
06290>                     SUM=  1.0 01:M-C          483.00   5.029 No_date   29:36   27.09  n/a     .000
06291> R0010:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06292>     ROUTE CHANNEL   ->    1.0 02:M-C            483.00   5.029 No_date   29:36   27.09  n/a     .000
06293>       [RD= 1.00] out<-    1.0 01:O-14Ch         483.00   4.686 No_date   30:11   27.09  n/a     .000
06294>       [L/S/n=  845./ .100/.033]
06295>       [Vmax=  .618:Dmax= 1.565]
06296> R0010:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06297>     CONTINUOUS NASHYD     1.0 01:O-14            5.00    .389 No_date   28:04   29.12 .450     .000
06298>       [CN= 82.0: N= 3.00: Tp=  .13]
06299>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
06300>       [InterEventTime=  12.00]
06301> R0010:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06302>     ADD HYD               1.0 02:O-14Ch       483.00   4.686 No_date   30:11   27.09  n/a     .000
06303>                       +   1.0 02:O-14           5.00    .389 No_date   28:04   29.12  n/a     .000
06304>                     SUM=  1.0 01:OKEEFE        488.00   4.709 No_date   30:11   27.11  n/a     .000
06305> #*********************************************************************************
06306> #    Okeefe Pond
06307> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
06308> #      and a ratio of the catchment area to the West Clarke pond rating curve
06309> #      from the MSS for the next coordinates
06310> #*********************************************************************************
06311> R0010:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06312>     CONTINUOUS STANDHYD   1.0 01:S-1-D2           18.67   2.448 No_date   28:02   48.63 .752     .000
06313>       [XIMP=.65:TIMP=.65]
06314>       [LOSS= 2 :CN= 75.0]
06315>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06316>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
06317>       [IaRECimp=   4.00: IaRECper=  4.00]
06318>       [SMIN
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06359>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=1473.:MNI=.013:SCI=   .0]
06360>       [IaRECimp=   4.00: IaRECper=  4.00]
06361>       [SMIN=  36.67: SMAX=244.49: SK=  .010]
06362> #*************************************************************************
06363> #    Foster Pond
06364> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
06365> #      and a ratio of the catchment area to the West Clarke pond rating curve
06366> #      from the MSS for the next coordinates
06367> #*************************************************************************
06368> R0010:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06369>      ROUTE RESERVOIR ->    1.0 02:FOSTER      325.44   22.870 No_date   28:13   43.99  n/a     .000
06370>                    out <=   1.0 01:P_FOS      325.44    6.061 No_date   29:06   43.99  n/a     .000
06371>              overflow <=   1.0 03:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06372>     {MxStoUsed=.5862E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06373> R0010:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06374>      ADD HYD               1.0 02:P_FOS      325.44    6.061 No_date   29:06   43.99  n/a     .000
06375>                       +    1.0 02:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06376>                     SUM=   1.0 01:FOSTER-OUT  325.44    6.061 No_date   29:06   43.99  n/a     .000
06377> #*************************************************************************
06378> R0010:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06379>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA    73.29    7.523 No_date   28:05   47.94 .741     .000
06380>       [XIMP=.60:TIMP=.65]
06381>       [LOSS= 2 :CN= 77.0]
06382>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
06383>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
06384>       [IaRECimp=   4.00: IaRECper=  4.00]
06385>       [SMIN= 31.15: SMAX=207.66: SK=  .010]
06386> R0010:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06387>      ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA    73.29    7.523 No_date   28:05   47.94  n/a     .000
06388>                    out <=   1.0 01:MS_P10       73.29    1.136 No_date   29:00   47.94  n/a     .000
06389>              overflow <=   1.0 03:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06390>     {MxStoUsed=.1341E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06391> R0010:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06392>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2     4.94     .594 No_date   28:01   43.99 .680     .000
06393>       [XIMP=.55:TIMP=.55]
06394>       [LOSS= 2 :CN= 74.0]
06395>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06396>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
06397>       [IaRECimp=   4.00: IaRECper=  4.00]
06398>       [SMIN= 36.67: SMAX=244.49: SK=  .010]
06399> R0010:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06400>      ADD HYD               1.0 01:FOSTER-OUT  325.44    6.061 No_date   29:06   43.99  n/a     .000
06401>                       +    1.0 02:S-1-FO-D2     4.94     .594 No_date   28:01   43.99  n/a     .000
06402>                     SUM=   1.0 01:980         330.38    6.115 No_date   29:04   43.99  n/a     .000
06403> R0010:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06404>      SAVE HYD              1.0 01:980         330.38    6.115 No_date   29:04   43.99  n/a     .000
06405>       fname :980.0010
06406>       remark:Total Flows at Station 980 on Foster Drain
06407> #
06408> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
06409> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
06410> #
06411> R0010:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06412>      ROUTE CHANNEL    ->    1.0 02:980         330.38    6.115 No_date   29:04   43.99  n/a     .000
06413>       [RDT= 1.00] out<-    1.0 01:980-out     330.38    5.914 No_date   29:09   43.99  n/a     .000
06414>       [L/S/n=  460./ .043/.035]
06415>       [Vmax=   .634:Dmax= 1.381]
06416> R0010:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06417>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1     5.11     .702 No_date   28:00   48.24 .746     .000
06418>       [XIMP=.65:TIMP=.65]
06419>       [LOSS= 2 :CN= 74.0]
06420>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06421>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
06422>       [IaRECimp=   4.00: IaRECper=  4.00]
06423>       [SMIN= 36.67: SMAX=244.49: SK=  .010]
06424> R0010:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06425>      ADD HYD               1.0 02:980-out     330.38    5.914 No_date   29:09   43.99  n/a     .000
06426>                       +    1.0 02:S-1-FO-D1     5.11     .702 No_date   28:00   48.24  n/a     .000
06427>                     SUM=   1.0 01:520         335.49    5.966 No_date   29:09   44.05  n/a     .000
06428> R0010:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06429>      SAVE HYD              1.0 01:520         335.49    5.966 No_date   29:09   44.05  n/a     .000
06430>       fname :520.0010
06431>       remark:Total Flows at Sation 520 on Foster Drain
06432> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
06433> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
06434> #
06435> R0010:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06436>      ROUTE CHANNEL    ->    1.0 02:520         335.49    5.966 No_date   29:09   44.05  n/a     .000
06437>       [RDT= 1.00] out<-    1.0 01:520-out     335.49    5.922 No_date   29:29   44.05  n/a     .000
06438>       [L/S/n=  860./ .587/.035]
06439>       [Vmax= 1.391:Dmax=  .659]
06440> R0010:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06441>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D    14.96    1.881 No_date   28:02   48.24 .746     .000
06442>       [XIMP=.65:TIMP=.65]
06443>       [LOSS= 2 :CN= 74.0]
06444>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06445>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
06446>       [IaRECimp=   4.00: IaRECper=  4.00]
06447>       [SMIN= 36.67: SMAX=244.49: SK=  .010]
06448> R0010:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06449>      CONTINUOUS STANDHYD   1.0 01:S-1-D8        5.27     .781 No_date   28:01   35.83 .554     .000
06450>       [XIMP=.32:TIMP=.65]
06451>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06452>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06453>       [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
06454>       [IaRECimp=   4.00: IaRECper=  4.00]
06455> R0010:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06456>      CONTINUOUS NASHYD     1.0 01:S-1-A         75.88    1.915 No_date   28:36   26.85 .415     .000
06457>       [CN= 77.0: N= 3.00: Tp=  .62]
06458>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06459>       [InterEventTime=  12.00]
06460> R0010:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06461>      CONTINUOUS NASHYD     1.0 01:W_CLAR_UND    35.65     .596 No_date   29:11   26.85 .415     .000
06462>       [CN= 77.0: N= 3.00: Tp= 1.10]
06463>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06464>       [InterEventTime=  12.00]
06465> R0010:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06466>      ADD HYD               1.0 02:N_FO       53577.82   85.561 No_date   34:07   22.63  n/a     .000
06467>                       +    1.0 02:520-out     335.49    5.922 No_date   29:29   44.05  n/a     .000
06468>                       +    1.0 02:MS_P10       73.29    1.136 No_date   29:00   47.94  n/a     .000
06469>                       +    1.0 02:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06470>                       +    1.0 02:W_CLAR_UND    35.65     .596 No_date   29:11   26.85  n/a     .000
06471>                       +    1.0 02:S-1-FO-F-D    14.96    1.881 No_date   28:02   48.24  n/a     .000
06472>                       +    1.0 02:S-1-D8         5.27     .781 No_date   28:01   35.83  n/a     .000
06473>                       +    1.0 02:S-1-A         75.88    1.915 No_date   28:36   26.85  n/a     .000
06474>                     SUM=   1.0 01:SN_FO      54118.36   89.084 No_date   33:33   22.82  n/a     .000
06475> R0010:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06476>      SAVE HYD              1.0 01:SN_FO       54118.36   89.084 No_date   33:33   22.82  n/a     .000
06477>       fname :SN_FO.0010
06478>       remark:Total Flows at Foster Drain
06479> # Hydrograph from Node Foster routed to Node at Cedarview Road
06480> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
06481> #
06482> R0010:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06483>      ROUTE CHANNEL    ->    1.0 02:SN_FO       54118.36   89.084 No_date   33:33   22.82  n/a     .000
06484> *  [RDT= 1.00] out<-    1.0 01:N_CE        54118.36   88.895 No_date   33:34   22.82  n/a     .000
06485>       [L/S/n=  159./ .082/.035]
06486>       [Vmax=  .328:Dmax= 1.414]
06487> #*************************************************************************
06488> #    Catchment S-1
06489> #    - To Jock River (north and south of Jock)
06490> #    - Primarily agricultural fields; portion of sand quarry
06491> #*************************************************************************
06492> R0010:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06493>      CONTINUOUS NASHYD     1.0 01:S-1-B         55.36    1.740 No_date   28:24   26.85 .415     .000
06494>       [CN= 77.0: N= 3.00: Tp=  .45]
06495>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06496>       [InterEventTime=  12.00]
06497> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
06498> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
06499> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
06500> R0010:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06501>      CONTINUOUS STANDHYD   1.0 01:S-1-D1        21.67    2.814 No_date   28:02   48.63 .752     .000
06502>       [XIMP=.65:TIMP=.65]
06503>       [LOSS= 2 :CN= 75.0]
06504>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06505>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
06506>       [IaRECimp=   4.00: IaRECper=  4.00]
06507>       [SMIN= 33.81: SMAX=225.43: SK=  .010]
06508> R0010:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06509>      CONTINUOUS STANDHYD   1.0 01:S-1-D4         3.28     .489 No_date   28:00   48.63 .752     .000
06510>       [XIMP=.65:TIMP=.65]
06511>       [LOSS= 2 :CN= 75.0]
06512>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06513>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
06514>       [IaRECimp=   4.00: IaRECper=  4.00]
06515>       [SMIN= 33.81: SMAX=225.43: SK=  .010]
06516> R0010:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06517>      CONTINUOUS STANDHYD   1.0 01:S-1-D5        12.84    1.749 No_date   28:01   48.63 .752     .000
06518>       [XIMP=.65:TIMP=.65]
06519>       [LOSS= 2 :CN= 75.0]
06520>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06521>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
06522>       [IaRECimp=   4.00: IaRECper=  4.00]
06523>       [SMIN= 33.81: SMAX=225.43: SK=  .010]
06524> R0010:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06525>      CONTINUOUS STANDHYD   1.0 01:S-1-D6         1.75     .269 No_date   28:00   48.63 .752     .000
06526>       [XIMP=.65:TIMP=.65]
06527>       [LOSS= 2 :CN= 75.0]
06528>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06529>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
06530>       [IaRECimp=   4.00: IaRECper=  4.00]
06531>       [SMIN= 33.81: SMAX=225.43: SK=  .010]
06532> R0010:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06533>      CONTINUOUS STANDHYD   1.0 01:S-1-D7         2.03     .311 No_date   28:00   48.63 .752     .000
06534>       [XIMP=.65:TIMP=.65]
06535>       [LOSS= 2 :CN= 75.0]
06536>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06537>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
06538>       [IaRECimp=   4.00: IaRECper=  4.00]
06539>       [SMIN= 33.81: SMAX=225.43: SK=  .010]
06540> #    Catchment W_CLAR
06541> #    - To West Clarke Drain (south of the Jock)
06542> #    - Subdivision with 43% imp. as per Barrhaven South MSS
06543> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
06544> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
06545> #*************************************************************************
06546> R0010:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06547>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ       1.77     .229 No_date   28:00   43.97 .680     .000
06548>       [XIMP=.46:TIMP=.59]
06549>       [LOSS= 2 :CN= 77.0]
06550>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
06551>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
06552>       [IaRECimp=   4.00: IaRECper=  4.00]
06553>       [SMIN= 31.15: SMAX=207.66: SK= .010]
06554> # 5-Year + 12% Capture
06555> R0010:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06556>      ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ       1.77     .229 No_date   28:00   43.97  n/a     .000
06557>                    out <=   1.0 01:W_CLAR_MJn      1.77     .213 No_date   27:58   43.97  n/a     .000
06558>              overflow <=   1.0 03:W_CLAR_MJ        .00     .013 No_date   28:00   43.97  n/a     .000
06559>     {MxStoUsed=.8179E-04  m3, TotOvfVol=.1952E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
06560> R0010:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06561>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL    119.40   12.497 No_date   28:05   47.94 .741     .000
06562>       [XIMP=.60:TIMP=.65]
06563>       [LOSS= 2 :CN= 77.0]
06564>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
06565>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
06566>       [IaRECimp=   4.00: IaRECper=  4.00]
06567>       [SMIN= 31.15: SMAX=207.66: SK= .010]
06568> R0010:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06569>      ADD HYD               1.0 02:W_CLAR_ALL    119.40   12.497 No_date   28:05   47.94  n/a     .000
06570>                       +    1.0 02:W_CLAR_MJ        .00     .013 No_date   28:00   43.97  n/a     .000
06571>                     SUM=   1.0 01:W_CLAR       119.40   12.497 No_date   28:05   47.94  n/a     .000
06572> R0010:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06573>      SAVE HYD              1.0 01:W_CLAR      119.40   12.497 No_date   28:05   47.94  n/a     .000
06574>       fname :W_CLAR.0010
06575>       remark:Total Flows to West Clarke
06576> #*************************************************************************
06577> #    West Clarke Pond 2
06578> #    - Rating curve obtained from Barrhaven South MSS modeling
06579> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
06580> #*************************************************************************
06581> R0010:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06582>      ROUTE RESERVOIR ->    1.0 02:W_CLAR      119.40   12.497 No_date   28:05   47.94  n/a     .000
06583>                    out <=   1.0 01:MS_P2      119.40    3.959 No_date   28:33   47.94  n/a     .000
06584>              overflow <=   1.0 03:P2-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06585>     {MxStoUsed=.2802E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06586> #*************************************************************************
06587> R0010:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06588>      ADD HYD               1.0 02:N_CE       54118.36   88.895 No_date   33:34   22.82  n/a     .000
06589>                       +    1.0 02:S-1-D4         3.28     .489 No_date   28:00   48.63  n/a     .000
06590>                       +    1.0 02:S-1-D5        12.84    1.749 No_date   28:01   48.63  n/a     .000
06591>                       +    1.0 02:MS_P2        119.40    3.959 No_date   28:33   47.94  n/a     .000
06592>                       +    1.0 02:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
06593>                     SUM=   1.0 01:SN_CE       54253.88   89.720 No_date   33:34   22.88  n/a     .000
06594> R0010:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06595>      SAVE HYD              1.0 01:SN_CE       54253.88   89.720 No_date   33:34   22.88  n/a     .000
06596>       fname :SN_CE.0010
06597>       remark:Total Flows before Station 5737 on Jock River
06598> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
06599> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
06600> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
06601> R0010:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06602>      ROUTE CHANNEL    ->    1.0 02:SN_CE       54253.88   89.720 No_date   33:34   22.88  n/a     .000
06603> *  [RDT= 1.00] out<-    1.0 01:5737        54253.88   85.186 No_date   36:20   22.88  n/a     .000
06604>       [L/S/n=  270./ .018/.035]
06605>       [Vmax=  .729:Dmax= 4.467]
06606> R0010:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06607>      ADD HYD               1.0 02:5737        54253.88   85.186 No_date   36:20   22.88  n/a     .000
06608>                       +    1.0 02:S-1-D1        21.67    2.814 No_date   28:02   48.63  n/a     .000
06609>                       +    1.0 02:S-1-D6         1.75     .269 No_date   28:00   48.63  n/a     .000
06610>                       +    1.0 02:S-1-D7         2.03     .311 No_date   28:00   48.63  n/a     .000
06611>                     SUM=   1.0 01:5002        54279.34   85.238 No_date   36:19   22.89  n/a     .000
06612> R0010:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06613>      SAVE HYD              1.0 01:5002        54279.34   85.238 No_date   36:19   22.89  n/a     .000
06614>       fname :5002.0010
06615>       remark:Total Flows before Station 5002 on Jock River
06616> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
06617> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
06618> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
06619> # JFSA 2021-02-19 Change to three ROUTE CHANNEL of length 275 m each instead of one with 825 m length so the model wil
06620> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
06621> R0010:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06622>      ROUTE CHANNEL    ->    1.0 02:5002        54279.34   85.238 No_date   36:19   22.89  n/a     .000
06623> *  [RDT= 1.00] out<-    1.0 01:N_WCa       54279.34   85.270 No_date   35:56   22.89  n/a     .000
06624>       [L/S/n=  245./ .095/.035]
06625>       [Vmax= 1.131:Dmax= 2.520]
06626> R0010:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06627>      ROUTE CHANNEL    ->    1.0 02:N_WCa       54279.34   85.270 No_date   35:56   22.89  n/a     .000
06628> *  [RDT= 1.00] out<-    1.0 01:N_WCb       54279.34   85.708 No_date   35:56   22.89  n/a     .000
06629>       [L/S/n=  245./ .095/.035]
06630>       [Vmax= 1.132:Dmax= 2.521]
06631> R0010:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06632>      ROUTE CHANNEL    ->    1.0 02:N_WCb       54279.34   85.708 No_date   35:56   22.89  n/a     .000
06633> *  [RDT= 1.00] out<-    1.0 01:N_WC        54279.34   85.675 No_date   35:56   22.89  n/a     .000
06634>       [L/S/n=  245./ .095/.035]
06635>       [Vmax= 1.133:Dmax= 2.526]
06636> #*************************************************************************
06637> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
06638> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
06639> #
06640> R0010:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06641>      ROUTE CHANNEL    ->    1.0 02:N_WC        54279.34   85.675 No_date   35:56   22.89  n/a     .000
06642> *  [RDT= 1.00] out<-    1.0 01:N_KB        54279.34   85.488 No_date   35:57   22.89  n/a     .000
06643>       [L/S/n= 1020./ .050/.035]
06644>       [Vmax= 1.004:Dmax= 3.137]
06645> #*************************************************************************
06646> #    Catchment KEN_BU
06647> #    - To Kennedy-Burnett SWM Facility
06648> #    - Outlets to Fraser-Clarke drain (north of the Jock)
06649> #    - Medium density residential subdivision
06650> #*************************************************************************
06651> #*************************************************************************
06652> #    Existing Kennedy-Burnett SWM Facility
06653> #    - Rating curve obtained from URTKBP
06654> #    - Tributary Drainage Area to Pond = 160 ha
06655> #*************************************************************************
06656> R0010:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06657>      CONTINUOUS STANDHYD   1.0 01:KB-01A        40.82    3.338 No_date   28:12   24.14 .373     .000
06658>       [XIMP=.19:TIMP=.40]
06659>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06660>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06661>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
06662>       [IaRECimp=   4.00: IaRECper=  4.00]
06663> R0010:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06664>      COMPUTE DUALHYD       1.0 01:KB-01A        40.82    3.338 No_date   28:12   24.14  n/a     .000
06665>       Major System   /    1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
06666>       Minor System   \    1.0 03:KB-01A-MN      40.82    3.338 No_date   28:12   24.14  n/a     .000
06667>                           {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06668> R0010:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06669>      ADD HYD               1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
06670>                       +    1.0 02:KB-01A-MN      40.82    3.338 No_date   28:12   24.14  n/a     .000
06671>                     SUM=   1.0 01:KB-01A-S       40.82    3.338 No_date   28:12   24.14  n/a     .000
06672> R0010:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06673>      CONTINUOUS STANDHYD   1.0 01:KB-01B        31.10    2.335 No_date   28:08   26.73 .413     .000
06674>       [XIMP=.19:TIMP=.38]
06675>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06676>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
06677>       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
06678>       [IaRECimp=   4.00: IaRECper=  4.00]
06679> R0010:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06680>      COMPUTE DUALHYD       1.0 01:KB-01B        31.10    2.335 No_date   28:08   26.73  n/a     .000
06681>       Major System   /    1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
06682>       Minor System   \    1.0 03:KB-01B-MN      31.10    1.585 No_date   27:59   26.78  n/a     .000
06683>                           {MjSysSto=.8272E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06684> R0010:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06685>      ADD HYD               1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
06686>                       +    1.0 02:KB-01B-MN      31.10    1.585 No_date   27:59   26.78  n/a     .000
06687>                     SUM=   1.0 01:KB-01B-S       31.10    1.585 No_date   27:59   26.78  n/a     .000
06688> R0010:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06689>      CONTINUOUS STANDHYD   1.0 01:KB-01C        13.78    1.534 No_date   28:05   27.74 .429     .000
06690>       [XIMP=.20:TIMP=.41]
06691>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06692>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06693>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
06694>       [IaRECimp=   4.00: IaRECper=  4.00]
06695> R0010:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06696>      COMPUTE DUALHYD       1.0 01:KB-01C        13.78    1.534 No_date   28:05   27.74  n/a     .000
06697>       Major System   /    1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
06698>       Minor System   \    1.0 03:KB-01C-MN      13.78    1.350 No_date   28:00   27.93  n/a     .000
06699>                           {MjSysSto=.6901E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06700> R0010:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06701>      ADD HYD               1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
06702>                       +    1.0 02:KB-01C-MN      13.78    1.350 No_date   28:00   27.93  n/a     .000
06703>                     SUM=   1.0 01:KB-01C-S       13.78    1.350 No_date   28:00   27.93  n/a     .000
06704> R0010:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06705>      CONTINUOUS STANDHYD   1.0 01:KB-03         84.78    7.685 No_date   28:09   27.30 .422     .000
06706>       [XIMP=.20:TIMP=.39]
06707>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06708>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06709>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
06710>       [IaRECimp=   4.00: IaRECper=  4.00]
06711> R0010:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06712>      COMPUTE DUALHYD       1.0 01:KB-03         84.78    7.685 No_date   28:09   27.30  n/a     .000
06713>       Major System   /    1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
06714>       Minor System   \    1.0 03:KB-03-MN       84.78    5.270 No_date   27:59   27.40  n/a     .000
06715>                           {MjSysSto=.2022E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06716> R0010:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06717>      ADD HYD               1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
06718>                       +    1.0 02:KB-03-MN       84.78    5.270 No_date   27:59   27.40  n/a     .000
06719>                     SUM=   1.0 01:KB-03-S        84.78    5.270 No_date   27:59   27.40  n/a     .000
06720> R0010:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06721>      CONTINUOUS STANDHYD   1.0 01:KB-04         6.95    1.217 No_date   28:01   56.45 .873     .000
06722>       [XIMP=.85:TIMP=.85]
06723>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
06724>       [Pervious     area: IAper= 4.67:SLPP=2.00:LG
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06733>     ADD HYD                  1.0 02:KB-04-MJ       .00     .000 No_date   0:00     .00  n/a     .000
06734>                         +     1.0 02:KB-04-MN      6.95     .503 No_date  27:46   56.53  n/a     .000
06735>                       SUM=    1.0 01:KB-04-S       6.95     .503 No_date  27:46   56.53  n/a     .000
06736> R0010:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06737>     CONTINUOUS STANDHYD    1.0 01:KB-05          5.19     .983 No_date   28:00   59.76 .924     .000
06738>       [XIMP=.93:TIMP=.93]
06739>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06740>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06741>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
06742>       [IaRECimp=  4.00: IaRECper=   4.00]
06743> R0010:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06744>     CONTINUOUS STANDHYD    1.0 01:KB-06         12.93    2.536 No_date   28:00   57.57 .890     .000
06745>       [XIMP=.87:TIMP=.87]
06746>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06747>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06748>       [Impervious   area: IAimp= .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
06749>       [IaRECimp=  4.00: IaRECper=   4.00]
06750> R0010:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06751>     COMPUTE DUALHYD        1.0 01:KB-06         12.93    2.536 No_date   28:00   57.57  n/a     .000
06752>       Major System   /     1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06753>       Minor System   \     1.0 02:KB-06-MN      12.93    2.262 No_date   27:56   57.80  n/a     .000
06754>       {MjSysSto=.6369E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06755> R0010:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06756>     ADD HYD                  1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06757>                         +     1.0 02:KB-06-MN      12.93    2.262 No_date   27:56   57.80  n/a     .000
06758>                       SUM=    1.0 01:KB-06-S       12.93    2.262 No_date   27:56   57.80  n/a     .000
06759> R0010:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06760>     CONTINUOUS STANDHYD    1.0 01:KB-11          4.03     .686 No_date   28:00   48.04 .743     .000
06761>       [XIMP=.68:TIMP=.68]
06762>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06763>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06764>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
06765>       [IaRECimp=  4.00: IaRECper=   4.00]
06766> R0010:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06767>     COMPUTE DUALHYD        1.0 01:KB-11          4.03     .686 No_date   28:00   48.04  n/a     .000
06768>       Major System   /     1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06769>       Minor System   \     1.0 03:KB-11-MN      4.03     .577 No_date   27:55   48.44  n/a     .000
06770>       {MjSysSto=.2954E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06771> R0010:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06772>     ADD HYD                  1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06773>                         +     1.0 02:KB-11-MN      4.03     .577 No_date   27:55   48.44  n/a     .000
06774>                       SUM=    1.0 01:KB-11-S       4.03     .577 No_date   27:55   48.44  n/a     .000
06775> R0010:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06776>     CONTINUOUS STANDHYD    1.0 01:S1             4.99    1.020 No_date   28:00   59.76 .924     .000
06777>       [XIMP=.93:TIMP=.93]
06778>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06779>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06780>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
06781>       [IaRECimp=  4.00: IaRECper=   4.00]
06782> R0010:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06783>     CONTINUOUS STANDHYD    1.0 01:KB-15          2.15     .377 No_date   28:00   54.15 .837     .000
06784>       [XIMP=.79:TIMP=.79]
06785>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06786>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06787>       [Impervious   area: IAimp= .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
06788>       [IaRECimp=  4.00: IaRECper=   4.00]
06789> R0010:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06790>     ADD HYD                  1.0 02:KB-01A-S      40.82    3.338 No_date   28:12   24.14  n/a     .000
06791>                         +     1.0 02:KB-01B-S      31.10    1.585 No_date   27:59   26.78  n/a     .000
06792>                         +     1.0 02:KB-01C-S      13.78    1.350 No_date   28:00   27.93  n/a     .000
06793>                         +     1.0 02:KB-03-S       84.78    5.270 No_date   27:59   27.40  n/a     .000
06794>                         +     1.0 02:KB-04-S        6.95     .503 No_date   27:46   56.53  n/a     .000
06795>                         +     1.0 02:KB-06          5.19     .983 No_date   28:00   59.76  n/a     .000
06796>                         +     1.0 02:KB-06-S       12.93    2.262 No_date   27:56   57.80  n/a     .000
06797>                         +     1.0 02:KB-11-S        4.03     .577 No_date   27:55   48.44  n/a     .000
06798>                         +     1.0 02:KB-15          2.15     .377 No_date   28:00   54.15  n/a     .000
06799>                         +     1.0 02:S1             4.99    1.020 No_date   28:00   59.76  n/a     .000
06800>                       SUM=    1.0 01:KB-P1        206.72   16.418 No_date   28:01   31.86  n/a     .000
06801> R0010:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06802>     ROUTE RESERVOIR ->       1.0 02:KB-P1        206.72   16.418 No_date   28:01   31.86  n/a     .000
06803>                     out <=   1.0 01:KB-P1R       206.72   12.427 No_date   28:17   31.86  n/a     .000
06804>                overflow <=   1.0 03:KB-P1ovf       .00     .000 No_date    0:00     .00  n/a     .000
06805>       {MxStoUsed=.7282E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06806> R0010:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06807>     ADD HYD                  1.0 02:KB-P1R       206.72   12.427 No_date   28:17   31.86  n/a     .000
06808>                         +     1.0 02:KB-P1ovf       .00     .000 No_date    0:00     .00  n/a     .000
06809>                       SUM=    1.0 01:KB-P1OnD1    206.72   12.427 No_date   28:17   31.86  n/a     .000
06810> R0010:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06811>     SAVE HYD                 1.0 01:KB-P1OnD1    206.72   12.427 No_date   28:17   31.86  n/a     .000
06812>       fname :KB-P1OnD1.0010
06813>       remark:Total Flows at KB first pond
06814> R0010:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06815>     CONTINUOUS STANDHYD    1.0 01:KB-07         10.86    2.042 No_date   28:00   57.07 .882     .000
06816>       [XIMP=.86:TIMP=.86]
06817>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06818>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06819>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
06820>       [IaRECimp=  4.00: IaRECper=   4.00]
06821> R0010:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06822>     COMPUTE DUALHYD        1.0 01:KB-07         10.86    2.042 No_date   28:00   57.07  n/a     .000
06823>       Major System   /     1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06824>       Minor System   \     1.0 03:KB-07-MN     10.86    2.042 No_date   28:00   57.07  n/a     .000
06825>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06826> R0010:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06827>     ADD HYD                  1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06828>                         +     1.0 02:KB-07-MN     10.86    2.042 No_date   28:00   57.07  n/a     .000
06829>                       SUM=    1.0 01:KB-07-S       10.86    2.042 No_date   28:00   57.07  n/a     .000
06830> R0010:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06831>     CONTINUOUS STANDHYD    1.0 01:KB-08          6.61    1.072 No_date   28:00   46.33 .716     .000
06832>       [XIMP=.64:TIMP=.64]
06833>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06834>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06835>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
06836>       [IaRECimp=  4.00: IaRECper=   4.00]
06837> R0010:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06838>     COMPUTE DUALHYD        1.0 01:KB-08          6.61    1.072 No_date   28:00   46.33  n/a     .000
06839>       Major System   /     1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06840>       Minor System   \     1.0 03:KB-08-MN      6.61    1.058 No_date   28:00   46.37  n/a     .000
06841>       {MjSysSto=.9091E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06842> R0010:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06843>     ADD HYD                  1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06844>                         +     1.0 02:KB-08-MN      6.61    1.058 No_date   28:00   46.37  n/a     .000
06845>                       SUM=    1.0 01:KB-08-S       6.61    1.058 No_date   28:00   46.37  n/a     .000
06846> R0010:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06847>     CONTINUOUS STANDHYD    1.0 01:KB-09          2.60     .515 No_date   28:00   56.40 .872     .000
06848>       [XIMP=.86:TIMP=.86]
06849>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06850>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06851>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
06852>       [IaRECimp=  4.00: IaRECper=   4.00]
06853> R0010:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06854>     CONTINUOUS STANDHYD    1.0 01:KB-10_1        2.37     .470 No_date   28:00   56.40 .872     .000
06855>       [XIMP=.86:TIMP=.86]
06856>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06857>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06858>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
06859>       [IaRECimp=  4.00: IaRECper=   4.00]
06860> R0010:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06861>     CONTINUOUS STANDHYD    1.0 01:KB-10_2        1.14     .229 No_date   28:00   56.40 .872     .000
06862>       [XIMP=.86:TIMP=.86]
06863>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06864>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06865>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
06866>       [IaRECimp=  4.00: IaRECper=   4.00]
06867> R0010:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06868>     CONTINUOUS STANDHYD    1.0 01:KB-12          4.86     .900 No_date   28:00   53.41 .826     .000
06869>       [XIMP=.79:TIMP=.79]
06870>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06871>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06872>       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
06873>       [IaRECimp=  4.00: IaRECper=   4.00]
06874> R0010:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06875>     COMPUTE DUALHYD        1.0 01:KB-12          4.86     .900 No_date   28:00   53.41  n/a     .000
06876>       Major System   /     1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06877>       Minor System   \     1.0 03:KB-12-MN      4.86     .867 No_date   27:58   53.47  n/a     .000
06878>       {MjSysSto=.3261E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06879> R0010:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06880>     ADD HYD                  1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06881>                         +     1.0 02:KB-12-MN      4.86     .867 No_date   27:58   53.47  n/a     .000
06882>                       SUM=    1.0 01:KB-12-S       4.86     .867 No_date   27:58   53.47  n/a     .000
06883> R0010:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06884>     CONTINUOUS STANDHYD    1.0 01:KB-13         10.19    1.611 No_date   28:00   46.33 .716     .000
06885>       [XIMP=.64:TIMP=.64]
06886>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06887>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06888>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
06889>       [IaRECimp=  4.00: IaRECper=   4.00]
06890> R0010:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06891>     COMPUTE DUALHYD        1.0 01:KB-13         10.19    1.611 No_date   28:00   46.33  n/a     .000
06892>       Major System   /     1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06893>       Minor System   \     1.0 03:KB-13-MN     10.19    1.611 No_date   28:00   46.33  n/a     .000
06894>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06895> R0010:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06896>     ADD HYD                  1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06897>                         +     1.0 02:KB-13-MN     10.19    1.611 No_date   28:00   46.33  n/a     .000
06898>                       SUM=    1.0 01:KB-13-S      10.19    1.611 No_date   28:00   46.33  n/a     .000
06899> R0010:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06900>     CONTINUOUS STANDHYD    1.0 01:KB-14          5.47     .898 No_date   28:00   46.33 .716     .000
06901>       [XIMP=.64:TIMP=.64]
06902>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06903>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06904>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
06905>       [IaRECimp=  4.00: IaRECper=   4.00]
06906> R0010:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06907>     COMPUTE DUALHYD        1.0 01:KB-14          5.47     .898 No_date   28:00   46.33  n/a     .000
06908>       Major System   /     1.0 02:KB-14-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06909>       Minor System   \     1.0 03:KB-14-MN      5.47     .873 No_date   27:59   46.40  n/a     .000
06910>       {MjSysSto=.1663E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06911> R0010:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06912>     ADD HYD                  1.0 02:KB-14-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06913>                         +     1.0 02:KB-14-MN      5.47     .873 No_date   27:59   46.40  n/a     .000
06914>                       SUM=    1.0 01:KB-14-S       5.47     .873 No_date   27:59   46.40  n/a     .000
06915> R0010:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06916>     CONTINUOUS STANDHYD    1.0 01:KB-16_2        3.42     .545 No_date   28:01   50.20 .776     .000
06917>       [XIMP=.71:TIMP=.71]
06918>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06919>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06920>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
06921>       [IaRECimp=  4.00: IaRECper=   4.00]
06922> R0010:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06923>     ADD HYD                  1.0 02:KB-Pond1      206.72   12.427 No_date   28:17   31.86  n/a     .000
06924>                         +     1.0 02:KB-07-S       10.86    2.042 No_date   28:00   57.07  n/a     .000
06925>                         +     1.0 02:KB-08-S        6.61    1.058 No_date   28:00   46.37  n/a     .000
06926>                         +     1.0 02:KB-09          2.60     .515 No_date   28:00   56.40  n/a     .000
06927>                         +     1.0 02:KB-10_1        2.37     .470 No_date   28:00   56.40  n/a     .000
06928>                         +     1.0 02:KB-10_2        1.14     .229 No_date   28:00   56.40  n/a     .000
06929>                         +     1.0 02:KB-12-S        4.86     .867 No_date   27:58   53.47  n/a     .000
06930>                         +     1.0 02:KB-13-S       10.19    1.611 No_date   28:00   46.33  n/a     .000
06931>                         +     1.0 02:KB-14-S        5.47     .873 No_date   27:59   46.40  n/a     .000
06932>                         +     1.0 02:KB-16_2        3.42     .545 No_date   28:01   50.20  n/a     .000
06933>                       SUM=    1.0 01:KB-P2        254.24   19.235 No_date   28:01   35.46  n/a     .000
06934> R0010:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06935>     ROUTE RESERVOIR ->       1.0 02:KB-P2        254.24   19.235 No_date   28:01   35.46  n/a     .000
06936>                     out <=   1.0 01:KB-P2R       254.24   15.083 No_date   28:10   35.46  n/a     .000
06937>                overflow <=   1.0 02:KB-P2ovf       .00     .000 No_date    0:00     .00  n/a     .000
06938>       {MxStoUsed=.7575E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06939> R0010:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06940>     ADD HYD                  1.0 02:KB-P2R       254.24   15.083 No_date   28:10   35.46  n/a     .000
06941>                         +     1.0 02:KB-P2ovf       .00     .000 No_date    0:00     .00  n/a     .000
06942>                       SUM=    1.0 01:KB-Pond2     254.24   15.083 No_date   28:10   35.46  n/a     .000
06943> R0010:C00240------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06944>     SAVE HYD                 1.0 01:KB-Pond2     254.24   15.083 No_date   28:10   35.46  n/a     .000
06945>       fname :KB-Pond2.0010
06946>       remark:Total Flows at KB second pond
06947> R0010:C00241------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06948>     CONTINUOUS STANDHYD    1.0 01:KB-16_1        2.80     .465 No_date   28:01   52.17 .806     .000
06949>       [XIMP=.75:TIMP=.75]
06950>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06951>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06952>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
06953>       [IaRECimp=  4.00: IaRECper=   4.00]
06954> R0010:C00242------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06955>     ADD HYD                  1.0 02:KB-P2R       254.24   15.083 No_date   28:10   35.46  n/a     .000
06956>                         +     1.0 02:KB-16_1        2.80     .465 No_date   28:01   52.17  n/a     .000
06957>                       SUM=    1.0 01:KB-P3        257.04   15.295 No_date   28:08   35.64  n/a     .000
06958> R0010:C00243------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06959>     ROUTE RESERVOIR ->       1.0 02:KB-P3        257.04   15.295 No_date   28:08   35.64  n/a     .000
06960>                     out <=   1.0 01:KB-P3R       12.26     .051 No_date   17:31   35.64  n/a     .000
06961>                overflow <=   1.0 03:KB-P3ovf      244.78   15.243 No_date   28:09   35.64  n/a     .000
06962>       {MxStoUsed=.1993E-02  m3, TotOvfVol=.8724E+01  m3, N-Ovf=    2, TotDurOvf=  23.hrs}
06963> R0010:C00244------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06964>     ADD HYD                  1.0 02:KB-P3R        12.26     .051 No_date   17:31   35.64  n/a     .000
06965>                         +     1.0 02:KB-P3ovf      244.78   15.243 No_date   28:09   35.64  n/a     .000
06966>                       SUM=    1.0 01:KB-Pond3     257.04   15.294 No_date   28:09   35.64  n/a     .000
06967> R0010:C00245------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06968>     SAVE HYD                 1.0 01:KB-Pond3     257.04   15.294 No_date   28:09   35.64  n/a     .000
06969>       fname :KB-Pond3.0010
06970>       remark:Total Flows at KB third pond
06971> ************************************************************************
06972> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
06973> #    TO  FRASER-CLARKE DRAIN
06974> ************************************************************************
06975> R0010:C00246------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06976>     CONTINUOUS STANDHYD    1.0 01:FC-01          8.03    1.049 No_date   28:01   37.67 .582     .000
06977>       [XIMP=.47:TIMP=.47]
06978>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06979>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06980>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
06981>       [IaRECimp=  4.00: IaRECper=   4.00]
06982> R0010:C00247------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06983>     COMPUTE DUALHYD        1.0 01:FC-01          8.03    1.049 No_date   28:01   37.67  n/a     .000
06984>       Major System   /     1.0 02:FC-01-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06985>       Minor System   \     1.0 03:FC-01-MN      8.03     .756 No_date   28:17   37.91  n/a     .000
06986>       {MjSysSto=.1270E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06987> R0010:C00248------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06988>     ADD HYD                  1.0 02:FC-01-MJ       .00     .000 No_date    0:00     .00  n/a     .000
06989>                         +     1.0 02:FC-01-MN      8.03     .756 No_date   27:55   37.91  n/a     .000
06990>                       SUM=    1.0 01:FC-01-S       8.03     .756 No_date   27:55   37.91  n/a     .000
06991> R0010:C00249------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06992>     CONTINUOUS STANDHYD    1.0 01:FC-02         16.05    2.930 No_date   28:01   59.76 .924     .000
06993>       [XIMP=.93:TIMP=.93]
06994>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
06995>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06996>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
06997>       [IaRECimp=  4.00: IaRECper=   4.00]
06998> R0010:C00250------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06999>     COMPUTE DUALHYD        1.0 01:FC-02         16.05    2.930 No_date   28:01   59.76  n/a     .000
07000>       Major System   /     1.0 02:FC-02-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07001>       Minor System   \     1.0 03:FC-02-MN     16.05    1.159 No_date   27:46   59.94  n/a     .000
07002>       {MjSysSto=.1407E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07003> R0010:C00251------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07004>     ADD HYD                  1.0 02:FC-02-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07005>                         +     1.0 02:FC-02-MN     16.05    1.159 No_date   27:46   59.94  n/a     .000
07006>                       SUM=    1.0 01:FC-02-S      16.05    1.159 No_date   27:46   59.94  n/a     .000
07007> R0010:C00252------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07008>     CONTINUOUS STANDHYD    1.0 01:FC-03          7.37    1.130 No_date   28:01   45.83 .708     .000
07009>       [XIMP=.64:TIMP=.64]
07010>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
07011>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07012>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
07013>       [IaRECimp=  4.00: IaRECper=   4.00]
07014> R0010:C00253------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07015>     COMPUTE DUALHYD        1.0 01:FC-03          7.37    1.130 No_date   28:01   45.83  n/a     .000
07016>       Major System   /     1.0 02:FC-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07017>       Minor System   \     1.0 03:FC-03-MN      7.37     .358 No_date   27:45   45.93  n/a     .000
07018>       {MjSysSto=.6763E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07019> R0010:C00254------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07020>     ADD HYD                  1.0 02:FC-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07021>                         +     1.0 02:FC-03-MN      7.37     .358 No_date   27:45   45.93  n/a     .000
07022>                       SUM=    1.0 01:FC-03-S       7.37     .358 No_date   27:45   45.93  n/a     .000
07023> R0010:C00255------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07024>     CONTINUOUS STANDHYD    1.0 01:FC-04         12.87    1.906 No_date   28:01   45.83 .708     .000
07025>       [XIMP=.64:TIMP=.64]
07026>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
07027>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07028>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
07029>       [IaRECimp=  4.00: IaRECper=   4.00]
07030> R0010:C00256------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07031>     COMPUTE DUALHYD        1.0 01:FC-04         12.87    1.906 No_date   28:01   45.83  n/a     .000
07032>       Major System   /     1.0 02:FC-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07033>       Minor System   \     1.0 03:FC-04-MN     12.87     .741 No_date   27:46   45.93  n/a     .000
07034>       {MjSysSto=.9380E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07035> R0010:C00257------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07036>     ADD HYD                  1.0 02:FC-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07037>                         +     1.0 02:FC-04-MN     12.87     .741 No_date   27:46   45.93  n/a     .000
07038>                       SUM=    1.0 01:FC-04-S      12.87     .741 No_date   27:46   45.93  n/a     .000
07039> ************************************************************************
07040> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
07041> #    - TO  JOCK RIVER
07042> ************************************************************************
07043> R0010:C00258------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07044>     CONTINUOUS STANDHYD    1.0 01:JR-01          8.24    1.257 No_date   28:01   45.83 .708     .000
07045>       [XIMP=.64:TIMP=.64]
07046>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
07047>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07048>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
07049>       [IaRECimp=  4.00: IaRECper=   4.00]
07050> R0010:C00259------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07051>     COMPUTE DUALHYD        1.0 01:JR-01          8.24    1.257 No_date   28:01   45.83  n/a     .000
07052>       Major System   
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07107>                    +     1.0 02:FRASER-DRN    13.65     .447 No_date   28:22   26.85  n/a     .000
07108>                    +     1.0 02:FRASER-S      21.61    2.281 No_date   27:57   47.46  n/a     .000
07109>                    +     1.0 02:N_KB       54279.34   85.488 No_date   35:57   22.89  n/a     .000
07110>                    +     1.0 02:FC-01-S        8.03     .756 No_date   27:55   37.91  n/a     .000
07111>                    +     1.0 02:FC-02-S       16.05    1.159 No_date   27:46   59.94  n/a     .000
07112>                    +     1.0 02:FC-03-S        7.37     .358 No_date   27:45   45.93  n/a     .000
07113>                  SUM=    1.0 01:4241       54658.45   86.106 No_date   35:57   22.98  n/a     .000
07114> R0010:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07115>      SAVE HYD                1.0 01:4241       54658.45   86.106 No_date   35:57   22.98  n/a     .000
07116>        fname :4241.0010
07117>        remark:Total Flows at Ken-Burnett Outlet
07118> # Hydrograph from Node Ken-Burnett to station 3633
07119> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
07120> #
07121> R0010:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07122>      ROUTE CHANNEL   ->    1.0 02:4241       54658.45   86.106 No_date   35:57   22.98  n/a     .000
07123>        [RDT= 1.00] out<-     1.0 01:4241-out  54658.45   86.076 No_date   35:57   22.98  n/a     .000
07124>          [L/S/n=  294./  .109/.035]
07125>          {Vmax= 1.173:Dmax= 2.018}
07126> R0010:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07127>      ADD HYD                 1.0 02:4241-out   54658.45   86.076 No_date   35:57   22.98  n/a     .000
07128>                    +     1.0 02:FC-04-S       12.87     .741 No_date   27:46   45.93  n/a     .000
07129>                    +     1.0 02:JR-01-S        8.24     .563 No_date   27:47   46.14  n/a     .000
07130>                    +     1.0 02:JR-02-S        1.59     .153 No_date   27:51   46.12  n/a     .000
07131>                  SUM=    1.0 01:SN_KB      54681.14   86.123 No_date   35:57   22.99  n/a     .000
07132> R0010:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07133>      SAVE HYD                1.0 01:SN_KB      54681.14   86.123 No_date   35:57   22.99  n/a     .000
07134>        fname :SN_KB.0010
07135>        remark:HYD_COMMENT=["Total Flows before Station 3633]
07136> # Hydrograph from Station 3633 to Node Todd
07137> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
07138> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
07139> #
07140> R0010:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07141>      ROUTE CHANNEL   ->    1.0 02:SN_KB      54681.14   86.123 No_date   35:57   22.99  n/a     .000
07142>        [RDT= 1.00] out<-     1.0 01:SN_TO      54681.14   85.255 No_date   37:08   22.99  n/a     .000
07143>          [L/S/n=  608./ .247/.035]
07144>          {Vmax= 1.555:Dmax= 1.520}
07145> #*************************************************************************
07146> #    Catchment Greenbank
07147> #    - To Greenbank Drain (south of the Jock)
07148> #    - JFSA 2021-01-19 add Greenbank pond as per JFSA, PS98(06)-15, June 2016
07149> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
07150> #*************************************************************************
07151> R0010:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07152>      CONTINUOUS STANDHYD   1.0 01:Greenbank    36.60    4.662 No_date   28:02   49.38  .763     .000
07153>        [XIMP=.64:TIMP=.68]
07154>        [SDD=  2 :CN= 77.0]
07155>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07156>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
07157>        [IaREC imp=   4.00: IaREC per=   4.00]
07158>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07159> R0010:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07160>      ROUTE RESERVOIR ->    1.0 02:Greenbank    36.60    4.662 No_date   28:02   49.38  .763     .000
07161>                    out <=    1.0 01:GreenB_MN    36.60    1.697 No_date   28:18   49.38  n/a     .000
07162>              overflow <=     1.0 03:GreenB_MJ      .00     .000 No_date    0:00     .00  n/a     .000
07163>        {MxStoUsed=.02399E+00  m3, TotOrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07164> R0010:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07165>      ADD HYD                 1.0 02:N_TO       54681.14   85.255 No_date   37:08   22.99  n/a     .000
07166>                    +     1.0 02:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
07167>                    +     1.0 02:GreenB_MN     36.60    1.697 No_date   28:18   49.38  n/a     .000
07168>                  SUM=    1.0 01:GreenB     54717.74   85.389 No_date   35:58   23.01  n/a     .000
07169> R0010:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07170>      SAVE HYD                1.0 01:GreenB     54717.74   85.389 No_date   35:58   23.01  n/a     .000
07171>        fname :GreenB.0010
07172>        remark:Total Flows at Greenbank Drain
07173> #*************************************************************************
07174> #    Catchment TODD
07175> #    - To Todd Drain (south of the Jock)
07176> #    - Subdivision with 43% imp. as per Barrhaven South MSS
07177> #    - 2020-11-30 increase imp. based on PS98(04)-11
07178> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on PS98(04)-11
07179> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
07180> #*************************************************************************
07181> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
07182> R0010:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07183>      CONTINUOUS STANDHYD   1.0 01:TODD_MN2      2.10     .282 No_date   28:00   44.92  .694     .000
07184>        [XIMP=.53:TIMP=.57]
07185>        [LOSS= 2 :CN= 77.0]
07186>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07187>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
07188>        [IaREC imp=   4.00: IaREC per=   4.00]
07189>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07190> R0010:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07191>      CONTINUOUS STANDHYD   1.0 01:TODD_MN3       .12     .016 No_date   28:00   44.90  .694     .000
07192>        [XIMP=.53:TIMP=.57]
07193>        [LOSS= 2 :CN= 77.0]
07194>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07195>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
07196>        [IaREC imp=   4.00: IaREC per=   4.00]
07197>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07198> R0010:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07199>      CONTINUOUS STANDHYD   1.0 01:TODD_MJ       30.23    3.512 No_date   28:02   46.20  .714     .000
07200>        [XIMP=.52:TIMP=.64]
07201>        [LOSS= 2 :CN= 77.0]
07202>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07203>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
07204>        [IaREC imp=   4.00: IaREC per=   4.00]
07205>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07206> R0010:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07207>      CONTINUOUS STANDHYD   1.0 01:TODD_ALL     112.91   10.943 No_date   28:05   44.71  .691     .000
07208>        [XIMP=.52:TIMP=.57]
07209>        [LOSS= 2 :CN= 77.0]
07210>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07211>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
07212>        [IaREC imp=   4.00: IaREC per=   4.00]
07213>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07214> R0010:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07215>      CONTINUOUS STANDHYD   1.0 01:TODD_P        3.06     .451 No_date   28:00   48.23  .745     .000
07216>        [XIMP=.63:TIMP=.63]
07217>        [LOSS= 2 :CN= 77.0]
07218>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07219>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
07220>        [IaREC imp=   4.00: IaREC per=   4.00]
07221>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07222> # 5-Year + 12% Capture
07223> R0010:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07224>      ROUTE RESERVOIR ->    1.0 02:TODD_MJ       30.23    3.512 No_date   28:02   46.20  n/a     .000
07225>                    out <=    1.0 01:TODD_MJn      30.14    3.314 No_date   28:00   46.20  n/a     .000
07226>              overflow <=     1.0 03:TODD_MJj       .09     .190 No_date   28:03   46.20  n/a     .000
07227>        {MxStoUsed=.4110E-03  m3, TotOrVol=.4062E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
07228> # 5-Year + 12% Capture
07229> R0010:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07230>      ROUTE RESERVOIR ->    1.0 02:TODD_MN2       2.10     .282 No_date   28:00   44.92  n/a     .000
07231>                    out <=    1.0 01:TODD_MN2n      2.10     .268 No_date   27:58   44.92  n/a     .000
07232>              overflow <=     1.0 03:TODD_MN2j       .00     .011 No_date   28:00   44.92  n/a     .000
07233>        {MxStoUsed=.1267E-03  m3, TotOrVol=.1440E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
07234> R0010:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07235>      ROUTE RESERVOIR ->    1.0 02:TODD_MN3       .12     .016 No_date   28:00   44.90  n/a     .000
07236>                    out <=    1.0 01:TODD_MN3n      .12     .016 No_date   28:00   44.90  n/a     .000
07237>              overflow <=     1.0 03:TODD_MN3j       .00     .000 No_date   28:00   44.90  n/a     .000
07238>        {MxStoUsed=.1007E-03  m3, TotOrVol=.1379E-05  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
07239> R0010:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07240>      CONTINUOUS STANDHYD   1.0 01:A2          25.50    2.388 No_date   28:03   40.97  .633     .000
07241>        [XIMP=.42:TIMP=.52]
07242>        [LOSS= 2 :CN= 75.0]
07243>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07244>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
07245>        [IaREC imp=   4.00: IaREC per=   4.00]
07246>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07247> R0010:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07248>      COMPUTE DUALHYD       1.0 01:A2          25.50    2.388 No_date   28:03   40.97  n/a     .000
07249>        Major System    /     1.0 02:A2-MJ         .00     .000 No_date    0:00     .00  n/a     .000
07250>        Minor System    \     1.0 03:A2-MN        25.50    1.818 No_date   27:57   40.97  n/a     .000
07251>          {MjSysSto=.2896E+03, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07252> R0010:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07253>      ADD HYD                 1.0 02:TODD_MN2n      2.10     .268 No_date   27:58   44.92  n/a     .000
07254>                    +     1.0 02:TODD_MN3n      .12     .016 No_date   28:00   44.90  n/a     .000
07255>                    +     1.0 02:TODD_MJj       .09     .190 No_date   28:03   46.20  n/a     .000
07256>                    +     1.0 02:TODD_P        3.06     .451 No_date   28:00   48.23  n/a     .000
07257>                    +     1.0 02:TODD_ALL    112.91   10.943 No_date   28:05   44.71  n/a     .000
07258>                    +     1.0 02:W_CLAR_MJn     1.77     .213 No_date   27:55   43.97  n/a     .000
07259>                  SUM=    1.0 01:TODD       120.03   11.699 No_date   28:03   44.79  n/a     .000
07260> R0010:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07261>      SAVE HYD                1.0 01:TODD       120.03   11.699 No_date   28:03   44.79  n/a     .000
07262>        fname :TODD.0010
07263>        remark:Total Flows at Todd Drain
07264> #*************************************************************************
07265> #    Todd Pond 3
07266> #    - Rating curve obtained from Barrhaven South MSS modeling
07267> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
07268> #*************************************************************************
07269> R0010:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07270>      ROUTE RESERVOIR ->    1.0 02:TODD       120.03   11.699 No_date   28:03   44.79  n/a     .000
07271>                    out <=    1.0 01:MS_P3      120.03    6.151 No_date   28:20   44.79  n/a     .000
07272>              overflow <=     1.0 03:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
07273>        {MxStoUsed=.2461E+01  m3, TotOrVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07274> R0010:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07275>      ADD HYD                 1.0 02:GreenB     54717.74   85.389 No_date   35:58   23.01  n/a     .000
07276>                    +     1.0 02:MS_P3      120.03    6.151 No_date   28:20   44.79  n/a     .000
07277>                    +     1.0 02:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
07278>                    +     1.0 02:TODD_MN2j      .00     .011 No_date   28:00   44.92  n/a     .000
07279>                    +     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07280>                  SUM=    1.0 01:SN_TO      54837.78   85.715 No_date   35:58   23.06  n/a     .000
07281> R0010:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07282>      SAVE HYD                1.0 01:SN_TO      54837.78   85.715 No_date   35:58   23.06  n/a     .000
07283>        fname :SN_TO.0010
07284>        remark:Total Flows at Todd Drain
07285> #
07286> # Hydrograph from Todd Drain routed to Corrigan Drain
07287> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
07288> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
07289> R0010:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07290>      ROUTE CHANNEL   ->    1.0 02:SN_TO      54837.78   85.715 No_date   35:58   23.06  n/a     .000
07291> *    [RDT= 1.00] out<-     1.0 01:N_TO       54837.78   85.046 No_date   37:15   23.06  n/a     .000
07292>        [L/S/n=  280./ .050/.045]
07293>        {Vmax=  .881:Dmax= 2.851}
07294> R0010:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07295>      SAVE HYD                1.0 01:N_TO       54837.78   85.046 No_date   37:15   23.06  n/a     .000
07296>        fname :N_TO.0010
07297>        remark:Total inflows at Station 2462
07298> #*************************************************************************
07299> #    Catchment CORRIG
07300> #    - To Corrigan Drain (south of the Jock)
07301> #    - Primarily Developed (medium density)
07302> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
07303> #*************************************************************************
07304> R0010:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07305>      CONTINUOUS STANDHYD   1.0 01:corr1        15.87    2.113 No_date   28:01   48.23  .746     .000
07306>        [XIMP=.63:TIMP=.63]
07307>        [LOSS= 2 :CN= 77.0]
07308>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07309>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
07310>        [IaREC imp=   4.00: IaREC per=   4.00]
07311>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07312> R0010:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07313>      COMPUTE DUALHYD       1.0 01:corr1        15.87    2.113 No_date   28:01   48.23  n/a     .000
07314>        Major System    /     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07315>        Minor System    \     1.0 03:corr1-MN     15.87    1.818 No_date   28:09   48.38  n/a     .000
07316>          {MjSysSto=.8936E+02, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07317> R0010:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07318>      CONTINUOUS NASHYD     1.0 01:corr2        12.47     .209 No_date   29:11   26.85  .415     .000
07319>        [CN= 77.0: N= 3.00: Tp= 1.10]
07320>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
07321>        [InterEventTime=  12.00]
07322> R0010:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07323>      CONTINUOUS STANDHYD   1.0 01:A1-Corrig    15.75    1.640 No_date   28:02   40.97  .633     .000
07324>        [XIMP=.42:TIMP=.52]
07325>        [LOSS= 2 :CN= 75.0]
07326>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07327>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
07328>        [IaREC imp=   4.00: IaREC per=   4.00]
07329>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07330> R0010:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07331>      COMPUTE DUALHYD       1.0 01:A1-Corrig    15.75    1.640 No_date   28:02   40.97  n/a     .000
07332>        Major System    /     1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07333>        Minor System    \     1.0 03:A1-MN        15.75    1.640 No_date   28:02   40.97  n/a     .000
07334>          {MjSysSto=.0000E+00, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07335> R0010:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07336>      CONTINUOUS NASHYD     1.0 01:B1           2.77     .072 No_date   28:09   16.64  .257     .000
07337>        [CN= 56.0: N= 3.00: Tp=  .23]
07338>        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
07339>        [InterEventTime=  12.00]
07340> R0010:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07341>      CONTINUOUS STANDHYD   1.0 01:A4           1.27     .178 No_date   28:00   48.63  .752     .000
07342>        [XIMP=.65:TIMP=.65]
07343>        [LOSS= 2 :CN= 75.0]
07344>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07345>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
07346>        [IaREC imp=   4.00: IaREC per=   4.00]
07347>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07348> R0010:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07349>      COMPUTE DUALHYD       1.0 01:A4           1.27     .178 No_date   28:00   48.63  n/a     .000
07350>        Major System    /     1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07351>        Minor System    \     1.0 03:A4-MN        1.27     .178 No_date   28:00   48.63  n/a     .000
07352>          {MjSysSto=.0000E+00, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07353> R0010:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07354>      ADD HYD                 1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07355>                    +     1.0 02:A1-MN        15.75    1.640 No_date   28:02   40.97  n/a     .000
07356>                    +     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07357>                    +     1.0 02:corr1-MN     15.87    1.818 No_date   28:09   48.38  n/a     .000
07358>                    +     1.0 02:corr2        12.47     .209 No_date   29:11   26.85  n/a     .000
07359>                    +     1.0 02:B1           2.77     .072 No_date   28:09   16.64  n/a     .000
07360>                    +     1.0 02:A4-MN        1.27     .178 No_date   28:00   48.63  n/a     .000
07361>                  SUM=    1.0 01:MH101       48.13    3.734 No_date   28:02   38.56  n/a     .000
07362> R0010:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07363>      SAVE HYD                1.0 01:MH101       48.13    3.734 No_date   28:02   38.56  n/a     .000
07364>        fname :MH101.0010
07365>        remark:Total Flows at MH101
07366> R0010:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07367>      ROUTE PIPE      ->    1.0 02:MH101       48.13    3.734 No_date   28:02   38.56  n/a     .000
07368> *  [RDT= 1.00] out<-     1.0 01:101-102     48.13    3.662 No_date   28:03   38.56  n/a     .000
07369>        [L/S/n=  368./ .540/.013]
07370>        {Vmax= 3.004:Dmax= 1.008}
07371>        [Din= 1.05:Dused= 1.33}
07372> R0010:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07373>      ADD HYD                 1.0 02:A2-MN        25.50    1.818 No_date   27:57   40.97  n/a     .000
07374>                    +     1.0 02:101-102      48.13    3.662 No_date   28:03   38.56  n/a     .000
07375>                  SUM=    1.0 01:MH102       73.63    5.480 No_date   28:03   39.39  n/a     .000
07376> R0010:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07377>      SAVE HYD                1.0 01:MH102       73.63    5.480 No_date   28:03   39.39  n/a     .000
07378>        fname :MH102.0010
07379>        remark:Total Flows at MH102
07380> R0010:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07381>      CONTINUOUS STANDHYD   1.0 01:A5           1.60     .236 No_date   28:01   51.11  .790     .000
07382>        [XIMP=.71:TIMP=.71]
07383>        [LOSS= 2 :CN= 75.0]
07384>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07385>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
07386>        [IaREC imp=   4.00: IaREC per=   4.00]
07387>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07388> R0010:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07389>      ADD HYD                 1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07390>                    +     1.0 02:A5           1.60     .236 No_date   28:01   51.11  n/a     .000
07391>                  SUM=    1.0 01:A5T          1.60     .236 No_date   28:01   51.11  n/a     .000
07392> R0010:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07393>      COMPUTE DUALHYD       1.0 01:A5T          1.60     .236 No_date   28:01   51.11  n/a     .000
07394>        Major System    /     1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07395>        Minor System    \     1.0 03:A5-MN        1.60     .236 No_date   28:01   51.11  n/a     .000
07396>          {MjSysSto=.0000E+00, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07397> R0010:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07398>      ROUTE PIPE      ->    1.0 02:MH102       73.63    5.480 No_date   28:03   39.39  n/a     .000
07399> *  [RDT= 1.00] out<-     1.0 01:102-103     73.63    5.291 No_date   28:06   39.39  n/a     .000
07400>        [L/S/n=  504./ .280/.013]
07401>        {Vmax= 2.654:Dmax= 1.421}
07402>        [Din= 1.50:Dused= 1.73}
07403> R0010:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07404>      ADD HYD                 1.0 02:102-103      73.63    5.291 No_date   28:06   39.39  n/a     .000
07405>                    +     1.0 02:A5-MN        1.60     .236 No_date   28:01   51.11  n/a     .000
07406>                  SUM=    1.0 01:MH103       75.23    5.462 No_date   28:05   39.64  n/a     .000
07407> R0010:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07408>      SAVE HYD                1.0 01:MH103       75.23    5.462 No_date   28:05   39.64  n/a     .000
07409>        fname :MH103.0010
07410>        remark:Total Flows at MH103
07411> R0010:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07412>      ROUTE PIPE      ->    1.0 02:MH103       75.23    5.462 No_date   28:05   39.64  n/a     .000
07413>    [RDT= 1.00] out<-     1.0 01:103-104     75.23    5.382 No_date   28:07   39.64  n/a     .000
07414>      [L/S/n=  438./ .460/.013]
07415>      {Vmax= 3.265:Dmax= 1.205}
07416>      [Din= 1.65:Dused= 1.65}
07417> R0010:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07418>      CONTINUOUS STANDHYD   1.0 01:A6           1.56     .232 No_date   28:00   51.11  .790     .000
07419>        [XIMP=.71:TIMP=.71]
07420>        [LOSS= 2 :CN= 75.0]
07421>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07422>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
07423>        [IaREC imp=   4.00: IaREC per=   4.00]
07424>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07425> R0010:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07426>      ADD HYD                 1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07427>                    +     1.0 02:A6           1.56     .232 No_date   28:00   51.11  n/a     .000
07428>                  SUM=    1.0 01:A6T          1.56     .232 No_date   28:00   51.11  n/a     .000
07429> R0010:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07430>      COMPUTE DUALHYD       1.0 01:A6T          1.56     .232 No_date   28:00   51.11  n/a     .000
07431>        Major System    /     1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07432>        Minor System    \     1.0 03:A6-MN        1.56     .232 No_date   28:00   51.11  n/a     .000
07433>          {MjSysSto=.0000E+00, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07434> R0010:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07435>      ADD HYD                 1.0 02:A6-MN        1.56     .232 No_date   28:00   51.11  n/a     .000
07436>                    +     1.0 02:103-104      75.23    5.382 No_date   28:07   39.64  n/a     .000
07437>                    +     1.0 02:TODD_MJn      30.14    3.314 No_date   28:00   46.20  n/a     .000
07438>                  SUM=    1.0 01:MH104      106.93    8.816 No_date   28:05   41.66  n/a     .000
07439> R0010:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07440>      SAVE HYD                1.0 01:MH104      106.93    8.816 No_date   28:05   41.66  n/a     .000
07441>        fname :MH104.0010
07442>        remark:Total Flows at MH104
07443> R0010:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07444>      CONTINUOUS STANDHYD   1.0 01:B2           12.31    1.229 No_date   28:02   41.19  .637     .000
07445>        [XIMP=.41:TIMP=.54]
07446>        [LOSS= 2 :CN= 75.0]
07447>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07448>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
07449>        [IaREC imp=   4.00: IaREC per=   4.00]
07450>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07451> R0010:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07452>      COMPUTE DUALHYD       1.0 01:B2           12.31    1.229 No_date   28:02   41.19  n/a     .000
07453>        Major System    /     1.0 02:B2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07454>        Minor System    \     1.0 03:B2-MN        12.31    1.029 No_date   27:58   41.28  n/a     .000
07455>          {MjSysSto=.7604E+02, TotOrVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07456> R0010:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07457>      ROUTE PIPE      ->    1.0 02:B2-MN        12.31    1.029 No_date   27:58   41.28  n/a     .000
07458>    [RDT= 1.00] out<-     1.0 01:315-333     12.31    1.019 No_date   28:12   41.28  n/a     .000
07459>      [L/S/n=  254./ .100/.013]
07460>      {Vmax= 1.220:Dmax=  .838}
07461>      [Din= 1.20:Dused= 1.20}
07462> R0010:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07463>      CONTINUOUS STANDHYD   1.0 01:B3           5.59     .579 No_date   28:02   41.19  .637     .000
07464>        [XIMP=.41:TIMP=.54]
07465>        [LOSS= 2 :CN= 75.0]
07466>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07467>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
07468>        [IaREC imp=   4.00: IaREC per=   4.00]
07469>        [SMIN= 33.01: SMAX=225.43: SK= .010]
07470> R0010:C00324------------DTmin-ID:NHYD---------AREAha-QPEAK
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07481>       fname :MH333.0010
07482>       remark:Total Flows at MH333
07483> R0010:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07484>     ROUTE PIPE      ->     1.0 02:MH333        17.90    1.478 No_date   28:12   41.30  n/a     .000
07485> *   [RDT= 1.00] out<-     1.0 01:333-335      17.90    1.450 No_date   28:14   41.30  n/a     .000
07486>       [L/S/n=  251./ .100/.013]
07487>       {Vmax= 1.300:Dmax= 1.054}
07488>       [Din= 1.20:Dused= 1.28}
07489> R0010:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07490>     ROUTE PIPE      ->     1.0 02:333-335      17.90    1.450 No_date   28:14   41.30  n/a     .000
07491> *   [RDT= 1.00] out<-     1.0 01:335-338      17.90    1.447 No_date   28:14   41.30  n/a     .000
07492>       [L/S/n=  185./ .100/.013]
07493>       {Vmax= 1.294:Dmax= 1.047}
07494>       [Din= 1.20:Dused= 1.28}
07495> R0010:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07496>     ROUTE PIPE      ->     1.0 02:335-338      17.90    1.447 No_date   28:14   41.30  n/a     .000
07497> *   [RDT= 1.00] out<-     1.0 01:338-340      17.90    1.418 No_date   28:15   41.30  n/a     .000
07498>       [L/S/n=  233./ .100/.013]
07499>       {Vmax= 1.325:Dmax=  .963}
07500>       [Din= 1.35:Dused= 1.35}
07501> R0010:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07502>     CONTINUOUS STANDHYD   1.0 01:B4           7.60     .768 No_date   28:02   41.19 .637     .000
07503>       [XIMP=.41:TIMP=.54]
07504>       [LOSS= 2 :CN= 75.0]
07505>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07506>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
07507>       [IaRECimp=   4.00: IaRECper=   4.00]
07508>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07509> R0010:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07510>     COMPUTE DUALHYD       1.0 01:B4           7.60     .768 No_date   28:02   41.19  n/a     .000
07511>       Major System   /     1.0 02:B4-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07512>       Minor System   \     1.0 03:B4-MN       7.60     .655 No_date   27:58   41.31  n/a     .000
07513>       {MjSysSto=.7776E+02, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07514> R0010:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07515>     ADD HYD               1.0 02:338-340     17.90    1.418 No_date   28:15   41.30  n/a     .000
07516>                       +     1.0 02:B4-MN       7.60     .655 No_date   27:58   41.31  n/a     .000
07517>                   SUM=      1.0 01:MH340      25.50    2.022 No_date   28:12   41.30  n/a     .000
07518> R0010:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07519>     SAVE HYD              1.0 01:MH340       25.50    2.022 No_date   28:12   41.30  n/a     .000
07520>       fname :MH340.0010
07521>       remark:Total Flows at MH340
07522> R0010:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07523>     ROUTE PIPE      ->     1.0 02:MH340       25.50    2.022 No_date   28:12   41.30  n/a     .000
07524>     [RDT= 1.00] out<-     1.0 01:340-104      25.50    1.986 No_date   28:12   41.30  n/a     .000
07525>       [L/S/n=  240./ .150/.013]
07526>       {Vmax= 1.706:Dmax=  .895}
07527>       [Din= 1.65:Dused= 1.65}
07528> R0010:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07529>     ADD HYD               1.0 02:340-104     25.50    1.986 No_date   28:12   41.30  n/a     .000
07530>                       +     1.0 02:MH104      106.93    8.816 No_date   28:05   41.66  n/a     .000
07531>                   SUM=      1.0 01:MH104T     132.43   10.636 No_date   28:05   41.59  n/a     .000
07532> R0010:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07533>     ROUTE PIPE      ->     1.0 02:MH104T     132.43   10.636 No_date   28:05   41.59  n/a     .000
07534> *   [RDT= 1.00] out<-     1.0 01:104-105      132.43   10.007 No_date   28:06   41.59  n/a     .000
07535>       [L/S/n=  380./ .100/.013]
07536>       {Vmax= 2.071:Dmax= 1.952}
07537>       {HGT= 2.30:WDTH= 2.63}
07538> R0010:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07539>     CONTINUOUS STANDHYD   1.0 01:B5           2.20     .291 No_date   28:00   45.32 .701     .000
07540>       [XIMP=.57:TIMP=.57]
07541>       [LOSS= 2 :CN= 75.0]
07542>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07543>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
07544>       [IaRECimp=   4.00: IaRECper=   4.00]
07545>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07546> R0010:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07547>     COMPUTE DUALHYD       1.0 01:B5           2.20     .291 No_date   28:00   45.32  n/a     .000
07548>       Major System   /     1.0 02:B5-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07549>       Minor System   \     1.0 03:B5-MN       2.20     .200 No_date   27:57   45.39  n/a     .000
07550>       {MjSysSto=.6886E+01, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07551> R0010:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07552>     CONTINUOUS STANDHYD   1.0 01:A8           .96     .151 No_date   28:00   51.11 .790     .000
07553>       [XIMP=.71:TIMP=.71]
07554>       [LOSS= 2 :CN= 75.0]
07555>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07556>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
07557>       [IaRECimp=   4.00: IaRECper=   4.00]
07558>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07559> R0010:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07560>     ADD HYD               1.0 02:A8-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07561>                       +     1.0 02:A8           .96     .151 No_date   28:00   51.11  n/a     .000
07562>                   SUM=      1.0 01:A8T          .96     .151 No_date   28:00   51.11  n/a     .000
07563> R0010:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07564>     COMPUTE DUALHYD       1.0 01:A8T          .96     .151 No_date   28:00   51.11  n/a     .000
07565>       Major System   /     1.0 02:A8-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07566>       Minor System   \     1.0 03:A8-MN        .96     .151 No_date   28:00   51.11  n/a     .000
07567>       {MjSysSto=.0000E+00, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07568> R0010:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07569>     ADD HYD               1.0 02:104-105     132.43   10.007 No_date   28:06   41.59  n/a     .000
07570>                       +     1.0 02:B5-MN       2.20     .260 No_date   27:57   45.39  n/a     .000
07571>                       +     1.0 02:A8-MN        .96     .151 No_date   28:00   51.11  n/a     .000
07572>                       +     1.0 02:TODD_MNJ     .00     .000 No_date   0:00     .00  n/a     .000
07573>                   SUM=      1.0 01:MH105      135.59   10.343 No_date   28:05   41.72  n/a     .000
07574> R0010:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07575>     SAVE HYD              1.0 01:MH105       135.59   10.343 No_date   28:05   41.72  n/a     .000
07576>       fname :MH105.0010
07577>       remark:Total Flows at MH105
07578> R0010:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07579> *   DIVERT HYD       ->     1.0 01:A8-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07580>           diverted <=     1.0 02:A8-MJ-JR      .00     .000 No_date   0:00     .00  n/a     .000
07581>                           1.0 03:A8-MJ-B6      .00     .000 No_date   0:00     .00  n/a     .000
07582> R0010:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07583>     DIVERT HYD       ->     1.0 01:MH105       135.59   10.343 No_date   28:05   41.72  n/a     .000
07584>           diverted <=     1.0 02:MH105-JR      28.70    7.335 No_date   28:05   41.72  n/a     .000
07585>           diverted <=     1.0 03:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
07586> R0010:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07587>     CONTINUOUS STANDHYD   1.0 01:B7           7.19     .792 No_date   28:01   41.19 .637     .000
07588>       [XIMP=.41:TIMP=.54]
07589>       [LOSS= 2 :CN= 75.0]
07590>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07591>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
07592>       [IaRECimp=   4.00: IaRECper=   4.00]
07593>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07594> R0010:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07595>     ADD HYD               1.0 02:B4-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07596>                       +     1.0 02:B7           7.19     .792 No_date   28:01   41.19  n/a     .000
07597>                   SUM=      1.0 01:B7-B4MJ      7.19     .792 No_date   28:01   41.19  n/a     .000
07598> R0010:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07599>     COMPUTE DUALHYD       1.0 01:B7-B4MJ      7.19     .792 No_date   28:01   41.19  n/a     .000
07600>       Major System   /     1.0 02:B7R-MJ       .00     .000 No_date   0:00     .00  n/a     .000
07601>       Minor System   \     1.0 03:B7R-MN       7.19     .629 No_date   27:55   41.31  n/a     .000
07602>       {MjSysSto=.5641E+02, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07603> R0010:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07604>     ROUTE PIPE      ->     1.0 02:B7R-MN       7.19     .629 No_date   27:55   41.31  n/a     .000
07605> *   [RDT= 1.00] out<-     1.0 01:360-106A     7.19     .628 No_date   28:11   41.31  n/a     .000
07606>       [L/S/n=  167./ .100/.013]
07607>       {Vmax= 1.089:Dmax=  .665}
07608>       [Din= 1.05:Dused= 1.05}
07609> R0010:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07610>     CONTINUOUS STANDHYD   1.0 01:B6           3.29     .376 No_date   28:00   41.19 .637     .000
07611>       [XIMP=.41:TIMP=.54]
07612>       [LOSS= 2 :CN= 75.0]
07613>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07614>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
07615>       [IaRECimp=   4.00: IaRECper=   4.00]
07616>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07617> R0010:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07618>     COMPUTE DUALHYD       1.0 01:B6           3.29     .376 No_date   28:00   41.19  n/a     .000
07619>       Major System   /     1.0 02:B6-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07620>       Minor System   \     1.0 03:B6-MN        3.29     .064 No_date   27:36   41.22  n/a     .000
07621>       {MjSysSto=.3813E+03, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07622> R0010:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07623>     CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50    3.367 No_date   28:02   41.86 .647     .000
07624>       [XIMP=.50:TIMP=.50]
07625>       [LOSS= 2 :CN= 74.0]
07626>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07627>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
07628>       [IaRECimp=   4.00: IaRECper=   4.00]
07629>       [SMIN= 36.67: SMAX=244.49: SK= .010]
07630> R0010:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07631>     COMPUTE DUALHYD       1.0 01:EX-LAND      32.50    3.367 No_date   28:02   41.86  n/a     .000
07632>       Major System   /     1.0 02:EX-LAND-MJ    .00     .000 No_date   0:00     .00  n/a     .000
07633>       Minor System   \     1.0 03:EX-LAND-MN   32.50    2.275 No_date   27:55   41.99  n/a     .000
07634>       {MjSysSto=.5949E+03, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07635> R0010:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07636>     ADD HYD               1.0 02:B7R-MJ       .00     .000 No_date   0:00     .00  n/a     .000
07637>                       +     1.0 02:EX-LAND-MJ    .00     .000 No_date   0:00     .00  n/a     .000
07638>                       +     1.0 02:B5-MJ         .00     .000 No_date   0:00     .00  n/a     .000
07639>                       +     1.0 02:B6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
07640>                       +     1.0 02:B6-MN        3.29     .064 No_date   27:36   41.22  n/a     .000
07641>                       +     1.0 02:A8-MJ-B6      .00     .000 No_date   0:00     .00  n/a     .000
07642>                   SUM=      1.0 01:B6-B7EXMJ    3.29     .064 No_date   27:36   41.22  n/a     .000
07643> R0010:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07644>     COMPUTE DUALHYD       1.0 01:B6-B7EXMJ    3.29     .064 No_date   27:36   41.22  n/a     .000
07645>       Major System   /     1.0 02:B6R-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07646>       Minor System   \     1.0 03:B6R-MN       3.29     .064 No_date   27:36   41.22  n/a     .000
07647>       {MjSysSto=.0000E+00, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07648> R0010:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07649>     ROUTE PIPE      ->     1.0 02:MH105-B6     106.90    3.008 No_date   28:05   41.72  n/a     .000
07650>     [RDT= 1.00] out<-     1.0 01:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
07651>       [L/S/n=  208./ .100/.013]
07652>       {Vmax= 1.597:Dmax= 1.249}
07653>       [Din= 1.80:Dused= 1.80}
07654> R0010:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07655>     ADD HYD               1.0 02:360-106A     7.19     .628 No_date   28:11   41.31  n/a     .000
07656>                       +     1.0 02:105-106A   106.90    3.006 No_date   28:12   41.72  n/a     .000
07657>                       +     1.0 02:B6R-MN       3.29     .064 No_date   27:36   41.22  n/a     .000
07658>                       +     1.0 02:B6R-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07659>                   SUM=      1.0 01:MH106A     117.38    3.698 No_date   28:11   41.68  n/a     .000
07660> R0010:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07661>     SAVE HYD              1.0 01:MH106A      117.38    3.698 No_date   28:11   41.68  n/a     .000
07662>       fname :MH106A.0010
07663>       remark:Total Flows at MH106A
07664> R0010:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07665>     ROUTE PIPE      ->     1.0 02:MH106A      117.38    3.698 No_date   28:11   41.68  n/a     .000
07666> *   [RDT= 1.00] out<-     1.0 01:106A-106     117.38    3.659 No_date   28:06   41.68  n/a     .000
07667>       [L/S/n=  190./ .100/.013]
07668>       {Vmax= 1.635:Dmax= 1.487}
07669>       [Din= 1.80:Dused= 1.81}
07670> R0010:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07671>     CONTINUOUS STANDHYD   1.0 01:A9           2.44     .365 No_date   28:00   51.11 .790     .000
07672>       [XIMP=.71:TIMP=.71]
07673>       [LOSS= 2 :CN= 75.0]
07674>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07675>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
07676>       [IaRECimp=   4.00: IaRECper=   4.00]
07677>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07678> R0010:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07679>     COMPUTE DUALHYD       1.0 01:A9           2.44     .365 No_date   28:00   51.11  n/a     .000
07680>       Major System   /     1.0 02:A9-MJ        .00     .000 No_date   0:00     .00  n/a     .000
07681>       Minor System   \     1.0 03:A9-MN       2.44     .365 No_date   28:00   51.11  n/a     .000
07682> R0010:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07683>     ADD HYD               1.0 02:106A-106    117.38    3.659 No_date   28:06   41.68  n/a     .000
07684>                       +     1.0 02:A9-MN       2.44     .365 No_date   28:00   51.11  n/a     .000
07685>                   SUM=      1.0 01:MH106      119.82    3.992 No_date   28:02   41.87  n/a     .000
07686> R0010:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07687>     SAVE HYD              1.0 01:MH106       119.82    3.992 No_date   28:02   41.87  n/a     .000
07688>       fname :MH106.0010
07689>       remark:Total Flows at MH106
07690> R0010:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07691>     ROUTE PIPE      ->     1.0 02:MH106       119.82    3.992 No_date   28:02   41.87  n/a     .000
07692> *   [RDT= 1.00] out<-     1.0 01:106-107      119.82    3.962 No_date   28:03   41.87  n/a     .000
07693>       [L/S/n=  123./ .100/.013]
07694>       {Vmax= 1.666:Dmax= 1.530}
07695>       [Din= 1.80:Dused= 1.86}
07696> R0010:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07697>     CONTINUOUS STANDHYD   1.0 01:A10          4.14     .416 No_date   28:01   38.46 .595     .000
07698>       [XIMP=.35:TIMP=.47]
07699>       [LOSS= 2 :CN= 75.0]
07700>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07701>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
07702>       [IaRECimp=   4.00: IaRECper=   4.00]
07703>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07704> R0010:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07705>     COMPUTE DUALHYD       1.0 01:A10          4.14     .416 No_date   28:01   38.46  n/a     .000
07706>       Major System   /     1.0 02:A10-MJ       .00     .000 No_date   0:00     .00  n/a     .000
07707>       Minor System   \     1.0 03:A10-MN       4.14     .310 No_date   27:55   38.48  n/a     .000
07708>       {MjSysSto=.4172E+02, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07709> R0010:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07710>     CONTINUOUS STANDHYD   1.0 01:A11         10.61    1.251 No_date   28:01   45.36 .701     .000
07711>       [XIMP=.53:TIMP=.62]
07712>       [LOSS= 2 :CN= 75.0]
07713>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07714>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
07715>       [IaRECimp=   4.00: IaRECper=   4.00]
07716>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07717> R0010:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07718>     COMPUTE DUALHYD       1.0 01:A11         10.61    1.251 No_date   28:01   45.36  n/a     .000
07719>       Major System   /     1.0 02:A11-MJ       .00     .000 No_date   0:00     .00  n/a     .000
07720>       Minor System   \     1.0 03:A11-MN      10.61     .993 No_date   27:56   45.38  n/a     .000
07721>       {MjSysSto=.1016E+03, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07722> R0010:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07723>     ADD HYD               1.0 02:106-107     119.82    3.962 No_date   28:03   41.87  n/a     .000
07724>                       +     1.0 02:A10-MN       4.14     .310 No_date   27:55   38.48  n/a     .000
07725>                       +     1.0 02:A11-MN      10.61     .993 No_date   27:56   45.38  n/a     .000
07726>                   SUM=      1.0 01:MH107      134.57    5.265 No_date   28:03   42.04  n/a     .000
07727> R0010:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07728>     SAVE HYD              1.0 01:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
07729>       fname :MH107.0010
07730>       remark:Total Flows at MH107
07731> R0010:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07732>     ROUTE PIPE      ->     1.0 02:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
07733> *   [RDT= 1.00] out<-     1.0 01:107-119      134.57    5.251 No_date   28:05   42.04  n/a     .000
07734>       [L/S/n=  114./ .120/.013]
07735>       {Vmax= 1.912:Dmax= 1.640}
07736>       [Din= 1.80:Dused= 2.00}
07737> R0010:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07738>     ROUTE PIPE      ->     1.0 02:107-119      134.57    5.251 No_date   28:05   42.04  n/a     .000
07739> *   [RDT= 1.00] out<-     1.0 01:119-108      134.57    5.248 No_date   28:06   42.04  n/a     .000
07740>       [L/S/n=   66./ .120/.013]
07741>       {Vmax= 1.911:Dmax= 1.639}
07742>       [Din= 1.80:Dused= 2.00}
07743> R0010:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07744>     CONTINUOUS STANDHYD   1.0 01:A12         12.29    1.385 No_date   28:01   41.19 .637     .000
07745>       [XIMP=.41:TIMP=.54]
07746>       [LOSS= 2 :CN= 75.0]
07747>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07748>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
07749>       [IaRECimp=   4.00: IaRECper=   4.00]
07750>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07751> R0010:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07752>     COMPUTE DUALHYD       1.0 01:A12         12.29    1.385 No_date   28:01   41.19  n/a     .000
07753>       Major System   /     1.0 02:A12-MJ       .00     .000 No_date   0:00     .00  n/a     .000
07754>       Minor System   \     1.0 03:A12-MN      12.29    1.029 No_date   27:54   41.27  n/a     .000
07755>       {MjSysSto=.1401E+03, ToTdVfVol=.0000E+00, N-Vdf=    0, ToTdurDvf=    0.hrs}
07756> R0010:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07757>     CONTINUOUS STANDHYD   1.0 01:A13          2.59     .368 No_date   28:01   51.11 .790     .000
07758>       [XIMP=.71:TIMP=.71]
07759>       [LOSS= 2 :CN= 75.0]
07760>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07761>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
07762>       [IaRECimp=   4.00: IaRECper=   4.00]
07763>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07764> R0010:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07765>     COMPUTE DUALHYD       1.0 01:A13          2.59     .368 No_date   28:01   51.11  n/a     .000
07766>       Major System   /     1.0 02:A13-MJ       .00     .000 No_date   0:00     .00  n/a     .000
07767>       Minor System   \     1.0 03:A13-MN       2.59     .368 No_date   28:01   51.11  n/a     .000
07768> R0010:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07769>     CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94     .309 No_date   28:00   38.90 .601     .000
07770>       [XIMP=.41:TIMP=.41]
07771>       [LOSS= 2 :CN= 75.0]
07772>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07773>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
07774>       [IaRECimp=   4.00: IaRECper=   4.00]
07775>       [SMIN= 33.81: SMAX=225.43: SK= .010]
07776> R0010:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07777>     ADD HYD               1.0 02:119-108     134.57    5.248 No_date   28:06   42.04  n/a     .000
07778>                       +     1.0 02:A13-MN       2.59     .368 No_date   28:01   51.11  n/a     .000
07779>                       +     1.0 02:A12-MN      12.29    1.029 No_date   27:54   41.27  n/a     .000
07780>                   SUM=      1.0 01:MH108      149.45    6.598 No_date   28:04   42.14  n/a     .000
07781> R0010:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07782>     SAVE HYD              1.0 01:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
07783>       fname :MH108.0010
07784>       remark:Total Flows at MH108
07785> R0010:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07786>     ROUTE PIPE      ->     1.0 02:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
07787> *   [RDT= 1.00] out<-     1.0 01:108-116      149.45    6.590 No_date   28:05   42.14  n/a     .000
07788>       [L/S/n=   77./ .130/.013]
07789>       {Vmax= 2.085:Dmax= 1.759}
07790>       [Din= 1.80:Dused= 2.14}
07791> R0010:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07792>     ROUTE PIPE      ->     1.0 02:108-116      149.45    6.590 No_date   28:05   42.14  n/a     .000
07793> *   [RDT= 1.00] out<-     1.0 01:116-corrig   149.45    6.577 No_date   28:06   42.14  n/a     .000
07794>       [L/S/n=   80./ .130/.013]
07795>       {Vmax= 2.084:Dmax= 1.758}
07796>       [Din= 1.80:Dused= 2.14}
07797> R0010:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07798>     ADD HYD               1.0 02:116-corrig   149.45    6.577 No_date   28:06   42.14  n/a     .000
07799>                       +     1.0 02:Pond-Block    2.94     .309 No_date   28:00   38.90  n/a     .000
07800>                   SUM=      1.0 01:Corrigan     152.39    6.779 No_date   28:05   42.00  n/a     .000
07801> R0010:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07802>     SAVE HYD              1.0 01:Corrigan     152.39    6.779 No_date   28:05   42.08  n/a     .000
07803>       fname :Corrigan.0010
07804>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
07805> R0010:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07806>     ROUTE RESERVOIR ->     1.0 02:Corrigan     152.39    6.779 No_date   28:05   42.00  n/a     .000
07807>                      out <=     1.0 01:Co-P         152.39    6.100 No_date   28:15   42.07  n/a     .000
07808>              overflow <=     1.0 03:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
07809>       {MxStoused=.1015E+01  m3, ToTdVfVol=.0000E+00  m3, N-Vdf=    0, ToTdurDvf=    0.hrs}
07810> R0010:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07811>     ADD HYD               1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
07812>                       +     1.0 02:Co-P         152.39    6.100 No_date   28:15   42.07  n/a     .000
07813>                       +     1.0 02:M_TO       54837.78   85.046 No_date   37:15   23.06  n/a     .000
07814>                       +     1.0 02:MH105-JR      28.70    7.335 No_date   28:05   41.72  n/a     .000
07815>                       +     1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
07816>                       +     1.0 02:B5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
07817>                       +     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
07818>                       +     1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
07819>                       +     1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
07820>                       +     1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
07821>                   SUM=      1.0 01:corrig     55018.86   85.401 No_date   37:15   23.12  n/a     .000
07822> R0010:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07823>     SAVE HYD              1.0 01:corrig      55018.86   85.401 No_date   37:15   23.12  n/a     .000
07824>       fname :corrig.0010
07825>       remark:Total Flows at Corrigan Pond
07826> #*********************************************************************
07827> #    - Corrigan Pond 1
07828> #    - Rating curve obtained from Barrhaven South MSS modeling
07829> #    - Tributary Drainage Area to MSS
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07855> #     - Rating curve obtained from CCL hydraulic modeling
07856> #*************************************************************************
07857> R0010:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07858>      ROUTE RESERVOIR ->     1.0 02:MILLS        175.99   12.212 No_date   28:07   36.76  n/a     .000
07859>                  out <=     1.0 01:MILL_P       175.99    4.030 No_date   28:43   36.76  n/a     .000
07860>             overflow <=     1.0 03:MIL-OV          .00     .000 No_date    0:00     .00  n/a     .000
07861>      {MxStoUsed=.2299E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07862> R0010:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07863>      ADD HYD                1.0 02:N_MI       55018.86   85.374 No_date   37:18   23.12  n/a     .000
07864>                       +     1.0 02:MIL-OV          .00     .000 No_date    0:00     .00  n/a     .000
07865>                       +     1.0 02:MILL_P       175.99    4.030 No_date   28:43   36.76  n/a     .000
07866>                    SUM=     1.0 01:SN_MI      55194.85   85.786 No_date   37:17   23.16  n/a     .000
07867> R0010:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07868>      SAVE HYD               1.0 01:SN_MI      55194.85   85.786 No_date   37:17   23.16  n/a     .000
07869>        fname :SN_MI.0010
07870>        remark:Total Flows at Jockvale Road
07871> #
07872> # Hydrograph from Jockvale Road routed to Heart's Desire
07873> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
07874> #
07875> R0010:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07876>      ROUTE CHANNEL   ->     1.0 02:SN_MI      55194.85   85.786 No_date   37:17   23.16  n/a     .000
07877>       [RDT= 1.00] out<-     1.0 01:N_DE       55194.85   85.515 No_date   37:21   23.16  n/a     .000
07878>        [L/S/n= 1962./ .223/.045]
07879>        {Vmax= 1.390:Dmax= 2.066}
07880> #*************************************************************************
07881> #    Catchment DESIRE
07882> #    - To Jock River (north of the Jock)
07883> #    - Rural-estate subdivision (Heart's Desire Community)
07884> #*************************************************************************
07885> R0010:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07886>      CONTINUOUS STANDHYD     1.0 01:DESIRE        23.78    1.694 No_date   28:03   32.93 .509     .000
07887>        [XIMP=.25:TIMP=.25]
07888>        [LOSS= 2 :CN= 77.0]
07889>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07890>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
07891>        [IaRECimp=   4.00: IaRECper=   4.00]
07892>        [SMIN= 31.15: SMAX=207.66: SK= .010]
07893> #*************************************************************************
07894> #    Catchment JOCKVA
07895> #    - To Jockvale SWM Facility
07896> #    - Residential development & golf course
07897> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
07898> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
07899> #*************************************************************************
07900> R0010:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07901>      CONTINUOUS STANDHYD     1.0 01:JOCKVA       225.13   17.670 No_date   28:08   41.86 .647     .000
07902>        [XIMP=.50:TIMP=.50]
07903>        [LOSS= 2 :CN= 74.0]
07904>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07905>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
07906>        [IaRECimp=   4.00: IaRECper=   4.00]
07907>        [SMIN= 36.67: SMAX=244.49: SK= .010]
07908> R0010:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07909>      ADD HYD                1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:55   41.99  n/a     .000
07910>                       +     1.0 02:JOCKVA       225.13   17.670 No_date   28:08   41.86  n/a     .000
07911>                       +     1.0 02:B2-MJ           .00     .000 No_date    0:00     .00  n/a     .000
07912>                       +     1.0 02:B3-MJ           .00     .000 No_date    0:00     .00  n/a     .000
07913>                    SUM=     1.0 01:JOCKVA-TO    257.63   19.945 No_date   28:08   41.88  n/a     .000
07914> R0010:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07915>      SAVE HYD               1.0 01:JOCKVA-TO    257.63   19.945 No_date   28:08   41.88  n/a     .000
07916>        fname :JOCKVA-TO.0010
07917>        remark:Total Flows at KB first pond
07918> #*************************************************************************
07919> #    Jockvale SWM Facility
07920> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
07921> #*************************************************************************
07922> R0010:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07923>      ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO    257.63   19.945 No_date   28:08   41.88  n/a     .000
07924>                  out <=     1.0 01:JOCK_P       257.63    6.542 No_date   28:42   41.88  n/a     .000
07925>             overflow <=     1.0 03:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
07926>      {MxStoUsed=.4673E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07927> R0010:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07928>      ADD HYD                1.0 02:N_DE       55194.85   85.515 No_date   37:21   23.16  n/a     .000
07929>                       +     1.0 02:DESIRE        23.78    1.694 No_date   28:03   32.93  n/a     .000
07930>                       +     1.0 02:JO-OVF          .00     .000 No_date    0:00     .00  n/a     .000
07931>                       +     1.0 02:JOCK_P       257.63    6.542 No_date   28:42   41.88  n/a     .000
07932>                    SUM=     1.0 01:SN_DE      55476.26   86.165 No_date   37:21   23.26  n/a     .000
07933> R0010:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07934>      SAVE HYD               1.0 01:SN_DE      55476.26   86.165 No_date   37:21   23.26  n/a     .000
07935>        fname :SN_DE.0010
07936>        remark:Total Flows at Heart's Desire
07937> #
07938> # Hydrograph from Heart's Desire routed to Rideau River
07939> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
07940> #
07941> R0010:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07942>      ROUTE CHANNEL   ->     1.0 02:SN_DE      55476.26   86.165 No_date   37:21   23.26  n/a     .000
07943>       [RDT= 1.00] out<-     1.0 01:N1         55476.26   86.183 No_date   37:18   23.26  n/a     .000
07944>        [L/S/n=  563./ .967/.045]
07945>        {Vmax= 1.785:Dmax= 1.035}
07946> #*************************************************************************
07947> #    Catchment S-2
07948> #    - To Jock River (north and south)
07949> #    - Undeveloped floodplain and river
07950> #*************************************************************************
07951> R0010:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07952>      CONTINUOUS NASHYD       1.0 01:S-2          102.94    2.957 No_date   28:20   23.57 .364     .000
07953>        [CN= 72.0: N= 3.00: Tp=  .40]
07954>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
07955>        [InterEventTime=  12.00]
07956> R0010:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07957>      ADD HYD                1.0 02:N1         55476.26   86.183 No_date   37:18   23.26  n/a     .000
07958>                       +     1.0 02:S-2          102.94    2.957 No_date   28:20   23.57  n/a     .000
07959>                    SUM=     1.0 01:SN_N1      55579.20   86.348 No_date   37:18   23.26  n/a     .000
07960> R0010:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07961>      SAVE HYD               1.0 01:SN_N1      55579.20   86.348 No_date   37:18   23.26  n/a     .000
07962>        fname :SN_N1.0010
07963>        remark:Total Flows at Rideau River
07964> ##########################################################################
07965>   ** END OF RUN :   24
07966>
07967> ************************************************************************************************************
07968>
07969>
07970>
07971>
07972>
07973>  RUN#:COMMAND#
07974> R0025:C00001------------------------------------------------------------------------------------------------
07975>       START
07976>        [TZERO =    .00 hrs on        0]
07977>        [METOUT=  2   (1=imperial, 2=metric output)]
07978>        [NSTORM=  1 ]
07979>        [NRUN  = 0025 ]
07980> #*************************************************************************
07981> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
07982> #*************************************************************************
07983> #  Project Name: [Jock River]     Project Number: [1474-16]
07984> #  Date       : 04-03-2021
07985> #  Modeller   : [M.M.]
07986> #  Company    : JFSAinc.
07987> #  License #  : 2549237
07988> #*************************************************************************
07989> # CALIBRATION OF SUMMER MODEL PARAMETERS
07990> # USING CONTINUOUS SIMULATIONS
07991> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
07992> # Use data collected from May ist to July 14, 2003
07993> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
07994> # 2020-12-01 correct pond curve values
07995> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
07996> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
07997> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
07998> # ---------
07999> R0025:C00002------------------------------------------------------------------------------------------------
08000>       READ STORM
08001>        Filename = storm.001
08002>        Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
08003>        [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
08004> R0025:C00003------------------------------------------------------------------------------------------------
08005>       MODIFY STORM
08006>        [RFACT=  1.00:TSHIFT= 960.00 min]
08007>        [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
08008> R0025:C00004------------------------------------------------------------------------------------------------
08009>       DEFAULT VALUES
08010>        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
08011>        ICASEdv  = 1 (read and print data)
08012>        FileTitle= File comment: [Based onvarious calibration exercises in Onta
08013>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
08014>        Horton's infiltration equation parameters:
08015>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
08016>        Parameters for PERVIOUS surfaces in STANDHYD:
08017>        [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
08018>        Parameters for IMPERVIOUS surfaces in STANDHYD:
08019>        [IAimp=   1.57 mm] [CLI= 1.50]  [MNI= .013]
08020>        Parameters used in NASHYD:
08021>        [Ia=   4.67 mm] [N= 3.00]
08022>        Average monthly Pan Evaporation data in    (mm)
08023>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
08024>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
08025>        Average monthly Potential Evapotranspiration in    (mm)
08026>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
08027>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
08028> R0025:C00005------------------------------------------------------------------------------------------------
08029>       COMPUTE API
08030>        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
08031>        {APImax=106.76: APIavg= 65.09: APImin= 44.87}
08032> #
08033> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08034> # of 1.32
08035> R0025:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08036>      CONTINUOUS NASHYD       1.0 01:JR_HW       3680.00   15.500 No_date   36:57   25.80 .347     .000
08037>        [CN= 64.0: N= 3.00: Tp= 7.13]
08038>        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
08039>        [InterEventTime=  12.00]
08040> #
08041> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08042> # of 1.32
08043> R0025:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08044>      CONTINUOUS NASHYD       1.0 01:SW_13        971.00    5.778 No_date   32:34   24.02 .323     .000
08045>        [CN= 61.0: N= 3.00: Tp= 3.76]
08046>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
08047>        [InterEventTime=  12.00]
08048> #
08049> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08050> # of 1.80
08051> R0025:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08052>      CONTINUOUS NASHYD       1.0 01:JR_GWM      3074.00    7.521 No_date   39:59   20.65 .278     .000
08053>        [CN= 55.0: N= 3.00: Tp=11.33]
08054>        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
08055>        [InterEventTime=  12.00]
08056> R0025:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08057>      CONTINUOUS NASHYD       1.0 01:JR_ASH      1781.00   14.166 No_date   32:40   31.50 .423     .000
08058>        [CN= 72.0: N= 3.00: Tp= 3.91]
08059>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08060>        [InterEventTime=  12.00]
08061> R0025:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08062>      CONTINUOUS NASHYD       1.0 01:SW_11        500.00    7.521 No_date   29:22   27.01 .363     .000
08063>        [CN= 66.0: N= 3.00: Tp= 1.24]
08064>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08065>        [InterEventTime=  12.00]
08066> #
08067> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08068> # of 1.80
08069> R0025:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08070>      CONTINUOUS NASHYD       1.0 01:NN_CK       1917.00   10.351 No_date   34:27   27.01 .363     .000
08071>        [CN= 66.0: N= 3.00: Tp= 5.29]
08072>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08073>        [InterEventTime=  12.00]
08074> #
08075> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08076> # of 1.52
08077> R0025:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08078>      CONTINUOUS NASHYD       1.0 01:SW_10       5666.00   27.457 No_date   37:54   31.50 .423     .000
08079>        [CN= 72.0: N= 3.00: Tp= 8.00]
08080>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08081>        [InterEventTime=  12.00]
08082> #
08083> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08084> # of 1.75
08085> R0025:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08086>      CONTINUOUS NASHYD       1.0 01:KG_CK       8376.00   26.276 No_date   39:59   27.01 .363     .000
08087>        [CN= 66.0: N= 3.00: Tp=11.66]
08088>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08089>        [InterEventTime=  12.00]
08090> #
08091> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08092> # of 1.68
08093> R0025:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08094>      CONTINUOUS NASHYD       1.0 01:SW_9        1132.00   11.752 No_date   30:54   30.18 .406     .000
08095>        [CN= 70.0: N= 3.00: Tp= 2.51]
08096>        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
08097>        [InterEventTime=  12.00]
08098> #
08099> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08100> # of 1.82
08101> R0025:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08102>      CONTINUOUS NASHYD       1.0 01:NC_CK       4464.00   13.075 No_date   39:59   24.61 .331     .000
08103>        [CN= 62.0: N= 3.00: Tp=11.32]
08104>        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
08105>        [InterEventTime=  12.00]
08106> #
08107> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08108> # of 1.80
08109> R0025:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08110>      CONTINUOUS NASHYD       1.0 01:SW_8         131.00    2.266 No_date   28:57   25.20 .339     .000
08111>        [CN= 63.0: N= 3.00: Tp=  .90]
08112>        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
08113>        [InterEventTime=  12.00]
08114> #
08115> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08116> # of 1.65
08117> R0025:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08118>      CONTINUOUS NASHYD       1.0 01:HB_DR       3854.00   15.333 No_date   38:34   27.01 .363     .000
08119>        [CN= 66.0: N= 3.00: Tp= 8.42]
08120>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08121>        [InterEventTime=  12.00]
08122> #
08123> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08124> # of 1.82
08125> R0025:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08126>      CONTINUOUS NASHYD       1.0 01:SW_7        3197.00   11.663 No_date   36:24   21.75 .292     .000
08127>        [CN= 57.0: N= 3.00: Tp= 5.65]
08128>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
08129>        [InterEventTime=  12.00]
08130> #
08131> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08132> # of 1.75
08133> R0025:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08134>      CONTINUOUS NASHYD       1.0 01:SW_6         165.00    1.076 No_date   33:03   27.63 .371     .000
08135>        [CN= 67.0: N= 3.00: Tp= 4.18]
08136>        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
08137>        [InterEventTime=  12.00]
08138> #
08139> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08140> # of 1.67
08141> R0025:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08142>      CONTINUOUS NASHYD       1.0 01:SW_DR       1332.00    7.882 No_date   35:14   31.50 .423     .000
08143>        [CN= 72.0: N= 3.00: Tp= 5.95]
08144>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08145>        [InterEventTime=  12.00]
08146> R0025:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08147>      CONTINUOUS NASHYD       1.0 01:SW_5         224.00    6.882 No_date   28:45   35.66 .479     .000
08148>        [CN= 77.0: N= 3.00: Tp=  .75]
08149>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08150>        [InterEventTime=  12.00]
08151> #
08152> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08153> # of 1.20
08154> R0025:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08155>      CONTINUOUS NASHYD       1.0 01:FL_CK       4945.00   37.664 No_date   33:18   32.85 .442     .000
08156>        [CN= 74.0: N= 3.00: Tp= 4.45]
08157>        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
08158>        [InterEventTime=  12.00]
08159> R0025:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08160>      CONTINUOUS NASHYD       1.0 01:SW_5A2        20.00     .798 No_date   28:35   39.36 .529     .000
08161>        [CN= 81.0: N= 3.00: Tp=  .62]
08162>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08163>        [InterEventTime=  12.00]
08164> #
08165> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08166> # of 1.61
08167> R0025:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08168>      CONTINUOUS NASHYD       1.0 01:SW_5A1      1412.00    7.480 No_date   37:50   34.24 .460     .000
08169>        [CN= 75.0: N= 3.00: Tp= 8.00]
08170>        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
08171>        [InterEventTime=  12.00]
08172> R0025:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08173>      CONTINUOUS NASHYD       1.0 01:SW_4         585.00   10.942 No_date   29:56   39.36 .529     .000
08174>        [CN= 81.0: N= 3.00: Tp= 1.75]
08175>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08176>        [InterEventTime=  12.00]
08177> R0025:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08178>      CONTINUOUS NASHYD       1.0 01:LM_CK       1021.00   14.476 No_date   30:46   38.60 .519     .000
08179>        [CN= 80.0: N= 3.00: Tp= 2.46]
08180>        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
08181>        [InterEventTime=  12.00]
08182> R0025:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08183>      CONTINUOUS NASHYD       1.0 01:SW_2         177.00    5.438 No_date   28:45   35.66 .479     .000
08184>        [CN= 77.0: N= 3.00: Tp=  .75]
08185>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08186>        [InterEventTime=  12.00]
08187> R0025:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08188>      CONTINUOUS NASHYD       1.0 01:SM_DR       1122.00   13.229 No_date   31:45   39.36 .529     .000
08189>        [CN= 81.0: N= 3.00: Tp= 3.25]
08190>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08191>        [InterEventTime=  12.00]
08192> R0025:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08193>      CONTINUOUS NASHYD       1.0 01:MO_DR       2737.00   29.508 No_date   31:30   34.94 .470     .000
08194>        [CN= 76.0: N= 3.00: Tp= 3.03]
08195>        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
08196>        [InterEventTime=  12.00]
08197> #
08198> # Routing hydrographs
08199> #
08200> # Starting with the addition of Jock River Headwater and Subwatershed 13
08201> #
08202> R0025:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08203>      ADD HYD                1.0 02:JR_HW       3680.00   15.500 No_date   36:56   25.80  n/a     .000
08204>                       +     1.0 02:SW_13        971.00    5.778 No_date   32:34   24.02  n/a     .000
08205>                    SUM=     1.0 01:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
08206> #
08207> # Sum of hydrographs from Node 13 routed to Node 13A
08208> # (Approximated cross-section - see cross-section 258)
08209> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08210> #
08211> R0025:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08212>      ROUTE CHANNEL   ->     1.0 02:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
08213>       [RDT= 1.00] out<-     1.0 01:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
08214>        [L/S/n= 9074./ .022/.040]
08215>        {Vmax=  .548:Dmax= 3.659}
08216> #
08217> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
08218> #
08219> R0025:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08220>      ADD HYD                1.0 02:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
08221>                       +     1.0 02:JR_GWM      3074.00    7.521 No_date   39:59   20.65  n/a     .000
08222>                    SUM=     1.0 01:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
08223> #
08224> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
08225> #
08226> R0025:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08227>      ROUTE RESERVOIR ->     1.0 02:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
08228>                  out <=     1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
```

```
08229>      {MxStoUsed=.1192E+03  m3}
08230> #
08231> R0025:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08232>     SAVE HYD              1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08233>       fname :H_RESGM
08234>       remark:Outflow from Res GM
08235> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
08236> # (Approximated cross-section - see cross-section 258)
08237> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08238> R0025:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08239>     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08240>       [RDT= 1.00] out<-    1.0 01:N12        7725.00    3.675 No_date   63:05   23.52  n/a     .000
08241>       [L/S/n= 5926./ .076/.040]
08242>       {Vmax=  .552:Dmax= 1.524}
08243> #
08244> # Addition of Subwatershed Jock River at Ashton to Node 12
08245> #
08246> R0025:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08247>     ADD HYD               1.0 02:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
08248>                       +    1.0 02:JR_ASH      1781.00   14.166 No_date   32:40   31.50  n/a     .000
08249>                     SUM=   1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08250> R0025:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08251>     SAVE HYD              1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08252>       fname :H_SN12
08253>       remark:flow at S_N12 near Ashton
08254> #
08255> # Sum of hydrographs from Node 12 routed to Node 11
08256> # (Approximated cross-section - see cross-section 258)
08257> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08258> #
08259> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
08260> #
08261> R0025:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08262>     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08263>       [RDT= 1.00] out<-    1.0 01:Dum11      9506.00   16.007 No_date   33:02   25.02  n/a     .000
08264>       [L/S/n=  972./ .054/.040]
08265>       {Vmax=  .721:Dmax= 2.847}
08266> #
08267> # Addition of Subwatershed 11 and No Name Creek to Node 11
08268> #
08269> R0025:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08270>     ADD HYD               1.0 02:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
08271>                       +    1.0 02:SW_11        500.00    7.521 No_date   29:22   27.01  n/a     .000
08272>                       +    1.0 02:NN_CK       1917.00   10.351 No_date   34:27   27.01  n/a     .000
08273>                     SUM=   1.0 01:S_N11       11923.00  27.908 No_date   33:04   25.42  n/a     .000
08274> #
08275> # Sum of hydrographs from Node 11 routed to Node 10
08276> # Section 1
08277> #
08278> R0025:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08279>     ROUTE CHANNEL   ->    1.0 02:S_N11       11923.00  27.908 No_date   33:04   25.42  n/a     .000
08280>       [RDT= 1.00] out<-    1.0 01:N10        11923.00  18.039 No_date   40:01   25.42  n/a     .000
08281>       [L/S/n=14028./ .157/.040]
08282>       {Vmax=  .464:Dmax= 1.329}
08283> #
08284> # Addition of Subwatershed 10 to Node 10
08285> #
08286> R0025:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08287>     ADD HYD               1.0 02:N10         11923.00  18.039 No_date   40:01   25.42  n/a     .000
08288>                       +    1.0 02:SW_10       5666.00   27.457 No_date   37:54   31.50  n/a     .000
08289>                     SUM=   1.0 01:S_N10       17589.00  45.026 No_date   38:35   27.38  n/a     .000
08290> R0025:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08291>     SAVE HYD              1.0 01:S_N10       17589.00  45.026 No_date   38:35   27.38  n/a     .000
08292>       fname :H_SN10
08293>       remark:flow at S_N10: N10 + SW_10
08294> # Addition of Kings Creek to S_N10
08295> #
08296> R0025:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08297>     ADD HYD               1.0 02:S_N10       17589.00  45.026 No_date   38:35   27.38  n/a     .000
08298>                       +    1.0 02:KG_CK       8376.00   26.276 No_date   39:59   27.01  n/a     .000
08299>                     SUM=   1.0 01:S_N10A      25965.00  70.812 No_date   39:59   27.26  n/a     .000
08300> #
08301> # Sum of hydrographs from Node 10 routed to Node 9
08302> # Section 2
08303> #
08304> R0025:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08305>     ROUTE CHANNEL   ->    1.0 02:S_N10A      25965.00  70.812 No_date   39:59   27.26  n/a     .000
08306>       [RDT= 1.00] out<-    1.0 01:N9         25965.00  69.032 No_date   39:59   27.26  n/a     .000
08307>       [L/S/n= 3982./ .075/.040]
08308>       {Vmax=  .718:Dmax= 1.889}
08309> #
08310> # Addition of Subwatershed 9 and Nichols Creek to Node 9
08311> #
08312> R0025:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08313>     ADD HYD               1.0 02:N9          25965.00  69.032 No_date   39:59   27.26  n/a     .000
08314>                       +    1.0 02:SW_9        1132.00   11.752 No_date   30:54   30.18  n/a     .000
08315>                       +    1.0 02:NC_CK       4464.00   13.075 No_date   39:59   24.61  n/a     .000
08316>                     SUM=   1.0 01:S_N9        31561.00  84.684 No_date   39:59   26.99  n/a     .000
08317> #
08318> # Sum of hydrographs from Node 9 routed to Node 8
08319> # Section 3
08320> #
08321> R0025:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08322>     ROUTE CHANNEL   ->    1.0 02:S_N9        31561.00  84.684 No_date   39:59   26.99  n/a     .000
08323>       [RDT= 1.00] out<-    1.0 01:N8         31561.00  79.245 No_date   39:59   26.99  n/a     .000
08324>       [L/S/n= 2269./ .088/.045]
08325>       {Vmax=  .363:Dmax= 1.743}
08326> #
08327> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
08328> #
08329> R0025:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08330>     ADD HYD               1.0 02:N8          31561.00  79.245 No_date   39:59   26.99  n/a     .000
08331>                       +    1.0 02:SW_8         131.00    2.266 No_date   28:57   25.20  n/a     .000
08332>                       +    1.0 02:HB_DR       3854.00   15.333 No_date   38:34   27.01  n/a     .000
08333>                     SUM=   1.0 01:S_N8        35546.00  94.597 No_date   39:59   26.99  n/a     .000
08334> #
08335> # Sum of hydrographs from Node 8 routed to Node 7
08336> # Section 4
08337> #
08338> R0025:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08339>     ROUTE CHANNEL   ->    1.0 02:S_N8        35546.00  94.597 No_date   39:59   26.99  n/a     .000
08340>       [RDT= 1.00] out<-    1.0 01:N7         35546.00  80.337 No_date   45:08   26.98  n/a     .000
08341>       [L/S/n= 3750./ .053/.070]
08342>       {Vmax=  .226:Dmax= 2.161}
08343> #
08344> # Addition of Subwatershed 7 to Node 7
08345> #
08346> R0025:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08347>     ADD HYD               1.0 02:N7          35546.00   80.337 No_date   45:08   26.98  n/a     .000
08348>                       +    1.0 02:SW_7        3197.00   11.663 No_date   36:24   21.75  n/a     .000
08349>                     SUM=   1.0 01:S_N7        38743.00  86.331 No_date   44:08   26.55  n/a     .000
08350> R0025:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08351>     SAVE HYD              1.0 01:S_N7        38743.00  86.331 No_date   44:08   26.55  n/a     .000
08352>       fname :H_SN7
08353>       remark:flow at S_N7: N7 + SW_7
08354> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
08355> # Storage area and volumes were estimated from available topo maps.
08356> # Release rate from Fen was assumed to be controlled by the downstream
08357> # river cross-section for summer conditions.  It is was assumed that for up to
08358> # 0.75 m of water, the main channel of the river provided the storage.  Above
08359> # this depth, the wetland starts to signigicantly store water.
08360> #
08361> R0025:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08362>     ROUTE RESERVOIR ->    1.0 02:S_N7        38743.00   86.331 No_date   44:08   26.55  n/a     .000
08363>                     out <=   1.0 01:RES_RF    38743.00   42.032 No_date   60:05   26.55  n/a     .000
08364>       {MxStoUsed=.3671E+03  m3}
08365> R0025:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08366>     SAVE HYD              1.0 01:RES_RF      38743.00   42.032 No_date   60:05   26.55  n/a     .000
08367>       fname :H_ResRF
08368>       remark:outflow of Richmond Fen
08369> #
08370> # Sum of hydrographs from Node 7 routed to Node 6
08371> # Section 5
08372> #
08373> R0025:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08374>     ROUTE CHANNEL   ->    1.0 02:RES_RF      38743.00   42.032 No_date   60:05   26.55  n/a     .000
08375>       [RDT= 1.00] out<-    1.0 01:N6         38743.00   41.826 No_date   61:26   26.55  n/a     .000
08376>       [L/S/n= 3056./ .082/.025]
08377>       {Vmax=  .514:Dmax= 1.120}
08378> #
08379> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
08380> #
08381> R0025:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08382>     ADD HYD               1.0 02:N6          38743.00   41.826 No_date   61:26   26.55  n/a     .000
08383>                       +    1.0 02:SW_6         165.00    1.076 No_date   33:03   27.63  n/a     .000
08384>                       +    1.0 02:VG_DR       1332.00    7.882 No_date   35:14   31.50  n/a     .000
08385>                     SUM=   1.0 01:S_N6        40240.01  41.832 No_date   61:20   26.72  n/a     .000
08386> #
08387> # Sum of hydrographs from Node 6 routed to Node 5
08388> # Section 6
08389> #
08390> R0025:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08391>     ROUTE CHANNEL   ->    1.0 02:S_N6        40240.01   41.832 No_date   61:20   26.72  n/a     .000
08392>       [RDT= 1.00] out<-    1.0 01:N5         40240.01   41.717 No_date   62:14   26.72  n/a     .000
08393>       [L/S/n= 1852./ .054/.035]
08394>       {Vmax=  .444:Dmax= 1.222}
08395> #
08396> # Addition of Subwatershed 5 and Flowing Creek to Node 5
08397> #
08398> R0025:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08399>     ADD HYD               1.0 02:N5          40240.01   41.717 No_date   62:14   26.72  n/a     .000
08400>                       +    1.0 02:SW_5         224.00    6.882 No_date   28:45   35.66  n/a     .000
08401>                       +    1.0 02:FL_CK       4945.00   37.664 No_date   33:18   32.85  n/a     .000
08402>                     SUM=   1.0 01:S_N5        45409.01  62.634 No_date   34:27   27.43  n/a     .000
08403> #
08404> # Sum of hydrographs from Node 5 routed to Node 5A
08405> # Section 7
08406> #
08407> R0025:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08408>     ROUTE CHANNEL   ->    1.0 02:S_N5        45409.01   62.634 No_date   34:27   27.43  n/a     .000
08409>       [RDT= 1.00] out<-    1.0 01:N5A        45409.01   62.487 No_date   34:43   27.43  n/a     .000
08410>       [L/S/n=  556./ .090/.040]
08411>       {Vmax=  .511:Dmax= 1.222}
08412> #
08413> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
08414> #
08415> R0025:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08416>     ADD HYD               1.0 02:N5A         45409.01   62.487 No_date   34:43   27.43  n/a     .000
08417>                       +    1.0 02:SW_5A2        20.00     .798 No_date   28:35   39.36  n/a     .000
08418>                       +    1.0 02:SW_5A1      1412.00    7.480 No_date   37:50   34.24  n/a     .000
08419>                     SUM=   1.0 01:S_N5A       46841.01   69.334 No_date   35:01   27.64  n/a     .000
08420> #
08421> # Sum of hydrographs from Node 5A routed to Node 4
08422> # Section 8
08423> #
08424> R0025:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08425>     ROUTE CHANNEL   ->    1.0 02:S_N5A       46841.01   69.334 No_date   35:01   27.64  n/a     .000
08426>       [RDT= 1.00] out<-    1.0 01:N4         46841.01   66.496 No_date   36:27   27.64  n/a     .000
08427>       [L/S/n= 4630./ .043/.035]
08428>       {Vmax=  .840:Dmax= 3.530}
08429> #
08430> # Addition of Subwatershed 4 and Leamy Creek to Node 4
08431> #
08432> R0025:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08433>     ADD HYD               1.0 02:N4          46841.01   66.496 No_date   36:27   27.64  n/a     .000
08434>                       +    1.0 02:SW_4         585.00   10.942 No_date   29:56   39.36  n/a     .000
08435>                       +    1.0 02:LM_CK       1021.00   14.476 No_date   30:46   38.60  n/a     .000
08436>                     SUM=   1.0 01:S_N4        48447.00  73.819 No_date   35:41   28.02  n/a     .000
08437> R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08438>     SAVE HYD              1.0 01:S_N4        48447.00  73.819 No_date   35:41   28.02  n/a     .000
08439>       fname :S_N4.0025
08440>       remark:flow at S_N4
08441> #
08442> # Sum of hydrographs from Node 4 routed to Node 2
08443> # Section 9
08444> #
08445> R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08446>     ROUTE CHANNEL   ->    1.0 02:S_N4        48447.00   73.819 No_date   35:41   28.02  n/a     .000
08447>       [RDT= 1.00] out<-    1.0 01:N2         48447.00   73.485 No_date   35:42   28.02  n/a     .000
08448>       [L/S/n= 1667./ .060/.040]
08449>       {Vmax=  .874:Dmax= 3.570}
08450> #
08451> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
08452> #
08453> R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08454>     ADD HYD               1.0 02:N2          48447.00   73.485 No_date   35:42   28.02  n/a     .000
08455>                       +    1.0 02:SW_2         177.00    5.438 No_date   28:45   35.66  n/a     .000
08456>                       +    1.0 02:SM_DR       1122.00   13.229 No_date   31:45   39.36  n/a     .000
08457>                       +    1.0 02:MO_DR       2737.00   29.508 No_date   31:30   34.94  n/a     .000
08458>                     SUM=   1.0 01:S_N2        52483.00  106.109 No_date   33:07   28.64  n/a     .000
08459> R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08460>     SAVE HYD              1.0 01:S_N2        52483.00  106.109 No_date   33:07   28.64  n/a     .000
08461>       fname :H_SN2
08462>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
08463> #
08464> # Sum of hydrographs from Node 2 routed to Node 1
08465> # Section 10
08466> #
08467> #*************************************************************************
08468> #
08469> # Hydrograph from Node 2 routed to Node 416
08470> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
08471> #
08472> R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08473>     ROUTE CHANNEL   ->    1.0 02:S_N2        52483.00  106.109 No_date   33:07   28.64  n/a     .000
08474>       [RDT= 1.00] out<-    1.0 01:N_416      52483.00  103.234 No_date   34:03   28.64  n/a     .000
08475>       [L/S/n= 2327./ .050/.055]
08476>       {Vmax=  .754:Dmax= 3.305}
08477> #*************************************************************************
08478> #    Catchment SW-1a
08479> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
08480> #    - Undeveloped agricultural land
08481> #*************************************************************************
08482> R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08483>     CONTINUOUS NASHYD     1.0 01:SW_1a        536.42    5.154 No_date   31:16   30.13 .405     .000
08484>       [CN= 72.0: N= 3.00: Tp= 2.79]
08485>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08486>       [InterEventTime=  12.00]
08487> R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08488>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    6.507 No_date   28:03   57.38 .771     .000
08489>       [XIMP=.65:TIMP=.65]
08490>       [LOSS= 2 :CN= 75.0]
08491>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
08492>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
08493>       [IaRECimp=   4.00: IaRECper=   4.00]
08494>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08495> R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08496>     ADD HYD               1.0 02:N_416       52483.00  103.234 No_date   34:03   28.64  n/a     .000
08497>                       +    1.0 02:SW_1a        536.42    5.154 No_date   31:16   30.13  n/a     .000
08498>                       +    1.0 02:S-1-Okeefe    44.93    6.507 No_date   28:03   57.38  n/a     .000
08499>                     SUM=   1.0 01:SN_416      53064.36  107.198 No_date   33:26   28.68  n/a     .000
08500> R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08501>     SAVE HYD              1.0 01:SN_416      53064.36  107.198 No_date   33:26   28.68  n/a     .000
08502>       fname :SN_416.0025
08503>       remark:Total Flows at Highway 416
08504> #
08505> # Hydrograph from Node 416 routed to Node at Okeefe drain
08506> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
08507> #
08508> R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08509>     ROUTE CHANNEL   ->    1.0 02:SN_416      53064.36  107.198 No_date   33:26   28.68  n/a     .000
08510>       [RDT= 1.00] out<-    1.0 01:N_OK       53064.36  107.111 No_date   33:27   28.68  n/a     .000
08511>       [L/S/n=  497./ .302/.055]
08512>       {Vmax= 1.568:Dmax= 2.810}
08513> #*************************************************************************
08514> #    Catchment OKEEFE
08515> #    - To O'Keefe drain (north of the Jock)
08516> #    - Developed with assumed 43% imp.
08517> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
08518> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
08519> #*************************************************************************
08520> R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08521>     CONTINUOUS NASHYD     1.0 01:O-1          63.72     .937 No_date   28:58   22.21 .299     .000
08522>       [CN= 61.0: N= 3.00: Tp=  .90]
08523>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
08524>       [InterEventTime=  12.00]
08525> R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08526>     ROUTE CHANNEL   ->    1.0 02:O-1          63.72     .937 No_date   28:58   22.21  n/a     .000
08527>       [RDT= 1.00] out<-    1.0 01:O-1R         63.72     .877 No_date   29:15   22.21  n/a     .000
08528>       [L/S/n=  960./ .030/.043]
08529>       {Vmax=  .829:Dmax=  .398}
08530> R0025:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08531>     CONTINUOUS NASHYD     1.0 01:O-2          28.61     .330 No_date   29:13   20.55 .276     .000
08532>       [CN= 57.0: N= 3.00: Tp= 1.10]
08533>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
08534>       [InterEventTime=  12.00]
08535> R0025:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08536>     CONTINUOUS NASHYD     1.0 01:O-4          46.94     .426 No_date   29:00   15.62 .210     .000
08537>       [CN= 49.0: N= 3.00: Tp=  .90]
08538>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
08539>       [InterEventTime=  12.00]
08540> R0025:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08541>     ADD HYD               1.0 02:O-1R         63.72     .877 No_date   29:15   22.21  n/a     .000
08542>                       +    1.0 02:O-2          28.61     .330 No_date   29:13   20.55  n/a     .000
08543>                       +    1.0 02:O-4          46.94     .426 No_date   29:00   15.62  n/a     .000
08544>                     SUM=   1.0 01:OKF-N       139.27    1.623 No_date   29:11   19.65  n/a     .000
08545> R0025:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08546>     ROUTE CHANNEL   ->    1.0 02:OKF-N       139.27    1.623 No_date   29:11   19.65  n/a     .000
08547>       [RDT= 1.00] out<-    1.0 01:OKF-NR      139.27    1.620 No_date   29:14   19.65  n/a     .000
08548>       [L/S/n=  210./ .810/.043]
08549>       {Vmax=  .998:Dmax=  .685}
08550> R0025:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08551>     CONTINUOUS NASHYD     1.0 01:O-6          16.46     .143 No_date   28:45   13.49 .181     .000
08552>       [CN= 43.0: N= 3.00: Tp=  .70]
08553>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
08554>       [InterEventTime=  12.00]
08555> R0025:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08556>     CONTINUOUS STANDHYD   1.0 01:O-3          39.67    1.013 No_date   28:23   24.45 .329     .000
08557>       [XIMP=.15:TIMP=.30]
08558>       [LOSS= 2 :CN= 50.0]
08559>       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
08560>       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
08561>       [IaRECimp=   4.00: IaRECper=   4.00]
08562>       [SMIN= 99.77: SMAX=665.12: SK= .010]
08563> R0025:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08564>     CONTINUOUS STANDHYD   1.0 01:O-5          60.63    2.500 No_date   28:10   28.05 .377     .000
08565>       [XIMP=.13:TIMP=.26]
08566>       [LOSS= 2 :CN= 61.0]
08567>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
08568>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
08569>       [IaRECimp=   4.00: IaRECper=   4.00]
08570>       [SMIN= 64.50: SMAX=430.01: SK= .010]
08571> R0025:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08572>     ADD HYD               1.0 02:OKF-NR      139.27    1.620 No_date   29:14   19.65  n/a     .000
08573>                       +    1.0 02:O-3          39.67    1.013 No_date   28:23   24.45  n/a     .000
08574>                       +    1.0 02:O-5          60.63    2.500 No_date   28:10   28.05  n/a     .000
08575>                       +    1.0 02:O-6          16.46     .143 No_date   28:45   13.49  n/a     .000
08576>                     SUM=   1.0 01:PT1        256.03    4.071 No_date   28:22   21.98  n/a     .000
08577> R0025:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08578>     CONTINUOUS NASHYD     1.0 01:O-7           5.28     .078 No_date   28:37   18.08 .243     .000
08579>       [CN= 54.0: N= 3.00: Tp=  .60]
08580>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
08581>       [InterEventTime=  12.00]
08582> R0025:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08583>     ADD HYD               1.0 02:PT1        256.03    4.071 No_date   28:22   21.98  n/a     .000
08584>                       +    1.0 02:O-7          5.28     .078 No_date   28:37   18.08  n/a     .000
08585>                     SUM=   1.0 01:FF         261.31    4.141 No_date   28:22   21.91  n/a     .000
08586> R0025:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08587>     ROUTE CHANNEL   ->    1.0 02:FF         261.31    4.141 No_date   28:22   21.91  n/a     .000
08588>       [RDT= 1.00] out<-    1.0 01:DRAIN1     261.31    4.014 No_date   28:28   21.91  n/a     .000
08589>       [L/S/n=  302./1.000/.043]
08590>       {Vmax=  .793:Dmax=  .719}
08591> R0025:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08592>     CONTINUOUS NASHYD     1.0 01:D1            1.17     .078 No_date   28:12   37.38 .502     .000
08593>       [CN= 84.0: N= 3.00: Tp=  .28]
08594>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
08595>       [InterEventTime=  12.00]
08596> R0025:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08597>     CONTINUOUS STANDHYD   1.0 01:A1          2.50     .464 No_date   28:01   58.43 .785     .000
08598>       [XIMP=.68:TIMP=.85]
08599>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
08600>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08601>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
08602>       [IaRECimp=   4.00: IaRECper=   4.00]
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08603> R0025:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08604>      ROUTE RESERVOIR ->    1.0 02:A1           2.50     .464 No_date   28:01   58.43  n/a     .000
08605>                      out <=    1.0 01:A1-STR       2.50     .117 No_date   28:22   58.43  n/a     .000
08606>                overflow <=    1.0 03:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
08607>       {MxStoUsed=.6660E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08608> R0025:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08609>      CONTINUOUS STANDHYD    1.0 01:ST-2          .59     .091 No_date   28:00   45.54 .612     .000
08610>        [XIMP=.46:TIMP=.57]
08611>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08612>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08613>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
08614>        [IaRECimp=   4.00: IaRECper=   4.00]
08615> R0025:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08616>      ROUTE RESERVOIR ->    1.0 02:ST-2          .59     .091 No_date   28:00   45.54  n/a     .000
08617>                      out <=    1.0 01:ST2STR       .59     .052 No_date   28:07   45.54  n/a     .000
08618>                overflow <=    1.0 03:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
08619>       {MxStoUsed=.2899E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08620> R0025:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08621>      CONTINUOUS NASHYD      1.0 01:O-8           60.55    1.147 No_date   29:04   28.63 .385     .000
08622>        [CN= 69.0: N= 3.00: Tp= 1.00]
08623>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
08624>        [InterEventTime=  12.00]
08625> R0025:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08626>      ROUTE PIPE            1.0 02:O-8           60.55    1.147 No_date   29:04   28.63  n/a     .000
08627>        [RDT= 1.00] out<-     1.0 01:O8PIPE       60.55    1.141 No_date   29:08   28.63  n/a     .000
08628>        [L/S/n=  335./ .100/.013]
08629>        {Vmax= 1.178:Dmax=  .540}
08630>        {HGTH= 1.20:WDTH= 1.80}
08631> R0025:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08632>      ADD HYD               1.0 02:DRAIN1       261.31    4.814 No_date   28:28   25.91  n/a     .000
08633>                          +     1.0 02:D1           1.17     .078 No_date   28:12   37.38  n/a     .000
08634>                          +     1.0 02:A1-STR       2.50     .117 No_date   28:22   58.43  n/a     .000
08635>                          +     1.0 02:A1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08636>                          +     1.0 02:ST2STR       .59     .052 No_date   28:07   45.54  n/a     .000
08637>                          +     1.0 02:ST2OVF        .00     .000 No_date    0:00     .00  n/a     .000
08638>                          +     1.0 02:O8PIPE       60.55    1.141 No_date   29:08   28.63  n/a     .000
08639>                        SUM=    1.0 01:ST2-IN       326.12   5.017 No_date   28:36   23.53  n/a     .000
08640> R0025:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08641>      CONTINUOUS STANDHYD    1.0 01:A7            3.51     .635 No_date   28:01   58.43 .785     .000
08642>        [XIMP=.68:TIMP=.85]
08643>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08644>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08645>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
08646>        [IaRECimp=   4.00: IaRECper=   4.00]
08647> R0025:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08648>      ROUTE RESERVOIR ->    1.0 02:A7           3.51     .635 No_date   28:01   58.43  n/a     .000
08649>                      out <=    1.0 01:A7-STR       3.51     .164 No_date   28:23   58.43  n/a     .000
08650>                overflow <=    1.0 03:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08651>       {MxStoUsed=.9358E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08652> R0025:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08653>      CONTINUOUS STANDHYD    1.0 01:ST-3           .71     .108 No_date   28:00   45.54 .612     .000
08654>        [XIMP=.46:TIMP=.57]
08655>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08656>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08657>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
08658>        [IaRECimp=   4.00: IaRECper=   4.00]
08659> R0025:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08660>      ROUTE RESERVOIR ->    1.0 02:ST-3           .71     .108 No_date   28:00   45.54  n/a     .000
08661>                      out <=    1.0 01:ST3STR       .71     .063 No_date   28:08   45.54  n/a     .000
08662>                overflow <=    1.0 03:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
08663>       {MxStoUsed=.3355E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08664> R0025:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08665>      ADD HYD               1.0 02:ST2-IN       326.12   5.017 No_date   28:36   23.53  n/a     .000
08666>                          +     1.0 02:A7-STR       3.51     .164 No_date   28:23   58.43  n/a     .000
08667>                          +     1.0 02:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08668>                          +     1.0 02:ST3STR       .71     .063 No_date   28:08   45.54  n/a     .000
08669>                          +     1.0 02:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
08670>                        SUM=    1.0 01:PT2ST3       330.34   5.204 No_date   28:28   23.95  n/a     .000
08671> R0025:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08672>      ROUTE CHANNEL   ->    1.0 02:PT2ST3       330.34   5.204 No_date   28:28   23.95  n/a     .000
08673>        [RDT= 1.00] out<-     1.0 01:DRAIN2       330.34   4.806 No_date   29:00   23.95  n/a     .000
08674>        [L/S/n=  592./ .230/.043]
08675>        {Vmax=  .581:Dmax= 1.088}
08676> R0025:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08677>      CONTINUOUS NASHYD      1.0 01:D2            2.28     .062 No_date   29:03   37.38 .502     .000
08678>        [CN= 84.0: N= 3.00: Tp=  .99]
08679>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
08680>        [InterEventTime=  12.00]
08681> R0025:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08682>      CONTINUOUS STANDHYD    1.0 01:A17          12.04    1.933 No_date   28:03   58.43 .785     .000
08683>        [XIMP=.68:TIMP=.85]
08684>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08685>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08686>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
08687>        [IaRECimp=   4.00: IaRECper=   4.00]
08688> R0025:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08689>      ROUTE RESERVOIR ->    1.0 02:A17          12.04    1.933 No_date   28:03   58.43  n/a     .000
08690>                      out <=    1.0 01:A17STR       12.04     .553 No_date   28:29   58.43  n/a     .000
08691>                overflow <=    1.0 03:A17OVF        .00     .000 No_date    0:00     .00  n/a     .000
08692>       {MxStoUsed=.3155E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08693> R0025:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08694>      CONTINUOUS STANDHYD    1.0 01:ST-4           .35     .055 No_date   28:00   45.54 .612     .000
08695>        [XIMP=.46:TIMP=.57]
08696>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08697>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08698>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
08699>        [IaRECimp=   4.00: IaRECper=   4.00]
08700> R0025:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08701>      ROUTE RESERVOIR ->    1.0 02:ST-4           .35     .055 No_date   28:00   45.54  n/a     .000
08702>                      out <=    1.0 01:ST4STR       .35     .031 No_date   28:07   45.54  n/a     .000
08703>                overflow <=    1.0 03:ST4OVF        .00     .000 No_date    0:00     .00  n/a     .000
08704>       {MxStoUsed=.2092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08705> R0025:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08706>      CONTINUOUS STANDHYD    1.0 01:A18           5.30     .922 No_date   28:02   58.43 .785     .000
08707>        [XIMP=.68:TIMP=.85]
08708>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08709>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08710>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
08711>        [IaRECimp=   4.00: IaRECper=   4.00]
08712> R0025:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08713>      ROUTE RESERVOIR ->    1.0 02:A18           5.30     .922 No_date   28:02   58.43  n/a     .000
08714>                      out <=    1.0 01:A18STR       5.30     .247 No_date   28:25   58.43  n/a     .000
08715>                overflow <=    1.0 03:A18OVF        .00     .000 No_date    0:00     .00  n/a     .000
08716>       {MxStoUsed=.1408E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08717> R0025:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08718>      ADD HYD               1.0 02:DRAIN2       330.34   4.806 No_date   29:00   23.95  n/a     .000
08719>                          +     1.0 02:D2           2.28     .062 No_date   29:03   37.38  n/a     .000
08720>                          +     1.0 02:A17STR       12.04     .553 No_date   28:29   58.43  n/a     .000
08721>                          +     1.0 02:A17OVF        .00     .000 No_date    0:00     .00  n/a     .000
08722>                          +     1.0 02:ST4STR       .35     .031 No_date   28:07   45.54  n/a     .000
08723>                          +     1.0 02:ST4OVF        .00     .000 No_date    0:00     .00  n/a     .000
08724>                          +     1.0 02:A18STR       5.30     .247 No_date   28:25   58.43  n/a     .000
08725>                          +     1.0 02:A18OVF        .00     .000 No_date    0:00     .00  n/a     .000
08726>                        SUM=    1.0 01:PT3ST4       350.31   5.557 No_date   28:56   25.77  n/a     .000
08727> R0025:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08728>      ROUTE CHANNEL   ->    1.0 02:PT3ST4       350.31   5.557 No_date   28:56   25.77  n/a     .000
08729>        [RDT= 1.00] out<-     1.0 01:DRAIN3       350.31   5.293 No_date   29:13   25.77  n/a     .000
08730>        [L/S/n=  525./ .230/.043]
08731>        {Vmax=  .603:Dmax= 1.137}
08732> R0025:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08733>      CONTINUOUS NASHYD      1.0 01:D3            2.51     .095 No_date   28:43   40.67 .547     .000
08734>        [CN= 86.0: N= 3.00: Tp=  .73]
08735>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
08736>        [InterEventTime=  12.00]
08737> R0025:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08738>      CONTINUOUS STANDHYD    1.0 01:C1            3.41     .618 No_date   28:01   58.43 .785     .000
08739>        [XIMP=.68:TIMP=.85]
08740>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08741>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08742>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
08743>        [IaRECimp=   4.00: IaRECper=   4.00]
08744> R0025:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08745>      ROUTE RESERVOIR ->    1.0 02:C1            3.41     .618 No_date   28:01   58.43  n/a     .000
08746>                      out <=    1.0 01:C1-STR       3.41     .159 No_date   28:23   58.43  n/a     .000
08747>                overflow <=    1.0 03:C1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08748>       {MxStoUsed=.9080E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08749> R0025:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08750>      CONTINUOUS STANDHYD    1.0 01:ST-5           .45     .071 No_date   28:00   45.54 .612     .000
08751>        [XIMP=.46:TIMP=.57]
08752>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08753>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08754>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
08755>        [IaRECimp=   4.00: IaRECper=   4.00]
08756> R0025:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08757>      ROUTE RESERVOIR ->    1.0 02:ST-5           .45     .071 No_date   28:00   45.54  n/a     .000
08758>                      out <=    1.0 01:ST5STR       .45     .040 No_date   28:07   45.54  n/a     .000
08759>                overflow <=    1.0 03:ST5OVF        .00     .000 No_date    0:00     .00  n/a     .000
08760>       {MxStoUsed=.2455E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08761> R0025:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08762>      ADD HYD               1.0 02:DRAIN3       350.31   5.293 No_date   29:13   25.77  n/a     .000
08763>                          +     1.0 02:D3           2.51     .095 No_date   28:43   40.67  n/a     .000
08764>                          +     1.0 02:C1-STR       3.41     .159 No_date   28:23   58.43  n/a     .000
08765>                          +     1.0 02:C1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08766>                          +     1.0 02:ST5STR       .45     .040 No_date   28:07   45.54  n/a     .000
08767>                          +     1.0 02:ST5OVF        .00     .000 No_date    0:00     .00  n/a     .000
08768>                        SUM=    1.0 01:ST5-E        356.68   5.480 No_date   29:11   26.21  n/a     .000
08769> R0025:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08770>      CONTINUOUS STANDHYD    1.0 01:STRAND        7.59     .918 No_date   28:10   57.02 .767     .000
08771>        [XIMP=.64:TIMP=.85]
08772>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08773>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
08774>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
08775>        [IaRECimp=   4.00: IaRECper=   4.00]
08776> R0025:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08777>      ROUTE RESERVOIR ->    1.0 02:STRAND        7.59     .918 No_date   28:10   57.02  n/a     .000
08778>                      out <=    1.0 01:S-POND       7.59     .109 No_date   29:19   57.02  n/a     .000
08779>                overflow <=    1.0 03:S-OVF         .00     .000 No_date    0:00     .00  n/a     .000
08780>       {MxStoUsed=.2915E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08781> R0025:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08782>      ADD HYD               1.0 02:ST5-E        356.68   5.480 No_date   29:11   26.21  n/a     .000
08783>                          +     1.0 02:S-POND       7.59     .109 No_date   29:19   57.02  n/a     .000
08784>                          +     1.0 02:S-OVF         .00     .000 No_date    0:00     .00  n/a     .000
08785>                        SUM=    1.0 01:SSAOUT       364.27   5.589 No_date   29:11   26.85  n/a     .000
08786> R0025:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08787>      SAVE HYD              1.0 01:SSAOUT       364.27   5.589 No_date   29:11   26.85  n/a     .000
08788>        fname :SSAOUT.0025
08789>        remark:SSAOUT

08790> R0025:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08791>      CONTINUOUS STANDHYD    1.0 01:Area-A        66.75    7.879 No_date   28:09   56.06 .754     .000
08792>        [XIMP=.64:TIMP=.80]
08793>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08794>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08795>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=115.:MNI=.013:SCI=   .0]
08796>        [IaRECimp=   4.00: IaRECper=   4.00]
08797> R0025:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08798>      SAVE HYD              1.0 01:Area-A        66.75    7.879 No_date   28:09   56.06  n/a     .000
08799>        fname :Area-A.0025
08800>        remark:SMWF-A Inflow
08801> R0025:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08802>      ROUTE RESERVOIR ->    1.0 02:Area-A        66.75    7.879 No_date   28:09   56.06  n/a     .000
08803>                      out <=    1.0 01:SWMF-A        66.75     .788 No_date   29:28   56.05  n/a     .000
08804>                overflow <=    1.0 03:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
08805>       {MxStoUsed=.2643E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08806> R0025:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08807>      SAVE HYD              1.0 01:SWMF-A        66.75    7.788 No_date   29:28   56.05  n/a     .000
08808>        fname :SWMF-A.0025
08809>        remark:SMWF-A Outflow
08810> R0025:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08811>      ADD HYD               1.0 02:SSAOUT       364.27    5.589 No_date   29:11   26.85  n/a     .000
08812>                          +     1.0 02:SWMF-A        66.75     .788 No_date   29:28   56.05  n/a     .000
08813>                          +     1.0 02:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
08814>                        SUM=    1.0 01:PT4ST5       431.02   6.356 No_date   29:13   31.37  n/a     .000
08815> R0025:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08816>      CONTINUOUS STANDHYD    1.0 01:C6            1.87     .354 No_date   28:01   58.43 .785     .000
08817>        [XIMP=.68:TIMP=.85]
08818>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08819>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08820>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
08821>        [IaRECimp=   4.00: IaRECper=   4.00]
08822> R0025:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08823>      ROUTE RESERVOIR ->    1.0 02:C6            1.87     .354 No_date   28:01   58.43  n/a     .000
08824>                      out <=    1.0 01:C6-STR       1.87     .089 No_date   28:21   58.43  n/a     .000
08825>                overflow <=    1.0 03:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08826>       {MxStoUsed=.5013E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08827> R0025:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08828>      CONTINUOUS STANDHYD    1.0 01:C7            1.62     .309 No_date   28:01   58.43 .785     .000
08829>        [XIMP=.68:TIMP=.85]
08830>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08831>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08832>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
08833>        [IaRECimp=   4.00: IaRECper=   4.00]
08834> R0025:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08835>      ROUTE RESERVOIR ->    1.0 02:C7            1.62     .309 No_date   28:01   58.43  n/a     .000
08836>                      out <=    1.0 01:C7-STR       1.62     .077 No_date   28:21   58.43  n/a     .000
08837>                overflow <=    1.0 03:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08838>       {MxStoUsed=.4331E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08839> R0025:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08840>      CONTINUOUS STANDHYD    1.0 01:C6-6          .41     .065 No_date   28:00   45.54 .612     .000
08841>        [XIMP=.46:TIMP=.57]
08842>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08843>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
08844>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
08845>        [IaRECimp=   4.00: IaRECper=   4.00]
08846> R0025:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08847>      ROUTE RESERVOIR ->    1.0 02:ST-6           .41     .065 No_date   28:00   45.54  n/a     .000
08848>                      out <=    1.0 01:ST6STR       .41     .036 No_date   28:07   45.54  n/a     .000
08849>                overflow <=    1.0 03:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
08850>       {MxStoUsed=.2350E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08851> R0025:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08852>      ADD HYD               1.0 02:PT4ST5       431.02   6.356 No_date   29:13   31.37  n/a     .000
08853>                          +     1.0 02:C6-STR       1.87     .089 No_date   28:21   58.43  n/a     .000
08854>                          +     1.0 02:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08855>                          +     1.0 02:C7-STR       1.62     .077 No_date   28:21   58.43  n/a     .000
08856>                          +     1.0 02:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
08857>                          +     1.0 02:ST6STR       .41     .036 No_date   28:07   45.54  n/a     .000
08858>                          +     1.0 02:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
08859>                        SUM=    1.0 01:PT5ST6       434.92   6.464 No_date   29:12   31.60  n/a     .000
08860> R0025:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08861>      ROUTE CHANNEL   ->    1.0 02:PT5ST6       434.92   6.464 No_date   29:12   31.60  n/a     .000
08862>        [RDT= 1.00] out<-     1.0 01:DRAIN4       434.92   6.229 No_date   29:21   31.60  n/a     .000
08863>        [L/S/n=  324./ .100/.043]
08864>        {Vmax=  .475:Dmax= 1.440}
08865> R0025:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08866>      CONTINUOUS NASHYD      1.0 01:D4            1.73     .082 No_date   28:34   43.34 .583     .000
08867>        [CN= 88.0: N= 3.00: Tp=  .60]
08868>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
08869>        [InterEventTime=  12.00]
08870> R0025:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08871>      CONTINUOUS STANDHYD    1.0 01:Area-B        24.04    3.916 No_date   28:03   54.85 .737     .000
08872>        [XIMP=.62:TIMP=.77]
08873>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
08874>        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
08875>        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
08876>        [IaRECimp=   4.00: IaRECper=   4.00]
08877> R0025:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08878>      ROUTE RESERVOIR ->    1.0 02:Area-B        24.04    3.916 No_date   28:03   54.85  n/a     .000
08879>                      out <=    1.0 01:SWMF-B        24.04     .492 No_date   28:44   54.85  n/a     .000
08880>                overflow <=    1.0 03:SWMBOVF       .00     .000 No_date    0:00     .00  n/a     .000
08881>       {MxStoUsed=.8178E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08882> R0025:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08883>      ADD HYD               1.0 02:DRAIN4       434.92   6.229 No_date   29:21   31.60  n/a     .000
08884>                          +     1.0 02:D4           1.73     .082 No_date   28:34   43.34  n/a     .000
08885>                          +     1.0 02:SWMF-B        24.04     .492 No_date   28:44   54.85  n/a     .000
08886>                          +     1.0 02:SWMBOVF       .00     .000 No_date    0:00     .00  n/a     .000
08887>                        SUM=    1.0 01:D4-EX        460.69   6.717 No_date   29:21   32.86  n/a     .000
08888> R0025:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08889>      ROUTE CHANNEL   ->    1.0 02:D4-EX        460.69   6.717 No_date   29:21   32.86  n/a     .000
08890>        [RDT= 1.00] out<-     1.0 01:DRAIN5       460.69   6.598 No_date   29:35   32.86  n/a     .000
08891>        [L/S/n=  413./ .160/.033]
08892>        {Vmax=  .641:Dmax=  .984}
08893> R0025:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08894>      CONTINUOUS NASHYD      1.0 01:D5            1.90     .075 No_date   28:41   40.67 .547     .000
08895>        [CN= 86.0: N= 3.00: Tp=  .69]
08896>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
08897>        [InterEventTime=  12.00]
08898> R0025:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08899>      CONTINUOUS NASHYD      1.0 01:O-13SDF       9.74     .487 No_date   28:22   38.23 .514     .000
08900>        [CN= 81.0: N= 3.00: Tp=  .43]
08901>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08902>        [InterEventTime=  12.00]
08903> R0025:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08904>      ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74     .487 No_date   28:22   38.23  n/a     .000
08905>                      out <=    1.0 01:SDF          9.74     .052 No_date   31:01   38.23  n/a     .000
08906>                overflow <=    1.0 03:OVFSDF        .00     .000 No_date    0:00     .00  n/a     .000
08907>       {MxStoUsed=.2061E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
08908> R0025:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08909>      ADD HYD               1.0 02:DRAIN5       460.69   6.598 No_date   29:35   32.86  n/a     .000
08910>                          +     1.0 02:D5           1.90     .075 No_date   28:41   40.67  n/a     .000
08911>                          +     1.0 02:SDF          9.74     .052 No_date   31:01   38.23  n/a     .000
08912>                        SUM=    1.0 01:PT6MC        472.33   6.689 No_date   29:35   33.00  n/a     .000
08913> R0025:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08914>      CONTINUOUS NASHYD      1.0 01:O-5           10.67     .668 No_date   28:13   37.06 .498     .000
08915>        [CN= 82.0: N= 3.00: Tp=  .30]
08916>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
08917>        [InterEventTime=  12.00]
08918> R0025:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08919>      ADD HYD               1.0 02:PT6MC        472.33   6.689 No_date   29:35   33.00  n/a     .000
08920>                          +     1.0 02:O-13SDF       9.74     .487 No_date   28:22   38.23  n/a     .000
08921>                        SUM=    1.0 01:M-C          483.00   6.790 No_date   29:34   33.09  n/a     .000
08922> R0025:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08923>      ROUTE CHANNEL   ->    1.0 02:M-C          483.00   6.790 No_date   29:34   33.09  n/a     .000
08924>        [RDT= 1.00] out<-     1.0 01:O-14Ch       483.00   6.173 No_date   30:10   33.09  n/a     .000
08925>        [L/S/n=  845./ .100/.033]
08926>        {Vmax=  .552:Dmax= 1.692}
08927> R0025:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08928>      CONTINUOUS NASHYD      1.0 01:O-14          5.00     .516 No_date   28:04   37.06 .498     .000
08929>        [CN= 82.0: N= 3.00: Tp=  .13]
08930>        [IaRE
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08977> #*************************************************************************
08978> #    Catchment FOSTER
08979> #    - To Foster ditch (north of the Jock)
08980> #    - Partially developed (medium density); remaining agricultural
08981> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
08982> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (367.98 HA) after increasing Okeefe drainage area to (5
08983> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
08984> #*************************************************************************
08985> R0025:C00149-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08986>     CONTINUOUS STANDHYD   1.0 01:FOSTER       325.44   28.008 No_date   28:12   52.35 .704    .000
08987>       [XIMP=.55:TIMP=.55]
08988>       [LOSS= 2 :CN= 74.0]
08989>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
08990>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
08991>       [IaRECimp=   4.00: IaRECper=   4.00]
08992>       [SMIN= 36.67: SMAX=244.49: SK= .010]
08993> #*************************************************************************
08994> #    Foster Pond
08995> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
08996> #      and a ratio of the catchment area to the West Clarke pond rating curve
08997> #      from the MSS for the next coordinates
08998> #*************************************************************************
08999> R0025:C00150-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09000>     ROUTE RESERVOIR ->     1.0 02:FOSTER       325.44    28.008 No_date   28:12   52.35  n/a     .000
09001>                  out <=    1.0 01:P_FOS        325.44     7.246 No_date   29:04   52.35  n/a     .000
09002>            overflow <=    1.0 03:FO-OVF         .00      .000 No_date    0:00     .00  n/a     .000
09003>       {MxStoUsed=.7008E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09004> R0025:C00151-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09005>     ADD HYD               1.0 02:P_FOS        325.44     7.246 No_date   29:04   52.35  n/a     .000
09006>                     +     1.0 02:FO_OVF         .00      .000 No_date    0:00     .00  n/a     .000
09007>                   SUM=    1.0 01:FOSTER-OUT   325.44     7.246 No_date   29:04   52.35  n/a     .000
09008> #*************************************************************************
09009> R0025:C00152-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09010>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29    9.076 No_date   28:05   56.82 .764    .000
09011>       [XIMP=.60:TIMP=.65]
09012>       [LOSS= 2 :CN= 77.0]
09013>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09014>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
09015>       [IaRECimp=   4.00: IaRECper=   4.00]
09016>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09017> R0025:C00153-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09018>     ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29    9.076 No_date   28:05   56.82  n/a     .000
09019>                  out <=    1.0 01:MS_P10         73.29    1.168 No_date   29:06   56.82  n/a     .000
09020>            overflow <=    1.0 03:P10-OVF          .00      .000 No_date    0:00     .00  n/a     .000
09021>       {MxStoUsed=.1685E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09022> R0025:C00154-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09023>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2      4.94     .707 No_date   28:01   52.35 .704    .000
09024>       [XIMP=.55:TIMP=.55]
09025>       [LOSS= 2 :CN= 74.0]
09026>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
09027>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
09028>       [IaRECimp=   4.00: IaRECper=   4.00]
09029>       [SMIN= 36.67: SMAX=244.49: SK= .010]
09030> R0025:C00155-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09031>     ADD HYD               1.0 02:FOSTER-OUT   325.44     7.246 No_date   29:04   52.35  n/a     .000
09032>                     +     1.0 02:S-1-FO-D2      4.94     .707 No_date   28:01   52.35  n/a     .000
09033>                   SUM=    1.0 01:980          330.38     7.312 No_date   29:03   52.35  n/a     .000
09034> R0025:C00156-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09035>     SAVE HYD              1.0 01:980          330.38     7.312 No_date   29:03   52.35  n/a     .000
09036>       fname :980.0025
09037>       remark:Total Flows at Station 980 on Foster Drain
09038> #
09039> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
09040> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
09041> #
09042> R0025:C00157-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09043>     ROUTE CHANNEL   ->     1.0 02:980          330.38     7.312 No_date   29:03   52.35  n/a     .000
09044> *   [RDT= 1.00] out<-     1.0 01:980-out      330.38     7.060 No_date   29:12   52.35  n/a     .000
09045>       [L/S/n=   460./ .043/.035]
09046>       {Vmax=  .642:Dmax= 1.518}
09047> R0025:C00158-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09048>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1      5.11     .830 No_date   28:00   56.90 .765    .000
09049>       [XIMP=.65:TIMP=.65]
09050>       [LOSS= 2 :CN= 74.0]
09051>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
09052>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
09053>       [IaRECimp=   4.00: IaRECper=   4.00]
09054>       [SMIN= 36.67: SMAX=244.49: SK= .010]
09055> R0025:C00159-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09056>     ADD HYD               1.0 02:980-out      330.38     7.060 No_date   29:12   52.35  n/a     .000
09057>                     +     1.0 02:S-1-FO-D1      5.11     .830 No_date   28:00   56.90  n/a     .000
09058>                   SUM=    1.0 01:520          335.49     7.118 No_date   29:12   52.42  n/a     .000
09059> R0025:C00160-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09060>     SAVE HYD              1.0 01:520          335.49     7.118 No_date   29:12   52.42  n/a     .000
09061>       fname :520.0025
09062>       remark:Total Flows at Sation 520 on Foster Drain
09063> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
09064> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
09065> #
09066> R0025:C00161-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09067>     ROUTE CHANNEL   ->     1.0 02:520          335.49     7.118 No_date   29:12   52.42  n/a     .000
09068> *   [RDT= 1.00] out<-     1.0 01:520-out      335.49     7.060 No_date   29:22   52.42  n/a     .000
09069>       [L/S/n=  860./ .587/.035]
09070>       {Vmax= 1.475:Dmax=  .723}
09071> R0025:C00162-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09072>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D    14.96    2.238 No_date   28:02   56.90 .765    .000
09073>       [XIMP=.65:TIMP=.65]
09074>       [LOSS= 2 :CN= 74.0]
09075>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
09076>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
09077>       [IaRECimp=   4.00: IaRECper=   4.00]
09078>       [SMIN= 36.67: SMAX=244.49: SK= .010]
09079> R0025:C00163-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09080>     CONTINUOUS STANDHYD   1.0 01:S-1-D8         5.27     .945 No_date   28:01   42.02 .565    .000
09081>       [XIMP=.32:TIMP=.65]
09082>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09083>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09084>       [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
09085>       [IaRECimp=   4.00: IaRECper=   4.00]
09086> R0025:C00164-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09087>     CONTINUOUS NASHYD     1.0 01:S-1-A          75.88    2.541 No_date   28:36   34.14 .459    .000
09088>       [CN= 77.0: N= 3.00: Tp=  .62]
09089>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09090>       [InterEventTime=  12.00]
09091> R0025:C00165-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09092>     CONTINUOUS NASHYD     1.0 01:W_CLAR_UND     35.65     .789 No_date   29:10   34.14 .459    .000
09093>       [CN= 77.0: N= 3.00: Tp= 1.10]
09094>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09095>       [InterEventTime=  12.00]
09096> R0025:C00166-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09097>     ADD HYD               1.0 02:N_FO       53577.82  109.064 No_date   33:50   28.74  n/a     .000
09098>                     +     1.0 02:S520-out     335.49    7.060 No_date   29:22   52.42  n/a     .000
09099>                     +     1.0 02:MS_P10        73.29    1.168 No_date   29:06   56.82  n/a     .000
09100>                     +     1.0 02:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
09101>                     +     1.0 02:W_CLAR_UND    35.65     .789 No_date   29:10   34.14  n/a     .000
09102>                     +     1.0 02:S-1-FO-F-D    14.96    2.238 No_date   28:02   56.90  n/a     .000
09103>                     +     1.0 02:S-1-D8         5.27     .945 No_date   28:01   42.02  n/a     .000
09104>                     +     1.0 02:S-1-A         75.88    2.541 No_date   28:36   34.14  n/a     .000
09105>                   SUM=    1.0 01:SN_FO      54118.36  113.639 No_date   33:28   28.94  n/a     .000
09106> R0025:C00167-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09107>     SAVE HYD              1.0 01:SN_FO      54118.36  113.639 No_date   33:28   28.94  n/a     .000
09108>       fname :SN_FO.0025
09109>       remark:Total Flows at Foster Drain
09110> # Hydrograph from Node Foster routed to Node at Cedarview Road
09111> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
09112> #
09113> R0025:C00168-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09114>     ROUTE CHANNEL   ->     1.0 02:SN_FO      54118.36  113.639 No_date   33:28   28.94  n/a     .000
09115> *   [RDT= 1.00] out<-     1.0 01:N_CE       54118.36  113.515 No_date   33:32   28.94  n/a     .000
09116>       [L/S/n=  159./ .082/.035]
09117>       {Vmax= 1.423:Dmax= 3.806}
09118> #*************************************************************************
09119> #    Catchment S-1
09120> #    - To Jock River (north and south of Jock)
09121> #    - Primarily agricultural fields; portion of sand quarry
09122> #*************************************************************************
09123> R0025:C00169-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09124>     CONTINUOUS NASHYD     1.0 01:S-1-B          55.36    2.311 No_date   28:23   34.14 .459    .000
09125>       [CN= 77.0: N= 3.00: Tp=  .45]
09126>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09127>       [InterEventTime=  12.00]
09128> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
09129> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
09130> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
09131> R0025:C00170-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09132>     CONTINUOUS STANDHYD   1.0 01:S-1-D1         21.67    3.385 No_date   28:01   57.38 .771    .000
09133>       [XIMP=.65:TIMP=.65]
09134>       [LOSS= 2 :CN= 75.0]
09135>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09136>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
09137>       [IaRECimp=   4.00: IaRECper=   4.00]
09138>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09139> R0025:C00171-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09140>     CONTINUOUS STANDHYD   1.0 01:S-1-D4          3.28     .581 No_date   28:00   57.38 .771    .000
09141>       [XIMP=.65:TIMP=.65]
09142>       [LOSS= 2 :CN= 75.0]
09143>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09144>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
09145>       [IaRECimp=   4.00: IaRECper=   4.00]
09146>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09147> R0025:C00172-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09148>     CONTINUOUS STANDHYD   1.0 01:S-1-D5         12.84    2.083 No_date   28:01   57.38 .771    .000
09149>       [XIMP=.65:TIMP=.65]
09150>       [LOSS= 2 :CN= 75.0]
09151>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09152>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
09153>       [IaRECimp=   4.00: IaRECper=   4.00]
09154>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09155> R0025:C00173-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09156>     CONTINUOUS STANDHYD   1.0 01:S-1-D6          1.75     .319 No_date   28:00   57.38 .771    .000
09157>       [XIMP=.65:TIMP=.65]
09158>       [LOSS= 2 :CN= 75.0]
09159>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09160>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
09161>       [IaRECimp=   4.00: IaRECper=   4.00]
09162>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09163> R0025:C00174-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09164>     CONTINUOUS STANDHYD   1.0 01:S-1-D7          2.03     .369 No_date   28:00   57.38 .771    .000
09165>       [XIMP=.65:TIMP=.65]
09166>       [LOSS= 2 :CN= 75.0]
09167>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09168>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
09169>       [IaRECimp=   4.00: IaRECper=   4.00]
09170>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09171> #    Catchment W_CLAR
09172> #    - To West Clarke Drain (south of the Jock)
09173> #    - Subdivision with 43% imp. as per Barrhaven South MSS
09174> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
09175> #    - 2020-11-30 update CLARKE Drainage Area to MAJOR and ALL
09176> #*************************************************************************
09177> R0025:C00175-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09178>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ        1.77     .279 No_date   28:00   52.78 .709    .000
09179>       [XIMP=.46:TIMP=.59]
09180>       [LOSS= 2 :CN= 77.0]
09181>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09182>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
09183>       [IaRECimp=   4.00: IaRECper=   4.00]
09184>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09185> # 5-Year + 12% Capture
09186> R0025:C00176-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09187>     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ        1.77     .279 No_date   28:00   52.78  n/a     .000
09188>                  out <=    1.0 01:W_CLAR_MJN       1.73     .213 No_date   27:54   52.78  n/a     .000
09189>            overflow <=    1.0 03:W_CLAR_MJJ         .04     .062 No_date   28:01   52.78  n/a     .000
09190>       {MxStoUsed=.1173E-03  m3, TotOvfVol=.2205E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
09191> R0025:C00177-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09192>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL     119.40    15.305 No_date   28:04   56.82 .764    .000
09193>       [XIMP=.60:TIMP=.65]
09194>       [LOSS= 2 :CN= 77.0]
09195>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09196>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
09197>       [IaRECimp=   4.00: IaRECper=   4.00]
09198>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09199> R0025:C00178-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09200>     ADD HYD               1.0 02:W_CLAR_ALL     119.40    15.305 No_date   28:04   56.82  n/a     .000
09201>                     +     1.0 02:W_CLAR_MJJ         .04     .062 No_date   28:01   52.78  n/a     .000
09202>                   SUM=    1.0 01:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a     .000
09203> R0025:C00179-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09204>     SAVE HYD              1.0 01:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a     .000
09205>       fname :W_CLAR.0025
09206>       remark:Total Flows to West Clarke
09207> #*************************************************************************
09208> #    West Clarke Pond 2
09209> #    - Rating curve obtained from Barrhaven South MSS modeling
09210> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
09211> #*************************************************************************
09212> R0025:C00180-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09213>     ROUTE RESERVOIR ->     1.0 02:W_CLAR         119.44    15.305 No_date   28:04   56.81  n/a     .000
09214>                  out <=    1.0 01:MS_P2          119.44     7.398 No_date   28:20   56.81  n/a     .000
09215>            overflow <=    1.0 03:P2-OVF           .00      .000 No_date    0:00     .00  n/a     .000
09216>       {MxStoUsed=.2962E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09217> #*************************************************************************
09218> R0025:C00181-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09219>     ADD HYD               1.0 02:N_CE       54118.36  113.515 No_date   33:32   28.94  n/a     .000
09220>                     +     1.0 02:S-1-D4         3.28     .581 No_date   28:00   57.38  n/a     .000
09221>                     +     1.0 02:S-1-D5        12.84    2.083 No_date   28:01   57.38  n/a     .000
09222>                     +     1.0 02:MS_P2        119.44    7.398 No_date   28:20   56.81  n/a     .000
09223>                     +     1.0 02:P2-OVF         .00      .000 No_date    0:00     .00  n/a     .000
09224>                   SUM=    1.0 01:SN_CE      54253.92  114.400 No_date   33:32   29.01  n/a     .000
09225> R0025:C00182-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09226>     SAVE HYD              1.0 01:SN_CE      54253.92  114.400 No_date   33:32   29.01  n/a     .000
09227>       fname :SN_CE.0025
09228>       remark:Total Flows before Station 5737 on Jock River
09229> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
09230> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
09231> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
09232> R0025:C00183-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09233>     ROUTE CHANNEL   ->     1.0 02:SN_CE      54253.92  114.400 No_date   33:32   29.01  n/a     .000
09234> *   [RDT= 1.00] out<-     1.0 01:5737       54253.92  107.664 No_date   36:05   29.01  n/a     .000
09235>       [L/S/n=  270./ .018/.035]
09236>       {Vmax=  .782:Dmax= 4.973}
09237> R0025:C00184-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09238>     ADD HYD               1.0 02:5737       54253.92  107.664 No_date   36:05   29.01  n/a     .000
09239>                     +     1.0 02:S-1-D1         21.67    3.385 No_date   28:01   57.38  n/a     .000
09240>                     +     1.0 02:S-1-D6          1.75     .319 No_date   28:00   57.38  n/a     .000
09241>                     +     1.0 02:S-1-D7          2.03     .369 No_date   28:00   57.38  n/a     .000
09242>                   SUM=    1.0 01:5002       54279.37  107.746 No_date   36:02   29.03  n/a     .000
09243> R0025:C00185-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09244>     SAVE HYD              1.0 01:5002       54279.37  107.746 No_date   36:02   29.03  n/a     .000
09245>       fname :5002.0025
09246>       remark:Total Flows before Station 5002 on Jock River
09247> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
09248> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
09249> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
09250> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
09251> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
09252> R0025:C00186-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09253>     ROUTE CHANNEL   ->     1.0 02:5002       54279.37  107.746 No_date   36:02   29.03  n/a     .000
09254> *   [RDT= 1.00] out<-     1.0 01:N_WCa      54279.37  107.733 No_date   36:08   29.03  n/a     .000
09255>       [L/S/n=  245./ .095/.035]
09256>       {Vmax= 1.210:Dmax= 2.778}
09257> R0025:C00187-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09258>     ROUTE CHANNEL   ->     1.0 02:N_WCa      54279.37  107.733 No_date   36:08   29.03  n/a     .000
09259> *   [RDT= 1.00] out<-     1.0 01:N_WCb      54279.37  107.723 No_date   36:14   29.03  n/a     .000
09260>       [L/S/n=  245./ .095/.035]
09261>       {Vmax= 1.210:Dmax= 2.778}
09262> R0025:C00188-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09263>     ROUTE CHANNEL   ->     1.0 02:N_WCb      54279.37  107.723 No_date   36:14   29.03  n/a     .000
09264> *   [RDT= 1.00] out<-     1.0 01:N_WC       54279.37  107.676 No_date   36:25   29.03  n/a     .000
09265>       [L/S/n=  245./ .095/.035]
09266>       {Vmax= 1.210:Dmax= 2.778}
09267> #*************************************************************************
09268> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
09269> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
09270> #
09271> R0025:C00189-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09272>     ROUTE CHANNEL   ->     1.0 02:N_WC       54279.37  107.676 No_date   36:25   29.03  n/a     .000
09273> *   [RDT= 1.00] out<-     1.0 01:N_KB       54279.37  103.210 No_date   38:36   29.03  n/a     .000
09274>       [L/S/n= 1020./ .050/.035]
09275>       {Vmax= 1.073:Dmax= 3.484}
09276> #*************************************************************************
09277> #    Catchment KEN_BU
09278> #    - To Kennedy-Burnett SWM Facility
09279> #    - Outlets to Fraser-Clarke drain (north of the Jock)
09280> #    - Medium density residential subdivision
09281> #*************************************************************************
09282> #*************************************************************************
09283> #   Existing Kennedy-Burnett SWM Facility
09284> #    - Rating curve obtained from URTKBP
09285> #    - Tributary Drainage Area to Pond = 160 ha
09286> #*************************************************************************
09287> R0025:C00190-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09288>     CONTINUOUS STANDHYD   1.0 01:KB-01A         40.82    4.186 No_date   28:11   29.35 .395    .000
09289>       [XIMP=.10:TIMP=.40]
09290>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09291>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
09292>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
09293>       [IaRECimp=   4.00: IaRECper=   4.00]
09294> R0025:C00191-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09295>     COMPUTE DUALHYD       1.0 01:KB-01A         40.82    4.186 No_date   28:11   29.35  n/a     .000
09296>       Major System    /     1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09297>       Minor System    \     1.0 02:KB-01A-MN      40.82    3.600 No_date   28:03   29.50  n/a     .000
09298>       {MjSysSto=.3786E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09299> R0025:C00192-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09300>     ADD HYD               1.0 02:KB-01A-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09301>                     +     1.0 02:KB-01A-MN      40.82    3.600 No_date   28:03   29.50  n/a     .000
09302>                   SUM=    1.0 01:KB-01A-S       40.82    3.600 No_date   28:03   29.50  n/a     .000
09303> R0025:C00193-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09304>     CONTINUOUS STANDHYD   1.0 01:KB-01B         31.10    3.068 No_date   28:07   32.30 .434    .000
09305>       [XIMP=.19:TIMP=.38]
09306>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09307>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
09308>       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
09309>       [IaRECimp=   4.00: IaRECper=   4.00]
09310> R0025:C00194-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09311>     COMPUTE DUALHYD       1.0 01:KB-01B         31.10    3.068 No_date   28:07   32.30  n/a     .000
09312>       Major System    /     1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09313>       Minor System    \     1.0 03:KB-01B-MN      31.10    1.585 No_date   27:55   32.52  n/a     .000
09314>       {MjSysSto=.1849E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09315> R0025:C00195-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09316>     ADD HYD               1.0 02:KB-01B-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09317>                     +     1.0 02:KB-01B-MN      31.10    1.585 No_date   27:55   32.52  n/a     .000
09318>                   SUM=    1.0 01:KB-01B-S       31.10    1.585 No_date   27:55   32.52  n/a     .000
09319> R0025:C00196-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09320>     CONTINUOUS STANDHYD   1.0 01:KB-01C         13.78    1.868 No_date   28:04   33.51 .450    .000
09321>       [XIMP=.20:TIMP=.41]
09322>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09323>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09324>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
09325>       [IaRECimp=   4.00: IaRECper=   4.00]
09326> R0025:C00197-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09327>     COMPUTE DUALHYD       1.0 01:KB-01C         13.78    1.868 No_date   28:04   33.51  n/a     .000
09328>       Major System    /     1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09329>       Minor System    \     1.0 03:KB-01C-MN      13.78    1.350 No_date   27:57   33.69  n/a     .000
09330>       {MjSysSto=.3173E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09331> R0025:C00198-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09332>     ADD HYD               1.0 02:KB-01C-MJ        .00      .000 No_date    0:00     .00  n/a     .000
09333>                     +     1.0 02:KB-01C-MN      13.78    1.350 No_date   27:57   33.69  n/a     .000
09334>                   SUM=    1.0 01:KB-01C-S       13.78    1.350 No_date   27:57   33.69  n/a     .000
09335> R0025:C00199-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09336>     CONTINUOUS STANDHYD   1.0 01:KB-03          84.78    9.657 No_date   28:08   32.97 .443    .000
09337>       [XIMP=.20:TIMP=.39]
09338>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09339>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09340>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
09341>       [IaRECimp=   4.00: IaRECper=   4.00]
09342> R0025:C00200-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09343>     COMPUTE DUALHYD       1.0 01:KB-03          84.78    9.657 No_date   28:08   32.97  n/a     .000
09344>       Major System    /     1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
09345>       Minor System    \     1.0 03:KB-03-MN       84.78    5.270 No_date   27:56   33.21  n/a     .000
09346
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09351> R0025:C00202-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09352>     CONTINUOUS STANDHYD    1.0 01:KB-04        6.95    1.434 No_date   28:00   65.29 .878     .000
09353>       [XIMP=.85:TIMP=.85]
09354>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09355>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09356>       [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
09357>       [IaREC imp=  4.00: IaREC per=   4.00]
09358> R0025:C00203-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09359>     COMPUTE DUALHYD        1.0 01:KB-04        6.95    1.434 No_date   28:00   65.29  n/a     .000
09360>       Major System   /     1.0 02:KB-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09361>       Minor System   \     1.0 03:KB-04-MN     6.95     .503 No_date   27:45   65.54  n/a     .000
09362>       {MjSysSto=.7689E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09363> R0025:C00204-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09364>     ADD HYD                1.0 02:KB-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09365>                        +   1.0 02:KB-04-MN     6.95     .503 No_date   27:45   65.54  n/a     .000
09366>                    SUM=    1.0 01:KB-04-S      6.95     .503 No_date   27:45   65.54  n/a     .000
09367> R0025:C00205-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09368>     CONTINUOUS STANDHYD    1.0 01:KB-05        5.19    1.147 No_date   28:00   69.06 .928     .000
09369>       [XIMP=.93:TIMP=.93]
09370>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09371>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09372>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
09373>       [IaREC imp=  4.00: IaREC per=   4.00]
09374> R0025:C00206-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09375>     CONTINUOUS STANDHYD    1.0 01:KB-06       12.93    2.960 No_date   28:00   66.54 .895     .000
09376>       [XIMP=.87:TIMP=.87]
09377>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09378>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09379>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
09380>       [IaREC imp=  4.00: IaREC per=   4.00]
09381> R0025:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09382>     COMPUTE DUALHYD        1.0 01:KB-06       12.93    2.960 No_date   28:00   66.54  n/a     .000
09383>       Major System   /     1.0 02:KB-06-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09384>       Minor System   \     1.0 03:KB-06-MN    12.93    2.262 No_date   28:07   66.58  n/a     .000
09385>       {MjSysSto=.2613E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09386> R0025:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09387>     ADD HYD                1.0 02:KB-06-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09388>                        +   1.0 02:KB-06-MN    12.93    2.262 No_date   28:07   66.58  n/a     .000
09389>                    SUM=    1.0 01:KB-06-S      12.93    2.262 No_date   28:07   66.58  n/a     .000
09390> R0025:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09391>     CONTINUOUS STANDHYD    1.0 01:KB-11        4.03     .817 No_date   28:00   55.88 .751     .000
09392>       [XIMP=.68:TIMP=.68]
09393>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09394>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09395>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
09396>       [IaREC imp=  4.00: IaREC per=   4.00]
09397> R0025:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09398>     COMPUTE DUALHYD        1.0 01:KB-11        4.03     .817 No_date   28:00   55.88  n/a     .000
09399>       Major System   /     1.0 02:KB-11-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09400>       Minor System   \     1.0 03:KB-11-MN     4.03     .577 No_date   27:53   55.96  n/a     .000
09401>       {MjSysSto=.9558E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09402> R0025:C00211-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09403>     ADD HYD                1.0 02:KB-11-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09404>                        +   1.0 02:KB-11-MN     4.03     .577 No_date   27:53   55.96  n/a     .000
09405>                    SUM=    1.0 01:KB-11-S      4.03     .577 No_date   27:53   55.96  n/a     .000
09406> R0025:C00212-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09407>     CONTINUOUS STANDHYD    1.0 01:S1           4.99    1.184 No_date   28:00   69.06 .928     .000
09408>       [XIMP=.93:TIMP=.93]
09409>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09410>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09411>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
09412>       [IaREC imp=  4.00: IaREC per=   4.00]
09413> R0025:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09414>     CONTINUOUS STANDHYD    1.0 01:KB-15        2.15     .447 No_date   28:00   62.65 .842     .000
09415>       [XIMP=.79:TIMP=.79]
09416>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09417>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09418>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
09419>       [IaREC imp=  4.00: IaREC per=   4.00]
09420> R0025:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09421>     ADD HYD                1.0 02:KB-01A-S     40.82    3.600 No_date   28:03   29.50  n/a     .000
09422>                        +   1.0 02:KB-01B-S     31.10    1.585 No_date   27:55   32.52  n/a     .000
09423>                        +   1.0 02:KB-01C-S     13.78    1.350 No_date   27:57   33.69  n/a     .000
09424>                        +   1.0 02:KB-03-S      84.78    5.270 No_date   27:56   33.21  n/a     .000
09425>                        +   1.0 02:KB-04-S       6.95     .503 No_date   27:45   65.54  n/a     .000
09426>                        +   1.0 02:KB-05         5.19    1.147 No_date   28:00   69.06  n/a     .000
09427>                        +   1.0 02:KB-06-S      12.93    2.262 No_date   28:07   66.58  n/a     .000
09428>                        +   1.0 02:KB-11-S       4.03     .577 No_date   27:53   55.96  n/a     .000
09429>                        +   1.0 02:KB-15         2.15     .447 No_date   28:00   62.65  n/a     .000
09430>                        +   1.0 02:S1            4.99    1.184 No_date   28:00   69.06  n/a     .000
09431>                    SUM=    1.0 01:KB-P1       206.72   17.555 No_date   28:01   38.09  n/a     .000
09432> R0025:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09433>     ROUTE RESERVOIR ->     1.0 02:KB-P1       206.72   17.555 No_date   28:01   38.09  n/a     .000
09434>                out <=     1.0 01:KB-P1R      201.26   12.438 No_date   28:05   38.09  n/a     .000
09435>           overflow <=     1.0 03:KB-P1ovf      5.46    4.400 No_date   28:05   38.09  n/a     .000
09436>       {MxStoUsed=.7322E+00  m3, TotOvfVol=.2079E+00  m3, N-Ovf=    1, TotDurOvf=   0.hrs}
09437> R0025:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09438>     ADD HYD                1.0 02:KB-P1R      201.26   12.438 No_date   28:05   38.09  n/a     .000
09439>                        +   1.0 02:KB-P1ovf      5.46    4.400 No_date   27:45   38.09  n/a     .000
09440>                    SUM=    1.0 01:KB-Pond1    206.72   16.838 No_date   28:05   38.09  n/a     .000
09441> R0025:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09442>     SAVE HYD               1.0 01:KB-Pond1     206.72   16.838 No_date   28:05   38.09  n/a     .000
09443>       fname :KB-Pond1.0025
09444>       remark:Total Flows at KB first pond
09445> R0025:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09446>     CONTINUOUS STANDHYD    1.0 01:KB-07        10.86    2.392 No_date   28:00   65.97 .887     .000
09447>       [XIMP=.86:TIMP=.86]
09448>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09449>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09450>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
09451>       [IaREC imp=  4.00: IaREC per=   4.00]
09452> R0025:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09453>     COMPUTE DUALHYD        1.0 01:KB-07        10.86    2.392 No_date   28:00   65.97  n/a     .000
09454>       Major System   /     1.0 02:KB-07-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09455>       Minor System   \     1.0 03:KB-07-MN     10.86    2.094 No_date   27:56   66.02  n/a     .000
09456>       {MjSysSto=.7523E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09457> R0025:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09458>     ADD HYD                1.0 02:KB-07-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09459>                        +   1.0 02:KB-07-MN     10.86    2.094 No_date   27:56   66.02  n/a     .000
09460>                    SUM=    1.0 01:KB-07-S      10.86    2.094 No_date   27:56   66.02  n/a     .000
09461> R0025:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09462>     CONTINUOUS STANDHYD    1.0 01:KB-08         6.61    1.292 No_date   28:00   53.97 .726     .000
09463>       [XIMP=.64:TIMP=.64]
09464>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09465>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09466>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
09467>       [IaREC imp=  4.00: IaREC per=   4.00]
09468> R0025:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09469>     COMPUTE DUALHYD        1.0 01:KB-08         6.61    1.292 No_date   28:00   53.97  n/a     .000
09470>       Major System   /     1.0 02:KB-08-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09471>       Minor System   \     1.0 03:KB-08-MN      6.61    1.058 No_date   27:55   54.34  n/a     .000
09472>       {MjSysSto=.6817E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09473> R0025:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09474>     ADD HYD                1.0 02:KB-08-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09475>                        +   1.0 02:KB-08-MN      6.61    1.058 No_date   27:55   54.34  n/a     .000
09476>                    SUM=    1.0 01:KB-08-S       6.61    1.058 No_date   27:55   54.34  n/a     .000
09477> R0025:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09478>     CONTINUOUS STANDHYD    1.0 01:KB-09         2.60     .599 No_date   28:00   65.30 .878     .000
09479>       [XIMP=.86:TIMP=.86]
09480>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09481>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09482>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
09483>       [IaREC imp=  4.00: IaREC per=   4.00]
09484> R0025:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09485>     CONTINUOUS STANDHYD    1.0 01:KB-10_1       2.37     .550 No_date   28:00   65.30 .878     .000
09486>       [XIMP=.86:TIMP=.86]
09487>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09488>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09489>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
09490>       [IaREC imp=  4.00: IaREC per=   4.00]
09491> R0025:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09492>     CONTINUOUS STANDHYD    1.0 01:KB-10_2       1.14     .266 No_date   28:00   65.30 .878     .000
09493>       [XIMP=.86:TIMP=.86]
09494>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09495>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09496>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
09497>       [IaREC imp=  4.00: IaREC per=   4.00]
09498> R0025:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09499>     CONTINUOUS STANDHYD    1.0 01:KB-12         4.86    1.059 No_date   28:00   61.90 .832     .000
09500>       [XIMP=.79:TIMP=.79]
09501>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09502>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09503>       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
09504>       [IaREC imp=  4.00: IaREC per=   4.00]
09505> R0025:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09506>     COMPUTE DUALHYD        1.0 01:KB-12         4.86    1.059 No_date   28:00   61.90  n/a     .000
09507>       Major System   /     1.0 02:KB-12-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09508>       Minor System   \     1.0 03:KB-12-MN      4.86     .867 No_date   27:54   62.20  n/a     .000
09509>       {MjSysSto=.6022E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09510> R0025:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09511>     ADD HYD                1.0 02:KB-12-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09512>                        +   1.0 02:KB-12-MN      4.86     .867 No_date   27:54   62.20  n/a     .000
09513>                    SUM=    1.0 01:KB-12-S       4.86     .867 No_date   27:54   62.20  n/a     .000
09514> R0025:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09515>     CONTINUOUS STANDHYD    1.0 01:KB-13        10.19    1.930 No_date   28:00   53.97 .726     .000
09516>       [XIMP=.64:TIMP=.64]
09517>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09518>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09519>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
09520>       [IaREC imp=  4.00: IaREC per=   4.00]
09521> R0025:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09522>     COMPUTE DUALHYD        1.0 01:KB-13        10.19    1.930 No_date   28:00   53.97  n/a     .000
09523>       Major System   /     1.0 02:KB-13-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09524>       Minor System   \     1.0 03:KB-13-MN     10.19    1.722 No_date   27:57   53.98  n/a     .000
09525>       {MjSysSto=.4703E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09526> R0025:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09527>     ADD HYD                1.0 02:KB-13-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09528>                        +   1.0 02:KB-13-MN     10.19    1.722 No_date   27:57   53.98  n/a     .000
09529>                    SUM=    1.0 01:KB-13-S      10.19    1.722 No_date   27:57   53.98  n/a     .000
09530> R0025:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09531>     CONTINUOUS STANDHYD    1.0 01:KB-14         5.47    1.075 No_date   28:00   53.97 .726     .000
09532>       [XIMP=.64:TIMP=.64]
09533>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09534>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09535>       [Impervious   area: IAimp= .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
09536>       [IaREC imp=  4.00: IaREC per=   4.00]
09537> R0025:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09538>     COMPUTE DUALHYD        1.0 01:KB-14         5.47    1.075 No_date   28:00   53.97  n/a     .000
09539>       Major System   /     1.0 02:KB-14-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09540>       Minor System   \     1.0 03:KB-14-MN      5.47     .873 No_date   27:55   54.32  n/a     .000
09541>       {MjSysSto=.6018E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09542> R0025:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09543>     ADD HYD                1.0 02:KB-14-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09544>                        +   1.0 02:KB-14-MN      5.47     .873 No_date   27:55   54.32  n/a     .000
09545>                    SUM=    1.0 01:KB-14-S       5.47     .873 No_date   27:55   54.32  n/a     .000
09546> R0025:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09547>     CONTINUOUS STANDHYD    1.0 01:KB-16_2       3.42     .649 No_date   28:01   58.24 .783     .000
09548>       [XIMP=.71:TIMP=.71]
09549>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09550>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09551>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
09552>       [IaREC imp=  4.00: IaREC per=   4.00]
09553> R0025:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09554>     ADD HYD                1.0 02:KB-Pond1     206.72   16.838 No_date   28:05   38.09  n/a     .000
09555>                        +   1.0 02:KB-07-S      10.86    2.094 No_date   27:56   66.02  n/a     .000
09556>                        +   1.0 02:KB-08-S       6.61    1.058 No_date   27:55   54.34  n/a     .000
09557>                        +   1.0 02:KB-09         2.60     .599 No_date   28:00   65.30  n/a     .000
09558>                        +   1.0 02:KB-10_1       2.37     .550 No_date   28:00   65.30  n/a     .000
09559>                        +   1.0 02:KB-10_2       1.14     .266 No_date   28:00   65.30  n/a     .000
09560>                        +   1.0 02:KB-12-S       4.86     .867 No_date   27:54   62.20  n/a     .000
09561>                        +   1.0 02:KB-13-S      10.19    1.722 No_date   27:57   53.98  n/a     .000
09562>                        +   1.0 02:KB-14-S       5.47     .873 No_date   27:55   54.32  n/a     .000
09563>                        +   1.0 02:KB-16_2       3.42     .649 No_date   28:01   58.24  n/a     .000
09564>                    SUM=    1.0 01:KB-P2       254.24   24.423 No_date   28:05   42.08  n/a     .000
09565> R0025:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09566>     ROUTE RESERVOIR ->     1.0 02:KB-P2       254.24   24.423 No_date   28:05   42.08  n/a     .000
09567>                out <=     1.0 01:KB-P2R      254.24   17.126 No_date   28:11   42.08  n/a     .000
09568>           overflow <=     1.0 03:KB-P2ovf      .00     .000 No_date   0:00     .00  n/a     .000
09569>       {MxStoUsed=.9755E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
09570> R0025:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09571>     ADD HYD                1.0 02:KB-P2R      254.24   17.126 No_date   28:11   42.08  n/a     .000
09572>                        +   1.0 02:KB-P2ovf      .00     .000 No_date   0:00     .00  n/a     .000
09573>                    SUM=    1.0 01:KB-Pond2    254.24   17.126 No_date   28:11   42.08  n/a     .000
09574> R0025:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09575>     SAVE HYD               1.0 01:KB-Pond2     254.24   17.126 No_date   28:11   42.08  n/a     .000
09576>       fname :KB-Pond2.0025
09577>       remark:Total Flows at KB second pond
09578> R0025:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09579>     CONTINUOUS STANDHYD    1.0 01:KB-16_1       2.80     .551 No_date   28:01   60.44 .812     .000
09580>       [XIMP=.75:TIMP=.75]
09581>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09582>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09583>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
09584>       [IaREC imp=  4.00: IaREC per=   4.00]
09585> R0025:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09586>     ADD HYD                1.0 02:KB-Pond2     254.24   17.126 No_date   28:11   42.08  n/a     .000
09587>                        +   1.0 02:KB-16_1       2.80     .551 No_date   28:01   60.44  n/a     .000
09588>                    SUM=    1.0 01:KB-P3       257.04   17.347 No_date   28:10   42.28  n/a     .000
09589> R0025:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09590>     ROUTE RESERVOIR ->     1.0 02:KB-P3       257.04   17.347 No_date   28:10   42.28  n/a     .000
09591>                out <=     1.0 01:KB-P3R       10.42     .051 No_date   17:19   42.28  n/a     .000
09592>           overflow <=     1.0 03:KB-P3ovf     246.62   17.293 No_date   28:10   42.28  n/a     .000
09593>       {MxStoUsed=.1993E-02  m3, TotOvfVol=.1043E+02  m3, N-Ovf=    2, TotDurOvf=  23.hrs}
09594> R0025:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09595>     ADD HYD                1.0 02:KB-P3R       10.42     .051 No_date   17:19   42.28  n/a     .000
09596>                        +   1.0 02:KB-P3ovf     246.62   17.293 No_date   28:10   42.28  n/a     .000
09597>                    SUM=    1.0 01:KB-Pond3    257.04   17.344 No_date   28:10   42.28  n/a     .000
09598> R0025:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09599>     SAVE HYD               1.0 01:KB-Pond3     257.04   17.344 No_date   28:10   42.28  n/a     .000
09600>       fname :KB-Pond3.0025
09601>       remark:Total Flows at KB third pond
09602> ************************************************************************
09603> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
09604> #    - TO FRASER-CLARKE DRAIN
09605> ************************************************************************
09606> R0025:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09607>     CONTINUOUS STANDHYD    1.0 01:FC-01         8.03    1.288 No_date   28:01   44.33 .596     .000
09608>       [XIMP=.47:TIMP=.47]
09609>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09610>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09611>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
09612>       [IaREC imp=  4.00: IaREC per=   4.00]
09613> R0025:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09614>     COMPUTE DUALHYD        1.0 01:FC-01         8.03    1.288 No_date   28:01   44.33  n/a     .000
09615>       Major System   /     1.0 02:FC-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09616>       Minor System   \     1.0 03:FC-01-MN      8.03     .756 No_date   28:25   44.53  n/a     .000
09617>       {MjSysSto=.2943E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09618> R0025:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09619>     ADD HYD                1.0 02:FC-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09620>                        +   1.0 02:FC-01-MN      8.03     .756 No_date   27:53   44.53  n/a     .000
09621>                    SUM=    1.0 01:FC-01-S       8.03     .756 No_date   27:53   44.53  n/a     .000
09622> R0025:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09623>     CONTINUOUS STANDHYD    1.0 01:FC-02        16.05    3.458 No_date   28:00   69.06 .928     .000
09624>       [XIMP=.93:TIMP=.93]
09625>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09626>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09627>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
09628>       [IaREC imp=  4.00: IaREC per=   4.00]
09629> R0025:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09630>     COMPUTE DUALHYD        1.0 01:FC-02        16.05    3.458 No_date   28:00   69.06  n/a     .000
09631>       Major System   /     1.0 02:FC-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09632>       Minor System   \     1.0 03:FC-02-MN     16.05    1.159 No_date   27:44   69.13  n/a     .000
09633>       {MjSysSto=.1941E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09634> R0025:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09635>     ADD HYD                1.0 02:FC-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09636>                        +   1.0 02:FC-02-MN     16.05    1.159 No_date   27:44   69.13  n/a     .000
09637>                    SUM=    1.0 01:FC-02-S      16.05    1.159 No_date   27:44   69.13  n/a     .000
09638> R0025:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09639>     CONTINUOUS STANDHYD    1.0 01:FC-03         7.37    1.375 No_date   28:00   53.47 .719     .000
09640>       [XIMP=.64:TIMP=.64]
09641>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09642>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09643>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
09644>       [IaREC imp=  4.00: IaREC per=   4.00]
09645> R0025:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09646>     COMPUTE DUALHYD        1.0 01:FC-03         7.37    1.375 No_date   28:00   53.47  n/a     .000
09647>       Major System   /     1.0 02:FC-03-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09648>       Minor System   \     1.0 03:FC-03-MN      7.37     .358 No_date   27:43   53.66  n/a     .000
09649>       {MjSysSto=.9407E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
09650> R0025:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09651>     ADD HYD                1.0 02:FC-03-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09652>                        +   1.0 02:FC-03-MN      7.37     .358 No_date   27:43   53.66  n/a     .000
09653>                    SUM=    1.0 01:FC-03-S       7.37     .358 No_date   27:43   53.66  n/a     .000
09654> R0025:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09655>     CONTINUOUS STANDHYD    1.0 01:FC-04        12.87    2.308 No_date   28:01   53.47 .719     .000
09656>       [XIMP=.64:TIMP=.64]
09657>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09658>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09659>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
09660>       [IaREC imp=  4.00: IaREC per=   4.00]
09661> R0025:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----Rvmm-R.C.---DWFcms
09662>     COMPUTE DUALHYD        1.0 01:FC-04        12.87    2.308 No_date   28:01   53.47  n/a     .000
09663>       Major System   /     1.0 02:FC-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
09664>       Minor System   \     1.0 03:FC-04-MN     12.87     .741 No_date   27:45   53.74  n/a     .000
09665>       {MjSysSto=.1383E+04, TotOvfVol=.0000E+00, N-Ovf=    0, T
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09725>       [SMIN= 26.32: SMAX=175.50: SK= .010]
09726> R0025:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09727>      COMPUTE DUALHYD     1.0 01:FRASER-D      21.61    3.250 No_date   28:01   56.29  n/a     .000
09728>        Major System   /     1.0 02:FRASER-J       .00     .000 No_date   0:00     .00  n/a     .000
09729>        Minor System   \     1.0 03:FRASER-N     21.61    2.281 No_date   27:55   56.43  n/a     .000
09730>          {MjSysSto=.4729E+03, TotOvfVol=.0000E+00, N-Ovfs=    0, TotDurOvf=    0.hrs}
09731> R0025:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09732>      ADD HYD             1.0 02:FRASER-J       .00     .000 No_date    0:00     .00  n/a     .000
09733>                      +     1.0 02:FRASER-N     21.61    2.281 No_date   27:55   56.43  n/a     .000
09734>                    SUM=    1.0 01:FRASER-S     21.61    2.281 No_date   27:55   56.43  n/a     .000
09735> R0025:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09736>      ADD HYD             1.0 02:KB-Pond3      257.04   17.344 No_date   28:10   42.28  n/a     .000
09737>                      +     1.0 02:S-1-B         55.36    2.311 No_date   28:23   34.14  n/a     .000
09738>                      +     1.0 02:FRASER-DRN    13.65     .594 No_date   28:22   34.14  n/a     .000
09739>                      +     1.0 02:FRASER-S      21.61    2.281 No_date   27:55   56.43  n/a     .000
09740>                      +     1.0 02:N_KB       54279.37  103.210 No_date   38:36   29.03  n/a     .000
09741>                      +     1.0 02:FC-01-S        8.03     .756 No_date   27:53   44.53  n/a     .000
09742>                      +     1.0 02:FC-02-S       16.05    1.159 No_date   27:44   69.13  n/a     .000
09743>                      +     1.0 02:FC-03-S        7.37     .358 No_date   27:43   53.66  n/a     .000
09744>                    SUM=    1.0 01:4241       54658.48  103.701 No_date   38:36   29.12  n/a     .000
09745> R0025:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09746>      SAVE HYD            1.0 01:4241       54658.48  103.701 No_date   38:36   29.12  n/a     .000
09747>          fname :4241.0025
09748>          remark:Total Flows at Ken-Burnett Outlet
09749> # Hydrograph from Node Ken-Burnett to station 3633
09750> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
09751> #
09752> R0025:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09753>      ROUTE CHANNEL    ->     1.0 02:4241       54658.48  103.701 No_date   38:36   29.12  n/a     .000
09754> *   [RDT= 1.00] out<-       1.0 01:4241-out   54658.48  103.716 No_date   38:34   29.12  n/a     .000
09755>          [L/S/n=  294./ .109/.035]
09756>          {Vmax= 1.254:Dmax= 2.210}
09757> R0025:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09758>      ADD HYD             1.0 02:4241-out   54658.48  103.716 No_date   38:34   29.12  n/a     .000
09759>                      +     1.0 02:FC-04-S       12.87     .741 No_date   27:45   53.74  n/a     .000
09760>                      +     1.0 02:JR-01-S        8.24     .563 No_date   27:45   53.74  n/a     .000
09761>                      +     1.0 02:JR-02-S        1.59     .153 No_date   27:47   53.69  n/a     .000
09762>                    SUM=    1.0 01:SN_KB      54681.18  103.751 No_date   38:34   29.13  n/a     .000
09763> R0025:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09764>      SAVE HYD            1.0 01:SN_KB      54681.18  103.751 No_date   38:34   29.13  n/a     .000
09765>          fname :SN_KB.0025
09766>          remark:HYD_COMMENT=["Total Flows before Station 3633]
09767> # Hydrograph from Station 3633 to Node Todd
09768> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
09769> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
09770> #
09771> R0025:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09772>      ROUTE CHANNEL    ->     1.0 02:SN_KB      54681.18  103.751 No_date   38:34   29.13  n/a     .000
09773>          [RDT= 1.00] out<-       1.0 01:N_TO   54681.18  103.735 No_date   38:38   29.13  n/a     .000
09774>          [L/S/n=  608./ .247/.035]
09775>          {Vmax= 1.675:Dmax= 1.657}
09776> #*************************************************************************
09777> #    Catchment Greenbank
09778> #    - To Greenbank Drain (south of the Jock)
09779> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, PS98(06)-15, June 2016
09780> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
09781> #*************************************************************************
09782> R0025:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09783>      CONTINUOUS STANDHYD    1.0 01:Greenbank     36.60    5.574 No_date   28:02   58.33 .784     .000
09784>          [XIMP=.64:TIMP=.68]
09785>          [LOSS= 2 :CN= 77.0]
09786>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09787>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
09788>          [IaRECimp=   4.00: IaRECper=   4.00]
09789>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09790> R0025:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09791>      ROUTE RESERVOIR ->     1.0 02:Greenbank     36.60    5.574 No_date   28:02   58.33  n/a     .000
09792>                    out <=   1.0 01:GreenB_MN     36.60    3.118 No_date   28:11   58.33  n/a     .000
09793>                overflow <=  1.0 03:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a     .000
09794>          {MxStoUsed=.8739E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09795> R0025:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09796>      ADD HYD             1.0 02:N_TO       54681.18  103.735 No_date   38:38   29.13  n/a     .000
09797>                      +     1.0 02:GreenB_MJ      .00     .000 No_date    0:00     .00  n/a     .000
09798>                      +     1.0 02:GreenB_MN    36.60    3.118 No_date   28:11   58.33  n/a     .000
09799>                    SUM=    1.0 01:GreenB     54717.78  103.842 No_date   38:38   29.15  n/a     .000
09800> R0025:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09801>      SAVE HYD            1.0 01:GreenB     54717.78  103.842 No_date   38:38   29.15  n/a     .000
09802>          fname :GreenB.0025
09803>          remark:Total Flows at Greenbank Drain
09804> #*************************************************************************
09805> #    Catchment TODD
09806> #    - To Todd Drain (south of the Jock)
09807> #    - Subdivision with 43% imp. as per Barrhaven South MSS
09808> #    - 2020-11-30 increase imp. based on PS98(04)-11
09809> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on PS98(04)-11
09810> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
09811> #*************************************************************************
09812> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
09813> R0025:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09814>      CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10     .339 No_date   28:00   53.59 .720     .000
09815>          [XIMP=.53:TIMP=.57]
09816>          [LOSS= 2 :CN= 77.0]
09817>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09818>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
09819>          [IaRECimp=   4.00: IaRECper=   4.00]
09820>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09821> R0025:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09822>      CONTINUOUS STANDHYD    1.0 01:TODD_MN3        .12     .020 No_date   28:00   53.57 .720     .000
09823>          [XIMP=.53:TIMP=.57]
09824>          [LOSS= 2 :CN= 77.0]
09825>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09826>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
09827>          [IaRECimp=   4.00: IaRECper=   4.00]
09828>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09829> R0025:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09830>      CONTINUOUS STANDHYD    1.0 01:TODD_MJ       30.23    4.269 No_date   28:02   55.13 .741     .000
09831>          [XIMP=.52:TIMP=.64]
09832>          [LOSS= 2 :CN= 77.0]
09833>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09834>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
09835>          [IaRECimp=   4.00: IaRECper=   4.00]
09836>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09837> R0025:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09838>      CONTINUOUS STANDHYD    1.0 01:TODD_ALL      112.91   13.312 No_date   28:05   53.38 .718     .000
09839>          [XIMP=.52:TIMP=.57]
09840>          [LOSS= 2 :CN= 77.0]
09841>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09842>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
09843>          [IaRECimp=   4.00: IaRECper=   4.00]
09844>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09845> R0025:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09846>      CONTINUOUS STANDHYD    1.0 01:TODD_P         3.06     .535 No_date   28:00   57.01 .766     .000
09847>          [XIMP=.63:TIMP=.63]
09848>          [LOSS= 2 :CN= 77.0]
09849>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09850>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
09851>          [IaRECimp=   4.00: IaRECper=   4.00]
09852>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09853> # 5-Year + 12% Capture
09854> R0025:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09855>      ROUTE RESERVOIR ->     1.0 02:TODD_MJ       30.23    4.269 No_date   28:02   55.13  n/a     .000
09856>                    out <=   1.0 01:TODD_MJn      29.48    3.314 No_date   27:57   55.13  n/a     .000
09857>                overflow <=  1.0 03:TODD_MJj        .75     .946 No_date   28:03   55.13  n/a     .000
09858>          {MxStoUsed=.1175E-03  m3, TotOvfVol=.4153E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
09859> # 5-Year + 12% Capture
09860> R0025:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09861>      ROUTE RESERVOIR ->     1.0 02:TODD_MN2       2.10     .339 No_date   28:00   53.59  n/a     .000
09862>                    out <=   1.0 01:TODD_MN2n      2.06     .268 No_date   27:54   53.60  n/a     .000
09863>                overflow <=  1.0 03:TODD_MN2j        .04     .067 No_date   28:00   53.59  n/a     .000
09864>          {MxStoUsed=.8415E-04  m3, TotOvfVol=.2217E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
09865> R0025:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09866>      ROUTE RESERVOIR ->     1.0 02:TODD_MN3        .12     .020 No_date   28:00   53.58  n/a     .000
09867>                    out <=   1.0 01:TODD_MN3n       .11     .016 No_date   27:53   53.58  n/a     .000
09868>                overflow <=  1.0 03:TODD_MN3j        .00     .004 No_date   28:00   53.58  n/a     .000
09869>          {MxStoUsed=.1067E-03  m3, TotOvfVol=.1192E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
09870> R0025:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09871>      CONTINUOUS STANDHYD    1.0 01:A2            25.50    2.974 No_date   28:03   49.44 .665     .000
09872>          [XIMP=.42:TIMP=.52]
09873>          [LOSS= 2 :CN= 75.0]
09874>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09875>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
09876>          [IaRECimp=   4.00: IaRECper=   4.00]
09877>          [SMIN= 33.81: SMAX=225.43: SK= .010]
09878> R0025:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09879>      COMPUTE DUALHYD        1.0 01:A2            25.50    2.974 No_date   28:03   49.44  n/a     .000
09880>        Major System   /     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
09881>        Minor System   \     1.0 03:A2-MN        25.50    1.818 No_date   27:54   49.64  n/a     .000
09882>          {MjSysSto=.8120E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09883> R0025:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09884>      ADD HYD             1.0 02:TODD_MN2n      2.06     .268 No_date   27:54   53.60  n/a     .000
09885>                      +     1.0 02:TODD_MN3n       .11     .016 No_date   27:53   53.58  n/a     .000
09886>                      +     1.0 02:TODD_MJj        .75     .946 No_date   28:03   55.13  n/a     .000
09887>                      +     1.0 02:TODD_P         3.06     .535 No_date   28:00   57.01  n/a     .000
09888>                      +     1.0 02:TODD_ALL     112.91   13.312 No_date   28:05   53.38  n/a     .000
09889>                      +     1.0 02:W_CLAR_MJn     1.73     .213 No_date   27:54   52.78  n/a     .000
09890>                    SUM=    1.0 01:TODD         120.62   14.962 No_date   28:03   53.48  n/a     .000
09891> R0025:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09892>      SAVE HYD            1.0 01:TODD         120.62   14.962 No_date   28:03   53.48  n/a     .000
09893>          fname :TODD.0025
09894>          remark:Total Flows at Todd Drain
09895> #*************************************************************************
09896> #    Todd Pond 3
09897> #    - Rating curve obtained from Barrhaven South MSS modeling
09898> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
09899> #*************************************************************************
09900> R0025:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09901>      ROUTE RESERVOIR ->     1.0 02:TODD         120.62   14.962 No_date   28:03   53.48  n/a     .000
09902>                    out <=   1.0 01:MS_P3        120.62    9.717 No_date   28:14   53.48  n/a     .000
09903>                overflow <=  1.0 03:P3-OVF          .00     .000 No_date    0:00     .00  n/a     .000
09904>          {MxStoUsed=.2619E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09905> R0025:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09906>      ADD HYD             1.0 02:GreenB     54717.78  103.842 No_date   38:38   29.15  n/a     .000
09907>                      +     1.0 02:MS_P3        120.62    9.717 No_date   28:14   53.48  n/a     .000
09908>                      +     1.0 02:P3-OVF         .00     .000 No_date    0:00     .00  n/a     .000
09909>                      +     1.0 02:TODD_MN2j      .04     .067 No_date   28:00   53.59  n/a     .000
09910>                      +     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
09911>                    SUM=    1.0 01:SN_TO      54838.44  104.100 No_date   38:38   29.21  n/a     .000
09912> R0025:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09913>      SAVE HYD            1.0 01:SN_TO      54838.44  104.100 No_date   38:38   29.21  n/a     .000
09914>          fname :SN_TO.0025
09915>          remark:Total Flows at Todd Drain
09916> #
09917> # Hydrograph from Todd Drain routed to Corrigan Drain
09918> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
09919> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
09920> R0025:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09921>      ROUTE CHANNEL    ->     1.0 02:SN_TO      54838.44  104.100 No_date   38:38   29.21  n/a     .000
09922> *   [RDT= 1.00] out<-       1.0 01:N_TO       54838.44  104.039 No_date   38:49   29.21  n/a     .000
09923>          [L/S/n=  280./ .050/.045]
09924>          {Vmax=  .905:Dmax= 3.154}
09925> R0025:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09926>      SAVE HYD            1.0 01:N_TO       54838.44  104.039 No_date   38:49   29.21  n/a     .000
09927>          fname :N_TO.0025
09928>          remark:Total inflows at Station 2462
09929> #*************************************************************************
09930> #    Catchment CORRIG
09931> #    - To Corrigan Drain (south of the Jock)
09932> #    - Primarily Developed (Medium Density)
09933> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
09934> #*************************************************************************
09935> R0025:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09936>      CONTINUOUS STANDHYD    1.0 01:corr1         15.87    2.535 No_date   28:01   57.01 .766     .000
09937>          [XIMP=.63:TIMP=.63]
09938>          [LOSS= 2 :CN= 77.0]
09939>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09940>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
09941>          [IaRECimp=   4.00: IaRECper=   4.00]
09942>          [SMIN= 31.15: SMAX=207.66: SK= .010]
09943> R0025:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09944>      COMPUTE DUALHYD        1.0 01:corr1         15.87    2.535 No_date   28:01   57.01  n/a     .000
09945>        Major System   /     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
09946>        Minor System   \     1.0 03:corr1-MN     15.87    1.818 No_date   28:15   57.37  n/a     .000
09947>          {MjSysSto=.3156E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09948> R0025:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09949>      CONTINUOUS NASHYD      1.0 01:corr2         12.47     .276 No_date   29:10   34.14 .459     .000
09950>          [CN= 77.0: N= 3.00: Tp=  .20]
09951>          [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09952>          [InterEventTime= 12.00]
09953> R0025:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09954>      CONTINUOUS STANDHYD    1.0 01:A1-Corrig     15.75    2.022 No_date   28:01   49.44 .665     .000
09955>          [XIMP=.42:TIMP=.52]
09956>          [LOSS= 2 :CN= 75.0]
09957>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09958>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
09959>          [IaRECimp=   4.00: IaRECper=   4.00]
09960>          [SMIN= 33.81: SMAX=225.43: SK= .010]
09961> R0025:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09962>      COMPUTE DUALHYD        1.0 01:A1-Corrig     15.75    2.022 No_date   28:01   49.44  n/a     .000
09963>        Major System   /     1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
09964>        Minor System   \     1.0 03:A1-MN        15.75    1.818 No_date   27:58   49.57  n/a     .000
09965>          {MjSysSto=.4966E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09966> R0025:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09967>      CONTINUOUS NASHYD      1.0 01:B1             2.77     .097 No_date   28:09   21.19 .285     .000
09968>          [CN= 56.0: N= 3.00: Tp=  .28]
09969>          [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
09970>          [InterEventTime= 12.00]
09971> R0025:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09972>      CONTINUOUS STANDHYD    1.0 01:A4            1.27     .212 No_date   28:01   57.38 .771     .000
09973>          [XIMP=.65:TIMP=.65]
09974>          [LOSS= 2 :CN= 75.0]
09975>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09976>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
09977>          [IaRECimp=   4.00: IaRECper=   4.00]
09978>          [SMIN= 33.81: SMAX=225.43: SK= .010]
09979> R0025:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09980>      COMPUTE DUALHYD        1.0 01:A4            1.27     .212 No_date   28:01   57.38  n/a     .000
09981>        Major System   /     1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
09982>        Minor System   \     1.0 03:A4-MN         1.27     .212 No_date   28:01   57.38  n/a     .000
09983>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09984> R0025:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09985>      ADD HYD             1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
09986>                      +     1.0 02:A1-MN        15.75    1.818 No_date   27:58   49.57  n/a     .000
09987>                      +     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
09988>                      +     1.0 02:corr1-MN     15.87    1.818 No_date   28:15   57.37  n/a     .000
09989>                      +     1.0 02:corr2        12.47     .276 No_date   29:10   34.14  n/a     .000
09990>                      +     1.0 02:B1            2.77     .097 No_date   28:09   21.19  n/a     .000
09991>                      +     1.0 02:A4-MN         1.27     .212 No_date   28:01   57.38  n/a     .000
09992>                    SUM=    1.0 01:MH101        48.13    3.979 No_date   28:02   46.72  n/a     .000
09993> R0025:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09994>      SAVE HYD            1.0 01:MH101        48.13    3.979 No_date   28:02   46.72  n/a     .000
09995>          fname :MH101.0025
09996>          remark:Total Flows at MH101
09997> R0025:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09998>      ROUTE PIPE      ->     1.0 02:MH101        48.13    3.979 No_date   28:02   46.72  n/a     .000
09999> *   [RDT= 1.00] out<-       1.0 01:101-102      48.13    3.953 No_date   28:05   46.72  n/a     .000
10000>          [L/S/n=  368./ .540/.013]
10001>          {Vmax= 3.134:Dmax= 1.114}
10002>          [Din= 1.05:Dused= 1.36]
10003> R0025:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10004>      ADD HYD             1.0 02:A2-MN        25.50    1.818 No_date   27:54   49.64  n/a     .000
10005>                      +     1.0 02:101-102      48.13    3.953 No_date   28:05   46.72  n/a     .000
10006>                    SUM=    1.0 01:MH102        73.63    5.771 No_date   28:05   47.73  n/a     .000
10007> R0025:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10008>      SAVE HYD            1.0 01:MH102        73.63    5.771 No_date   28:05   47.73  n/a     .000
10009>          fname :MH102.0025
10010>          remark:Total Flows at MH102
10011> R0025:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10012>      CONTINUOUS STANDHYD    1.0 01:A5            1.60     .279 No_date   28:01   60.02 .807     .000
10013>          [XIMP=.71:TIMP=.71]
10014>          [LOSS= 2 :CN= 75.0]
10015>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10016>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
10017>          [IaRECimp=   4.00: IaRECper=   4.00]
10018>          [SMIN= 33.81: SMAX=225.43: SK= .010]
10019> R0025:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10020>      ADD HYD             1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
10021>                      +     1.0 02:A5           1.60     .279 No_date   28:01   60.02  n/a     .000
10022>                    SUM=    1.0 01:A5T          1.60     .279 No_date   28:01   60.02  n/a     .000
10023> R0025:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10024>      COMPUTE DUALHYD        1.0 01:A5T           1.60     .279 No_date   28:01   60.02  n/a     .000
10025>        Major System   /     1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
10026>        Minor System   \     1.0 03:A5-MN         1.60     .279 No_date   28:01   60.02  n/a     .000
10027>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10028> R0025:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10029>      ROUTE PIPE      ->     1.0 02:MH102        73.63    5.771 No_date   28:05   47.73  n/a     .000
10030> *   [RDT= 1.00] out<-       1.0 01:102-103      73.63    5.682 No_date   28:08   47.73  n/a     .000
10031>          [L/S/n=  504./ .280/.013]
10032>          {Vmax= 2.688:Dmax= 1.448}
10033>          [Din= 1.50:Dused= 1.75]
10034> R0025:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10035>      ADD HYD             1.0 02:102-103      73.63    5.682 No_date   28:08   47.73  n/a     .000
10036>                      +     1.0 02:A5-MN         1.60     .279 No_date   28:01   60.02  n/a     .000
10037>                    SUM=    1.0 01:MH103        75.23    5.850 No_date   28:06   47.99  n/a     .000
10038> R0025:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10039>      SAVE HYD            1.0 01:MH103        75.23    5.850 No_date   28:06   47.99  n/a     .000
10040>          fname :MH103.0025
10041>          remark:Total Flows at MH103
10042> R0025:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10043>      ROUTE PIPE      ->     1.0 02:MH103        75.23    5.850 No_date   28:06   47.99  n/a     .000
10044>          [RDT= 1.00] out<-       1.0 01:103-104      75.23    5.807 No_date   28:08   47.99  n/a     .000
10045>          [L/S/n=  430./ .460/.013]
10046>          {Vmax= 3.289:Dmax= 1.280}
10047>          [Din= 1.65:Dused= 1.65]
10048> R0025:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10049>      CONTINUOUS STANDHYD    1.0 01:A6            1.56     .274 No_date   28:00   60.02 .807     .000
10050>          [XIMP=.71:TIMP=.71]
10051>          [LOSS= 2 :CN= 75.0]
10052>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10053>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
10054>          [IaRECimp=   4.00: IaRECper=   4.00]
10055>          [SMIN= 33.81: SMAX=225.43: SK= .010]
10056> R0025:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10057>      ADD HYD             1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
10058>                      +     1.0 02:A6           1.56     .274 No_date   28:00   60.02  n/a     .000
10059>                    SUM=    1.0 01:A6T          1.56     .274 No_date   28:00   60.02  n/a     .000
10060> R0025:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10061>      COMPUTE DUALHYD        1.0 01:A6T           1.56     .274 No_date   28:00   60.02  n/a     .000
10062>        Major System   /     1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
10063>        Minor System   \     1.0 03:A6-MN         1.56     .274 No_date   28:00   60.02  n/a     .000
10064>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10065> R0025:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10066>      ADD HYD             1.0 02:A6-MN         1.56     .274 No_date   28:00   60.02  n/a     .000
10067>                      +     1.0 02:103-104      75.23    5.807 No_date   28:08   47.99  n/a     .000
10068>                      +     1.0 02:TODD_MJn     29.48    3.314 No_date   27:57   55.13  n/a     .000
10069>                    SUM=    1.0 01:MH104       106.27    9.269 No_date   28:06   50.14  n/a     .000
10070> R0025:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10071>      SAVE HYD            1.0 01:MH104       106.27    9.269 No_date   28:06   50.14  n/a     .000
10072>          fname :MH104.0025
10073>          remark:Total Flows at MH104
10074> R0025:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10075>      CONTINUOUS STANDHYD    1.0 01:B2            12.31    1.521 No_date   28:02   49.75 .669     .000
10076>          [XIMP=.41:TIMP=.54]
10077>          [LOSS= 2 :CN= 75.0]
10078>          [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10079>          [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
10080>          [IaRECimp=   4.00: IaRECper=   4.00]
10081>          [SMIN= 33.81: SMAX=225.43: SK= .010]
10082> R0025:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10083>      COMPUTE DUALHYD        1.0 01:B2            12.31    1.521 No_date   28:02   49.75  n/a     .000
10084>        Major System   /     1.0 02:B2-MJ
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10099>       [IaRECimp=   4.00: IaRECper=   4.00]
10100>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10101> R0025:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10102>      COMPUTE DUALHYD       1.0 01:B3           5.59     .715 No_date   28:02   49.75  n/a     .000
10103>        Major System   /     1.0 02:B3-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10104>        Minor System   \     1.0 03:B3-MN         5.59     .459 No_date   27:54   49.80  n/a     .000
10105>        {MjSysSto=.1451E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10106> R0025:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10107>      ADD HYD               1.0 02:B3-MN         5.59     .459 No_date   27:54   49.80  n/a     .000
10108>                       +     1.0 02:315-333      12.31    1.029 No_date   28:24   49.85  n/a     .000
10109>                     SUM=    1.0 01:MH333        17.90    1.488 No_date   28:24   49.83  n/a     .000
10110> R0025:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10111>      SAVE HYD              1.0 01:MH333        17.90    1.488 No_date   28:24   49.83  n/a     .000
10112>        fname :MH333.0025
10113>        remark:Total Flows at MH333
10114> R0025:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10115>      ROUTE PIPE       ->     1.0 02:MH333        17.90    1.488 No_date   28:24   49.83  n/a     .000
10116> *    [RDT= 1.00] out<-      1.0 01:333-335      17.90    1.485 No_date   28:24   49.83  n/a     .000
10117>        [L/S/n=  251./ .100/.013]
10118>        {Vmax= 1.302:Dmax= 1.057}
10119>        [Din= 1.20:Dused= 1.29]
10120> R0025:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10121>      ROUTE PIPE       ->     1.0 02:333-335      17.90    1.485 No_date   28:24   49.83  n/a     .000
10122> *    [RDT= 1.00] out<-      1.0 01:335-338      17.90    1.490 No_date   28:26   49.83  n/a     .000
10123>        [L/S/n=  185./ .100/.013]
10124>        {Vmax= 1.301:Dmax= 1.056}
10125>        [Din= 1.20:Dused= 1.29]
10126> R0025:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10127>      ROUTE PIPE       ->     1.0 02:335-338      17.90    1.490 No_date   28:26   49.83  n/a     .000
10128>        [RDT= 1.00] out<-      1.0 01:338-340      17.90    1.456 No_date   28:26   49.83  n/a     .000
10129>        [L/S/n=  233./ .100/.013]
10130>        {Vmax= 1.331:Dmax=  .985}
10131>        [Din= 1.35:Dused= 1.35]
10132> R0025:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10133>      CONTINUOUS STANDHYD    1.0 01:B4           7.60     .960 No_date   28:02   49.75 .669     .000
10134>        [XIMP=.41:TIMP=.54]
10135>        [LOSS= 2 :CN= 75.0]
10136>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10137>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
10138>        [IaRECimp=  4.00: IaRECper=  4.00]
10139>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10140> R0025:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10141>      COMPUTE DUALHYD       1.0 01:B4           7.60     .960 No_date   28:02   49.75  n/a     .000
10142>        Major System   /     1.0 02:B4-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10143>        Minor System   \     1.0 03:B4-MN         7.60     .655 No_date   27:55   50.00  n/a     .000
10144>        {MjSysSto=.1611E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10145> R0025:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10146>      ADD HYD               1.0 02:338-340      17.90    1.456 No_date   28:26   49.83  n/a     .000
10147>                       +     1.0 02:B4-MN         7.60     .655 No_date   27:55   50.00  n/a     .000
10148>                     SUM=    1.0 01:MH340        25.50    2.104 No_date   28:18   49.88  n/a     .000
10149> R0025:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10150>      SAVE HYD              1.0 01:MH340        25.50    2.104 No_date   28:18   49.88  n/a     .000
10151>        fname :MH340.0025
10152>        remark:Total Flows at MH340
10153> R0025:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10154>      ROUTE PIPE       ->     1.0 02:MH340        25.50    2.104 No_date   28:18   49.88  n/a     .000
10155>        [RDT= 1.00] out<-      1.0 01:340-104      25.50    2.086 No_date   28:18   49.88  n/a     .000
10156>        [L/S/n=  240./ .150/.013]
10157>        {Vmax= 1.722:Dmax=  .917}
10158>        [Din= 1.65:Dused= 1.65]
10159> R0025:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10160>      ADD HYD               1.0 02:340-104      25.50    2.086 No_date   28:18   49.88  n/a     .000
10161>                       +     1.0 02:MH104       106.27    9.269 No_date   28:06   50.14  n/a     .000
10162>                     SUM=    1.0 01:MH104T      131.77   11.233 No_date   28:08   50.09  n/a     .000
10163> R0025:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10164>      ROUTE PIPE       ->     1.0 02:MH104T      131.77   11.233 No_date   28:08   50.09  n/a     .000
10165> *    [RDT= 1.00] out<-      1.0 01:104-105      131.77   10.846 No_date   28:08   50.09  n/a     .000
10166>        [L/S/n=  380./ .100/.013]
10167>        {Vmax= 2.100:Dmax= 1.992}
10168>        {HGTH= 2.35:WDTH= 2.68}
10169> R0025:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10170>      CONTINUOUS STANDHYD    1.0 01:B5           2.20     .346 No_date   28:00   53.85 .724     .000
10171>        [XIMP=.57:TIMP=.57]
10172>        [LOSS= 2 :CN= 75.0]
10173>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10174>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
10175>        [IaRECimp=  4.00: IaRECper=  4.00]
10176>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10177> R0025:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10178>      COMPUTE DUALHYD       1.0 01:B5           2.20     .346 No_date   28:00   53.85  n/a     .000
10179>        Major System   /     1.0 02:B5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10180>        Minor System   \     1.0 03:B5-MN         2.20     .260 No_date   27:54   53.87  n/a     .000
10181>        {MjSysSto=.3304E+02, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10182> R0025:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10183>      CONTINUOUS STANDHYD    1.0 01:A8           .96     .177 No_date   28:00   60.02 .807     .000
10184>        [XIMP=.71:TIMP=.71]
10185>        [LOSS= 2 :CN= 75.0]
10186>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10187>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
10188>        [IaRECimp=  4.00: IaRECper=  4.00]
10189>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10190> R0025:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10191>      ADD HYD               1.0 02:A6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10192>                       +     1.0 02:A8           .96     .177 No_date   28:00   60.02  n/a     .000
10193>                     SUM=    1.0 01:A8T          .96     .177 No_date   28:00   60.02  n/a     .000
10194> R0025:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10195>      COMPUTE DUALHYD       1.0 01:A8T          .96     .177 No_date   28:00   60.02  n/a     .000
10196>        Major System   /     1.0 02:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10197>        Minor System   \     1.0 03:A8-MN         .96     .177 No_date   28:00   60.02  n/a     .000
10198>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10199> R0025:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10200>      ADD HYD               1.0 02:104-105      131.77   10.846 No_date   28:08   50.09  n/a     .000
10201>                       +     1.0 02:B5-MN         2.20     .260 No_date   27:54   53.87  n/a     .000
10202>                       +     1.0 02:A8-MN         .96     .177 No_date   28:00   60.02  n/a     .000
10203>                       +     1.0 02:TODD_MN3j      .00     .004 No_date   28:00   53.58  n/a     .000
10204>                     SUM=    1.0 01:MH105        134.93   11.175 No_date   28:08   50.23  n/a     .000
10205> R0025:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10206>      SAVE HYD              1.0 01:MH105        134.93   11.175 No_date   28:08   50.23  n/a     .000
10207>        fname :MH105.0025
10208>        remark:Total Flows at MH105
10209> R0025:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10210> *    DIVERT HYD       ->     1.0 01:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10211>          diverted <=         1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
10212>          diverted <=         1.0 03:A8-MJ-B6       .00     .000 No_date   0:00     .00  n/a     .000
10213> R0025:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10214>      DIVERT HYD       ->    1.0 01:MH105        134.93   11.175 No_date   28:08   50.23  n/a     .000
10215>          diverted <=         1.0 02:MH105-JR      33.95    8.167 No_date   28:08   50.23  n/a     .000
10216>          diverted <=         1.0 03:MH105-B6     100.98    3.008 No_date   28:08   50.23  n/a     .000
10217> R0025:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10218>      CONTINUOUS STANDHYD    1.0 01:B7           7.19     .975 No_date   28:01   49.75 .669     .000
10219>        [XIMP=.41:TIMP=.54]
10220>        [LOSS= 2 :CN= 75.0]
10221>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10222>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
10223>        [IaRECimp=  4.00: IaRECper=  4.00]
10224>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10225> R0025:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10226>      ADD HYD               1.0 02:B7-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10227>                       +     1.0 02:B7           7.19     .975 No_date   28:01   49.75  n/a     .000
10228>                     SUM=    1.0 01:B7-B4MJ      7.19     .975 No_date   28:01   49.75  n/a     .000
10229> R0025:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10230>      COMPUTE DUALHYD       1.0 01:B7-B4MJ      7.19     .975 No_date   28:01   49.75  n/a     .000
10231>        Major System   /     1.0 02:B7R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10232>        Minor System   \     1.0 03:B7R-MN        7.19     .629 No_date   27:53   50.01  n/a     .000
10233>        {MjSysSto=.1702E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10234> R0025:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10235>      ROUTE PIPE       ->     1.0 02:B7R-MN        7.19     .629 No_date   27:53   50.01  n/a     .000
10236> *    [RDT= 1.00] out<-      1.0 01:360-106A      7.19     .629 No_date   28:21   50.01  n/a     .000
10237>        [L/S/n=  167./ .100/.013]
10238>        {Vmax= 1.089:Dmax=  .665}
10239>        [Din= 1.05:Dused= 1.05]
10240> R0025:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10241>      CONTINUOUS STANDHYD    1.0 01:B6           3.29     .465 No_date   28:00   49.75 .669     .000
10242>        [XIMP=.41:TIMP=.54]
10243>        [LOSS= 2 :CN= 75.0]
10244>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10245>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
10246>        [IaRECimp=  4.00: IaRECper=  4.00]
10247>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10248> R0025:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10249>      COMPUTE DUALHYD       1.0 01:B6           3.29     .465 No_date   28:00   49.75  n/a     .000
10250>        Major System   /     1.0 02:B6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10251>        Minor System   \     1.0 03:B6-MN         3.29     .064 No_date   27:34   49.75  n/a     .000
10252>        {MjSysSto=.5165E+03, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10253> R0025:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10254>      CONTINUOUS STANDHYD    1.0 01:EX-LAND      32.50    4.063 No_date   28:02   50.08 .673     .000
10255>        [XIMP=.50:TIMP=.50]
10256>        [LOSS= 2 :CN= 74.0]
10257>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10258>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
10259>        [IaRECimp=  4.00: IaRECper=  4.00]
10260>        [SMIN= 36.67: SMAX=244.49: SK= .010]
10261> R0025:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10262>      COMPUTE DUALHYD       1.0 01:EX-LAND      32.50    4.063 No_date   28:02   50.08  n/a     .000
10263>        Major System   /     1.0 02:EX-LAND-MJ     .00     .000 No_date   0:00     .00  n/a     .000
10264>        Minor System   \     1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:52   50.26  n/a     .000
10265>        {MjSysSto=.1224E+04, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10266> R0025:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10267>      ADD HYD               1.0 02:B7R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10268>                       +     1.0 02:EX-LAND-MJ     .00     .000 No_date   0:00     .00  n/a     .000
10269>                       +     1.0 02:B5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10270>                       +     1.0 02:B8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10271>                       +     1.0 02:B6-MN         3.29     .064 No_date   27:34   49.75  n/a     .000
10272>                       +     1.0 02:A8-MJ-B6       .00     .000 No_date   0:00     .00  n/a     .000
10273>                     SUM=    1.0 02:B6-B7EXMJ     3.29     .064 No_date   27:34   49.75  n/a     .000
10274> R0025:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10275>      COMPUTE DUALHYD       1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:34   49.75  n/a     .000
10276>        Major System   /     1.0 02:B6R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10277>        Minor System   \     1.0 03:B6R-MN        3.29     .064 No_date   27:34   49.75  n/a     .000
10278>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10279> R0025:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10280>      ROUTE PIPE       ->     1.0 02:MH105-B6     100.98    3.008 No_date   28:08   50.23  n/a     .000
10281>        [RDT= 1.00] out<-      1.0 01:105-106A     100.98    3.018 No_date   28:02   50.23  n/a     .000
10282>        [L/S/n=  208./ .100/.013]
10283>        {Vmax= 1.597:Dmax= 1.249}
10284>        [Din= 1.80:Dused= 1.80]
10285> R0025:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10286>      ADD HYD               1.0 02:360-106A       7.19     .629 No_date   28:21   50.01  n/a     .000
10287>                       +     1.0 02:105-106A     100.98    3.018 No_date   28:02   50.23  n/a     .000
10288>                       +     1.0 02:B6R-MN         3.29     .064 No_date   27:34   49.75  n/a     .000
10289>                       +     1.0 02:B6R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10290>                     SUM=    1.0 01:MH106A       111.46    3.702 No_date   28:02   50.20  n/a     .000
10291> R0025:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10292>      SAVE HYD              1.0 01:MH106A       111.46    3.702 No_date   28:02   50.20  n/a     .000
10293>        fname :MH106A.0025
10294>        remark:Total Flows at MH106A
10295> R0025:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10296>      ROUTE PIPE       ->     1.0 02:MH106A       111.46    3.702 No_date   28:02   50.20  n/a     .000
10297> *    [RDT= 1.00] out<-      1.0 01:106A-106     111.46    3.699 No_date   28:16   50.20  n/a     .000
10298>        [L/S/n=  190./ .100/.013]
10299>        {Vmax= 1.635:Dmax= 1.487}
10300>        [Din= 1.80:Dused= 1.81]
10301> R0025:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10302>      CONTINUOUS STANDHYD    1.0 01:A9           2.44     .433 No_date   28:00   60.02 .807     .000
10303>        [XIMP=.71:TIMP=.71]
10304>        [LOSS= 2 :CN= 75.0]
10305>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10306>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
10307>        [IaRECimp=  4.00: IaRECper=  4.00]
10308>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10309> R0025:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10310>      COMPUTE DUALHYD       1.0 01:A9           2.44     .433 No_date   28:00   60.02  n/a     .000
10311>        Major System   /     1.0 02:A9-MJ          .00     .000 No_date   0:00     .00  n/a     .000
10312>        Minor System   \     1.0 03:A9-MN         2.44     .433 No_date   28:00   60.02  n/a     .000
10313> R0025:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10314>      ADD HYD               1.0 02:106A-106     111.46    3.699 No_date   28:16   50.20  n/a     .000
10315>                       +     1.0 02:A9-MN         2.44     .433 No_date   28:00   60.02  n/a     .000
10316>                     SUM=    1.0 01:MH106        113.90    4.090 No_date   28:01   50.41  n/a     .000
10317> R0025:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10318>      SAVE HYD              1.0 01:MH106        113.90    4.090 No_date   28:01   50.41  n/a     .000
10319>        fname :MH106.0025
10320>        remark:Total Flows at MH106
10321> R0025:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10322>      ROUTE PIPE       ->     1.0 02:MH106        113.90    4.090 No_date   28:01   50.41  n/a     .000
10323> *    [RDT= 1.00] out<-      1.0 01:106-107      113.90    4.067 No_date   28:03   50.41  n/a     .000
10324>        [L/S/n=  123./ .100/.013]
10325>        {Vmax= 1.676:Dmax= 1.544}
10326>        [Din= 1.80:Dused= 1.88}
10327> R0025:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10328>      CONTINUOUS STANDHYD    1.0 01:A10          4.14     .526 No_date   28:01   46.81 .629     .000
10329>        [XIMP=.35:TIMP=.47]
10330>        [LOSS= 2 :CN= 75.0]
10331>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10332>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
10333>        [IaRECimp=  4.00: IaRECper=  4.00]
10334>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10335> R0025:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10336>      COMPUTE DUALHYD       1.0 01:A10          4.14     .526 No_date   28:01   46.81  n/a     .000
10337>        Major System   /     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10338>        Minor System   \     1.0 03:A10-MN        4.14     .310 No_date   27:52   46.90  n/a     .000
10339>        {MjSysSto=.1196E+03, ToTOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10340> R0025:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10341>      CONTINUOUS STANDHYD    1.0 01:A11         10.61    1.511 No_date   28:01   54.09 .727     .000
10342>        [XIMP=.53:TIMP=.62]
10343>        [LOSS= 2 :CN= 75.0]
10344>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10345>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
10346>        [IaRECimp=  4.00: IaRECper=  4.00]
10347>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10348> R0025:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10349>      COMPUTE DUALHYD       1.0 01:A11         10.61    1.511 No_date   28:01   54.09  n/a     .000
10350>        Major System   /     1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10351>        Minor System   \     1.0 03:A11-MN       10.61    .993 No_date   27:54   54.21  n/a     .000
10352>        {MjSysSto=.2791E+03, ToTOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10353> R0025:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10354>      ADD HYD               1.0 02:106-107      113.90    4.067 No_date   28:03   50.41  n/a     .000
10355>                       +     1.0 02:A10-MN        4.14     .310 No_date   27:52   46.90  n/a     .000
10356>                       +     1.0 02:A11-MN       10.61    .993 No_date   27:54   54.21  n/a     .000
10357>                     SUM=    1.0 01:MH107        128.65    5.370 No_date   28:03   50.61  n/a     .000
10358> R0025:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10359>      SAVE HYD              1.0 01:MH107        128.65    5.370 No_date   28:03   50.61  n/a     .000
10360>        fname :MH107.0025
10361>        remark:Total Flows at MH107
10362> R0025:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10363>      ROUTE PIPE       ->     1.0 02:MH107        128.65    5.370 No_date   28:03   50.61  n/a     .000
10364> *    [RDT= 1.00] out<-      1.0 01:107-119      128.65    5.374 No_date   28:04   50.61  n/a     .000
10365>        [L/S/n=  114./ .120/.013]
10366>        {Vmax= 1.922:Dmax= 1.653}
10367>        [Din= 1.80:Dused= 2.01}
10368> R0025:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10369>      ROUTE PIPE       ->     1.0 02:107-119      128.65    5.374 No_date   28:04   50.61  n/a     .000
10370> *    [RDT= 1.00] out<-      1.0 01:119-108      128.65    5.354 No_date   28:04   50.61  n/a     .000
10371>        [L/S/n=   66./ .120/.013]
10372>        {Vmax= 1.922:Dmax= 1.653}
10373>        [Din= 1.80:Dused= 2.01}
10374> R0025:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10375>      CONTINUOUS STANDHYD    1.0 01:A12          12.29    1.704 No_date   28:01   49.75 .669     .000
10376>        [XIMP=.41:TIMP=.54]
10377>        [LOSS= 2 :CN= 75.0]
10378>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10379>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
10380>        [IaRECimp=  4.00: IaRECper=  4.00]
10381>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10382> R0025:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10383>      COMPUTE DUALHYD       1.0 01:A12          12.29    1.704 No_date   28:01   49.75  n/a     .000
10384>        Major System   /     1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10385>        Minor System   \     1.0 03:A12-MN       12.29    1.029 No_date   27:52   49.91  n/a     .000
10386>        {MjSysSto=.3556E+03, ToTOvfVol=.0000E+00, N-Ovf=    0, ToTurOvf=    0.hrs}
10387> R0025:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10388>      CONTINUOUS STANDHYD    1.0 01:A13           2.59     .435 No_date   28:01   60.02 .807     .000
10389>        [XIMP=.71:TIMP=.71]
10390>        [LOSS= 2 :CN= 75.0]
10391>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10392>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
10393>        [IaRECimp=  4.00: IaRECper=  4.00]
10394>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10395> R0025:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10396>      COMPUTE DUALHYD       1.0 01:A13           2.59     .435 No_date   28:01   60.02  n/a     .000
10397>        Major System   /     1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
10398>        Minor System   \     1.0 03:A13-MN        2.59     .435 No_date   28:01   60.02  n/a     .000
10399> R0025:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10400>      CONTINUOUS STANDHYD    1.0 01:Pond-Block     2.94     .375 No_date   28:00   47.01 .632     .000
10401>        [XIMP=.41:TIMP=.41]
10402>        [LOSS= 2 :CN= 75.0]
10403>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10404>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
10405>        [IaRECimp=  4.00: IaRECper=  4.00]
10406>        [SMIN= 33.81: SMAX=225.43: SK= .010]
10407> R0025:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10408>      ADD HYD               1.0 02:119-108      128.65    5.354 No_date   28:04   50.61  n/a     .000
10409>                       +     1.0 02:A13-MN        2.59     .435 No_date   28:01   60.02  n/a     .000
10410>                       +     1.0 02:A12-MN       12.29    1.029 No_date   27:52   49.91  n/a     .000
10411>                     SUM=    1.0 01:MH108        143.53    6.791 No_date   28:03   50.72  n/a     .000
10412> R0025:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10413>      SAVE HYD              1.0 01:MH108        143.53    6.791 No_date   28:03   50.72  n/a     .000
10414>        fname :MH108.0025
10415>        remark:Total Flows at MH108
10416> R0025:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10417>      ROUTE PIPE       ->     1.0 02:MH108        143.53    6.791 No_date   28:03   50.72  n/a     .000
10418> *    [RDT= 1.00] out<-      1.0 01:108-116      143.53    6.772 No_date   28:04   50.72  n/a     .000
10419>        [L/S/n=   77./ .130/.013]
10420>        {Vmax= 2.100:Dmax= 1.778}
10421>        [Din= 1.80:Dused= 2.17}
10422> R0025:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10423>      ROUTE PIPE       ->     1.0 02:108-116      143.53    6.772 No_date   28:04   50.72  n/a     .000
10424> *    [RDT= 1.00] out<-      1.0 01:116-corrig   143.53    6.762 No_date   28:05   50.72  n/a     .000
10425>        [L/S/n=   80./ .130/.013]
10426>        {Vmax= 2.098:Dmax= 1.776}
10427>        [Din= 1.80:Dused= 2.16}
10428> R0025:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10429>      ADD HYD               1.0 02:116-corrig   143.53    6.762 No_date   28:05   50.72  n/a     .000
10430>                       +     1.0 02:Pond-Block     2.94     .375 No_date   28:00   47.01  n/a     .000
10431>                     SUM=    1.0 01:Corrigan     146.47    7.034 No_date   28:04   50.65  n/a     .000
10432> R0025:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10433>      SAVE HYD              1.0 01:Corrigan     146.47    7.034 No_date   28:04   50.65  n/a     .000
10434>        fname :Corrigan.0025
10435>        remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
10436> R0025:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10437>      ROUTE RESERVOIR ->     1.0 02:Corrigan     146.47    7.034 No_date   28:04   50.65  n/a     .000
10438>                         out <=    1.0 01:Co-P     146.47    6.458 No_date   28:16   50.64  n/a     .000
10439>                       overflow <=     1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
10440>        {MxStoUsed=.1034E+01  m3, ToTOvfVol=.0000E+00  m3, N-Ovf=    0, ToTurOvf=    0.hrs}
10441> R0025:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10442>      ADD HYD               1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
10443>                       +     1.0 02:Co-P         146.47    6.458 No_date   28:16   50.64  n/a     .000
10444>                       +     1.0 02:N_TO       54838.44  104.039 No_date   38:49   29.21  n/
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10473> #    - To SWM Facility north of the Jock
10474> #    - Primarily residental development
10475> #*******************************************************************************
10476> R0025:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10477>      CONTINUOUS STANDHYD    1.0 01:MILLS        175.99   15.275 No_date   28:07   44.62 .600     .000
10478>        [XIMP=.38:TIMP=.38]
10479>        [LOSS= 2 :CN= 74.0]
10480>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10481>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
10482>        [IaRECimp=   4.00: IaRECper=   4.00]
10483>        [SMIN= 36.67: SMAX=244.49: SK= .010]
10484> #*******************************************************************************
10485> #    Chapman Mills SWM Pond
10486> #    - Rating curve obtained from CCL hydraulic modeling
10487> #*******************************************************************************
10488> R0025:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10489>      ROUTE RESERVOIR ->     1.0 02:MILLS        175.99   15.275 No_date   28:07   44.62  n/a     .000
10490>                      out <=     1.0 01:MILL_P     162.60    4.050 No_date   28:16   44.62  n/a     .000
10491>              overflow <=    1.0 03:MIL-OV        13.39    8.160 No_date   28:16   44.62  n/a     .000
10492>        {MxStoUsed=.2310E+01  m3, TotOvfVol=.5973E+00  m3, N-Ovf=     2, TotDurOvf=    1.hrs}
10493> R0025:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10494>      ADD HYD                1.0 02:N_MI       55018.86  104.271 No_date   38:54   29.28  n/a     .000
10495>                       +     1.0 02:MIL-OV        13.39    8.160 No_date   28:16   44.62  n/a     .000
10496>                       +     1.0 02:MILL_P       162.60    4.050 No_date   28:16   44.62  n/a     .000
10497>                     SUM=    1.0 01:SN_MI      55194.86  104.675 No_date   38:54   29.33  n/a     .000
10498> R0025:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10499>      SAVE HYD               1.0 01:SN_MI      55194.86  104.675 No_date   38:54   29.33  n/a     .000
10500>        fname :SN_MI.0025
10501>        remark:Total Flows at Jockvale Road
10502> #
10503> # Hydrograph from Jockvale Road routed to Heart's Desire
10504> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
10505> #
10506> R0025:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10507>      ROUTE CHANNEL    ->     1.0 02:SN_MI      55194.86  104.675 No_date   38:54   29.33  n/a     .000
10508>        [RDT= 1.00] out<-     1.0 01:N_DE       55194.86  104.438 No_date   39:12   29.33  n/a     .000
10509>        [L/S/n= 1962./ .223/.045]
10510>        {Vmax= 1.484:Dmax= 2.267}
10511> #*******************************************************************************
10512> #    Catchment DESIRE
10513> #    - To Jock River (north of the Jock)
10514> #    - Rural-estate subdivision (Heart's Desire Community)
10515> #*******************************************************************************
10516> R0025:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10517>      CONTINUOUS STANDHYD    1.0 01:DESIRE        23.78    2.161 No_date   28:03   40.77 .548     .000
10518>        [XIMP=.25:TIMP=.25]
10519>        [LOSS= 2 :CN= 77.0]
10520>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10521>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
10522>        [IaRECimp=   4.00: IaRECper=   4.00]
10523>        [SMIN= 31.15: SMAX=207.66: SK= .010]
10524> #*******************************************************************************
10525> #    Catchment JOCKVA
10526> #    - To Jockvale SWM Facility
10527> #    - Residential development & golf course
10528> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
10529> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
10530> #*******************************************************************************
10531> R0025:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10532>      CONTINUOUS STANDHYD    1.0 01:JOCKVA       225.13   21.797 No_date   28:07   50.08 .673     .000
10533>        [XIMP=.50:TIMP=.50]
10534>        [LOSS= 2 :CN= 74.0]
10535>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10536>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
10537>        [IaRECimp=   4.00: IaRECper=   4.00]
10538>        [SMIN= 30.67: SMAX=244.49: SK= .010]
10539> R0025:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10540>      ADD HYD                1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:52   50.26  n/a     .000
10541>                       +     1.0 02:JOCKVA       225.13   21.797 No_date   28:07   50.08  n/a     .000
10542>                       +     1.0 02:B2-MJ           .00       .000 No_date    0:00     .00  n/a     .000
10543>                       +     1.0 02:B3-MJ           .00       .000 No_date    0:00     .00  n/a     .000
10544>                     SUM=    1.0 01:JOCKVA-TO    257.63   24.072 No_date   28:07   50.10  n/a     .000
10545> R0025:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10546>      SAVE HYD               1.0 01:JOCKVA-TO    257.63   24.072 No_date   28:07   50.10  n/a     .000
10547>        fname :JOCKVA-TO.0025
10548>        remark:Total Flows at KB first pond
10549> #*******************************************************************************
10550> #    Jockvale SWM Facility
10551> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
10552> #*******************************************************************************
10553> R0025:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10554>      ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO    257.63   24.072 No_date   28:07   50.10  n/a     .000
10555>                      out <=     1.0 01:JOCK_P     257.63    9.145 No_date   28:37   50.10  n/a     .000
10556>              overflow <=    1.0 03:JO-OVF           .00       .000 No_date    0:00     .00  n/a     .000
10557>        {MxStoUsed=.5425E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
10558> R0025:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10559>      ADD HYD                1.0 02:N_DE       55194.86  104.438 No_date   39:12   29.33  n/a     .000
10560>                       +     1.0 02:DESIRE        23.78    2.161 No_date   28:03   40.77  n/a     .000
10561>                       +     1.0 02:JO-OVF          .00       .000 No_date    0:00     .00  n/a     .000
10562>                       +     1.0 02:JOCK_P       257.63    9.145 No_date   28:37   50.10  n/a     .000
10563>                     SUM=    1.0 01:SN_DE      55476.27  105.082 No_date   39:11   29.43  n/a     .000
10564> R0025:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10565>      SAVE HYD               1.0 01:SN_DE      55476.27  105.082 No_date   39:11   29.43  n/a     .000
10566>        fname :SN_DE.0025
10567>        remark:Total Flows at Heart's Desire
10568> #
10569> # Hydrograph from Heart's Desire routed to Rideau River
10570> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
10571> #
10572> R0025:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10573>      ROUTE CHANNEL    ->     1.0 02:SN_DE      55476.27  105.082 No_date   39:11   29.43  n/a     .000
10574>        [RDT= 1.00] out<-     1.0 01:N1         55476.27  105.073 No_date   39:15   29.43  n/a     .000
10575>        [L/S/n=  563./ .967/.045]
10576>        {Vmax= 1.944:Dmax= 1.136}
10577> #*******************************************************************************
10578> #    Catchment S-2
10579> #    - To Jock River (north and south)
10580> #    - Undeveloped floodplain and river
10581> #*******************************************************************************
10582> R0025:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10583>      CONTINUOUS NASHYD      1.0 01:S-2          102.94    3.971 No_date   28:20   30.13 .405     .000
10584>        [CN= 72.0: N= 3.00: Tp=  .40]
10585>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10586>        [InterEventTime=  12.00]
10587> R0025:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10588>      ADD HYD                1.0 02:N1         55476.27  105.073 No_date   39:15   29.43  n/a     .000
10589>                       +     1.0 02:S-2          102.94    3.971 No_date   28:20   30.13  n/a     .000
10590>                     SUM=    1.0 01:SN_N1      55579.21  105.274 No_date   39:15   29.43  n/a     .000
10591> R0025:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10592>      SAVE HYD               1.0 01:SN_N1      55579.21  105.274 No_date   39:15   29.43  n/a     .000
10593>        fname :SN_N1.0025
10594>        remark:Total Flows at Rideau River
10595> ##############################################################################
10596>  ** END OF RUN :   49
10597>
10598>  ************************************************************************************************************
10599>
10600>
10601>
10602>
10603>
10604>  RUN#:COMMAND#
10605> R0050:C00001------------------------------------------------------------------------------------------------
10606>      START              1.0 02:N1
10607>        [TZERO =    .00 hrs on       0]
10608>        [METOUT=   2   (1=imperial, 2=metric output)]
10609>        [NSTORM=   1 ]
10610>        [NRUN  = 0050 ]
10611> #*******************************************************************************
10612> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
10613> #*******************************************************************************
10614> #  Project Name: [Jock River]    Project Number: [1474-16]
10615> #  Date        : 04-03-2021
10616> #  Modeller    : [M.M.]
10617> #  Company     : JFSAinc.
10618> #  License #   :  2549237
10619> #*******************************************************************************
10620> # CALIBRATION OF SUMMER MODEL PARAMETERS
10621> # USING CONTINUOUS SIMULATIONS
10622> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
10623> # Use data collected from May 1st to July 14, 2003
10624> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
10625> # 2020-12-01 correct pond curve values
10626> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
10627> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
10628> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
10629> # ------------------------------------------------------------------------------
10630> R0050:C00002------------------------------------------------------------------------------------------------
10631>      READ STORM
10632>        Filename = storm.001
10633>        Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
10634>        [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
10635> R0050:C00003------------------------------------------------------------------------------------------------
10636>      MODIFY STORM
10637>        [RFACT=  1.00:TSHIFT= 960.00 min]
10638>        [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
10639> R0050:C00004------------------------------------------------------------------------------------------------
10640>      DEFAULT VALUES
10641>        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
10642>        ICASEdv  = 1 (read and print data)
10643>        FileTitle= File comment: [Based onvarious callbration exercises in Onta
10644>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
10645>        Horton's infiltration equation parameters:
10646>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
10647>        Parameters for PERVIOUS surfaces in STANDHYD:
10648>        [IAper=   4.67 mm] [LGP=50.00 m] [MNP=.250]
10649>        Parameters for IMPERVIOUS surfaces in STANDHYD:
10650>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
10651>        Parameters used in NASHYD:
10652>        [Ia=      4.67 mm] [N= 3.00]
10653>        Average monthly Pan Evaporation data in    (mm)
10654>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
10655>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
10656>        Average monthly Potential Evapotranspiration in    (mm)
10657>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
10658>   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
10659> R0050:C00005------------------------------------------------------------------------------------------------
10660>      COMPUTE API
10661>        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
10662>        {APImax=113.33: APIavg= 67.14: APImin= 44.87}
10663> #
10664> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10665> # of 1.32
10666> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10667>      CONTINUOUS NASHYD      1.0 01:JR_HW       3680.00   18.440 No_date   36:55   30.33 .372     .000
10668>        [CN= 64.0: N= 3.00: Tp= 7.13]
10669>        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
10670>        [InterEventTime=  12.00]
10671> #
10672> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10673> # of 1.32
10674> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10675>      CONTINUOUS NASHYD      1.0 01:SW_13        971.00    6.937 No_date   32:34   28.27 .347     .000
10676>        [CN= 61.0: N= 3.00: Tp= 3.76]
10677>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
10678>        [InterEventTime=  12.00]
10679> #
10680> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10681> # of 1.80
10682> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10683>      CONTINUOUS NASHYD      1.0 01:JR_GWM      3074.00    8.912 No_date   39:59   24.31 .298     .000
10684>        [CN= 55.0: N= 3.00: Tp=11.33]
10685>        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
10686>        [InterEventTime=  12.00]
10687> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10688>      CONTINUOUS NASHYD      1.0 01:JR_ASH      1781.00   16.834 No_date   32:39   36.85 .452     .000
10689>        [CN= 72.0: N= 3.00: Tp= 3.91]
10690>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10691>        [InterEventTime=  12.00]
10692> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10693>      CONTINUOUS NASHYD      1.0 01:SW_11        500.00    9.061 No_date   29:21   31.73 .389     .000
10694>        [CN= 66.0: N= 3.00: Tp= 1.24]
10695>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10696>        [InterEventTime=  12.00]
10697> #
10698> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10699> # of 1.80
10700> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10701>      CONTINUOUS NASHYD      1.0 01:NN_CK       1917.00   12.342 No_date   34:26   31.73 .389     .000
10702>        [CN= 66.0: N= 3.00: Tp= 5.29]
10703>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10704>        [InterEventTime=  12.00]
10705> #
10706> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10707> # of 1.52
10708> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10709>      CONTINUOUS NASHYD      1.0 01:SW_10       5666.00   32.402 No_date   37:52   36.85 .452     .000
10710>        [CN= 72.0: N= 3.00: Tp= 8.00]
10711>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10712>        [InterEventTime=  12.00]
10713> #
10714> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10715> # of 1.75
10716> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10717>      CONTINUOUS NASHYD      1.0 01:KG_CK       8376.00   31.024 No_date   39:59   31.73 .389     .000
10718>        [CN= 66.0: N= 3.00: Tp=11.66]
10719>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10720>        [InterEventTime=  12.00]
10721> #
10722> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10723> # of 1.68
10724> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10725>      CONTINUOUS NASHYD      1.0 01:SW_9        1132.00   14.039 No_date   30:53   35.35 .434     .000
10726>        [CN= 70.0: N= 3.00: Tp= 2.51]
10727>        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
10728>        [InterEventTime=  12.00]
10729> #
10730> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10731> # of 1.82
10732> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10733>      CONTINUOUS NASHYD      1.0 01:NC_CK       4464.00   15.472 No_date   39:59   28.95 .355     .000
10734>        [CN= 62.0: N= 3.00: Tp=11.32]
10735>        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
10736>        [InterEventTime=  12.00]
10737> #
10738> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10739> # of 1.80
10740> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10741>      CONTINUOUS NASHYD      1.0 01:SW_8         131.00    2.740 No_date   28:57   29.64 .364     .000
10742>        [CN= 63.0: N= 3.00: Tp=  .90]
10743>        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
10744>        [InterEventTime=  12.00]
10745> #
10746> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10747> # of 1.65
10748> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10749>      CONTINUOUS NASHYD      1.0 01:HB_DR       3854.00   18.180 No_date   38:32   31.73 .389     .000
10750>        [CN= 66.0: N= 3.00: Tp= 8.42]
10751>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
10752>        [InterEventTime=  12.00]
10753> #
10754> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10755> # of 1.82
10756> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10757>      CONTINUOUS NASHYD      1.0 01:SW_7        3197.00   13.937 No_date   36:23   25.61 .314     .000
10758>        [CN= 57.0: N= 3.00: Tp= 6.65]
10759>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
10760>        [InterEventTime=  12.00]
10761> #
10762> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10763> # of 1.75
10764> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10765>      CONTINUOUS NASHYD      1.0 01:SW_6         165.00    1.285 No_date   33:02   32.44 .398     .000
10766>        [CN= 67.0: N= 3.00: Tp= 4.18]
10767>        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
10768>        [InterEventTime=  12.00]
10769> #
10770> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10771> # of 1.67
10772> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10773>      CONTINUOUS NASHYD      1.0 01:VG_DR       1332.00    9.332 No_date   35:12   36.85 .452     .000
10774>        [CN= 72.0: N= 3.00: Tp= 5.95]
10775>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
10776>        [InterEventTime=  12.00]
10777> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10778>      CONTINUOUS NASHYD      1.0 01:SW_5         224.00    8.187 No_date   28:45   41.51 .509     .000
10779>        [CN= 77.0: N= 3.00: Tp=  .75]
10780>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
10781>        [InterEventTime=  12.00]
10782> #
10783> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10784> # of 1.20
10785> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10786>      CONTINUOUS NASHYD      1.0 01:FL_CK       4945.00   44.623 No_date   33:18   38.37 .471     .000
10787>        [CN= 74.0: N= 3.00: Tp= 4.45]
10788>        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
10789>        [InterEventTime=  12.00]
10790> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10791>      CONTINUOUS NASHYD      1.0 01:SW_5A2        20.00     .943 No_date   28:35   45.60 .560     .000
10792>        [CN= 81.0: N= 3.00: Tp=  .62]
10793>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
10794>        [InterEventTime=  12.00]
10795> #
10796> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
10797> # of 1.61
10798> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10799>      CONTINUOUS NASHYD      1.0 01:SW_5A1      1412.00    8.794 No_date   37:48   39.93 .490     .000
10800>        [CN= 75.0: N= 3.00: Tp= 8.00]
10801>        [IaREC= 4.00: SMIN= 33.01: SMAX=225.43: SK= .010]
10802>        [InterEventTime=  12.00]
10803> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10804>      CONTINUOUS NASHYD      1.0 01:SW_4         585.00   12.896 No_date   29:55   45.60 .560     .000
10805>        [CN= 81.0: N= 3.00: Tp= 1.75]
10806>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
10807>        [InterEventTime=  12.00]
10808> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10809>      CONTINUOUS NASHYD      1.0 01:LM_CK       1021.00   17.059 No_date   30:46   44.77 .549     .000
10810>        [CN= 80.0: N= 3.00: Tp= 2.46]
10811>        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
10812>        [InterEventTime=  12.00]
10813> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10814>      CONTINUOUS NASHYD      1.0 01:SW_2         177.00    6.469 No_date   28:45   41.51 .509     .000
10815>        [CN= 77.0: N= 3.00: Tp=  .75]
10816>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
10817>        [InterEventTime=  12.00]
10818> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10819>      CONTINUOUS NASHYD      1.0 01:SM_DR       1122.00   15.544 No_date   31:43   45.60 .560     .000
10820>        [CN= 81.0: N= 3.00: Tp= 3.25]
10821>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
10822>        [InterEventTime=  12.00]
10823> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10824>      CONTINUOUS NASHYD      1.0 01:MO_DR       2737.00   34.946 No_date   31:29   40.72 .500     .000
10825>        [CN= 76.0: N= 3.00: Tp= 3.03]
10826>        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
10827>        [InterEventTime=  12.00]
10828> #
10829> # Routing hydrographs
10830> #
10831> # Starting with the addition of Jock River Headwater and Subwatershed 13
10832> #
10833> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10834>      ADD HYD                1.0 02:JR_HW       3680.00   18.440 No_date   36:55   30.33  n/a     .000
10835>                       +     1.0 02:SW_13        971.00    6.937 No_date   32:34   28.27  n/a     .000
10836>                     SUM=    1.0 01:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
10837> #
10838> # Sum of hydrographs from Node 13 routed to Node 13A
10839> # (Approximated cross-section - see cross-section 25B)
10840> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
10841> #
10842> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10843>      ROUTE CHANNEL    ->     1.0 02:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
10844>        [RDT= 1.00] out<-     1.0 01:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
10845>        [L/S/n= 9074./ .022/.040]
10846>        {Vmax=  .574:Dmax= 3.920}
```

```
10847> #
10848> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
10849> #
10850> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10851>     ADD HYD              1.0 02:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
10852>                   +      1.0 02:JR_GWM      3074.00    8.912 No_date   39:59   24.31  n/a     .000
10853>                SUM=      1.0 01:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
10854> #
10855> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
10856> #
10857> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10858>     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
10859>                 out <=    1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
10860>      {MxStoUsed=.1481E+03  m3}
10861> #
10862> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10863>     SAVE HYD             1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
10864>       fname :H_RESGM
10865>       remark:Outflow from Res GM
10866> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
10867> # (Approximated cross-section - see cross-section 258)
10868> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
10869> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10870>     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
10871>      [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
10872>       [L/S/n= 5926./ .076/.040]
10873>       {Vmax=  .556:Dmax= 1.541}
10874> #
10875> # Addition of Subwatershed Jock River at Ashton to Node 12
10876> #
10877> R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10878>     ADD HYD              1.0 02:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
10879>                   +      1.0 02:JR_ASH      1781.00   16.834 No_date   32:39   36.85  n/a     .000
10880>                SUM=      1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
10881> R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10882>     SAVE HYD             1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
10883>       fname :H_SN12
10884>       remark:flow at S_N12 near Ashton
10885> #
10886> # Sum of hydrographs from Node 12 routed to Node 11
10887> # (Approximated cross-section - see cross-section 258)
10888> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
10889> #
10890> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
10891> #
10892> R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10893>     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
10894>      [RDT= 1.00] out<-    1.0 01:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
10895>       [L/S/n=  972./ .054/.040]
10896>       {Vmax=  .751:Dmax= 3.029}
10897> #
10898> # Addition of Subwatershed 11 and No Name Creek to Node 11
10899> #
10900> R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10901>     ADD HYD              1.0 02:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
10902>                   +      1.0 02:SW_11        500.00    9.061 No_date   29:21   31.73  n/a     .000
10903>                   +      1.0 02:NN_CK       1917.00   12.342 No_date   34:26   31.73  n/a     .000
10904>                SUM=      1.0 01:S_N11      11923.00   32.851 No_date   33:00   29.87  n/a     .000
10905> #
10906> # Sum of hydrographs from Node 11 routed to Node 10
10907> # Section 1
10908> #
10909> R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10910>     ROUTE CHANNEL   ->    1.0 02:S_N11      11923.00   32.851 No_date   33:00   29.87  n/a     .000
10911>      [RDT= 1.00] out<-    1.0 01:N10        11923.00   20.490 No_date   40:02   29.87  n/a     .000
10912>       [L/S/n=14028./ .157/.040]
10913>       {Vmax=  .474:Dmax= 1.423}
10914> #
10915> # Addition of Subwatershed 10 to Node 10
10916> #
10917> R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10918>     ADD HYD              1.0 02:N10        11923.00   20.490 No_date   40:02   29.87  n/a     .000
10919>                   +      1.0 02:SW_10       5666.00   32.402 No_date   37:52   36.85  n/a     .000
10920>                SUM=      1.0 01:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
10921> R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10922>     SAVE HYD             1.0 01:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
10923>       fname :H_SN10
10924>       remark:flow at S_N10: N10 + SW_10
10925> # Addition of Kings Creek to S_N10
10926> #
10927> R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10928>     ADD HYD              1.0 02:S_N10      17589.00   52.600 No_date   38:19   32.12  n/a     .000
10929>                   +      1.0 02:KG_CK       8376.00   31.024 No_date   39:59   31.73  n/a     .000
10930>                SUM=      1.0 01:S_N10A     25965.00   82.746 No_date   39:45   31.99  n/a     .000
10931> #
10932> # Sum of hydrographs from Node 10 routed to Node 9
10933> # Section 2
10934> #
10935> R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10936>     ROUTE CHANNEL   ->    1.0 02:S_N10A     25965.00   82.746 No_date   39:45   31.99  n/a     .000
10937>      [RDT= 1.00] out<-    1.0 01:N9         25965.00   80.980 No_date   39:59   31.99  n/a     .000
10938>       [L/S/n= 3982./ .075/.040]
10939>       {Vmax=  .744:Dmax= 2.015}
10940> #
10941> # Addition of Subwatershed 9 and Nichols Creek to Node 9
10942> #
10943> R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10944>     ADD HYD              1.0 02:N9         25965.00   80.980 No_date   39:59   31.99  n/a     .000
10945>                   +      1.0 02:SW_9        1132.00   14.039 No_date   30:53   35.35  n/a     .000
10946>                   +      1.0 02:NC_CK       4464.00   15.472 No_date   39:59   28.95  n/a     .000
10947>                SUM=      1.0 01:S_N9       31561.00   99.424 No_date   39:59   31.68  n/a     .000
10948> #
10949> # Sum of hydrographs from Node 9 routed to Node 8
10950> # Section 3
10951> #
10952> R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10953>     ROUTE CHANNEL   ->    1.0 02:S_N9       31561.00   99.424 No_date   39:59   31.68  n/a     .000
10954>      [RDT= 1.00] out<-    1.0 01:N8         31561.00   93.665 No_date   39:59   31.68  n/a     .000
10955>       [L/S/n= 2269./ .088/.045]
10956>       {Vmax=  .367:Dmax= 1.834}
10957> #
10958> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
10959> #
10960> R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10961>     ADD HYD              1.0 02:N8         31561.00   93.665 No_date   39:59   31.68  n/a     .000
10962>                   +      1.0 02:SW_8         131.00    2.740 No_date   28:57   29.64  n/a     .000
10963>                   +      1.0 02:HB_DR       3854.00   18.180 No_date   38:32   31.73  n/a     .000
10964>                SUM=      1.0 01:S_N8       35546.00  111.843 No_date   39:59   31.68  n/a     .000
10965> #
10966> # Sum of hydrographs from Node 8 routed to Node 7
10967> # Section 4
10968> #
10969> R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10970>     ROUTE CHANNEL   ->    1.0 02:S_N8       35546.00  111.843 No_date   39:59   31.68  n/a     .000
10971>      [RDT= 1.00] out<-    1.0 01:N7         35546.00   95.475 No_date   44:55   31.68  n/a     .000
10972>       [L/S/n= 3750./ .053/.070]
10973>       {Vmax=  .231:Dmax= 2.290}
10974> #
10975> # Addition of Subwatershed 7 to Node 7
10976> #
10977> R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10978>     ADD HYD              1.0 02:N7         35546.00   95.475 No_date   44:55   31.68  n/a     .000
10979>                   +      1.0 02:SW_7        3197.00   13.937 No_date   36:23   25.61  n/a     .000
10980>                SUM=      1.0 01:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
10981> R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10982>     SAVE HYD             1.0 01:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
10983>       fname :H_SN7
10984>       remark:flow at S_N7: N7 + SW_7
10985> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
10986> # Storage area and volumes were estimated from available topo maps.
10987> # Release rate from fen was assumed to be controlled by the downstream
10988> # river cross-section for summer conditions.  It is was assumed that for up to
10989> # 0.75 m of water, the main channel of the river provided the storage.  Above
10990> # this depth, the wetland starts to signigicantly store water.
10991> #
10992> R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10993>     ROUTE RESERVOIR ->    1.0 02:S_N7       38743.00  102.892 No_date   43:46   31.18  n/a     .000
10994>                 out <=    1.0 01:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
10995>      {MxStoUsed=.4394E+03  m3}
10996> R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10997>     SAVE HYD             1.0 01:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
10998>       fname :H_ResRF
10999>       remark:outflow of Richmond Fen
11000> #
11001> # Sum of hydrographs from Node 7 routed to Node 6
11002> # Section 5
11003> #
11004> R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11005>     ROUTE CHANNEL   ->    1.0 02:RES_RF     38743.00   52.029 No_date   59:07   31.18  n/a     .000
11006>      [RDT= 1.00] out<-    1.0 01:N6         38743.00   51.784 No_date   60:27   31.18  n/a     .000
11007>       [L/S/n= 3056./ .082/.025]
11008>       {Vmax=  .538:Dmax= 1.253}
11009> #
11010> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
11011> #
11012> R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11013>     ADD HYD              1.0 02:N6         38743.00   51.784 No_date   60:27   31.18  n/a     .000
11014>                   +      1.0 02:SW_6         165.00    1.285 No_date   33:02   32.44  n/a     .000
11015>                   +      1.0 02:VG_DR       1332.00    9.332 No_date   35:12   36.85  n/a     .000
11016>                SUM=      1.0 01:S_N6       40240.01   51.810 No_date   60:20   31.37  n/a     .000
11017> #
11018> # Sum of hydrographs from Node 6 routed to Node 5
11019> # Section 6
11020> #
11021> R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11022>     ROUTE CHANNEL   ->    1.0 02:S_N6       40240.01   51.810 No_date   60:20   31.37  n/a     .000
11023>      [RDT= 1.00] out<-    1.0 01:N5         40240.01   51.693 No_date   61:06   31.37  n/a     .000
11024>       [L/S/n= 1852./ .054/.035]
11025>       {Vmax=  .469:Dmax= 1.351}
11026> #
11027> # Addition of Subwatershed 5 and Flowing Creek to Node 5
11028> #
11029> R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11030>     ADD HYD              1.0 02:N5         40240.01   51.693 No_date   61:06   31.37  n/a     .000
11031>                   +      1.0 02:SW_5         224.00    8.187 No_date   28:45   41.51  n/a     .000
11032>                   +      1.0 02:FL_CK       4945.00   44.623 No_date   33:18   38.37  n/a     .000
11033>                SUM=      1.0 01:S_N5       45409.01   71.514 No_date   34:20   32.18  n/a     .000
11034> #
11035> # Sum of hydrographs from Node 5 routed to Node 5A
11036> # Section 7
11037> #
11038> R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11039>     ROUTE CHANNEL   ->    1.0 02:S_N5       45409.01   71.514 No_date   34:20   32.18  n/a     .000
11040>      [RDT= 1.00] out<-    1.0 01:N5A        45409.01   71.311 No_date   34:15   32.18  n/a     .000
11041>       [L/S/n=  556./ .090/.040]
11042>       {Vmax=  .530:Dmax= 1.290}
11043> #
11044> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
11045> #
11046> R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11047>     ADD HYD              1.0 02:N5A        45409.01   71.311 No_date   34:15   32.18  n/a     .000
11048>                   +      1.0 02:SW_5A2        20.00     .943 No_date   28:35   45.60  n/a     .000
11049>                   +      1.0 02:SW_5A1      1412.00    8.794 No_date   37:48   39.93  n/a     .000
11050>                SUM=      1.0 01:S_N5A      46841.01   79.247 No_date   34:46   32.42  n/a     .000
11051> #
11052> # Sum of hydrographs from Node 5A routed to Node 4
11053> # Section 8
11054> #
11055> R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11056>     ROUTE CHANNEL   ->    1.0 02:S_N5A      46841.01   79.247 No_date   34:46   32.42  n/a     .000
11057>      [RDT= 1.00] out<-    1.0 01:N4         46841.01   75.833 No_date   36:02   32.42  n/a     .000
11058>       [L/S/n= 4630./ .043/.035]
11059>       {Vmax=  .874:Dmax= 3.702}
11060> #
11061> # Addition of Subwatershed 4 and Leamy Creek to Node 4
11062> #
11063> R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11064>     ADD HYD              1.0 02:N4         46841.01   75.833 No_date   36:02   32.42  n/a     .000
11065>                   +      1.0 02:SW_4         585.00   12.896 No_date   29:55   45.60  n/a     .000
11066>                   +      1.0 02:LM_CK       1021.00   17.059 No_date   30:46   44.77  n/a     .000
11067>                SUM=      1.0 01:S_N4       48447.00   84.908 No_date   35:20   32.84  n/a     .000
11068> R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11069>     SAVE HYD             1.0 01:S_N4       48447.00   84.908 No_date   35:20   32.84  n/a     .000
11070>       fname :S_N4.0050
11071>       remark:flow at S_N4
11072> #
11073> # Sum of hydrographs from Node 4 routed to Node 2
11074> # Section 9
11075> #
11076> R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11077>     ROUTE CHANNEL   ->    1.0 02:S_N4       48447.00   84.908 No_date   35:20   32.84  n/a     .000
11078>      [RDT= 1.00] out<-    1.0 01:N2         48447.00   84.582 No_date   35:30   32.84  n/a     .000
11079>       [L/S/n= 1667./ .060/.040]
11080>       {Vmax=  .909:Dmax= 3.749}
11081> #
11082> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
11083> #
11084> R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11085>     ADD HYD              1.0 02:N2         48447.00   84.582 No_date   35:30   32.84  n/a     .000
11086>                   +      1.0 02:SW_2         177.00    6.469 No_date   28:45   41.51  n/a     .000
11087>                   +      1.0 02:SM_DR       1122.00   15.544 No_date   31:43   45.60  n/a     .000
11088>                   +      1.0 02:MO_DR       2737.00   34.946 No_date   31:29   40.72  n/a     .000
11089>                SUM=      1.0 01:S_N2       52483.00  124.249 No_date   32:52   33.56  n/a     .000
11090> R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11091>     SAVE HYD             1.0 01:S_N2       52483.00  124.249 No_date   32:52   33.56  n/a     .000
11092>       fname :H_SN2
11093>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
11094> #
11095> # Sum of hydrographs from Node 2 routed to Node 1
11096> # Section 10
11097> #
11098> #******************************************************************************
11099> #
11100> # Hydrograph from Node 2 routed to Node 416
11101> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
11102> #
11103> R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11104>     ROUTE CHANNEL   ->    1.0 02:S_N2       52483.00  124.249 No_date   32:52   33.56  n/a     .000
11105>      [RDT= 1.00] out<-    1.0 01:N_416      52483.00  120.589 No_date   33:57   33.56  n/a     .000
11106>       [L/S/n= 2327./ .050/.055]
11107>       {Vmax=  .781:Dmax= 3.561}
11108> #******************************************************************************
11109> #    Catchment SW-1a
11110> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
11111> #    - Undeveloped agricultural land
11112> #******************************************************************************
11113> R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11114>     CONTINUOUS NASHYD     1.0 01:SW_1a        536.42    6.175 No_date   31:15   35.39 .434     .000
11115>       [CN= 72.0: N= 3.00: Tp= 2.79]
11116>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
11117>       [InterEventTime=  12.00]
11118> R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11119>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    7.341 No_date   28:03   63.95 .785     .000
11120>       [XIMP=.65:TIMP=.65]
11121>       [LOSS= 2 :CN= 75.0]
11122>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11123>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
11124>       [IaRECimp=   4.00: IaRECper=   4.00]
11125>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11126> R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11127>     ADD HYD              1.0 02:N_416      52483.00  120.589 No_date   33:57   33.56  n/a     .000
11128>                   +      1.0 02:SW_1a        536.42    6.175 No_date   31:15   35.39  n/a     .000
11129>                   +      1.0 02:S-1-Okeefe    44.93    7.341 No_date   28:03   63.95  n/a     .000
11130>                SUM=      1.0 01:SN_416     53064.36  125.441 No_date   33:19   33.60  n/a     .000
11131> R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11132>     SAVE HYD             1.0 01:SN_416     53064.36  125.441 No_date   33:19   33.60  n/a     .000
11133>       fname :SN_416.0050
11134>       remark:Total Flows at Highway 416
11135> #
11136> # Hydrograph from Node 416 routed to Node at Okeefe drain
11137> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
11138> #
11139> R0050:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11140>     ROUTE CHANNEL   ->    1.0 02:SN_416     53064.36  125.441 No_date   33:19   33.60  n/a     .000
11141>      [RDT= 1.00] out<-    1.0 01:N_OK       53064.36  125.350 No_date   33:43   33.60  n/a     .000
11142>       [L/S/n=  497./ .302/.055]
11143>       {Vmax= 1.649:Dmax= 3.038}
11144> #******************************************************************************
11145> #    Catchment OKEEFE
11146> #    - To O'Keefe drain (north of the Jock)
11147> #    - Developed with assumed 43% imp.
11148> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
11149> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
11150> #******************************************************************************
11151> R0050:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11152>     CONTINUOUS NASHYD     1.0 01:O-1           63.72    1.147 No_date   28:58   26.31 .323     .000
11153>       [CN= 61.0: N= 3.00: Tp=  .90]
11154>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
11155>       [InterEventTime=  12.00]
11156> R0050:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11157>     ROUTE CHANNEL   ->    1.0 02:O-1           63.72    1.147 No_date   28:58   26.31  n/a     .000
11158>      [RDT= 1.00] out<-    1.0 01:O-1R          63.72    1.084 No_date   29:14   26.31  n/a     .000
11159>       [L/S/n=  960./ .630/.043]
11160>       {Vmax=  .880:Dmax=  .445}
11161> R0050:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11162>     CONTINUOUS NASHYD     1.0 01:O-2           28.61     .404 No_date   29:13   24.30 .298     .000
11163>       [CN= 57.0: N= 3.00: Tp= 1.10]
11164>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
11165>       [InterEventTime=  12.00]
11166> R0050:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11167>     CONTINUOUS NASHYD     1.0 01:O-4           46.94     .531 No_date   29:00   18.55 .228     .000
11168>       [CN= 49.0: N= 3.00: Tp=  .90]
11169>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
11170>       [InterEventTime=  12.00]
11171> R0050:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11172>     ADD HYD              1.0 02:O-1R          63.72    1.084 No_date   29:14   26.31  n/a     .000
11173>                   +      1.0 02:O-2           28.61     .404 No_date   29:13   24.30  n/a     .000
11174>                   +      1.0 02:O-4           46.94     .531 No_date   29:00   18.55  n/a     .000
11175>                SUM=      1.0 01:OKF-N        139.27    2.005 No_date   29:11   23.28  n/a     .000
11176> R0050:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11177>     ROUTE CHANNEL   ->    1.0 02:OKF-N        139.27    2.005 No_date   29:11   23.28  n/a     .000
11178>      [RDT= 1.00] out<-    1.0 01:OKF-NR       139.27    2.004 No_date   29:13   23.28  n/a     .000
11179>       [L/S/n=  210./ .810/.043]
11180>       {Vmax= 1.081:Dmax=  .751}
11181> R0050:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11182>     CONTINUOUS NASHYD     1.0 01:O-6           16.46     .179 No_date   28:45   15.94 .196     .000
11183>       [CN= 43.0: N= 3.00: Tp=  .70]
11184>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
11185>       [InterEventTime=  12.00]
11186> R0050:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11187>     CONTINUOUS STANDHYD   1.0 01:O-3           39.67    1.212 No_date   28:22   28.54 .350     .000
11188>       [XIMP=.15:TIMP=.30]
11189>       [LOSS= 2 :CN= 50.0]
11190>       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
11191>       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
11192>       [IaRECimp=   4.00: IaRECper=   4.00]
11193>       [SMIN= 99.77: SMAX=665.12: SK= .010]
11194> R0050:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11195>     CONTINUOUS STANDHYD   1.0 01:O-5           60.63    3.085 No_date   28:10   32.89 .403     .000
11196>       [XIMP=.13:TIMP=.26]
11197>       [LOSS= 2 :CN= 61.0]
11198>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
11199>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
11200>       [IaRECimp=   4.00: IaRECper=   4.00]
11201>       [SMIN= 64.50: SMAX=430.01: SK= .010]
11202> R0050:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11203>     ADD HYD              1.0 02:OKF-NR       139.27    2.004 No_date   29:13   23.28  n/a     .000
11204>                   +      1.0 02:O-3           39.67    1.212 No_date   28:22   28.54  n/a     .000
11205>                   +      1.0 02:O-5           60.63    3.085 No_date   28:10   32.89  n/a     .000
11206>                   +      1.0 02:O-6           16.46     .179 No_date   28:45   15.94  n/a     .000
11207>                SUM=      1.0 01:PT1          256.03    4.968 No_date   28:20   25.90  n/a     .000
11208> R0050:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11209>     CONTINUOUS NASHYD     1.0 01:O-7            5.28     .096 No_date   28:37   21.46 .263     .000
11210>       [CN= 54.0: N= 3.00: Tp=  .60]
11211>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
11212>       [InterEventTime=  12.00]
11213> R0050:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11214>     ADD HYD              1.0 02:PT1          256.03    4.968 No_date   28:20   25.90  n/a     .000
11215>                   +      1.0 02:O-7            5.28     .096 No_date   28:37   21.46  n/a     .000
11216>                SUM=      1.0 01:FF           261.31    5.051 No_date   28:20   25.81  n/a     .000
11217> R0050:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11218>     ROUTE CHANNEL   ->    1.0 02:FF           261.31    5.051 No_date   28:20   25.81  n/a     .000
11219>      [RDT= 1.00] out<-    1.0 01:DRAIN1       261.31    4.883 No_date   28:25   25.81  n/a     .000
11220>       [L/S/n=  302./1.000/.043]
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11221>       {Vmax=  .822:Dmax=  .759}
11222> R0050:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11223>      CONTINUOUS NASHYD     1.0 01:D1              1.17     .094 No_date   28:12   43.70 .536     .000
11224>        [CN= 84.0: N= 3.00: Tp=  .28]
11225>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
11226>        [InterEventTime=  12.00]
11227> R0050:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11228>      CONTINUOUS STANDHYD    1.0 01:A1              2.50     .517 No_date   28:01   64.42 .790     .000
11229>        [XIMP=.68:TIMP=.85]
11230>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11231>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11232>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
11233>        [IaRECimp=   4.00: IaRECper=   4.00]
11234> R0050:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11235>      ROUTE RESERVOIR  ->     1.0 02:A1              2.50     .517 No_date   28:01   64.42  n/a     .000
11236>                    out <=    1.0 01:A1-STR          2.50     .146 No_date   28:19   64.42  n/a     .000
11237>                overflow <=   1.0 03:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
11238>        {MxStOuSed=.3042E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11239> R0050:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11240>      CONTINUOUS STANDHYD    1.0 01:ST-2            .59     .103 No_date   28:00   50.67 .622     .000
11241>        [XIMP=.68:TIMP=.57]
11242>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11243>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11244>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
11245>        [IaRECimp=   4.00: IaRECper=   4.00]
11246> R0050:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11247>      ROUTE RESERVOIR  ->     1.0 02:ST-2            .59     .103 No_date   28:00   50.67  n/a     .000
11248>                    out <=    1.0 01:ST2STR          .59     .052 No_date   28:11   50.67  n/a     .000
11249>                overflow <=   1.0 03:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
11250>        {MxStOuSed=.3042E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11251> R0050:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11252>      CONTINUOUS NASHYD     1.0 01:O-8            60.55    1.383 No_date   29:04   33.66 .413     .000
11253>        [CN= 69.0: N= 3.00: Tp= 1.00]
11254>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
11255>        [InterEventTime=  12.00]
11256> R0050:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11257>      ROUTE PIPE       ->     1.0 02:O-8            60.55    1.383 No_date   29:04   33.66  n/a     .000
11258>       [RDT= 1.00] out<-     1.0 01:O8PIPE         60.55    1.376 No_date   29:07   33.66  n/a     .000
11259>         [L/S/n=  335./ .100/.013]
11260>         {Vmax= 1.244:Dmax=  .617}
11261>         {HGTH= 1.20:WDTH= 1.80}
11262> R0050:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11263>      ADD HYD                1.0 02:DRAIN1        261.31    4.883 No_date   28:25   25.81  n/a     .000
11264>                        +    1.0 02:D1             1.17     .094 No_date   28:12   43.70  n/a     .000
11265>                        +    1.0 02:A1-STR         2.50     .146 No_date   28:19   64.42  n/a     .000
11266>                        +    1.0 02:A1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
11267>                        +    1.0 02:ST2STR          .59     .052 No_date   28:11   50.67  n/a     .000
11268>                        +    1.0 02:ST2OVF          .00     .000 No_date    0:00     .00  n/a     .000
11269>                        +    1.0 02:O8PIPE         60.55    1.376 No_date   29:07   33.66  n/a     .000
11270>                    SUM=     1.0 01:ST2-IN         326.12    6.061 No_date   28:35   27.67  n/a     .000
11271> R0050:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11272>      CONTINUOUS STANDHYD    1.0 01:A7              3.51     .704 No_date   28:01   64.42 .790     .000
11273>        [XIMP=.68:TIMP=.85]
11274>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11275>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11276>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
11277>        [IaRECimp=   4.00: IaRECper=   4.00]
11278> R0050:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11279>      ROUTE RESERVOIR  ->     1.0 02:A7              3.51     .704 No_date   28:01   64.42  n/a     .000
11280>                    out <=    1.0 01:A7-STR          3.51     .199 No_date   28:21   64.42  n/a     .000
11281>                overflow <=   1.0 03:A7-OVF          .00     .000 No_date    0:00     .00  n/a     .000
11282>        {MxStOuSed=.1019E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11283> R0050:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11284>      CONTINUOUS STANDHYD    1.0 01:ST-3             .71     .123 No_date   28:00   50.67 .622     .000
11285>        [XIMP=.46:TIMP=.57]
11286>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11287>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11288>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
11289>        [IaRECimp=   4.00: IaRECper=   4.00]
11290> R0050:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11291>      ROUTE RESERVOIR  ->     1.0 02:ST-3             .71     .123 No_date   28:00   50.67  n/a     .000
11292>                    out <=    1.0 01:ST3STR          .71     .063 No_date   28:11   50.67  n/a     .000
11293>                overflow <=   1.0 03:ST3OVF          .00     .000 No_date    0:00     .00  n/a     .000
11294>        {MxStOuSed=.4527E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11295> R0050:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11296>      ADD HYD                1.0 02:ST2-IN        326.12    6.061 No_date   28:35   27.67  n/a     .000
11297>                        +    1.0 02:A7-STR          3.51     .199 No_date   28:21   64.42  n/a     .000
11298>                        +    1.0 02:A7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11299>                        +    1.0 02:ST3STR           .71     .063 No_date   28:11   50.67  n/a     .000
11300>                        +    1.0 02:ST3OVF           .00     .000 No_date    0:00     .00  n/a     .000
11301>                    SUM=     1.0 01:PT2ST3         330.34    6.299 No_date   28:33   28.11  n/a     .000
11302> R0050:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11303>      ROUTE CHANNEL    ->     1.0 02:PT2ST3         330.34    6.299 No_date   28:33   28.11  n/a     .000
11304>       [RDT= 1.00] out<-     1.0 01:DRAIN2         330.34    5.789 No_date   28:58   28.11  n/a     .000
11305>         [L/S/n=  592./ .230/.043]
11306>         {Vmax=  .593:Dmax= 1.152}
11307> R0050:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11308>      CONTINUOUS NASHYD     1.0 01:D2              2.28     .074 No_date   29:02   43.70 .536     .000
11309>        [CN= 84.0: N= 3.00: Tp=  .99]
11310>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
11311>        [InterEventTime=  12.00]
11312> R0050:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11313>      CONTINUOUS STANDHYD    1.0 01:A17            12.04    2.163 No_date   28:03   64.42 .790     .000
11314>        [XIMP=.68:TIMP=.85]
11315>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11316>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11317>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
11318>        [IaRECimp=   4.00: IaRECper=   4.00]
11319> R0050:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11320>      ROUTE RESERVOIR  ->     1.0 02:A17            12.04    2.163 No_date   28:03   64.42  n/a     .000
11321>                    out <=    1.0 01:A17STR         12.04     .654 No_date   28:27   64.42  n/a     .000
11322>                overflow <=   1.0 03:A17OVF          .00     .000 No_date    0:00     .00  n/a     .000
11323>        {MxStOuSed=.3445E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11324> R0050:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11325>      CONTINUOUS STANDHYD    1.0 01:ST-4             .35     .063 No_date   28:00   50.67 .622     .000
11326>        [XIMP=.46:TIMP=.57]
11327>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11328>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11329>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
11330>        [IaRECimp=   4.00: IaRECper=   4.00]
11331> R0050:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11332>      ROUTE RESERVOIR  ->     1.0 02:ST-4             .35     .063 No_date   28:00   50.67  n/a     .000
11333>                    out <=    1.0 01:ST4STR           .35     .031 No_date   28:10   50.67  n/a     .000
11334>                overflow <=   1.0 03:ST4OVF          .00     .000 No_date    0:00     .00  n/a     .000
11335>        {MxStOuSed=.2719E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11336> R0050:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11337>      CONTINUOUS STANDHYD    1.0 01:A18             5.30    1.036 No_date   28:01   64.42 .790     .000
11338>        [XIMP=.68:TIMP=.85]
11339>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11340>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11341>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
11342>        [IaRECimp=   4.00: IaRECper=   4.00]
11343> R0050:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11344>      ROUTE RESERVOIR  ->     1.0 02:A18             5.30    1.036 No_date   28:01   64.42  n/a     .000
11345>                    out <=    1.0 01:A18STR          5.30     .300 No_date   28:22   64.42  n/a     .000
11346>                overflow <=   1.0 03:A18OVF          .00     .000 No_date    0:00     .00  n/a     .000
11347>        {MxStOuSed=.1532E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11348> R0050:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11349>      ADD HYD                1.0 02:DRAIN2        330.34    5.789 No_date   28:58   28.11  n/a     .000
11350>                        +    1.0 02:D2              2.28     .074 No_date   29:02   43.70  n/a     .000
11351>                        +    1.0 02:A17STR         12.04     .654 No_date   28:27   64.42  n/a     .000
11352>                        +    1.0 02:A17OVF          .00     .000 No_date    0:00     .00  n/a     .000
11353>                        +    1.0 02:ST4STR          .35     .031 No_date   28:10   50.67  n/a     .000
11354>                        +    1.0 02:ST4OVF          .00     .000 No_date    0:00     .00  n/a     .000
11355>                        +    1.0 02:A18STR         5.30     .300 No_date   28:22   64.42  n/a     .000
11356>                        +    1.0 02:A18OVF          .00     .000 No_date    0:00     .00  n/a     .000
11357>                    SUM=     1.0 01:PT3ST4         350.31    6.632 No_date   28:55   30.03  n/a     .000
11358> R0050:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11359>      ROUTE CHANNEL    ->     1.0 02:PT3ST4         350.31    6.632 No_date   28:55   30.03  n/a     .000
11360>       [RDT= 1.00] out<-     1.0 01:DRAIN3         350.31    6.350 No_date   29:11   30.03  n/a     .000
11361>         [L/S/n=  525./ .230/.043]
11362>         {Vmax=  .613:Dmax= 1.197}
11363> R0050:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11364>      CONTINUOUS NASHYD     1.0 01:D3              2.51     .113 No_date   28:43   47.27 .580     .000
11365>        [CN= 86.0: N= 3.00: Tp=  .73]
11366>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
11367>        [InterEventTime=  12.00]
11368> R0050:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11369>      CONTINUOUS STANDHYD    1.0 01:C1              3.41     .690 No_date   28:01   64.42 .790     .000
11370>        [XIMP=.68:TIMP=.85]
11371>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11372>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11373>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
11374>        [IaRECimp=   4.00: IaRECper=   4.00]
11375> R0050:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11376>      ROUTE RESERVOIR  ->     1.0 02:C1              3.41     .690 No_date   28:01   64.42  n/a     .000
11377>                    out <=    1.0 01:C1-STR          3.41     .194 No_date   28:20   64.42  n/a     .000
11378>                overflow <=   1.0 03:C1-OVF          .00     .000 No_date    0:00     .00  n/a     .000
11379>        {MxStOuSed=.9900E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11380> R0050:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11381>      CONTINUOUS STANDHYD    1.0 01:ST-5             .45     .079 No_date   28:00   50.67 .622     .000
11382>        [XIMP=.46:TIMP=.57]
11383>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11384>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11385>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
11386>        [IaRECimp=   4.00: IaRECper=   4.00]
11387> R0050:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11388>      ROUTE RESERVOIR  ->     1.0 02:ST-5             .45     .079 No_date   28:00   50.67  n/a     .000
11389>                    out <=    1.0 01:ST5STR           .45     .040 No_date   28:10   50.67  n/a     .000
11390>                overflow <=   1.0 03:ST5OVF          .00     .000 No_date    0:00     .00  n/a     .000
11391>        {MxStOuSed=.3164E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11392> R0050:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11393>      ADD HYD                1.0 02:DRAIN3        350.31    6.350 No_date   29:11   30.03  n/a     .000
11394>                        +    1.0 02:D3              2.51     .113 No_date   28:43   47.27  n/a     .000
11395>                        +    1.0 02:C1-STR          3.41     .194 No_date   28:20   64.42  n/a     .000
11396>                        +    1.0 02:C1-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11397>                        +    1.0 02:ST5STR           .45     .040 No_date   28:10   50.67  n/a     .000
11398>                        +    1.0 02:ST5OVF           .00     .000 No_date    0:00     .00  n/a     .000
11399>                    SUM=     1.0 01:ST5-E          356.68    6.575 No_date   29:09   30.51  n/a     .000
11400> R0050:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11401>      CONTINUOUS STANDHYD    1.0 01:STRAND          7.59    1.038 No_date   28:09   62.95 .772     .000
11402>        [XIMP=.64:TIMP=.85]
11403>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11404>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
11405>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
11406>        [IaRECimp=   4.00: IaRECper=   4.00]
11407> R0050:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11408>      ROUTE RESERVOIR  ->     1.0 02:STRAND          7.59    1.038 No_date   28:09   62.95  n/a     .000
11409>                    out <=    1.0 01:S-POND          7.59     .137 No_date   29:13   62.95  n/a     .000
11410>                overflow <=   1.0 03:S-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11411>        {MxStOuSed=.3159E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11412> R0050:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11413>      ADD HYD                1.0 02:ST5-E         356.68    6.575 No_date   29:09   30.51  n/a     .000
11414>                        +    1.0 02:S-POND          7.59     .137 No_date   29:13   62.95  n/a     .000
11415>                        +    1.0 02:S-OVF            .00     .000 No_date    0:00     .00  n/a     .000
11416>                    SUM=     1.0 01:SSAOUT         364.27    6.711 No_date   29:09   31.19  n/a     .000
11417> R0050:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11418>      SAVE HYD               1.0 01:SSAOUT         364.27    6.711 No_date   29:09   31.19  n/a     .000
11419>        fname :SSAOUT.0050
11420>        remark:SSAOUT
11421> R0050:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11422>      CONTINUOUS STANDHYD    1.0 01:Area-A          66.75    8.917 No_date   28:08   61.83 .759     .000
11423>        [XIMP=.64:TIMP=.80]
11424>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11425>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11426>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
11427>        [IaRECimp=   4.00: IaRECper=   4.00]
11428> R0050:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11429>      SAVE HYD               1.0 01:Area-A          66.75    8.917 No_date   28:08   61.83  n/a     .000
11430>        fname :Area-A.0050
11431>        remark:SMWF-A Inflow
11432> R0050:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11433>      ROUTE RESERVOIR  ->     1.0 02:Area-A          66.75    8.917 No_date   28:08   61.83  n/a     .000
11434>                    out <=    1.0 01:SWMF-A          66.75    1.070 No_date   29:16   61.83  n/a     .000
11435>                overflow <=   1.0 03:SWMAOV          .00     .000 No_date    0:00     .00  n/a     .000
11436>        {MxStOuSed=.2845E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11437> R0050:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11438>      SAVE HYD               1.0 01:SWMF-A          66.75    1.070 No_date   29:16   61.83  n/a     .000
11439>        fname :SWMF-A.0050
11440>        remark:SMWF-A Inflow
11441> R0050:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11442>      ADD HYD                1.0 02:SSAOUT         364.27    6.711 No_date   29:09   31.19  n/a     .000
11443>                        +    1.0 02:SWMF-A          66.75    1.070 No_date   29:16   61.83  n/a     .000
11444>                        +    1.0 02:SWMAOV           .00     .000 No_date    0:00     .00  n/a     .000
11445>                    SUM=     1.0 01:PT4STS         431.02    7.776 No_date   29:10   35.93  n/a     .000
11446> R0050:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11447>      CONTINUOUS STANDHYD    1.0 01:C6              1.87     .395 No_date   28:01   64.42 .790     .000
11448>        [XIMP=.68:TIMP=.85]
11449>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11450>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11451>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
11452>        [IaRECimp=   4.00: IaRECper=   4.00]
11453> R0050:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11454>      ROUTE RESERVOIR  ->     1.0 02:C6              1.87     .395 No_date   28:01   64.42  n/a     .000
11455>                    out <=    1.0 01:C6-STR          1.87     .110 No_date   28:18   64.42  n/a     .000
11456>                overflow <=   1.0 03:C6-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11457>        {MxStOuSed=.5452E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11458> R0050:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11459>      CONTINUOUS STANDHYD    1.0 01:C7              1.62     .347 No_date   28:00   64.42 .790     .000
11460>        [XIMP=.68:TIMP=.85]
11461>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11462>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11463>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
11464>        [IaRECimp=   4.00: IaRECper=   4.00]
11465> R0050:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11466>      ROUTE RESERVOIR  ->     1.0 02:C7              1.62     .347 No_date   28:00   64.42  n/a     .000
11467>                    out <=    1.0 01:C7-STR          1.62     .096 No_date   28:17   64.42  n/a     .000
11468>                overflow <=   1.0 03:C7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11469>        {MxStOuSed=.4698E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11470> R0050:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11471>      CONTINUOUS STANDHYD    1.0 01:ST-6             .41     .073 No_date   28:00   50.67 .622     .000
11472>        [XIMP=.46:TIMP=.57]
11473>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11474>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11475>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
11476>        [IaRECimp=   4.00: IaRECper=   4.00]
11477> R0050:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11478>      ROUTE RESERVOIR  ->     1.0 02:ST-6             .41     .073 No_date   28:00   50.67  n/a     .000
11479>                    out <=    1.0 01:ST6STR          .41     .036 No_date   28:10   50.67  n/a     .000
11480>                overflow <=   1.0 03:ST6OVF          .00     .000 No_date    0:00     .00  n/a     .000
11481>        {MxStOuSed=.3103E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11482> R0050:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11483>      ADD HYD                1.0 02:PT4STS         431.02    7.776 No_date   29:10   35.93  n/a     .000
11484>                        +    1.0 02:C6-STR          1.87     .110 No_date   28:18   64.42  n/a     .000
11485>                        +    1.0 02:C6-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11486>                        +    1.0 02:C7-STR          1.62     .096 No_date   28:17   64.42  n/a     .000
11487>                        +    1.0 02:C7-OVF           .00     .000 No_date    0:00     .00  n/a     .000
11488>                        +    1.0 02:ST6STR           .41     .036 No_date   28:10   50.67  n/a     .000
11489>                        +    1.0 02:ST6OVF           .00     .000 No_date    0:00     .00  n/a     .000
11490>                    SUM=     1.0 01:PT6STS         434.92    7.904 No_date   29:09   36.17  n/a     .000
11491> R0050:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11492>      ROUTE CHANNEL    ->     1.0 02:PT5ST6         434.92    7.904 No_date   29:09   36.17  n/a     .000
11493>       [RDT= 1.00] out<-     1.0 01:DRAIN4         434.92    7.615 No_date   29:20   36.17  n/a     .000
11494>         [L/S/n=  324./ .100/.043]
11495>         {Vmax=  .490:Dmax= 1.531}
11496> R0050:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11497>      CONTINUOUS NASHYD     1.0 01:D4              1.73     .097 No_date   28:34   50.14 .615     .000
11498>        [CN= 88.0: N= 3.00: Tp=  .60]
11499>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
11500>        [InterEventTime=  12.00]
11501> R0050:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11502>      CONTINUOUS STANDHYD    1.0 01:Area-B          24.04    4.418 No_date   28:02   60.51 .742     .000
11503>        [XIMP=.62:TIMP=.77]
11504>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11505>        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
11506>        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
11507>        [IaRECimp=   4.00: IaRECper=   4.00]
11508> R0050:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11509>      ROUTE RESERVOIR  ->     1.0 02:Area-B          24.04    4.418 No_date   28:02   60.51  n/a     .000
11510>                    out <=    1.0 01:SWMF-B          24.04     .566 No_date   28:42   60.51  n/a     .000
11511>                overflow <=   1.0 03:SWMBOVF          .00     .000 No_date    0:00     .00  n/a     .000
11512>        {MxStOuSed=.8944E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11513> R0050:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11514>      ADD HYD                1.0 02:DRAIN4         434.92    7.615 No_date   29:20   36.17  n/a     .000
11515>                        +    1.0 02:D4              1.73     .097 No_date   28:34   50.14  n/a     .000
11516>                        +    1.0 02:SWMF-B          24.04     .566 No_date   28:42   60.51  n/a     .000
11517>                        +    1.0 02:SWMBOVF          .00     .000 No_date    0:00     .00  n/a     .000
11518>                    SUM=     1.0 01:D4-EX          460.69    8.190 No_date   29:19   37.49  n/a     .000
11519> R0050:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11520>      ROUTE CHANNEL    ->     1.0 02:D4-EX          460.69    8.190 No_date   29:19   37.49  n/a     .000
11521>       [RDT= 1.00] out<-     1.0 01:DRAIN5         460.69    8.038 No_date   29:27   37.49  n/a     .000
11522>         [L/S/n=  413./ .160/.033]
11523>         {Vmax=  .675:Dmax= 1.951}
11524> R0050:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11525>      CONTINUOUS NASHYD     1.0 01:D5              1.90     .089 No_date   28:40   47.27 .580     .000
11526>        [CN= 86.0: N= 3.00: Tp=  .69]
11527>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
11528>        [InterEventTime=  12.00]
11529> R0050:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11530>      CONTINUOUS NASHYD     1.0 01:O-13SDF          9.74     .578 No_date   28:21   44.42 .545     .000
11531>        [CN= 81.0: N= 3.00: Tp=  .43]
11532>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
11533>        [InterEventTime=  12.00]
11534> R0050:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11535>      ROUTE RESERVOIR  ->     1.0 02:O-13SDF          9.74     .578 No_date   28:21   44.42  n/a     .000
11536>                    out <=    1.0 01:SDF             9.74     .061 No_date   30:55   44.42  n/a     .000
11537>                overflow <=   1.0 03:OVFSDF          .00     .000 No_date    0:00     .00  n/a     .000
11538>        {MxStOuSed=.2427E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11539> R0050:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11540>      ADD HYD                1.0 02:DRAIN5         460.69    8.038 No_date   29:27   37.49  n/a     .000
11541>                        +    1.0 02:D5              1.90     .089 No_date   28:40   47.27  n/a     .000
11542>                        +    1.0 02:SDF             9.74     .061 No_date   30:55   44.42  n/a     .000
11543>                    SUM=     1.0 01:PT6MC          472.33    8.151 No_date   29:27   37.68  n/a     .000
11544> R0050:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11545>      CONTINUOUS NASHYD     1.0 01:O-15            10.67     .800 No_date   28:13   43.28 .531     .000
11546>        [CN= 82.0: N= 3.00: Tp=  .30]
11547>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
11548>        [InterEventTime=  12.00]
11549> R0050:C00140------------DTmin
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11595> R0050:C00147-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11596>      SAVE HYD                    1.0 01:SN_OK      53577.82  128.036 No_date   33:19   33.65  n/a     .000
11597>        fname :SN_OK.0050
11598>        remark:Total Flows at Okeefe Drain
11599> #
11600> # Hydrograph from Node Okeefe routed to Node at Foster Drain
11601> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
11602> #
11603> R0050:C00148-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11604>      ROUTE CHANNEL    ->     1.0 02:SN_OK      53577.82  128.036 No_date   33:19   33.65  n/a     .000
11605>        [RDT= 1.00] out<-     1.0 01:N_FO       53577.82  127.650 No_date   33:44   33.65  n/a     .000
11606>          [L/S/n= 1183./ .076/ 0.035]
11607>          {Vmax= 1.239:Dmax= 3.374}
11608> #*************************************************************
11609> #    Catchment FOSTER
11610> #    - To Foster ditch (north of the Jock)
11611> #    - Partially developed (medium density); remaining agricultural
11612> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMC Environmental Study Report, CH2MHILL, Aug 2013.
11613> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
11614> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
11615> #*************************************************************
11616> R0050:C00149-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11617>      CONTINUOUS STANDHYD    1.0 01:FOSTER      325.44   32.213 No_date   28:11   58.69 .720     .000
11618>        [XIMP=.55:TIMP=.55]
11619>        [LOSS= 2 :CN= 74.0]
11620>        [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
11621>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI=1473.:MNI=.013:SCI=   .0]
11622>        [IaRECimp=  4.00: IaRECper=   4.00]
11623>        [SMIN= 36.67: SMAX=244.49: SK= .010]
11624> #*************************************************************
11625> #    Foster Pond
11626> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
11627> #      and a ratio of the catchment area to the West Clarke pond rating curve
11628> #      from the MSS for the next coordinates
11629> #*************************************************************
11630> R0050:C00150-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11631>      ROUTE RESERVOIR ->     1.0 02:FOSTER      325.44   32.213 No_date   28:11   58.69  n/a     .000
11632>                 out <=     1.0 01:P_FOS       325.44    8.155 No_date   29:03   58.69  n/a     .000
11633>             overflow <=    1.0 03:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
11634>      {MxStoUsed=.7887E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
11635> R0050:C00151-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11636>      ADD HYD                     1.0 02:P_FOS       325.44    8.155 No_date   29:03   58.69  n/a     .000
11637>                          +      1.0 02:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
11638>                        SUM=     1.0 01:FOSTER-OUT  325.44    8.155 No_date   29:03   58.69  n/a     .000
11639> #*************************************************************
11640> R0050:C00152-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11641>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_BRA     73.29   10.462 No_date   28:05   63.49 .779     .000
11642>        [XIMP=.60:TIMP=.65]
11643>        [LOSS= 2 :CN= 77.0]
11644>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11645>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 699.:MNI=.013:SCI=   .0]
11646>        [IaRECimp=  4.00: IaRECper=   4.00]
11647>        [SMIN= 31.15: SMAX=207.66: SK= .010]
11648> R0050:C00153-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11649>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA     73.29   10.462 No_date   28:05   63.49  n/a     .000
11650>                 out <=     1.0 01:MS_P10         73.29    1.204 No_date   29:09   63.49  n/a     .000
11651>             overflow <=    1.0 03:P10-OVF        .00      .000 No_date    0:00     .00  n/a     .000
11652>      {MxStoUsed=.1950E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
11653> R0050:C00154-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11654>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-D2      4.94     .796 No_date   28:01   58.69 .720     .000
11655>        [XIMP=.55:TIMP=.55]
11656>        [LOSS= 2 :CN= 74.0]
11657>        [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
11658>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 181.:MNI=.013:SCI=   .0]
11659>        [IaRECimp=  4.00: IaRECper=   4.00]
11660>        [SMIN= 36.67: SMAX=244.49: SK= .010]
11661> R0050:C00155-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11662>      ADD HYD                     1.0 02:FOSTER-OUT  325.44    8.155 No_date   29:03   58.69  n/a     .000
11663>                          +      1.0 02:S-1-FO-D2      4.94     .796 No_date   28:01   58.69  n/a     .000
11664>                        SUM=     1.0 01:980         330.38    8.232 No_date   29:01   58.69  n/a     .000
11665> R0050:C00156-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11666>      SAVE HYD                    1.0 01:980         330.38    8.232 No_date   29:01   58.69  n/a     .000
11667>        fname :980.0050
11668>        remark:Total Flows at Station 980 on Foster Drain
11669> #
11670> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
11671> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
11672> #
11673> R0050:C00157-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11674>      ROUTE CHANNEL    ->     1.0 02:980         330.38    8.232 No_date   29:01   58.69  n/a     .000
11675> *    [RDT= 1.00] out<-     1.0 01:980-out     330.38    7.857 No_date   29:22   58.69  n/a     .000
11676>          [L/S/n=  460./ .043/ 0.035]
11677>          {Vmax=   .593:Dmax= 1.601}
11678> R0050:C00158-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11679>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-D1      5.11     .927 No_date   28:00   63.41 .778     .000
11680>        [XIMP=.65:TIMP=.65]
11681>        [LOSS= 2 :CN= 74.0]
11682>        [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
11683>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 185.:MNI=.013:SCI=   .0]
11684>        [IaRECimp=  4.00: IaRECper=   4.00]
11685>        [SMIN= 36.67: SMAX=244.49: SK= .010]
11686> R0050:C00159-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11687>      ADD HYD                     1.0 02:980-out     330.38    7.857 No_date   29:22   58.69  n/a     .000
11688>                          +      1.0 02:S-1-FO-D1      5.11     .927 No_date   28:00   63.41  n/a     .000
11689>                        SUM=     1.0 01:520         335.49    7.915 No_date   29:22   58.76  n/a     .000
11690> R0050:C00160-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11691>      SAVE HYD                    1.0 01:520         335.49    7.915 No_date   29:22   58.76  n/a     .000
11692>        fname :520.0050
11693>        remark:Total Flows at Sation 520 on Foster Drain
11694> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
11695> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
11696> #
11697> R0050:C00161-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11698>      ROUTE CHANNEL    ->     1.0 02:520         335.49    7.915 No_date   29:22   58.76  n/a     .000
11699>        [RDT= 1.00] out<-     1.0 01:520-out     335.49    7.880 No_date   29:26   58.76  n/a     .000
11700>          [L/S/n=  860./ .587/ 0.035]
11701>          {Vmax=  1.532:Dmax=  .761}
11702> R0050:C00162-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11703>      CONTINUOUS STANDHYD    1.0 01:S-1-FO-F-D     14.96    2.535 No_date   28:01   63.41 .778     .000
11704>        [XIMP=.65:TIMP=.65]
11705>        [LOSS= 2 :CN= 74.0]
11706>        [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
11707>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 316.:MNI=.013:SCI=   .0]
11708>        [IaRECimp=  4.00: IaRECper=   4.00]
11709>        [SMIN= 36.67: SMAX=244.49: SK= .010]
11710> R0050:C00163-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11711>      CONTINUOUS STANDHYD    1.0 01:S-1-D8          5.27    1.052 No_date   28:01   46.77 .574     .000
11712>        [XIMP=.32:TIMP=.65]
11713>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11714>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11715>        [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
11716>        [IaRECimp=  4.00: IaRECper=   4.00]
11717> R0050:C00164-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11718>      CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    3.042 No_date   28:36   39.91 .490     .000
11719>        [CN= 77.0: N= 3.00: Tp=  .62]
11720>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11721>        [InterEventTime=  12.00]
11722> R0050:C00165-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11723>      CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .943 No_date   29:10   39.91 .490     .000
11724>        [CN= 77.0: N= 3.00: Tp= 1.10]
11725>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11726>        [InterEventTime=  12.00]
11727> R0050:C00166-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11728>      ADD HYD                     1.0 02:SN_FO       53577.82  127.650 No_date   33:44   33.65  n/a     .000
11729>                          +      1.0 02:520-out       335.49    7.880 No_date   29:26   58.76  n/a     .000
11730>                          +      1.0 02:MS_P10         73.29    1.204 No_date   29:09   63.49  n/a     .000
11731>                          +      1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
11732>                          +      1.0 02:W_CLAR_UND     35.65     .943 No_date   29:10   39.91  n/a     .000
11733>                          +      1.0 02:S-1-FO-F-D     14.96    2.535 No_date   28:01   63.41  n/a     .000
11734>                          +      1.0 02:S-1-D8          5.27    1.052 No_date   28:01   46.77  n/a     .000
11735>                          +      1.0 02:S-1-A          75.88    3.042 No_date   28:36   39.91  n/a     .000
11736>                        SUM=     1.0 01:SN_FO       54118.36  132.647 No_date   33:20   33.87  n/a     .000
11737> R0050:C00167-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11738>      SAVE HYD                    1.0 01:SN_FO       54118.36  132.647 No_date   33:20   33.87  n/a     .000
11739>        fname :SN_FO.0050
11740>        remark:Total Flows at Foster Drain
11741> # Hydrograph from Node Foster routed to Node at Cedarview Road
11742> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
11743> #
11744> R0050:C00168-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11745>      ROUTE CHANNEL    ->     1.0 02:SN_FO       54118.36  132.647 No_date   33:20   33.87  n/a     .000
11746> *    [RDT= 1.00] out<-     1.0 01:N_CE        54118.36  132.435 No_date   33:45   33.87  n/a     .000
11747>          [L/S/n=  159./ .082/ 0.035]
11748>          {Vmax= 1.441:Dmax= 4.166}
11749> #*************************************************************
11750> #    Catchment S-1
11751> #    - To Jock River (north and south of Jock)
11752> #    - Primarily agricultural fields; portion of sand quarry
11753> #*************************************************************
11754> R0050:C00169-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11755>      CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    2.770 No_date   28:23   39.91 .490     .000
11756>        [CN= 77.0: N= 3.00: Tp=  .45]
11757>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11758>        [InterEventTime=  12.00]
11759> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
11760> #    -  JFSA 2020-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
11761> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
11762> R0050:C00170-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11763>      CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    3.809 No_date   28:01   63.95 .785     .000
11764>        [XIMP=.65:TIMP=.65]
11765>        [LOSS= 2 :CN= 75.0]
11766>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11767>        [Impervious   area: IAimp= 1.57:SLPI=  .75:LGI= 380.:MNI=.013:SCI=   .0]
11768>        [IaRECimp=  4.00: IaRECper=   4.00]
11769>        [SMIN= 33.81: SMAX=225.43: SK= .010]
11770> R0050:C00171-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11771>      CONTINUOUS STANDHYD    1.0 01:S-1-D4          3.28     .652 No_date   28:00   63.95 .785     .000
11772>        [XIMP=.65:TIMP=.65]
11773>        [LOSS= 2 :CN= 75.0]
11774>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11775>        [Impervious   area: IAimp= 1.57:SLPI=  .75:LGI= 148.:MNI=.013:SCI=   .0]
11776>        [IaRECimp=  4.00: IaRECper=   4.00]
11777>        [SMIN= 33.81: SMAX=225.43: SK= .010]
11778> R0050:C00172-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11779>      CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    2.360 No_date   28:01   63.95 .785     .000
11780>        [XIMP=.65:TIMP=.65]
11781>        [LOSS= 2 :CN= 75.0]
11782>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11783>        [Impervious   area: IAimp= 1.57:SLPI=  .75:LGI= 293.:MNI=.013:SCI=   .0]
11784>        [IaRECimp=  4.00: IaRECper=   4.00]
11785>        [SMIN= 33.81: SMAX=225.43: SK= .010]
11786> R0050:C00173-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11787>      CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .357 No_date   28:00   63.95 .785     .000
11788>        [XIMP=.65:TIMP=.65]
11789>        [LOSS= 2 :CN= 75.0]
11790>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11791>        [Impervious   area: IAimp= 1.57:SLPI=  .75:LGI= 108.:MNI=.013:SCI=   .0]
11792>        [IaRECimp=  4.00: IaRECper=   4.00]
11793>        [SMIN= 33.81: SMAX=225.43: SK= .010]
11794> R0050:C00174-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11795>      CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .411 No_date   28:00   63.95 .785     .000
11796>        [XIMP=.65:TIMP=.65]
11797>        [LOSS= 2 :CN= 75.0]
11798>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11799>        [Impervious   area: IAimp= 1.57:SLPI=  .75:LGI= 116.:MNI=.013:SCI=   .0]
11800>        [IaRECimp=  4.00: IaRECper=   4.00]
11801>        [SMIN= 33.81: SMAX=225.43: SK= .010]
11802> #    Catchment W_CLAR
11803> #    - To West Clarke Drain (south of the Jock)
11804> #    - Subdivision with 43% imp. as per Barrhaven South MSS
11805> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on R598(04)-11
11806> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
11807> #*************************************************************
11808> R0050:C00175-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11809>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ      1.77     .319 No_date   28:00   59.44 .729     .000
11810>        [XIMP=.46:TIMP=.59]
11811>        [LOSS= 2 :CN= 77.0]
11812>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11813>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
11814>        [IaRECimp=  4.00: IaRECper=   4.00]
11815>        [SMIN= 31.15: SMAX=207.66: SK= .010]
11816> # 5-Year + 12% Capture
11817> R0050:C00176-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11818>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ      1.77     .319 No_date   28:00   59.44  n/a     .000
11819>                 out <=     1.0 01:W_CLAR_MJn     1.70     .213 No_date   27:53   59.44  n/a     .000
11820>             overflow <=    1.0 03:W_CLAR_MJj      .08     .102 No_date   28:01   59.44  n/a     .000
11821>      {MxStoUsed=.1125E-03  m3, TotOvfVol=.4485E-02  m3, N-Ovf=     1, TotDurOvf=    0.hrs}
11822> R0050:C00177-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11823>      CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL     119.40   17.358 No_date   28:04   63.49 .779     .000
11824>        [XIMP=.60:TIMP=.65]
11825>        [LOSS= 2 :CN= 77.0]
11826>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11827>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
11828>        [IaRECimp=  4.00: IaRECper=   4.00]
11829>        [SMIN= 31.15: SMAX=207.66: SK= .010]
11830> R0050:C00178-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11831>      ADD HYD                     1.0 02:W_CLAR_ALL     119.40   17.358 No_date   28:04   63.49  n/a     .000
11832>                          +      1.0 02:W_CLAR_MJj       .08     .102 No_date   28:01   59.44  n/a     .000
11833>                        SUM=     1.0 01:W_CLAR         119.47   17.371 No_date   28:04   63.49  n/a     .000
11834> R0050:C00179-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11835>      SAVE HYD                    1.0 01:W_CLAR         119.47   17.371 No_date   28:04   63.49  n/a     .000
11836>        fname :W_CLAR.0050
11837>        remark:Total Flows to West Clarke
11838> #*************************************************************
11839> #    West Clarke Pond 2
11840> #    - Rating curve obtained from Barrhaven South MSS modeling
11841> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
11842> #*************************************************************
11843> R0050:C00180-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11844>      ROUTE RESERVOIR ->     1.0 02:W_CLAR         119.47   17.371 No_date   28:04   63.49  n/a     .000
11845>                 out <=     1.0 01:MS_P2          119.47   10.246 No_date   28:16   63.49  n/a     .000
11846>             overflow <=    1.0 03:P2-OVF             .00     .000 No_date    0:00     .00  n/a     .000
11847>      {MxStoUsed=.3076E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=    0.hrs}
11848> #*************************************************************
11849> R0050:C00181-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11850>      ADD HYD                     1.0 02:N_CE        54118.36  132.435 No_date   33:45   33.87  n/a     .000
11851>                          +      1.0 02:S-1-D4          3.28     .652 No_date   28:00   63.95  n/a     .000
11852>                          +      1.0 02:S-1-D5         12.84    2.360 No_date   28:01   63.95  n/a     .000
11853>                          +      1.0 02:MS_P2         119.47   10.246 No_date   28:16   63.49  n/a     .000
11854>                          +      1.0 02:P2-OVF             .00     .000 No_date    0:00     .00  n/a     .000
11855>                        SUM=     1.0 01:SN_CE       54253.95  133.341 No_date   33:45   33.95  n/a     .000
11856> R0050:C00182-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11857>      SAVE HYD                    1.0 01:SN_CE       54253.95  133.341 No_date   33:45   33.95  n/a     .000
11858>        fname :SN_CE.0050
11859>        remark:Total Flows before Station 5737 on Jock River
11860> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
11861> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
11862> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
11863> R0050:C00183-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11864>      ROUTE CHANNEL    ->     1.0 02:SN_CE       54253.95  133.341 No_date   33:45   33.95  n/a     .000
11865> *    [RDT= 1.00] out<-     1.0 01:5737        54253.95  125.432 No_date   35:56   33.95  n/a     .000
11866>          [L/S/n=  270./ .018/ .035]
11867>          {Vmax=   .825:Dmax= 5.266}
11868> R0050:C00184-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11869>      ADD HYD                     1.0 02:5737        54253.95  125.432 No_date   35:56   33.95  n/a     .000
11870>                          +      1.0 02:S-1-D1         21.67    3.809 No_date   28:01   63.95  n/a     .000
11871>                          +      1.0 02:S-1-D6          1.75     .357 No_date   28:00   63.95  n/a     .000
11872>                          +      1.0 02:S-1-D7          2.03     .411 No_date   28:00   63.95  n/a     .000
11873>                        SUM=     1.0 01:5002        54279.41  125.526 No_date   35:56   33.96  n/a     .000
11874> R0050:C00185-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11875>      SAVE HYD                    1.0 01:5002        54279.41  125.526 No_date   35:56   33.96  n/a     .000
11876>        fname :5002.0050
11877>        remark:Total Flows before Station 5002 on Jock River
11878> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
11879> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
11880> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
11881> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
11882> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
11883> R0050:C00186-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11884>      ROUTE CHANNEL    ->     1.0 02:5002        54279.41  125.526 No_date   35:56   33.96  n/a     .000
11885> *    [RDT= 1.00] out<-     1.0 01:N_WCa       54279.41  125.506 No_date   36:03   33.96  n/a     .000
11886>          [L/S/n=  245./ .095/ .035]
11887>          {Vmax= 1.264:Dmax= 2.962}
11888> R0050:C00187-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11889>      ROUTE CHANNEL    ->     1.0 02:N_WCa       54279.41  125.506 No_date   36:03   33.96  n/a     .000
11890> *    [RDT= 1.00] out<-     1.0 01:N_WCb       54279.41  125.490 No_date   36:09   33.96  n/a     .000
11891>          [L/S/n=  245./ .095/ .035]
11892>          {Vmax= 1.264:Dmax= 2.961}
11893> R0050:C00188-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11894>      ROUTE CHANNEL    ->     1.0 02:N_WCb       54279.41  125.490 No_date   36:09   33.96  n/a     .000
11895> *    [RDT= 1.00] out<-     1.0 01:N_WC        54279.41  125.479 No_date   36:14   33.96  n/a     .000
11896>          [L/S/n=  245./ .095/ .035]
11897>          {Vmax= 1.264:Dmax= 2.961}
11898> #*************************************************************
11899> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
11900> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
11901> #
11902> R0050:C00189-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11903>      ROUTE CHANNEL    ->     1.0 02:N_WC        54279.41  125.479 No_date   36:14   33.96  n/a     .000
11904> *    [RDT= 1.00] out<-     1.0 01:N_KB        54279.41  125.282 No_date   36:02   33.96  n/a     .000
11905>          [L/S/n= 1020./ .050/ .035]
11906>          {Vmax= 1.122:Dmax= 3.740}
11907> #*************************************************************
11908> #    Catchment KEN_BU
11909> #    - To Kennedy-Burnett SWM Facility
11910> #    - Outlets to Fraser-Clarke drain (north of the Jock)
11911> #    - Medium density residential subdivision
11912> #*************************************************************
11913> #*************************************************************
11914> #    Existing Kennedy-Burnett SWM Facility
11915> #    - Rating curve obtained from URTKBP
11916> #    - Tributary Drainage Area to Pond = 160 ha
11917> #*************************************************************
11918> R0050:C00190-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11919>      CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    4.812 No_date   28:10   33.07 .406     .000
11920>        [XIMP=.10:TIMP=.40]
11921>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11922>        [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
11923>        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
11924>        [IaRECimp=  4.00: IaRECper=   4.00]
11925> R0050:C00191-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11926>      COMPUTE DUALHYD        1.0 01:KB-01A         40.82    4.812 No_date   28:10   33.07  n/a     .000
11927>        Major System   /     1.0 02:KB-01A-MJ      .00      .000 No_date    0:00     .00  n/a     .000
11928>        Minor System   \     1.0 03:KB-01A-MN      40.82    3.600 No_date   28:00   33.14  n/a     .000
11929>        {MjSysSto=.1012E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
11930> R0050:C00192-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11931>      ADD HYD                     1.0 02:KB-01A-MJ      .00      .000 No_date    0:00     .00  n/a     .000
11932>                          +      1.0 02:KB-01A-MN    40.82    3.600 No_date   28:00   33.14  n/a     .000
11933>                        SUM=     1.0 01:KB-01A-S     40.82    3.600 No_date   28:00   33.14  n/a     .000
11934> R0050:C00193-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11935>      CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    3.541 No_date   28:07   36.47 .447     .000
11936>        [XIMP=.19:TIMP=.38]
11937>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11938>        [Pervious     area: IAper= 4.67:SLPP=  .42:LGP=  40.:MNP=.250:SCP=   .0]
11939>        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
11940>        [IaRECimp=  4.00: IaRECper=   4.00]
11941> R0050:C00194-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11942>      COMPUTE DUALHYD        1.0 01:KB-01B         31.10    3.541 No_date   28:07   36.47  n/a     .000
11943>        Major System   /     1.0 02:KB-01B-MJ      .00      .000 No_date    0:00     .00  n/a     .000
11944>        Minor System   \     1.0 03:KB-01B-MN      31.10    1.585 No_date   27:53   36.51  n/a     .000
11945>        {MjSysSto=.2627E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
11946> R0050:C00195-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11947>      ADD HYD                     1.0 02:KB-01B-MJ      .00      .000 No_date    0:00     .00  n/a     .000
11948>                          +      1.0 02:KB-01B-MN    31.10    1.585 No_date   27:53   36.51  n/a     .000
11949>                        SUM=     1.0 01:KB-01B-S     31.10    1.585 No_date   27:53   36.51  n/a     .000
11950> R0050:C00196-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11951>      CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    2.163 No_date   28:04   37.72 .463     .000
11952>        [XIMP=.20:TIMP=.41]
11953>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11954>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11955>        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
11956>        [IaRECimp=  4.00: IaRECper=   4.00]
11957> R0050:C00197-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11958>      COMPUTE DUALHYD        1.0 01:KB-01C         13.78    2.163 No_date   28:04   37.72  n/a     .000
11959>        Major System   /     1.0 02:KB-01C-MJ      .00      .000 No_date    0:00     .00  n/a     .000
11960>        Minor System   \     1.0 03:KB-01C-MN      13.78    1.350 No_date   27:55   37.86  n/a     .000
11961>        {MjSysSto=.5764E+03, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=    0.hrs}
11962> R0050:C00198-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11963>      ADD HYD                     1.0 02:KB-01C-MJ      .00      .000 No_date    0:00     .00  n/a     .000
11964>                          +      1.0 02:KB-01C-MN    13.78    1.350 No_date   27:55   37.86  n/a     .000
11965>                        SUM=     1.0 01:KB-01C-S     13.78    1.350 No_date   27:55   37.86  n/a     .000
11966> R0050:C00199-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RV
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11969>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11970>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11971>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
11972>       [IaRECimp=   4.00: IaRECper=   4.00]
11973> R0050:C00200-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11974>     COMPUTE DUALHYD      1.0 01:KB-03          84.78   11.183 No_date   28:07   37.17  n/a     .000
11975>       Major System   /     1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
11976>       Minor System   \     1.0 03:KB-03-MN       84.78    5.270 No_date   27:54   37.24  n/a     .000
11977>       {MjSysSto=.6453E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
11978> R0050:C00201-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11979>     ADD HYD              1.0 02:KB-03-MJ         .00      .000 No_date    0:00     .00  n/a     .000
11980>                    +     1.0 02:KB-03-MN       84.78    5.270 No_date   27:54   37.24  n/a     .000
11981>                SUM=      1.0 01:KB-03-S        84.78    5.270 No_date   27:54   37.24  n/a     .000
11982> R0050:C00202-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11983>     CONTINUOUS STANDHYD  1.0 01:KB-04           6.95    1.592 No_date   28:00   71.86 .882     .000
11984>       [XIMP=.85:TIMP=.85]
11985>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11986>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11987>       [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
11988>       [IaRECimp=   4.00: IaRECper=   4.00]
11989> R0050:C00203-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11990>     COMPUTE DUALHYD      1.0 01:KB-04           6.95    1.592 No_date   28:00   71.86  n/a     .000
11991>       Major System   /     1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
11992>       Minor System   \     1.0 03:KB-04-MN         6.95     .503 No_date   27:44   72.11  n/a     .000
11993>       {MjSysSto=.9423E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
11994> R0050:C00204-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11995>     ADD HYD              1.0 02:KB-04-MJ         .00      .000 No_date    0:00     .00  n/a     .000
11996>                    +     1.0 02:KB-04-MN         6.95     .503 No_date   27:44   72.11  n/a     .000
11997>                SUM=      1.0 01:KB-04-S          6.95     .503 No_date   27:44   72.11  n/a     .000
11998> R0050:C00205-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11999>     CONTINUOUS STANDHYD  1.0 01:KB-05           5.19    1.270 No_date   28:00   75.92 .931     .000
12000>       [XIMP=.93:TIMP=.93]
12001>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12002>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12003>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
12004>       [IaRECimp=   4.00: IaRECper=   4.00]
12005> R0050:C00206-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12006>     CONTINUOUS STANDHYD  1.0 01:KB-06          12.93    3.268 No_date   28:00   73.20 .898     .000
12007>       [XIMP=.67:TIMP=.67]
12008>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12009>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12010>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
12011>       [IaRECimp=   4.00: IaRECper=   4.00]
12012> R0050:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12013>     COMPUTE DUALHYD      1.0 01:KB-06          12.93    3.268 No_date   28:00   73.20  n/a     .000
12014>       Major System   /     1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12015>       Minor System   \     1.0 03:KB-06-MN       12.93    2.262 No_date   27:52   73.67  n/a     .000
12016>       {MjSysSto=.4323E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12017> R0050:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12018>     ADD HYD              1.0 02:KB-06-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12019>                    +     1.0 02:KB-06-MN       12.93    2.262 No_date   27:52   73.67  n/a     .000
12020>                SUM=      1.0 01:KB-06-S        12.93    2.262 No_date   27:52   73.67  n/a     .000
12021> R0050:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12022>     CONTINUOUS STANDHYD  1.0 01:KB-11           4.03     .921 No_date   28:00   61.82 .758     .000
12023>       [XIMP=.68:TIMP=.68]
12024>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12025>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12026>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
12027>       [IaRECimp=   4.00: IaRECper=   4.00]
12028> R0050:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12029>     COMPUTE DUALHYD      1.0 01:KB-11           4.03     .921 No_date   28:00   61.82  n/a     .000
12030>       Major System   /     1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12031>       Minor System   \     1.0 03:KB-11-MN         4.03     .577 No_date   27:52   62.10  n/a     .000
12032>       {MjSysSto=.1581E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12033> R0050:C00211-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12034>     ADD HYD              1.0 02:KB-11-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12035>                    +     1.0 02:KB-11-MN         4.03     .577 No_date   27:52   62.10  n/a     .000
12036>                SUM=      1.0 01:KB-11-S          4.03     .577 No_date   27:52   62.10  n/a     .000
12037> R0050:C00212-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12038>     CONTINUOUS STANDHYD  1.0 01:S1             4.99    1.304 No_date   28:00   75.92 .931     .000
12039>       [XIMP=.93:TIMP=.93]
12040>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12041>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12042>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
12043>       [IaRECimp=   4.00: IaRECper=   4.00]
12044> R0050:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12045>     CONTINUOUS STANDHYD  1.0 01:KB-15           2.15     .497 No_date   28:00   69.00 .847     .000
12046>       [XIMP=.79:TIMP=.79]
12047>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12048>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12049>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
12050>       [IaRECimp=   4.00: IaRECper=   4.00]
12051> R0050:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12052>     ADD HYD              1.0 02:KB-01A-S         40.82    3.600 No_date   28:00   33.14  n/a     .000
12053>                    +     1.0 02:KB-01B-S         31.10    1.585 No_date   27:53   36.51  n/a     .000
12054>                    +     1.0 02:KB-01C-S         13.78    1.350 No_date   27:55   37.86  n/a     .000
12055>                    +     1.0 02:KB-03-S          84.78    5.270 No_date   27:54   37.24  n/a     .000
12056>                    +     1.0 02:KB-04-S           6.95     .503 No_date   27:44   72.11  n/a     .000
12057>                    +     1.0 02:KB-05            5.19    1.270 No_date   28:00   75.92  n/a     .000
12058>                    +     1.0 02:KB-06-S          12.93    2.262 No_date   27:52   73.67  n/a     .000
12059>                    +     1.0 02:KB-11-S           4.03     .577 No_date   27:52   62.10  n/a     .000
12060>                    +     1.0 02:KB-15            2.15     .497 No_date   28:00   69.00  n/a     .000
12061>                    +     1.0 02:S1               4.99    1.304 No_date   28:00   75.92  n/a     .000
12062>                SUM=      1.0 01:KB-P1          206.72   18.218 No_date   28:00   42.53  n/a     .000
12063> R0050:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12064>     ROUTE RESERVOIR ->     1.0 02:KB-P1          206.72   18.218 No_date   28:00   42.53  n/a     .000
12065>                  out <=   1.0 01:KB-P1R         198.38   12.438 No_date   28:02   42.53  n/a     .000
12066>           overflow <=     1.0 03:KB-P1ovf         8.34    5.573 No_date   28:02   42.53  n/a     .000
12067>       {MxStoUsed=.7313E+00  m3, TotOvfVol=.3545E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
12068> R0050:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12069>     ADD HYD              1.0 02:KB-P1R         198.38   12.438 No_date   28:02   42.53  n/a     .000
12070>                    +     1.0 02:KB-P1ovf         8.34    5.573 No_date   28:02   42.53  n/a     .000
12071>                SUM=      1.0 01:KB-Pond1       206.72   18.011 No_date   28:02   42.53  n/a     .000
12072> R0050:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12073>     SAVE HYD             1.0 01:KB-Pond1       206.72   18.011 No_date   28:02   42.53  n/a     .000
12074>       fname :KB-Pond1.0050
12075>       remark:Total Flows at KB first pond
12076> R0050:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12077>     CONTINUOUS STANDHYD  1.0 01:KB-07           10.86    2.656 No_date   28:00   72.58 .890     .000
12078>       [XIMP=.86:TIMP=.86]
12079>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12080>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12081>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
12082>       [IaRECimp=   4.00: IaRECper=   4.00]
12083> R0050:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12084>     COMPUTE DUALHYD      1.0 01:KB-07           10.86    2.656 No_date   28:00   72.58  n/a     .000
12085>       Major System   /     1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12086>       Minor System   \     1.0 03:KB-07-MN       10.86    2.094 No_date   28:08   72.95  n/a     .000
12087>       {MjSysSto=.1958E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12088> R0050:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12089>     ADD HYD              1.0 02:KB-07-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12090>                    +     1.0 02:KB-07-MN        10.86    2.094 No_date   28:08   72.95  n/a     .000
12091>                SUM=      1.0 01:KB-07-S         10.86    2.094 No_date   28:08   72.95  n/a     .000
12092> R0050:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12093>     CONTINUOUS STANDHYD  1.0 01:KB-08            6.61    1.444 No_date   28:00   59.78 .733     .000
12094>       [XIMP=.64:TIMP=.64]
12095>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12096>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12097>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
12098>       [IaRECimp=   4.00: IaRECper=   4.00]
12099> R0050:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12100>     COMPUTE DUALHYD      1.0 01:KB-08           6.61    1.444 No_date   28:00   59.78  n/a     .000
12101>       Major System   /     1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12102>       Minor System   \     1.0 03:KB-08-MN         6.61    1.058 No_date   27:53   60.05  n/a     .000
12103>       {MjSysSto=.1439E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12104> R0050:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12105>     ADD HYD              1.0 02:KB-08-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12106>                    +     1.0 02:KB-08-MN         6.61    1.058 No_date   27:53   60.05  n/a     .000
12107>                SUM=      1.0 01:KB-08-S          6.61    1.058 No_date   27:53   60.05  n/a     .000
12108> R0050:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12109>     CONTINUOUS STANDHYD  1.0 01:KB-09           2.60     .665 No_date   28:00   71.90 .882     .000
12110>       [XIMP=.86:TIMP=.86]
12111>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12112>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12113>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
12114>       [IaRECimp=   4.00: IaRECper=   4.00]
12115> R0050:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12116>     CONTINUOUS STANDHYD  1.0 01:KB-10_1           2.37     .607 No_date   28:00   71.90 .882     .000
12117>       [XIMP=.86:TIMP=.86]
12118>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12119>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12120>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
12121>       [IaRECimp=   4.00: IaRECper=   4.00]
12122> R0050:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12123>     CONTINUOUS STANDHYD  1.0 01:KB-10_2           1.14     .295 No_date   28:00   71.90 .882     .000
12124>       [XIMP=.86:TIMP=.86]
12125>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12126>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12127>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
12128>       [IaRECimp=   4.00: IaRECper=   4.00]
12129> R0050:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12130>     CONTINUOUS STANDHYD  1.0 01:KB-12           4.86    1.174 No_date   28:00   68.26 .837     .000
12131>       [XIMP=.79:TIMP=.79]
12132>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12133>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12134>       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
12135>       [IaRECimp=   4.00: IaRECper=   4.00]
12136> R0050:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12137>     COMPUTE DUALHYD      1.0 01:KB-12           4.86    1.174 No_date   28:00   68.26  n/a     .000
12138>       Major System   /     1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12139>       Minor System   \     1.0 03:KB-12-MN         4.86     .867 No_date   28:09   68.93  n/a     .000
12140>       {MjSysSto=.1203E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12141> R0050:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12142>     ADD HYD              1.0 02:KB-12-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12143>                    +     1.0 02:KB-12-MN         4.86     .867 No_date   28:09   68.93  n/a     .000
12144>                SUM=      1.0 01:KB-12-S          4.86     .867 No_date   28:09   68.93  n/a     .000
12145> R0050:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12146>     CONTINUOUS STANDHYD  1.0 01:KB-13          10.19    2.184 No_date   28:00   59.78 .733     .000
12147>       [XIMP=.64:TIMP=.64]
12148>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12149>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12150>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
12151>       [IaRECimp=   4.00: IaRECper=   4.00]
12152> R0050:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12153>     COMPUTE DUALHYD      1.0 01:KB-13          10.19    2.184 No_date   28:00   59.78  n/a     .000
12154>       Major System   /     1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12155>       Minor System   \     1.0 03:KB-13-MN        10.19    1.722 No_date   27:55   60.01  n/a     .000
12156>       {MjSysSto=.1587E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12157> R0050:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12158>     ADD HYD              1.0 02:KB-13-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12159>                    +     1.0 02:KB-13-MN        10.19    1.722 No_date   27:55   60.01  n/a     .000
12160>                SUM=      1.0 01:KB-13-S         10.19    1.722 No_date   27:55   60.01  n/a     .000
12161> R0050:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12162>     CONTINUOUS STANDHYD  1.0 01:KB-14            5.47    1.201 No_date   28:00   59.78 .733     .000
12163>       [XIMP=.64:TIMP=.64]
12164>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12165>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12166>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
12167>       [IaRECimp=   4.00: IaRECper=   4.00]
12168> R0050:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12169>     COMPUTE DUALHYD      1.0 01:KB-14            5.47    1.201 No_date   28:00   59.78  n/a     .000
12170>       Major System   /     1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12171>       Minor System   \     1.0 03:KB-14-MN         5.47     .873 No_date   27:53   60.02  n/a     .000
12172>       {MjSysSto=.1239E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12173> R0050:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12174>     ADD HYD              1.0 02:KB-14-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12175>                    +     1.0 02:KB-14-MN         5.47     .873 No_date   27:53   60.02  n/a     .000
12176>                SUM=      1.0 01:KB-14-S          5.47     .873 No_date   27:53   60.02  n/a     .000
12177> R0050:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12178>     CONTINUOUS STANDHYD  1.0 01:KB-16_2           3.42     .724 No_date   28:01   64.30 .789     .000
12179>       [XIMP=.71:TIMP=.71]
12180>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12181>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12182>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
12183>       [IaRECimp=   4.00: IaRECper=   4.00]
12184> R0050:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12185>     ADD HYD              1.0 02:KB-Pond2        206.72   18.011 No_date   28:02   42.53  n/a     .000
12186>                    +     1.0 02:KB-07-S          10.86    2.094 No_date   28:08   72.95  n/a     .000
12187>                    +     1.0 02:KB-08-S           6.61    1.058 No_date   27:53   60.05  n/a     .000
12188>                    +     1.0 02:KB-09             2.60     .665 No_date   28:00   71.90  n/a     .000
12189>                    +     1.0 02:KB-10_1           2.37     .607 No_date   28:00   71.90  n/a     .000
12190>                    +     1.0 02:KB-10_2           1.14     .295 No_date   28:00   71.90  n/a     .000
12191>                    +     1.0 02:KB-12-S           4.86     .867 No_date   28:09   68.93  n/a     .000
12192>                    +     1.0 02:KB-13-S          10.19    1.722 No_date   27:55   60.01  n/a     .000
12193>                    +     1.0 02:KB-14-S           5.47     .873 No_date   27:53   60.02  n/a     .000
12194>                    +     1.0 02:KB-16_2           3.42     .724 No_date   28:01   64.30  n/a     .000
12195>                SUM=      1.0 01:KB-P2          254.24   26.339 No_date   28:02   46.87  n/a     .000
12196> R0050:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12197>     ROUTE RESERVOIR ->     1.0 02:KB-P2          254.24   26.373 No_date   28:02   46.87  n/a     .000
12198>                  out <=   1.0 01:KB-P2R         253.10   17.634 No_date   28:09   46.87  n/a     .000
12199>           overflow <=     1.0 03:KB-P2ovf         1.14    5.257 No_date   28:09   46.87  n/a     .000
12200>       {MxStoUsed=.1189E+01  m3, TotOvfVol=.5351E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12201> R0050:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12202>     ADD HYD              1.0 02:KB-P2R         253.10   17.634 No_date   28:09   46.87  n/a     .000
12203>                    +     1.0 02:KB-P2ovf         1.14    5.257 No_date   28:09   46.87  n/a     .000
12204>                SUM=      1.0 01:KB-Pond2       254.24   22.891 No_date   28:09   46.87  n/a     .000
12205> R0050:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12206>     SAVE HYD             1.0 01:KB-Pond2       254.24   22.891 No_date   28:09   46.87  n/a     .000
12207>       fname :KB-Pond2.0050
12208>       remark:Total Flows at KB second pond
12209> R0050:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12210>     CONTINUOUS STANDHYD  1.0 01:KB-16_1           2.80     .624 No_date   28:00   66.65 .818     .000
12211>       [XIMP=.75:TIMP=.75]
12212>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12213>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12214>       [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
12215>       [IaRECimp=   4.00: IaRECper=   4.00]
12216> R0050:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12217>     ADD HYD              1.0 02:KB-Pond2        254.24   22.891 No_date   28:09   46.87  n/a     .000
12218>                    +     1.0 02:KB-16_1           2.80     .624 No_date   28:00   66.65  n/a     .000
12219>                SUM=      1.0 01:KB-P3          257.04   23.147 No_date   28:09   47.08  n/a     .000
12220> R0050:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12221>     ROUTE RESERVOIR ->     1.0 02:KB-P3          257.04   23.147 No_date   28:09   47.08  n/a     .000
12222>                  out <=   1.0 01:KB-P3R           9.40     .051 No_date   17:13   47.07  n/a     .000
12223>           overflow <=     1.0 03:KB-P3ovf       247.64   22.286 No_date   28:10   47.08  n/a     .000
12224>       {MxStoUsed=.1988E-02  m3, TotOvfVol=.1166E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
12225> R0050:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12226>     ADD HYD              1.0 02:KB-P3R           9.40     .051 No_date   17:13   47.07  n/a     .000
12227>                    +     1.0 02:KB-P3ovf       247.64   22.286 No_date   28:10   47.08  n/a     .000
12228>                SUM=      1.0 01:KB-Pond3       257.04   22.337 No_date   28:10   47.08  n/a     .000
12229> R0050:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12230>     SAVE HYD             1.0 01:KB-Pond3       257.04   22.337 No_date   28:10   47.08  n/a     .000
12231>       fname :KB-Pond3.0050
12232>       remark:Total Flows at KB third pond
12233> a*************************************************************************
12234> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
12235> #      TO FRASER-CLARKE DRAIN
12236> a*************************************************************************
12237> R0050:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12238>     CONTINUOUS STANDHYD  1.0 01:FC-01            8.03    1.483 No_date   28:01   49.52 .608     .000
12239>       [XIMP=.47:TIMP=.47]
12240>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12241>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12242>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
12243>       [IaRECimp=   4.00: IaRECper=   4.00]
12244> R0050:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12245>     COMPUTE DUALHYD      1.0 01:FC-01            8.03    1.483 No_date   28:01   49.52  n/a     .000
12246>       Major System   /     1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12247>       Minor System   \     1.0 03:FC-01-MN         8.03     .756 No_date   28:32   49.91  n/a     .000
12248>       {MjSysSto=.4662E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12249> R0050:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12250>     ADD HYD              1.0 02:FC-01-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12251>                    +     1.0 02:FC-01-MN         8.03     .756 No_date   27:51   49.91  n/a     .000
12252>                SUM=      1.0 01:FC-01-S          8.03     .756 No_date   27:51   49.91  n/a     .000
12253> R0050:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12254>     CONTINUOUS STANDHYD  1.0 01:FC-02           16.05    3.831 No_date   28:00   75.92 .931     .000
12255>       [XIMP=.93:TIMP=.93]
12256>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12257>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12258>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
12259>       [IaRECimp=   4.00: IaRECper=   4.00]
12260> R0050:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12261>     COMPUTE DUALHYD      1.0 01:FC-02           16.05    3.831 No_date   28:00   75.92  n/a     .000
12262>       Major System   /     1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12263>       Minor System   \     1.0 03:FC-02-MN        16.05    1.159 No_date   27:43   75.94  n/a     .000
12264>       {MjSysSto=.2348E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12265> R0050:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12266>     ADD HYD              1.0 02:FC-02-MJ         .00      .000 No_date    0:00     .00  n/a     .000
12267>                    +     1.0 02:FC-02-MN        16.05    1.159 No_date   27:43   75.94  n/a     .000
12268>                SUM=      1.0 01:FC-02-S         16.05    1.159 No_date   27:43   75.94  n/a     .000
12269> R0050:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12270>     CONTINUOUS STANDHYD  1.0 01:FC-03            7.37    1.540 No_date   28:00   59.28 .727     .000
12271>       [XIMP=.64:TIMP=.64]
12272>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12273>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12274>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
12275>       [IaRECimp=   4.00: IaRECper=   4.00]
12276> R0050:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12277>     COMPUTE DUALHYD      1.0 01:FC-03            7.37    1.540 No_date   28:00   59.28  n/a     .000
12278>       Major System   /     1.0 02:FC-03-MJ         .02      .092 No_date   28:14   59.28  n/a     .000
12279>       Minor System   \     1.0 03:FC-03-MN         7.35     .358 No_date   27:42   59.51  n/a     .000
12280>       {MjSysSto=.1131E+04, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
12281> R0050:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12282>     ADD HYD              1.0 02:FC-03-MJ         .02      .092 No_date   28:14   59.28  n/a     .000
12283>                    +     1.0 02:FC-03-MN         7.35     .358 No_date   27:42   59.51  n/a     .000
12284>                SUM=      1.0 01:FC-03-S          7.37     .450 No_date   28:14   59.51
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12343> #*******************************************************************************
12344> R0050:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12345>     CONTINUOUS NASHYD     1.0 01:FRASER-DRN    13.65      .711 No_date   28:22   39.91 .490     .000
12346>       [CN= 77.0: N= 3.00: Tp=  .43]
12347>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12348>       [InterEventTime=  12.00]
12349> R0050:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12350>     CONTINUOUS STANDHYD   1.0 01:FRASER-D      21.61     3.688 No_date   28:01   62.97 .773     .000
12351>       [XIMP=.58:TIMP=.58]
12352>       [LOSS= 2 :CN= 80.0]
12353>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12354>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
12355>       [IaRECimp=   4.00: IaRECper=   4.00]
12356>       [SMIN= 26.32: SMAX=175.50: SK= .010]
12357> R0050:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12358>     COMPUTE DUALHYD       1.0 01:FRASER-D      21.61     3.688 No_date   28:01   62.97  n/a     .000
12359>       Major System   /     1.0 02:FRASER-J       .00      .000 No_date    0:00     .00  n/a     .000
12360>       Minor System   \     1.0 03:FRASER-N     21.61     2.281 No_date   27:53   63.21  n/a     .000
12361>       {MjSysSto=.7987E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12362> R0050:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12363>     ADD HYD               1.0 02:FRASER-J       .00      .000 No_date    0:00     .00  n/a     .000
12364>                         +     1.0 02:FRASER-N     21.61     2.281 No_date   27:53   63.21  n/a     .000
12365>                       SUM=    1.0 01:FRASER-S     21.61     2.281 No_date   27:53   63.21  n/a     .000
12366> R0050:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12367>     ADD HYD               1.0 02:KB-Pond3     257.04    22.337 No_date   28:10   47.08  n/a     .000
12368>                         +     1.0 02:S-1-B         55.36     2.770 No_date   28:23   39.91  n/a     .000
12369>                         +     1.0 02:FRASER-DRN    13.65      .711 No_date   28:22   39.91  n/a     .000
12370>                         +     1.0 02:FRASER-S      21.61     2.281 No_date   27:53   63.21  n/a     .000
12371>                         +     1.0 02:N_KB       54279.41  125.282 No_date   36:02   33.96  n/a     .000
12372>                         +     1.0 02:FC-01-S        8.03      .756 No_date   27:51   49.91  n/a     .000
12373>                         +     1.0 02:FC-02-S       16.05     1.159 No_date   27:43   75.94  n/a     .000
12374>                         +     1.0 02:FC-03-S        7.37      .450 No_date   28:14   59.61  n/a     .000
12375>                       SUM=    1.0 01:4241       54658.52  126.092 No_date   36:02   34.06  n/a     .000
12376> R0050:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12377>     SAVE HYD              1.0 01:4241       54658.52  126.092 No_date   36:02   34.06  n/a     .000
12378>       fname :4241.0050
12379>       remark:Total Flows at Ken-Burnett Outlet
12380> # Hydrograph from Node Ken-Burnett to station 3633
12381> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
12382> #
12383> R0050:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12384>     ROUTE CHANNEL         1.0 02:4241       54658.52  126.092 No_date   36:02   34.06  n/a     .000
12385> *   [RDT= 1.00] out<-     1.0 01:4241-out   54658.52  126.088 No_date   36:02   34.06  n/a     .000
12386>       [L/S/n=  294./ .109./.035]
12387>       [Vmax= 1.329:Dmax= 2.424]
12388> R0050:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12389>     ADD HYD               1.0 02:4241-out   54658.52  126.088 No_date   36:02   34.06  n/a     .000
12390>                         +     1.0 02:FC-04-S       12.87      .741 No_date   27:44   59.54  n/a     .000
12391>                         +     1.0 02:JR-01-S        8.24      .563 No_date   27:44   59.48  n/a     .000
12392>                         +     1.0 02:JR-02-S        1.59      .153 No_date   27:45   59.66  n/a     .000
12393>                       SUM=    1.0 01:SN_KB      54681.21  126.145 No_date   36:02   34.07  n/a     .000
12394> R0050:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12395>     SAVE HYD              1.0 01:SN_KB      54681.21  126.145 No_date   36:02   34.07  n/a     .000
12396>       fname :SN_KB.0050
12397>       remark:HYD_COMMENT=["Total Flows before Station 3633]
12398> # Hydrograph from Station 3633 to Node Todd
12399> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
12400> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
12401> #
12402> R0050:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12403>     ROUTE CHANNEL   ->    1.0 02:SN_KB      54681.21  126.145 No_date   36:02   34.07  n/a     .000
12404>   [RDT= 1.00] out<-       1.0 01:N_TO       54681.21  125.879 No_date   36:02   34.07  n/a     .000
12405>       [L/S/n=  608./ .247./.035]
12406>       [Vmax= 1.807:Dmax= 1.819]
12407> #*******************************************************************************
12408> #    Catchment Greenbank
12409> #    - To Greenbank Drain (south of the Jock)
12410> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
12411> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
12412> #*******************************************************************************
12413> R0050:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12414>     CONTINUOUS STANDHYD   1.0 01:Greenbank     36.60     6.286 No_date   28:02   65.04 .798     .000
12415>       [XIMP=.64:TIMP=.68]
12416>       [LOSS= 2 :CN= 77.0]
12417>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12418>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
12419>       [IaRECimp=   4.00: IaRECper=   4.00]
12420>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12421> R0050:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12422>     ROUTE RESERVOIR ->    1.0 02:Greenbank     36.60     6.286 No_date   28:02   65.04  n/a     .000
12423>                     out <=    1.0 01:GreenB_MN    36.60     4.176 No_date   28:09   65.04  n/a     .000
12424>                overflow <=    1.0 03:GreenB_MJ      .00      .000 No_date    0:00     .00  n/a     .000
12425>       {MxStoUsed=.9063E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12426> R0050:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12427>     ADD HYD               1.0 02:N_TO       54681.21  125.879 No_date   36:02   34.07  n/a     .000
12428>                         +     1.0 02:GreenB_MJ      .00      .000 No_date    0:00     .00  n/a     .000
12429>                         +     1.0 02:GreenB_MN    36.60     4.176 No_date   28:09   65.04  n/a     .000
12430>                       SUM=    1.0 01:GreenB     54717.81  126.050 No_date   36:02   34.09  n/a     .000
12431> R0050:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12432>     SAVE HYD              1.0 01:GreenB     54717.81  126.050 No_date   36:02   34.09  n/a     .000
12433>       fname :GreenB.0050
12434>       remark:Total Flows at Greenbank Drain
12435> #*******************************************************************************
12436> #    Catchment TODD
12437> #    - To Todd Drain (south of the Jock)
12438> #    - Subdivision with 43% imp. as per Barrhaven South MSS
12439> #    - 2020-11-30 increase imp. based on P598(04)-11
12440> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
12441> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
12442> #*******************************************************************************
12443> #    - JFSA 2021-01-19 Clarke add "TODD_MNI" as part of CLARK_MJ") and remove it from Todd
12444> R0050:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12445>     CONTINUOUS STANDHYD   1.0 01:TODD_MN2      2.10      .384 No_date   28:00   60.14 .738     .000
12446>       [XIMP=.53:TIMP=.57]
12447>       [LOSS= 2 :CN= 77.0]
12448>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12449>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
12450>       [IaRECimp=   4.00: IaRECper=   4.00]
12451>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12452> R0050:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12453>     CONTINUOUS STANDHYD   1.0 01:TODD_MN3       .12       .022 No_date   28:00   60.13 .738     .000
12454>       [XIMP=.53:TIMP=.57]
12455>       [LOSS= 2 :CN= 77.0]
12456>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12457>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
12458>       [IaRECimp=   4.00: IaRECper=   4.00]
12459>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12460> R0050:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12461>     CONTINUOUS STANDHYD   1.0 01:TODD_MJ       30.23     4.894 No_date   28:02   61.85 .759     .000
12462>       [XIMP=.52:TIMP=.64]
12463>       [LOSS= 2 :CN= 77.0]
12464>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12465>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
12466>       [IaRECimp=   4.00: IaRECper=   4.00]
12467>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12468> R0050:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12469>     CONTINUOUS STANDHYD   1.0 01:TODD_ALL     112.91    15.270 No_date   28:04   59.95 .735     .000
12470>       [XIMP=.52:TIMP=.57]
12471>       [LOSS= 2 :CN= 77.0]
12472>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12473>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
12474>       [IaRECimp=   4.00: IaRECper=   4.00]
12475>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12476> R0050:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12477>     CONTINUOUS STANDHYD   1.0 01:TODD_P        3.06      .600 No_date   28:00   63.61 .780     .000
12478>       [XIMP=.63:TIMP=.63]
12479>       [LOSS= 2 :CN= 77.0]
12480>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12481>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
12482>       [IaRECimp=   4.00: IaRECper=   4.00]
12483>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12484> # 5-Year + 12% Capture
12485> R0050:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12486>     ROUTE RESERVOIR ->    1.0 02:TODD_MJ       30.23     4.894 No_date   28:02   61.85  n/a     .000
12487>                     out <=    1.0 01:TODD_MJn      28.89     3.314 No_date   27:54   61.87  n/a     .000
12488>                overflow <=    1.0 03:TODD_MJj       1.34     1.567 No_date   28:02   61.85  n/a     .000
12489>       {MxStoUsed=.1169E-02  m3, TotOvfVol=.8285E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12490> # 5-Year + 12% Capture
12491> R0050:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12492>     ROUTE RESERVOIR ->    1.0 02:TODD_MN2       2.10      .384 No_date   28:00   60.14  n/a     .000
12493>                     out <=    1.0 01:TODD_MN2n      2.02      .268 No_date   27:53   60.14  n/a     .000
12494>                overflow <=    1.0 03:TODD_MN2j       .08      .111 No_date   28:00   60.14  n/a     .000
12495>       {MxStoUsed=.1643E-03  m3, TotOvfVol=.4631E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12496> R0050:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12497>     ROUTE RESERVOIR ->    1.0 02:TODD_MN3       .12       .022 No_date   28:00   60.13  n/a     .000
12498>                     out <=    1.0 01:TODD_MN3n      .11       .016 No_date   27:52   60.13  n/a     .000
12499>                overflow <=    1.0 03:TODD_MN3j       .00      .006 No_date   28:00   60.13  n/a     .000
12500>       {MxStoUsed=.8712E-04  m3, TotOvfVol=.2472E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
12501> R0050:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12502>     CONTINUOUS STANDHYD   1.0 01:A2           25.50     3.441 No_date   28:03   55.89 .686     .000
12503>       [XIMP=.42:TIMP=.52]
12504>       [LOSS= 2 :CN= 75.0]
12505>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12506>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
12507>       [IaRECimp=   4.00: IaRECper=   4.00]
12508>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12509> R0050:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12510>     COMPUTE DUALHYD       1.0 01:A2           25.50     3.441 No_date   28:03   55.89  n/a     .000
12511>       Major System   /     1.0 02:A2-MJ          .64     1.180 No_date   28:07   55.89  n/a     .000
12512>       Minor System   \     1.0 03:A2-MN        24.86     1.818 No_date   28:39   56.08  n/a     .000
12513>       {MjSysSto=.9240E+03, TotOvfVol=.3586E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
12514> R0050:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12515>     ADD HYD               1.0 02:TODD_MN2n      2.02      .268 No_date   27:53   60.14  n/a     .000
12516>                         +     1.0 02:TODD_MN3n      .11       .016 No_date   27:52   60.13  n/a     .000
12517>                         +     1.0 02:TODD_MJj       1.34     1.567 No_date   28:02   61.85  n/a     .000
12518>                         +     1.0 02:TODD_P         3.06      .600 No_date   28:00   63.61  n/a     .000
12519>                         +     1.0 02:TODD_ALL     112.91   15.270 No_date   28:04   59.95  n/a     .000
12520>                         +     1.0 02:W_CLAR_MJn     1.70      .213 No_date   27:53   59.44  n/a     .000
12521>                       SUM=    1.0 01:TODD       121.14   17.643 No_date   28:03   60.06  n/a     .000
12522> R0050:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12523>     SAVE HYD              1.0 01:TODD       121.14   17.643 No_date   28:03   60.06  n/a     .000
12524>       fname :TODD.0050
12525>       remark:Total Flows at Todd Drain
12526> #*******************************************************************************
12527> #    Todd Pond 3
12528> #    - Rating curve obtained from Barrhaven South MSS modeling
12529> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
12530> #*******************************************************************************
12531> R0050:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12532>     ROUTE RESERVOIR ->    1.0 02:TODD       121.14   17.643 No_date   28:03   60.06  n/a     .000
12533>                     out <=    1.0 01:MS_P3      121.14   12.815 No_date   28:10   60.05  n/a     .000
12534>                overflow <=    1.0 03:P3-OVF         .00      .000 No_date    0:00     .00  n/a     .000
12535>       {MxStoUsed=.2728E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12536> R0050:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12537>     ADD HYD               1.0 02:GreenB     54717.81  126.050 No_date   36:02   34.09  n/a     .000
12538>                         +     1.0 02:MS_P3        121.14   12.815 No_date   28:10   60.05  n/a     .000
12539>                         +     1.0 02:P3-OVF         .00      .000 No_date    0:00     .00  n/a     .000
12540>                         +     1.0 02:TODD_MN2j      .08      .111 No_date   28:00   60.14  n/a     .000
12541>                         +     1.0 02:A2-MJ          .64     1.180 No_date   28:07   55.89  n/a     .000
12542>                       SUM=    1.0 01:SN_TO      54839.66  126.489 No_date   36:02   34.15  n/a     .000
12543> R0050:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12544>     SAVE HYD              1.0 01:SN_TO      54839.66  126.489 No_date   36:02   34.15  n/a     .000
12545>       fname :SN_TO.0050
12546>       remark:Total Flows at Todd Drain
12547> #
12548> # Hydrograph from Todd Drain routed to Corrigan Drain
12549> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
12550> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
12551> R0050:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12552>     ROUTE CHANNEL   ->    1.0 02:SN_TO      54839.66  126.489 No_date   36:02   34.15  n/a     .000
12553>   [RDT= 1.00] out<-       1.0 01:N_TO       54839.66  126.325 No_date   36:29   34.15  n/a     .000
12554>       [L/S/n=  280./ .050/.045]
12555>       [Vmax=  .889:Dmax= 3.463]
12556> R0050:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12557>     SAVE HYD              1.0 01:N_TO       54839.66  126.325 No_date   36:29   34.15  n/a     .000
12558>       fname :N_TO.0050
12559>       remark:Total inflows at Station 2462
12560> #*******************************************************************************
12561> #    Catchment CORRIG
12562> #    - To Corrigan Drain (south of the Jock)
12563> #    - Primarily Developed (medium density)
12564> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
12565> #*******************************************************************************
12566> R0050:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12567>     CONTINUOUS STANDHYD   1.0 01:corr1        15.87     2.851 No_date   28:01   63.61 .780     .000
12568>       [XIMP=.63:TIMP=.63]
12569>       [LOSS= 2 :CN= 77.0]
12570>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12571>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
12572>       [IaRECimp=   4.00: IaRECper=   4.00]
12573>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12574> R0050:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12575>     COMPUTE DUALHYD       1.0 01:corr1        15.87     2.851 No_date   28:01   63.61  n/a     .000
12576>       Major System   /     1.0 02:corr1-MJ       .00      .000 No_date    0:00     .00  n/a     .000
12577>       Minor System   \     1.0 03:corr1-MN     15.87     1.818 No_date   28:19   63.67  n/a     .000
12578>       {MjSysSto=.5297E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12579> R0050:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12580>     CONTINUOUS NASHYD     1.0 01:corr2        12.47      .330 No_date   29:10   39.91 .490     .000
12581>       [CN= 77.0: N= 3.00: Tp= 1.10]
12582>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12583>       [InterEventTime=  12.00]
12584> R0050:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12585>     CONTINUOUS STANDHYD   1.0 01:A1-Corrig     15.75     2.330 No_date   28:01   55.89 .686     .000
12586>       [XIMP=.42:TIMP=.52]
12587>       [LOSS= 2 :CN= 75.0]
12588>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12589>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
12590>       [IaRECimp=   4.00: IaRECper=   4.00]
12591>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12592> R0050:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12593>     COMPUTE DUALHYD       1.0 01:A1-Corrig     15.75     2.330 No_date   28:01   55.89  n/a     .000
12594>       Major System   /     1.0 02:A1-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12595>       Minor System   \     1.0 03:A1-MN        15.75     1.818 No_date   27:56   56.07  n/a     .000
12596>       {MjSysSto=.1953E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12597> R0050:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12598>     CONTINUOUS NASHYD     1.0 01:B1           2.77      .119 No_date   28:09   24.96 .306     .000
12599>       [CN= 56.0: N= 3.00: Tp=  .23]
12600>       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
12601>       [InterEventTime=  12.00]
12602> R0050:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12603>     CONTINUOUS STANDHYD   1.0 01:A4           1.27      .239 No_date   28:00   63.95 .785     .000
12604>       [XIMP=.65:TIMP=.65]
12605>       [LOSS= 2 :CN= 75.0]
12606>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12607>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
12608>       [IaRECimp=   4.00: IaRECper=   4.00]
12609>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12610> R0050:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12611>     COMPUTE DUALHYD       1.0 01:A4           1.27      .239 No_date   28:00   63.95  n/a     .000
12612>       Major System   /     1.0 02:A4-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12613>       Minor System   \     1.0 03:A4-MN        1.27      .239 No_date   28:00   63.95  n/a     .000
12614>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12615> R0050:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12616>     ADD HYD               1.0 02:A1-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12617>                         +     1.0 02:A1-MN        15.75     1.818 No_date   27:56   56.07  n/a     .000
12618>                         +     1.0 02:A4-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12619>                         +     1.0 02:corr1-MN     15.87     1.818 No_date   28:19   63.67  n/a     .000
12620>                         +     1.0 02:corr2        12.47      .330 No_date   29:10   39.91  n/a     .000
12621>                         +     1.0 02:B1            2.77      .119 No_date   28:09   24.96  n/a     .000
12622>                         +     1.0 02:A4-MN         1.27      .239 No_date   28:00   63.95  n/a     .000
12623>                       SUM=    1.0 01:MH101        48.13     4.028 No_date   28:02   52.81  n/a     .000
12624> R0050:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12625>     SAVE HYD              1.0 01:MH101        48.13     4.028 No_date   28:02   52.81  n/a     .000
12626>       fname :MH101.0050
12627>       remark:Total Flows at MH101
12628> R0050:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12629>     ROUTE PIPE      ->    1.0 02:MH101        48.13     4.028 No_date   28:02   52.81  n/a     .000
12630> *   [RDT= 1.00] out<-     1.0 01:101-102      48.13     4.005 No_date   28:03   52.81  n/a     .000
12631>       [L/S/n=  368./ .540/.013]
12632>       [Vmax= 3.143:Dmax= 1.119]
12633>       [Din= 1.05:Dused= 1.05]
12634> R0050:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12635>     ADD HYD               1.0 02:A2-MN        24.86     1.818 No_date   28:39   56.08  n/a     .000
12636>                         +     1.0 02:101-102      48.13     4.005 No_date   28:03   52.81  n/a     .000
12637>                       SUM=    1.0 01:MH102        72.99     5.823 No_date   28:03   53.92  n/a     .000
12638> R0050:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12639>     SAVE HYD              1.0 01:MH102        72.99     5.823 No_date   28:03   53.92  n/a     .000
12640>       fname :MH102.0050
12641>       remark:Total Flows at MH102
12642> R0050:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12643>     CONTINUOUS STANDHYD   1.0 01:A5           1.60      .312 No_date   28:01   66.69 .818     .000
12644>       [XIMP=.71:TIMP=.71]
12645>       [LOSS= 2 :CN= 75.0]
12646>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12647>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
12648>       [IaRECimp=   4.00: IaRECper=   4.00]
12649>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12650> R0050:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12651>     ADD HYD               1.0 02:A4-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12652>                         +     1.0 02:A5           1.60      .312 No_date   28:01   66.69  n/a     .000
12653>                       SUM=    1.0 01:A5T          1.60      .312 No_date   28:01   66.69  n/a     .000
12654> R0050:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12655>     COMPUTE DUALHYD       1.0 01:A5T          1.60      .312 No_date   28:01   66.69  n/a     .000
12656>       Major System   /     1.0 02:A5-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12657>       Minor System   \     1.0 03:A5-MN        1.60      .312 No_date   28:01   66.69  n/a     .000
12658>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12659> R0050:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12660>     ROUTE PIPE      ->    1.0 01:MH102        72.99     5.823 No_date   28:03   53.92  n/a     .000
12661> *   [RDT= 1.00] out<-     1.0 01:102-103      72.99     5.773 No_date   28:14   53.92  n/a     .000
12662>       [L/S/n=  504./ .280./.013]
12663>       [Vmax= 2.694:Dmax= 1.145]
12664>       [Din= 1.50:Dused= 1.77]
12665> R0050:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12666>     ADD HYD               1.0 02:102-103      72.99     5.773 No_date   28:14   53.92  n/a     .000
12667>                         +     1.0 02:A5-MN        1.60      .312 No_date   28:01   66.69  n/a     .000
12668>                       SUM=    1.0 01:MH103        74.59     5.961 No_date   28:03   54.19  n/a     .000
12669> R0050:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12670>     SAVE HYD              1.0 01:MH103        74.59     5.961 No_date   28:03   54.19  n/a     .000
12671>       fname :MH103.0050
12672>       remark:Total Flows at MH103
12673> R0050:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12674>     ROUTE PIPE      ->    1.0 02:MH103        74.59     5.961 No_date   28:03   54.19  n/a     .000
12675>   [RDT= 1.00] out<-       1.0 01:103-104      74.59     5.915 No_date   28:07   54.19  n/a     .000
12676>       [L/S/n=  438./ .460/.013]
12677>       [Vmax= 3.295:Dmax= 1.301]
12678>       [Din= 1.65:Dused= 1.65]
12679> R0050:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12680>     CONTINUOUS STANDHYD   1.0 01:A6           1.56      .306 No_date   28:00   66.69 .818     .000
12681>       [XIMP=.71:TIMP=.71]
12682>       [LOSS= 2 :CN= 75.0]
12683>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12684>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
12685>       [IaRECimp=   4.00: IaRECper=   4.00]
12686>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12687> R0050:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12688>     ADD HYD               1.0 02:A5-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12689>                         +     1.0 02:A6           1.56      .306 No_date   28:00   66.69  n/a     .000
12690>                       SUM=    1.0 01:A6T          1.56      .306 No_date   28:00   66.69  n/a     .000
12691> R0050:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12692>     COMPUTE DUALHYD       1.0 01:A6T          1.56      .306 No_date   28:00   66.69  n/a     .000
12693>       Major System   /     1.0 02:A6-MJ          .00      .000 No_date    0:00     .00  n/a     .000
12694>       Minor System   \     1.0 03:A6-MN        1.56      .306 No_date   28:00   66.69  n/a     .000
12695>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12696> R0050:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12697>     ADD HYD               1.0 02:A6-MN        1.56      .306 No_date   28:00   66.69  n/a     .000
12698>                         +     1.0 02:103-104      74.59     5.915 No_date   28:07   54.19  n/a     .000
12699>                         +     1.0 02:TODD_MJn     28.89     3.314 No_date   27:54   61.87  n/a     .000
12700>                       SUM=    1.0 01:MH104       105.04     9.444 No_date   28:04   56.49  n/a     .000
12701> R0050:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12702>     SAVE HYD              1.0 01:MH104       105.04     9.444 No_date   28:04   56.49  n/a     .000
12703>       fname :MH104.0050
12704>       remark:Total Flows at
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12717>       {MjSysSto=.4799E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12718> R0050:C00322-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12719>      ROUTE PIPE      ->     1.0 02:B2-MN      12.31     1.029 No_date   27:53   56.54  n/a     .000
12720>  *   [RDT= 1.00] out<-     1.0 01:315-333     12.31     1.029 No_date   28:33   56.54  n/a     .000
12721>       [L/S/n=  254./ .100/.013]
12722>       {Vmax= 1.220:Dmax=   .838}
12723>       {Din= 1.20:Dused= 1.20}
12724> R0050:C00323-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12725>      CONTINUOUS STANDHYD   1.0 01:B3          5.59      .825 No_date   28:01   56.26 .690     .000
12726>       [XIMP=.41:TIMP=.54]
12727>       [LOSS= 2 :CN= 75.0]
12728>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12729>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
12730>       [IaREcimp=   4.00: IaRECper=   4.00]
12731>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12732> R0050:C00324-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12733>      COMPUTE DUALHYD       1.0 01:B3          5.59      .825 No_date   28:01   56.26  n/a     .000
12734>        Major System   /     1.0 02:B3-MJ        .02      .083 No_date   28:09   56.26  n/a     .000
12735>        Minor System   \     1.0 03:B3-MN       5.57      .459 No_date   27:52   56.28  n/a     .000
12736>       {MjSysSto=.2270E+03, TotOvfVol=.1279E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
12737> R0050:C00325-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12738>      ADD HYD               1.0 02:B3-MN       5.57      .459 No_date   27:52   56.28  n/a     .000
12739>                         +     1.0 02:315-333     12.31     1.029 No_date   28:33   56.54  n/a     .000
12740>                       SUM=    1.0 01:MH333      17.88     1.488 No_date   28:32   56.46  n/a     .000
12741> R0050:C00326-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12742>      SAVE HYD              1.0 01:MH333      17.88     1.488 No_date   28:32   56.46  n/a     .000
12743>       fname:MH333.0050
12744>       remark:Total Flows at MH333
12745> R0050:C00327-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12746>      ROUTE PIPE      ->     1.0 02:MH333      17.88     1.488 No_date   28:32   56.46  n/a     .000
12747>  *   [RDT= 1.00] out<-     1.0 01:333-335     17.88     1.479 No_date   28:19   56.46  n/a     .000
12748>       [L/S/n=  251./ .100/.013]
12749>       {Vmax= 1.302:Dmax= 1.057}
12750>       {Din= 1.20:Dused= 1.29}
12751> R0050:C00328-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12752>      ROUTE PIPE      ->     1.0 02:333-335     17.88     1.479 No_date   28:19   56.46  n/a     .000
12753>  *   [RDT= 1.00] out<-     1.0 01:335-338     17.88     1.478 No_date   28:16   56.46  n/a     .000
12754>       [L/S/n=  185./ .100/.013]
12755>       {Vmax= 1.300:Dmax= 1.054}
12756>       {Din= 1.20:Dused= 1.28}
12757> R0050:C00329-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12758>      ROUTE PIPE      ->     1.0 02:335-338     17.88     1.478 No_date   28:16   56.46  n/a     .000
12759>       [RDT= 1.00] out<-     1.0 01:338-340     17.88     1.454 No_date   28:18   56.46  n/a     .000
12760>       [L/S/n=  233./ .100/.013]
12761>       {Vmax= 1.330:Dmax=   .979}
12762>       {Din= 1.35:Dused= 1.35}
12763> R0050:C00330-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12764>      CONTINUOUS STANDHYD   1.0 01:B4          7.60     1.094 No_date   28:02   56.26 .690     .000
12765>       [XIMP=.41:TIMP=.54]
12766>       [LOSS= 2 :CN= 75.0]
12767>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12768>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
12769>       [IaREcimp=   4.00: IaRECper=   4.00]
12770>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12771> R0050:C00331-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12772>      COMPUTE DUALHYD       1.0 01:B4          7.60     1.094 No_date   28:02   56.26  n/a     .000
12773>        Major System   /     1.0 02:B4-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12774>        Minor System   \     1.0 03:B4-MN       7.60      .655 No_date   27:53   56.27  n/a     .000
12775>       {MjSysSto=.2780E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12776> R0050:C00332-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12777>      ADD HYD               1.0 02:338-340     17.88     1.454 No_date   28:18   56.46  n/a     .000
12778>                         +     1.0 02:B4-MN       7.60      .655 No_date   27:53   56.27  n/a     .000
12779>                       SUM=    1.0 01:MH340      25.48     2.109 No_date   28:18   56.41  n/a     .000
12780> R0050:C00333-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12781>      SAVE HYD              1.0 01:MH340      25.48     2.109 No_date   28:18   56.41  n/a     .000
12782>       fname:MH340.0050
12783>       remark:Total Flows at MH340
12784> R0050:C00334-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12785>      ROUTE PIPE      ->     1.0 02:MH340      25.48     2.109 No_date   28:18   56.41  n/a     .000
12786>       [RDT= 1.00] out<-     1.0 01:340-104     25.48     2.090 No_date   28:18   56.41  n/a     .000
12787>       [L/S/n=  240./ .150/.013]
12788>       {Vmax= 1.723:Dmax=   .918}
12789>       {Din= 1.65:Dused= 1.65}
12790> R0050:C00335-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12791>      ADD HYD               1.0 02:340-104     25.48     2.090 No_date   28:18   56.41  n/a     .000
12792>                         +     1.0 02:MH104      105.04     9.444 No_date   28:04   56.49  n/a     .000
12793>                       SUM=    1.0 01:MH104T     130.52    11.391 No_date   28:07   56.48  n/a     .000
12794> R0050:C00336-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12795>      ROUTE PIPE      ->     1.0 02:MH104T     130.52    11.391 No_date   28:07   56.48  n/a     .000
12796>  *   [RDT= 1.00] out<-     1.0 01:104-105     130.52    11.118 No_date   28:10   56.48  n/a     .000
12797>       [L/S/n=  380./ .100/.013]
12798>       {Vmax= 2.107:Dmax= 2.003}
12799>       {HGT= 2.36:WDTH= 2.70}
12800> R0050:C00337-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12801>      CONTINUOUS STANDHYD   1.0 01:B5          2.20      .390 No_date   28:00   60.29 .740     .000
12802>       [XIMP=.57:TIMP=.57]
12803>       [LOSS= 2 :CN= 75.0]
12804>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12805>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
12806>       [IaREcimp=   4.00: IaRECper=   4.00]
12807>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12808> R0050:C00338-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12809>      COMPUTE DUALHYD       1.0 01:B5          2.20      .390 No_date   28:00   60.29  n/a     .000
12810>        Major System   /     1.0 02:B5-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12811>        Minor System   \     1.0 03:B5-MN       2.20      .260 No_date   27:53   60.60  n/a     .000
12812>       {MjSysSto=.5913E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12813> R0050:C00339-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12814>      CONTINUOUS STANDHYD   1.0 01:A8           .96      .198 No_date   28:00   66.69 .818     .000
12815>       [XIMP=.71:TIMP=.71]
12816>       [LOSS= 2 :CN= 75.0]
12817>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12818>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
12819>       [IaREcimp=   4.00: IaRECper=   4.00]
12820>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12821> R0050:C00340-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12822>      ADD HYD               1.0 02:A8-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12823>                         +     1.0 02:A8           .96      .198 No_date   28:00   66.69  n/a     .000
12824>                       SUM=    1.0 01:ABT          .96      .198 No_date   28:00   66.69  n/a     .000
12825> R0050:C00341-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12826>      COMPUTE DUALHYD       1.0 01:ABT          .96      .198 No_date   28:00   66.69  n/a     .000
12827>        Major System   /     1.0 02:A8-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12828>        Minor System   \     1.0 03:A8-MN        .96      .198 No_date   28:00   66.69  n/a     .000
12829>       {MjSysSto=.6000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12830> R0050:C00342-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12831>      ADD HYD               1.0 02:104-105     130.52    11.118 No_date   28:10   56.48  n/a     .000
12832>                         +     1.0 02:B5-MN       2.20      .260 No_date   27:53   60.60  n/a     .000
12833>                         +     1.0 02:A8-MN        .96      .198 No_date   28:00   66.69  n/a     .000
12834>                         +     1.0 02:TODD_MNJ     .00      .006 No_date   28:00   60.13  n/a     .000
12835>                       SUM=    1.0 01:MH105      133.68    11.441 No_date   28:10   56.62  n/a     .000
12836> R0050:C00343-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12837>      SAVE HYD              1.0 01:MH105      133.68    11.441 No_date   28:10   56.62  n/a     .000
12838>       fname:MH105.0050
12839>       remark:Total Flows at MH105
12840> R0050:C00344-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12841>  *  DIVERT HYD           ->     1.0 01:A8-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12842>           diverted <=     1.0 02:A8-MJ-JR      .00      .000 No_date    0:00     .00  n/a     .000
12843>           diverted <=     1.0 03:A8-MJ-B6      .00      .000 No_date    0:00     .00  n/a     .000
12844> R0050:C00345-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12845>      DIVERT HYD           ->     1.0 01:MH105      133.68    11.441 No_date   28:10   56.62  n/a     .000
12846>           diverted <=     1.0 02:MH105-JR     35.42     8.432 No_date   28:10   56.62  n/a     .000
12847>           diverted <=     1.0 03:MH105-B6     98.26     3.009 No_date   28:10   56.62  n/a     .000
12848> R0050:C00346-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12849>      CONTINUOUS STANDHYD   1.0 01:B7          7.19     1.124 No_date   28:01   56.26 .690     .000
12850>       [XIMP=.41:TIMP=.54]
12851>       [LOSS= 2 :CN= 75.0]
12852>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12853>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
12854>       [IaREcimp=   4.00: IaRECper=   4.00]
12855>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12856> R0050:C00347-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12857>      ADD HYD               1.0 02:B4-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12858>                         +     1.0 02:B7           7.19     1.124 No_date   28:01   56.26  n/a     .000
12859>                       SUM=    1.0 01:B7-B4MJ      7.19     1.124 No_date   28:01   56.26  n/a     .000
12860> R0050:C00348-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12861>      COMPUTE DUALHYD       1.0 01:B7-B4MJ      7.19     1.124 No_date   28:01   56.26  n/a     .000
12862>        Major System   /     1.0 02:B7-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12863>        Minor System   \     1.0 03:B7R-MN       7.19      .629 No_date   27:51   56.37  n/a     .000
12864>       {MjSysSto=.2888E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12865> R0050:C00349-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12866>      ROUTE PIPE      ->     1.0 02:B7R-MN       7.19      .629 No_date   27:51   56.37  n/a     .000
12867>  *   [RDT= 1.00] out<-     1.0 01:360-106A     7.19      .629 No_date   28:28   56.37  n/a     .000
12868>       [L/S/n=  167./ .100/.013]
12869>       {Vmax= 1.089:Dmax=   .665}
12870>       {Din= 1.05:Dused= 1.05}
12871> R0050:C00350-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12872>      CONTINUOUS STANDHYD   1.0 01:B6          3.29      .535 No_date   28:00   56.26 .690     .000
12873>       [XIMP=.41:TIMP=.54]
12874>       [LOSS= 2 :CN= 75.0]
12875>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12876>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
12877>       [IaREcimp=   4.00: IaRECper=   4.00]
12878>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12879> R0050:C00351-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12880>      COMPUTE DUALHYD       1.0 01:B6          3.29      .535 No_date   28:00   56.26  n/a     .000
12881>        Major System   /     1.0 02:B6-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12882>        Minor System   \     1.0 03:B6-MN        3.29      .064 No_date   27:33   56.32  n/a     .000
12883>       {MjSysSto=.6238E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12884> R0050:C00352-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12885>      CONTINUOUS STANDHYD   1.0 01:EX-LAND     32.50     4.637 No_date   28:02   56.33 .691     .000
12886>       [XIMP=.50:TIMP=.50]
12887>       [LOSS= 2 :CN= 74.0]
12888>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12889>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
12890>       [IaREcimp=   4.00: IaRECper=   4.00]
12891>       [SMIN= 36.67: SMAX=244.49: SK= .010]
12892> R0050:C00353-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12893>      COMPUTE DUALHYD       1.0 01:EX-LAND     32.50     4.637 No_date   28:02   56.33  n/a     .000
12894>        Major System   /     1.0 02:EX-LAND-MJ     .76     1.533 No_date   28:06   56.33  n/a     .000
12895>        Minor System   \     1.0 03:EX-LAND-MN    31.74     2.275 No_date   27:49   56.55  n/a     .000
12896>       {MjSysSto=.1365E+04, TotOvfVol=.4274E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
12897> R0050:C00354-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12898>      ADD HYD               1.0 02:B7R-MJ       .00      .000 No_date    0:00     .00  n/a     .000
12899>                         +     1.0 02:EX-LAND-MJ     .76     1.533 No_date   28:06   56.33  n/a     .000
12900>                         +     1.0 02:B5-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12901>                         +     1.0 02:B6-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12902>                         +     1.0 02:B6-MN       3.29      .064 No_date   27:33   56.32  n/a     .000
12903>                         +     1.0 02:A8-MJ-B6     .00      .000 No_date    0:00     .00  n/a     .000
12904>                       SUM=    1.0 01:B6-B7ExMJ    4.05     1.597 No_date   28:06   56.32  n/a     .000
12905> R0050:C00355-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12906>      COMPUTE DUALHYD       1.0 01:B6-B7ExMJ    4.05     1.597 No_date   28:06   56.32  n/a     .000
12907>        Major System   /     1.0 02:B6R-MJ       .00      .000 No_date    0:00     .00  n/a     .000
12908>        Minor System   \     1.0 03:B6R-MN       4.05      .064 No_date   27:33   56.36  n/a     .000
12909>       {MjSysSto=.427E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12910> R0050:C00356-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12911>      ROUTE PIPE      ->     1.0 02:MH105-B6     98.26     3.009 No_date   28:10   56.62  n/a     .000
12912>       [RDT= 1.00] out<-     1.0 01:105-106A     98.26     3.009 No_date   28:07   56.62  n/a     .000
12913>       [L/S/n=  208./ .100/.013]
12914>       {Vmax= 1.597:Dmax= 1.249}
12915>       {Din= 1.80:Dused= 1.80}
12916> R0050:C00357-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12917>      ADD HYD               1.0 02:360-106A      7.19      .629 No_date   28:28   56.37  n/a     .000
12918>                         +     1.0 02:105-106A     98.26     3.009 No_date   28:07   56.62  n/a     .000
12919>                         +     1.0 02:B6R-MN       4.05      .064 No_date   27:33   56.36  n/a     .000
12920>                         +     1.0 02:B6R-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12921>                       SUM=    1.0 01:MH106A      109.50     3.701 No_date   28:10   56.59  n/a     .000
12922> R0050:C00358-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12923>      SAVE HYD              1.0 01:MH106A      109.50     3.701 No_date   28:10   56.59  n/a     .000
12924>       fname:MH106A.0050
12925>       remark:Total Flows at MH106A
12926> R0050:C00359-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12927>      ROUTE PIPE      ->     1.0 02:MH106A      109.50     3.701 No_date   28:10   56.59  n/a     .000
12928>  *   [RDT= 1.00] out<-     1.0 01:106A-106     109.50     3.702 No_date   27:59   56.59  n/a     .000
12929>       [L/S/n=  190./ .100/.013]
12930>       {Vmax= 1.635:Dmax= 1.487}
12931>       {Din= 1.80:Dused= 1.81}
12932> R0050:C00360-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12933>      CONTINUOUS STANDHYD   1.0 01:A9          2.44      .481 No_date   28:00   66.69 .818     .000
12934>       [XIMP=.71:TIMP=.71]
12935>       [LOSS= 2 :CN= 75.0]
12936>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12937>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
12938>       [IaREcimp=   4.00: IaRECper=   4.00]
12939>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12940> R0050:C00361-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12941>      COMPUTE DUALHYD       1.0 01:A9          2.44      .481 No_date   28:00   66.69  n/a     .000
12942>        Major System   /     1.0 02:A9-MJ        .00      .000 No_date    0:00     .00  n/a     .000
12943>        Minor System   \     1.0 03:A9-MN        2.44      .481 No_date   28:00   66.69  n/a     .000
12944> R0050:C00362-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12945>      ADD HYD               1.0 02:106A-106     109.50     3.702 No_date   27:59   56.59  n/a     .000
12946>                         +     1.0 02:A9-MN        2.44      .481 No_date   28:00   66.69  n/a     .000
12947>                       SUM=    1.0 01:MH106      111.94     4.177 No_date   28:00   56.81  n/a     .000
12948> R0050:C00363-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12949>      SAVE HYD              1.0 01:MH106      111.94     4.177 No_date   28:00   56.81  n/a     .000
12950>       fname:MH106.0050
12951>       remark:Total Flows at MH106
12952> R0050:C00364-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12953>      ROUTE PIPE      ->     1.0 02:MH106      111.94     4.177 No_date   28:00   56.81  n/a     .000
12954>  *   [RDT= 1.00] out<-     1.0 01:106-107     111.94     4.129 No_date   28:00   56.81  n/a     .000
12955>       [L/S/n=  123./ .100/.013]
12956>       {Vmax= 1.685:Dmax= 1.556}
12957>       {Din= 1.80:Dused= 1.80}
12958> R0050:C00365-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12959>      CONTINUOUS STANDHYD   1.0 01:A10          4.14      .602 No_date   28:01   53.20 .653     .000
12960>       [XIMP=.35:TIMP=.47]
12961>       [LOSS= 2 :CN= 75.0]
12962>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12963>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
12964>       [IaREcimp=   4.00: IaRECper=   4.00]
12965>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12966> R0050:C00366-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12967>      COMPUTE DUALHYD       1.0 01:A10          4.14      .602 No_date   28:01   53.20  n/a     .000
12968>        Major System   /     1.0 02:A10-MJ       .00      .000 No_date    0:00     .00  n/a     .000
12969>        Minor System   \     1.0 03:A10-MN       4.14      .310 No_date   27:50   53.25  n/a     .000
12970>       {MjSysSto=.1897E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12971> R0050:C00367-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12972>      CONTINUOUS STANDHYD   1.0 01:A11         10.61     1.720 No_date   28:02   60.69 .745     .000
12973>       [XIMP=.53:TIMP=.62]
12974>       [LOSS= 2 :CN= 75.0]
12975>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12976>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
12977>       [IaREcimp=   4.00: IaRECper=   4.00]
12978>       [SMIN= 33.81: SMAX=225.43: SK= .010]
12979> R0050:C00368-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12980>      COMPUTE DUALHYD       1.0 01:A11         10.61     1.720 No_date   28:02   60.69  n/a     .000
12981>        Major System   /     1.0 02:A11-MJ       .00      .000 No_date    0:00     .00  n/a     .000
12982>        Minor System   \     1.0 03:A11-MN      10.61      .993 No_date   27:52   60.86  n/a     .000
12983>       {MjSysSto=.4540E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12984> R0050:C00369-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12985>      ADD HYD               1.0 02:106-107     111.94     4.129 No_date   28:00   56.81  n/a     .000
12986>                         +     1.0 02:A10-MN       4.14      .310 No_date   27:50   53.25  n/a     .000
12987>                         +     1.0 02:A11-MN      10.61      .993 No_date   27:52   60.86  n/a     .000
12988>                       SUM=    1.0 01:MH107      126.69     5.432 No_date   28:00   57.03  n/a     .000
12989> R0050:C00370-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12990>      SAVE HYD              1.0 01:MH107      126.69     5.432 No_date   28:00   57.03  n/a     .000
12991>       fname:MH107.0050
12992>       remark:Total Flows at MH107
12993> R0050:C00371-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12994>      ROUTE PIPE      ->     1.0 02:MH107      126.69     5.432 No_date   28:00   57.03  n/a     .000
12995>  *   [RDT= 1.00] out<-     1.0 01:107-119     126.69     5.345 No_date   28:00   57.03  n/a     .000
12996>       [L/S/n=  114./ .120/.013]
12997>       {Vmax= 1.927:Dmax= 1.666}
12998>       {Din= 1.80:Dused= 2.02}
12999> R0050:C00372-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13000>      ROUTE PIPE      ->     1.0 02:107-119     126.69     5.345 No_date   28:00   57.03  n/a     .000
13001>  *   [RDT= 1.00] out<-     1.0 01:119-108     126.69     5.334 No_date   28:01   57.03  n/a     .000
13002>       [L/S/n=   66./ .120/.013]
13003>       {Vmax= 1.919:Dmax= 1.650}
13004>       {Din= 1.80:Dused= 2.01}
13005> R0050:C00373-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13006>      CONTINUOUS STANDHYD   1.0 01:A12         12.29     1.938 No_date   28:01   56.26 .690     .000
13007>       [XIMP=.41:TIMP=.54]
13008>       [LOSS= 2 :CN= 75.0]
13009>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13010>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
13011>       [IaREcimp=   4.00: IaRECper=   4.00]
13012>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13013> R0050:C00374-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13014>      COMPUTE DUALHYD       1.0 01:A12         12.29     1.938 No_date   28:01   56.26  n/a     .000
13015>        Major System   /     1.0 02:A12-MJ       .00      .000 No_date    0:00     .00  n/a     .000
13016>        Minor System   \     1.0 03:A12-MN      12.29     1.029 No_date   27:50   56.44  n/a     .000
13017>       {MjSysSto=.5545E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13018> R0050:C00375-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13019>      CONTINUOUS STANDHYD   1.0 01:A13          2.59      .487 No_date   28:01   66.69 .818     .000
13020>       [XIMP=.71:TIMP=.71]
13021>       [LOSS= 2 :CN= 75.0]
13022>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13023>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
13024>       [IaREcimp=   4.00: IaRECper=   4.00]
13025>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13026> R0050:C00376-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13027>      COMPUTE DUALHYD       1.0 01:A13          2.59      .487 No_date   28:01   66.69  n/a     .000
13028>        Major System   /     1.0 02:A13-MJ       .00      .000 No_date    0:00     .00  n/a     .000
13029>        Minor System   \     1.0 03:A13-MN       2.59      .487 No_date   28:01   66.69  n/a     .000
13030> R0050:C00377-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13031>      CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94      .438 No_date   28:00   53.21 .653     .000
13032>       [XIMP=.41:TIMP=.41]
13033>       [LOSS= 2 :CN= 75.0]
13034>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13035>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
13036>       [IaREcimp=   4.00: IaRECper=   4.00]
13037>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13038> R0050:C00378-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13039>      ADD HYD               1.0 02:119-108     126.69     5.334 No_date   28:01   57.03  n/a     .000
13040>                         +     1.0 02:A13-MN       2.59      .487 No_date   28:01   66.69  n/a     .000
13041>                         +     1.0 02:A12-MN      12.29     1.029 No_date   27:50   56.44  n/a     .000
13042>                       SUM=    1.0 01:MH108      141.57     6.850 No_date   28:01   57.16  n/a     .000
13043> R0050:C00379-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13044>      SAVE HYD              1.0 01:MH108      141.57     6.850 No_date   28:01   57.16  n/a     .000
13045>       fname:MH108.0050
13046>       remark:Total Flows at MH108
13047> R0050:C00380-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13048>      ROUTE PIPE      ->     1.0 02:MH108      141.57     6.850 No_date   28:01   57.16  n/a     .000
13049>  *   [RDT= 1.00] out<-     1.0 01:108-116     141.57     6.810 No_date   28:02   57.16  n/a     .000
13050>       [L/S/n=   77./ .130/.013]
13051>       {Vmax= 2.104:Dmax= 1.784}
13052>       {Din= 1.80:Dused= 2.17}
13053> R0050:C00381-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13054>      ROUTE PIPE      ->     1.0 02:108-116     141.57     6.810 No_date   28:02   57.16  n/a     .000
13055>  *   [RDT= 1.00] out<-     1.0 01:116-corrig   141.57     6.771 No_date   28:02   57.16  n/a     .000
13056>       [L/S/n=  80./ .130/.013]
13057>       {Vmax= 2.101:Dmax= 1.780}
13058>       {Din= 1.80:Dused= 2.17}
13059> R0050:C00382-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13060>      ADD HYD               1.0 02:116-corrig   141.57     6.771 No_date   28:02   57.16  n/a     .000
13061>                         +     1.0 02:Pond-Block    2.94      .438 No_date   28:00   53.21  n/a     .000
13062>                       SUM=    1.0 01:Corrigan     144.51     7.185 No_date   28:02   57.08  n/a     .000
13063> R0050:
```

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13091> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
13092> #*************************************************************************
13093> #
13094> # Hydrograph from Corrigan Drain routed to Jockvale Road
13095> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
13096> #
13097> R0050:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13098>      ROUTE CHANNEL   ->     1.0 02:corrig      55019.59  126.926 No_date   36:27   34.22  n/a      .000
13099>        [RDT= 1.00] out<-    1.0 01:N_MI        55019.59  126.908 No_date   36:31   34.22  n/a      .000
13100>         [L/S/n=  580./ .445/.045]
13101>         {Vmax= 2.065:Dmax= 1.981}
13102> #*************************************************************************
13103> #    Catchment MILLS
13104> #    - To SWM Facility north of the Jock
13105> #    - Primarily residential development
13106> #*************************************************************************
13107> R0050:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13108>      CONTINUOUS STANDHYD    1.0 01:MILLS        175.99   17.756 No_date   28:06   50.66 .622     .000
13109>         [XIMP=.38:TIMP=.38]
13110>         [LOSS= 2 :CN= 74.0]
13111>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13112>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
13113>         [IaRECimp=   4.00: IaRECper=   4.00]
13114>         [SMIN= 36.67: SMAX=244.49: SK= .010]
13115> #*************************************************************************
13116> #    Chapman Mills SWM Pond
13117> #    - Rating curve obtained from CCL hydraulic modeling
13118> #*************************************************************************
13119> R0050:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13120>      ROUTE RESERVOIR ->     1.0 02:MILLS        175.99   17.756 No_date   28:06   50.66  n/a      .000
13121>                   out <=    1.0 01:MILL_P       153.87    4.050 No_date   28:11   50.66  n/a      .000
13122>              overflow <=    1.0 03:MIL-OV        22.12   12.440 No_date   28:11   50.66  n/a      .000
13123>         {MxStOUsed=  .2310E+01  m3, TotOutVol=.1121E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
13124> R0050:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13125>      ADD HYD                1.0 02:N_MI        55019.59  126.908 No_date   36:31   34.22  n/a      .000
13126>                        +     1.0 02:MIL-OV        22.12   12.440 No_date   28:11   50.66  n/a      .000
13127>                        +     1.0 02:MILL_P       153.87    4.050 No_date   28:11   50.66  n/a      .000
13128>                       SUM=   1.0 01:SN_MI      55195.58  127.533 No_date   36:30   34.27  n/a      .000
13129> R0050:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13130>      SAVE HYD               1.0 01:SN_MI       55195.58  127.533 No_date   36:30   34.27  n/a      .000
13131>         fname :SN_MI 0050
13132>         remark:Total Flows at Jockvale Road
13133> #
13134> # Hydrograph from Jockvale Road routed to Heart's Desire
13135> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
13136> #
13137> R0050:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13138>      ROUTE CHANNEL   ->     1.0 02:SN_MI       55195.58  127.533 No_date   36:30   34.27  n/a      .000
13139>        [RDT= 1.00] out<-    1.0 01:N_DE        55195.58  127.235 No_date   36:43   34.27  n/a      .000
13140>         [L/S/n= 1962./ .223/.045]
13141>         {Vmax= 1.577:Dmax= 2.490}
13142> #*************************************************************************
13143> #    Catchment DESIRE
13144> #    - To Jock River (north of the Jock)
13145> #    - Rural-estate subdivision (Heart's Desire Community)
13146> #*************************************************************************
13147> R0050:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13148>      CONTINUOUS STANDHYD    1.0 01:DESIRE        23.78    2.563 No_date   28:03   46.85 .575     .000
13149>         [XIMP=.25:TIMP=.25]
13150>         [LOSS= 2 :CN= 77.0]
13151>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13152>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
13153>         [IaRECimp=   4.00: IaRECper=   4.00]
13154>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13155> #*************************************************************************
13156> #    Catchment JOCKVA
13157> #    - To Jockvale SWM Facility
13158> #    - Residential development & golf course
13159> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
13160> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
13161> #*************************************************************************
13162> R0050:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13163>      CONTINUOUS STANDHYD    1.0 01:JOCKVA       225.13   25.253 No_date   28:07   56.33 .691     .000
13164>         [XIMP=.50:TIMP=.50]
13165>         [LOSS= 2 :CN= 74.0]
13166>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13167>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
13168>         [IaRECimp=   4.00: IaRECper=   4.00]
13169>         [SMIN= 36.67: SMAX=244.49: SK= .010]
13170> R0050:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13171>      ADD HYD                1.0 02:EX-LAND-MN    31.74    2.275 No_date   27:49   56.55  n/a      .000
13172>                        +     1.0 02:JOCKVA       225.13   25.253 No_date   28:07   56.33  n/a      .000
13173>                        +     1.0 02:B2-MJ           .00     .000 No_date   0:00     .00  n/a      .000
13174>                        +     1.0 02:B3-MJ           .02     .083 No_date   28:09   56.26  n/a      .000
13175>                       SUM=   1.0 01:JOCKVA-TO   256.89   27.528 No_date   28:07   56.36  n/a      .000
13176> R0050:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13177>      SAVE HYD               1.0 01:JOCKVA-TO   256.89   27.528 No_date   28:07   56.36  n/a      .000
13178>         fname :JOCKVA-TO.0050
13179>         remark:Total Flows at KB first pond
13180> #*************************************************************************
13181> #    Jockvale SWM Facility
13182> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
13183> #*************************************************************************
13184> R0050:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13185>      ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO   256.89   27.528 No_date   28:07   56.36  n/a      .000
13186>                   out <=    1.0 01:JOCK_P       256.89   10.991 No_date   28:38   56.36  n/a      .000
13187>              overflow <=    1.0 03:JO-OVF          .00     .000 No_date   0:00      .00  n/a      .000
13188>         {MxStOUsed=  .5928E+01  m3, TotOutVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13189> R0050:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13190>      ADD HYD                1.0 02:N_DE        55195.58  127.235 No_date   36:43   34.27  n/a      .000
13191>                        +     1.0 02:DESIRE        23.78    2.563 No_date   28:03   46.85  n/a      .000
13192>                        +     1.0 02:JO-OVF          .00     .000 No_date   0:00      .00  n/a      .000
13193>                        +     1.0 02:JOCK_P       256.89   10.991 No_date   28:38   56.36  n/a      .000
13194>                       SUM=   1.0 01:SN_DE      55476.26  128.174 No_date   36:42   34.38  n/a      .000
13195> R0050:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13196>      SAVE HYD               1.0 01:SN_DE       55476.26  128.174 No_date   36:42   34.38  n/a      .000
13197>         fname :SN_DE.0050
13198>         remark:Total Flows at Heart's Desire
13199> #
13200> # Hydrograph from Heart's Desire routed to Rideau River
13201> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
13202> #
13203> R0050:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13204>      ROUTE CHANNEL   ->     1.0 02:SN_DE       55476.26  128.174 No_date   36:42   34.38  n/a      .000
13205>        [RDT= 1.00] out<-    1.0 01:N1          55476.26  128.160 No_date   36:45   34.38  n/a      .000
13206>         [L/S/n=  563./ .967/.045]
13207>         {Vmax= 2.123:Dmax= 1.248}
13208> #*************************************************************************
13209> #    Catchment S-2
13210> #    - To Jock River (north and south)
13211> #    - Undeveloped floodplain and river
13212> #*************************************************************************
13213> R0050:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13214>      CONTINUOUS NASHYD      1.0 01:S-2         102.94    4.795 No_date   28:20   35.39 .434     .000
13215>         [CN= 72.0: N= 3.00: Tp=  .40]
13216>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13217>         [InterEventTime=  12.00]
13218> R0050:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13219>      ADD HYD                1.0 02:N1          55476.26  128.160 No_date   36:45   34.38  n/a      .000
13220>                        +     1.0 02:S-2         102.94    4.795 No_date   28:20   35.39  n/a      .000
13221>                       SUM=   1.0 01:SN_N1      55579.20  128.417 No_date   36:44   34.38  n/a      .000
13222> R0050:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13223>      SAVE HYD               1.0 01:SN_N1       55579.20  128.417 No_date   36:44   34.38  n/a      .000
13224>         fname :SN_N1.0050
13225>         remark:Total Flows at Rideau River
13226> ##########################################################################
13227>  ** END OF RUN :   99
13228>
13229> ****************************************************************************************************
13230>
13231>
13232>
13233>
13234>
13235>  RUN#:COMMAND#
13236> R0100:C00001------------------------------------------------------------------------------------------
13237>      START
13238>         [TZERO =    .00 hrs on        0]
13239>         [METOUT=   2   (1=imperial, 2=metric output)]
13240>         [NSTORM=   1 ]
13241>         [NRUN   = 0100 ]
13242> #*************************************************************************
13243> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
13244> #*************************************************************************
13245> #  Project Name: [Jock River]     Project Number: [1474-16]
13246> #  Date        : 04-03-2021
13247> #  Modeller    : [M.M.]
13248> #  Company     : JFSAinc.
13249> #  License #   : 2549237
13250> #*************************************************************************
13251> # CALIBRATION OF SUMMER MODEL PARAMETERS
13252> # USING CONTINUOUS SIMULATIONS
13253> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
13254> # Use data collected from May 1st to July 14, 2003
13255> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
13256> # 2020-12-01 correct pond curve values
13257> # 2021-02-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
13258> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
13259> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
13260> #
13261> R0100:C00002------------------------------------------------------------------------------------------
13262>      READ STORM
13263>         Filename = storm.001
13264>         Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
13265>         [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
13266> R0100:C00003------------------------------------------------------------------------------------------
13267>      MODIFY STORM
13268>         [RFACT=  1.00:TSHIFT= 960.00 min]
13269>         [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
13270> R0100:C00004------------------------------------------------------------------------------------------
13271>      DEFAULT VALUES
13272>         Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
13273>         ICASEdv  = 1 (read and print data)
13274>         FileTitle= File comment: [Based onvarious calibration exercises in Onta
13275>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
13276>         Horton's infiltration equation parameters:
13277>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
13278>         Parameters for PERVIOUS surfaces in STANDHYD:
13279>         [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
13280>         Parameters for IMPERVIOUS surfaces in STANDHYD:
13281>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
13282>         Parameters used in NASHYD:
13283>         [Ia=   4.67 mm] [N= 3.00]
13284>         Average monthly Pan Evaporation data in    (mm)
13285>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
13286>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
13287>         Average monthly Potential Evapotranspiration in    (mm)
13288>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
13289>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
13290> R0100:C00005------------------------------------------------------------------------------------------
13291>      COMPUTE API
13292>         [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
13293>         {APImax=119.84: APIavg= 69.19: APImin= 44.87}
13294> #
13295> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13296> # of 1.32
13297> R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13298>      CONTINUOUS NASHYD      1.0 01:JR_HW       3680.00   21.616 No_date   36:52   35.18 .397     .000
13299>         [CN= 64.0: N= 3.00: Tp= 7.13]
13300>         [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
13301>         [InterEventTime=  12.00]
13302> #
13303> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13304> # of 1.32
13305> R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13306>      CONTINUOUS NASHYD      1.0 01:SW_13        971.00    8.203 No_date   32:33   32.84 .371     .000
13307>         [CN= 61.0: N= 3.00: Tp= 3.76]
13308>         [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
13309>         [InterEventTime=  12.00]
13310> #
13311> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13312> # of 1.80
13313> R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13314>      CONTINUOUS NASHYD      1.0 01:JR_GWM      3074.00   10.428 No_date   39:59   28.29 .319     .000
13315>         [CN= 55.0: N= 3.00: Tp=11.33]
13316>         [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
13317>         [InterEventTime=  12.00]
13318> R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13319>      CONTINUOUS NASHYD      1.0 01:JR_ASH      1781.00   19.695 No_date   32:38   42.49 .480     .000
13320>         [CN= 72.0: N= 3.00: Tp= 3.91]
13321>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13322>         [InterEventTime=  12.00]
13323> R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13324>      CONTINUOUS NASHYD      1.0 01:SW_11        500.00   10.735 No_date   29:21   36.76 .415     .000
13325>         [CN= 66.0: N= 3.00: Tp= 1.24]
13326>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13327>         [InterEventTime=  12.00]
13328> #
13329> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13330> # of 1.80
13331> R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13332>      CONTINUOUS NASHYD      1.0 01:NN_CK       1917.00   14.496 No_date   34:24   36.76 .415     .000
13333>         [CN= 66.0: N= 3.00: Tp= 5.29]
13334>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13335>         [InterEventTime=  12.00]
13336> #
13337> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13338> # of 1.52
13339> R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13340>      CONTINUOUS NASHYD      1.0 01:SW_10       5666.00   37.663 No_date   37:48   42.49 .480     .000
13341>         [CN= 72.0: N= 3.00: Tp= 8.00]
13342>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13343>         [InterEventTime=  12.00]
13344> #
13345> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13346> # of 1.75
13347> R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13348>      CONTINUOUS NASHYD      1.0 01:KG_CK       8376.00   36.118 No_date   39:59   36.76 .415     .000
13349>         [CN= 66.0: N= 3.00: Tp=11.66]
13350>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13351>         [InterEventTime=  12.00]
13352> #
13353> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13354> # of 1.68
13355> R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13356>      CONTINUOUS NASHYD      1.0 01:SW_9        1132.00   16.501 No_date   30:52   40.82 .461     .000
13357>         [CN= 70.0: N= 3.00: Tp= 2.51]
13358>         [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
13359>         [InterEventTime=  12.00]
13360> #
13361> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13362> # of 1.82
13363> R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13364>      CONTINUOUS NASHYD      1.0 01:NC_CK       4464.00   18.060 No_date   39:59   33.61 .380     .000
13365>         [CN= 62.0: N= 3.00: Tp=11.32]
13366>         [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
13367>         [InterEventTime=  12.00]
13368> #
13369> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13370> # of 1.80
13371> R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13372>      CONTINUOUS NASHYD      1.0 01:SW_8         131.00    3.259 No_date   28:57   34.39 .388     .000
13373>         [CN= 63.0: N= 3.00: Tp=  .90]
13374>         [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
13375>         [InterEventTime=  12.00]
13376> #
13377> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13378> # of 1.65
13379> R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13380>      CONTINUOUS NASHYD      1.0 01:HB_DR       3854.00   21.238 No_date   38:28   36.76 .415     .000
13381>         [CN= 66.0: N= 3.00: Tp= 4.62]
13382>         [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
13383>         [InterEventTime=  12.00]
13384> #
13385> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13386> # of 1.82
13387> R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13388>      CONTINUOUS NASHYD      1.0 01:SW_7        3197.00   16.421 No_date   36:21   29.79 .336     .000
13389>         [CN= 57.0: N= 3.00: Tp= 6.65]
13390>         [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
13391>         [InterEventTime=  12.00]
13392> #
13393> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13394> # of 1.75
13395> R0100:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13396>      CONTINUOUS NASHYD      1.0 01:SW_6         165.00    1.511 No_date   33:01   37.57 .424     .000
13397>         [CN= 67.0: N= 3.00: Tp= 4.18]
13398>         [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
13399>         [InterEventTime=  12.00]
13400> #
13401> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13402> # of 1.67
13403> R0100:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13404>      CONTINUOUS NASHYD      1.0 01:VG_DR       1332.00   10.882 No_date   35:10   42.49 .480     .000
13405>         [CN= 72.0: N= 3.00: Tp= 5.95]
13406>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13407>         [InterEventTime=  12.00]
13408> R0100:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13409>      CONTINUOUS NASHYD      1.0 01:SW_5         224.00    9.576 No_date   28:44   47.62 .538     .000
13410>         [CN= 77.0: N= 3.00: Tp=  .75]
13411>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13412>         [InterEventTime=  12.00]
13413> #
13414> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13415> # of 1.20
13416> R0100:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13417>      CONTINUOUS NASHYD      1.0 01:FL_CK       4945.00   52.056 No_date   33:16   44.17 .499     .000
13418>         [CN= 74.0: N= 3.00: Tp= 4.45]
13419>         [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
13420>         [InterEventTime=  12.00]
13421> R0100:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13422>      CONTINUOUS NASHYD      1.0 01:SW_5A2        20.00    1.097 No_date   28:35   52.06 .588     .000
13423>         [CN= 81.0: N= 3.00: Tp=  .62]
13424>         [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13425>         [InterEventTime=  12.00]
13426> #
13427> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
13428> # of 1.61
13429> R0100:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13430>      CONTINUOUS NASHYD      1.0 01:SW_5A1      1412.00   10.184 No_date   37:44   45.88 .518     .000
13431>         [CN= 75.0: N= 3.00: Tp= 8.00]
13432>         [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
13433>         [InterEventTime=  12.00]
13434> R0100:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13435>      CONTINUOUS NASHYD      1.0 01:SW_4         585.00   14.953 No_date   29:55   52.06 .588     .000
13436>         [CN= 81.0: N= 3.00: Tp= 1.75]
13437>         [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13438>         [InterEventTime=  12.00]
13439> R0100:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13440>      CONTINUOUS NASHYD      1.0 01:LM_CK       1021.00   19.782 No_date   30:45   51.16 .578     .000
13441>         [CN= 80.0: N= 3.00: Tp= 2.46]
13442>         [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
13443>         [InterEventTime=  12.00]
13444> R0100:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13445>      CONTINUOUS NASHYD      1.0 01:SW_2         177.00    7.567 No_date   28:44   47.62 .538     .000
13446>         [CN= 77.0: N= 3.00: Tp=  .75]
13447>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13448>         [InterEventTime=  12.00]
13449> R0100:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13450>      CONTINUOUS NASHYD      1.0 01:SM_DR       1122.00   17.981 No_date   31:42   52.06 .588     .000
13451>         [CN= 81.0: N= 3.00: Tp= 3.25]
13452>         [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
13453>         [InterEventTime=  12.00]
13454> R0100:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13455>      CONTINUOUS NASHYD      1.0 01:MO_DR       2737.00   40.730 No_date   31:28   46.75 .528     .000
13456>         [CN= 76.0: N= 3.00: Tp= 3.03]
13457>         [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
13458>         [InterEventTime=  12.00]
13459> #
13460> # Routing hydrographs
13461> #
13462> # Starting with the addition of Jock River Headwater and Subwatershed 13
13463> #
13464> R0100:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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13465>     ADD HYD                1.0 02:JR_HW       3680.00   21.616 No_date   36:52   35.18  n/a     .000
13466>                       +    1.0 02:SW_13        971.00    8.203 No_date   32:33   32.84  n/a     .000
13467>                  SUM=      1.0 01:S_N13       4651.00   27.660 No_date   35:21   34.69  n/a     .000
13468> #
13469> # Sum of hydrographs from Node 13 routed to Node 13A
13470> # (Approximated cross-section - see cross-section 258)
13471> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
13472> #
13473> R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13474>     ROUTE CHANNEL   ->     1.0 02:S_N13       4651.00   27.660 No_date   35:21   34.69  n/a     .000
13475>       [RDT= 1.00] out<-    1.0 01:N13A        4651.00   22.598 No_date   38:56   34.69  n/a     .000
13476>         [L/S/n= 9674./ .022/.040]
13477>         {Vmax=  .598:Dmax= 4.178}
13478> #
13479> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
13480> #
13481> R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13482>     ADD HYD                1.0 02:N13A        4651.00   22.598 No_date   38:56   34.69  n/a     .000
13483>                       +    1.0 02:JR_GWM      3074.00   10.428 No_date   39:59   28.29  n/a     .000
13484>                  SUM=      1.0 01:SN13A       7725.00   32.845 No_date   39:44   32.14  n/a     .000
13485> #
13486> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
13487> #
13488> R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13489>     ROUTE RESERVOIR ->     1.0 02:SN13A       7725.00   32.845 No_date   39:44   32.14  n/a     .000
13490>                   out <=   1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14  n/a     .000
13491>       {MxStoUsed=.1796E+03  m3}
13492> #
13493> R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13494>     SAVE HYD               1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14  n/a     .000
13495>         fname :H_RESGM
13496>         remark:Outflow from Res GM
13497> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
13498> # (Approximated cross-section - see cross-section 258)
13499> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
13500> R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13501>     ROUTE CHANNEL   ->     1.0 02:RES_GM      7725.00    3.950 No_date   62:26   32.14  n/a     .000
13502>       [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.947 No_date   64:43   32.14  n/a     .000
13503>         [L/S/n= 5926./ .076/.040]
13504>         {Vmax=  .560:Dmax= 1.560}
13505> #
13506> # Addition of Subwatershed Jock River at Ashton to Node 12
13507> #
13508> R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13509>     ADD HYD                1.0 02:N12         7725.00    3.947 No_date   64:43   32.14  n/a     .000
13510>                       +    1.0 02:JR_ASH      1781.00   19.695 No_date   32:38   42.49  n/a     .000
13511>                  SUM=      1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08  n/a     .000
13512> R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13513>     SAVE HYD               1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08  n/a     .000
13514>         fname :H_SN12
13515>         remark:flow at S_N12 near Ashton
13516> #
13517> # Sum of hydrographs from Node 12 routed to Node 11
13518> # (Approximation cross-section - see cross-section 258)
13519> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
13520> #
13521> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
13522> #
13523> R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13524>     ROUTE CHANNEL   ->     1.0 02:S_N12       9506.00   21.745 No_date   32:41   34.08  n/a     .000
13525>       [RDT= 1.00] out<-    1.0 01:Dum11       9506.00   21.522 No_date   32:57   34.08  n/a     .000
13526>         [L/S/n=  972./ .054/.040]
13527>         {Vmax=  .777:Dmax= 3.194}
13528> #
13529> # Addition of Subwatershed 11 and No Name Creek to Node 11
13530> #
13531> R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13532>     ADD HYD                1.0 02:Dum11       9506.00   21.522 No_date   32:57   34.08  n/a     .000
13533>                       +    1.0 02:SW_11        500.00   10.735 No_date   29:21   36.76  n/a     .000
13534>                       +    1.0 02:NN_CK       1917.00   14.496 No_date   34:24   36.76  n/a     .000
13535>                  SUM=      1.0 01:S_N11       11923.00  38.138 No_date   32:59   34.62  n/a     .000
13536> #
13537> # Sum of hydrographs from Node 11 routed to Node 10
13538> # Section 1
13539> #
13540> R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13541>     ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00  38.138 No_date   32:59   34.62  n/a     .000
13542>       [RDT= 1.00] out<-    1.0 01:N10         11923.00  23.609 No_date   39:19   34.62  n/a     .000
13543>         [L/S/n=14028./ .157/.040]
13544>         {Vmax=  .486:Dmax= 1.492}
13545> #
13546> # Addition of Subwatershed 10 to Node 10
13547> #
13548> R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13549>     ADD HYD                1.0 02:N10         11923.00  23.609 No_date   39:19   34.62  n/a     .000
13550>                       +    1.0 02:SW_10        5666.00   37.663 No_date   37:48   42.49  n/a     .000
13551>                  SUM=      1.0 01:S_N10       17589.00  61.058 No_date   38:16   37.16  n/a     .000
13552> R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13553>     SAVE HYD               1.0 01:S_N10       17589.00  61.058 No_date   38:16   37.16  n/a     .000
13554>         fname :H_SN10
13555>         remark:flow at S_N10: N10 + SW_10
13556> # Addition of Kings Creek to S_N10
13557> #
13558> R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13559>     ADD HYD                1.0 02:S_N10       17589.00  61.058 No_date   38:16   37.16  n/a     .000
13560>                       +    1.0 02:KG_CK        8376.00   36.118 No_date   39:59   36.76  n/a     .000
13561>                  SUM=      1.0 01:S_N10A      25965.00  96.054 No_date   39:40   37.03  n/a     .000
13562> #
13563> # Sum of hydrographs from Node 10 routed to Node 9
13564> # Section 2
13565> #
13566> R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13567>     ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00  96.054 No_date   39:40   37.03  n/a     .000
13568>       [RDT= 1.00] out<-    1.0 01:N9          25965.00  94.262 No_date   39:59   37.03  n/a     .000
13569>         [L/S/n= 3982./ .075/.040]
13570>         {Vmax=  .775:Dmax= 2.151}
13571> #
13572> # Addition of Subwatershed 9 and Nichols Creek to Node 9
13573> #
13574> R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13575>     ADD HYD                1.0 02:N9          25965.00  94.262 No_date   39:59   37.03  n/a     .000
13576>                       +    1.0 02:SW_9         1132.00   16.501 No_date   30:52   40.83  n/a     .000
13577>                       +    1.0 02:NC_CK        4464.00   18.060 No_date   39:59   33.61  n/a     .000
13578>                  SUM=      1.0 01:S_N9        31561.00  115.681 No_date   39:59   36.68  n/a     .000
13579> #
13580> # Sum of hydrographs from Node 9 routed to Node 8
13581> # Section 3
13582> #
13583> R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13584>     ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00  115.681 No_date   39:59   36.68  n/a     .000
13585>       [RDT= 1.00] out<-    1.0 01:N8          31561.00  109.395 No_date   39:59   36.68  n/a     .000
13586>         [L/S/n= 2269./ .088/.045]
13587>         {Vmax=  .374:Dmax= 1.924}
13588> #
13589> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
13590> #
13591> R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13592>     ADD HYD                1.0 02:N8          31561.00  109.395 No_date   39:59   36.68  n/a     .000
13593>                       +    1.0 02:SW_8         131.00    3.259 No_date   28:57   34.39  n/a     .000
13594>                       +    1.0 02:HB_DR       3854.00   21.238 No_date   38:28   36.76  n/a     .000
13595>                  SUM=      1.0 01:S_N8        35546.00  130.593 No_date   39:59   36.68  n/a     .000
13596> #
13597> # Sum of hydrographs from Node 8 routed to Node 7
13598> # Section 4
13599> #
13600> R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13601>     ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00  130.593 No_date   39:59   36.68  n/a     .000
13602>       [RDT= 1.00] out<-    1.0 01:N7          35546.00  111.942 No_date   44:52   36.68  n/a     .000
13603>         [L/S/n= 3750./ .053/.070]
13604>         {Vmax=  .237:Dmax= 2.412}
13605> #
13606> # Addition of Subwatershed 7 to Node 7
13607> #
13608> R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13609>     ADD HYD                1.0 02:N7          35546.00  111.942 No_date   44:52   36.68  n/a     .000
13610>                       +    1.0 02:SW_7        3197.00   16.421 No_date   36:21   29.79  n/a     .000
13611>                  SUM=      1.0 01:S_N7        38743.00  120.740 No_date   43:36   36.11  n/a     .000
13612> R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13613>     SAVE HYD               1.0 01:S_N7        38743.00  120.740 No_date   43:36   36.11  n/a     .000
13614>         fname :H_SN7
13615>         remark:flow at S_N7: N7 + SW_7
13616> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
13617> # Storage area and volumes were estimated from available topo maps.
13618> # Release rate from fen was assumed to be controlled by the downstream
13619> # river cross-section for summer conditions.  It is was assumed that for up to
13620> # 0.75 m of water, the main channel of the river provided the storage.  Above
13621> # this depth, the wetland starts to signigicantly store water.
13622> #
13623> R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13624>     ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00  120.740 No_date   43:36   36.11  n/a     .000
13625>                   out <=   1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11  n/a     .000
13626>       {MxStoUsed=.5140E+03  m3}
13627> R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13628>     SAVE HYD               1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11  n/a     .000
13629>         fname :H_ResRF
13630>         remark:outflow of Richmond Fen
13631> #
13632> # Sum of hydrographs from Node 7 routed to Node 6
13633> # Section 5
13634> #
13635> R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13636>     ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   62.351 No_date   58:25   36.11  n/a     .000
13637>       [RDT= 1.00] out<-    1.0 01:N6          38743.00   62.067 No_date   59:46   36.11  n/a     .000
13638>         [L/S/n= 3056./ .082/.025]
13639>         {Vmax=  .556:Dmax= 1.373}
13640> #
13641> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
13642> #
13643> R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13644>     ADD HYD                1.0 02:N6          38743.00   62.067 No_date   59:46   36.11  n/a     .000
13645>                       +    1.0 02:SW_6         165.00    1.511 No_date   33:01   37.57  n/a     .000
13646>                       +    1.0 02:VG_DR       1332.00   10.882 No_date   35:10   42.49  n/a     .000
13647>                  SUM=      1.0 01:S_N6        40240.01  62.114 No_date   59:39   36.33  n/a     .000
13648> #
13649> # Sum of hydrographs from Node 6 routed to Node 5
13650> # Section 6
13651> #
13652> R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13653>     ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01   62.114 No_date   59:39   36.33  n/a     .000
13654>       [RDT= 1.00] out<-    1.0 01:N5          40240.01   61.991 No_date   60:21   36.33  n/a     .000
13655>         [L/S/n= 1852./ .054/.035]
13656>         {Vmax=  .494:Dmax= 1.468}
13657> #
13658> # Addition of Subwatershed 5 and Flowing Creek to Node 5
13659> #
13660> R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13661>     ADD HYD                1.0 02:N5          40240.01   61.991 No_date   60:21   36.33  n/a     .000
13662>                       +    1.0 02:SW_5         224.00    9.576 No_date   28:44   47.62  n/a     .000
13663>                       +    1.0 02:FL_CK       4945.00   52.056 No_date   33:16   44.17  n/a     .000
13664>                  SUM=      1.0 01:S_N5        45409.01   80.898 No_date   34:11   37.24  n/a     .000
13665> #
13666> # Sum of hydrographs from Node 5 routed to Node 5A
13667> # Section 7
13668> #
13669> R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13670>     ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   80.898 No_date   34:11   37.24  n/a     .000
13671>       [RDT= 1.00] out<-    1.0 01:N5A         45409.01   80.666 No_date   34:28   37.24  n/a     .000
13672>         [L/S/n=  556./ .090/.040]
13673>         {Vmax=  .546:Dmax= 1.353}
13674> #
13675> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
13676> #
13677> R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13678>     ADD HYD                1.0 02:N5A         45409.01   80.666 No_date   34:28   37.24  n/a     .000
13679>                       +    1.0 02:SW_5A2        20.00    1.097 No_date   28:35   52.06  n/a     .000
13680>                       +    1.0 02:SW_5A1      1412.00   10.184 No_date   37:44   45.80  n/a     .000
13681>                  SUM=      1.0 01:S_N5A       46841.01   89.756 No_date   34:38   37.51  n/a     .000
13682> #
13683> # Sum of hydrographs from Node 5A routed to Node 4
13684> # Section 8
13685> #
13686> R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13687>     ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   89.756 No_date   34:38   37.51  n/a     .000
13688>       [RDT= 1.00] out<-    1.0 01:N4          46841.01   85.943 No_date   36:10   37.51  n/a     .000
13689>         [L/S/n= 4630./ .043/.035]
13690>         {Vmax=  .904:Dmax= 3.866}
13691> #
13692> # Addition of Subwatershed 4 and Leamy Creek to Node 4
13693> #
13694> R0100:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13695>     ADD HYD                1.0 02:N4          46841.01   85.943 No_date   36:10   37.51  n/a     .000
13696>                       +    1.0 02:SW_4         585.00   14.953 No_date   29:55   52.06  n/a     .000
13697>                       +    1.0 02:LM_CK       1021.00   19.782 No_date   30:45   51.16  n/a     .000
13698>                  SUM=      1.0 01:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a     .000
13699> R0100:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13700>     SAVE HYD               1.0 01:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a     .000
13701>         fname :S_N4.0100
13702>         remark:flow at S_N4
13703> #
13704> # Sum of hydrographs from Node 4 routed to Node 2
13705> # Section 9
13706> #
13707> R0100:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13708>     ROUTE CHANNEL   ->     1.0 02:S_N4        48447.00   96.618 No_date   35:12   37.97  n/a     .000
13709>       [RDT= 1.00] out<-    1.0 01:N2          48447.00   96.322 No_date   35:13   37.97  n/a     .000
13710>         [L/S/n= 1667./ .060/.040]
13711>         {Vmax=  .944:Dmax= 3.929}
13712> #
13713> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
13714> #
13715> R0100:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13716>     ADD HYD                1.0 02:N2          48447.00   96.322 No_date   35:13   37.97  n/a     .000
13717>                       +    1.0 02:SW_2         177.00    7.567 No_date   28:44   47.62  n/a     .000
13718>                       +    1.0 02:SM_DR       1122.00   17.981 No_date   31:42   52.06  n/a     .000
13719>                       +    1.0 02:MO_DR       2737.00   40.730 No_date   31:28   46.75  n/a     .000
13720>                  SUM=      1.0 01:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a     .000
13721> R0100:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13722>     SAVE HYD               1.0 01:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a     .000
13723>         fname :H_SN2
13724>         remark:flow at S_N2 Jock River Gauge at Moodie Dr.
13725> #
13726> # Sum of hydrographs from Node 2 routed to Node 1
13727> # Section 10
13728> #
13729> #*************************************************************************
13730> #
13731> # Hydrograph from Node 2 routed to Node 416
13732> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
13733> #
13734> R0100:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13735>     ROUTE CHANNEL   ->     1.0 02:S_N2        52483.00  143.580 No_date   32:59   38.76  n/a     .000
13736>       [RDT= 1.00] out<-    1.0 01:N_416       52483.00  139.298 No_date   33:45   38.76  n/a     .000
13737>         [L/S/n= 2327./ .050/.055]
13738>         {Vmax=  .801:Dmax= 3.814}
13739> #*************************************************************************
13740> #    Catchment SW-1a
13741> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
13742> #    - Undeveloped agricultural land
13743> #*************************************************************************
13744> R0100:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13745>     CONTINUOUS NASHYD    1.0 01:SW_1a        536.42     7.274 No_date   31:14   40.95 .462     .000
13746>       [CN= 72.0: N= 3.00: Tp=  .79]
13747>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
13748>       [InterEventTime=  12.00]
13749> R0100:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13750>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93     7.977 No_date   28:02   70.58 .797     .000
13751>       [XIMP=.65:TIMP=.65]
13752>       [LOSS= 2 :CN= 75.0]
13753>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=   40.:MNP=.250:SCP=   .0]
13754>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
13755>       [IaRECimp=   4.00: IaRECper=   4.00]
13756>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13757> R0100:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13758>     ADD HYD                1.0 02:N_416       52483.00  139.298 No_date   33:45   38.76  n/a     .000
13759>                       +    1.0 02:SW_1a        536.42     7.274 No_date   31:14   40.95  n/a     .000
13760>                       +    1.0 02:S-1-Okeefe    44.93     7.977 No_date   28:02   70.58  n/a     .000
13761>                  SUM=      1.0 01:SN_416      53064.36  144.978 No_date   33:31   38.01  n/a     .000
13762> R0100:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13763>     SAVE HYD               1.0 01:SN_416      53064.36  144.978 No_date   33:31   38.01  n/a     .000
13764>         fname :SN_416.0100
13765>         remark:Total Flows at Highway 416
13766> #
13767> # Hydrograph from Node 416 routed to Node at Okeefe drain
13768> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
13769> #
13770> R0100:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13771>     ROUTE CHANNEL   ->     1.0 02:SN_416      53064.36  144.978 No_date   33:31   38.01  n/a     .000
13772>       [RDT= 1.00] out<-    1.0 01:N_OK        53064.36  144.828 No_date   33:30   38.01  n/a     .000
13773>         [L/S/n=  497./ .302/.055]
13774>         {Vmax= 1.728:Dmax= 3.267}
13775> #*************************************************************************
13776> #    Catchment OKEEFE
13777> #    - To O'Keefe drain (north of the Jock)
13778> #    - Developed with assumed 43% imp.
13779> #    - 2020-12-01 add Okeefe detail model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
13780> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
13781> #*************************************************************************
13782> R0100:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13783>     CONTINUOUS NASHYD    1.0 01:O-1          63.72     1.380 No_date   28:58   30.74 .347     .000
13784>       [CN= 61.0: N= 3.00: Tp=  .90]
13785>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
13786>       [InterEventTime=  12.00]
13787> R0100:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13788>     ROUTE CHANNEL   ->     1.0 02:O-1          63.72     1.380 No_date   28:58   30.74  n/a     .000
13789>       [RDT= 1.00] out<-    1.0 01:O-1R         63.72     1.307 No_date   29:13   30.74  n/a     .000
13790>         [L/S/n=  960./ .630/.043]
13791>         {Vmax=  .926:Dmax=  .493}
13792> R0100:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13793>     CONTINUOUS NASHYD    1.0 01:O-2          28.61      .485 No_date   29:13   28.38 .320     .000
13794>       [CN= 57.0: N= 3.00: Tp= 1.10]
13795>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
13796>       [InterEventTime=  12.00]
13797> R0100:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13798>     CONTINUOUS NASHYD    1.0 01:O-4          46.94      .650 No_date   28:59   21.79 .246     .000
13799>       [CN= 49.0: N= 3.00: Tp=  .90]
13800>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
13801>       [InterEventTime=  12.00]
13802> R0100:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13803>     ADD HYD                1.0 02:O-1R         63.72     1.307 No_date   29:13   30.74  n/a     .000
13804>                       +    1.0 02:O-2          28.61      .485 No_date   29:13   28.38  n/a     .000
13805>                       +    1.0 02:O-4          46.94      .650 No_date   28:59   21.79  n/a     .000
13806>                  SUM=      1.0 01:OKF-N       139.27    2.427 No_date   29:10   27.24  n/a     .000
13807> R0100:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13808>     ROUTE CHANNEL   ->     1.0 02:OKF-N       139.27    2.427 No_date   29:10   27.24  n/a     .000
13809>       [RDT= 1.00] out<-    1.0 01:OKF-NR      139.27    2.423 No_date   29:12   27.24  n/a     .000
13810>         [L/S/n=  210./ .810/.043]
13811>         {Vmax= 1.130:Dmax=  .796}
13812> R0100:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13813>     CONTINUOUS NASHYD    1.0 01:O-6          16.46      .220 No_date   28:45   18.67 .211     .000
13814>       [CN= 43.0: N= 3.00: Tp=  .70]
13815>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
13816>       [InterEventTime=  12.00]
13817> R0100:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13818>     CONTINUOUS STANDHYD   1.0 01:O-3          39.67     1.454 No_date   28:21   32.90 .371     .000
13819>       [XIMP=.15:TIMP=.30]
13820>       [LOSS= 2 :CN= 50.0]
13821>       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
13822>       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
13823>       [IaRECimp=   4.00: IaRECper=   4.00]
13824>       [SMIN= 99.77: SMAX=665.12: SK= .010]
13825> R0100:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13826>     CONTINUOUS STANDHYD   1.0 01:O-5          60.63     3.669 No_date   28:10   38.00 .429     .000
13827>       [XIMP=.13:TIMP=.26]
13828>       [LOSS= 2 :CN= 61.0]
13829>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
13830>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
13831>       [IaRECimp=   4.00: IaRECper=   4.00]
13832>       [SMIN= 64.50: SMAX=430.01: SK= .010]
13833> R0100:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13834>     ADD HYD                1.0 02:OKF-NR      139.27    2.423 No_date   29:12   27.24  n/a     .000
13835>                       +    1.0 02:O-3          39.67     1.454 No_date   28:21   32.90  n/a     .000
13836>                       +    1.0 02:O-5          60.63     3.669 No_date   28:10   38.00  n/a     .000
13837>                       +    1.0 02:O-6          16.46      .220 No_date   28:45   18.67  n/a     .000
13838>                  SUM=      1.0 01:PT1         256.03    5.938 No_date   28:19   30.11  n/a     .000
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13839> R0100:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13840>      CONTINUOUS NASHYD     1.0 01:O-7           5.28     .117 No_date   28:37   25.16 .284     .000
13841>        [CN= 54.0: N= 3.00: Tp=  .60]
13842>        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
13843>        [InterEventTime=  12.00]
13844> R0100:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13845>      ADD HYD               1.0 02:PT1           256.03    5.938 No_date   28:19    30.11  n/a     .000
13846>                       +    1.0 02:O-7           5.28      .117 No_date   28:37    25.16  n/a     .000
13847>                     SUM=   1.0 01:FF            261.31    6.036 No_date   28:19    30.01  n/a     .000
13848> R0100:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13849>      ROUTE CHANNEL    ->    1.0 02:FF            261.31    6.036 No_date   28:19    30.01  n/a     .000
13850>        [RD= 1.00] out<-     1.0 01:DRAIN1        261.31    5.843 No_date   28:23    30.01  n/a     .000
13851>        [L/S/n=  302./1.000/.043]
13852>        [Vmax=  .853:Dmax=  .797]
13853> R0100:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13854>      CONTINUOUS NASHYD     1.0 01:D1            1.17      .110 No_date   28:12    50.22 .567     .000
13855>        [CN= 84.0: N= 3.00: Tp=  .28]
13856>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
13857>        [InterEventTime=  12.00]
13858> R0100:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13859>      CONTINUOUS STANDHYD   1.0 01:A1            2.50      .572 No_date   28:01    70.42 .795     .000
13860>        [XIMP=.68:TIMP=.85]
13861>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13862>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13863>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
13864>        [IaREcimp=   4.00: IaRECper=   4.00]
13865> R0100:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13866>      ROUTE RESERVOIR  ->    1.0 02:A1            2.50      .572 No_date   28:01    70.42  n/a     .000
13867>                       out <=   1.0 01:A1-STR     2.50      .173 No_date   28:17    70.42  n/a     .000
13868>                  overflow <=   1.0 03:A1-OVF     .00       .000 No_date    0:00      .00  n/a     .000
13869>        {MxStoUsed=.7765E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13870> R0100:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13871>      CONTINUOUS STANDHYD   1.0 01:ST-2           .59      .115 No_date   28:00    55.78 .630     .000
13872>        [XIMP=.46:TIMP=.57]
13873>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13874>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13875>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
13876>        [IaREcimp=   4.00: IaRECper=   4.00]
13877> R0100:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13878>      ROUTE RESERVOIR  ->    1.0 02:ST-2           .59      .115 No_date   28:00    55.78  n/a     .000
13879>                       out <=   1.0 01:ST2STR     .59      .053 No_date   28:13    55.78  n/a     .000
13880>                  overflow <=   1.0 03:ST2OVF     .00       .000 No_date    0:00      .00  n/a     .000
13881>        {MxStoUsed=.5215E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13882> R0100:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13883>      CONTINUOUS NASHYD     1.0 01:O-8           60.55    1.639 No_date   29:04    38.99 .440     .000
13884>        [CN= 69.0: N= 3.00: Tp= 1.00]
13885>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
13886>        [InterEventTime=  12.00]
13887> R0100:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13888>      ROUTE PIPE       ->    1.0 02:O-8           60.55    1.639 No_date   29:04    38.99  n/a     .000
13889>        [RD= 1.00] out<-     1.0 01:OBPIPE        60.55    1.631 No_date   29:07    38.99  n/a     .000
13890>        [L/S/n=  335./ .100/.013]
13891>        [Vmax= 1.305:Dmax=  .697]
13892>        [HGT= 1.20:WDTH= 1.80]
13893> R0100:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13894>      ADD HYD               1.0 02:DRAIN1        261.31    5.843 No_date   28:23    30.01  n/a     .000
13895>                       +    1.0 02:D1            1.17      .110 No_date   28:12    50.22  n/a     .000
13896>                       +    1.0 02:A1-STR        2.50      .173 No_date   28:17    70.42  n/a     .000
13897>                       +    1.0 02:A1-OVF         .00      .000 No_date    0:00      .00  n/a     .000
13898>                       +    1.0 02:ST2STR         .59      .053 No_date   28:13    55.78  n/a     .000
13899>                       +    1.0 02:ST2OVF         .00      .000 No_date    0:00      .00  n/a     .000
13900>                       +    1.0 02:OBPIPE       60.55    1.631 No_date   29:07    38.99  n/a     .000
13901>                     SUM=   1.0 01:ST2-IN       326.12    7.203 No_date   28:33    32.11  n/a     .000
13902> R0100:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13903>      CONTINUOUS STANDHYD   1.0 01:A7            3.51      .784 No_date   28:01    70.42 .795     .000
13904>        [XIMP=.68:TIMP=.85]
13905>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13906>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13907>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
13908>        [IaREcimp=   4.00: IaRECper=   4.00]
13909> R0100:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13910>      ROUTE RESERVOIR  ->    1.0 02:A7            3.51      .784 No_date   28:01    70.42  n/a     .000
13911>                       out <=   1.0 01:A7-STR     3.51      .240 No_date   28:18    70.42  n/a     .000
13912>                  overflow <=   1.0 03:A7-OVF     .00       .000 No_date    0:00      .00  n/a     .000
13913>        {MxStoUsed=.1088E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13914> R0100:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13915>      CONTINUOUS STANDHYD   1.0 01:ST-3           .71      .138 No_date   28:00    55.78 .630     .000
13916>        [XIMP=.46:TIMP=.57]
13917>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13918>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13919>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
13920>        [IaREcimp=   4.00: IaRECper=   4.00]
13921> R0100:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13922>      ROUTE RESERVOIR  ->    1.0 02:ST-3           .71      .138 No_date   28:00    55.78  n/a     .000
13923>                       out <=   1.0 01:ST3STR     .71      .064 No_date   28:13    55.78  n/a     .000
13924>                  overflow <=   1.0 03:ST3OVF     .00       .000 No_date    0:00      .00  n/a     .000
13925>        {MxStoUsed=.6043E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13926> R0100:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13927>      ADD HYD               1.0 02:ST2-IN        326.12    7.203 No_date   28:33    32.11  n/a     .000
13928>                       +    1.0 02:A7-STR        3.51      .240 No_date   28:18    70.42  n/a     .000
13929>                       +    1.0 02:A7-OVF         .00      .000 No_date    0:00      .00  n/a     .000
13930>                       +    1.0 02:ST3STR         .71      .064 No_date   28:13    55.78  n/a     .000
13931>                       +    1.0 02:ST3OVF         .00      .000 No_date    0:00      .00  n/a     .000
13932>                     SUM=   1.0 01:PT2ST3        330.34    7.487 No_date   28:31    32.57  n/a     .000
13933> R0100:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13934>      ROUTE CHANNEL    ->    1.0 02:PT2ST3        330.34    7.487 No_date   28:31    32.57  n/a     .000
13935>        [RD= 1.00] out<-     1.0 01:DRAIN2        330.34    6.868 No_date   28:55    32.57  n/a     .000
13936>        [L/S/n=  592./ .230/.043]
13937>        [Vmax=  .611:Dmax= 1.215]
13938> R0100:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13939>      CONTINUOUS NASHYD     1.0 01:D2            2.28      .087 No_date   29:02    50.22 .567     .000
13940>        [CN= 84.0: N= 3.00: Tp=  .99]
13941>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
13942>        [InterEventTime=  12.00]
13943> R0100:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13944>      CONTINUOUS STANDHYD   1.0 01:A17           12.04     2.382 No_date   28:03    70.42 .795     .000
13945>        [XIMP=.68:TIMP=.85]
13946>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13947>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13948>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
13949>        [IaREcimp=   4.00: IaRECper=   4.00]
13950> R0100:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13951>      ROUTE RESERVOIR  ->   1.0 02:A17           12.04     2.382 No_date   28:03    70.42  n/a     .000
13952>                       out <=   1.0 01:A17STR    12.04      .801 No_date   28:24    70.42  n/a     .000
13953>                  overflow <=   1.0 03:A17OVF     .00       .000 No_date    0:00      .00  n/a     .000
13954>        {MxStoUsed=.3671E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13955> R0100:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13956>      CONTINUOUS STANDHYD   1.0 01:ST-4           .35      .069 No_date   28:00    55.78 .630     .000
13957>        [XIMP=.46:TIMP=.57]
13958>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13959>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13960>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
13961>        [IaREcimp=   4.00: IaRECper=   4.00]
13962> R0100:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13963>      ROUTE RESERVOIR  ->    1.0 02:ST-4           .35      .069 No_date   28:00    55.78  n/a     .000
13964>                       out <=   1.0 01:ST4STR     .35      .032 No_date   28:13    55.78  n/a     .000
13965>                  overflow <=   1.0 03:ST4OVF     .00       .000 No_date    0:00      .00  n/a     .000
13966>        {MxStoUsed=.3122E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13967> R0100:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13968>      CONTINUOUS STANDHYD   1.0 01:A18           5.30     1.139 No_date   28:01    70.42 .795     .000
13969>        [XIMP=.68:TIMP=.85]
13970>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13971>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
13972>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
13973>        [IaREcimp=   4.00: IaRECper=   4.00]
13974> R0100:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13975>      ROUTE RESERVOIR  ->    1.0 02:A18           5.30     1.139 No_date   28:01    70.42  n/a     .000
13976>                       out <=   1.0 01:A18STR    5.30      .360 No_date   28:20    70.42  n/a     .000
13977>                  overflow <=   1.0 03:A18OVF     .00       .000 No_date    0:00      .00  n/a     .000
13978>        {MxStoUsed=.1638E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13979> R0100:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13980>      ADD HYD               1.0 02:DRAIN2        330.34    6.868 No_date   28:55    32.57  n/a     .000
13981>                       +    1.0 02:D2            2.28      .087 No_date   29:02    50.22  n/a     .000
13982>                       +    1.0 02:A17STR       12.04      .801 No_date   28:24    70.42  n/a     .000
13983>                       +    1.0 02:A17OVF         .00      .000 No_date    0:00      .00  n/a     .000
13984>                       +    1.0 02:ST4STR         .35      .032 No_date   28:13    55.78  n/a     .000
13985>                       +    1.0 02:ST4OVF         .00      .000 No_date    0:00      .00  n/a     .000
13986>                       +    1.0 02:A18STR        5.30      .360 No_date   28:20    70.42  n/a     .000
13987>                       +    1.0 02:A18OVF         .00      .000 No_date    0:00      .00  n/a     .000
13988>                     SUM=   1.0 01:PT3ST4        350.31    7.785 No_date   28:52    34.58  n/a     .000
13989> R0100:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13990>      ROUTE CHANNEL    ->    1.0 02:PT3ST4        350.31    7.785 No_date   28:52    34.58  n/a     .000
13991>        [RD= 1.00] out<-     1.0 01:DRAIN3        350.31    7.474 No_date   29:08    34.58  n/a     .000
13992>        [L/S/n=  525./ .230/.043]
13993>        [Vmax=  .628:Dmax= 1.257]
13994> R0100:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13995>      CONTINUOUS NASHYD     1.0 01:D3            2.51      .132 No_date   28:43    54.04 .610     .000
13996>        [CN= 86.0: N= 3.00: Tp=  .73]
13997>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
13998>        [InterEventTime=  12.00]
13999> R0100:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14000>      CONTINUOUS STANDHYD   1.0 01:C1            3.41      .763 No_date   28:01    70.42 .795     .000
14001>        [XIMP=.68:TIMP=.85]
14002>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14003>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14004>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
14005>        [IaREcimp=   4.00: IaRECper=   4.00]
14006> R0100:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14007>      ROUTE RESERVOIR  ->    1.0 02:C1            3.41      .763 No_date   28:01    70.42  n/a     .000
14008>                       out <=   1.0 01:C1-STR     3.41      .232 No_date   28:18    70.42  n/a     .000
14009>                  overflow <=   1.0 03:C1-OVF     .00       .000 No_date    0:00      .00  n/a     .000
14010>        {MxStoUsed=.1056E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14011> R0100:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14012>      CONTINUOUS STANDHYD   1.0 01:ST-5           .45      .088 No_date   28:00    55.78 .630     .000
14013>        [XIMP=.46:TIMP=.57]
14014>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14015>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14016>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
14017>        [IaREcimp=   4.00: IaRECper=   4.00]
14018> R0100:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14019>      ROUTE RESERVOIR  ->    1.0 02:ST-5           .45      .088 No_date   28:00    55.78  n/a     .000
14020>                       out <=   1.0 01:ST5STR     .45      .041 No_date   28:13    55.78  n/a     .000
14021>                  overflow <=   1.0 03:ST5OVF     .00       .000 No_date    0:00      .00  n/a     .000
14022>        {MxStoUsed=.4111E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14023> R0100:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14024>      ADD HYD               1.0 02:DRAIN3        350.31    7.474 No_date   29:08    34.58  n/a     .000
14025>                       +    1.0 02:D3            2.51      .132 No_date   28:43    54.04  n/a     .000
14026>                       +    1.0 02:C1-STR        3.41      .232 No_date   28:18    70.42  n/a     .000
14027>                       +    1.0 02:C1-OVF         .00      .000 No_date    0:00      .00  n/a     .000
14028>                       +    1.0 02:ST5STR         .45      .041 No_date   28:13    55.78  n/a     .000
14029>                       +    1.0 02:ST5OVF         .00      .000 No_date    0:00      .00  n/a     .000
14030>                     SUM=   1.0 01:ST5-E         356.68    7.731 No_date   29:07    35.08  n/a     .000
14031> R0100:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14032>      CONTINUOUS STANDHYD   1.0 01:STRAND        7.59     1.163 No_date   28:08    68.85 .777     .000
14033>        [XIMP=.64:TIMP=.85]
14034>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14035>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
14036>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
14037>        [IaREcimp=   4.00: IaRECper=   4.00]
14038> R0100:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14039>      ROUTE RESERVOIR  ->    1.0 02:STRAND        7.59     1.163 No_date   28:08    68.85  n/a     .000
14040>                       out <=   1.0 01:S-POND      7.59      .200 No_date   29:01    68.85  n/a     .000
14041>                  overflow <=   1.0 03:S-OVF       .00       .000 No_date    0:00      .00  n/a     .000
14042>        {MxStoUsed=.3382E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14043> R0100:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14044>      ADD HYD               1.0 02:ST5-E         356.68    7.731 No_date   29:07    35.08  n/a     .000
14045>                       +    1.0 02:S-POND        7.59      .200 No_date   29:01    68.85  n/a     .000
14046>                       +    1.0 02:S-OVF          .00       .000 No_date    0:00      .00  n/a     .000
14047>                     SUM=   1.0 01:SSAOUT        364.27    7.924 No_date   29:06    35.79  n/a     .000
14048> R0100:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14049>      SAVE HYD              1.0 01:SSAOUT        364.27    7.924 No_date   29:06    35.79  n/a     .000
14050>        fname :SSAOUT.0100
14051>        remark:SSAOUT
14052> R0100:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14053>      CONTINUOUS STANDHYD   1.0 01:Area-A        66.75     9.945 No_date   28:08    67.64 .764     .000
14054>        [XIMP=.64:TIMP=.80]
14055>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14056>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14057>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
14058>        [IaREcimp=   4.00: IaRECper=   4.00]
14059> R0100:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14060>      SAVE HYD              1.0 01:Area-A        66.75     9.945 No_date   28:08    67.64  n/a     .000
14061>        fname :Area-A.0100
14062>        remark:SMWF-A Inflow
14063> R0100:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14064>      ROUTE RESERVOIR  ->    1.0 02:Area-A        66.75     9.945 No_date   28:08    67.64  n/a     .000
14065>                       out <=   1.0 01:SWMF-A      66.75     1.357 No_date   29:10    67.64  n/a     .000
14066>                  overflow <=   1.0 03:SWMAOV       .00       .000 No_date    0:00      .00  n/a     .000
14067>        {MxStoUsed=.3051E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14068> R0100:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14069>      SAVE HYD              1.0 01:SWMF-A        66.75     1.357 No_date   29:10    67.64  n/a     .000
14070>        fname :SWMF-A.0100
14071>        remark:SMWF-A Outflow
14072> R0100:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14073>      ADD HYD               1.0 02:SSAOUT        364.27    7.924 No_date   29:06    35.79  n/a     .000
14074>                       +    1.0 02:SWMF-A        66.75     1.357 No_date   29:10    67.64  n/a     .000
14075>                       +    1.0 02:SWMAOV         .00       .000 No_date    0:00      .00  n/a     .000
14076>                     SUM=   1.0 01:PT4STS        431.02    9.279 No_date   29:07    40.72  n/a     .000
14077> R0100:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14078>      CONTINUOUS STANDHYD   1.0 01:C6            1.87      .433 No_date   28:01    70.42 .795     .000
14079>        [XIMP=.68:TIMP=.85]
14080>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14081>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14082>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
14083>        [IaREcimp=   4.00: IaRECper=   4.00]
14084> R0100:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14085>      ROUTE RESERVOIR  ->    1.0 02:C6            1.87      .433 No_date   28:01    70.42  n/a     .000
14086>                       out <=   1.0 01:C6-STR     1.87      .129 No_date   28:16    70.42  n/a     .000
14087>                  overflow <=   1.0 03:C6-OVF       .00       .000 No_date    0:00      .00  n/a     .000
14088>        {MxStoUsed=.5845E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14089> R0100:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14090>      CONTINUOUS STANDHYD   1.0 01:C7            1.62      .381 No_date   28:00    70.42 .795     .000
14091>        [XIMP=.68:TIMP=.85]
14092>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14093>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14094>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
14095>        [IaREcimp=   4.00: IaRECper=   4.00]
14096> R0100:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14097>      ROUTE RESERVOIR  ->    1.0 02:C7            1.62      .381 No_date   28:00    70.42  n/a     .000
14098>                       out <=   1.0 01:C7-STR     1.62      .112 No_date   28:16    70.42  n/a     .000
14099>                  overflow <=   1.0 03:C7-OVF       .00       .000 No_date    0:00      .00  n/a     .000
14100>        {MxStoUsed=.5036E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14101> R0100:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14102>      CONTINUOUS STANDHYD   1.0 01:ST-6           .41      .081 No_date   28:00    55.78 .630     .000
14103>        [XIMP=.46:TIMP=.57]
14104>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14105>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14106>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
14107>        [IaREcimp=   4.00: IaRECper=   4.00]
14108> R0100:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14109>      ROUTE RESERVOIR  ->    1.0 02:ST-6           .41      .081 No_date   28:00    55.78  n/a     .000
14110>                       out <=   1.0 01:ST6STR     .41      .037 No_date   28:13    55.78  n/a     .000
14111>                  overflow <=   1.0 03:ST6OVF       .00       .000 No_date    0:00      .00  n/a     .000
14112>        {MxStoUsed=.3877E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14113> R0100:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14114>      ADD HYD               1.0 02:PT4STS        431.02    9.279 No_date   29:07    40.72  n/a     .000
14115>                       +    1.0 02:C6-STR        1.87      .129 No_date   28:16    70.42  n/a     .000
14116>                       +    1.0 02:C6-OVF         .00      .000 No_date    0:00      .00  n/a     .000
14117>                       +    1.0 02:C7-STR        1.62      .112 No_date   28:16    70.42  n/a     .000
14118>                       +    1.0 02:C7-OVF         .00      .000 No_date    0:00      .00  n/a     .000
14119>                       +    1.0 02:ST6STR         .41      .037 No_date   28:13    55.78  n/a     .000
14120>                       +    1.0 02:ST6OVF         .00      .000 No_date    0:00      .00  n/a     .000
14121>                     SUM=   1.0 01:PT5STS        434.92    9.426 No_date   29:06    40.97  n/a     .000
14122> R0100:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14123>      ROUTE CHANNEL    ->    1.0 02:PT5STS        434.92    9.426 No_date   29:06    40.97  n/a     .000
14124>        [RD= 1.00] out<-     1.0 01:DRAIN4        434.92    9.061 No_date   29:16    40.97  n/a     .000
14125>        [L/S/n=  324./ .100/.043]
14126>        [Vmax=  .507:Dmax= 1.014]
14127> R0100:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14128>      CONTINUOUS NASHYD     1.0 01:D4            1.73      .112 No_date   28:33    57.07 .644     .000
14129>        [CN= 88.0: N= 3.00: Tp=  .60]
14130>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
14131>        [InterEventTime=  12.00]
14132> R0100:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14133>      CONTINUOUS STANDHYD   1.0 01:Area-B        24.04     4.871 No_date   28:02    66.17 .747     .000
14134>        [XIMP=.62:TIMP=.77]
14135>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14136>        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
14137>        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
14138>        [IaREcimp=   4.00: IaRECper=   4.00]
14139> R0100:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14140>      ROUTE RESERVOIR  ->    1.0 02:Area-B        24.04     4.871 No_date   28:02    66.17  n/a     .000
14141>                       out <=   1.0 01:SWMF-B      24.04      .641 No_date   28:41    66.17  n/a     .000
14142>                  overflow <=   1.0 03:SWMBOVF       .00       .000 No_date    0:00      .00  n/a     .000
14143>        {MxStoUsed=.9727E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14144> R0100:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14145>      ADD HYD               1.0 02:DRAIN4        434.92    9.061 No_date   29:16    40.97  n/a     .000
14146>                       +    1.0 02:D4            1.73      .112 No_date   28:33    57.07  n/a     .000
14147>                       +    1.0 02:SWMF-B        24.04      .641 No_date   28:41    66.17  n/a     .000
14148>                       +    1.0 02:SWMBOVF        .00       .000 No_date    0:00      .00  n/a     .000
14149>                     SUM=   1.0 01:D4-EX         460.69    9.722 No_date   29:15    42.35  n/a     .000
14150> R0100:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14151>      ROUTE CHANNEL    ->    1.0 02:D4-EX         460.69    9.722 No_date   29:15    42.35  n/a     .000
14152>        [RD= 1.00] out<-     1.0 01:DRAIN5        460.69    9.564 No_date   29:26    42.35  n/a     .000
14153>        [L/S/n=  413./ .160/.033]
14154>        [Vmax=  .703:Dmax= 1.106]
14155> R0100:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14156>      CONTINUOUS NASHYD     1.0 01:D5            1.90      .104 No_date   28:40    54.04 .610     .000
14157>        [CN= 86.0: N= 3.00: Tp=  .69]
14158>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
14159>        [InterEventTime=  12.00]
14160> R0100:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14161>      CONTINUOUS NASHYD     1.0 01:O-13SDF        9.74      .675 No_date   28:21    50.83 .574     .000
14162>        [CN= 81.0: N= 3.00: Tp=  .43]
14163>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
14164>        [InterEventTime=  12.00]
14165> R0100:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14166>      ROUTE RESERVOIR  ->    1.0 02:O-13SDF        9.74      .675 No_date   28:21    50.83  n/a     .000
14167>                       out <=   1.0 
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14213>     CONTINUOUS STANDHYD   1.0 01:S-1-D3        6.79    1.405 No_date   28:00   70.58 .797     .000
14214>       [XIMP=.65:TIMP=.65]
14215>       [LOSS= 2 :CN= 75.0]
14216>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14217>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
14218>       [IaRECimp=   4.00: IaRECper=   4.00]
14219>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14220> R0100:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14221>     ADD HYD               1.0 02:N_OK      53064.36  144.828 No_date   33:30   38.81  n/a     .000
14222>                       +     1.0 02:OKEEFE      488.00    8.925 No_date   29:52   42.80  n/a     .000
14223>                       +     1.0 02:S-1-D2        18.67    3.580 No_date   28:01   70.58  n/a     .000
14224>                       +     1.0 02:S-1-D3         6.79    1.405 No_date   28:00   70.58  n/a     .000
14225>                   SUM=      1.0 01:SN_OK     53577.82  147.873 No_date   33:30   38.86  n/a     .000
14226> R0100:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14227>     SAVE HYD              1.0 01:SN_OK     53577.82  147.873 No_date   33:30   38.86  n/a     .000
14228>       fname :SN_OK.0100
14229>       remark:Total Flows at Okeefe Drain
14230> #
14231> # Hydrograph from Node Okeefe routed to Node at Foster Drain
14232> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
14233> #
14234> R0100:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14235>     ROUTE CHANNEL    ->     1.0 02:SN_OK     53577.82  147.873 No_date   33:30   38.86  n/a     .000
14236>       [RDT= 1.00] out<-     1.0 01:N_FO      53577.82  147.535 No_date   33:30   38.86  n/a     .000
14237>       [L/S/n= 1183./ .076/.035]
14238>       {Vmax= 1.294:Dmax= 3.586}
14239> #*************************************************************************
14240> #    Catchment FOSTER
14241> #    - To Foster ditch (north of the Jock)
14242> #    - Partially developed (medium density); remaining agricultural
14243> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
14244> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
14245> #    - 2021-02-12 update Foster area to 325.44 ha as measured from QGIS
14246> #*************************************************************************
14247> R0100:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14248>     CONTINUOUS STANDHYD   1.0 01:FOSTER      325.44   36.526 No_date   28:10   65.13 .735     .000
14249>       [XIMP=.55:TIMP=.55]
14250>       [LOSS= 2 :CN= 74.0]
14251>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
14252>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
14253>       [IaRECimp=   4.00: IaRECper=   4.00]
14254>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14255> #*************************************************************************
14256> #    Foster Pond
14257> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
14258> #      and a ratio of the catchment area to the West Clarke pond rating curve
14259> #      from the MSS for the next coordinates
14260> #*************************************************************************
14261> R0100:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14262>     ROUTE RESERVOIR ->    1.0 02:FOSTER      325.44   36.526 No_date   28:10   65.13  n/a     .000
14263>                     out <=    1.0 01:P_FOS     325.44    9.091 No_date   29:01   65.13  n/a     .000
14264>               overflow <=     1.0 03:FO-OVF        .00     .000 No_date    0:00    .00  n/a     .000
14265>     {MxStoUsed=.8792E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=   0.hrs}
14266> R0100:C00151------------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14267>     ADD HYD               1.0 02:P_FOS     325.44    9.091 No_date   29:01   65.13  n/a     .000
14268>                       +     1.0 02:FO-OVF        .00     .000 No_date    0:00    .00  n/a     .000
14269>                   SUM=      1.0 01:FOSTER-OUT  325.44    9.091 No_date   29:01   65.13  n/a     .000
14270> #*************************************************************************
14271> R0100:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14272>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA    73.29   11.683 No_date   28:05   70.23 .793     .000
14273>       [XIMP=.60:TIMP=.65]
14274>       [LOSS= 2 :CN= 77.0]
14275>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14276>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
14277>       [IaRECimp=   4.00: IaRECper=   4.00]
14278>       [SMIN= 31.15: SMAX=207.66: SK= .010]
14279> R0100:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14280>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA    73.29   11.683 No_date   28:05   70.23  n/a     .000
14281>                     out <=    1.0 01:MS_P10      73.29    1.240 No_date   29:12   70.23  n/a     .000
14282>               overflow <=     1.0 03:P10-OVF       .00     .000 No_date    0:00    .00  n/a     .000
14283>     {MxStoUsed=.2223E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=   0.hrs}
14284> R0100:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14285>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2     4.94     .896 No_date   28:00   65.13 .735     .000
14286>       [XIMP=.55:TIMP=.55]
14287>       [LOSS= 2 :CN= 74.0]
14288>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
14289>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
14290>       [IaRECimp=   4.00: IaRECper=   4.00]
14291>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14292> R0100:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14293>     ADD HYD               1.0 02:FOSTER-OUT  325.44    9.091 No_date   29:01   65.13  n/a     .000
14294>                       +     1.0 02:S-1-FO-D2     4.94     .896 No_date   28:00   65.13  n/a     .000
14295>                   SUM=      1.0 01:980       330.38    9.176 No_date   29:00   65.13  n/a     .000
14296> R0100:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14297>     SAVE HYD              1.0 01:980       330.38    9.176 No_date   29:00   65.13  n/a     .000
14298>       fname :980.0100
14299>       remark:Total Flows at Station 980 on Foster Drain
14300> #
14301> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
14302> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
14303> #
14304> R0100:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14305>     ROUTE CHANNEL    ->     1.0 02:980       330.38    9.176 No_date   29:00   65.13  n/a     .000
14306> *   [RDT= 1.00] out<-     1.0 01:980-out   330.38    8.694 No_date   29:39   65.13  n/a     .000
14307>       [L/S/n=  460./ .043/.035]
14308>       {Vmax=  .538:Dmax= 1.670}
14309> R0100:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14310>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1     5.11    1.040 No_date   28:00   69.99 .790     .000
14311>       [XIMP=.65:TIMP=.65]
14312>       [LOSS= 2 :CN= 74.0]
14313>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
14314>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
14315>       [IaRECimp=   4.00: IaRECper=   4.00]
14316>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14317> R0100:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14318>     ADD HYD               1.0 02:980-out   330.38    8.694 No_date   29:39   65.13  n/a     .000
14319>                       +     1.0 02:S-1-FO-D1     5.11    1.040 No_date   28:00   69.99  n/a     .000
14320>                   SUM=      1.0 01:520       335.49    8.749 No_date   29:17   65.20  n/a     .000
14321> R0100:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14322>     SAVE HYD              1.0 01:520       335.49    8.749 No_date   29:17   65.20  n/a     .000
14323>       fname :520.0100
14324>       remark:Total Flows at Sation 520 on Foster Drain
14325> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
14326> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
14327> #
14328> R0100:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14329>     ROUTE CHANNEL    ->     1.0 02:520       335.49    8.749 No_date   29:17   65.20  n/a     .000
14330>       [RDT= 1.00] out<-     1.0 01:520-out   335.49    8.704 No_date   29:40   65.20  n/a     .000
14331>       [L/S/n=  860./ .587/.035]
14332>       {Vmax= 1.596:Dmax=  .801}
14333> R0100:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14334>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D    14.96    2.819 No_date   28:01   69.99 .790     .000
14335>       [XIMP=.65:TIMP=.65]
14336>       [LOSS= 2 :CN= 74.0]
14337>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
14338>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
14339>       [IaRECimp=   4.00: IaRECper=   4.00]
14340>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14341> R0100:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14342>     CONTINUOUS STANDHYD   1.0 01:S-1-D8        5.27    1.181 No_date   28:01   51.48 .581     .000
14343>       [XIMP=.32:TIMP=.65]
14344>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14345>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14346>       [Impervious   area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
14347>       [IaRECimp=   4.00: IaRECper=   4.00]
14348> R0100:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14349>     CONTINUOUS NASHYD     1.0 01:S-1-A         75.88    3.578 No_date   28:36   45.95 .519     .000
14350>       [CN= 77.0: N= 3.00: Tp=  .62]
14351>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14352>       [InterEventTime=  12.00]
14353> R0100:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14354>     CONTINUOUS NASHYD     1.0 01:W_CLAR_UND    35.65    1.108 No_date   29:10   45.95 .519     .000
14355>       [CN= 77.0: N= 3.00: Tp= 1.10]
14356>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14357>       [InterEventTime=  12.00]
14358> R0100:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14359>     ADD HYD               1.0 02:N_FO      53577.82  147.535 No_date   33:30   38.86  n/a     .000
14360>                       +     1.0 02:520-out   335.49    8.704 No_date   29:40   65.20  n/a     .000
14361>                       +     1.0 02:MS_P10      73.29    1.240 No_date   29:12   70.23  n/a     .000
14362>                       +     1.0 02:P10-OVF       .00     .000 No_date    0:00    .00  n/a     .000
14363>                       +     1.0 02:W_CLAR_UND    35.65    1.108 No_date   29:10   45.95  n/a     .000
14364>                       +     1.0 02:S-1-FO-F-D    14.96    2.819 No_date   28:01   69.99  n/a     .000
14365>                       +     1.0 02:S-1-D8         5.27    1.181 No_date   28:01   51.48  n/a     .000
14366>                       +     1.0 02:S-1-A         75.88    3.578 No_date   28:36   45.95  n/a     .000
14367>                   SUM=      1.0 01:SN_FO     54118.36  153.186 No_date   33:05   39.09  n/a     .000
14368> R0100:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14369>     SAVE HYD              1.0 01:SN_FO     54118.36  153.186 No_date   33:05   39.09  n/a     .000
14370>       fname :SN_FO.0100
14371>       remark:Total flows at Foster Drain
14372> # Hydrograph from Node Foster routed to Node at Cedarview Road
14373> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
14374> #
14375> R0100:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14376>     ROUTE CHANNEL    ->     1.0 02:SN_FO     54118.36  153.186 No_date   33:05   39.09  n/a     .000
14377> *   [RDT= 1.00] out<-     1.0 01:N_CE      54118.36  152.906 No_date   33:31   39.09  n/a     .000
14378>       [L/S/n=  159./ .082/.035]
14379>       {Vmax= 1.455:Dmax= 4.470}
14380> #*************************************************************************
14381> #    Catchment S-1
14382> #    - To Jock River (north and south of Jock)
14383> #    - Primarily agricultural fields; portion of sand quarry
14384> #*************************************************************************
14385> R0100:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14386>     CONTINUOUS NASHYD     1.0 01:S-1-B         55.36    3.260 No_date   28:23   45.95 .519     .000
14387>       [CN= 77.0: N= 3.00: Tp=  .45]
14388>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14389>       [InterEventTime=  12.00]
14390> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
14391> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
14392> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
14393> R0100:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14394>     CONTINUOUS STANDHYD   1.0 01:S-1-D1        21.67    4.117 No_date   28:01   70.58 .797     .000
14395>       [XIMP=.65:TIMP=.65]
14396>       [LOSS= 2 :CN= 75.0]
14397>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14398>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
14399>       [IaRECimp=   4.00: IaRECper=   4.00]
14400>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14401> R0100:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14402>     CONTINUOUS STANDHYD   1.0 01:S-1-D4         3.28     .705 No_date   28:00   70.58 .797     .000
14403>       [XIMP=.65:TIMP=.65]
14404>       [LOSS= 2 :CN= 75.0]
14405>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14406>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
14407>       [IaRECimp=   4.00: IaRECper=   4.00]
14408>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14409> R0100:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14410>     CONTINUOUS STANDHYD   1.0 01:S-1-D5        12.84    2.544 No_date   28:01   70.58 .797     .000
14411>       [XIMP=.65:TIMP=.65]
14412>       [LOSS= 2 :CN= 75.0]
14413>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14414>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
14415>       [IaRECimp=   4.00: IaRECper=   4.00]
14416>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14417> R0100:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14418>     CONTINUOUS STANDHYD   1.0 01:S-1-D6         1.75     .382 No_date   28:00   70.58 .797     .000
14419>       [XIMP=.65:TIMP=.65]
14420>       [LOSS= 2 :CN= 75.0]
14421>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14422>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
14423>       [IaRECimp=   4.00: IaRECper=   4.00]
14424>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14425> R0100:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14426>     CONTINUOUS STANDHYD   1.0 01:S-1-D7         2.03     .442 No_date   28:00   70.58 .797     .000
14427>       [XIMP=.65:TIMP=.65]
14428>       [LOSS= 2 :CN= 75.0]
14429>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14430>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
14431>       [IaRECimp=   4.00: IaRECper=   4.00]
14432>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14433> #    Catchment W_CLAR
14434> #    - To West Clarke Drain (south of the Jock)
14435> #    - Subdivision with 43% imp. as per Barrhaven South MSS
14436> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
14437> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
14438> #*************************************************************************
14439> R0100:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14440>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_MJ        1.77     .332 No_date   28:00   66.20 .747     .000
14441>       [XIMP=.48:TIMP=.59]
14442>       [LOSS= 2 :CN= 77.0]
14443>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14444>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
14445>       [IaRECimp=   4.00: IaRECper=   4.00]
14446>       [SMIN= 31.15: SMAX=207.66: SK= .010]
14447> # 5-Year + 12% Capture
14448> R0100:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14449>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_MJ        1.77     .332 No_date   28:00   66.20  n/a     .000
14450>                     out <=    1.0 01:W_CLAR_MJn      1.69     .213 No_date   27:52   66.22  n/a     .000
14451>               overflow <=     1.0 03:W_CLAR_MJj       .08     .115 No_date   28:01   66.20  n/a     .000
14452>     {MxStoUsed=.1530E-03  m3, TotOvfVol=.5337E-02  m3, N-Ovf=     1, TotDurOvf=   0.hrs}
14453> R0100:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14454>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_ALL     119.40   19.638 No_date   28:04   70.23 .793     .000
14455>       [XIMP=.60:TIMP=.65]
14456>       [LOSS= 2 :CN= 77.0]
14457>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14458>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
14459>       [IaRECimp=   4.00: IaRECper=   4.00]
14460>       [SMIN= 31.15: SMAX=207.66: SK= .010]
14461> R0100:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14462>     ADD HYD               1.0 02:W_CLAR_ALL    119.40   19.638 No_date   28:04   70.23  n/a     .000
14463>                       +     1.0 02:W_CLAR_MJj       .08     .115 No_date   28:01   66.20  n/a     .000
14464>                   SUM=      1.0 01:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
14465> R0100:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14466>     SAVE HYD              1.0 01:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
14467>       fname :W_CLAR.0100
14468>       remark:Total Flows to West Clarke
14469> #*************************************************************************
14470> #    West Clarke Pond 2
14471> #    - Rating curve obtained from Barrhaven South MSS modeling
14472> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
14473> #*************************************************************************
14474> R0100:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14475>     ROUTE RESERVOIR ->    1.0 02:W_CLAR      119.48   19.657 No_date   28:04   70.22  n/a     .000
14476>                     out <=    1.0 01:MS_P2       119.48   13.064 No_date   28:13   70.22  n/a     .000
14477>               overflow <=     1.0 03:P2-OVF        .00     .000 No_date    0:00    .00  n/a     .000
14478>     {MxStoUsed=.3189E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=     0, TotDurOvf=   0.hrs}
14479> #*************************************************************************
14480> R0100:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14481>     ADD HYD               1.0 02:N_CE      54118.36  152.906 No_date   33:31   39.09  n/a     .000
14482>                       +     1.0 02:S-1-D4         3.28     .705 No_date   28:00   70.58  n/a     .000
14483>                       +     1.0 02:S-1-D5        12.84    2.544 No_date   28:01   70.58  n/a     .000
14484>                       +     1.0 02:MS_P2       119.48   13.064 No_date   28:13   70.22  n/a     .000
14485>                       +     1.0 02:P2-OVF        .00     .000 No_date    0:00    .00  n/a     .000
14486>                   SUM=      1.0 01:SN_CE     54253.96  153.868 No_date   33:31   39.17  n/a     .000
14487> R0100:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14488>     SAVE HYD              1.0 01:SN_CE     54253.96  153.868 No_date   33:31   39.17  n/a     .000
14489>       fname :SN_CE.0100
14490>       remark:Total Flows before Station 5737 on Jock River
14491> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
14492> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
14493> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
14494> R0100:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14495>     ROUTE CHANNEL    ->     1.0 02:SN_CE     54253.96  153.868 No_date   33:31   39.17  n/a     .000
14496> *   [RDT= 1.00] out<-     1.0 01:5737      54253.96  144.122 No_date   35:48   39.17  n/a     .000
14497>       [L/S/n=  270./ .018/.035]
14498>       {Vmax=  .871:Dmax= 5.567}
14499> R0100:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14500>     ADD HYD               1.0 02:5737      54253.96  144.122 No_date   35:48   39.17  n/a     .000
14501>                       +     1.0 02:S-1-D1        21.67    4.117 No_date   28:01   70.58  n/a     .000
14502>                       +     1.0 02:S-1-D6         1.75     .382 No_date   28:00   70.58  n/a     .000
14503>                       +     1.0 02:S-1-D7         2.03     .442 No_date   28:00   70.58  n/a     .000
14504>                   SUM=      1.0 01:5002      54279.41  144.226 No_date   35:48   39.18  n/a     .000
14505> R0100:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14506>     SAVE HYD              1.0 01:5002      54279.41  144.226 No_date   35:48   39.18  n/a     .000
14507>       fname :5002.0100
14508>       remark:Total Flows before Station 5002 on Jock River
14509> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
14510> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
14511> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
14512> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
14513> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
14514> R0100:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14515>     ROUTE CHANNEL    ->     1.0 02:5002      54279.41  144.226 No_date   35:48   39.18  n/a     .000
14516> *   [RDT= 1.00] out<-     1.0 01:N_WCa     54279.41  144.212 No_date   35:53   39.19  n/a     .000
14517>       [L/S/n=  245./ .095/.035]
14518>       {Vmax= 1.317:Dmax= 3.143}
14519> R0100:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14520>     ROUTE CHANNEL    ->     1.0 02:N_WCa     54279.41  144.212 No_date   35:53   39.19  n/a     .000
14521> *   [RDT= 1.00] out<-     1.0 01:N_WCb     54279.41  144.188 No_date   36:00   39.19  n/a     .000
14522>       [L/S/n=  245./ .095/.035]
14523>       {Vmax= 1.317:Dmax= 3.143}
14524> R0100:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14525>     ROUTE CHANNEL    ->     1.0 02:N_WCb     54279.41  144.188 No_date   36:00   39.19  n/a     .000
14526> *   [RDT= 1.00] out<-     1.0 01:N_WC      54279.41  144.176 No_date   36:05   39.19  n/a     .000
14527>       [L/S/n=  245./ .095/.035]
14528>       {Vmax= 1.317:Dmax= 3.143}
14529> #*************************************************************************
14530> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
14531> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
14532> #
14533> R0100:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14534>     ROUTE CHANNEL    ->     1.0 02:N_WC      54279.41  144.176 No_date   36:05   39.19  n/a     .000
14535> *   [RDT= 1.00] out<-     1.0 01:N_KB      54279.41  143.629 No_date   36:32   39.19  n/a     .000
14536>       [L/S/n= 1020./ .050/.035]
14537>       {Vmax= 1.006:Dmax= 3.865}
14538> #*************************************************************************
14539> #    Catchment KEN_BU
14540> #    - To Kennedy-Burnett SWM Facility
14541> #    - Outlets to Fraser-Clarke drain (north of the Jock)
14542> #    - Medium density residential subdivision
14543> #*************************************************************************
14544> #
14545> #   Existing Kennedy-Burnett SWM Facility
14546> #    - Rating curve obtained from URTKBP
14547> #    - Tributary Drainage Area to Pond = 160 ha
14548> #*************************************************************************
14549> R0100:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14550>     CONTINUOUS STANDHYD   1.0 01:KB-01A        40.82    5.490 No_date   28:09   36.71 .415     .000
14551>       [XIMP=.10:TIMP=.40]
14552>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14553>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
14554>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
14555>       [IaRECimp=   4.00: IaRECper=   4.00]
14556> R0100:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14557>     COMPUTE DUALHYD       1.0 01:KB-01A        40.82    5.490 No_date   28:09   36.71  n/a     .000
14558>       Major System   /     1.0 02:KB-01A-MJ        .00     .000 No_date    0:00    .00  n/a     .000
14559>       Minor System   \     1.0 02:KB-01A-MN      40.82    3.600 No_date   28:44   36.91  n/a     .000
14560>       {MjSysSto=.1774E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=   0.hrs}
14561> R0100:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14562>     ADD HYD               1.0 02:KB-01A-MJ        .00     .000 No_date    0:00    .00  n/a     .000
14563>                       +     1.0 02:KB-01A-MN      40.82    3.600 No_date   28:44   36.91  n/a     .000
14564>                   SUM=      1.0 01:KB-01A-S       40.82    3.600 No_date   28:44   36.91  n/a     .000
14565> R0100:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14566>     CONTINUOUS STANDHYD   1.0 01:KB-01B        31.10    4.072 No_date   28:06   40.61 .458     .000
14567>       [XIMP=.19:TIMP=.38]
14568>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14569>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
14570>       [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
14571>       [IaRECimp=   4.00: IaRECper=   4.00]
14572> R0100:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14573>     COMPUTE DUALHYD       1.0 01:KB-01B        31.10    4.072 No_date   28:06   40.61  n/a     .000
14574>       Major System   /     1.0 02:KB-01B-MJ        .00     .000 No_date    0:00    .00  n/a     .000
14575>       Minor System   \     1.0 03:KB-01B-MN      31.10    1.585 No_date   27:51   40.77  n/a     .000
14576>       {MjSysSto=.3465E+04, TotOvfVol=.0000E+00, N-Ovf=     0, TotDurOvf=   0.hrs}
14577> R0100:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14578>     ADD HYD               1.0 02:KB-01B-MJ        .00     .000 No_date    0:00    .00  n/a     .000
14579>                       +     1.0 02:KB-01B-MN      31.10    1.585 No_date   27:51   40.77  n/a     .000
14580>                   SUM=      1.0 01:KB-01B-S       31.10    1.585 No_date   27:51   40.77  n/a     .000
14581> R0100:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14582>     CONTINUOUS STANDHYD   1.0 01:KB-01C        13.78    2.471 No_date   28:03   41.89 .473     .000
14583>       [XIMP=.20:TIMP=.41]
14584>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14585>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14586>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
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14587>       [IaREcimp=   4.00: IaRECper=   4.00]
14588> R0100:C00197-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14589>       COMPUTE DUALHYD       1.0 01:KB-01C        13.78    2.471 No_date   28:03   41.89  n/a     .000
14590>         Major System   /    1.0 02:KB-01C-MJ        .00     .000 No_date   0:00     .00  n/a     .000
14591>         Minor System   \    1.0 03:KB-01C-MN       13.78    1.350 No_date   28:37   42.09  n/a     .000
14592>           {MjSysSto=.8656E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14593> R0100:C00198-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14594>       ADD HYD               1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
14595>                        +    1.0 02:KB-01C-MN       13.78    1.350 No_date   28:37   42.09  n/a     .000
14596>                      SUM=   1.0 01:KB-01C-S        13.78    1.350 No_date   28:37   42.09  n/a     .000
14597> R0100:C00199-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14598>       CONTINUOUS STANDHYD   1.0 01:KB-03         84.78   12.777 No_date   28:07   41.33 .467     .000
14599>         [XIMP=.20:TIMP=.39]
14600>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14601>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14602>         [Impervious    area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
14603>         [IaRECimp=   4.00: IaRECper=   4.00]
14604> R0100:C00200-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14605>       COMPUTE DUALHYD       1.0 01:KB-03         84.78   12.777 No_date   28:07   41.33  n/a     .000
14606>         Major System   /    1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14607>         Minor System   \    1.0 03:KB-03-MN        84.78    5.270 No_date   29:11   41.33  n/a     .000
14608>           {MjSysSto=.8591E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14609> R0100:C00201-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14610>       ADD HYD               1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14611>                        +    1.0 02:KB-03-MN        84.78    5.270 No_date   29:11   41.33  n/a     .000
14612>                      SUM=   1.0 01:KB-03-S         84.78    5.270 No_date   29:11   41.33  n/a     .000
14613> R0100:C00202-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14614>       CONTINUOUS STANDHYD   1.0 01:KB-04          6.95    1.754 No_date   28:00   78.30 .884     .000
14615>         [XIMP=.85:TIMP=.85]
14616>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14617>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14618>         [Impervious    area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
14619>         [IaRECimp=   4.00: IaRECper=   4.00]
14620> R0100:C00203-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14621>       COMPUTE DUALHYD       1.0 01:KB-04          6.95    1.754 No_date   28:00   78.30  n/a     .000
14622>         Major System   /    1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14623>         Minor System   \    1.0 03:KB-04-MN        6.95     .503 No_date   27:43   78.64  n/a     .000
14624>           {MjSysSto=.1121E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14625> R0100:C00204-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14626>       ADD HYD               1.0 02:KB-04-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14627>                        +    1.0 02:KB-04-MN        6.95     .503 No_date   27:43   78.64  n/a     .000
14628>                      SUM=   1.0 01:KB-04-S         6.95     .503 No_date   27:43   78.64  n/a     .000
14629> R0100:C00205-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14630>       CONTINUOUS STANDHYD   1.0 01:KB-05          5.19    1.406 No_date   28:00   82.69 .934     .000
14631>         [XIMP=.93:TIMP=.93]
14632>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14633>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14634>         [Impervious    area: IAimp= 1.57:SLPI= .50:LGI= 186.:MNI=.013:SCI=   .0]
14635>         [IaRECimp=   4.00: IaRECper=   4.00]
14636> R0100:C00206-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14637>       CONTINUOUS STANDHYD   1.0 01:KB-06         12.93    3.585 No_date   28:00   79.73 .906     .000
14638>         [XIMP=.87:TIMP=.87]
14639>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14640>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14641>         [Impervious    area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
14642>         [IaRECimp=   4.00: IaRECper=   4.00]
14643> R0100:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14644>       COMPUTE DUALHYD       1.0 01:KB-06         12.93    3.585 No_date   28:00   79.73  n/a     .000
14645>         Major System   /    1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14646>         Minor System   \    1.0 03:KB-06-MN        12.93    2.262 No_date   27:51   79.89  n/a     .000
14647>           {MjSysSto=.6247E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14648> R0100:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14649>       ADD HYD               1.0 02:KB-06-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14650>                        +    1.0 02:KB-06-MN        12.93    2.262 No_date   27:51   79.89  n/a     .000
14651>                      SUM=   1.0 01:KB-06-S         12.93    2.262 No_date   27:51   79.89  n/a     .000
14652> R0100:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14653>       CONTINUOUS STANDHYD   1.0 01:KB-11          4.03    1.012 No_date   28:00   67.54 .763     .000
14654>         [XIMP=.68:TIMP=.68]
14655>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14656>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14657>         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
14658>         [IaRECimp=   4.00: IaRECper=   4.00]
14659> R0100:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14660>       COMPUTE DUALHYD       1.0 01:KB-11          4.03    1.012 No_date   28:00   67.54  n/a     .000
14661>         Major System   /    1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14662>         Minor System   \    1.0 03:KB-11-MN        4.03     .577 No_date   27:51   67.60  n/a     .000
14663>           {MjSysSto=.2184E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14664> R0100:C00211-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14665>       ADD HYD               1.0 02:KB-11-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14666>                        +    1.0 02:KB-11-MN        4.03     .577 No_date   27:51   67.60  n/a     .000
14667>                      SUM=   1.0 01:KB-11-S         4.03     .577 No_date   27:51   67.60  n/a     .000
14668> R0100:C00212-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14669>       CONTINUOUS STANDHYD   1.0 01:S1             4.99    1.426 No_date   28:00   82.69 .934     .000
14670>         [XIMP=.93:TIMP=.93]
14671>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14672>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14673>         [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
14674>         [IaRECimp=   4.00: IaRECper=   4.00]
14675> R0100:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14676>       CONTINUOUS STANDHYD   1.0 01:KB-15          2.15     .548 No_date   28:00   75.20 .849     .000
14677>         [XIMP=.79:TIMP=.79]
14678>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14679>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14680>         [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
14681>         [IaRECimp=   4.00: IaRECper=   4.00]
14682> R0100:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14683>       ADD HYD               1.0 02:KB-01A-S         40.82    3.600 No_date   28:44   36.91  n/a     .000
14684>                        +    1.0 02:KB-01B-S         31.10    1.585 No_date   27:51   40.77  n/a     .000
14685>                        +    1.0 02:KB-01C-S         13.78    1.350 No_date   28:37   42.09  n/a     .000
14686>                        +    1.0 02:KB-03-S          84.78    5.270 No_date   29:11   41.33  n/a     .000
14687>                        +    1.0 02:KB-04-S          6.95     .503 No_date   27:43   78.64  n/a     .000
14688>                        +    1.0 02:KB-05            5.19    1.406 No_date   28:00   82.69  n/a     .000
14689>                        +    1.0 02:KB-06-S         12.93    2.262 No_date   27:51   79.89  n/a     .000
14690>                        +    1.0 02:KB-11-S          4.03     .577 No_date   27:51   67.60  n/a     .000
14691>                        +    1.0 02:KB-15            2.15     .548 No_date   28:00   75.20  n/a     .000
14692>                        +    1.0 02:S1               4.99    1.426 No_date   28:00   82.69  n/a     .000
14693>                      SUM=   1.0 01:KB-P1          206.72   18.527 No_date   28:00   46.99  n/a     .000
14694> R0100:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14695>       ROUTE RESERVOIR ->    1.0 02:KB-P1          206.72   18.527 No_date   28:00   46.99  n/a     .000
14696>                        out <=  1.0 01:KB-P1P       196.58   12.438 No_date   28:00   46.99  n/a     .000
14697>                overflow <=   1.0 03:KB-P1ovf       10.14    6.062 No_date   28:00   46.99  n/a     .000
14698>         {MxStoUsed=.7330E+00  m3, TotOvfVol=.4763E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
14699> R0100:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14700>       ADD HYD               1.0 02:KB-P1R         196.58   12.438 No_date   28:00   46.99  n/a     .000
14701>                        +    1.0 02:KB-P1ovf        10.14    6.062 No_date   28:00   46.99  n/a     .000
14702>                      SUM=   1.0 01:KB-Pond1       206.72   18.500 No_date   28:00   46.99  n/a     .000
14703> R0100:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14704>       SAVE HYD              1.0 01:KB-Pond1       206.72   18.500 No_date   28:00   46.99  n/a     .000
14705>         fname:KB-Pond1.0100
14706>         remark:Total Flows at KB first pond
14707> R0100:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14708>       CONTINUOUS STANDHYD   1.0 01:KB-07          10.86    2.908 No_date   28:00   79.06 .893     .000
14709>         [XIMP=.86:TIMP=.86]
14710>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14711>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14712>         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
14713>         [IaRECimp=   4.00: IaRECper=   4.00]
14714> R0100:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14715>       COMPUTE DUALHYD       1.0 01:KB-07          10.86    2.908 No_date   28:00   79.06  n/a     .000
14716>         Major System   /    1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14717>         Minor System   \    1.0 03:KB-07-MN        10.86    2.094 No_date   27:53   79.26  n/a     .000
14718>           {MjSysSto=.3334E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14719> R0100:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14720>       ADD HYD               1.0 02:KB-07-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14721>                        +    1.0 02:KB-07-MN        10.86    2.094 No_date   27:53   79.26  n/a     .000
14722>                      SUM=   1.0 01:KB-07-S         10.86    2.094 No_date   27:53   79.26  n/a     .000
14723> R0100:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14724>       CONTINUOUS STANDHYD   1.0 01:KB-08          6.61    1.609 No_date   28:00   65.36 .738     .000
14725>         [XIMP=.64:TIMP=.64]
14726>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14727>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14728>         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
14729>         [IaRECimp=   4.00: IaRECper=   4.00]
14730> R0100:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14731>       COMPUTE DUALHYD       1.0 01:KB-08          6.61    1.609 No_date   28:00   65.36  n/a     .000
14732>         Major System   /    1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14733>         Minor System   \    1.0 03:KB-08-MN        6.61    1.058 No_date   27:52   65.50  n/a     .000
14734>           {MjSysSto=.2397E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14735> R0100:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14736>       ADD HYD               1.0 02:KB-08-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14737>                        +    1.0 02:KB-08-MN        6.61    1.058 No_date   27:52   65.50  n/a     .000
14738>                      SUM=   1.0 01:KB-08-S         6.61    1.058 No_date   27:52   65.50  n/a     .000
14739> R0100:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14740>       CONTINUOUS STANDHYD   1.0 01:KB-09          2.60     .727 No_date   28:00   78.38 .885     .000
14741>         [XIMP=.86:TIMP=.86]
14742>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14743>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14744>         [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
14745>         [IaRECimp=   4.00: IaRECper=   4.00]
14746> R0100:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14747>       CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37     .663 No_date   28:00   78.39 .885     .000
14748>         [XIMP=.86:TIMP=.86]
14749>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14750>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14751>         [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
14752>         [IaRECimp=   4.00: IaRECper=   4.00]
14753> R0100:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14754>       CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14     .322 No_date   28:00   78.39 .885     .000
14755>         [XIMP=.86:TIMP=.86]
14756>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14757>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14758>         [Impervious    area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
14759>         [IaRECimp=   4.00: IaRECper=   4.00]
14760> R0100:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14761>       CONTINUOUS STANDHYD   1.0 01:KB-12          4.86    1.294 No_date   28:00   74.45 .841     .000
14762>         [XIMP=.79:TIMP=.79]
14763>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14764>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14765>         [Impervious    area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
14766>         [IaRECimp=   4.00: IaRECper=   4.00]
14767> R0100:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14768>       COMPUTE DUALHYD       1.0 01:KB-12          4.86    1.294 No_date   28:00   74.45  n/a     .000
14769>         Major System   /    1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14770>         Minor System   \    1.0 03:KB-12-MN        4.86     .867 No_date   28:11   74.79  n/a     .000
14771>           {MjSysSto=.1873E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14772> R0100:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14773>       ADD HYD               1.0 02:KB-12-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14774>                        +    1.0 02:KB-12-MN        4.86     .867 No_date   28:11   74.79  n/a     .000
14775>                      SUM=   1.0 01:KB-12-S         4.86     .867 No_date   28:11   74.79  n/a     .000
14776> R0100:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14777>       CONTINUOUS STANDHYD   1.0 01:KB-13          10.19    2.407 No_date   28:00   65.36 .738     .000
14778>         [XIMP=.64:TIMP=.64]
14779>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14780>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14781>         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
14782>         [IaRECimp=   4.00: IaRECper=   4.00]
14783> R0100:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14784>       COMPUTE DUALHYD       1.0 01:KB-13          10.19    2.407 No_date   28:00   65.36  n/a     .000
14785>         Major System   /    1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14786>         Minor System   \    1.0 03:KB-13-MN        10.19    1.722 No_date   27:54   65.63  n/a     .000
14787>           {MjSysSto=.2806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14788> R0100:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14789>       ADD HYD               1.0 02:KB-13-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14790>                        +    1.0 02:KB-13-MN        10.19    1.722 No_date   27:54   65.63  n/a     .000
14791>                      SUM=   1.0 01:KB-13-S         10.19    1.722 No_date   27:54   65.63  n/a     .000
14792> R0100:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14793>       CONTINUOUS STANDHYD   1.0 01:KB-14           5.47    1.338 No_date   28:00   65.36 .738     .000
14794>         [XIMP=.64:TIMP=.64]
14795>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14796>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14797>         [Impervious    area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
14798>         [IaRECimp=   4.00: IaRECper=   4.00]
14799> R0100:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14800>       COMPUTE DUALHYD       1.0 01:KB-14           5.47    1.338 No_date   28:00   65.36  n/a     .000
14801>         Major System   /    1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14802>         Minor System   \    1.0 03:KB-14-MN        5.47     .873 No_date   27:52   65.48  n/a     .000
14803>           {MjSysSto=.2041E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14804> R0100:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14805>       ADD HYD               1.0 02:KB-14-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14806>                        +    1.0 02:KB-14-MN        5.47     .873 No_date   27:52   65.48  n/a     .000
14807>                      SUM=   1.0 01:KB-14-S         5.47     .873 No_date   27:52   65.48  n/a     .000
14808> R0100:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14809>       CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42     .803 No_date   28:01   70.16 .792     .000
14810>         [XIMP=.71:TIMP=.71]
14811>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14812>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14813>         [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
14814>         [IaRECimp=   4.00: IaRECper=   4.00]
14815> R0100:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14816>       ADD HYD               1.0 02:KB-Pond1       206.72   18.500 No_date   28:00   46.99  n/a     .000
14817>                        +    1.0 02:KB-07-S          10.86    2.094 No_date   27:53   79.26  n/a     .000
14818>                        +    1.0 02:KB-08-S           6.61    1.058 No_date   27:52   65.50  n/a     .000
14819>                        +    1.0 02:KB-09             2.60     .727 No_date   28:00   78.38  n/a     .000
14820>                        +    1.0 02:KB-10_1           2.37     .663 No_date   28:00   78.38  n/a     .000
14821>                        +    1.0 02:KB-10_2           1.14     .322 No_date   28:00   78.39  n/a     .000
14822>                        +    1.0 02:KB-12-S           4.86     .867 No_date   28:11   74.79  n/a     .000
14823>                        +    1.0 02:KB-13-S          10.19    1.722 No_date   27:54   65.63  n/a     .000
14824>                        +    1.0 02:KB-14-S           5.47     .873 No_date   27:52   65.48  n/a     .000
14825>                        +    1.0 02:KB-16_2           3.42     .803 No_date   28:01   70.16  n/a     .000
14826>                      SUM=   1.0 01:KB-P2          254.24   27.626 No_date   28:00   51.59  n/a     .000
14827> R0100:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14828>       ROUTE RESERVOIR ->    1.0 02:KB-P2          254.24   27.626 No_date   28:00   51.59  n/a     .000
14829>                        out <=  1.0 01:KB-P2P       249.74   17.634 No_date   28:06   51.59  n/a     .000
14830>                overflow <=   1.0 02:KB-P2ovf        4.50    6.910 No_date   28:06   51.59  n/a     .000
14831>         {MxStoUsed=.1110E+01  m3, TotOvfVol=.2320E+00  m3, N-Ovf=    2, TotDurOvf=    0.hrs}
14832> R0100:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14833>       ADD HYD               1.0 02:KB-P2R         249.74   17.634 No_date   28:06   51.59  n/a     .000
14834>                        +    1.0 02:KB-P2ovf         4.50    6.910 No_date   28:06   51.59  n/a     .000
14835>                      SUM=   1.0 01:KB-Pond2       254.24   24.544 No_date   28:06   51.59  n/a     .000
14836> R0100:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14837>       SAVE HYD              1.0 01:KB-Pond2       254.24   24.544 No_date   28:06   51.59  n/a     .000
14838>         fname:KB-Pond2.0100
14839>         remark:Total Flows at KB second pond
14840> R0100:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14841>       CONTINUOUS STANDHYD   1.0 01:KB-16_1          2.80     .686 No_date   28:00   72.68 .821     .000
14842>         [XIMP=.75:TIMP=.75]
14843>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14844>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14845>         [Impervious    area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
14846>         [IaRECimp=   4.00: IaRECper=   4.00]
14847> R0100:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14848>       ADD HYD               1.0 02:KB-Pond2       254.24   24.544 No_date   28:06   51.59  n/a     .000
14849>                        +    1.0 02:KB-16_1          2.80     .686 No_date   28:00   72.68  n/a     .000
14850>                      SUM=   1.0 01:KB-P3          257.04   24.930 No_date   28:06   51.82  n/a     .000
14851> R0100:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14852>       ROUTE RESERVOIR ->    1.0 02:KB-P3          257.04   24.930 No_date   28:06   51.82  n/a     .000
14853>                        out <=  1.0 01:KB-P3P         8.56     .051 No_date   17:08   51.01  n/a     .000
14854>                overflow <=   1.0 03:KB-P3ovf       248.48   24.659 No_date   28:07   51.82  n/a     .000
14855>         {MxStoUsed=.1991E-02  m3, TotOvfVol=.1288E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
14856> R0100:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14857>       ADD HYD               1.0 02:KB-P3R           8.56     .051 No_date   17:08   51.81  n/a     .000
14858>                        +    1.0 02:KB-P3ovf       248.48   24.659 No_date   28:07   51.82  n/a     .000
14859>                      SUM=   1.0 01:KB-Pond3       257.04   24.710 No_date   28:07   51.82  n/a     .000
14860> R0100:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14861>       SAVE HYD              1.0 01:KB-Pond3       257.04   24.710 No_date   28:07   51.82  n/a     .000
14862>         fname:KB-Pond3.0100
14863>         remark:Total Flows at KB third pond
14864> #*************************************************************************
14865> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
14866> #    - TO FRASER-CLARKE DRAIN
14867> #*************************************************************************
14868> R0100:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14869>       CONTINUOUS STANDHYD   1.0 01:FC-01           8.03    1.646 No_date   28:01   54.40 .614     .000
14870>         [XIMP=.47:TIMP=.47]
14871>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14872>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14873>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
14874>         [IaRECimp=   4.00: IaRECper=   4.00]
14875> R0100:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14876>       COMPUTE DUALHYD       1.0 01:FC-01           8.03    1.646 No_date   28:01   54.40  n/a     .000
14877>         Major System   /    1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14878>         Minor System   \    1.0 03:FC-01-MN        8.03     .756 No_date   27:49   54.46  n/a     .000
14879>           {MjSysSto=.6274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14880> R0100:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14881>       ADD HYD               1.0 02:FC-01-MJ         .00     .000 No_date    0:00     .00  n/a     .000
14882>                        +    1.0 02:FC-01-MN        8.03     .756 No_date   27:49   54.46  n/a     .000
14883>                      SUM=   1.0 01:FC-01-S         8.03     .756 No_date   27:49   54.46  n/a     .000
14884> R0100:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14885>       CONTINUOUS STANDHYD   1.0 01:FC-02          16.05    4.197 No_date   28:00   82.69 .934     .000
14886>         [XIMP=.93:TIMP=.93]
14887>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
14888>         [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14889>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
14890>         [IaRECimp=   4.00: IaRECper=   4.00]
14891> R0100:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14892>       COMPUTE DUALHYD       1.0 01:FC-02          16.05    4.197 No_date   28:00   82.69  n/a     .000
14893>         Major System   /    1.0 02:FC-02-MJ         .45    1.768 No_date   28:05   82.69  n/a     .000
14894>         Minor System   \    1.0 03:FC-02-MN       15.60    1.159 No_date   27:43   82.88  n/a     .000
14895>           {MjSysSto=.2385E+04, TotOvfVol=.3716E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
14896> R0100:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14897>       ADD HYD               1.0 02:FC-02-MJ         .45    1.768 No_date   28:05   82.69  n/a     .000
14898>                        +    1.0 02:FC-02-MN       15.60    1.159 No_date   27:43   82.88  n/a     .000
14899>                      SUM=   1.0 01:FC-02-S         16.05    2.927 No_date   28:05   82.87  n/a     .000
14900> R0100:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14901>       CONTINUOUS
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14961>       Major System   /     1.0 02:JR-02-MJ       .02     .087 No_date   28:03   64.85  n/a     .000
14962>       Minor System   \     1.0 03:JR-02-MN      1.57     .153 No_date   27:44   65.24  n/a     .000
14963>         {MjSysSto=.1530E+03, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
14964> R0100:C00263------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14965>       ADD HYD                1.0 02:JR-02-MJ       .02     .087 No_date   28:03   64.85  n/a     .000
14966>                         +     1.0 02:JR-02-MN      1.57     .153 No_date   27:44   65.24  n/a     .000
14967>                       SUM=    1.0 01:JR-02-S       1.59     .240 No_date   28:03   65.23  n/a     .000
14968> #*******************************************************************************
14969> #    Catchment FRASER
14970> #    - To Fraser-Clarke drain (north of the Jock)
14971> #    - Developed land with assumed 43% imp.
14972> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
14973> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
14974> #*******************************************************************************
14975> R0100:C00264------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14976>       CONTINUOUS NASHYD      1.0 01:FRASER-DRN    13.65     .837 No_date   28:21   45.95 .519     .000
14977>         [CN= 77.0: N= 3.00: Tp=    .43]
14978>         [IaREC=  4.00: SMIN=  31.15: SMAX=207.66: SK=  .010]
14979>         [InterEventTime=  12.00]
14980> R0100:C00265------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14981>       CONTINUOUS STANDHYD    1.0 01:FRASER-D      21.61    4.106 No_date   28:01   69.71 .787     .000
14982>         [XIMP=.58:TIMP=.58]
14983>         [LOSS= 2 :CN= 80.0]
14984>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14985>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
14986>         [IaREcimp=   4.00: IaRECper=   4.00]
14987>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
14988> R0100:C00266------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14989>       COMPUTE DUALHYD        1.0 01:FRASER-D      21.61    4.106 No_date   28:01   69.71  n/a     .000
14990>         Major System   /     1.0 02:FRASER-J       .00     .000 No_date   28:23   45.95  n/a     .000
14991>         Minor System   \     1.0 03:FRASER-N      21.61    2.281 No_date   27:51   69.88  n/a     .000
14992>         {MjSysSto=.1163E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14993> R0100:C00267------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14994>       ADD HYD                1.0 02:FRASER-J       .00     .000 No_date   0:00     .00  n/a     .000
14995>                         +     1.0 02:FRASER-N      21.61    2.281 No_date   27:51   69.88  n/a     .000
14996>                       SUM=    1.0 01:FRASER-S      21.61    2.281 No_date   27:51   69.88  n/a     .000
14997> R0100:C00268------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14998>       ADD HYD                1.0 02:KB-Pond3     257.04   24.710 No_date   28:07   51.82  n/a     .000
14999>                         +     1.0 02:S-1-B         55.36    3.260 No_date   28:23   45.95  n/a     .000
15000>                         +     1.0 02:FRASER-DRN    13.65    .837 No_date   28:21   45.95  n/a     .000
15001>                         +     1.0 02:FRASER-S      21.61    2.281 No_date   27:51   69.88  n/a     .000
15002>                         +     1.0 02:N_KB        54279.41 143.629 No_date   36:32   39.19  n/a     .000
15003>                         +     1.0 02:FC-01-S        8.03    .756 No_date   27:49   54.46  n/a     .000
15004>                         +     1.0 02:FC-02-S       16.05   2.927 No_date   28:05   82.87  n/a     .000
15005>                         +     1.0 02:FC-03-S        7.37   1.019 No_date   28:06   64.90  n/a     .000
15006>                       SUM=    1.0 01:4241        54658.52 144.306 No_date   36:29   39.28  n/a     .000
15007> R0100:C00269------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15008>       SAVE HYD               1.0 01:4241        54658.52 144.306 No_date   36:29   39.28  n/a     .000
15009>         fname :4241.0100
15010>         remark:Total Flows at Ken-Burnett Outlet
15011> # Hydrograph from Node Ken-Burnett to station 3633
15012> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
15013> #
15014> R0100:C00270------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15015>       ROUTE CHANNEL    ->     1.0 02:4241        54658.52 144.306 No_date   36:29   39.28  n/a     .000
15016>         [RDT= 1.00] out<-     1.0 01:4241-out    54658.52 144.351 No_date   36:25   39.28  n/a     .000
15017>           [L/S/n=  294./ .109/.035]
15018>           {Vmax= 1.395:Dmax= 2.595}
15019> R0100:C00271------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15020>       ADD HYD                1.0 02:4241-out    54658.52 144.351 No_date   36:25   39.28  n/a     .000
15021>                         +     1.0 02:FC-04-S       12.87    1.719 No_date   28:07   65.09  n/a     .000
15022>                         +     1.0 02:JR-01-S        8.24    1.034 No_date   28:06   64.95  n/a     .000
15023>                         +     1.0 02:JR-02-S        1.59     .240 No_date   28:03   65.23  n/a     .000
15024>                       SUM=    1.0 01:SN_KB       54681.21 144.394 No_date   36:25   39.29  n/a     .000
15025> R0100:C00272------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15026>       SAVE HYD               1.0 01:SN_KB       54681.21 144.394 No_date   36:25   39.29  n/a     .000
15027>         fname :SN_KB.0100
15028>         remark:HYD_COMMENT=["Total Flows before Station 3633]
15029> # Hydrograph from Station 3633 to Node Todd
15030> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
15031> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
15032> #
15033> R0100:C00273------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15034>       ROUTE CHANNEL    ->     1.0 02:SN_KB       54681.21 144.394 No_date   36:25   39.29  n/a     .000
15035>         [RDT= 1.00] out<-     1.0 01:N_TO        54681.21 144.359 No_date   36:30   39.29  n/a     .000
15036>           [L/S/n=  608./ .247/.035]
15037>           {Vmax= 1.905:Dmax= 1.942}
15038> #*******************************************************************************
15039> #    Catchment Greenbank
15040> #    - To Greenbank Drain (south of the Jock)
15041> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
15042> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
15043> #*******************************************************************************
15044> R0100:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15045>       CONTINUOUS STANDHYD    1.0 01:Greenbank     36.60    7.069 No_date   28:01   71.80 .811     .000
15046>         [XIMP=.64:TIMP=.68]
15047>         [LOSS= 2 :CN= 77.0]
15048>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15049>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
15050>         [IaREcimp=   4.00: IaRECper=   4.00]
15051>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15052> R0100:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15053>       ROUTE RESERVOIR  ->     1.0 02:Greenbank     36.60    7.069 No_date   28:01   71.80  n/a     .000
15054>                          out <=    1.0 01:GreenB_MN    36.60    5.350 No_date   28:07   71.80  n/a     .000
15055>                        overflow <=    1.0 03:GreenB_MJ     .00     .000 No_date   0:00     .00  n/a     .000
15056>         {MxStoUsed=.9351E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15057> R0100:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15058>       ADD HYD                1.0 02:N_TO        54681.21 144.359 No_date   36:30   39.29  n/a     .000
15059>                         +     1.0 02:GreenB_MJ      .00     .000 No_date   0:00     .00  n/a     .000
15060>                         +     1.0 02:GreenB_MN     36.60    5.350 No_date   28:07   71.80  n/a     .000
15061>                       SUM=    1.0 01:GreenB      54717.82 144.531 No_date   36:30   39.32  n/a     .000
15062> R0100:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15063>       SAVE HYD               1.0 01:GreenB      54717.82 144.531 No_date   36:30   39.32  n/a     .000
15064>         fname :GreenB.0100
15065>         remark:Total Flows at Greenbank Drain
15066> #*******************************************************************************
15067> #    Catchment TODD
15068> #    - To Todd Drain (south of the Jock)
15069> #    - Subdivision with 43% imp. as per Barrhaven South MSS
15070> #    - 2020-11-30 increase imp. based on P598(04)-11
15071> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
15072> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
15073> #*******************************************************************************
15074> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
15075> R0100:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15076>       CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10     .428 No_date   28:00   66.78 .754     .000
15077>         [XIMP=.53:TIMP=.57]
15078>         [LOSS= 2 :CN= 77.0]
15079>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15080>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
15081>         [IaREcimp=   4.00: IaRECper=   4.00]
15082>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15083> R0100:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15084>       CONTINUOUS STANDHYD    1.0 01:TODD_MN3       .12     .025 No_date   28:00   66.78 .754     .000
15085>         [XIMP=.53:TIMP=.57]
15086>         [LOSS= 2 :CN= 77.0]
15087>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15088>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
15089>         [IaREcimp=   4.00: IaRECper=   4.00]
15090>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15091> R0100:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15092>       CONTINUOUS STANDHYD    1.0 01:TODD_MJ       30.23    5.210 No_date   28:02   68.65 .775     .000
15093>         [XIMP=.52:TIMP=.64]
15094>         [LOSS= 2 :CN= 77.0]
15095>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15096>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
15097>         [IaREcimp=   4.00: IaRECper=   4.00]
15098>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15099> R0100:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15100>       CONTINUOUS STANDHYD    1.0 01:TODD_ALL     112.91   17.286 No_date   28:04   66.60 .752     .000
15101>         [XIMP=.52:TIMP=.57]
15102>         [LOSS= 2 :CN= 77.0]
15103>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15104>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
15105>         [IaREcimp=   4.00: IaRECper=   4.00]
15106>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15107> R0100:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15108>       CONTINUOUS STANDHYD    1.0 01:TODD_P         3.06     .669 No_date   28:00   70.28 .794     .000
15109>         [XIMP=.63:TIMP=.63]
15110>         [LOSS= 2 :CN= 77.0]
15111>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15112>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
15113>         [IaREcimp=   4.00: IaRECper=   4.00]
15114>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15115> # 5-Year + 12% Capture
15116> R0100:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15117>       ROUTE RESERVOIR  ->     1.0 02:TODD_MJ       30.23    5.210 No_date   28:02   68.65  n/a     .000
15118>                          out <=    1.0 03:TODD_MJn      28.64    3.314 No_date   27:54   68.65  n/a     .000
15119>                        overflow <=    1.0 03:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a     .000
15120>         {MxStoUsed=.1512E-03  m3, TotOvfVol=.1094E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
15121> # 5-Year + 12% Capture
15122> R0100:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15123>       ROUTE RESERVOIR  ->     1.0 02:TODD_MN2       2.10     .428 No_date   28:00   66.78  n/a     .000
15124>                          out <=    1.0 01:TODD_MN2n      1.99     .268 No_date   27:52   66.78  n/a     .000
15125>                        overflow <=    1.0 03:TODD_MN2j      .11     .155 No_date   28:00   66.78  n/a     .000
15126>         {MxStoUsed=.1204E-03  m3, TotOvfVol=.7282E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
15127> R0100:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15128>       ROUTE RESERVOIR  ->     1.0 02:TODD_MN3       .12     .025 No_date   28:00   66.78  n/a     .000
15129>                          out <=    1.0 01:TODD_MN3n      .11     .016 No_date   27:52   66.78  n/a     .000
15130>                        overflow <=    1.0 03:TODD_MN3j      .01     .009 No_date   28:00   66.78  n/a     .000
15131>         {MxStoUsed=.9808E-04  m3, TotOvfVol=.3933E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
15132> R0100:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15133>       CONTINUOUS STANDHYD    1.0 01:A2            25.50    3.884 No_date   28:03   62.46 .705     .000
15134>         [XIMP=.42:TIMP=.52]
15135>         [LOSS= 2 :CN= 75.0]
15136>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15137>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
15138>         [IaREcimp=   4.00: IaRECper=   4.00]
15139>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
15140> R0100:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15141>       COMPUTE DUALHYD        1.0 01:A2            25.50    3.884 No_date   28:03   62.46  n/a     .000
15142>         Major System   /     1.0 02:A2-MJ          1.43    2.026 No_date   28:04   62.46  n/a     .000
15143>         Minor System   \     1.0 03:A2-MN         24.07    1.818 No_date   27:50   62.71  n/a     .000
15144>         {MjSysSto=.9248E+03, TotOvfVol=.8908E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
15145> R0100:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15146>       ADD HYD                1.0 02:TODD_MN2n      1.99     .268 No_date   27:52   66.78  n/a     .000
15147>                         +     1.0 02:TODD_MN3n      .11     .016 No_date   27:52   66.78  n/a     .000
15148>                         +     1.0 02:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a     .000
15149>                         +     1.0 02:TODD_P         3.06    .669 No_date   28:00   70.28  n/a     .000
15150>                         +     1.0 02:TODD_ALL     112.91   17.286 No_date   28:04   66.60  n/a     .000
15151>                         +     1.0 02:W_CLAR_MJn     1.69    .213 No_date   27:52   66.22  n/a     .000
15152>                       SUM=    1.0 01:TODD        121.35   20.000 No_date   28:03   66.72  n/a     .000
15153> R0100:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15154>       SAVE HYD               1.0 01:TODD        121.35   20.000 No_date   28:03   66.72  n/a     .000
15155>         fname :TODD.0100
15156>         remark:Total Flows at Todd Drain
15157> #*******************************************************************************
15158> #    Todd Pond 3
15159> #    - Rating curve obtained from Barrhaven South MSS modeling
15160> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
15161> #*******************************************************************************
15162> R0100:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15163>       ROUTE RESERVOIR  ->     1.0 02:TODD        121.35   20.000 No_date   28:03   66.72  n/a     .000
15164>                          out <=    1.0 01:MS_P3       121.35   15.844 No_date   28:09   66.71  n/a     .000
15165>                        overflow <=    1.0 03:MS_P3-OVF      .00     .000 No_date   0:00     .00  n/a     .000
15166>         {MxStoUsed=.2834E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15167> R0100:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15168>       ADD HYD                1.0 02:GreenB      54717.82 144.531 No_date   36:30   39.32  n/a     .000
15169>                         +     1.0 02:MS_P3       121.35   15.844 No_date   28:09   66.71  n/a     .000
15170>                         +     1.0 02:P3-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15171>                         +     1.0 02:TODD_MN2j      .11     .155 No_date   28:00   66.78  n/a     .000
15172>                       SUM=    1.0 02:A2-MJ         1.43    2.026 No_date   28:04   62.46  n/a     .000
15173>                       SUM=    1.0 01:SN_TO       54840.70 144.934 No_date   36:28   39.38  n/a     .000
15174> R0100:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15175>       SAVE HYD               1.0 01:SN_TO       54840.70 144.934 No_date   36:28   39.38  n/a     .000
15176>         fname :SN_TO.0100
15177>         remark:Total Flows at Todd Drain
15178> #
15179> # Hydrograph from Todd Drain routed to Corrigan Drain
15180> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
15181> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
15182> R0100:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15183>       ROUTE CHANNEL    ->     1.0 02:SN_TO       54840.70 144.934 No_date   36:28   39.38  n/a     .000
15184> *   [RDT= 1.00] out<-     1.0 01:N_TO        54840.70 144.824 No_date   36:39   39.38  n/a     .000
15185>           [L/S/n=  280./ .050/.045]
15186>           {Vmax=  .881:Dmax= 3.089}
15187> R0100:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15188>       SAVE HYD               1.0 01:N_TO        54840.70 144.824 No_date   36:39   39.38  n/a     .000
15189>         fname :N_TO.0100
15190>         remark:Total inflows at Station 2462
15191> #*******************************************************************************
15192> #    Catchment CORRIG
15193> #    - To Corrigan Drain (south of the Jock)
15194> #    - Primarily Developed (medium density)
15195> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
15196> #*******************************************************************************
15197> R0100:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15198>       CONTINUOUS STANDHYD    1.0 01:corr1         15.87    3.185 No_date   28:01   70.28 .794     .000
15199>         [XIMP=.63:TIMP=.63]
15200>         [LOSS= 2 :CN= 77.0]
15201>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15202>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
15203>         [IaREcimp=   4.00: IaRECper=   4.00]
15204>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
15205> R0100:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15206>       COMPUTE DUALHYD        1.0 01:corr1         15.87    3.185 No_date   28:01   70.28  n/a     .000
15207>         Major System   /     1.0 02:corr1-MJ       .00     .000 No_date   0:00     .00  n/a     .000
15208>         Minor System   \     1.0 03:corr1-MN      15.87    1.818 No_date   28:25   70.70  n/a     .000
15209>         {MjSysSto=.7879E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15210> R0100:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15211>       CONTINUOUS NASHYD      1.0 01:corr2         12.47     .388 No_date   29:10   45.95 .519     .000
15212>         [CN= 77.0: N= 3.00: Tp=   1.10]
15213>         [IaREC=  4.00: SMIN=  31.15: SMAX=207.66: SK=  .010]
15214>         [InterEventTime=  12.00]
15215> R0100:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15216>       CONTINUOUS STANDHYD    1.0 01:A1-Corrig     15.75    2.624 No_date   28:01   62.46 .705     .000
15217>         [XIMP=.42:TIMP=.52]
15218>         [LOSS= 2 :CN= 75.0]
15219>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15220>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
15221>         [IaREcimp=   4.00: IaRECper=   4.00]
15222>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
15223> R0100:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15224>       COMPUTE DUALHYD        1.0 01:A1-Corrig     15.75    2.624 No_date   28:01   62.46  n/a     .000
15225>         Major System   /     1.0 02:A1-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15226>         Minor System   \     1.0 03:A1-MN         15.75    1.818 No_date   27:55   62.48  n/a     .000
15227>         {MjSysSto=.3859E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15228> R0100:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15229>       CONTINUOUS NASHYD      1.0 01:B1            2.77     .143 No_date   28:09   29.03 .328     .000
15230>         [CN= 56.0: N= 3.00: Tp=   .23]
15231>         [IaREC=  4.00: SMIN=  79.69: SMAX=531.24: SK=  .010]
15232>         [InterEventTime=  12.00]
15233> R0100:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15234>       CONTINUOUS STANDHYD    1.0 01:A4            1.27     .266 No_date   28:00   70.58 .797     .000
15235>         [XIMP=.65:TIMP=.65]
15236>         [LOSS= 2 :CN= 75.0]
15237>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15238>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
15239>         [IaREcimp=   4.00: IaRECper=   4.00]
15240>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
15241> R0100:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15242>       COMPUTE DUALHYD        1.0 01:A4            1.27     .266 No_date   28:00   70.58  n/a     .000
15243>         Major System   /     1.0 02:A4-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15244>         Minor System   \     1.0 03:A4-MN         1.27     .266 No_date   28:00   70.58  n/a     .000
15245>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15246> R0100:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15247>       ADD HYD                1.0 02:A1-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15248>                         +     1.0 02:A1-MN         15.75    1.818 No_date   27:55   62.48  n/a     .000
15249>                         +     1.0 02:corr1-MJ       .00     .000 No_date   0:00     .00  n/a     .000
15250>                         +     1.0 02:corr1-MN      15.87    1.818 No_date   28:25   70.70  n/a     .000
15251>                         +     1.0 02:corr2         12.47     .388 No_date   29:10   45.95  n/a     .000
15252>                         +     1.0 02:B1             2.77     .143 No_date   28:09   29.03  n/a     .000
15253>                         +     1.0 02:A4-MN          1.27     .266 No_date   28:00   70.58  n/a     .000
15254>                       SUM=    1.0 01:MH101         48.13    4.085 No_date   28:02   59.20  n/a     .000
15255> R0100:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15256>       SAVE HYD               1.0 01:MH101         48.13    4.085 No_date   28:02   59.20  n/a     .000
15257>         fname :MH101.0100
15258>         remark:Total Flows at MH101
15259> R0100:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15260>       ROUTE PIPE       ->     1.0 02:MH101         48.13    4.085 No_date   28:02   59.20  n/a     .000
15261> *   [RDT= 1.00] out<-     1.0 01:101-102       48.13    4.065 No_date   28:03   59.20  n/a     .000
15262>           [L/S/n=  368./ .540/.013]
15263>           {Vmax= 3.154:Dmax= 1.125}
15264>           [Din= 1.05:Dused= 1.37}
15265> R0100:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15266>       ADD HYD                1.0 02:A2-MN         24.07    1.818 No_date   27:50   62.71  n/a     .000
15267>                         +     1.0 02:101-102       48.13    4.065 No_date   28:03   59.20  n/a     .000
15268>                       SUM=    1.0 01:MH102         72.20    5.883 No_date   28:03   60.37  n/a     .000
15269> R0100:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15270>       SAVE HYD               1.0 01:MH102         72.20    5.883 No_date   28:03   60.37  n/a     .000
15271>         fname :MH102.0100
15272>         remark:Total Flows at MH102
15273> R0100:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15274>       CONTINUOUS STANDHYD    1.0 01:A5            1.60     .346 No_date   28:01   73.40 .829     .000
15275>         [XIMP=.71:TIMP=.71]
15276>         [LOSS= 2 :CN= 75.0]
15277>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15278>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
15279>         [IaREcimp=   4.00: IaRECper=   4.00]
15280>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
15281> R0100:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15282>       ADD HYD                1.0 02:A4-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15283>                         +     1.0 02:A5            1.60     .346 No_date   28:01   73.40  n/a     .000
15284>                       SUM=    1.0 01:A5T           1.60     .346 No_date   28:01   73.40  n/a     .000
15285> R0100:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15286>       COMPUTE DUALHYD        1.0 01:A5T           1.60     .346 No_date   28:01   73.40  n/a     .000
15287>         Major System   /     1.0 02:A5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15288>         Minor System   \     1.0 03:A5-MN         1.60     .346 No_date   28:01   73.40  n/a     .000
15289>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15290> R0100:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15291>       ROUTE PIPE       ->     1.0 02:MH102         72.20    5.883 No_date   28:03   60.37  n/a     .000
15292> *   [RDT= 1.00] out<-     1.0 01:102-103       72.20    5.831 No_date   28:12   60.37  n/a     .000
15293>           [L/S/n=  504./ .280/.013]
15294>           {Vmax= 2.701:Dmax= 1.459}
15295>           [Din= 1.50:Dused= 1.78}
15296> R0100:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15297>       ADD HYD                1.0 02:102-103       72.20    5.831 No_date   28:12   60.37  n/a     .000
15298>                         +     1.0 02:A5-MN         1.60     .346 No_date   28:01   73.40  n/a     .000
15299>                       SUM=    1.0 01:MH103         73.80    6.079 No_date   28:04   60.65  n/a     .000
15300> R0100:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15301>       SAVE HYD               1.0 01:MH103         73.80    6.079 No_date   28:04   60.65  n/a     .000
15302>         fname :MH103.0100
15303>         remark:Total Flows at MH103
15304> R0100:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15305>       ROUTE PIPE       ->     1.0 02:MH103         73.80    6.079 No_date   28:04   60.65  n/a     .000
15306>         [RDT= 1.00] out<-     1.0 01:103-104       73.80    6.014 No_date   28:05   60.65  n/a     .000
15307>           [L/S/n=  430./ .460/.013]
15308>           {Vmax= 3.295:Dmax= 1.330}
15309>           [Din= 1.65:Dused= 1.65}
15310> R0100:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15311>       CONTINUOUS STANDHYD    1.0 01:A6            1.56     .339 No_date   28:00   73.40 .829     .000
15312>         [XIMP=.71:TIMP=.71]
15313>         [LOSS= 2 :CN= 75.0]
15314>         [Pervious      area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15315>         [Impervious    area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
15316>         [IaREcimp=   4.00: IaRECper=   4.00]
15317>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
15318> R0100:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15319>       ADD HYD                1.0 02:A5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
15320>                         +     1.0 02:A6            1.56     .339 No_date   28:00   73.40  n/a     .000
15321>                       SUM=    1.0 01:A6T           1.56     .339 No_date   28:00   73.40  n/a     .000
15322> R0100:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15323>       COMPUTE DUALHYD        1.0 01:A6T           1.56     .339 No_date   28:00   73
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15335>       remark:Total Flows at MH104
15336> R0100:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15337>      CONTINUOUS STANDHYD   1.0 01:B2          12.31   2.012 No_date   28:02   62.88 .710    .000
15338>        [XIMP=.41:TIMP=.54]
15339>        [LOSS= 2 :CN= 75.0]
15340>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15341>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
15342>        [IaRECimp=   4.00: IaRECper=  4.00]
15343>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15344> R0100:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15345>      COMPUTE DUALHYD       1.0 01:B2          12.31   2.012 No_date   28:02   62.88  n/a     .000
15346>        Major System   /     1.0 02:B2-MJ         .36    .820 No_date   28:05   62.88  n/a     .000
15347>        Minor System   \     1.0 03:B2-MN       11.95   1.029 No_date   27:51   62.91  n/a     .000
15348>        {MjSysSto=.5080E+03, TotOvfVol=.2245E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15349> R0100:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15350>      ROUTE PIPE        ->     1.0 02:B2-MN       11.95   1.029 No_date   27:51   62.91  n/a     .000
15351> *   [RDT= 1.00] out<-     1.0 01:315-333       11.95   1.029 No_date   28:35   62.91  n/a     .000
15352>        [L/S/n=  254./ .100/.013]
15353>        {Vmax= 1.220:Dmax=  .838}
15354>        [Din= 1.20:Dused= 1.20}
15355> R0100:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15356>      CONTINUOUS STANDHYD   1.0 01:B3           5.59    .930 No_date   28:01   62.88 .710    .000
15357>        [XIMP=.41:TIMP=.54]
15358>        [LOSS= 2 :CN= 75.0]
15359>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15360>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
15361>        [IaRECimp=   4.00: IaRECper=  4.00]
15362>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15363> R0100:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15364>      COMPUTE DUALHYD       1.0 01:B3           5.59    .930 No_date   28:01   62.88  n/a     .000
15365>        Major System   /     1.0 02:B3-MJ         .19    .402 No_date   28:04   62.88  n/a     .000
15366>        Minor System   \     1.0 03:B3-MN       5.40    .459 No_date   27:50   63.05  n/a     .000
15367>        {MjSysSto=.2270E+03, TotOvfVol=.1217E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15368> R0100:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15369>      ADD HYD               1.0 02:B3-MN       5.40    .459 No_date   27:50   63.05  n/a     .000
15370>                       +     1.0 02:315-333     11.95   1.029 No_date   28:35   62.91  n/a     .000
15371>                    SUM=     1.0 01:MH333       17.35   1.488 No_date   28:35   62.96  n/a     .000
15372> R0100:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15373>      SAVE HYD              1.0 01:MH333       17.35   1.488 No_date   28:35   62.96  n/a     .000
15374>        fname :MH333.0100
15375>        remark:Total Flows at MH333
15376> R0100:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15377>      ROUTE PIPE        ->     1.0 02:MH333       17.35   1.488 No_date   28:35   62.96  n/a     .000
15378> *   [RDT= 1.00] out<-     1.0 01:333-335       17.35   1.489 No_date   28:27   62.96  n/a     .000
15379>        [L/S/n=  251./ .100/.013]
15380>        {Vmax= 1.302:Dmax= 1.057}
15381>        [Din= 1.20:Dused= 1.29}
15382> R0100:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15383>      ROUTE PIPE        ->     1.0 02:333-335     17.35   1.489 No_date   28:27   62.96  n/a     .000
15384> *   [RDT= 1.00] out<-     1.0 01:335-338       17.35   1.481 No_date   28:35   62.96  n/a     .000
15385>        [L/S/n=  185./ .100/.013]
15386>        {Vmax= 1.302:Dmax= 1.057}
15387>        [Din= 1.20:Dused= 1.29}
15388> R0100:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15389>      ROUTE PIPE        ->     1.0 02:335-338     17.35   1.481 No_date   28:35   62.96  n/a     .000
15390>      [RDT= 1.00] out<-     1.0 01:338-340       17.35   1.480 No_date   28:35   62.96  n/a     .000
15391>        [L/S/n=  233./ .100/.013]
15392>        {Vmax= 1.330:Dmax=  .981}
15393>        [Din= 1.35:Dused= 1.35}
15394> R0100:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15395>      CONTINUOUS STANDHYD   1.0 01:B4           7.60   1.252 No_date   28:02   62.88 .710    .000
15396>        [XIMP=.41:TIMP=.54]
15397>        [LOSS= 2 :CN= 75.0]
15398>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15399>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
15400>        [IaRECimp=   4.00: IaRECper=  4.00]
15401>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15402> R0100:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15403>      COMPUTE DUALHYD       1.0 01:B4           7.60   1.252 No_date   28:02   62.88  n/a     .000
15404>        Major System   /     1.0 02:B4-MJ         .17    .411 No_date   28:06   62.88  n/a     .000
15405>        Minor System   \     1.0 03:B4-MN       7.43    .655 No_date   27:51   62.90  n/a     .000
15406>        {MjSysSto=.3230E+03, TotOvfVol=.1079E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15407> R0100:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15408>      ADD HYD               1.0 02:338-340     17.35   1.480 No_date   28:35   62.96  n/a     .000
15409>                       +     1.0 02:B4-MN       7.43    .655 No_date   27:51   62.90  n/a     .000
15410>                    SUM=     1.0 01:MH340       24.78   2.126 No_date   28:34   62.94  n/a     .000
15411> R0100:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15412>      SAVE HYD              1.0 01:MH340       24.78   2.126 No_date   28:34   62.94  n/a     .000
15413>        fname :MH340.0100
15414>        remark:Total Flows at MH340
15415> R0100:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15416>      ROUTE PIPE        ->     1.0 02:MH340       24.78   2.126 No_date   28:34   62.94  n/a     .000
15417>      [RDT= 1.00] out<-     1.0 01:340-104       24.78   2.116 No_date   28:21   62.94  n/a     .000
15418>        [L/S/n=  240./ .150/.013]
15419>        {Vmax= 1.726:Dmax=  .923}
15420>        [Din= 1.65:Dused= 1.65}
15421> R0100:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15422>      ADD HYD               1.0 02:340-104     24.78   2.116 No_date   28:21   62.94  n/a     .000
15423>                       +     1.0 02:MH104      104.00   9.601 No_date   28:03   63.04  n/a     .000
15424>                    SUM=     1.0 01:MH104T      128.78  11.560 No_date   28:04   63.02  n/a     .000
15425> R0100:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15426>      ROUTE PIPE        ->     1.0 02:MH104T      128.78  11.560 No_date   28:04   63.02  n/a     .000
15427> *   [RDT= 1.00] out<-     1.0 01:104-105       128.78  11.359 No_date   28:10   63.02  n/a     .000
15428>        [L/S/n=  380./ .100/.013]
15429>        {Vmax= 2.115:Dmax= 2.014}
15430>        {HGTH= 2.37:WDTH= 2.71}
15431> R0100:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15432>      CONTINUOUS STANDHYD   1.0 01:B5           2.20    .437 No_date   28:00   66.83 .755    .000
15433>        [XIMP=.57:TIMP=.57]
15434>        [LOSS= 2 :CN= 75.0]
15435>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15436>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
15437>        [IaRECimp=   4.00: IaRECper=  4.00]
15438>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15439> R0100:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15440>      COMPUTE DUALHYD       1.0 01:B5           2.20    .437 No_date   28:00   66.83  n/a     .000
15441>        Major System   /     1.0 02:B5-MJ         .00    .000 No_date   0:00     .00  n/a     .000
15442>        Minor System   \     1.0 03:B5-MN       2.20    .260 No_date   27:51   66.87  n/a     .000
15443>        {MjSysSto=.9053E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15444> R0100:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15445>      CONTINUOUS STANDHYD   1.0 01:A8           .96    .219 No_date   28:00   73.40 .829    .000
15446>        [XIMP=.71:TIMP=.71]
15447>        [LOSS= 2 :CN= 75.0]
15448>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15449>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
15450>        [IaRECimp=   4.00: IaRECper=  4.00]
15451>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15452> R0100:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15453>      ADD HYD               1.0 02:A8-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15454>                       +     1.0 02:A8           .96    .219 No_date   28:00   73.40  n/a     .000
15455>                    SUM=     1.0 01:A8T          .96    .219 No_date   28:00   73.40  n/a     .000
15456> R0100:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15457>      COMPUTE DUALHYD       1.0 01:A8T          .96    .219 No_date   28:00   73.40  n/a     .000
15458>        Major System   /     1.0 02:A8-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15459>        Minor System   \     1.0 03:A8-MN         .96    .219 No_date   28:00   73.40  n/a     .000
15460>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15461> R0100:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15462>      ADD HYD               1.0 02:104-105     128.78  11.359 No_date   28:10   63.02  n/a     .000
15463>                       +     1.0 02:B5-MN       2.20    .260 No_date   27:51   66.87  n/a     .000
15464>                       +     1.0 02:A8-MN         .96    .219 No_date   28:00   73.40  n/a     .000
15465>                       +     1.0 02:TODD_MNJ      .01    .009 No_date   28:00   66.78  n/a     .000
15466>                    SUM=     1.0 01:MH105       131.94  11.688 No_date   28:10   63.16  n/a     .000
15467> R0100:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15468>      SAVE HYD              1.0 01:MH105       131.94  11.688 No_date   28:10   63.16  n/a     .000
15469>        fname :MH105.0100
15470>        remark:Total Flows at MH105
15471> R0100:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15472> *  DIVERT HYD         ->     1.0 01:A8-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15473>                diverted <=     1.0 02:A8-MJ-JR      .00    .000 No_date   0:00      .00  n/a     .000
15474>                diverted <=     1.0 03:A8-MJ-B6      .00    .000 No_date   0:00      .00  n/a     .000
15475> R0100:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15476>      DIVERT HYD        ->     1.0 01:MH105       131.94  11.688 No_date   28:10   63.16  n/a     .000
15477>                diverted <=     1.0 02:MH105-JR      36.57   8.679 No_date   28:10   63.16  n/a     .000
15478>                diverted <=     1.0 03:MH105-B6      95.37   3.009 No_date   28:10   63.16  n/a     .000
15479> R0100:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15480>      CONTINUOUS STANDHYD   1.0 01:B7           7.19   1.283 No_date   28:01   62.88 .710    .000
15481>        [XIMP=.41:TIMP=.54]
15482>        [LOSS= 2 :CN= 75.0]
15483>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15484>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
15485>        [IaRECimp=   4.00: IaRECper=  4.00]
15486>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15487> R0100:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15488>      ADD HYD               1.0 02:B4-MJ         .17    .411 No_date   28:06   62.88  n/a     .000
15489>                       +     1.0 02:B7           7.19   1.283 No_date   28:01   62.88  n/a     .000
15490>                    SUM=     1.0 01:B7-B4MJ      7.36   1.300 No_date   28:06   62.88  n/a     .000
15491> R0100:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15492>      COMPUTE DUALHYD       1.0 01:B7-B4MJ      7.36   1.300 No_date   28:06   62.88  n/a     .000
15493>        Major System   /     1.0 02:B7R-MJ        .36    .671 No_date   28:06   62.88  n/a     .000
15494>        Minor System   \     1.0 03:B7R-MN      7.00    .629 No_date   28:31   62.97  n/a     .000
15495>        {MjSysSto=.3110E+03, TotOvfVol=.2280E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15496> R0100:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15497>      ROUTE PIPE        ->     1.0 02:B7R-MN      7.00    .629 No_date   28:31   62.97  n/a     .000
15498> *   [RDT= 1.00] out<-     1.0 01:360-106A      7.00    .629 No_date   28:31   62.97  n/a     .000
15499>        [L/S/n=  167./ .100/.013]
15500>        {Vmax= 1.089:Dmax=  .665}
15501>        [Din= 1.05:Dused= 1.05}
15502> R0100:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15503>      CONTINUOUS STANDHYD   1.0 01:B6           3.29    .602 No_date   28:00   62.88 .710    .000
15504>        [XIMP=.41:TIMP=.54]
15505>        [LOSS= 2 :CN= 75.0]
15506>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15507>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
15508>        [IaRECimp=   4.00: IaRECper=  4.00]
15509>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15510> R0100:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15511>      COMPUTE DUALHYD       1.0 01:B6           3.29    .602 No_date   28:00   62.88  n/a     .000
15512>        Major System   /     1.0 02:B6-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15513>        Minor System   \     1.0 03:B6-MN       3.29    .064 No_date   27:33   62.92  n/a     .000
15514>        {MjSysSto=.7353E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15515> R0100:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15516>      CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50   5.231 No_date   28:02   62.70 .708    .000
15517>        [XIMP=.50:TIMP=.50]
15518>        [LOSS= 2 :CN= 74.0]
15519>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15520>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
15521>        [IaRECimp=   4.00: IaRECper=  4.00]
15522>        [SMIN= 36.67: SMAX=244.49: SK= .010]
15523> R0100:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15524>      COMPUTE DUALHYD       1.0 01:EX-LAND      32.50   5.231 No_date   28:02   62.70  n/a     .000
15525>        Major System   /     1.0 02:EX-LAND-MJ    1.77   2.874 No_date   28:03   62.70  n/a     .000
15526>        Minor System   \     1.0 03:EX-LAND-MN   30.73   2.275 No_date   27:48   62.82  n/a     .000
15527>        {MjSysSto=.1365E+04, TotOvfVol=.1111E+04, N-Ovf=    1, TotDurOvf=   0.hrs}
15528> R0100:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15529>      ADD HYD               1.0 02:B7R-MJ         .36    .671 No_date   28:06   62.88  n/a     .000
15530>                       +     1.0 02:EX-LAND-MJ    1.77   2.874 No_date   28:03   62.70  n/a     .000
15531>                       +     1.0 02:B5-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15532>                       +     1.0 02:B6-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15533>                       +     1.0 02:B6-MN        3.29    .064 No_date   27:33   62.92  n/a     .000
15534>                       +     1.0 02:A8-MJ-B6      .00    .000 No_date   0:00      .00  n/a     .000
15535>                    SUM=     1.0 01:B6-B7ExMJ     5.42   3.483 No_date   28:03   62.85  n/a     .000
15536> R0100:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15537>      COMPUTE DUALHYD       1.0 01:B6-B7ExMJ     5.42   3.483 No_date   28:03   62.85  n/a     .000
15538>        Major System   /     1.0 02:B6R-MJ        .00    .000 No_date   0:00      .00  n/a     .000
15539>        Minor System   \     1.0 03:B6R-MN       5.42    .064 No_date   27:33   62.85  n/a     .000
15540>        {MjSysSto=.1339E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15541> R0100:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15542>      ROUTE PIPE        ->     1.0 02:MH105-B6     95.37   3.009 No_date   28:10   63.16  n/a     .000
15543>      [RDT= 1.00] out<-     1.0 01:105-106A      95.37   3.009 No_date   28:04   63.16  n/a     .000
15544>        [L/S/n=  208./ .100/.013]
15545>        {Vmax= 1.597:Dmax= 1.249}
15546>        [Din= 1.80:Dused= 1.80}
15547> R0100:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15548>      ADD HYD               1.0 02:360-106A      7.00    .629 No_date   28:31   62.97  n/a     .000
15549>                       +     1.0 02:105-106A     95.37   3.009 No_date   28:04   63.16  n/a     .000
15550>                       +     1.0 02:B6R-MN        5.42    .064 No_date   27:33   62.85  n/a     .000
15551>                       +     1.0 02:B5-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15552>                    SUM=     1.0 01:MH106A      107.80   3.702 No_date   28:10   63.13  n/a     .000
15553> R0100:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15554>      SAVE HYD              1.0 01:MH106A      107.80   3.702 No_date   28:10   63.13  n/a     .000
15555>        fname :MH106A.0100
15556>        remark:Total Flows at MH106A
15557> R0100:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15558>      ROUTE PIPE        ->     1.0 02:MH106A      107.80   3.702 No_date   28:10   63.13  n/a     .000
15559> *   [RDT= 1.00] out<-     1.0 01:106A-106     107.80   3.757 No_date   28:13   63.13  n/a     .000
15560>        [L/S/n=  190./ .100/.013]
15561>        {Vmax= 1.635:Dmax= 1.487}
15562>        [Din= 1.80:Dused= 1.81}
15563> R0100:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15564>      CONTINUOUS STANDHYD   1.0 01:A9           2.44    .539 No_date   28:00   73.40 .829    .000
15565>        [XIMP=.71:TIMP=.71]
15566>        [LOSS= 2 :CN= 75.0]
15567>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15568>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
15569>        [IaRECimp=   4.00: IaRECper=  4.00]
15570>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15571> R0100:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15572>      COMPUTE DUALHYD       1.0 01:A9           2.44    .539 No_date   28:00   73.40  n/a     .000
15573>        Major System   /     1.0 02:A9-MJ         .00    .000 No_date   0:00      .00  n/a     .000
15574>        Minor System   \     1.0 03:A9-MN        2.44    .539 No_date   28:00   73.40  n/a     .000
15575> R0100:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15576>      ADD HYD               1.0 02:106A-106     107.80   3.757 No_date   28:13   63.13  n/a     .000
15577>                       +     1.0 02:A9-MN        2.44    .539 No_date   28:00   73.40  n/a     .000
15578>                    SUM=     1.0 01:MH106       110.24   4.227 No_date   28:00   63.36  n/a     .000
15579> R0100:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15580>      SAVE HYD              1.0 01:MH106       110.24   4.227 No_date   28:00   63.36  n/a     .000
15581>        fname :MH106.0100
15582>        remark:Total Flows at MH106
15583> R0100:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15584>      ROUTE PIPE        ->     1.0 02:MH106       110.24   4.227 No_date   28:00   63.36  n/a     .000
15585> *   [RDT= 1.00] out<-     1.0 01:106-107       110.24   4.179 No_date   28:02   63.36  n/a     .000
15586>        [L/S/n=  123./ .100/.013]
15587>        {Vmax= 1.690:Dmax= 1.503}
15588>        [Din= 1.80:Dused= 1.90}
15589> R0100:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15590>      CONTINUOUS STANDHYD   1.0 01:A10          4.14    .693 No_date   28:01   59.73 .674    .000
15591>        [XIMP=.35:TIMP=.47]
15592>        [LOSS= 2 :CN= 75.0]
15593>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15594>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
15595>        [IaRECimp=   4.00: IaRECper=  4.00]
15596>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15597> R0100:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15598>      COMPUTE DUALHYD       1.0 01:A10          4.14    .693 No_date   28:01   59.73  n/a     .000
15599>        Major System   /     1.0 02:A10-MJ        .09    .218 No_date   28:05   59.73  n/a     .000
15600>        Minor System   \     1.0 03:A10-MN       4.05    .310 No_date   27:48   60.02  n/a     .000
15601>        {MjSysSto=.2280E+03, TotOvfVol=.5334E+02, N-Ovf=    1, TotDurOvf=   0.hrs}
15602> R0100:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15603>      CONTINUOUS STANDHYD   1.0 01:A11          10.61   1.941 No_date   28:01   67.38 .761    .000
15604>        [XIMP=.53:TIMP=.62]
15605>        [LOSS= 2 :CN= 75.0]
15606>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15607>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
15608>        [IaRECimp=   4.00: IaRECper=  4.00]
15609>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15610> R0100:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15611>      COMPUTE DUALHYD       1.0 01:A11          10.61   1.941 No_date   28:01   67.38  n/a     .000
15612>        Major System   /     1.0 02:A11-MJ        .16    .564 No_date   28:06   67.38  n/a     .000
15613>        Minor System   \     1.0 03:A11-MN      10.45    .993 No_date   28:34   67.69  n/a     .000
15614>        {MjSysSto=.5560E+03, TotOvfVol=.1090E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15615> R0100:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15616>      ADD HYD               1.0 02:106-107     110.24   4.179 No_date   28:02   63.36  n/a     .000
15617>                       +     1.0 02:A10-MN        4.05    .310 No_date   27:48   60.02  n/a     .000
15618>                       +     1.0 02:A11-MN       10.45    .993 No_date   28:34   67.69  n/a     .000
15619>                    SUM=     1.0 01:MH107       124.74   5.482 No_date   28:02   63.62  n/a     .000
15620> R0100:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15621>      SAVE HYD              1.0 01:MH107       124.74   5.482 No_date   28:02   63.62  n/a     .000
15622>        fname :MH107.0100
15623>        remark:Total Flows at MH107
15624> R0100:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15625>      ROUTE PIPE        ->     1.0 02:MH107       124.74   5.482 No_date   28:02   63.62  n/a     .000
15626> *   [RDT= 1.00] out<-     1.0 01:107-119       124.74   5.468 No_date   28:04   63.62  n/a     .000
15627>        [L/S/n=  114./ .120/.013]
15628>        {Vmax= 1.932:Dmax= 1.653}
15629>        [Din= 1.80:Dused= 2.03}
15630> R0100:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15631>      ROUTE PIPE        ->     1.0 02:107-119       124.74   5.468 No_date   28:04   63.62  n/a     .000
15632> *   [RDT= 1.00] out<-     1.0 01:119-108       124.74   5.480 No_date   28:05   63.62  n/a     .000
15633>        [L/S/n=   66./ .120/.013]
15634>        {Vmax= 1.930:Dmax= 1.664}
15635>        [Din= 1.80:Dused= 2.03}
15636> R0100:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15637>      CONTINUOUS STANDHYD   1.0 01:A12          12.29   2.213 No_date   28:01   62.88 .710    .000
15638>        [XIMP=.41:TIMP=.54]
15639>        [LOSS= 2 :CN= 75.0]
15640>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15641>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
15642>        [IaRECimp=   4.00: IaRECper=  4.00]
15643>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15644> R0100:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15645>      COMPUTE DUALHYD       1.0 01:A12          12.29   2.213 No_date   28:01   62.88  n/a     .000
15646>        Major System   /     1.0 02:A12-MJ        .23    .599 No_date   28:05   62.88  n/a     .000
15647>        Minor System   \     1.0 03:A12-MN      12.06   1.029 No_date   27:48   63.11  n/a     .000
15648>        {MjSysSto=.6720E+03, TotOvfVol=.1477E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15649> R0100:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15650>      CONTINUOUS STANDHYD   1.0 01:A13          2.59    .540 No_date   28:01   73.40 .829    .000
15651>        [XIMP=.71:TIMP=.71]
15652>        [LOSS= 2 :CN= 75.0]
15653>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15654>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
15655>        [IaRECimp=   4.00: IaRECper=  4.00]
15656>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15657> R0100:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15658>      COMPUTE DUALHYD       1.0 01:A13          2.59    .540 No_date   28:01   73.40  n/a     .000
15659>        Major System   /     1.0 02:A13-MJ        .00    .000 No_date   0:00      .00  n/a     .000
15660>        Minor System   \     1.0 03:A13-MN       2.59    .540 No_date   28:01   73.40  n/a     .000
15661> R0100:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15662>      CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94    .490 No_date   28:00   59.56 .673    .000
15663>        [XIMP=.41:TIMP=.41]
15664>        [LOSS= 2 :CN= 75.0]
15665>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15666>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
15667>        [IaRECimp=   4.00: IaRECper=  4.00]
15668>        [SMIN= 33.81: SMAX=225.43: SK= .010]
15669> R0100:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15670>      ADD HYD               1.0 02:119-108     124.74   5.480 No_date   28:05   63.62  n/a     .000
15671>                       +     1.0 02:A13-MN        2.59    .540 No_date   28:01   73.40  n/a     .000
15672>                       +     1.0 02:A12-MN       12.06   1.029 No_date   27:48   63.11  n/a     .000
15673>                    SUM=     1.0 01:MH108       139.38   6.996 No_date   28:03   63.75  n/a     .000
15674> R0100:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15675>      SAVE HYD              1.0 01:MH108       139.38   6.996 No_date   28:03   63.75  n/a     .000
15676>        fname :MH108.0100
15677>        remark:Total Flows at MH108
15678> R0100:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15679>      ROUTE PIPE        ->     1.0 02:MH108       139.38   6.996 No_date   28:03   63.75  n/a     .000
15680> *   [RDT= 1.00] out<-     1.0 01:108-
```

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15709>                    +     1.0 02:A9-MJ          .00     .000 No_date    0:00    .00  n/a     .000
15710>                    +     1.0 02:A10-MJ         .09     .218 No_date   28:05   59.73  n/a     .000
15711>                    +     1.0 02:A11-MJ         .16     .564 No_date   28:06   67.38  n/a     .000
15712>                    +     1.0 02:A12-MJ         .23     .599 No_date   28:05   62.88  n/a     .000
15713>                    +     1.0 02:A13-MJ         .00     .000 No_date    0:00    .00  n/a     .000
15714>                  SUM=    1.0 01:corrig     55020.08  145.505 No_date   36:37   39.46  n/a     .000
15715> R0100:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15716>     SAVE HYD            1.0 01:corrig     55020.08  145.505 No_date   36:37   39.46  n/a     .000
15717>       fname :corrig.0100
15718>       remark:Total Flows at Corrigan Pond
15719> #*******************************************************************************
15720> #    Corrigan Pond 1
15721> #    - Rating curve obtained from Barrhaven South MSS modeling
15722> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
15723> #*******************************************************************************
15724> #
15725> # Hydrograph from Corrigan Drain routed to Jockvale Road
15726> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
15727> #
15728> R0100:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15729>     ROUTE CHANNEL   ->    1.0 02:corrig     55020.08  145.505 No_date   36:37   39.46  n/a     .000
15730>       [RDT= 1.00] out<-   1.0 01:N_MI       55020.08  145.490 No_date   36:40   39.46  n/a     .000
15731>        [L/S/n=  580./ .445/.045]
15732>        {Vmax= 2.170:Dmax= 2.124}
15733> #*******************************************************************************
15734> #    Catchment MILLS
15735> #    - To SWM Facility north of the Jock
15736> #    - Primarily residental development
15737> #*******************************************************************************
15738> R0100:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15739>     CONTINUOUS STANDHYD   1.0 01:MILLS        175.99   20.390 No_date   28:06   56.87 .642     .000
15740>       [XIMP=.38:TIMP=.38]
15741>       [LOSS= 2 :CN= 74.0]
15742>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15743>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
15744>       [IaRECimp=   4.00: IaRECper=   4.00]
15745>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15746> #*******************************************************************************
15747> #    Chapman Mills SWM Pond
15748> #    - Rating curve obtained from CCL hydraulic modeling
15749> #*******************************************************************************
15750> R0100:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15751>     ROUTE RESERVOIR ->    1.0 02:MILLS        175.99   20.390 No_date   28:06   56.87  n/a     .000
15752>                   out <=    1.0 01:MILL_P       146.22    4.050 No_date   28:08   56.87  n/a     .000
15753>                 overflow <=    1.0 03:MIL-OV        29.77   16.228 No_date   28:08   56.87  n/a     .000
15754>       {MxStoUsed=.2310E+01  m3, TotOvfVol=.1693E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
15755> R0100:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15756>     ADD HYD             1.0 02:N_MI       55020.08  145.490 No_date   36:40   39.46  n/a     .000
15757>                       +     1.0 02:MIL-OV        29.77   16.228 No_date   28:08   56.87  n/a     .000
15758>                       +     1.0 02:MILL_P       146.22    4.050 No_date   28:08   56.87  n/a     .000
15759>                     SUM=    1.0 01:SN_MI      55196.07  146.161 No_date   36:39   39.51  n/a     .000
15760> R0100:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15761>     SAVE HYD            1.0 01:SN_MI      55196.07  146.161 No_date   36:39   39.51  n/a     .000
15762>       fname :SN_MI.0100
15763>       remark:Total Flows at Jockvale Road
15764> #
15765> # Hydrograph from Jockvale Road routed to Heart's Desire
15766> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
15767> #
15768> R0100:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15769>     ROUTE CHANNEL   ->    1.0 02:SN_MI      55196.07  146.161 No_date   36:39   39.51  n/a     .000
15770>       [RDT= 1.00] out<-   1.0 01:N_DE       55196.07  145.839 No_date   36:54   39.51  n/a     .000
15771>        [L/S/n= 1962./ .223/.045]
15772>        {Vmax= 1.642:Dmax= 2.659}
15773> #*******************************************************************************
15774> #    Catchment DESIRE
15775> #    - To Jock River (north of the Jock)
15776> #    - Rural-estate subdivision (Heart's Desire Community)
15777> #*******************************************************************************
15778> R0100:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15779>     CONTINUOUS STANDHYD    1.0 01:DESIRE        23.78    3.004 No_date   28:03   53.11 .600     .000
15780>       [XIMP=.25:TIMP=.25]
15781>       [LOSS= 2 :CN= 77.0]
15782>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15783>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
15784>       [IaRECimp=   4.00: IaRECper=   4.00]
15785>       [SMIN= 31.15: SMAX=207.66: SK= .010]
15786> #*******************************************************************************
15787> #    Catchment JOCKVA
15788> #    - To Jockvale SWM Facility
15789> #    - Residential development & golf course
15790> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
15791> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
15792> #*******************************************************************************
15793> R0100:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15794>     CONTINUOUS STANDHYD    1.0 01:JOCKVA       225.13   28.623 No_date   28:07   62.70 .708     .000
15795>       [XIMP=.50:TIMP=.50]
15796>       [LOSS= 2 :CN= 74.0]
15797>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15798>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
15799>       [IaRECimp=   4.00: IaRECper=   4.00]
15800>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15801> R0100:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15802>     ADD HYD             1.0 02:EX-LAND-MN    30.73    2.275 No_date   27:48   62.82  n/a     .000
15803>                       +     1.0 02:JOCKVA       225.13   28.623 No_date   28:07   62.70  n/a     .000
15804>                       +     1.0 02:B2-MJ          .36     .820 No_date   28:05   62.88  n/a     .000
15805>                       +     1.0 02:B3-MJ          .19     .402 No_date   28:04   62.88  n/a     .000
15806>                     SUM=    1.0 01:JOCKVA-TO    256.41   31.850 No_date   28:06   62.71  n/a     .000
15807> R0100:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15808>     SAVE HYD            1.0 01:JOCKVA-TO    256.41   31.850 No_date   28:06   62.71  n/a     .000
15809>       fname :JOCKVA-TO.0100
15810>       remark:Total Flows at KB first pond
15811> #*******************************************************************************
15812> #    Jockvale SWM Facility
15813> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
15814> #*******************************************************************************
15815> R0100:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15816>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO    256.41   31.850 No_date   28:06   62.71  n/a     .000
15817>                   out <=    1.0 01:JOCK_P       256.41   12.850 No_date   28:35   62.71  n/a     .000
15818>                 overflow <=    1.0 03:JO-OVF         .00     .000 No_date    0:00    .00  n/a     .000
15819>       {MxStoUsed=.6430E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15820> R0100:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15821>     ADD HYD             1.0 02:N_DE       55196.07  145.839 No_date   36:54   39.51  n/a     .000
15822>                       +     1.0 02:DESIRE        23.78    3.004 No_date   28:03   53.11  n/a     .000
15823>                       +     1.0 02:JO-OVF         .00     .000 No_date    0:00    .00  n/a     .000
15824>                       +     1.0 02:JOCK_P       256.41   12.850 No_date   28:35   62.71  n/a     .000
15825>                     SUM=    1.0 01:SN_DE      55476.26  146.840 No_date   36:52   39.63  n/a     .000
15826> R0100:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15827>     SAVE HYD            1.0 01:SN_DE      55476.26  146.840 No_date   36:52   39.63  n/a     .000
15828>       fname :SN_DE.0100
15829>       remark:Total Flows at Heart's Desire
15830> #
15831> # Hydrograph from Heart's Desire routed to Rideau River
15832> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
15833> #
15834> R0100:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15835>     ROUTE CHANNEL   ->    1.0 02:SN_DE      55476.26  146.840 No_date   36:52   39.63  n/a     .000
15836>       [RDT= 1.00] out<-   1.0 01:N1         55476.26  146.826 No_date   36:55   39.63  n/a     .000
15837>        [L/S/n=  563./ .967/.045]
15838>        {Vmax= 2.218:Dmax= 1.328}
15839> #*******************************************************************************
15840> #    Catchment S-2
15841> #    - To Jock River (north and south)
15842> #    - Undeveloped floodplain and river
15843> #*******************************************************************************
15844> R0100:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15845>     CONTINUOUS NASHYD     1.0 01:S-2          102.94    5.685 No_date   28:20   40.95 .462     .000
15846>       [CN= 72.0: N= 3.00: Tp=  .40]
15847>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
15848>       [InterEventTime=  12.00]
15849> R0100:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15850>     ADD HYD             1.0 02:N1         55476.26  146.826 No_date   36:55   39.63  n/a     .000
15851>                       +     1.0 02:S-2          102.94    5.685 No_date   28:20   40.95  n/a     .000
15852>                     SUM=    1.0 01:SN_N1      55579.20  147.102 No_date   36:55   39.63  n/a     .000
15853> R0100:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15854>     SAVE HYD            1.0 01:SN_N1      55579.20  147.102 No_date   36:55   39.63  n/a     .000
15855>       fname :SN_N1.0100
15856>       remark:Total Flows at Rideau River
15857> ###############################################################################
15858> R0100:C00002-------------------------------------------------------------------------------------------------
15859>     FINISH
15860> -------------------------------------------------------------------------------------------------------------
15861> *************************************************************************************************************
15862>      WARNINGS / ERRORS / NOTES
15863>      -------------------------
15864> R0002:C00283  ROUTE RESERVOIR
15865> *** WARNING: Inflow peak was not reduced! Check OUTFLOW/STORAGE table or reduce DT.
15866> R0002:C00305  ROUTE PIPE      ->
15867> *** WARNING: New pipe size used for routing.
15868> R0002:C00311  ROUTE PIPE      ->
15869> *** WARNING: New pipe size used for routing.
15870> R0002:C00344  DIVERT HYD      ->
15871> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15872> R0002:C00364  ROUTE PIPE      ->
15873> *** WARNING: New pipe size used for routing.
15874> R0002:C00371  ROUTE PIPE      ->
15875> *** WARNING: New pipe size used for routing.
15876> R0002:C00372  ROUTE PIPE      ->
15877> *** WARNING: New pipe size used for routing.
15878> R0002:C00380  ROUTE PIPE      ->
15879> *** WARNING: New pipe size used for routing.
15880> R0002:C00381  ROUTE PIPE      ->
15881> *** WARNING: New pipe size used for routing.
15882> R0005:C00283  ROUTE RESERVOIR
15883> *** WARNING: Inflow peak was not reduced! Check OUTFLOW/STORAGE table or reduce DT.
15884> R0005:C00305  ROUTE PIPE      ->
15885> *** WARNING: New pipe size used for routing.
15886> R0005:C00311  ROUTE PIPE      ->
15887> *** WARNING: New pipe size used for routing.
15888> R0005:C00327  ROUTE PIPE      ->
15889> *** WARNING: New pipe size used for routing.
15890> R0005:C00328  ROUTE PIPE      ->
15891> *** WARNING: New pipe size used for routing.
15892> R0005:C00336  ROUTE PIPE      ->
15893> *** WARNING: New pipe size used for routing.
15894> R0005:C00344  DIVERT HYD      ->
15895> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15896> R0005:C00359  ROUTE PIPE      ->
15897> *** WARNING: New pipe size used for routing.
15898> R0005:C00364  ROUTE PIPE      ->
15899> *** WARNING: New pipe size used for routing.
15900> R0005:C00371  ROUTE PIPE      ->
15901> *** WARNING: New pipe size used for routing.
15902> R0005:C00372  ROUTE PIPE      ->
15903> *** WARNING: New pipe size used for routing.
15904> R0005:C00380  ROUTE PIPE      ->
15905> *** WARNING: New pipe size used for routing.
15906> R0005:C00381  ROUTE PIPE      ->
15907> *** WARNING: New pipe size used for routing.
15908> R0010:C00305  ROUTE PIPE      ->
15909> *** WARNING: New pipe size used for routing.
15910> R0010:C00311  ROUTE PIPE      ->
15911> *** WARNING: New pipe size used for routing.
15912> R0010:C00327  ROUTE PIPE      ->
15913> *** WARNING: New pipe size used for routing.
15914> R0010:C00328  ROUTE PIPE      ->
15915> *** WARNING: New pipe size used for routing.
15916> R0010:C00336  ROUTE PIPE      ->
15917> *** WARNING: New pipe size used for routing.
15918> R0010:C00344  DIVERT HYD      ->
15919> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15920> R0010:C00359  ROUTE PIPE      ->
15921> *** WARNING: New pipe size used for routing.
15922> R0010:C00364  ROUTE PIPE      ->
15923> *** WARNING: New pipe size used for routing.
15924> R0010:C00371  ROUTE PIPE      ->
15925> *** WARNING: New pipe size used for routing.
15926> R0010:C00372  ROUTE PIPE      ->
15927> *** WARNING: New pipe size used for routing.
15928> R0010:C00380  ROUTE PIPE      ->
15929> *** WARNING: New pipe size used for routing.
15930> R0010:C00381  ROUTE PIPE      ->
15931> *** WARNING: New pipe size used for routing.
15932> R0025:C00305  ROUTE PIPE      ->
15933> *** WARNING: New pipe size used for routing.
15934> R0025:C00311  ROUTE PIPE      ->
15935> *** WARNING: New pipe size used for routing.
15936> R0025:C00327  ROUTE PIPE      ->
15937> *** WARNING: New pipe size used for routing.
15938> R0025:C00328  ROUTE PIPE      ->
15939> *** WARNING: New pipe size used for routing.
15940> R0025:C00336  ROUTE PIPE      ->
15941> *** WARNING: New pipe size used for routing.
15942> R0025:C00344  DIVERT HYD      ->
15943> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15944> R0025:C00359  ROUTE PIPE      ->
15945> *** WARNING: New pipe size used for routing.
15946> R0025:C00364  ROUTE PIPE      ->
15947> *** WARNING: New pipe size used for routing.
15948> R0025:C00371  ROUTE PIPE      ->
15949> *** WARNING: New pipe size used for routing.
15950> R0025:C00372  ROUTE PIPE      ->
15951> *** WARNING: New pipe size used for routing.
15952> R0025:C00380  ROUTE PIPE      ->
15953> *** WARNING: New pipe size used for routing.
15954> R0025:C00381  ROUTE PIPE      ->
15955> *** WARNING: New pipe size used for routing.
15956> R0050:C00305  ROUTE PIPE      ->
15957> *** WARNING: New pipe size used for routing.
15958> R0050:C00311  ROUTE PIPE      ->
15959> *** WARNING: New pipe size used for routing.
15960> R0050:C00327  ROUTE PIPE      ->
15961> *** WARNING: New pipe size used for routing.
15962> R0050:C00328  ROUTE PIPE      ->
15963> *** WARNING: New pipe size used for routing.
15964> R0050:C00336  ROUTE PIPE      ->
15965> *** WARNING: New pipe size used for routing.
15966> R0050:C00344  DIVERT HYD      ->
15967> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15968> R0050:C00359  ROUTE PIPE      ->
15969> *** WARNING: New pipe size used for routing.
15970> R0050:C00364  ROUTE PIPE      ->
15971> *** WARNING: New pipe size used for routing.
15972> R0050:C00371  ROUTE PIPE      ->
15973> *** WARNING: New pipe size used for routing.
15974> R0050:C00372  ROUTE PIPE      ->
15975> *** WARNING: New pipe size used for routing.
15976> R0050:C00380  ROUTE PIPE      ->
15977> *** WARNING: New pipe size used for routing.
15978> R0050:C00381  ROUTE PIPE      ->
15979> *** WARNING: New pipe size used for routing.
15980> R0100:C00305  ROUTE PIPE      ->
15981> *** WARNING: New pipe size used for routing.
15982> R0100:C00311  ROUTE PIPE      ->
15983> *** WARNING: New pipe size used for routing.
15984> R0100:C00327  ROUTE PIPE      ->
15985> *** WARNING: New pipe size used for routing.
15986> R0100:C00328  ROUTE PIPE      ->
15987> *** WARNING: New pipe size used for routing.
15988> R0100:C00336  ROUTE PIPE      ->
15989> *** WARNING: New pipe size used for routing.
15990> R0100:C00344  DIVERT HYD      ->
15991> *** NOTE: Inflow hyd. is dry and cannot be diverted.
15992> R0100:C00359  ROUTE PIPE      ->
15993> *** WARNING: New pipe size used for routing.
15994> R0100:C00364  ROUTE PIPE      ->
15995> *** WARNING: New pipe size used for routing.
15996> R0100:C00371  ROUTE PIPE      ->
15997> *** WARNING: New pipe size used for routing.
15998> R0100:C00372  ROUTE PIPE      ->
15999> *** WARNING: New pipe size used for routing.
16000> R0100:C00380  ROUTE PIPE      ->
16001> *** WARNING: New pipe size used for routing.
16002> R0100:C00381  ROUTE PIPE      ->
16003> *** WARNING: New pipe size used for routing.
16004>    Simulation ended on 2021-03-04     at 11:57:06
16005> =============================================================================================
16006>
16007>
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment E

Model 4B – Jock River Reach One Future Conditions – With SWM controls

JFSA, 2021

SWMHYMO Input & Summary files

```
20    Metric units / ID numbers OFF
*#*************************************************************************
*#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
*#*************************************************************************
*#  Project Name: [Jock River]    Project Number: [1474-16]
*#  Date        : 04-03-2021
*#  Modeller    : [M.M.]
*#  Company     : JFSAinc.
*#  License #   :  2549237
*#*************************************************************************
*# CALIBRATION OF SUMMER MODEL PARAMETERS
*# USING CONTINUOUS SIMULATIONS
*# Rainfall data from JFSA raingauge installed at site + other gauges by the City
*# Use data collected from May 1st to July 14, 2003
*# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
*# 2020-12-01 correct pond curve values
*# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and
LGI up to 700m
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"]
,NHYDin=["SN_TO"]) from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"]
,NHYDin=["SN_CE"]) from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model
will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs
aren't well suited to really flat slopes.
*
* Calibrated parameters for Summer 2003 data:  APII=50, APIK=0.85, CN=varies,
*                                              SK=0.01, InterEventTime=12,
*                                              GWResk=0.96, VHydCond=0.055
*
*# ------------------------------------------------------------------------
*
*START               TZERO=[2003.0501],  METOUT=[2],  NSTORM=[1],  NRUN=[001]
*                    ["XAVG0315.STM"] average storm data a 15 minute time step
*                    The above rainf file is an average of the JFSA gauge data
*                    with the City of Ottawa rainfall data collected during
*                    the same period.
*%  2 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START                TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[2]
                     ["C24SC002.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
READ STORM           STORM_FILENAME=["storm.001"]
*%-----------------|-------------------------------------------------------------|
MODIFY STORM         ICASEms=[1],  NSHIFT=[96],
                     RedFACT=[1],
*%-----------------|-------------------------------------------------------------|
DEFAULT VALUES       ICASEdef=[1],  read and print values
                     DEFVAL_FILENAME=["CitiGate.DEF"]
*%-----------------|-------------------------------------------------------------|
COMPUTE API          APII=[50], APIK=[.85]/day
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD    NHYD=["JR_HW"], DT=[1]min, AREA=[3680](ha),
                     DWF=[0](cms),  CN/C=[64], IA=[2.5](mm),
                     N=[3.0], TP=[7.13]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
```

```
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.32
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_13"], DT=[1]min, AREA=[971](ha),
                    DWF=[0](cms),  CN/C=[61], IA=[2.5](mm),
                    N=[3.0], TP=[3.76]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_GWM"], DT=[1]min, AREA=[3074](ha),
                    DWF=[0](cms),  CN/C=[55], IA=[2.5](mm),
                    N=[3], TP=[11.33]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["JR_ASH"], DT=[1]min, AREA=[1781](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[3.91]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_11"], DT=[1]min, AREA=[500](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[1.24]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NN_CK"], DT=[1]min, AREA=[1917](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
```

```
                    N=[3.0], TP=[5.29]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.52
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_10"], DT=[1]min, AREA=[5666](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["KG_CK"], DT=[1]min, AREA=[8376](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[11.66]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.68
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_9"], DT=[1]min, AREA=[1132](ha),
                    DWF=[0](cms),  CN/C=[70], IA=[2.5](mm),
                    N=[3.0], TP=[2.51]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["NC_CK"], DT=[1]min, AREA=[4464](ha),
                    DWF=[0](cms),  CN/C=[62], IA=[2.5](mm),
                    N=[3.0], TP=[11.32]hrs,
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.80
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_8"], DT=[1]min, AREA=[131](ha),
                    DWF=[0](cms),  CN/C=[63], IA=[2.5](mm),
                    N=[3.0], TP=[0.90]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.65
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["HB_DR"], DT=[1]min, AREA=[3854](ha),
                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
                    N=[3.0], TP=[8.42]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.82
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_7"], DT=[1]min, AREA=[3197](ha),
                    DWF=[0](cms),  CN/C=[57], IA=[2.5](mm),
                    N=[3.0], TP=[6.65]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.75
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_6"], DT=[1]min, AREA=[165](ha),
                    DWF=[0](cms),  CN/C=[67], IA=[2.5](mm),
                    N=[3.0], TP=[4.18]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.67
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["VG_DR"], DT=[1]min, AREA=[1332](ha),
                    DWF=[0](cms),  CN/C=[72], IA=[2.5](mm),
                    N=[3.0], TP=[5.95]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5"], DT=[1]min, AREA=[224](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.20
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["FL_CK"], DT=[1]min, AREA=[4945](ha),
                    DWF=[0](cms),  CN/C=[74], IA=[2.5](mm),
                    N=[3.0], TP=[4.45]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_5A2"], DT=[1]min, AREA=[20](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[0.62]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
*# of 1.61
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS NASHYD   NHYD=["SW_5A1"], DT=[1]min, AREA=[1412](ha),
                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
                    N=[3.0], TP=[8.00]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_4"], DT=[1]min, AREA=[585](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[1.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["LM_CK"], DT=[1]min, AREA=[1021](ha),
                    DWF=[0](cms),  CN/C=[80], IA=[2.5](mm),
                    N=[3.0], TP=[2.46]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SW_2"], DT=[1]min, AREA=[177](ha),
                    DWF=[0](cms),  CN/C=[77], IA=[2.5](mm),
                    N=[3.0], TP=[0.75]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["SM_DR"], DT=[1]min, AREA=[1122](ha),
                    DWF=[0](cms),  CN/C=[81], IA=[2.5](mm),
                    N=[3.0], TP=[3.25]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["MO_DR"], DT=[1]min, AREA=[2737](ha),
                    DWF=[0](cms),  CN/C=[76], IA=[2.5](mm),
                    N=[3.0], TP=[3.03]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
```

```
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2020 replaced SW_1 with a detailed model from Stantec Report 2007
*CONTINUOUS NASHYD   NHYD=["SW_1"], DT=[1]min, AREA=[3176](ha),
*                   DWF=[0](cms),  CN/C=[78], IA=[2.5](mm),
*                   N=[3.0], TP=[3.56]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*#
*# Routing hydrographs
*#
*# Starting with the addition of Jock River Headwater and Subwatershed 13
*#
ADD HYD             NHYDsum=["S_N13"], NHYDs to add=["JR_HW"+"SW_13"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 13 routed to Node 13A
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*#
ROUTE CHANNEL       NHYDout=["N13A"] ,NHYDin=["S_N13"],
                    RDT=[1](min),
                    CHLGTH=[9074](m),  CHSLOPE=[0.0220](%),
                                        FPSLOPE=[0.0220](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.0]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
*#
ADD HYD             NHYDsum=["SN13A"], NHYDs to add=["N13A"+"JR_GWM"]
*%-----------------|-------------------------------------------------------------|
*#
*# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
*#
ROUTE RESERVOIR     NHYDout=["RES_GM"] ,NHYDin=["SN13A"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
```

```
                                        (cms) - (ha-m)
                                      [   0.0 ,  0.0 ]
                                      [1.991, 2.144    ]
                                      [2.693, 39.826   ]
                                      [3.509, 81.697   ]
                                      [4.578, 318.774  ]
                                      [5.647, 594.947  ]
                                      [7.109, 910.219  ]
                                      [8.616, 1264.589  ]
                                      [10.371, 1658.057  ]
                                      [12.402, 2090.622 ]
                                      [22.056, 3462.487 ]
                                      [   -1  ,  -1  ]  (max twenty pts)
                            NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
*#
SAVE HYD            NHYD=["RES_GM"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_RESGM"]
                    HYD_COMMENT=["Outflow from Res GM"]
*%-----------------|-------------------------------------------------------------|
*# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
ROUTE CHANNEL       NHYDout=["N12"] ,NHYDin=["RES_GM"] ,
                    RDT=[1](min),
                    CHLGTH=[5926](m),  CHSLOPE=[0.0759](%),
                                        FPSLOPE=[0.0759](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed Jock River at Ashton to Node 12
*#
ADD HYD             NHYDsum=["S_N12"], NHYDs to add=["N12"+"JR_ASH"]
SAVE HYD            NHYD=["S_N12"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN12"]
                    HYD_COMMENT=["flow at S_N12 near Ashton"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11
*# (Approximated cross-section - see cross-section 258)
*# Use n=0.04 for summer conditions and n=0.025 for spring conditions
*ROUTE CHANNEL       NHYDout=["N11"] ,NHYDin=["S_N12"] ,
*                    RDT=[1](min),
*                    CHLGTH=[972](m),  CHSLOPE=[0.0514](%),
*                                        FPSLOPE=[0.0514](%),
*                    SECNUM=[1.0],       NSEG=[1]
*                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
*                    ( DISTANCE (m), ELEVATION (m))=
```

```
*                          [-40, 132.5]
*                          [-30, 132]
*                          [-25, 131.5]
*                          [-13, 130]
*                          [-8, 127.00]
*                          [-7, 126.50]
*                          [-6, 126]
*                          [-5.5, 125.50]
*                          [0, 123.75]
*                          [4.5, 125.50]
*                          [6, 126]
*                          [7.5, 126.5]
*                          [9, 127]
*                          [10, 127.5]
*                          [11.5, 128.00]
*                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
*#
ROUTE CHANNEL       NHYDout=["Dum11"] ,NHYDin=["S_N12"] ,
                    RDT=[1](min),
                    CHLGTH=[972](m),  CHSLOPE=[0.054](%),
                                        FPSLOPE=[0.054](%),
                    SECNUM=[1.0],       NSEG=[1]
                    ( SEGROUGH, SEGDIST (m))=[0.04,15.5] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-40, 132.5]
                          [-30, 132]
                          [-25, 131.5]
                          [-13, 130]
                          [-8, 127.00]
                          [-7, 126.50]
                          [-6, 126]
                          [-5.5, 125.50]
                          [0, 123.75]
                          [4.5, 125.50]
                          [6, 126]
                          [7.5, 126.5]
                          [9, 127]
                          [10, 127.5]
                          [11.5, 128.00]
                          [15.5, 129.5]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 11 and No Name Creek to Node 11
*#
ADD HYD             NHYDsum=["S_N11"], NHYDs to add=["Dum11"+"SW_11"+"NN_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 11 routed to Node 10
*# Section 1
*#
ROUTE CHANNEL       NHYDout=["N10"] ,NHYDin=["S_N11"] ,
                    RDT=[1](min),
                    CHLGTH=[14028](m),  CHSLOPE=[0.1568](%),
                                        FPSLOPE=[0.1568](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                     [0.04,-52.82
                      0.1,-6.47
                      -0.05,6.47
                      0.1,45.36
                      0.04,423.88] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=
                          [-226.24 ,112.50]
```

```
                          [-167.50 ,111.50]
                          [-106.81 ,111.00]
                          [-92.37 ,110.00]
                          [-52.82 ,109.00]
                          [-24.90, 109.00]
                          [-17.02, 108.50]
                          [-6.47, 108.00]
                          [6.47, 108.00]
                          [15.67, 108.50]
                          [18.95, 109.00]
                          [45.36, 109.50]
                          [120.79, 110.00]
                          [145.72, 111.00]
                          [181.56, 111.50]
                          [423.88, 112.50]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed 10 to Node 10
*#
ADD HYD             NHYDsum=["S_N10"], NHYDs to add=["N10"+"SW_10"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["S_N10"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN10"]
                    HYD_COMMENT=["flow at S_N10: N10 + SW_10"]
*%-----------------|---------------------------------------------------------------|
*# Addition of Kings Creek to S_N10
*#
ADD HYD             NHYDsum=["S_N10A"], NHYDs to add=["S_N10"+"KG_CK"]
*%-----------------|---------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 10 routed to Node 9
*# Section 2
*#
ROUTE CHANNEL       NHYDout=["N9"] ,NHYDin=["S_N10A"] ,
                    RDT=[1](min),
                    CHLGTH=[3982](m),  CHSLOPE=[0.0753](%),
                                        FPSLOPE=[0.0753](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-30.27
                       0.05,-18.42
                      -0.05,18.42
                      0.04,131.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                          [-446.74, 106.00]
                          [-415.68, 105.50]
                          [-285.40, 105.00]
                          [-173.77, 104.50]
                          [-144.95, 104.00]
                          [-111.18, 103.50]
                          [-94.06, 103.00]
                          [-71.02, 102.50]
                          [-30.27, 102.00]
                          [-19.33, 100.00]
                          [-18.42, 99.50]
                          [18.42, 99.50]
                          [20.77, 100.00]
                          [27.93, 101.00]
                          [52.29, 101.00]
                          [68.80, 101.50]
                          [79.66, 103.00]
                          [91.50, 103.50]
                          [131.58, 104.00]
*%-----------------|---------------------------------------------------------------|
*#
*# Addition of Subwatershed 9 and Nichols Creek to Node 9
```

```
*#
ADD HYD             NHYDsum=["S_N9"], NHYDs to add=["N9"+"SW_9"+"NC_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 9 routed to Node 8
*# Section 3
*#
ROUTE CHANNEL       NHYDout=["N8"] ,NHYDin=["S_N9"] ,
                    RDT=[1](min),
                    CHLGTH=[2269](m),  CHSLOPE=[0.0882](%),
                                        FPSLOPE=[0.0882](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-17.99
                      -0.045,17.31
                      0.1,456.58] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-201.19,100.50]
                         [-135.21, 100.00]
                         [-94.83, 99.50]
                         [-67.05, 99.00]
                         [-17.99, 98.50]
                         [-16.02, 98.00]
                         [-13.95, 97.50]
                         [13.95, 97.50]
                         [15.64, 98.00]
                         [17.31, 98.50]
                         [162.02, 98.50]
                         [172.89 ,99.00]
                         [314.38, 99.00]
                         [343.78, 99.50]
                         [365.67, 100.00]
                         [376.68, 100.00 ]
                         [393.11, 99.50]
                         [404.97, 99.50]
                         [431.70, 100.00]
                         [456.58, 100.50 ]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 8 and Hobb's Drain to Node 8
*#
ADD HYD             NHYDsum=["S_N8"], NHYDs to add=["N8"+"SW_8"+"HB_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 8 routed to Node 7
*# Section 4
*#
ROUTE CHANNEL       NHYDout=["N7"] ,NHYDin=["S_N8"],
                    RDT=[1](min),
                    CHLGTH=[3750](m),  CHSLOPE=[0.0533](%),
                                        FPSLOPE=[0.0533](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.12,-18.11
                      -0.07,17.22
                      0.12,590.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                         [-433.21, 102.00]
                         [-425.34, 101.50]
                         [-377.56, 101.50]
                         [-366.23, 101.00]
                         [-202.60, 100.50]
                         [-96.25, 99.50]
                         [-68.36 99.00]
                         [-18.11, 98.50]
                         [-13.81, 97.50]
```

```
                          [13.81, 97.50]
                          [17.22, 98.50]
                          [161.95, 98.50]
                          [173.11, 99.00]
                          [314.05, 99.00]
                          [365.52, 100.00]
                          [404.70, 99.50]
                          [476.74, 100.50]
                          [502.31, 101.00]
                          [584.69, 101.00]
                          [585.79, 101.00]
                          [590.05, 102.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 7 to Node 7
*#
ADD HYD             NHYDsum=["S_N7"], NHYDs to add=["N7"+"SW_7"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N7"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN7"]
                    HYD_COMMENT=["flow at S_N7: N7 + SW_7"]
*%-----------------|-------------------------------------------------------------|
*# Insertion of a reservoir to simulate the effects of the Richmond Fen.
*# Storage area and volumes were estimated from available topo maps.
*# Release rate from fen was assumed to be controlled by the downstream
*# river cross-section for summer conditions.  It is was assumed that for up to
*# 0.75 m of water, the main channel of the river provided the storage.  Above
*# this depth, the wetland starts to signigicantly store water.
*#
ROUTE RESERVOIR     NHYDout=["RES_RF"] ,NHYDin=["S_N7"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,     0.0 ]
                                   [0.9051,    2.40]
                                   [2.907,     4.13]
                                   [9.744,     9.18]
                                   [20.304,   14.96]
                                   [34.167,  310.21]
                                   [74.993,  605.46]
                                   [104.876, 900.71]
                                   [140.56, 2892.00]
                                   [225.00, 3615.63]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["      "] ,
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["RES_RF"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_ResRF"]
                    HYD_COMMENT=["outflow of Richmond Fen"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 7 routed to Node 6
*# Section 5
*#
ROUTE CHANNEL       NHYDout=["N6"] ,NHYDin=["RES_RF"] ,
                    RDT=[1](min),
                    CHLGTH=[3056](m),  CHSLOPE=[0.0818](%),
                                        FPSLOPE=[0.0818](%),
                    SECNUM=[1.0],       NSEG=[5]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.025,-70.8
                      0.1,-23.9
                      -0.05,23.9
                      0.06,39.8
```

```
                      0.05,96.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-100.8, 97.00]
                                    [-70.8, 96.50]
                                    [-52.0, 96.00]
                                    [-35.1, 95.50]
                                    [-30.6, 95.00]
                                    [-23.9, 94.54]
                                    [23.9, 94.54]
                                    [39.8, 95.00]
                                    [50.4, 95.50]
                                    [93.5, 96.00]
                                    [94.9, 96.50]
                                    [96.3, 97.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 6 and Van Gaal Drain to Node 6
*#
ADD HYD             NHYDsum=["S_N6"], NHYDs to add=["N6"+"SW_6"+"VG_DR"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 6 routed to Node 5
*# Section 6
*#
ROUTE CHANNEL       NHYDout=["N5"] ,NHYDin=["S_N6"] ,
                    RDT=[1](min),
                    CHLGTH=[1852](m),  CHSLOPE=[0.0540](%),
                                        FPSLOPE=[0.0540](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.035,-131.59
                      -0.045,48.96
                      0.1,239.04] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-686.30, 94.50]
                                    [-675.70, 94.00]
                                    [-492.52, 93.00]
                                    [-467.28, 94.00]
                                    [-131.59, 94.00]
                                    [-92.79, 92.50]
                                    [-18.06, 91.00]
                                    [18.06, 91.00]
                                    [43.47, 92.50]
                                    [48.96, 94.00]
                                    [177.43, 94.00]
                                    [239.04,94.50]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5 and Flowing Creek to Node 5
*#
ADD HYD             NHYDsum=["S_N5"], NHYDs to add=["N5"+"SW_5"+"FL_CK"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5 routed to Node 5A
*# Section 7
*#
ROUTE CHANNEL       NHYDout=["N5A"] ,NHYDin=["S_N5"] ,
                    RDT=[1](min),
                    CHLGTH=[556](m),  CHSLOPE=[0.0900](%),
                                        FPSLOPE=[0.0900](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.04,-41.5
                      0.1,-14.0
                      -0.045,14.0
                      0.1,41.1] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-275.8, 93.00]
                                    [-248.6, 92.50]
                                    [-237.0, 92.00]
                                    [-219.3, 91.50]
                                    [-202.1, 91.50]
                                    [-186.0, 92.00]
                                    [-129.2, 92.00]
                                    [-117.6, 91.50]
                                    [-100.6, 91.00]
                                    [-41.5, 91.00]
                                    [-20.0, 91.00]
                                    [-14.0, 90.54]
                                    [14.0, 90.54]
                                    [15.3, 91.00]
                                    [17.3, 91.50]
                                    [38.4, 92.00]
                                    [39.8, 92.50]
                                    [41.1, 93.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
*#
ADD HYD             NHYDsum=["S_N5A"], NHYDs to add=["N5A"+"SW_5A2"+"SW_5A1"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 5A routed to Node 4
*# Section 8
*#
ROUTE CHANNEL       NHYDout=["N4"] ,NHYDin=["S_N5A"] ,
                    RDT=[1](min),
                    CHLGTH=[4630](m),  CHSLOPE=[0.0432](%),
                                        FPSLOPE=[0.0432](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.05,-28.2
                      -0.035,28.2
                      0.05,173.1] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                                    [-38.9, 92.00]
                                    [-35.8, 91.50]
                                    [-33.3, 91.00]
                                    [-28.2, 90.50]
                                    [-15.0, 87.48]
                                    [-5.0, 88.34]
                                    [5.0, 86.20]
                                    [15.0, 88.55]
                                    [28.2, 90.50]
                                    [29.7, 91.00]
                                    [46.5, 91.00]
                                    [127.8, 91.00]
                                    [148.7, 91.50]
                                    [173.1, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 4 and Leamy Creek to Node 4
*#
ADD HYD             NHYDsum=["S_N4"], NHYDs to add=["N4"+"SW_4"+"LM_CK"]
SAVE HYD            NHYD=["S_N4"],  # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["flow at S_N4"]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 4 routed to Node 2
*# Section 9
*#
ROUTE CHANNEL       NHYDout=["N2"] ,NHYDin=["S_N4"] ,
```

```
                    RDT=[1](min),
                    CHLGTH=[1667](m),  CHSLOPE=[0.0600](%),
                                        FPSLOPE=[0.0600](%),
                    SECNUM=[1.0],       NSEG=[4]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.1,-28.0
                      -0.04,28.4
                      0.06,31.7
                      0.04,80.2] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                           [-36.3, 92.00]
                           [-32.6, 91.50]
                           [-30.2, 91.00]
                           [-28.0, 90.45]
                           [-15.0, 87.48]
                           [-5.0, 88.34]
                           [5.0, 86.20]
                           [15.0, 88.55]
                           [28.0, 90.45]
                           [28.4, 90.50]
                           [30.4, 91.00]
                           [31.7, 91.50]
                           [80.2, 92.00]
*%-----------------|-------------------------------------------------------------|
*#
*# Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
*#
ADD HYD             NHYDsum=["S_N2"], NHYDs to add=["N2"+"SW_2"+"SM_DR"+"MO_DR"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["S_N2"],  # OF PCYCLES=[-1],  ICASEsh=[-1]
                    HYD_FILENAME=["H_SN2"]
                    HYD_COMMENT=["flow at S_N2 Jock River Gauge at Moodie Dr."]
*%-----------------|-------------------------------------------------------------|
*#
*# Sum of hydrographs from Node 2 routed to Node 1
*# Section 10
*#
*#*****************************************************************************
*%READ HYD            NHYD=["S_N2"],
*%                   HYD_FILENAME=["H-S_N2"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Node 2 routed to Node 416
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
*#
ROUTE CHANNEL       NHYDout=["N_416"] ,NHYDin=["S_N2"] ,
                    RDT=[1](min),
                    CHLGTH=[2327](m),  CHSLOPE=[0.0498](%),
                                        FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-23.96
                      -0.055,23.96
                      0.075,157.38]  NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-336.97,93.5]
                    [-318.85,93]
                    [-259,92.5]
                    [-133.18,92]
                    [-33.17,92]
                    [-27.21,92]
                    [-26.14,91.5]
                    [-24.99,91]
                    [-23.96,90.5]
                    [-14.33,88.26]
                    [-0.68,88.12]
```

```
                    [14.33,88.26]
                    [23.96,90.5]
                    [32.12,91]
                    [43.74,91.5]
                    [57.09,92]
                    [73.53,92.5]
                    [108.27,93]
                    [125.88,93.5]
                    [144.81,94]
                    [157.38,94.5]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment SW-1a
*#    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
*#    - Undeveloped agricultural land
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["SW_1a"], DT=[1]min, AREA=[536.42](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[2.79]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.591](cms), NINLET=[1],
                    MajNHYD=["S-1-OkMJ"]
                    MinNHYD=["S-1-OkMN"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|---------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.0     , 0.0 ]
                                  [ 0.5370, 1.7917 ]
                                  [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-OkSovf"]
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_416"], NHYDs to add=["N_416"+"SW_1a"+"S-1-OkSR"+"S-1-OkSovf"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["SN_416"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Highway 416 before Station 7245"]
*%-----------------|---------------------------------------------------------------|
*#
*# Hydrograph from Node 416 routed to Node at Okeefe drain
```

```
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
*#
ROUTE CHANNEL       NHYDout=["N_OK"] ,NHYDin=["SN_416"] ,
                    RDT=[1](min),
                    CHLGTH=[497](m),  CHSLOPE=[0.3018](%),
                                        FPSLOPE=[0.3018](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-19.40
                      -0.055,19.40
                      0.075,377.02] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1061.41, 92.50]
                    [-945.91, 92.00]
                    [-783.64, 91.50]
                    [-136.74, 91.00]
                    [-86.04, 91.00]
                    [-20.86, 91.00]
                    [-20.18, 90.50]
                    [-19.40, 90.00]
                    [-11.68, 86.89]
                    [0.00, 86.10]
                    [12.09, 86.81]
                    [19.40, 90.00]
                    [34.68, 90.50]
                    [60.56, 91.00]
                    [170.14, 91.00]
                    [175.05, 90.50]
                    [180.29, 90.00]
                    [193.41, 90.00]
                    [195.98, 90.50]
                    [377.02, 92.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment OKEEFE
*#    - To O'Keefe drain (north of the Jock)
*#    - Developed with assumed 43% imp.
*#    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area
513.02 HA)
*#    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model
(Citi-Gate 2014).
*%-----------------|---------------------------------------------------------------|
*POST DEVELOPMENT CONDITIONS
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["O-1"], DT=[1]min, AREA=[63.72](ha),
                    DWF=[0](cms), CN/C=[61], IA=[6.2](mm), N=[3], TP=[.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------------
------------------------------|
*ROUTE FLOW THROUGH AREA 0-2
ROUTE CHANNEL       NHYDout=["O-1R"], NHYDin=["O-1"], RDT=[1](min),
                    CHLGTH=[960](m), CHSLOPE=[0.63](%), FPSLOPE=[0.63](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.06,4 -.043,6 0.06,10] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.0]
                    [0.0, 2.0]
                    [4.0, 0.0]
                    [6.0, 0.0]
```

```
                    [10.0, 2.0]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-2"], DT=[1]min, AREA=[28.61](ha),
                    DWF=[0](cms), CN/C=[57], IA=[5.2](mm), N=[3], TP=[1.1]hrs,
                   Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-4"], DT=[1]min, AREA=[46.94](ha),
                    DWF=[0](cms), CN/C=[49], IA=[9.2](mm), N=[3], TP=[0.9]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL EXTERNAL FLOW NORTH OF O'KEEFE CT. CROSSING
ADD HYD             NHYDsum=["OKF-N"], NHYDs to add=["O-1R"+"O-2"+"O-4"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-6
ROUTE CHANNEL       ROUTE CHANNEL NHYDout=["OKF-NR"], NHYDin=["OKF-N"], RDT=[1](min),
                    CHLGTH=[210](m), CHSLOPE=[.81](%), FPSLOPE=[.81](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.043,22.43 -0.043,25.07
                    0.043,45.54] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 3.73]
                    (14.62, 1.56)
                    (18.41, 1.44)
                    (22.43, 0.00)
                    (25.07, 0.70)
                    (29.10, 1.79)
                    (33.73, 2.71)
                    (45.54, 3.58)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-6"], DT=[1]min, AREA=[16.46](ha),
                    DWF=[0](cms), CN/C=[43], IA=[9.2](mm), N=[3], TP=[0.7]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-3"], DT=[1](min), AREA=[39.67](ha), XIMP=[0.15],
TIMP=[0.30], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[50], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[0.32](%),
                    LGP=[440](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.32](%),
                    LGI=[1880](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["O-5"], DT=[1](min), AREA=[60.63](ha), XIMP=[0.13],
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```
    TIMP=[0.26], DWF=[0](cms),
1171                    LOSS=[2], SCS curve number CN=[61],
1172                    Pervious surfaces: IAper=[4.67](mm), SLPP=[1.38](%),
1173                    LGP=[550](m), MNP=[0.035], SCP=[0](min), Impervious surfaces:
                        IAimp=[1.57](mm), SLPI=[1.38](%),
1174                    LGI=[1450](m), MNI=[0.013], SCI=[0](min),
1175                    Continuous simulation parameters:
1176                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
1177                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1178                    InterEventTime=[12](hrs),   END=-1
1179    *%-----------------|-------------------------------------------------------------|
1180    *TOTAL EXTERNAL FLOWS WEST OF THE SITE AND NORTH OF O'KEEFE CRT
1181    *%-----------------|-------------------------------------------------------------|
1182    ADD HYD             NHYDsum=["PT1"], NHYDs to add=["OKF-NR"+"O-3"+"O-5"+"O-6"]
1183    *%-----------------|-------------------------------------------------------------|
1184    CONTINUOUS NASHYD   NHYD=["O-7"], DT=[1]min, AREA=[5.28](ha),
1185                    DWF=[0](cms), CN/C=[54], IA=[7.5](mm), N=[3], TP=[0.6]hrs,
1186                    Continuous simulation parameters:
1187                    IaRECper=[4](hrs),
1188                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1189                    InterEventTime=[12](hrs)
1190                    Baseflow simulation parameters:
1191                    BaseFlowOption=[1] ,
1192                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
1193                    VHydCond=[0.055](mm/hr),   END=-1
1194    *%-----------------|-------------------------------------------------------------|
1195    *ANALYSIS POINT 1 - TOTAL FLOW NORTH OF FALLOWFIELD DR. AND O'KEEFE CRT.
1196    ADD HYD             NHYDsum=["FF"], NHYDs to add=["PT1"+"O-7"]
1197    *%-----------------|-------------------------------------------------------------|
1198    *ROUTE FLOW through O'Keefe Drain 1
1199    ROUTE CHANNEL       NHYDout=["DRAIN1"], NHYDin=["FF"], RDT=[1](min),
1200                    CHLGTH=[302]{m), CHSLOPE=[1.00](%), FPSLOPE=[1.00](%),
1201                    SECNUM=[1], NSEG=[3]
1202                    ( SEGROUGH, SEGDIST (m))=[0.07,13.45 -0.043,16.55 0.07,30.00] NSEG
                        times
1203                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
1204                    (3.45, 0.60)
1205                    (13.45, 0.50)
1206                    (14.45, 0.00)
1207                    (15.55, 0.00)
1208                    (16.55, 0.50)
1209                    (26.55, 0.60)
1210                    (30.00, 1.70)
1211    *%-----------------|-------------------------------------------------------------|
1212    CONTINUOUS NASHYD   NHYD=["D1"], DT=[1]min, AREA=[1.17](ha),
1213                    DWF=[0](cms), CN/C=[84], IA=[9.0](mm), N=[3], TP=[0.28]hrs,
1214                    Continuous simulation parameters:
1215                    IaRECper=[4](hrs),
1216                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1217                    InterEventTime=[12](hrs)
1218                    Baseflow simulation parameters:
1219                    BaseFlowOption=[1] ,
1220                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
1221                    VHydCond=[0.055](mm/hr),   END=-1
1222    *%-----------------|-------------------------------------------------------------|
1223    CONTINUOUS STANDHYD NHYD=["A1"], DT=[1]min, AREA=[2.50](ha), XIMP=[0.68], TIMP=[0.85],
    DWF=[0](cms), LOSS=[1]:
1224                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                        F=[0.00](mm),
1225                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                        MNP=[0.250], SCP=[0](min),
1226                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                        LGI=[223.607](m), MNI=[0.013], SCI=[0](min),
1227                    Continuous simulation parameters:
1228                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                        END=-1
```

```
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A1-STR"], NHYDin=["A1"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.035 , 0.038 ]
                                  [ 0.072 , 0.051 ]
                                  [ 0.100 , 0.059 ]
                                  [ 0.125 , 0.070 ]
                                  [ 0.160 , 0.074 ]
                                  [ 0.185 , 0.081 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-2"], DT=[1]min, AREA=[0.59](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[108.628](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST2STR"], NHYDin=["ST-2"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.052 , 0.0010 ]
                                  [ 0.053 , 0.0080 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST2OVF"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF STRANDHERD DR. (EAST BRANCH) CROSSING
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-8"], DT=[1]min, AREA=[60.55](ha),
                    DWF=[0](cms), CN/C=[69], IA=[4.0](mm), N=[3], TP=[1.0]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["O8PIPE"], RNUMBER=[1], PWIDTH=[1800](mm),
PHEIGHT=[1200](mm), PLNGTH=[335.1](m),
                    PROUGH=[0.013], PSLOPE=[0.001](m/m), NHYDin=["O-8"], RDT=[1](min)
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST2-IN"], NHYDs to
add=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A7"], DT=[1]min, AREA=[3.51](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[264.953](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
```

```
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A7-STR"], NHYDin=["A7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.049 , 0.054 ]
                                  [ 0.102 , 0.072 ]
                                  [ 0.140 , 0.082 ]
                                  [ 0.175 , 0.099 ]
                                  [ 0.225 , 0.105 ]
                                  [ 0.260 , 0.114 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-3"], DT=[1]min, AREA=[0.71](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[119.164](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST3STR"], NHYDin=["ST-3"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.063 , 0.0010 ]
                                  [ 0.064 , 0.0094 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST3OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 2 - TOTAL FLOW AT OUTLET OF STREET 2/3 INTERSECTION
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT2ST3"], NHYDs to
add=["ST2-IN"+"A7-STR"+"A7-OVF"+"ST3STR"+"ST3OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 2
ROUTE CHANNEL       NHYDout=["DRAIN2"], NHYDin=["PT2ST3"], RDT=[1](min),
                    CHLGTH=[592]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                                       SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.60 -0.043,17.40 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                    (2.60, 0.95)
                    (12.60, 0.75)
                    (14.10, 0.00)
                    (15.90, 0.00)
                    (17.40, 0.75)
                    (27.40, 0.95)
                    (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D2"], DT=[1]min, AREA=[2.28](ha), DWF=[0](cms), CN/C=[84],
IA=[9.0](mm),
                    N=[3], TP=[0.99]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
```

```
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A17"], DT=[1]min, AREA=[12.04](ha), XIMP=[0.68],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[490.714](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A17STR"], NHYDin=["A17"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.169 , 0.185 ]
                                 [ 0.349 , 0.248 ]
                                 [ 0.482 , 0.283 ]
                                 [ 0.602 , 0.338 ]
                                 [ 0.771 , 0.359 ]
                                 [ 0.891 , 0.391 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["A17OVF"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-4"], DT=[1]min, AREA=[0.35](ha), XIMP=[0.46],
TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[83.666](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST4STR"], NHYDin=["ST-4"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.0000 ]
                                 [ 0.031 , 0.0010 ]
                                 [ 0.032 , 0.0050 ]
                                 [ -1 , -1 ] (max twenty pts)
                                NHYDovf=["ST4OVF"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A18"], DT=[1]min, AREA=[5.30](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[325.576](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["A18STR"], NHYDin=["A18"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                 [ 0.000 , 0.000 ]
                                 [ 0.074 , 0.082 ]
```

```
                                  [ 0.154 , 0.109 ]
                                  [ 0.212 , 0.125 ]
                                  [ 0.265 , 0.149 ]
                                  [ 0.339 , 0.158 ]
                                  [ 0.392 , 0.172 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 3 - TOTAL FLOW AT OUTLET OF STREET 4
*%-----------------|-------------------------------------------------------------|
ADD HYD            NHYDsum=["PT3ST4"], NHYDs to add=["DRAIN2"+"D2"+"A17STR"+"A17OVF"+"ST4STR"+"ST4OVF"+"A18STR"+"A18OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 3
ROUTE CHANNEL      NHYDout=["DRAIN3"], NHYDin=["PT3ST4"], RDT=[1](min),
                   CHLGTH=[525]{m), CHSLOPE=[.23](%), FPSLOPE=[.23](%),
                   SECNUM=[1], NSEG=[3]
                   ( SEGROUGH, SEGDIST (m))=[0.07,12.50 -0.043,17.50 0.07,30.00] NSEG times
                   ( DISTANCE (m), ELEVATION (m))=[0.00, 1.70]
                   (2.50, 1.00)
                   (12.50, 0.80)
                   (14.10, 0.00)
                   (15.90, 0.00)
                   (17.50, 0.80)
                   (27.50, 1.00)
                   (30.00, 1.70)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD  NHYD=["D3"], DT=[1]min, AREA=[2.51](ha),
                   DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.73]hrs,
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),
                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                   InterEventTime=[12](hrs)
                   Baseflow simulation parameters:
                   BaseFlowOption=[1] ,
                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C1"], DT=[1]min, AREA=[3.41](ha), XIMP=[0.68], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                   Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                   F=[0.00](mm),
                   Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                   MNP=[0.250], SCP=[0](min),
                   Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                   LGI=[261.151](m), MNI=[0.013], SCI=[0](min),
                   Continuous simulation parameters:
                   IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR    NHYDout=["C1-STR"], NHYDin=["C1"], RDT=[1](min),
                        TABLE of ( OUTFLOW-STORAGE ) values
                                  (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.048 , 0.052 ]
                                  [ 0.099 , 0.070 ]
                                  [ 0.136 , 0.080 ]
                                  [ 0.170 , 0.096 ]
                                  [ 0.218 , 0.102 ]
                                  [ 0.252 , 0.111 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C1-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-5"], DT=[1]min, AREA=[0.45](ha), XIMP=[0.46], TIMP=[0.57], DWF=[0](cms), LOSS=[1]:
```

```
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[94.868](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST5STR"], NHYDin=["ST-5"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.040 , 0.0010 ]
                                  [ 0.041 , 0.0062 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST5OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["ST5-E"], NHYDs to
add=["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["STRAND"], DT=[1](min), AREA=[7.59](ha),
                    XIMP=[0.64], TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[1230](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-POND"], NHYDin=["STRAND"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.033 , 0.188 ]
                                  [ 0.057 , 0.253 ]
                                  [ 0.104 , 0.287 ]
                                  [ 0.160 , 0.336 ]
                                  [ 0.340 , 0.346 ]
                                  [ 0.471 , 0.360 ]
                                  [ 0.824 , 0.390 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["S-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SSAOUT"], NHYDs to add=["ST5-E"+"S-POND"+"S-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SSAOUT"], # OF PCYCLES=[5], ICASEsh=[1]
                    HYD_COMMENT=["SSAOUT"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-A"], DT=[1]min, AREA=[66.75](ha), XIMP=[0.64],
TIMP=[0.80], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[1155.422](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["Area-A"], # OF PCYCLES=[1], ICASEsh=[1]
```

```
                    HYD_COMMENT=["SMWF-A Inflow"]
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["SWMF-A"], NHYDin=["Area-A"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.103 , 1.077 ]
                                  [ 0.128 , 1.749 ]
                                  [ 0.382 , 2.282 ]
                                  [ 0.703 , 2.582 ]
                                  [ 1.256 , 2.978 ]
                                  [ 1.567 , 3.202 ]
                                  [ 1.955 , 3.493 ]
                                  [ 2.100 , 3.600 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["SWMAOV"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["SWMF-A"], # OF PCYCLES=[1], ICASEsh=[1]
                    HYD_COMMENT=["SMWF-A Outflow"]
*%-----------------|---------------------------------------------------------|
*ANALYSIS POINT 4 - TOTAL FLOW AT OUTLET OF STREET 5
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["PT4ST5"], NHYDs to add=["SSAOUT"+"SWMF-A"+"SWMAOV"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C6"], DT=[1]min, AREA=[1.87](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[193.391](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C6-STR"], NHYDin=["C6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.026 , 0.029 ]
                                  [ 0.054 , 0.038 ]
                                  [ 0.075 , 0.044 ]
                                  [ 0.093 , 0.052 ]
                                  [ 0.120 , 0.056 ]
                                  [ 0.138 , 0.061 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C6-OVF"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["C7"], DT=[1]min, AREA=[1.62](ha), XIMP=[0.68], TIMP=[0.85],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["C7-STR"], NHYDin=["C7"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.000 ]
                                  [ 0.023 , 0.025 ]
```

```
                                  [ 0.047 , 0.033 ]
                                  [ 0.065 , 0.038 ]
                                  [ 0.081 , 0.045 ]
                                  [ 0.104 , 0.048 ]
                                  [ 0.120 , 0.053 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["C7-OVF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["ST-6"], DT=[1]min, AREA=[0.41](ha),XIMP=[0.46], TIMP=[0.57],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[50](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%), LGI=[90.554](m),
                    MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["ST6STR"], NHYDin=["ST-6"], RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [ 0.000 , 0.0000 ]
                                  [ 0.036 , 0.0010 ]
                                  [ 0.037 , 0.0058 ]
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 5 - TOTAL FLOW AT OUTLET OF STREET 6
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT5ST6"], NHYDs to
add=["PT4ST5"+"C6-STR"+"C6-OVF"+"C7-STR"+"C7-OVF"+"ST6STR"+"ST6OVF"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW through O'Keefe Drain 4
ROUTE CHANNEL       NHYDout=["DRAIN4"], NHYDin=["PT5ST6"], RDT=[1](min),
                    CHLGTH=[324]{m), CHSLOPE=[.10](%), FPSLOPE=[.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.07,12.00 -0.043,18.00 0.07,30.00] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[0.00, 2.00]
                    (2.00, 1.20)
                    (12.00, 1.00)
                    (14.00, 0.00)
                    (16.00, 0.00)
                    (18.00, 1.00)
                    (28.00, 1.20)
                    (30.00, 2.00)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["D4"], DT=[1]min, AREA=[1.73](ha), DWF=[0](cms), CN/C=[88],
IA=[8.4](mm),
                    N=[3], TP=[0.60]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["Area-B"], DT=[1]min, AREA=[24.04](ha), XIMP=[0.62],
TIMP=[0.77], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[1.4](%), LGP=[50](m),
```

```
                    MNP=[0.250], SCP=[0](min),
1614                Impervious areas: IAimp=[1.57](mm), SLPI=[1.4](%),
                    LGI=[693.397](m), MNI=[0.013], SCI=[0](min),
1615                Continuous simulation parameters:
1616                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
1617  *%----------------|-------------------------------------------------------------|
1618  ROUTE RESERVOIR   NHYDout=["SWMF-B"], NHYDin=["Area-B"], RDT=[1](min),
1619                         TABLE of ( OUTFLOW-STORAGE ) values
1620                                   (cms) - (ha-m)
1621                                 [ 0.000 , 0.000 ]
1622                                 [ 0.025 , 0.090 ]
1623                                 [ 0.175 , 0.510 ]
1624                                 [ 0.350 , 0.710 ]
1625                                 [ 0.495 , 0.820 ]
1626                                 [ 0.648 , 0.980 ]
1627                                 [ 0.965 , 1.045 ]
1628                                 [ 1.072 , 1.140 ]
1629                                 [ -1 , -1 ] (max twenty pts)
1630                                NHYDovf=["SWMBOVF"]
1631  *%----------------|-------------------------------------------------------------|
1632  ADD HYD           NHYDsum=["D4-EX"], NHYDs to add=["DRAIN4"+"D4"+"SWMF-B"+"SWMBOVF"]
1633  *%----------------|-------------------------------------------------------------|
1634  *ROUTE FLOW THROUGH O'Keefe Drain 5
1635  * JFSA: Nov. 2020, added en points to close X-Section
1636  ROUTE CHANNEL     NHYDout=["DRAIN5"], NHYDin=["D4-EX"], RDT=[1](min),
1637                    CHLGTH=[413.0](m), CHSLOPE=[0.16](%), FPSLOPE=[0.16](%),
1638                    SECNUM=[1], NSEG=[3]
1639                    ( SEGROUGH, SEGDIST (m))=[0.043,12.29 -0.033,17.97
1640                    0.043,32.84] NSEG times
1641                    ( DISTANCE (m), ELEVATION (m))=(-0.01, 2.50)
1642                    [0.00, 1.41]
1643                    [6.13, 0.97]
1644                    [12.29, 0.89]
1645                    [15.71, 0.00]
1646                    [17.97, 0.39]
1647                    [23.04, 0.35]
1648                    [32.83, 0.96]
1649                    (32.84, 2.50)
1650  *%----------------|-------------------------------------------------------------|
1651  CONTINUOUS NASHYD NHYD=["D5"], DT=[1]min, AREA=[1.90](ha),
1652                    DWF=[0](cms), CN/C=[86], IA=[8.7](mm), N=[3], TP=[0.69]hrs,
1653                    Continuous simulation parameters:
1654                    IaRECper=[4](hrs),
1655                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1656                    InterEventTime=[12](hrs)
1657                    Baseflow simulation parameters:
1658                    BaseFlowOption=[1] ,
1659                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
1660                    VHydCond=[0.055](mm/hr),   END=-1
1661  *%----------------|-------------------------------------------------------------|
1662  *EXTERNAL FLOWS SOUTHEAST OF THE SITE NORTH OF McKENNA CASEY DR.
1663  CONTINUOUS NASHYD NHYD=["O-13SDF"], DT=[1]min, AREA=[9.74](ha),
1664                    DWF=[0](cms), CN/C=[81], IA=[4.0](mm), N=[3], TP=[.43]hrs,
1665                    Continuous simulation parameters:
1666                    IaRECper=[4](hrs),
1667                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1668                    InterEventTime=[12](hrs)
1669                    Baseflow simulation parameters:
1670                    BaseFlowOption=[1] ,
1671                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
1672                    VHydCond=[0.055](mm/hr),   END=-1
1673  *%----------------|-------------------------------------------------------------|
1674  *SNOW DISPOSAL FACILITY
1675  *PARAMETERS BASED ON ROBINSON 2006 MODEL
1676  ROUTE RESERVOIR   NHYDout=["SDF"], NHYDin=["O-13SDF"], RDT=[1](min),
```

```
                          TABLE of ( OUTFLOW-STORAGE ) values
                                   (cms) - (ha-m)
                                  [0.000,0.000]
                                  [0.150,0.600]
                                  (0.200,1.500)
                                  [ -1 , -1 ] (max twenty pts)
                                  NHYDovf=["OVFSDF"]
*%-----------------|-------------------------------------------------------------|
*ANALYSIS POINT 6 - McKenna Casey Dr.
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["PT6MC"], NHYDs to add=["DRAIN5"+"D5"+"SDF"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["O-15"], DT=[1]min, AREA=[10.67](ha),
                    DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.30]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*TOTAL FLOW NORTH OF McKENNA CASEY DR.
ADD HYD             NHYDsum=["M-C"], NHYDs to add=["PT6MC"+"O-15"]
*%-----------------|-------------------------------------------------------------|
*ROUTE FLOW THROUGH AREA O-14
* JFSA: Nov. 2020, added end points to close X-section
ROUTE CHANNEL       NHYDout=["O-14Ch"], NHYDin=["M-C"], RDT=[1](min),
                    CHLGTH=[845.3](m), CHSLOPE=[0.10](%), FPSLOPE=[0.10](%),
                    SECNUM=[1], NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.06,15.00 -0.033,18.04 0.06,31.85] NSEG
                    times
                    ( DISTANCE (m), ELEVATION (m))=[-0.01, 2.5
                    (0.00, 1.53]
                    (5.56, 1.47)
                    (9.21, 1.45)
                    (12.45, 1.53)
                    (13.70, 1.50)
                    (15.00, 0.69)
                    (15.34, 0.00)
                    (16.51, 0.05)
                    (17.30, 0.17)
                    (18.04, 0.74)
                    (19.29, 1.32)
                    (22.73, 1.47)
                    (31.84, 1.41)
                    (31.85, 2.50)
*%-----------------|-------------------------------------------------------------|
*%    -Change O-14 from NASHYD to STANDHYD, name it "S-1-Okeefe" and add it to S-1
subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -JFSA 2021-02-16, add detailed subcatchment drainage area for each subcatchment
in Corrigan sub-catchment. After adding part of  O-14 to S_1 sub-catchment so O-14
becomes 5 ha instead of 30.02 ha and TP becomes 0.133 (5*0.8/30.02) instead of 0.8
CONTINUOUS NASHYD   NHYD=["O-14"], DT=[1]min, AREA=[5](ha),
                    DWF=[0](cms), CN/C=[82], IA=[7.5](mm), N=[3], TP=[0.133]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*
*%-----------------|-------------------------------------------------------------|
```

```
*ANALYSIS POINT 7 - JOCK RIVER
* 2020-12-01 To Foster Drain
* 2020-12-01  replace ("PT7JR") by ("OKEEFE")
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["OKEEFE"], NHYDs to add=["O-14Ch"+"O-14"]
*%-----------------|---------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["OKEEFE"], DT=[1](min), AREA=[448](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[1728](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*#*********************************************************************
*#    Okeefe Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*********************************************************************
*ROUTE RESERVOIR     NHYDout=["P_OKE"], NHYDin=["OKEEFE"],
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                  (cms) - (ha-m)
*                                [   0.0  ,  0.0]
*                                [  14.13 , 13.0]
*                                [   -1   ,  -1  ]  (maximum one hundred pairs of points)
*                               NHYDovf=["ok-OVF"],
*%-----------------|-------------------------------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are moved to drain before station 6215 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|---------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.120]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D2"], CINLET=[2.097](cms), NINLET=[1],
                    MajNHYD=["S-1-D2J"]
                    MinNHYD=["S-1-D2N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|---------------------------------------------------------|
```

```
ROUTE RESERVOIR     NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.2231, 0.7445 ]
                                   [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.281]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.831](cms), NINLET=[1],
                    MajNHYD=["S-1-D3J"]
                    MinNHYD=["S-1-D3N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.0811, 0.2708 ]
                                   [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["SN_OK"], NHYDs to
add=["N_OK"+"OKEEFE"+"S-1-D2R"+"S-1-D3R"+"S-1-D2Rovf"+"S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["SN_OK"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Okeefe Drain"]
*%-----------------|-------------------------------------------------------|
*#
*# Hydrograph from Node Okeefe routed to Node at Foster Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
*#
ROUTE CHANNEL       NHYDout=["N_FO"] ,NHYDin=["SN_OK"] ,
                    RDT=[1](min),
                    CHLGTH=[1183](m),  CHSLOPE=[0.0761](%),
                                         FPSLOPE=[0.0761](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-33.89
```

```
                      -0.035,31.59
                      0.050,34.41] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-794.18, 91.00]
                    [-775.41, 91.50]
                    [-702.63, 91.50]
                    [-546.19, 91.50]
                    [-529.54, 91.50]
                    [-323.44, 91.00]
                    [-320.71, 91.00]
                    [-183.59, 91.00]
                    [-182.54, 90.50]
                    [-181.36, 90.00]
                    [-177.37, 90.00]
                    [-87.70, 90.00]
                    [-33.89, 90.00]
                    [-18.52, 86.88]
                    [0.00,85.20]
                    [16.20, 86.83]
                    [31.59, 90.00]
                    [33.03, 90.50]
                    [34.41, 91.00]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment FOSTER
*#    - To Foster ditch (north of the Jock)
*#    - Partially developed (medium density); remaining agricultural
*#    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study
    Report, CH2MHILL, Aug 2013.
*#    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after
    increasing Okeefe drainage area to (513.02 HA) so the total drainage area remains the
    same
*#    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FOSTER"], DT=[1]min, AREA=[325.44](ha),
                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[1472.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*#*****************************************************************************
*#    Foster Pond
*#    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
*#      and a ratio of the catchment area to the West Clarke pond rating curve
*#      from the MSS for the next coordinates
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["P_FOS"],  NHYDin=["FOSTER"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   10.34 , 10]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["FO-OVF"]
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["FOSTER-OUT"], NHYDs to add=["P_FOS"+"FO-OVF"]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*    -Brazeau area from P 1800-19 =[71.751], change to 63.59 ha based on GIS measurements
*     -JFSA, 2021-01-19  update "W_CLAR_BRAZ" to 73.29 ha based on GIS measurements
*     -JFSA, 2021-01-22  Brazeau ("MS_P10"+"P10-OVF")brazeau pond discharges directly
```

```
    to the jock river through a road side ditch on the west side of Borrisokane road
    (station 6016)
1925  CONTINUOUS STANDHYD NHYD=["W_CLAR_BRAZ"], DT=[1]min, AREA=[73.29](ha),
1926                      XIMP=[0.6], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
1927                      SCS curve number CN=[77],
1928                      Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
1929                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
1930                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
1931                             LGI=[699.00](m), MNI=[0.013], SCI=[0](min),
1932                      Continuous simulation parameters:
1933                      IaRECper=[4](hrs),  IaRECimp=[4](hrs),
1934                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1935                      InterEventTime=[18](hrs),   END=-1
1936  *%-----------------|-------------------------------------------------------|
1937  * 2020-12-01 correct pond curve values
1938  ROUTE RESERVOIR     NHYDout=["MS_P10"],  NHYDin=["W_CLAR_BRAZ"],
1939                      RDT=[1](min),
1940                            TABLE of ( OUTFLOW-STORAGE ) values
1941                                       (cms) - (ha-m)
1942                                     [   0.0 ,  0.0 ]
1943                                     [ 0.068 , 0.001 ]
1944                                     [ 0.271 , 0.022 ]
1945                                     [ 0.379 , 0.051 ]
1946                                     [ 0.48 , 0.091 ]
1947                                     [ 0.853 , 0.341 ]
1948                                     [ 1.005 , 0.61 ]
1949                                     [ 1.128 , 1.231 ]
1950                                     [ 1.155 , 1.592 ]
1951                                     [ 1.194 , 1.876 ]
1952                                     [ 1.2 , 1.921 ]
1953                                     [ 1.259 , 2.369 ]
1954                                     [ 1.3 , 2.665 ]
1955                                     [ 1.349 , 2.813 ]
1956                                     [   -1  ,  -1  ]  (max twenty pts)
1957                            NHYDovf=["P10-OVF"]
1958  *%-----------------|-------------------------------------------------------|
1959  *   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain
    before station 980 on Foster Drain
1960  CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
1961                      XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
1962                      SCS curve number CN=[74],
1963                      Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
1964                             LGP=[40](m), MNP=[0.25], SCP=[0](min),
1965                      Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
1966                             LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
1967                      Continuous simulation parameters:
1968                      IaRECper=[4](hrs),  IaRECimp=[4](hrs),
1969                      SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1970                      InterEventTime=[18](hrs),   END=-1
1971  *%-----------------|-------------------------------------------------------|
1972  *CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
1973  *                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
1974  *                    N=[3], TP=[1.10]hrs,
1975  *                    Continuous simulation parameters:
1976  *                    IaRECper=[4](hrs),
1977  *                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
1978  *                    InterEventTime=[12](hrs)
1979  *                    Baseflow simulation parameters:
1980  *                    BaseFlowOption=[1] ,
1981  *                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
1982  *                    VHydCond=[0.055](mm/hr),   END=-1
1983  *%-----------------|-------------------------------------------------------|
1984  COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
1985                      MajNHYD=["S-1-FO-D2J"]
1986                      MinNHYD=["S-1-FO-D2N"]
1987                      TMJSTO=[9999999](cu-m)
```

```
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.0590, 0.1970 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1FOD2ovf"]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["980"], NHYDs to
add=["FOSTER-OUT"+"S-1-FO-D2R"+"S-1FOD2ovf"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["980"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Station 980 on Foster Drain"]
*%-----------------|---------------------------------------------------------|
*#
*# Hydrograph from Node Foster SWM (Station 980)to Node at station 520
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 980
*#
ROUTE CHANNEL       NHYDout=["980-out"] ,NHYDin=["980"] ,
                    RDT=[1](min),
                    CHLGTH=[460](m),  CHSLOPE=[0.04348](%),
                                        FPSLOPE=[0.04348](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,45.90
                      -0.035,53.30
                      0.050,100] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [0, 91.75 ]
                    [42.4, 92.18 ]
                    [43.5, 92.16 ]
                    [44.1, 92.1 ]
                    [44.6, 92 ]
                    [44.8, 91.86 ]
                    [45.9, 91.04 ]
                    [46.4, 90.65 ]
                    [46.8, 90.36 ]
                    [47.9, 90.32 ]
                    [48.7, 90.35 ]
                    [50.7, 90.33 ]
                    [52.2, 90.38 ]
                    [52.5, 90.59 ]
                    [53.3, 91.28 ]
                    [54, 91.83 ]
                    [54.3, 92 ]
                    [54.8, 92.08 ]
                    [55.4, 92.12 ]
                    [100, 91.84 ]
*%-----------------|---------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain
before station 520 on Foster Drain
CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                            LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
                    MajNHYD=["S-1-FO-D1J"]
                    MinNHYD=["S-1-FO-D1N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.0611, 0.2038 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["520"], NHYDs to add=["980-out"+"S-1-FO-D1R"+"S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["520"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Sation 520 on Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock
River)
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 520
*#
ROUTE CHANNEL       NHYDout=["520-out"] ,NHYDin=["520"] ,
                    RDT=[1](min),
                    CHLGTH=[860](m),  CHSLOPE=[0.5872](%),
                                        FPSLOPE=[0.5872](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,45.90
                      -0.035,54.3
                      0.050,100.1097] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [0, 91.26 ]
                    [44.9, 91.46 ]
                    [45.1, 91.37 ]
                    [45.9, 90.84 ]
                    [47, 90.32 ]
                    [47.5, 90.22 ]
                    [48, 90.17 ]
                    [50.7, 90.19 ]
                    [51.5, 90.17 ]
                    [52.2, 90.13 ]
                    [52.7, 90.12 ]
                    [53.3, 90.14 ]
                    [53.5, 90.31 ]
                    [53.9, 90.59 ]
                    [54.3, 90.87 ]
                    [54.7, 91.04 ]
                    [55.3, 91.24 ]
                    [55.5, 91.26 ]
                    [63.7, 91.37 ]
                    [100.1097, 91.43 ]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
                           LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-FO-F-D"], CINLET=[1.615](cms), NINLET=[1],
                    MajNHYD=["S-1FO-F-DJ"]
                    MinNHYD=["S-1FO-F-DN"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.1788, 0.5966 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha), XIMP=[0.325],
TIMP=[0.65], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.75](%),
                    LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[0.672](cms), NINLET=[1],
                    MajNHYD=["S-1-D8J"]
                    MinNHYD=["S-1-D8N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------|
```

```
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                    MajNHYD=["S-1-D-MJ"]
*                    MinNHYD=["S-1-D-MN"]
*                    TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
                     RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.0     , 0.0 ]
                                  [ 0.0630, 0.2102 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
CONTINUOUS NASHYD    NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                     N=[3], TP=[0.619]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
CONTINUOUS NASHYD    NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                     N=[3], TP=[1.10]hrs,
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs)
                     Baseflow simulation parameters:
                     BaseFlowOption=[1] ,
                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD              NHYDsum=["SN_FO"], NHYDs to
add=["N_FO"+"520-out"+"MS_P10"+"P10-OVF"+"W_CLAR_UNDE"+"S-1FoFDovf"+"S-1FO-F-DR"+"S-1-D8R
ovf"+"S-1-D8R"+"S-1-A"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD             NHYD=["SN_FO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                     HYD_COMMENT=["Total Flows at Foster Drain"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Foster routed to Node at Cedarview Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
*#
ROUTE CHANNEL        NHYDout=["N_CE"] ,NHYDin=["SN_FO"] ,
                     RDT=[1](min),
                     CHLGTH=[159](m),  CHSLOPE=[0.0818](%),
                                         FPSLOPE=[0.0818](%),
                     SECNUM=[1.0],       NSEG=[3]
                     ( SEGROUGH, SEGDIST (m))=
                       [0.050,-15.46
                       -0.035,26.55
                       0.050,116.76] NSEG times
```

```
                    ( DISTANCE (m), ELEVATION (m))=
                    [-645.23, 91.50]
                    [-391.20, 91.50]
                    [-91.00, 91.50]
                    [-85.52, 91.50]
                    [-15.46, 89.40]
                    [-9.79, 89.31]
                    [-3.22, 86.24]
                    [3.22, 85.07]
                    [10.96, 85.79]
                    [16.44, 86.49]
                    [26.55, 89.45]
                    [29.03, 90.27]
                    [35.76, 90.67]
                    [36.67, 91.00]
                    [108.08, 91.00]
                    [109.82, 90.50]
                    [112.04, 90.50]
                    [114.62, 91.00]
                    [116.76, 91.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-1
*#    - To Jock River (north and south of Jock)
*#    - Primarily agricultural fields; portion of sand quarry
*%-----------------|---------------------------------------------------------------|
*%    -2020-12-17 "S-1-Undev" and "S-1-Fost" was a part of Foster drain, they are below the foster pond. Now they are added to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Change O-14 (it was part of Okeefe drain) to "S-1-Okeefe" and add it to S-1 subcatchment based on Project 1474-BCDC, JFSA, Nov. 2020
*%    -2020-12-17 Add "S-1-BCDC" as NASHYD
*%    -2020-12-17 all other S-1 subcatchment as STANDHYD with DUALHYD and ROUTE RESERVOIR
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*   -JFSA 2021-02-26  "S-1-A" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS NASHYD   NHYD=["S-1-A"], DT=[1]min, AREA=[75.88](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[0.619]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["S-1-B"], DT=[1]min, AREA=[55.36](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.451]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
*#    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas compared to the old ones.
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC"], DT=[1]min, AREA=[134.9](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
```

```
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and "S-1-BCDC-2" is part of "S-1-D2" and "S-1-D3"
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-1"], DT=[1]min, AREA=[0.3](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-2"], DT=[1]min, AREA=[1.3](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*#    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
*CONTINUOUS NASHYD   NHYD=["S-1-BCDC-3"], DT=[1]min, AREA=[3.9](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-Okeefe" is a part of S-1 sub-catchment. It is moved to drain before station 7245 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-Okeefe"], DT=[1](min), AREA=[44.93](ha), XIMP=[0.65], TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces: IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.75](%),
*                    LGI=[547.296](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-Okeefe"], CINLET=[4.796](cms), NINLET=[1],
*                    MajNHYD=["S-1-OkMJ"]
*                    MinNHYD=["S-1-OkMN"]
```

```
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD            NHYDsum=["S-1-OkS"], NHYDs to add=["S-1-OkMJ"+"S-1-OkMN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR    NHYDout=["S-1-OkSR"] ,NHYDin=["S-1-OkS"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.5370, 1.7917 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-OkSovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-Okeefe"], DT=[1]min, AREA=[44.93](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.049]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D1" is a part of S-1 sub-catchment. It is moved to drain before station 520 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                   XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[74],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[184.572](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D1"], CINLET=[0.605](cms), NINLET=[1],
*                   MajNHYD=["S-1-FO-D1J"]
*                   MinNHYD=["S-1-FO-D1N"]
*                   TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD            NHYDsum=["S-1-FO-D1S"], NHYDs to add=["S-1-FO-D1N"+"S-1-FO-D1J"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR    NHYDout=["S-1-FO-D1R"] ,NHYDin=["S-1-FO-D1S"] ,
*                   RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0611, 0.2038 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD1ovf"]
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D1"], DT=[1]min, AREA=[5.11](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-D2" is a part of S-1 sub-catchment. It is moved to drain before station 980 on Foster Drain
*CONTINUOUS STANDHYD NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[181.475](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-D2"], DT=[1]min, AREA=[4.94](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-D2"], CINLET=[0.508](cms), NINLET=[1],
*                    MajNHYD=["S-1-FO-D2J"]
*                    MinNHYD=["S-1-FO-D2N"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-FO-D2S"], NHYDs to add=["S-1-FO-D2J"+"S-1-FO-D2N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-FO-D2R"] ,NHYDin=["S-1-FO-D2S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0590, 0.1970 ]
*                                  [    -1   ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FOD2ovf"]
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-FO-F-D" is a part of S-1 sub-catchment. It is moved to drain before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[74],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[0.5](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[0.5](%),
*                           LGI=[315.806](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-FO-F-D"], DT=[1]min, AREA=[14.96](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.007]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
```

```
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-FO-F-D"], CINLET=[1.749](cms), NINLET=[1],
*                    MajNHYD=["S-1FO-F-DJ"]
*                    MinNHYD=["S-1FO-F-DN"]
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1FO-F-DS"], NHYDs to add=["S-1FO-F-DJ"+"S-1FO-F-DN"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1FO-F-DR"] ,NHYDin=["S-1FO-F-DS"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.1788, 0.5966 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1FoFDovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D1"], DT=[1](min), AREA=[21.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[380.088](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D1"], DT=[1]min, AREA=[21.67](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.066]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D1"], CINLET=[2.409](cms), NINLET=[1],
                    MajNHYD=["S-1-D1J"]
                    MinNHYD=["S-1-D1N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D1S"], NHYDs to add=["S-1-D1J"+"S-1-D1N"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-D1R"] ,NHYDin=["S-1-D1S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.2590, 0.8642 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D1Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-25  "S-1-D2" and "S-1-D3" are part of S-1 sub-catchment. They are
moved to drain before station 6215 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D2"], DT=[1](min), AREA=[18.67](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
```

```
IAimp=[1.57](mm), SLPI=[0.75](%),
*                     LGI=[352.798](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D2"], DT=[1]min, AREA=[18.67](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.120]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D2"], CINLET=[2.062](cms), NINLET=[1],
*                     MajNHYD=["S-1-D2J"]
*                     MinNHYD=["S-1-D2N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D2S"], NHYDs to add=["S-1-D2J"+"S-1-D2N"]
*%-----------------|-------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D2R"] ,NHYDin=["S-1-D2S"] ,
*                     RDT=[1](min),
*                           TABLE of ( OUTFLOW-STORAGE ) values
*                                      (cms) - (ha-m)
*                                    [ 0.0     , 0.0 ]
*                                    [ 0.2231, 0.7445 ]
*                                    [    -1   ,  -1    ]  (max twenty pts)
*                           NHYDovf=["S-1-D2Rovf"]
*%-----------------|-------------------------------------------------------|
*CONTINUOUS STANDHYD NHYD=["S-1-D3"], DT=[1](min), AREA=[6.79](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                     LGI=[212.760](m), MNI=[0.013], SCI=[0](min),
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D3"], DT=[1]min, AREA=[6.79](ha),
*                     DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                     N=[3], TP=[1.281]hrs,
*                     Continuous simulation parameters:
*                     IaRECper=[4](hrs),
*                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                     InterEventTime=[12](hrs)
*                     Baseflow simulation parameters:
*                     BaseFlowOption=[1] ,
*                     InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                     VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D3"], CINLET=[0.719](cms), NINLET=[1],
*                     MajNHYD=["S-1-D3J"]
*                     MinNHYD=["S-1-D3N"]
*                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D3S"], NHYDs to add=["S-1-D3J"+"S-1-D3N"]
*%-----------------|-------------------------------------------------------|
```

```
*ROUTE RESERVOIR     NHYDout=["S-1-D3R"] ,NHYDin=["S-1-D3S"] ,
*                    RDT=[1](min),
*                         TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [ 0.0     , 0.0 ]
*                                  [ 0.0811, 0.2708 ]
*                                  [    -1  ,  -1    ]  (max twenty pts)
*                         NHYDovf=["S-1-D3Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D4"], DT=[1](min), AREA=[3.28](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[147.874](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D4"], DT=[1]min, AREA=[3.28](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D4"], CINLET=[0.421](cms), NINLET=[1],
                    MajNHYD=["S-1-D4J"]
                    MinNHYD=["S-1-D4N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D4S"], NHYDs to add=["S-1-D4J"+"S-1-D4N"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-D4R"] ,NHYDin=["S-1-D4S"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [ 0.0     , 0.0 ]
                                  [ 0.0392, 0.1308 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                         NHYDovf=["S-1-D4Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D5"], DT=[1](min), AREA=[12.84](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                    LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[292.57](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D5"], DT=[1]min, AREA=[12.84](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
```

```
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["S-1-D5"], CINLET=[1.5](cms), NINLET=[1],
                     MajNHYD=["S-1-D5J"]
                     MinNHYD=["S-1-D5N"]
                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD              NHYDsum=["S-1-D5S"], NHYDs to add=["S-1-D5J"+"S-1-D5N"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["S-1-D5R"] ,NHYDin=["S-1-D5S"] ,
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0     , 0.0 ]
                                    [ 0.1535, 0.5120 ]
                                    [    -1   ,  -1    ]  (max twenty pts)
                           NHYDovf=["S-1-D5Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D6"], DT=[1](min), AREA=[1.75](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
                     IAper=[4.67](mm), SLPP=[2.0](%),
                     LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                     IAimp=[1.57](mm), SLPI=[0.75](%),
                     LGI=[108.01](m), MNI=[0.013], SCI=[0](min),
                     Continuous simulation parameters:
                     IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                     SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                     InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D6"], DT=[1]min, AREA=[1.75](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD      NHYDin=["S-1-D6"], CINLET=[0.232](cms), NINLET=[1],
                     MajNHYD=["S-1-D6J"]
                     MinNHYD=["S-1-D6N"]
                     TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD              NHYDsum=["S-1-D6S"], NHYDs to add=["S-1-D6J"+"S-1-D6N"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR      NHYDout=["S-1-D6R"] ,NHYDin=["S-1-D6S"] ,
                     RDT=[1](min),
                           TABLE of ( OUTFLOW-STORAGE ) values
                                      (cms) - (ha-m)
                                    [ 0.0     , 0.0 ]
                                    [ 0.0209, 0.0698 ]
                                    [    -1   ,  -1    ]  (max twenty pts)
                           NHYDovf=["S-1-D6Rovf"]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S-1-D7"], DT=[1](min), AREA=[2.03](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
                     LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
```

```
                    IAper=[4.67](mm), SLPP=[2.0](%),
                    LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
                    IAimp=[1.57](mm), SLPI=[0.75](%),
                    LGI=[116.33](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D7"], DT=[1]min, AREA=[2.03](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["S-1-D7"], CINLET=[0.265](cms), NINLET=[1],
                    MajNHYD=["S-1-D7J"]
                    MinNHYD=["S-1-D7N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["S-1-D7S"], NHYDs to add=["S-1-D7J"+"S-1-D7N"]
*%-----------------|-------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["S-1-D7R"] ,NHYDin=["S-1-D7S"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.0243, 0.0810 ]
                                   [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["S-1-D7Rovf"]
*%-----------------|-------------------------------------------------------|
*   -JFSA 2021-02-26  "S-1-D8" is a part of S-1 sub-catchment. It is moved to drain
before station 6016 on Jock River
*CONTINUOUS STANDHYD NHYD=["S-1-D8"], DT=[1](min), AREA=[5.27](ha), XIMP=[0.65],
TIMP=[0.65], DWF=[0](cms),
*                   LOSS=[2], SCS curve number CN=[75], Pervious surfaces:
IAper=[4.67](mm), SLPP=[2.0](%),
*                   LGP=[40](m), MNP=[0.25], SCP=[0](min), Impervious surfaces:
IAimp=[1.57](mm), SLPI=[0.75](%),
*                   LGI=[187.439](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["S-1-D8"], DT=[1]min, AREA=[5.27](ha),
*                   DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                   N=[3], TP=[1.10]hrs,
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[12](hrs)
*                   Baseflow simulation parameters:
*                   BaseFlowOption=[1] ,
*                   InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                   VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D8"], CINLET=[2.279](cms), NINLET=[1],
*                   MajNHYD=["S-1-D8J"]
*                   MinNHYD=["S-1-D8N"]
```

```
*                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D8S"], NHYDs to add=["S-1-D8J"+"S-1-D8N"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-D"], NHYDs to add=["S-1-Okeefe"+"S-1"+"S-1-Fost"]
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["S-1-D"], CINLET=[11.616](cms), NINLET=[1],
*                    MajNHYD=["S-1-D-MJ"]
*                    MinNHYD=["S-1-D-MN"]
*                    TMJSTO=[5974](cu-m)
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["S-1-DEV"], NHYDs to add=["S-1-D-MJ"+"S-1-D-MN"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["S-1-D8R"] ,NHYDin=["S-1-D8S"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [ 0.0     , 0.0 ]
*                                   [ 0.0630, 0.2102 ]
*                                   [    -1   ,  -1    ]  (max twenty pts)
*                               NHYDovf=["S-1-D8Rovf"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area (W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*#    Catchment W_CLAR
*#    - To West Clarke Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
*#    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["W_CLAR_MJ"], DT=[1]min, AREA=[1.772](ha),
                    XIMP=[0.46], TIMP=[0.59], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["W_CLAR_MJ"], CINLET=[0.213](cms), NINLET=[1],
*                    MajNHYD=["W_CLAR_MJj"]
*                    MinNHYD=["W_CLAR_MJn"]
*                    TMJSTO=[0.1](cu-m)
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
ROUTE RESERVOIR     NHYDout=["W_CLAR_MJn"] ,NHYDin=["W_CLAR_MJ"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [ 0.0     , 0.0 ]
                                   [ 0.213 , 0.0001 ]
                                   [    -1   ,  -1    ]  (max twenty pts)
                               NHYDovf=["W_CLAR_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*     -Clarke_All area from  P 598(04)-11 = 120.207 ha, change to 127.298 ha based on GIS measurements,
*     -JFSA, 2021-01-19  update W_CLAR_ALL to (121.17-1.772=119.398) ha based on GIS measurements W_CLAR is 121.17 ha and W_CLAR_MJ is 1.772 ha
CONTINUOUS STANDHYD NHYD=["W_CLAR_ALL"], DT=[1]min, AREA=[119.398](ha),
                    XIMP=[0.60], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
```

```
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[892.18](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["W_CLAR"], NHYDs to add=["W_CLAR_ALL"+"W_CLAR_MJj"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["W_CLAR"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows to West Clarke"]
*#*****************************************************************************
*#    West Clarke Pond 2
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 2 = 241 ha
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P2"],  NHYDin=["W_CLAR"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [ 0.128 , 0.161 ]
                                  [ 0.138 , 0.409 ]
                                  [ 0.148 , 0.68 ]
                                  [ 0.227 , 0.931 ]
                                  [ 0.354 , 1.223 ]
                                  [ 0.505 , 1.52 ]
                                  [ 0.666 , 1.821 ]
                                  [ 0.831 , 2.123 ]
                                  [ 0.995 , 2.434 ]
                                  [ 1.069 , 2.583 ]
                                  [ 1.51 , 2.647 ]
                                  [ 4.904 , 2.861 ]
                                  [ 13.048 , 3.188 ]
                                  [ 23.745 , 3.523 ]
                                  [ 36.474 , 3.871 ]
                                  [ 45.938 , 4.127 ]
                                  [ 61.652 , 4.539 ]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["P2-OVF"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*     -JFSA, 2021-01-22  "W_CLAR_UNDE" (west of Clarke sub-catchment) discharges
directly to the jock river through a road side ditch on the west side of Borrisokane
road (station 6016)
*CONTINUOUS NASHYD   NHYD=["W_CLAR_UNDE"], DT=[1]min, AREA=[35.65](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_CE"], NHYDs to
add=["N_CE"+"S-1-D4R"+"S-1-D5R"+"S-1-D4Rovf"+"S-1-D5Rovf"+"MS_P2"+"P2-OVF"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_CE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 5737 on Jock River"]
*%-----------------|-------------------------------------------------------------|
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
```

```
*# 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model
T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\HEC-RAS\JockLidar2005
*# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
ROUTE CHANNEL       NHYDout=["5737"] ,NHYDin=["SN_CE"] ,
                    RDT=[1](min),
                    CHLGTH=[270](m),  CHSLOPE=[0.0175](%),
                                        FPSLOPE=[0.0175](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-24.04
                      -0.035,23.92
                      0.050,1130.8] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1060.52, 94 ]
                    [-268.6, 91.5 ]
                    [-259.43, 91.5 ]
                    [-179.48, 91.5 ]
                    [-67.9, 91.5 ]
                    [-59.21, 91.5 ]
                    [-33.19, 91 ]
                    [-26.08, 90.5 ]
                    [-24.04, 90 ]
                    [-13.14, 86.77 ]
                    [0, 85 ]
                    [14.68, 86.74 ]
                    [23.92, 90 ]
                    [25.78, 90.5 ]
                    [31.91, 91 ]
                    [91.95, 91.5 ]
                    [772.15, 92 ]
                    [961.49, 92.5 ]
                    [1044.69, 93 ]
                    [1130.8, 95 ]
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["5002"], NHYDs to add=["5737"+"S-1-D1R"+"S-1-D6R"+"S-1-D7R"+"S-1-D1Rovf"+"S-1-D6Rovf"+"S-1-D7Rovf"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["5002"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 5002 on Jock River"]
*%-----------------|---------------------------------------------------------------|
*# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
*# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable and give reasonable results. It is justifiable as ROUTE CHANNELs aren't well suited to really flat slopes.
*# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model will be more stable
*# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 between station 6016 and station 5002. Then the length from station 5737 to station 5002 is 736 m. Change the slope from 0.0255 % to 0.09511 %
*
ROUTE CHANNEL       NHYDout=["N_WCa"] ,NHYDin=["5002"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                        FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
```

```
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*                    [161.44, 91.50]
*                    [236.48, 93.00]
*                    [385.47, 92.50]
*                    [390.78, 92.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["N_WCb"] ,NHYDin=["N_WCa"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*%-----------------|-------------------------------------------------------------|
ROUTE CHANNEL       NHYDout=["N_WC"] ,NHYDin=["N_WCb"] ,
                    RDT=[1](min),
                    CHLGTH=[245.33333](m),  CHSLOPE=[0.09511](%),
                                            FPSLOPE=[0.09511](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-37.5
                      -0.035,37.50
                      0.050,157.05] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-601.81, 91.5]
                    [-37.50, 90.00]
                    [-19.61, 87.04]
                    [0.00, 85.70]
                    [14.87, 86.93]
                    [37.50, 90.00]
                    [38.54, 90.50]
                    [42.23, 91]
                    [157.05,91.50]
*#*****************************************************************************
*       -JFSA 2021-02-08 Clarke (MS_P2 and P2-OVF) and Clarke Undeveloped area
(W_CLAR_UNDE) drain to Jock River at Station 5002 instead of Station 4534
*ADD HYD             NHYDsum=["SN_WC"], NHYDs to
add=["MS_P2"+"P2-OVF"+"N_WC"+"W_CLAR_UNDE"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD            NHYD=["SN_WC"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                   HYD_COMMENT=["Total Flows at West Clarke Pond Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
*#
ROUTE CHANNEL       NHYDout=["N_KB"] ,NHYDin=["N_WC"] ,
                    RDT=[1](min),
                    CHLGTH=[1020](m),  CHSLOPE=[0.0498](%),
                                            FPSLOPE=[0.0498](%),
                    SECNUM=[1.0],       NSEG=[3]
```

```
                    ( SEGROUGH, SEGDIST (m))=
                      [0.050,-23.63
                      -0.035,23.63
                      0.050,728.3] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-1082.01,94]
                    [-1028.17,92.5]
                    [-992.3,93.5]
                    [-279.34,90]
                    [-23.63,90]
                    [-13.45,87.13]
                    [-0.07,86.24]
                    [10.54,87.15]
                    [23.63,90]
                    [24.86,90.5]
                    [26.72,91]
                    [45.07,91.5]
                    [128.17,91.5]
                    [270.7,92.5]
                    [728.3,95]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment KEN_BU
*#    - To Kennedy-Burnett SWM Facility
*#    - Outlets to Fraser-Clarke drain (north of the Jock)
*#    - Medium density residential subdivision
*     - Add Kennedy Burnett model (Convert PCSWMM from NOVATECH June, 2020 to SWMHYMO)
*#*****************************************************************************
*CONTINUOUS STANDHYD NHYD=["KEN_BU"], DT=[1]min, AREA=[281](ha),
*                    XIMP=[0.55], TIMP=[0.55], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[71],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[1369](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#   Existing Kennedy-Burnett SWM Facility
*#    - Rating curve obtained from URTKBP
*#    - Tributary Drainage Area to Pond = 160 ha
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["KEN_P"],  NHYDin=["KEN_BU"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [   0.0 ,  0.0 ]
*                                   [   0.13 , 0.26]
*                                   [   0.43 , 0.56]
*                                   [   0.67 , 0.90]
*                                   [   0.86 , 1.32]
*                                   [   1.01 , 1.79]
*                                   [   1.15 , 2.33]
*                                   [   -1   ,  -1  ]  (max twenty pts)
*                          NHYDovf=["KEN-OV"]
*%-----------------|---------------------------------------------------------------|
*     -JFSA, 2021-01-19  update all KEN_BU areas based on GIS measurements
CONTINUOUS STANDHYD NHYD=["KB-01A"], DT=[1]min, AREA=[40.82](ha), XIMP=[0.097],
TIMP=[0.4], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.5](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
```

```
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[521.664](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01A"], CINLET=[3.6](cms), NINLET=[1],
                    MajNHYD=["KB-01A-MJ"]
                    MinNHYD=["KB-01A-MN"]
                    TMJSTO=[4995](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01A-S"], NHYDs to add=["KB-01A-MJ"+"KB-01A-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01B"], DT=[1]min, AREA=[31.1](ha), XIMP=[0.1875],
TIMP=[0.375], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[0.42](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.42](%),
                    LGI=[455.339](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01B"], CINLET=[1.585](cms), NINLET=[1],
                    MajNHYD=["KB-01B-MJ"]
                    MinNHYD=["KB-01B-MN"]
                    TMJSTO=[6075](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01B-S"], NHYDs to add=["KB-01B-MJ"+"KB-01B-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-01C"], DT=[1]min, AREA=[13.78](ha), XIMP=[0.2045],
TIMP=[0.409], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.5](%),
                    LGI=[303.095](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-01C"], CINLET=[1.35](cms), NINLET=[1],
                    MajNHYD=["KB-01C-MJ"]
                    MinNHYD=["KB-01C-MN"]
                    TMJSTO=[1880](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-01C-S"], NHYDs to add=["KB-01C-MJ"+"KB-01C-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-03"], DT=[1]min, AREA=[84.78](ha), XIMP=[0.197],
TIMP=[0.394], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[0.63](%),
                    LGI=[751.798](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-03"], CINLET=[5.27](cms), NINLET=[1],
                    MajNHYD=["KB-03-MJ"]
                    MinNHYD=["KB-03-MN"]
```

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                    TMJSTO=[15500](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-03-S"], NHYDs to add=["KB-03-MJ"+"KB-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-04"], DT=[1]min, AREA=[6.95](ha), XIMP=[0.85],
TIMP=[0.85], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.942](mm), SLPI=[0.5](%),
                    LGI=[215.252](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-04"], CINLET=[0.503](cms), NINLET=[1],
                    MajNHYD=["KB-04-MJ"]
                    MinNHYD=["KB-04-MN"]
                    TMJSTO=[1972](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-04-S"], NHYDs to add=["KB-04-MJ"+"KB-04-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-05"], DT=[1]min, AREA=[5.19](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[0.5](%),
                    LGI=[186.011](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-06"], DT=[1]min, AREA=[12.93](ha), XIMP=[0.873],
TIMP=[0.873], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.942](mm), SLPI=[4.75](%),
                    LGI=[293.598](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-06"], CINLET=[2.262](cms), NINLET=[1],
                    MajNHYD=["KB-06-MJ"]
                    MinNHYD=["KB-06-MN"]
                    TMJSTO=[1950](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-06-S"], NHYDs to add=["KB-06-MJ"+"KB-06-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-11"], DT=[1]min, AREA=[4.03](ha), XIMP=[0.675],
TIMP=[0.675], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[163.911](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
```

```
*%-----------------|---------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-11"], CINLET=[0.5773](cms), NINLET=[1],
                    MajNHYD=["KB-11-MJ"]
                    MinNHYD=["KB-11-MN"]
                    TMJSTO=[597](cu-m)
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-11-S"], NHYDs to add=["KB-11-MJ"+"KB-11-MN"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["S1"], DT=[1]min, AREA=[4.99](ha), XIMP=[0.93], TIMP=[0.93],
DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[182.392](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-15"], DT=[1]min, AREA=[2.15](ha), XIMP=[0.79],
TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[119.722](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P1"], NHYDs to
add=["KB-01A-S"+"KB-01B-S"+"KB-01C-S"+"KB-03-S"+"KB-04-S"+"KB-05"+"KB-06-S"+"KB-11-S"+"KB
-15"+"S1"]
*%-----------------|---------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["KB-P1R"],  NHYDin=["KB-P1"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [0.076,0.003]
                                  [0.088,0.006]
                                  [0.136,0.011]
                                  [0.301,0.017]
                                  [0.454,0.027]
                                  [0.631,0.041]
                                  [1.173,0.068]
                                  [1.91,0.111]
                                  [4.847,0.231]
                                  [9.813,0.436]
                                  [12.134,0.617]
                                  [12.438,0.732]
                                  [12.424,0.811]
                                  [12.425,0.894]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["KB-P1ovf"]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond1"], NHYDs to add=["KB-P1R"+"KB-P1ovf"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-07"], DT=[1]min, AREA=[10.86](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
```

```
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[269.072](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-07"], CINLET=[2.094](cms), NINLET=[1],
                    MajNHYD=["KB-07-MJ"]
                    MinNHYD=["KB-07-MN"]
                    TMJSTO=[1378](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-07-S"], NHYDs to add=["KB-07-MJ"+"KB-07-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-08"], DT=[1]min, AREA=[6.61](ha), XIMP=[0.64],
TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[209.921](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["KB-08"], CINLET=[1.058](cms), NINLET=[1],
                    MajNHYD=["KB-08-MJ"]
                    MinNHYD=["KB-08-MN"]
                    TMJSTO=[787](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-08-S"], NHYDs to add=["KB-08-MJ"+"KB-08-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-09"], DT=[1]min, AREA=[2.6](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[131.656](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_1"], DT=[1]min, AREA=[2.37](ha),  XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%),
                    LGI=[125.698](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-10_2"], DT=[1]min, AREA=[1.14](ha), XIMP=[0.86],
TIMP=[0.86], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
```

```
                    MNP=[0.250], SCP=[0](min),
3294                Impervious areas: IAimp=[1.57](mm), SLPI=[2.0](%), LGI=[87.178](m),
                    MNI=[0.013], SCI=[0](min),
3295                Continuous simulation parameters:
3296                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3297  *%----------------|-------------------------------------------------------|
3298  *%----------------|-------------------------------------------------------|
3299  CONTINUOUS STANDHYD NHYD=["KB-12"], DT=[1]min, AREA=[4.86](ha), XIMP=[0.79],
    TIMP=[0.79], DWF=[0](cms), LOSS=[1]:
3300                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3301                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3302                Impervious areas: IAimp=[1.099](mm), SLPI=[2.0](%),
                    LGI=[180.000](m), MNI=[0.013], SCI=[0](min),
3303                Continuous simulation parameters:
3304                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3305  *%----------------|-------------------------------------------------------|
3306  COMPUTE DUALHYD     NHYDin=["KB-12"], CINLET=[0.8665](cms), NINLET=[1],
3307                      MajNHYD=["KB-12-MJ"]
3308                      MinNHYD=["KB-12-MN"]
3309                      TMJSTO=[632](cu-m)
3310  *%----------------|-------------------------------------------------------|
3311  ADD HYD             NHYDsum=["KB-12-S"], NHYDs to add=["KB-12-MJ"+"KB-12-MN"]
3312  *%----------------|-------------------------------------------------------|
3313  CONTINUOUS STANDHYD NHYD=["KB-13"], DT=[1]min, AREA=[10.19](ha), XIMP=[0.64],
    TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
3314                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3315                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3316                Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[260.640](m), MNI=[0.013], SCI=[0](min),
3317                Continuous simulation parameters:
3318                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3319  *%----------------|-------------------------------------------------------|
3320  COMPUTE DUALHYD     NHYDin=["KB-13"], CINLET=[1.722](cms), NINLET=[1],
3321                      MajNHYD=["KB-13-MJ"]
3322                      MinNHYD=["KB-13-MN"]
3323                      TMJSTO=[1077](cu-m)
3324  *%----------------|-------------------------------------------------------|
3325  ADD HYD             NHYDsum=["KB-13-S"], NHYDs to add=["KB-13-MJ"+"KB-13-MN"]
3326  *%----------------|-------------------------------------------------------|
3327  CONTINUOUS STANDHYD NHYD=["KB-14"], DT=[1]min, AREA=[5.47](ha), XIMP=[0.64],
    TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
3328                Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
3329                Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
3330                Impervious areas: IAimp=[0.785](mm), SLPI=[2.0](%),
                    LGI=[190.962](m), MNI=[0.013], SCI=[0](min),
3331                Continuous simulation parameters:
3332                IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
3333  *%----------------|-------------------------------------------------------|
3334  COMPUTE DUALHYD     NHYDin=["KB-14"], CINLET=[0.8734](cms), NINLET=[1],
3335                      MajNHYD=["KB-14-MJ"]
3336                      MinNHYD=["KB-14-MN"]
3337                      TMJSTO=[631](cu-m)
3338  *%----------------|-------------------------------------------------------|
3339  ADD HYD             NHYDsum=["KB-14-S"], NHYDs to add=["KB-14-MJ"+"KB-14-MN"]
3340  *%----------------|-------------------------------------------------------|
3341  *%----------------|-------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["KB-16_2"], DT=[1]min, AREA=[3.42](ha), XIMP=[0.71],
TIMP=[0.71], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[150.997](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P2"], NHYDs to
add=["KB-Pond1"+"KB-07-S"+"KB-08-S"+"KB-09"+"KB-10_1"+"KB-10_2"+"KB-12-S"+"KB-13-S"+"KB-1
4-S"+"KB-16_2"]
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["KB-P2R"],  NHYDin=["KB-P2"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
                                  [0.053,0.005]
                                  [0.132,0.009]
                                  [0.269,0.014]
                                  [0.455,0.023]
                                  [0.699,0.037]
                                  [0.947,0.056]
                                  [1.853,0.09]
                                  [2.712,0.146]
                                  [6.626,0.287]
                                  [11.228,0.515]
                                  [14.885,0.738]
                                  [16.473,0.893]
                                  [17.311,0.998]
                                  [17.633,1.063]
                                  [17.634,1.112]
                                  [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond2"], NHYDs to add=["KB-P2R"+"KB-P2ovf"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond2"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB second pond"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["KB-16_1"], DT=[1]min, AREA=[2.8](ha), XIMP=[0.75],
TIMP=[0.75], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[0.157](mm), SLPI=[0.3](%),
                    LGI=[136.626](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["KB-P3"], NHYDs to add=["KB-Pond2"+"KB-16_1"]
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
* One inflow node from pond 3 is added to the model (ROUTE RESERVOIR)
* Another inflow node from right side of pond 3 is not added to the model
ROUTE RESERVOIR     NHYDout=["KB-P3R"],  NHYDin=["KB-P3"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [   0.0 ,  0.0 ]
```

```
                                    [0.051,0.002]
                                    [0.048,0.003]
                                    [0.057,0.029]
                                    [0.089,0.045]
                                    [0.133,0.069]
                                    [0.199,0.106]
                                    [0.321,0.172]
                                    [1.029,0.306]
                                    [4.036,0.527]
                                    [8.332,0.761]
                                    [11.727,0.941]
                                    [14.125,1.067]
                                    [15.675,1.149]
                                    [16.555,1.196]
                                    [16.911,1.214]
                                    [   -1  ,  -1  ]   (max twenty pts)
                          NHYDovf=["KB-P3ovf"]
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["KB-Pond3"], NHYDs to add=["KB-P3R"+"KB-P3ovf"]
*%-----------------|---------------------------------------------------------|
SAVE HYD            NHYD=["KB-Pond3"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB third pond"]
*%-----------------|---------------------------------------------------------|
*#*****************************************************************************
*#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM
Modeling Approach, NOVATECH Report June, 2020)
*#    - TO FRASER-CLARKE DRAIN
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["FC-01"], DT=[1]min, AREA=[8.03](ha), XIMP=[0.47],
TIMP=[0.47], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[231.373](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-01"], CINLET=[0.756](cms), NINLET=[1],
                    MajNHYD=["FC-01-MJ"]
                    MinNHYD=["FC-01-MN"]
                    TMJSTO=[714](cu-m)
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["FC-01-S"], NHYDs to add=["FC-01-MJ"+"FC-01-MN"]
*%-----------------|---------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-02"], DT=[1]min, AREA=[16.05](ha), XIMP=[0.93],
TIMP=[0.93], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr),
                    F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[327.109](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|---------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-02"], CINLET=[1.159](cms), NINLET=[1],
                    MajNHYD=["FC-02-MJ"]
                    MinNHYD=["FC-02-MN"]
                    TMJSTO=[2385](cu-m)
*%-----------------|---------------------------------------------------------|
ADD HYD             NHYDsum=["FC-02-S"], NHYDs to add=["FC-02-MJ"+"FC-02-MN"]
*%-----------------|---------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["FC-03"], DT=[1]min, AREA=[7.37](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[221.660](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-03"], CINLET=[0.358](cms), NINLET=[1],
                    MajNHYD=["FC-03-MJ"]
                    MinNHYD=["FC-03-MN"]
                    TMJSTO=[1131](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-03-S"], NHYDs to add=["FC-03-MJ"+"FC-03-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["FC-04"], DT=[1]min, AREA=[12.87](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[292.916](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FC-04"], CINLET=[0.741](cms), NINLET=[1],
                    MajNHYD=["FC-04-MJ"]
                    MinNHYD=["FC-04-MN"]
                    TMJSTO=[1794](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FC-04-S"], NHYDs to add=["FC-04-MJ"+"FC-04-MN"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
*#    - TO JOCK RIVER
*#*****************************************************************************
CONTINUOUS STANDHYD NHYD=["JR-01"], DT=[1]min, AREA=[8.24](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m), MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%), LGI=[234.379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs), END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-01"], CINLET=[0.563](cms), NINLET=[1],
                    MajNHYD=["JR-01-MJ"]
                    MinNHYD=["JR-01-MN"]
                    TMJSTO=[1040](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-01-S"], NHYDs to add=["JR-01-MJ"+"JR-01-MN"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["JR-02"], DT=[1]min, AREA=[1.59](ha), XIMP=[0.64], TIMP=[0.64], DWF=[0](cms), LOSS=[1]:
                    Horton: Fo=[76.20](mm/hr), Fc=[13.20](mm/hr), DCAY=[4.14](/hr), F=[0.00](mm),
```

```
                    Pervious   areas: IAper=[4.67](mm), SLPP=[2.0](%), LGP=[40](m),
                    MNP=[0.250], SCP=[0](min),
                    Impervious areas: IAimp=[1.57](mm), SLPI=[1.0](%),
                    LGI=[102.956](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs), InterEventTime=[12](hrs),
                    END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["JR-02"], CINLET=[0.153](cms), NINLET=[1],
                    MajNHYD=["JR-02-MJ"]
                    MinNHYD=["JR-02-MN"]
                    TMJSTO=[153](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JR-02-S"], NHYDs to add=["JR-02-MJ"+"JR-02-MN"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment FRASER
*#    - To Fraser-Clarke drain (north of the Jock)
*#    - Developed land with assumed 43% imp.
*#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
*#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["FRASER-DRN"], DT=[1]min, AREA=[13.65](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[0.4258]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*
CONTINUOUS STANDHYD NHYD=["FRASER-D"], DT=[1]min, AREA=[21.61](ha),
                    XIMP=[0.585], TIMP=[0.585], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[80],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379.561](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["FRASER-D"], CINLET=[2.281](cms), NINLET=[1],
                    MajNHYD=["FRASER-J"]
                    MinNHYD=["FRASER-N"]
                    TMJSTO=[9999999](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["FRASER-S"], NHYDs to add=["FRASER-J"+"FRASER-N"]
*%-----------------|-------------------------------------------------------------|
*ROUTE RESERVOIR     NHYDout=["MS_P20"],  NHYDin=["FRASER"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                    (cms) - (ha-m)
*                                  [   0.0 ,  0.0 ]
*                                  [   0.04 , 0.36]
*                                  [   -1   ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P20-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["4241"], NHYDs to
add=["KB-Pond3"+"S-1-B"+"FRASER-DRN"+"FRASER-S"+"N_KB"+"FC-01-S"+"FC-02-S"+"FC-03-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["4241"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                    HYD_COMMENT=["Total Flows at Ken-Burnett Outlet"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Node Ken-Burnett to station 3633
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
*#
ROUTE CHANNEL       NHYDout=["4241-out"], NHYDin=["4241"],  RDT=[1](min),
                    CHLGTH=[294](m),  CHSLOPE=[0.1088](%), FPSLOPE=[0.1088](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.05, -20.12
                                             -0.035, 45.26
                                              0.05, 403.84] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[]
                    [-909.72, 95 ]
                    [-907.09, 94.5 ]
                    [-904.65, 94 ]
                    [-902.26, 93.5 ]
                    [-44.51, 91.5 ]
                    [-25.1, 91.5 ]
                    [-20.98, 91 ]
                    [-20.61, 90.5 ]
                    [-20.12, 90 ]
                    [-6.13, 87.26 ]
                    [17.51, 86.56 ]
                    [31.37, 87.2 ]
                    [45.26, 90 ]
                    [50.41, 90.5 ]
                    [63.06, 91 ]
                    [134.5, 91.5 ]
                    [190.63, 92 ]
                    [251.98, 92.5 ]
                    [321.32, 93.5 ]
                    [403.84, 95 ]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_KB"], NHYDs to
add=["4241-out"+"FC-04-S"+"JR-01-S"+"JR-02-S"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_KB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows before Station 3633"]
*%-----------------|-------------------------------------------------------------|
*# Hydrograph from Station 3633 to Node Todd
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
*# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and
change the slope from 0.0498% to 0.24671%. That is because of adding station 4241
between station 4534 and  station 3633
*#
ROUTE CHANNEL       NHYDout=["N_TO"], NHYDin=["SN_KB"],  RDT=[1](min),
                    CHLGTH=[608](m),  CHSLOPE=[0.24671](%), FPSLOPE=[0.24671](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=[0.05, -23.74
                                             -0.035, 23.74
                                              0.05, 26.50] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=[]
                    -29.24, 91.0
                    -27.41, 90.5
                    -25.64, 90
                    -23.74, 89.5
                    -22, 89.26
                    -20, 88.51
                    -19, 88.32
                    -15, 88.1
                    -10, 88.11
                    -5, 88.17
                    0, 88.27
                    5, 88.19
                    10, 88.06
                    15, 88.48
```

```
                    16, 88.7
                    23.74, 89.5
                    24.68, 90
                    25.57, 90.5
                    26.50, 91.0
*                                       [-29.24, 91]
*                                       [-27.41, 90.5]
*                                       [-25.64, 90]
*                                       [-23.74, 89.5]
*                                       [-22, 89. 26]
*                                       [-20, 88.51]
*                                       [-19, 88.32]
*                                       [-15, 88.1]
*                                       [-10, 88.11]
*                                       [-5, 88.17]
*                                       [0, 88.27]
*                                       [5, 88.19]
*                                       [10, 88.06]
*                                       [15, 88.48]
*                                       [16, 88.7]
*                                       [23.74, 89.5]
*                                       [24.68, 90]
*                                       [25.57, 90.5]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment Greenbank
*#    - To Greenbank Drain (south of the Jock)
*#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
*#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["Greenbank"], DT=[1]min, AREA=[36.6](ha),
                    XIMP=[0.639], TIMP=[0.682], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[493.96](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ROUTE RESERVOIR     NHYDout=["GreenB_MN"] ,NHYDin=["Greenbank"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 0.033 , 0.084 ]
                                  [ 0.039 , 0.201 ]
                                  [ 0.113 , 0.292 ]
                                  [ 0.237 , 0.386 ]
                                  [ 0.382 , 0.484 ]
                                  [ 0.539 , 0.585 ]
                                  [ 0.7 , 0.692 ]
                                  [ 0.86 , 0.804 ]
                                  [ 4.684 , 0.922 ]
                                  [ 11.539 , 1.052 ]
                                  [ 20.867 , 1.168 ]
                                  [ 103.616 , 1.974 ]
                                  [    -1   ,  -1    ]  (max twenty pts)
                          NHYDovf=["GreenB_MJ"] ,
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["GreenB"], NHYDs to add=["N_TO"+"GreenB_MJ"+"GreenB_MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["GreenB"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                    HYD_COMMENT=["Total Flows at Greenbank Drain"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment TODD
*#    - To Todd Drain (south of the Jock)
*#    - Subdivision with 43% imp. as per Barrhaven South MSS
*#    - 2020-11-30 increase imp. based on P598(04)-11
*#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on
P598(04)-11
*#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
*#*****************************************************************************
*#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it
from Todd
*CONTINUOUS STANDHYD NHYD=["TODD_MN1"], DT=[1]min, AREA=[1.772](ha),
*                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[108.689](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN2"], DT=[1]min, AREA=[2.1](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[118.322](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MN3"], DT=[1]min, AREA=[0.117](ha),
                    XIMP=[0.53], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[27.928](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_MJ"], DT=[1]min, AREA=[30.230](ha),
                    XIMP=[0.52], TIMP=[0.64], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[448.925](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*     -JFSA, 2021-01-19  update "TODD_ALL" area from 108.741 ha to 112.908 ha based on
GIS measurements (148.41-30.23-0.117-2.1-3.055=112.908 ha)
CONTINUOUS STANDHYD NHYD=["TODD_ALL"], DT=[1]min, AREA=[112.908](ha),
                    XIMP=[0.52], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
```

```
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[867.594](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["TODD_P"], DT=[1]min, AREA=[3.055](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[142.712](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
and its parameters remain the same.
*CONTINUOUS STANDHYD NHYD=["TODD_DEVL"], DT=[1]min, AREA=[15.87](ha),
*                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[77],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now
is called "corr2" and its parameters remain the same.
*CONTINUOUS NASHYD   NHYD=["TODD_UnD"], DT=[1]min, AREA=[12.47](ha),
*                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
*                    N=[3], TP=[1.10]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
*COMPUTE DUALHYD     NHYDin=["TODD_MJ"], CINLET=[3.314](cms), NINLET=[1],
*                    MajNHYD=["TODD_MJj"]
*                    MinNHYD=["TODD_MJn"]
*                    TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MJn"] ,NHYDin=["TODD_MJ"] ,
                    RDT=[1](min),
                         TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                  [    0.0 , 0.0    ]
                                  [ 3.314  , 0.0001 ]
                                  [    -1  ,  -1    ]  (max twenty pts)
                         NHYDovf=["TODD_MJj"] ,
*%-----------------|-------------------------------------------------------------|
*# 5-Year + 12% Capture
```

```
*COMPUTE DUALHYD     NHYDin=["TODD_MN1"], CINLET=[0.227](cms), NINLET=[1],
*                    MajNHYD=["TODD_MN1j"]
*                    MinNHYD=["TODD_MN1n"]
*                    TMJSTO=[0.1](cu-m)
*ROUTE RESERVOIR     NHYDout=["TODD_MN1n"] ,NHYDin=["TODD_MN1"] ,
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [    0.0 , 0.0    ]
*                                   [ 0.227  , 0.0001 ]
*                                   [    -1  ,  -1    ]  (max twenty pts)
*                           NHYDovf=["TODD_MN1j"] ,
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["TODD_MN2"], CINLET=[0.268](cms), NINLET=[1],
*                    MajNHYD=["TODD_MN2j"]
*                    MinNHYD=["TODD_MN2n"]
*                    TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MN2n"] ,NHYDin=["TODD_MN2"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [    0.0 , 0.0    ]
                                   [ 0.268  , 0.0001 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                           NHYDovf=["TODD_MN2j"] ,
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["TODD_MN3"], CINLET=[0.016](cms), NINLET=[1],
*                    MajNHYD=["TODD_MN3j"]
*                    MinNHYD=["TODD_MN3n"]
*                    TMJSTO=[0.1](cu-m)
ROUTE RESERVOIR     NHYDout=["TODD_MN3n"] ,NHYDin=["TODD_MN3"] ,
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [    0.0 , 0.0    ]
                                   [ 0.016  , 0.0001 ]
                                   [    -1  ,  -1    ]  (max twenty pts)
                           NHYDovf=["TODD_MN3j"] ,
*%-----------------|-------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[566](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A2-MJ"]
                    MinNHYD=["A2-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["TODD"], NHYDs to
add=["TODD_MN2n"+"TODD_MN3n"+"TODD_MJj"+"TODD_P"+"TODD_ALL"+"W_CLAR_MJn"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["TODD"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------|
*#*********************************************************************
*#    Todd Pond 3
```

```
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
*#*************************************************************************
ROUTE RESERVOIR     NHYDout=["MS_P3"],  NHYDin=["TODD"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [ 0.014 , 0.155 ]
                                   [ 0.048 , 0.394 ]
                                   [ 0.061 , 0.56 ]
                                   [ 0.08 , 0.909 ]
                                   [ 0.088 , 1.089 ]
                                   [ 0.109 , 1.652 ]
                                   [ 0.118 , 1.952 ]
                                   [ 0.122 , 2.099 ]
                                   [ 1.972 , 2.269 ]
                                   [ 9.135 , 2.598 ]
                                   [ 15.608 , 2.826 ]
                                   [ 19.256 , 2.942 ]
                                   [ 27.282 , 3.181 ]
                                   [ 40.957 , 3.55 ]
                                   [ 56.372 , 3.929 ]
                                   [ 73.349 , 4.317 ]
                                   [ 85.469 , 4.579 ]
                                   [ 104.771 , 4.977 ]
                                   [   -1  ,  -1  ]  (max twenty pts)
                              NHYDovf=["P3-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_TO"], NHYDs to
add=["GreenB"+"MS_P3"+"P3-OVF"+"TODD_MN2j"+"A2-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Todd Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Todd Drain routed to Corrigan Drain
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so
the model will be more stable and give reasonable results. It is justifiable as ROUTE
CHANNELs aren't well suited to really flat slopes.
*
ROUTE CHANNEL       NHYDout=["N_TO"] ,NHYDin=["SN_TO"] ,
                    RDT=[1](min),
                    CHLGTH=[280](m),  CHSLOPE=[0.05](%),
                                        FPSLOPE=[0.05](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
```

```
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["N_TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total inflows at Station 2462"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment CORRIG
*#    - To Corrigan Drain (south of the Jock)
*#    - Primarily Developed (medium density)
*#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [   0.0 ,  0.0 ]
*                                   [   0.06 , 0.58]
*                                   [   -1  ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD            NHYD=["SN_CO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                    HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_DEVL" is part of the Corrigan sub-catchment because it
drains to Corrigan SWM as per geoOttawa.ca Feb. 2021. "TODD_DEVL" now is called "corr1"
and its parameters remain the same.
CONTINUOUS STANDHYD NHYD=["corr1"], DT=[1]min, AREA=[15.87](ha),
                    XIMP=[0.63], TIMP=[0.63], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[325.27](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*      -JFSA 2021-02-23 add DUALHYD for "corr1". "corr1" DUALHYD Parameters are the
same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to "corr1".
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for
A1-Corrig
COMPUTE DUALHYD     NHYDin=["corr1"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["corr1-MJ"]
                    MinNHYD=["corr1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-02-23 "TODD_UnD" is part of the Corrigan sub-catchment. "TODD_UnD" now
is called "corr2" and its parameters remain the same.
CONTINUOUS NASHYD   NHYD=["corr2"], DT=[1]min, AREA=[12.47](ha),
                    DWF=[0](cms), CN/C=[77],  IA=[4.67](mm),
                    N=[3], TP=[1.10]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
```

```
*%-----------------|-------------------------------------------------------------|
*     -JFSA 2021-01-19 change A1-Corrig to be developed as per geoottawa website and apply the parameters of A2, the nearest sub-catchment to A1-Corrig, LGI is calculated based on A1-Corrig area
*     -JFSA 2021-01-19 update all Corrigan areas based on GIS measurements, and keep LGI as it is from Corrigan Report, IBI Group, 2008 because LGI calculated is less than LGI from the Corrigan Report
CONTINUOUS STANDHYD NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[324.037](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*
*      -JFSA 2021-01-25 add DUALHYD for A1-Corrig. A1-Corrig DUALHYD Parameters are the same as A2 DUALHYD Parameters because A2 is the nearest sub-catchment to A1-Corrig.
*       At the same time, Corrigan Report, IBI group 2008 has no DUALHYD Parameters for A1-Corrig
COMPUTE DUALHYD     NHYDin=["A1-Corrig"], CINLET=[1.818](cms), NINLET=[1],
                    MajNHYD=["A1-MJ"]
                    MinNHYD=["A1-MN"]
                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["A1-Corrig"], DT=[1]min, AREA=[15.75](ha),
*                    DWF=[0](cms),  CN/C=[66], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS NASHYD   NHYD=["B1"], DT=[1]min, AREA=[2.77](ha),
                    DWF=[0](cms),  CN/C=[56], IA=[2.5](mm),
                    N=[3.0], TP=[0.23]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A4"], DT=[1]min, AREA=[1.27](ha),
                    XIMP=[0.65], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[253](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A4"], CINLET=[0.405](cms), NINLET=[1],
                    MajNHYD=["A4-MJ"]
```

```
                    MinNHYD=["A4-MN"]
                    TMJSTO=[68](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH101"], NHYDs to
add=["A1-MJ"+"A1-MN"+"corr1-MJ"+"corr1-MN"+"corr2"+"B1"+"A4-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH101"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH101"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["101-102"], RNUMBER=[1.0], PDIAM=[1050](mm),
                    PLNGTH=[368](m), PROUGH=[0.013], PSLOPE=[0.0054](m/m),
                    NHYDin=["MH101"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*    -JFSA 2021-01-19 move A2 from Corrigan sub-catchment to Todd sub-catchment so the
major system from A2 can be added to Todd
*CONTINUOUS STANDHYD NHYD=["A2"], DT=[1]min, AREA=[25.5](ha),
*                    XIMP=[0.42], TIMP=[0.52], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[566](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A2"], CINLET=[1.818](cms), NINLET=[1],
*                    MajNHYD=["A2-MJ"]
*                    MinNHYD=["A2-MN"]
*                    TMJSTO=[924](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH102"], NHYDs to add=["A2-MN"+"101-102"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH102"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH102"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A5"], DT=[1]min, AREA=[1.6](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[300](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["A5T"], NHYDs to add=["A4-MJ"+"A5"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A5T"], CINLET=[0.357](cms), NINLET=[1],
                    MajNHYD=["A5-MJ"]
                    MinNHYD=["A5-MN"]
                    TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA Jan. 2021, A3 is a part of Todd so it is removed
*   -JFSA Jan. 2021, "A2-MJ" added to "Todd"
*CONTINUOUS STANDHYD NHYD=["A3"], DT=[1]min, AREA=[18.4](ha),
*                    XIMP=[0.58], TIMP=[0.65], DWF=[0](cms), LOSS=[2],
*                    SCS curve number CN=[75],
*                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                           LGI=[450](m), MNI=[0.013], SCI=[0](min),
*                    Continuous simulation parameters:
```

```
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["A3-A2MJ"], NHYDs to add=["A2-MJ"+"A3"]
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A3-A2MJ"], CINLET=[2.208](cms), NINLET=[1],
*                   MajNHYD=["A3R-MJ"]
*                   MinNHYD=["A3R-MN"]
*                   TMJSTO=[908](cu-m)
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["102-103"], RNUMBER=[1.0], PDIAM=[1500](mm),
                    PLNGTH=[504](m), PROUGH=[0.013], PSLOPE=[0.0028](m/m),
                    NHYDin=["MH102"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH103"], NHYDs to add=["102-103"+"A5-MN"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH103"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH103"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["103-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                    PLNGTH=[438](m), PROUGH=[0.013], PSLOPE=[0.0046](m/m),
                    NHYDin=["MH103"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A6"], DT=[1]min, AREA=[1.56](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[280](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["A6T"], NHYDs to add=["A5-MJ"+"A6"]
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A6T"], CINLET=[0.357](cms), NINLET=[1],
                    MajNHYD=["A6-MJ"]
                    MinNHYD=["A6-MN"]
                    TMJSTO=[60](cu-m)
*%-----------------|-------------------------------------------------------|
*   -JFSA Jan. 2021, A7-corrig is a part of Todd so it is removed
*CONTINUOUS STANDHYD NHYD=["A7-corrig"], DT=[1]min, AREA=[11.8](ha),
*                   XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
*                   SCS curve number CN=[75],
*                   Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
*                          LGP=[40](m), MNP=[0.25], SCP=[0](min),
*                   Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
*                          LGI=[438](m), MNI=[0.013], SCI=[0](min),
*                   Continuous simulation parameters:
*                   IaRECper=[4](hrs),  IaRECimp=[4](hrs),
*                   SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                   InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*ADD HYD             NHYDsum=["A7-A3RMJ"], NHYDs to add=["A3R-MJ"+"A7-corrig"]
*%-----------------|-------------------------------------------------------|
*COMPUTE DUALHYD     NHYDin=["A7-A3RMJ"], CINLET=[1.003](cms), NINLET=[1],
*                   MajNHYD=["A7R-MJ"]
*                   MinNHYD=["A7R-MN"]
*                   TMJSTO=[496](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH104"], NHYDs to add=["A6-MN"+"103-104"+"TODD_MJn"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH104"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                    HYD_COMMENT=["Total Flows at MH104"]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B2"], DT=[1]min, AREA=[12.31](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[417](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B2"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["B2-MJ"]
                    MinNHYD=["B2-MN"]
                    TMJSTO=[508](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["315-333"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[254](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["B2-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B3"], DT=[1]min, AREA=[5.59](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[345](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B3"], CINLET=[0.459](cms), NINLET=[1],
                    MajNHYD=["B3-MJ"]
                    MinNHYD=["B3-MN"]
                    TMJSTO=[227](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH333"], NHYDs to add=["B3-MN"+"315-333"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH333"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH333"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["333-335"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[251](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH333"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["335-338"], RNUMBER=[1.0], PDIAM=[1200](mm),
                    PLNGTH=[185](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["333-335"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["338-340"], RNUMBER=[1.0], PDIAM=[1350](mm),
                    PLNGTH=[233](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["335-338"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B4"], DT=[1]min, AREA=[7.6](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[388](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
```

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                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B4"], CINLET=[0.655](cms), NINLET=[1],
                    MajNHYD=["B4-MJ"]
                    MinNHYD=["B4-MN"]
                    TMJSTO=[323](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH340"], NHYDs to add=["338-340"+"B4-MN"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH340"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH340"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["340-104"], RNUMBER=[1.0], PDIAM=[1650](mm),
                    PLNGTH=[240](m), PROUGH=[0.013], PSLOPE=[0.0015](m/m),
                    NHYDin=["MH340"], RDT=[1]
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH104T"], NHYDs to add=["340-104"+"MH104"]
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[2]rect, NHYDout=["104-105"], RNUMBER=[1.0],
PWIDTH=[2400](mm)  by PHEIGHT=[2100](mm),
                    PLNGTH=[380](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH104T"], RDT=[1]
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B5"], DT=[1]min, AREA=[2.2](ha),
                    XIMP=[0.57], TIMP=[0.57], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[187](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B5"], CINLET=[0.260](cms), NINLET=[1],
                    MajNHYD=["B5-MJ"]
                    MinNHYD=["B5-MN"]
                    TMJSTO=[250](cu-m)
*%-----------------|-------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A8"], DT=[1]min, AREA=[0.96](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[186](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["A8T"], NHYDs to add=["A6-MJ"+"A8"]
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A8T"], CINLET=[0.238](cms), NINLET=[1],
                    MajNHYD=["A8-MJ"]
                    MinNHYD=["A8-MN"]
                    TMJSTO=[40](cu-m)
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["MH105"], NHYDs to
add=["104-105"+"B5-MN"+"A8-MN"+"TODD_MN3j"]
*%-----------------|-------------------------------------------------------|
SAVE HYD            NHYD=["MH105"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH105"]
```

```
*%-----------------|-------------------------------------------------------|
DIVERT HYD          NHYDin=["A8-MJ"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["A8-MJ-JR" "A8-MJ-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
                      QIDi +  QIDii  =  QTOTAL
                    [   0  +    0    =    0   ]                    ]
                    [   50 +   50    =    100  ] end
*%-----------------|-------------------------------------------------------------------------------|
DIVERT HYD          NHYDin=["MH105"] NIDout=[2]max five,
                    outflow hydrographs (NHYDs)=["MH105-JR"  "MH105-B6"]
                    flow distribution table: (modify as necessary)
                    Note: all flows are in (cms)
                      QIDi +  QIDii  =  QTOTAL
                    [   0  +    0    =    0   ]
                    [   0  +   3.0  =   3.0  ]
                    [  96.9+  3.1    =   100  ] end
*%-----------------|-------------------------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["B7"], DT=[1]min, AREA=[7.19](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[211](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
ADD HYD             NHYDsum=["B7-B4MJ"], NHYDs to add=["B4-MJ"+"B7"]
*%-----------------|-------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B7-B4MJ"], CINLET=[0.629](cms), NINLET=[1],
                    MajNHYD=["B7R-MJ"]
                    MinNHYD=["B7R-MN"]
                    TMJSTO=[311](cu-m)
*%-----------------|-------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["360-106A"], RNUMBER=[1.0], PDIAM=[1050](mm),
                    PLNGTH=[167](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["B7R-MN"], RDT=[1]
*%-----------------|-------------------------------------------------------|
*     -JFSA 2021-01-19 change B6 to be developed as per geoottawa website and apply the
parameters of A7, the nearest sub-catchment to B6, LGI is calculated based on B6 area
CONTINUOUS STANDHYD NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[148.099](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------|
*     -JFSA 2021-01-25   add B1 DUALHYD as per Corrigan Report, IBI Group, 2008
COMPUTE DUALHYD     NHYDin=["B6"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6-MJ"]
                    MinNHYD=["B6-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------|
*CONTINUOUS NASHYD   NHYD=["B6"], DT=[1]min, AREA=[3.29](ha),
*                    DWF=[0](cms),  CN/C=[75], IA=[2.5](mm),
*                    N=[3.0], TP=[0.36]hrs,
```

```
*                    Continuous simulation parameters:
*                    IaRECper=[4](hrs),
*                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
*                    InterEventTime=[12](hrs)
*                    Baseflow simulation parameters:
*                    BaseFlowOption=[1] ,
*                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
*                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|-------------------------------------------------------------|
*%    -EX-LAND is external land. It is a part of JOCKVA sub-catchment as per Corrigan Report, IBI Group, 2008
CONTINUOUS STANDHYD NHYD=["EX-LAND"], DT=[1]min, AREA=[32.5](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[465.475](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["EX-LAND"], CINLET=[2.275](cms), NINLET=[1],
                    MajNHYD=["EX-LAND-MJ"]
                    MinNHYD=["EX-LAND-MN"]
                    TMJSTO=[1365](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["B6-B7ExMJ"], NHYDs to add=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["B6-B7ExMJ"], CINLET=[0.064](cms), NINLET=[1],
                    MajNHYD=["B6R-MJ"]
                    MinNHYD=["B6R-MN"]
                    TMJSTO=[5484](cu-m)
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["105-106A"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[208](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH105-B6"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106A"], NHYDs to add=["360-106A"+"105-106A"+"B6R-MN"+"B6R-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH106A"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106A"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH106 is called MH117/106 in Corrigan Report, IBI Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106A-106"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[190](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106A"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A9"], DT=[1]min, AREA=[2.44](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[262](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A9"], CINLET=[0.547](cms), NINLET=[1],
```

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                    MajNHYD=["A9-MJ"]
                    MinNHYD=["A9-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH106"], NHYDs to add=["106A-106"+"A9-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH106"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH106"]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH107 is called MH118/107 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["106-107"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[122.5](m), PROUGH=[0.013], PSLOPE=[0.001](m/m),
                    NHYDin=["MH106"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A10"], DT=[1]min, AREA=[4.14](ha),
                    XIMP=[0.35], TIMP=[0.47], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A10"], CINLET=[0.310](cms), NINLET=[1],
                    MajNHYD=["A10-MJ"]
                    MinNHYD=["A10-MN"]
                    TMJSTO=[228](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A11"], DT=[1]min, AREA=[10.61](ha),
                    XIMP=[0.53], TIMP=[0.62], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A11"], CINLET=[0.993](cms), NINLET=[1],
                    MajNHYD=["A11-MJ"]
                    MinNHYD=["A11-MN"]
                    TMJSTO=[556](cu-m)
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH107"], NHYDs to add=["106-107"+"A10-MN"+"A11-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH107"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH107"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["107-119"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[114](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["MH107"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
*%    -JFSA 2021-01-12 THE MANHOLE MH108 is called MH120/108 in Corrigan Report, IBI
Group, July 2008
*%
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["119-108"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[65.8](m), PROUGH=[0.013], PSLOPE=[0.0012](m/m),
                    NHYDin=["107-119"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
```

```
CONTINUOUS STANDHYD NHYD=["A12"], DT=[1]min, AREA=[12.29](ha),
                    XIMP=[0.41], TIMP=[0.54], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A12"], CINLET=[1.029](cms), NINLET=[1],
                    MajNHYD=["A12-MJ"]
                    MinNHYD=["A12-MN"]
                    TMJSTO=[672](cu-m)
*%-----------------|-------------------------------------------------------------|
CONTINUOUS STANDHYD NHYD=["A13"], DT=[1]min, AREA=[2.59](ha),
                    XIMP=[0.71], TIMP=[0.71], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[379](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
COMPUTE DUALHYD     NHYDin=["A13"], CINLET=[0.571](cms), NINLET=[1],
                    MajNHYD=["A13-MJ"]
                    MinNHYD=["A13-MN"]
                    TMJSTO=[0](cu-m)
*%-----------------|-------------------------------------------------------------|
*   -JFSA 2021-01-22 add the Corrigan pond area ("Pond-Block")
CONTINUOUS STANDHYD NHYD=["Pond-Block"], DT=[1]min, AREA=[2.94](ha),
                    XIMP=[0.415], TIMP=[0.415], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[75],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[183](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["MH108"], NHYDs to add=["119-108"+"A13-MN"+"A12-MN"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["MH108"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at MH108"]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["108-116"], RNUMBER=[1.0], PDIAM=[1800](mm),
                    PLNGTH=[76.6](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["MH108"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ROUTE PIPE          PTYPE=[1]circ, NHYDout=["116-corrig"], RNUMBER=[1.0],
PDIAM=[1800](mm),
                    PLNGTH=[79.5](m), PROUGH=[0.013], PSLOPE=[0.0013](m/m),
                    NHYDin=["108-116"], RDT=[1]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["Corrigan"], NHYDs to add=["116-corrig"+"Pond-Block"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["Corrigan"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Pond]
*%-----------------|-------------------------------------------------------------|
```

```
ROUTE RESERVOIR     NHYDout=["Co-P"],  NHYDin=["Corrigan"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.015 , 0.04118]
                                   [   0.030 , 0.08297]
                                   [   0.045 , 0.12537]
                                   [   0.060 , 0.16837]
                                   [   0.075 , 0.21199]
                                   [   0.090 , 0.27545]
                                   [   0.105 , 0.34650]
                                   [   0.120 , 0.42049]
                                   [   0.135 , 0.50188]
                                   [   0.186 , 0.60307]
                                   [   2.110 , 0.79083]
                                   [   5.874 , 1.00271]
                                   [   11.395 , 1.29643]
                                   [   18.770 , 1.62054]
                                   [   28.143 , 1.97516]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["Co-P-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["corrig"], NHYDs to
add=["Co-P-OVF"+"Co-P"+"N_TO"+"MH105-JR"+"A8-MJ-JR"+"A9-MJ"+"A10-MJ"+"A11-MJ"+"A12-MJ"+"A
13-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["corrig"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Corrigan Pond"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Corrigan Pond 1
*#    - Rating curve obtained from Barrhaven South MSS modeling
*#    - Tributary Drainage Area to MSS Pond 1 = 145 ha
*#*****************************************************************************
*ROUTE RESERVOIR     NHYDout=["MS_P1"],  NHYDin=["CORRIG"],
*                    RDT=[1](min),
*                          TABLE of ( OUTFLOW-STORAGE ) values
*                                     (cms) - (ha-m)
*                                   [   0.0 ,  0.0 ]
*                                   [   0.06 , 0.58]
*                                   [   -1  ,  -1  ]  (max twenty pts)
*                          NHYDovf=["P1-OVF"]
*%-----------------|-------------------------------------------------------------|
*ADD HYD             NHYDsum=["SN_CO"], NHYDs to add=["N_TO"+"P1-OVF"+"MS_P1"]
*%-----------------|-------------------------------------------------------------|
*SAVE HYD            NHYD=["SN_CO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
*                    HYD_COMMENT=["Total Flows at Corrigan Drain"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Corrigan Drain routed to Jockvale Road
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
*#
ROUTE CHANNEL       NHYDout=["N_MI"] ,NHYDin=["corrig"] ,
                    RDT=[1](min),
                    CHLGTH=[580](m),  CHSLOPE=[0.4448](%),
                                        FPSLOPE=[0.4448](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.72
                      -0.045,17.72
                      0.075,80.62] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-83.32, 90.00]
                    [-81.36, 89.50]
                    [-79.12, 89.00]
```

```
                    [-76.13, 88.50]
                    [-20.46, 88.00]
                    [-19.36, 87.50]
                    [-18.51, 87.00]
                    [-17.72, 86.50]
                    [-11.95, 85.24]
                    [-0.11, 85.12]
                    [11.49, 85.20]
                    [17.72, 86.50]
                    [19.74, 87.00]
                    [21.22, 87.50]
                    [22.68, 88.00]
                    [24.28, 88.50]
                    [26.79, 89.00]
                    [71.98, 90.00]
                    [80.62, 90.50]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment MILLS
*#    - To SWM Facility north of the Jock
*#    - Primarily residental development
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["MILLS"], DT=[1]min, AREA=[175.99](ha),
                    XIMP=[0.38], TIMP=[0.38], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                           LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                           LGI=[1118.123](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Chapman Mills SWM Pond
*#    - Rating curve obtained from CCL hydraulic modeling
*#*************************************************************************
ROUTE RESERVOIR     NHYDout=["MILL_P"],  NHYDin=["MILLS"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                    (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.01 , 0.01]
                                   [   0.05 , 0.06]
                                   [   0.09 , 0.11]
                                   [   0.13 , 0.15]
                                   [   0.18 , 0.19]
                                   [   0.28 , 0.28]
                                   [   0.37 , 0.34]
                                   [   0.45 , 0.40]
                                   [   0.51 , 0.44]
                                   [   0.56 , 0.47]
                                   [   0.64 , 0.52]
                                   [   0.76 , 0.59]
                                   [   0.86 , 0.65]
                                   [   1.09 , 0.78]
                                   [   1.44 , 0.96]
                                   [   3.18 , 1.84]
                                   [   4.05 , 2.31]
                                   [   -1   ,  -1  ]  (max twenty pts)
                          NHYDovf=["MIL-OV"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_MI"], NHYDs to add=["N_MI"+"MIL-OV"+"MILL_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_MI"],   # OF PCYCLES=[-1],  ICASEsh=[1]
```

```
                    HYD_COMMENT=["Total Flows at Jockvale Road"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Jockvale Road routed to Heart's Desire
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 689
*#
ROUTE CHANNEL       NHYDout=["N_DE"] ,NHYDin=["SN_MI"] ,
                    RDT=[1](min),
                    CHLGTH=[1962](m),  CHSLOPE=[0.2227](%),
                                        FPSLOPE=[0.2227](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-17.56
                      -0.045,18.27
                      0.075,32.51] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-54.07, 85.00]
                    [-39.43, 84.50]
                    [-28.30, 84.00]
                    [-24.12, 83.50]
                    [-22.30, 83.00]
                    [-20.55, 82.50]
                    [-17.56, 82.00]
                    [-12.63, 81.22]
                    [-0.11, 80.75]
                    [11.55, 81.22]
                    [18.27, 82.00]
                    [19.82, 82.50]
                    [22.48, 83.00]
                    [27.90, 83.50]
                    [29.31, 84.00]
                    [30.81, 84.50]
                    [32.51, 85.00]
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment DESIRE
*#    - To Jock River (north of the Jock)
*#    - Rural-estate subdivision (Heart's Desire Community)
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["DESIRE"], DT=[1]min, AREA=[23.78](ha),
                    XIMP=[0.25], TIMP=[0.25], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[77],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[400](m), MNI=[0.013], SCI=[0](min),
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
*#*************************************************************************
*#    Catchment JOCKVA
*#    - To Jockvale SWM Facility
*#    - Residential development & golf course
*#    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
*#      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two
areas JOCKVA and EX-LAND 32.5 ha as per IBI GROUP, July 2008.
*#*************************************************************************
CONTINUOUS STANDHYD NHYD=["JOCKVA"], DT=[1]min, AREA=[225.13](ha),
                    XIMP=[0.50], TIMP=[0.50], DWF=[0](cms), LOSS=[2],
                    SCS curve number CN=[74],
                    Pervious   surfaces: IAper=[4.67](mm), SLPP=[1](%),
                            LGP=[40](m), MNP=[0.25], SCP=[0](min),
                    Impervious surfaces: IAimp=[1.57](mm), SLPI=[1](%),
                            LGI=[1310.55](m), MNI=[0.013], SCI=[0](min),
```

```
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),  IaRECimp=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[18](hrs),   END=-1
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["JOCKVA-TO"], NHYDs to
add=["EX-LAND-MN"+"JOCKVA"+"B2-MJ"+"B3-MJ"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["JOCKVA-TO"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at KB first pond"]
*%-----------------|-------------------------------------------------------------|
*#*****************************************************************************
*#    Jockvale SWM Facility
*#    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
*#*****************************************************************************
ROUTE RESERVOIR     NHYDout=["JOCK_P"],  NHYDin=["JOCKVA-TO"],
                    RDT=[1](min),
                          TABLE of ( OUTFLOW-STORAGE ) values
                                     (cms) - (ha-m)
                                   [   0.0 ,  0.0 ]
                                   [   0.27 , 0.03]
                                   [   0.28 , 0.55]
                                   [   0.29 , 1.14]
                                   [   0.30 , 1.80]
                                   [   0.31 , 2.32]
                                   [   1.12 , 2.87]
                                   [   2.92 , 3.45]
                                   [   4.64 , 4.07]
                                   [   6.69 , 4.72]
                                   [   9.02 , 5.39]
                                   [   11.62 , 6.10]
                                   [   14.42 , 6.85]
                                   [   17.45 , 7.62]
                                   [   20.69 , 8.44]
                                   [   24.08 , 9.28]
                                   [   27.68 , 10.17]
                                   [   -1  ,  -1  ]  (max twenty pts)
                          NHYDovf=["JO-OVF"]
*%-----------------|-------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_DE"], NHYDs to add=["N_DE"+"DESIRE"+"JO-OVF"+"JOCK_P"]
*%-----------------|-------------------------------------------------------------|
SAVE HYD            NHYD=["SN_DE"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Heart's Desire"]
*%-----------------|-------------------------------------------------------------|
*#
*# Hydrograph from Heart's Desire routed to Rideau River
*# Channel X-Section obtained from RVCA Hydraulic Model - Station 0
*#
ROUTE CHANNEL       NHYDout=["N1"] ,NHYDin=["SN_DE"] ,
                    RDT=[1](min),
                    CHLGTH=[563](m),  CHSLOPE=[0.9668](%),
                                        FPSLOPE=[0.9668](%),
                    SECNUM=[1.0],       NSEG=[3]
                    ( SEGROUGH, SEGDIST (m))=
                      [0.075,-30.20
                      -0.045,30.20
                      0.075,48.48] NSEG times
                    ( DISTANCE (m), ELEVATION (m))=
                    [-98.46, 81.50]
                    [-92.24, 81.00]
                    [-86.88, 80.50]
                    [-81.54, 80.00]
                    [-74.36, 79.50]
                    [-63.54, 79.00]
                    [-39.23, 78.50]
                    [-34.51, 78.00]
```

```
                    [-33.01, 77.50]
                    [-30.20, 77.00]
                    [-13.42, 76.18]
                    [-1.14, 76.09]
                    [17.06, 76.18]
                    [30.20, 77.00]
                    [32.95, 77.50]
                    [34.06, 78.00]
                    [35.11, 78.50]
                    [36.32, 79.00]
                    [37.74, 79.50]
                    [48.48, 81.50]
*%-----------------|---------------------------------------------------------------|
*#*****************************************************************************
*#    Catchment S-2
*#    - To Jock River (north and south)
*#    - Undeveloped floodplain and river
*#*****************************************************************************
CONTINUOUS NASHYD   NHYD=["S-2"], DT=[1]min, AREA=[102.94](ha),
                    DWF=[0](cms), CN/C=[72],  IA=[4.67](mm),
                    N=[3], TP=[0.40]hrs,
                    Continuous simulation parameters:
                    IaRECper=[4](hrs),
                    SMIN=[-1](mm),  SMAX=[-1](mm), SK=[0.010]/(mm),
                    InterEventTime=[12](hrs)
                    Baseflow simulation parameters:
                    BaseFlowOption=[1] ,
                    InitGWResVol=[50](mm), GWResK=[0.96](mm/day/mm)
                    VHydCond=[0.055](mm/hr),   END=-1
*%-----------------|---------------------------------------------------------------|
ADD HYD             NHYDsum=["SN_N1"], NHYDs to add=["N1"+"S-2"]
*%-----------------|---------------------------------------------------------------|
SAVE HYD            NHYD=["SN_N1"],   # OF PCYCLES=[-1],  ICASEsh=[1]
                    HYD_COMMENT=["Total Flows at Rideau River"]
*%-----------------|---------------------------------------------------------------|
*#############################################################################
*%  5 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[5]
*%                   ["C24SC005.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  10 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[10]
*%                   ["C24SC010.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  25 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[25]
*%                   ["C24SC025.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  50 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[50]
*%                   ["C24SC050.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["100YC3H.STM"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  100 yr, 24 hr SCS storm based on OTTAWA CDA IDF Curves
START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*%-----------------|---------------------------------------------------------------|
*%  100 yr, 3 hr Chicago storm based on OTTAWA CDA IDF Curves
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[100]
*%                   ["C24SC100.stm"] <--storm filename, one per line for NSTORM time
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[101]
*%                   ["A24SC100.stm"] <--storm filename, one per line for NSTORM time
*START               TZERO=[0.0],  METOUT=[2],  NSTORM=[1],  NRUN=[102]
```

```
*%                  ["A24SC100_60.stm"] <--storm filename, one per line for NSTORM time
FINISH

```

```
==========================================================================================
                                                                                          
SSSSS   W   W   M   M   H   H   Y   Y   M   M    OOO         222     000    11   5555   =========
S       W W W   MM MM   H   H    Y Y    MM MM   O   O          2    0   0   11   5
SSSSS   W W W   M M M   HHHHH     Y     M M M   O   O          2    0   0   11   5      Ver 5.500
    S    W W    M   M   H   H     Y     M   M   O   O        222    0   0   11   555    FEB  2015
SSSSS    W W    M   M   H   H     Y     M   M    OOO         2      0   0   11     5    =========
                                                             2      0   0   11     5    # 2549237
      StormWater Management HYdrologic Model                  222    000    11   555    =========

******************************************************************************************
*************************************  SWMHYMO Ver 5.500  ********************************
******************  A single event and continuous hydrologic simulation model  ******************
******************     based on the principles of HYMO and its successors      ******************
******************                 OTTHYMO-83 and OTTHYMO-89.                  ******************
******************************************************************************************
****************** Distributed by:  J.F. Sabourin and Associates Inc.          ******************
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******************                  E-Mail: swmhymo@jfsa.Com                   ******************
******************************************************************************************

++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
++++++++++++++++++ Licensed user: JFSAinc.                                     ++++++++++++++++++
++++++++++++++++++                Ottawa                SERIAL#:2549237        ++++++++++++++++++
++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++

******************************************************************************************
******************             ++++++ PROGRAM ARRAY DIMENSIONS ++++++          ******************
******************             Maximum value for ID numbers  :     11          ******************
******************             Max. number of rainfall points: 105408          ******************
******************             Max. number of flow points    : 105408          ******************
******************************************************************************************


*******************************   S U M M A R Y   O U T P U T   *******************************
******************************************************************************************
*                 RUN DATE: 2021-03-04     TIME: 11:57:49     RUN COUNTER: 002084            *
******************************************************************************************
* Input   file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_SDR-Fr_SD.dat                                                      *
* Output  file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_SDR-Fr_SD.out                                                      *
* Summary file: T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated*
*               3\SMR_S-1_SDR-Fr_SD.sum                                                      *
* User comments:                                                                             *
* 1:_________________________________________________________________________________________*
* 2:_________________________________________________________________________________________*
* 3:_________________________________________________________________________________________*
******************************************************************************************


#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [M.M.]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
# ---------------------------------------------------------------------------
  ** END OF RUN :    1

******************************************************************************************





 RUN#:COMMAND#
R0002:C00001------------------------------------------------------------------------------
      START
       [TZERO =    .00 hrs on        0]
       [METOUT=   2    (1=imperial, 2=metric output)]
       [NSTORM=   1 ]
       [NRUN  = 0002 ]
#*******************************************************************************
#  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
#*******************************************************************************
#  Project Name: [Jock River]    Project Number: [1474-16]
#  Date        : 04-03-2021
#  Modeller    : [M.M.]
#  Company     : JFSAinc.
#  License #   :  2549237
#*******************************************************************************
# CALIBRATION OF SUMMER MODEL PARAMETERS
# USING CONTINUOUS SIMULATIONS
# Rainfall data from JFSA raingauge installed at site + other gauges by the City
# Use data collected from May 1st to July 14, 2003
# 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
# 2020-12-01 correct pond curve values
# 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
# 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
# ---------------------------------------------------------------------------
R0002:C00002------------------------------------------------------------------------------
      READ STORM
       Filename = storm.001
       Comment  = Pluie SCS de 24 hres 1:2 ans pour Ottawa CDA
       [SDT=10.00:SDUR=  24.00:PTOT=  45.51]
R0002:C00003------------------------------------------------------------------------------
      MODIFY STORM
       [RFACT=  1.00:TSHIFT= 960.00 min]
       [SDT=10.00:SDUR=  40.00:PTOT=  45.51]
R0002:C00004------------------------------------------------------------------------------
      DEFAULT VALUES
       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
       ICASEdv  = 1 (read and print data)
       FileTitle= File comment: [Based onvarious calibration exercises in Onta
                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
       Horton's infiltration equation parameters:
       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
       Parameters for PERVIOUS surfaces in STANDHYD:
       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
       Parameters for IMPERVIOUS surfaces in STANDHYD:
       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
       Parameters used in NASHYD:
       [Ia=   4.67 mm] [N= 3.00]
       Average monthly Pan Evaporation data in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
       Average monthly Potential Evapotranspiration in    (mm)
    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
R0002:C00005------------------------------------------------------------------------------
      COMPUTE API
       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
       {APImax= 80.12: APIavg= 56.74: APImin= 44.87}
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00    6.204 No_date   37:06   11.47 .252     .000
       [CN= 64.0: N= 3.00: Tp= 7.13]
       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.32
R0002:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    2.187 No_date   32:37   10.75 .236     .000
       [CN= 61.0: N= 3.00: Tp= 3.76]
       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    3.218 No_date   39:59    9.43 .207     .000
       [CN= 55.0: N= 3.00: Tp=11.33]
       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
       [InterEventTime=  12.00]
R0002:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00    5.504 No_date   32:45   13.94 .306     .000
       [CN= 72.0: N= 3.00: Tp= 3.91]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0002:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    2.720 No_date   29:22   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp= 1.24]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00    4.042 No_date   34:34   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp= 5.29]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.52
R0002:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   11.228 No_date   38:07   13.94 .306     .000
       [CN= 72.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   11.072 No_date   39:59   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp=11.66]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.68
R0002:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    4.434 No_date   30:56   13.35 .293     .000
       [CN= 70.0: N= 3.00: Tp= 2.51]
       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00    5.504 No_date   39:59   10.98 .241     .000
       [CN= 62.0: N= 3.00: Tp=11.32]
       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.80
R0002:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_8         131.00     .805 No_date   28:57   11.22 .247     .000
       [CN= 63.0: N= 3.00: Tp=  .90]
       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.65
R0002:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00    6.242 No_date   38:46   11.98 .263     .000
       [CN= 66.0: N= 3.00: Tp= 8.42]
       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.82
R0002:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    4.651 No_date   36:31    9.85 .217     .000
       [CN= 57.0: N= 3.00: Tp= 6.65]
       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.75
R0002:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .413 No_date   33:07   12.24 .269     .000
       [CN= 67.0: N= 3.00: Tp= 4.18]
       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.67
R0002:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    3.148 No_date   35:23   13.94 .306     .000
       [CN= 72.0: N= 3.00: Tp= 5.95]
       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
       [InterEventTime=  12.00]
R0002:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    2.597 No_date   28:45   15.91 .350     .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.20
R0002:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   14.839 No_date   33:25   14.57 .320     .000
       [CN= 74.0: N= 3.00: Tp= 4.45]
       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
       [InterEventTime=  12.00]
R0002:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A2        20.00     .309 No_date   28:36   17.79 .391     .000
       [CN= 81.0: N= 3.00: Tp=  .62]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
#
# The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
# of 1.61
R0002:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_5A1      1412.00    3.090 No_date   38:04   15.22 .334     .000
       [CN= 75.0: N= 3.00: Tp= 8.00]
       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
       [InterEventTime=  12.00]
R0002:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_4         585.00    4.325 No_date   29:58   17.79 .391     .000
       [CN= 81.0: N= 3.00: Tp= 1.75]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0002:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00    5.747 No_date   30:50   17.39 .382     .000
       [CN= 80.0: N= 3.00: Tp= 2.46]
       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
       [InterEventTime=  12.00]
R0002:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    2.052 No_date   28:45   15.91 .350     .000
       [CN= 77.0: N= 3.00: Tp=  .75]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0002:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00    5.337 No_date   31:50   17.79 .391     .000
       [CN= 81.0: N= 3.00: Tp= 3.25]
       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
       [InterEventTime=  12.00]
R0002:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   11.528 No_date   31:35   15.56 .342     .000
       [CN= 76.0: N= 3.00: Tp= 3.03]
       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
       [InterEventTime=  12.00]
#
# Routing hydrographs
#
# Starting with the addition of Jock River Headwater and Subwatershed 13
#
R0002:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:JR_HW       3680.00    6.204 No_date   37:06   11.47  n/a     .000
                    +      1.0 02:SW_13        971.00    2.187 No_date   32:37   10.75  n/a     .000
                 SUM=      1.0 01:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
#
# Sum of hydrographs from Node 13 routed to Node 13A
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
R0002:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00    7.871 No_date   35:37   11.32  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
       [L/S/n= 9074./ .022/.040]
       {Vmax=  .429:Dmax= 2.557}
#
# Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
#
R0002:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N13A        4651.00    6.258 No_date   39:59   11.32  n/a     .000
                    +      1.0 02:JR_GWM      3074.00    3.218 No_date   39:59    9.43  n/a     .000
                 SUM=      1.0 01:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
#
# Insertion of a reservoir to simulate the effects of the Goodwood Marsh
#
R0002:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00    9.475 No_date   39:59   10.57  n/a     .000
                out <=     1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      {MxStoUsed=.3585E+02  m3}
#
R0002:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
       fname :H_RESGM
       remark:Outflow from Res GM
# Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
R0002:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    2.619 No_date   55:07   10.57  n/a     .000
      [RDT= 1.00] out<-    1.0 01:N12         7725.00    2.609 No_date   58:09   10.57  n/a     .000
       [L/S/n= 5926./ .076/.040]
       {Vmax=  .501:Dmax= 1.329}
#
# Addition of Subwatershed Jock River at Ashton to Node 12
#
R0002:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD               1.0 02:N12         7725.00    2.609 No_date   58:08   10.57  n/a     .000
                    +      1.0 02:JR_ASH      1781.00    5.504 No_date   32:45   13.94  n/a     .000
                 SUM=      1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
R0002:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD              1.0 01:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
       fname :H_SN12
       remark:flow at S_N12 near Ashton
#
# Sum of hydrographs from Node 12 routed to Node 11
# (Approximated cross-section - see cross-section 258)
# Use n=0.04 for summer conditions and n=0.025 for spring conditions
#
# Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
#
R0002:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00    7.458 No_date   32:50   11.20  n/a     .000
      [RDT= 1.00] out<-    1.0 01:Dum11       9506.00    7.379 No_date   33:12   11.20  n/a     .000
       [L/S/n=  972./ .054/.040]
       {Vmax=  .591:Dmax= 2.108}
#
# Addition of Subwatershed 11 and No Name Creek to Node 11
```

```
00375> #
00376> R0002:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00377>     ADD HYD                 1.0 02:Dum11      9506.00    7.379 No_date   33:12   11.20  n/a     .000
00378>                       +     1.0 02:SW_11       500.00    2.720 No_date   29:22   11.98  n/a     .000
00379>                       +     1.0 02:NN_CK      1917.00    4.042 No_date   34:34   11.98  n/a     .000
00380>                     SUM=    1.0 01:S_N11     11923.00   12.077 No_date   33:14   11.36  n/a     .000
00381> #
00382> # Sum of hydrographs from Node 11 routed to Node 10
00383> # Section 1
00384> #
00385> R0002:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00386>     ROUTE CHANNEL   ->      1.0 02:S_N11     11923.00   12.077 No_date   33:14   11.36  n/a     .000
00387>       [RDT= 1.00] out<-     1.0 01:N10       11923.00    8.276 No_date   39:46   11.36  n/a     .000
00388>        [L/S/n=14028./ .157/.040]
00389>        {Vmax=  .462:Dmax=  .886}
00390> #
00391> # Addition of Subwatershed 10 to Node 10
00392> #
00393> R0002:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00394>     ADD HYD                 1.0 02:N10       11923.00    8.276 No_date   39:46   11.36  n/a     .000
00395>                       +     1.0 02:SW_10      5666.00   11.228 No_date   38:07   13.94  n/a     .000
00396>                     SUM=    1.0 01:S_N10     17589.00   19.451 No_date   38:31   12.19  n/a     .000
00397> R0002:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00398>     SAVE HYD                1.0 01:S_N10     17589.00   19.451 No_date   38:31   12.19  n/a     .000
00399>        fname :H_SN10
00400>        remark:flow at S_N10: N10 + SW_10
00401> # Addition of Kings Creek to S_N10
00402> #
00403> R0002:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00404>     ADD HYD                 1.0 02:S_N10     17589.00   19.451 No_date   38:31   12.19  n/a     .000
00405>                       +     1.0 02:KG_CK      8376.00   11.072 No_date   39:59   11.98  n/a     .000
00406>                     SUM=    1.0 01:S_N10A    25965.00   30.328 No_date   39:58   12.12  n/a     .000
00407> #
00408> # Sum of hydrographs from Node 10 routed to Node 9
00409> # Section 2
00410> #
00411> R0002:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00412>     ROUTE CHANNEL   ->      1.0 02:S_N10A    25965.00   30.328 No_date   39:58   12.12  n/a     .000
00413>       [RDT= 1.00] out<-     1.0 01:N9        25965.00   29.579 No_date   39:59   12.12  n/a     .000
00414>        [L/S/n= 3982./ .075/.040]
00415>        {Vmax=  .595:Dmax= 1.208}
00416> #
00417> # Addition of Subwatershed 9 and Nichols Creek to Node 9
00418> #
00419> R0002:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00420>     ADD HYD                 1.0 02:N9        25965.00   29.579 No_date   39:59   12.12  n/a     .000
00421>                       +     1.0 02:SW_9       1132.00    4.434 No_date   30:56   13.35  n/a     .000
00422>                       +     1.0 02:NC_CK      4464.00    5.504 No_date   39:59   10.98  n/a     .000
00423>                     SUM=    1.0 01:S_N9      31561.00   36.313 No_date   39:59   12.00  n/a     .000
00424> #
00425> # Sum of hydrographs from Node 9 routed to Node 8
00426> # Section 3
00427> #
00428> R0002:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00429>     ROUTE CHANNEL   ->      1.0 02:S_N9      31561.00   36.313 No_date   39:59   12.00  n/a     .000
00430>       [RDT= 1.00] out<-     1.0 01:N8        31561.00   34.173 No_date   39:59   12.00  n/a     .000
00431>        [L/S/n= 2269./ .088/.040]
00432>        {Vmax=  .418:Dmax= 1.281}
00433> #
00434> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
00435> #
00436> R0002:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00437>     ADD HYD                 1.0 02:N8        31561.00   34.173 No_date   39:59   12.00  n/a     .000
00438>                       +     1.0 02:SW_8        131.00    .805 No_date   28:57   11.22  n/a     .000
00439>                       +     1.0 02:HB_DR      3854.00    6.242 No_date   38:46   11.98  n/a     .000
00440>                     SUM=    1.0 01:S_N8      35546.00   40.474 No_date   39:59   12.00  n/a     .000
00441> #
00442> # Sum of hydrographs from Node 8 routed to Node 7
00443> # Section 4
00444> #
00445> R0002:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00446>     ROUTE CHANNEL   ->      1.0 02:S_N8      35546.00   40.474 No_date   39:59   12.00  n/a     .000
00447>       [RDT= 1.00] out<-     1.0 01:N7        35546.00   32.891 No_date   44:30   12.00  n/a     .000
00448>        [L/S/n= 3750./ .053/.070]
00449>        {Vmax=  .208:Dmax= 1.651}
00450> #
00451> # Addition of Subwatershed 7 to Node 7
00452> #
00453> R0002:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00454>     ADD HYD                 1.0 02:N7        35546.00   32.891 No_date   44:30   12.00  n/a     .000
00455>                       +     1.0 02:SW_7       3197.00    4.651 No_date   36:31    9.85  n/a     .000
00456>                     SUM=    1.0 01:S_N7      38743.00   35.071 No_date   43:33   11.82  n/a     .000
00457> R0002:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00458>     SAVE HYD                1.0 01:S_N7      38743.00   35.071 No_date   43:33   11.82  n/a     .000
00459>        fname :H_SN7
00460>        remark:flow at S_N7: N7 + SW_7
00461> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
00462> # Storage area and volumes were estimated from available topo maps.
00463> # Release rate from fen was assumed to be controlled by the downstream
00464> # river cross-section for summer conditions.  It is was assumed that for up to
00465> # 0.75 m of water, the main channel of the river provided the storage.  Above
00466> # this depth, the wetland starts to signigicantly store water.
00467> #
00468> R0002:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00469>     ROUTE RESERVOIR ->      1.0 02:S_N7      38743.00   35.071 No_date   43:33   11.82  n/a     .000
00470>                   out <=    1.0 01:RES_RF    38743.00   23.265 No_date   55:09   11.82  n/a     .000
00471>        {MxStoUsed=.7801E+02  m3}
00472> R0002:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00473>     SAVE HYD                1.0 01:RES_RF    38743.00   23.265 No_date   55:09   11.82  n/a     .000
00474>        fname :H_ResRF
00475>        remark:outflow of Richmond Fen
00476> #
00477> # Sum of hydrographs from Node 7 routed to Node 6
00478> # Section 5
00479> #
00480> R0002:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00481>     ROUTE CHANNEL   ->      1.0 02:RES_RF    38743.00   23.265 No_date   55:09   11.82  n/a     .000
00482>       [RDT= 1.00] out<-     1.0 01:N6        38743.00   23.228 No_date   56:38   11.82  n/a     .000
00483>        [L/S/n= 3056./ .082/.025]
00484>        {Vmax=  .432:Dmax=  .808}
00485> #
00486> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
00487> #
00488> R0002:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00489>     ADD HYD                 1.0 02:N6        38743.00   23.228 No_date   56:38   11.82  n/a     .000
00490>                       +     1.0 02:SW_6        165.00    .413 No_date   33:07   12.24  n/a     .000
00491>                       +     1.0 02:VG_DR      1332.00    3.148 No_date   35:23   13.94  n/a     .000
00492>                     SUM=    1.0 01:S_N6      40240.01   23.318 No_date   39:59   11.89  n/a     .000
00493> #
00494> # Sum of hydrographs from Node 6 routed to Node 5
00495> # Section 6
00496> #
00497> R0002:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00498>     ROUTE CHANNEL   ->      1.0 02:S_N6      40240.01   23.318 No_date   39:59   11.89  n/a     .000
00499>       [RDT= 1.00] out<-     1.0 01:N5        40240.01   23.285 No_date   56:09   11.89  n/a     .000
00500>        [L/S/n= 1852./ .054/.035]
00501>        {Vmax=  .378:Dmax=  .917}
00502> #
00503> # Addition of Subwatershed 5 and Flowing Creek to Node 5
00504> #
00505> R0002:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00506>     ADD HYD                 1.0 02:N5        40240.01   23.285 No_date   56:09   11.89  n/a     .000
00507>                       +     1.0 02:SW_5        224.00    2.597 No_date   28:45   15.91  n/a     .000
00508>                       +     1.0 02:FL_CK      4945.00   14.839 No_date   33:25   14.57  n/a     .000
00509>                     SUM=    1.0 01:S_N5      45409.01   33.166 No_date   37:08   12.20  n/a     .000
00510> #
00511> # Sum of hydrographs from Node 5 routed to Node 5A
00512> # Section 7
00513> #
00514> R0002:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00515>     ROUTE CHANNEL   ->      1.0 02:S_N5      45409.01   33.166 No_date   37:08   12.20  n/a     .000
00516>       [RDT= 1.00] out<-     1.0 01:N5A       45409.01   33.135 No_date   37:20   12.20  n/a     .000
00517>        [L/S/n=  556./ .090/.040]
00518>        {Vmax=  .443:Dmax=  .937}
00519> #
00520> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
00521> #
00522> R0002:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00523>     ADD HYD                 1.0 02:N5A       45409.01   33.135 No_date   37:20   12.20  n/a     .000
00524>                       +     1.0 02:SW_5A2       20.00    .309 No_date   28:36   17.79  n/a     .000
00525>                       +     1.0 02:SW_5A1      1412.00    3.090 No_date   38:04   15.22  n/a     .000
00526>                     SUM=    1.0 01:S_N5A     46841.01   36.236 No_date   37:28   12.30  n/a     .000
00527> #
00528> # Sum of hydrographs from Node 5A routed to Node 4
00529> # Section 8
00530> #
00531> R0002:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00532>     ROUTE CHANNEL   ->      1.0 02:S_N5A     46841.01   36.236 No_date   37:28   12.30  n/a     .000
00533>       [RDT= 1.00] out<-     1.0 01:N4        46841.01   35.288 No_date   39:22   12.30  n/a     .000
00534>        [L/S/n= 4630./ .043/.035]
00535>        {Vmax=  .695:Dmax= 2.844}
00536> #
00537> # Addition of Subwatershed 4 and Leamy Creek to Node 4
00538> #
00539> R0002:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00540>     ADD HYD                 1.0 02:N4        46841.01   35.288 No_date   39:22   12.30  n/a     .000
00541>                       +     1.0 02:SW_4        585.00    4.325 No_date   29:58   17.79  n/a     .000
00542>                       +     1.0 02:LM_CK      1021.00    5.747 No_date   30:50   17.39  n/a     .000
00543>                     SUM=    1.0 01:S_N4      48447.00   37.581 No_date   38:13   12.47  n/a     .000
00544> R0002:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00545>     SAVE HYD                1.0 01:S_N4      48447.00   37.581 No_date   38:13   12.47  n/a     .000
00546>        fname :S_N4.0002
00547>        remark:flow at S_N4
00548> #
00549> # Sum of hydrographs from Node 4 routed to Node 2
00550> # Section 9
00551> #
00552> R0002:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00553>     ROUTE CHANNEL   ->      1.0 02:S_N4      48447.00   37.581 No_date   38:13   12.47  n/a     .000
00554>       [RDT= 1.00] out<-     1.0 01:N2        48447.00   37.455 No_date   38:49   12.47  n/a     .000
00555>        [L/S/n= 1667./ .060/.040]
00556>        {Vmax=  .715:Dmax= 2.845}
00557> #
00558> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
00559> #
00560> R0002:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00561>     ADD HYD                 1.0 02:N2        48447.00   37.455 No_date   38:49   12.47  n/a     .000
00562>                       +     1.0 02:SW_2        177.00    2.052 No_date   28:45   15.91  n/a     .000
00563>                       +     1.0 02:SM_DR      1122.00    5.337 No_date   31:50   17.79  n/a     .000
00564>                       +     1.0 02:MO_DR      2737.00   11.528 No_date   31:35   15.56  n/a     .000
00565>                     SUM=    1.0 01:S_N2      52483.00   46.294 No_date   33:33   12.76  n/a     .000
00566> R0002:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00567>     SAVE HYD                1.0 01:S_N2      52483.00   46.294 No_date   33:33   12.76  n/a     .000
00568>        fname :H_SN2
00569>        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
00570> #
00571> # Sum of hydrographs from Node 2 routed to Node 1
00572> # Section 10
00573> #
00574> #*************************************************************************
00575> #
00576> # Hydrograph from Node 2 routed to Node 416
00577> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
00578> #
00579> R0002:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00580>     ROUTE CHANNEL   ->      1.0 02:S_N2      52483.00   46.294 No_date   33:33   12.76  n/a     .000
00581>       [RDT= 1.00] out<-     1.0 01:N_416     52483.00   45.431 No_date   35:37   12.76  n/a     .000
00582>        [L/S/n= 2327./ .050/.055]
00583>        {Vmax=  .577:Dmax= 2.212}
00584> #*************************************************************************
00585> #    Catchment SW-1a
00586> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
00587> #    - Undeveloped agricultural land
00588> #*************************************************************************
00589> R0002:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00590>     CONTINUOUS NASHYD     1.0 01:SW_1a      536.42    1.885 No_date   31:21   13.01 .286     .000
00591>        [CN= 72.0: N= 3.00: Tp=  .09]
00592>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
00593>        [InterEventTime=  12.00]
00594> R0002:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00595>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    3.420 No_date   28:04   32.20 .707     .000
00596>        [XIMP=.65:TIMP=.65]
00597>        [LOSS= 2 :CN= 75.0]
00598>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
00599>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
00600>        [IaRECimp=   4.00: IaRECper=   4.00]
00601>        [SMIN= 33.81: SMAX=225.43: SK= .010]
00602> R0002:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00603>     COMPUTE DUALHYD       1.0 01:S-1-Okeefe    44.93    3.420 No_date   28:04   32.20  n/a     .000
00604>       Major System   /     1.0 02:S-1-OkMJ       .00     .000 No_date    0:00     .00  n/a     .000
00605>       Minor System   \     1.0 03:S-1-OkMN     44.93    3.420 No_date   28:04   32.20  n/a     .000
00606>        [MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs]
00607> R0002:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00608>     ADD HYD                 1.0 02:S-1-OkMJ       .00     .000 No_date    0:00     .00  n/a     .000
00609>                       +     1.0 02:S-1-OkMN     44.93    3.420 No_date   28:04   32.20  n/a     .000
00610>                     SUM=    1.0 01:S-1-OkS      44.93    3.420 No_date   28:04   32.20  n/a     .000
00611> R0002:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00612>     ROUTE RESERVOIR ->      1.0 02:S-1-OkS      44.93    3.420 No_date   28:04   32.20  n/a     .000
00613>                   out <=    1.0 01:S-1-OkSR     44.93     .261 No_date   29:32   32.20  n/a     .000
00614>                overflow <=   1.0 03:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
00615>        {MxStoUsed=.8722E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
00616> R0002:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00617>     ADD HYD                 1.0 02:N_416     52483.00   45.431 No_date   35:37   12.76  n/a     .000
00618>                       +     1.0 02:SW_1a       536.42    1.885 No_date   31:21   13.01  n/a     .000
00619>                       +     1.0 02:S-1-OkSR     44.93     .261 No_date   29:32   32.20  n/a     .000
00620>                       +     1.0 02:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
00621>                     SUM=    1.0 01:SN_416    53064.36   46.727 No_date   35:24   12.78  n/a     .000
00622> R0002:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00623>     SAVE HYD                1.0 01:SN_416    53064.36   46.727 No_date   35:24   12.78  n/a     .000
00624>        fname :SN_416.0002
00625>        remark:Total Flows at Highway 416 before Station 7245
00626> #
00627> # Hydrograph from Node 416 routed to Node at Okeefe drain
00628> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
00629> #
00630> R0002:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00631>     ROUTE CHANNEL   ->      1.0 02:SN_416    53064.36   46.727 No_date   35:24   12.78  n/a     .000
00632>       [RDT= 1.00] out<-     1.0 01:N_OK      53064.36   46.720 No_date   35:24   12.78  n/a     .000
00633>        [L/S/n=  497./ .302/.055]
00634>        {Vmax= 1.191:Dmax= 1.882}
00635> #*************************************************************************
00636> #    Catchment OKEEFE
00637> #    - To O'Keefe drain (north of the Jock)
00638> #    - Developed with assumed 63% imp.
00639> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
00640> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
00641> #*************************************************************************
00642> R0002:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00643>     CONTINUOUS NASHYD     1.0 01:O-1        63.72     .305 No_date   28:59    9.62 .211     .000
00644>        [CN= 61.0: N= 3.00: Tp=  .90]
00645>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
00646>        [InterEventTime=  12.00]
00647> R0002:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00648>     ROUTE CHANNEL   ->      1.0 02:O-1        63.72     .305 No_date   28:59    9.62  n/a     .000
00649>       [RDT= 1.00] out<-     1.0 01:O-1R       63.72     .272 No_date   29:20    9.62  n/a     .000
00650>        [L/S/n=  960./ .630/.043]
00651>        {Vmax=  .589:Dmax=  .212}
00652> R0002:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00653>     CONTINUOUS NASHYD     1.0 01:O-2        28.61     .110 No_date   29:14    9.11 .200     .000
00654>        [CN= 57.0: N= 3.00: Tp= 1.10]
00655>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
00656>        [InterEventTime=  12.00]
00657> R0002:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00658>     CONTINUOUS NASHYD     1.0 01:O-4        46.94     .126 No_date   29:02    7.06 .155     .000
00659>        [CN= 49.0: N= 3.00: Tp=  .90]
00660>        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
00661>        [InterEventTime=  12.00]
00662> R0002:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00663>     ADD HYD                 1.0 02:O-1R       63.72     .272 No_date   29:20    9.62  n/a     .000
00664>                       +     1.0 02:O-2        28.61     .110 No_date   29:14    9.11  n/a     .000
00665>                       +     1.0 02:O-4        46.94     .126 No_date   29:02    7.06  n/a     .000
00666>                     SUM=    1.0 01:OKF-N     139.27     .504 No_date   29:15    8.65  n/a     .000
00667> R0002:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00668>     ROUTE CHANNEL   ->      1.0 02:OKF-N     139.27     .504 No_date   29:15    8.65  n/a     .000
00669>       [RDT= 1.00] out<-     1.0 01:OKF-NR    139.27     .502 No_date   29:20    8.65  n/a     .000
00670>        [L/S/n=  210./ .810/.043]
00671>        {Vmax=  .722:Dmax=  .437}
00672> R0002:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00673>     CONTINUOUS NASHYD     1.0 01:O-6        16.46     .042 No_date   28:47    6.40 .141     .000
00674>        [CN= 43.0: N= 3.00: Tp=  .70]
00675>        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
00676>        [InterEventTime=  12.00]
00677> R0002:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00678>     CONTINUOUS STANDHYD   1.0 01:O-3        39.67     .402 No_date   28:28   11.03 .242     .000
00679>        [XIMP=.15:TIMP=.30]
00680>        [LOSS= 2 :CN= 50.0]
00681>        [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
00682>        [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
00683>        [IaRECimp=   4.00: IaRECper=   4.00]
00684>        [SMIN= 99.77: SMAX=665.12: SK= .010]
00685> R0002:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00686>     CONTINUOUS STANDHYD   1.0 01:O-5        60.63     .937 No_date   28:10   12.08 .265     .000
00687>        [XIMP=.13:TIMP=.26]
00688>        [LOSS= 2 :CN= 61.0]
00689>        [Pervious     area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
00690>        [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
00691>        [IaRECimp=   4.00: IaRECper=   4.00]
00692>        [SMIN= 64.50: SMAX=430.01: SK= .010]
00693> R0002:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00694>     ADD HYD                 1.0 02:OKF-NR    139.27     .502 No_date   29:20    8.65  n/a     .000
00695>                       +     1.0 02:O-3        39.67     .402 No_date   28:28   11.03  n/a     .000
00696>                       +     1.0 02:O-5        60.63     .937 No_date   28:10   12.08  n/a     .000
00697>                       +     1.0 02:O-6        16.46     .042 No_date   28:47    6.40  n/a     .000
00698>                     SUM=    1.0 01:PT1       256.03    1.441 No_date   28:30    9.69  n/a     .000
00699> R0002:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00700>     CONTINUOUS NASHYD     1.0 01:O-7         5.28     .024 No_date   28:38    8.02 .176     .000
00701>        [CN= 54.0: N= 3.00: Tp=  .60]
00702>        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
00703>        [InterEventTime=  12.00]
00704> R0002:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00705>     ADD HYD                 1.0 02:PT1       256.03    1.441 No_date   28:30    9.69  n/a     .000
00706>                       +     1.0 02:O-7         5.28     .024 No_date   28:38    8.02  n/a     .000
00707>                     SUM=    1.0 01:FF        261.31    1.465 No_date   28:30    9.65  n/a     .000
00708> R0002:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00709>     ROUTE CHANNEL   ->      1.0 02:FF        261.31    1.465 No_date   28:30    9.65  n/a     .000
00710>       [RDT= 1.00] out<-     1.0 01:DRAIN1    261.31    1.446 No_date   28:36    9.65  n/a     .000
00711>        [L/S/n=  302./1.000/.043]
00712>        {Vmax=  .953:Dmax=  .543}
00713> R0002:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00714>     CONTINUOUS NASHYD     1.0 01:D1          1.17     .026 No_date   28:12   15.66 .344     .000
00715>        [CN= 84.0: N= 3.00: Tp=  .20]
00716>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
00717>        [InterEventTime=  12.00]
00718> R0002:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00719>     CONTINUOUS STANDHYD   1.0 01:A1         2.50     .256 No_date   28:01   34.35 .755     .000
00720>        [XIMP=.68:TIMP=.85]
00721>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00722>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00723>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
00724>        [IaRECimp=   4.00: IaRECper=   4.00]
00725> R0002:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00726>     ROUTE RESERVOIR ->      1.0 02:A1         2.50     .256 No_date   28:01   34.35  n/a     .000
00727>                   out <=    1.0 01:A1-STR     2.50     .048 No_date   28:35   34.35  n/a     .000
00728>                overflow <=   1.0 03:A1-OVF      .00     .000 No_date    0:00     .00  n/a     .000
00729>        {MxStoUsed=.4261E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
00730> R0002:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00731>     CONTINUOUS STANDHYD   1.0 01:ST-2         .59     .044 No_date   28:00   25.32 .556     .000
00732>        [XIMP=.46:TIMP=.57]
00733>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00734>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
00735>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
00736>        [IaRECimp=   4.00: IaRECper=   4.00]
00737> R0002:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00738>     ROUTE RESERVOIR ->      1.0 02:ST-2          .59     .044 No_date   28:00   25.32  n/a     .000
00739>                   out <=    1.0 01:ST2STR        .59     .041 No_date   28:02   25.32  n/a     .000
00740>                overflow <=   1.0 03:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
00741>        {MxStoUsed=.7924E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
00742> R0002:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00743>     CONTINUOUS NASHYD     1.0 01:O-8         60.55     .405 No_date   29:05   12.46 .274     .000
00744>        [CN= 69.0: N= 3.00: Tp= 1.00]
00745>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
00746>        [InterEventTime=  12.00]
00747> R0002:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00748>     ROUTE PIPE      ->      1.0 02:O-8         60.55     .405 No_date   29:05   12.46  n/a     .000
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00749>      [RDT= 1.00] out<-    1.0 01:08PIPE        60.55     .402 No_date   29:10   12.46  n/a     .000
00750>       [L/S/n=  335./ .100/.013]
00751>       {Vmax=   842:Dmax=   .265}
00752>       {HGTH= 1.20:WDTH= 1.80}
00753> R0002:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00754>     ADD HYD              1.0 02:DRAIN1        261.31    1.446 No_date   28:36    9.65  n/a     .000
00755>                    +     1.0 02:D1            1.17     .026 No_date   28:12   15.66  n/a     .000
00756>                    +     1.0 02:A1-STR        2.50     .048 No_date   28:35   34.35  n/a     .000
00757>                    +     1.0 02:A1-OVF         .00     .000 No_date    0:00     .00  n/a     .000
00758>                    +     1.0 02:ST2STR         .59     .041 No_date   28:02   25.32  n/a     .000
00759>                    +     1.0 02:ST2OVF         .00     .000 No_date    0:00     .00  n/a     .000
00760>                    +     1.0 02:D8PIPE       60.55     .402 No_date   29:10   12.46  n/a     .000
00761>                  SUM=    1.0 01:ST2-IN        326.12    1.834 No_date   28:39   10.41  n/a     .000
00762> R0002:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00763>     CONTINUOUS STANDHYD   1.0 01:A7            3.51     .348 No_date   28:02   34.35 .755     .000
00764>       [XIMP=.68:TIMP=.85]
00765>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00766>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00767>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 265.:MNI=.013:SCI=   .0]
00768>       [IaREcimp=   4.00: IaRECper=    4.00]
00769> R0002:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00770>     ROUTE RESERVOIR ->    1.0 02:A7            3.51     .348 No_date   28:02   34.35  n/a     .000
00771>                    out <=   1.0 01:A7-STR       3.51     .067 No_date   28:36   34.35  n/a     .000
00772>                overflow <=   1.0 03:A7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00773>     {MxStoUsed=.6002E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00774> R0002:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00775>     CONTINUOUS STANDHYD   1.0 01:ST-3            .71     .053 No_date   28:00   25.32 .556     .000
00776>       [XIMP=.46:TIMP=.57]
00777>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00778>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00779>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 119.:MNI=.013:SCI=   .0]
00780>       [IaREcimp=   4.00: IaRECper=    4.00]
00781> R0002:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00782>     ROUTE RESERVOIR ->    1.0 02:ST-3            .71     .053 No_date   28:00   25.32  n/a     .000
00783>                    out <=   1.0 01:ST3STR       .71     .050 No_date   28:02   25.32  n/a     .000
00784>                overflow <=   1.0 03:ST3OVF        .00     .000 No_date    0:00     .00  n/a     .000
00785>     {MxStoUsed=.7947E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00786> R0002:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00787>     ADD HYD              1.0 02:ST2-IN        326.12    1.834 No_date   28:39   10.41  n/a     .000
00788>                    +     1.0 02:A7-STR        3.51     .067 No_date   28:36   34.35  n/a     .000
00789>                    +     1.0 02:A7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
00790>                    +     1.0 02:ST3STR         .71     .050 No_date   28:02   25.32  n/a     .000
00791>                    +     1.0 02:ST3OVF         .00     .000 No_date    0:00     .00  n/a     .000
00792>                  SUM=    1.0 01:PT2ST3        330.34    1.912 No_date   28:38   10.70  n/a     .000
00793> R0002:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00794>     ROUTE CHANNEL    ->    1.0 02:PT2ST3        330.34    1.912 No_date   28:38   10.70  n/a     .000
00795>      [RDT= 1.00] out<-    1.0 01:DRAIN2        330.34    1.821 No_date   28:57   10.70  n/a     .000
00796>       [L/S/n=  592./ .230/.043]
00797>       {Vmax=  .681:Dmax=  .785}
00798> R0002:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00799>     CONTINUOUS NASHYD     1.0 01:D2            2.28     .021 No_date   29:07   15.66 .344     .000
00800>       [CN= 84.0: N= 3.00: Tp=  .99]
00801>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
00802>       [InterEventTime=  12.00]
00803> R0002:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00804>     CONTINUOUS STANDHYD   1.0 01:A17          12.04    1.030 No_date   28:04   34.35 .755     .000
00805>       [XIMP=.68:TIMP=.85]
00806>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00807>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00808>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 491.:MNI=.013:SCI=   .0]
00809>       [IaREcimp=   4.00: IaRECper=    4.00]
00810> R0002:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00811>     ROUTE RESERVOIR ->    1.0 02:A17           12.04    1.030 No_date   28:04   34.35  n/a     .000
00812>                    out <=   1.0 01:A17STR       12.04     .220 No_date   28:42   34.35  n/a     .000
00813>                overflow <=   1.0 03:A17OVF        .00     .000 No_date    0:00     .00  n/a     .000
00814>     {MxStoUsed=.2038E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00815> R0002:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00816>     CONTINUOUS STANDHYD   1.0 01:ST-4            .35     .027 No_date   28:00   25.32 .556     .000
00817>       [XIMP=.46:TIMP=.57]
00818>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00819>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00820>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=  84.:MNI=.013:SCI=   .0]
00821>       [IaREcimp=   4.00: IaRECper=    4.00]
00822> R0002:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00823>     ROUTE RESERVOIR ->    1.0 02:ST-4            .35     .027 No_date   28:00   25.32  n/a     .000
00824>                    out <=   1.0 01:ST4STR       .35     .023 No_date   28:03   25.32  n/a     .000
00825>                overflow <=   1.0 03:ST4OVF        .00     .000 No_date    0:00     .00  n/a     .000
00826>     {MxStoUsed=.7487E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00827> R0002:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00828>     CONTINUOUS STANDHYD   1.0 01:A18           5.30     .500 No_date   28:03   34.35 .755     .000
00829>       [XIMP=.68:TIMP=.85]
00830>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00831>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00832>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 326.:MNI=.013:SCI=   .0]
00833>       [IaREcimp=   4.00: IaRECper=    4.00]
00834> R0002:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00835>     ROUTE RESERVOIR ->    1.0 02:A18           5.30     .500 No_date   28:03   34.35  n/a     .000
00836>                    out <=   1.0 01:A18STR       5.30     .099 No_date   28:38   34.35  n/a     .000
00837>                overflow <=   1.0 03:A18OVF        .00     .000 No_date    0:00     .00  n/a     .000
00838>     {MxStoUsed=.9042E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00839> R0002:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00840>     ADD HYD              1.0 02:DRAIN2        330.34    1.821 No_date   28:57   10.70  n/a     .000
00841>                    +     1.0 02:D2            2.28     .021 No_date   29:07   15.66  n/a     .000
00842>                    +     1.0 02:A17STR       12.04     .220 No_date   28:42   34.35  n/a     .000
00843>                    +     1.0 02:A17OVF         .00     .000 No_date    0:00     .00  n/a     .000
00844>                    +     1.0 02:ST4STR         .35     .023 No_date   28:03   25.32  n/a     .000
00845>                    +     1.0 02:ST4OVF         .00     .000 No_date    0:00     .00  n/a     .000
00846>                    +     1.0 02:A18STR        5.30     .099 No_date   28:38   34.35  n/a     .000
00847>                    +     1.0 02:A18OVF         .00     .000 No_date    0:00     .00  n/a     .000
00848>                  SUM=    1.0 01:PT3ST4        350.31    2.146 No_date   28:54   11.92  n/a     .000
00849> R0002:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00850>     ROUTE CHANNEL    ->    1.0 02:PT3ST4        350.31    2.146 No_date   28:54   11.92  n/a     .000
00851>      [RDT= 1.00] out<-    1.0 01:DRAIN3        350.31    2.088 No_date   29:08   11.92  n/a     .000
00852>       [L/S/n=  525./ .230/.043]
00853>       {Vmax=  .707:Dmax=  .833}
00854> R0002:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00855>     CONTINUOUS NASHYD     1.0 01:D3            2.51     .033 No_date   28:46   17.40 .382     .000
00856>       [CN= 86.0: N= 3.00: Tp=  .73]
00857>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
00858>       [InterEventTime=  12.00]
00859> R0002:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00860>     CONTINUOUS STANDHYD   1.0 01:C1            3.41     .339 No_date   28:02   34.35 .755     .000
00861>       [XIMP=.68:TIMP=.85]
00862>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00863>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00864>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 261.:MNI=.013:SCI=   .0]
00865>       [IaREcimp=   4.00: IaRECper=    4.00]
00866> R0002:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00867>     ROUTE RESERVOIR ->    1.0 02:C1            3.41     .339 No_date   28:02   34.35  n/a     .000
00868>                    out <=   1.0 01:C1-STR       3.41     .065 No_date   28:36   34.35  n/a     .000
00869>                overflow <=   1.0 03:C1-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00870>     {MxStoUsed=.5806E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00871> R0002:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00872>     CONTINUOUS STANDHYD   1.0 01:ST-5            .45     .034 No_date   28:00   25.32 .556     .000
00873>       [XIMP=.46:TIMP=.57]
00874>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00875>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00876>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=  95.:MNI=.013:SCI=   .0]
00877>       [IaREcimp=   4.00: IaRECper=    4.00]
00878> R0002:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00879>     ROUTE RESERVOIR ->    1.0 02:ST-5            .45     .034 No_date   28:00   25.32  n/a     .000
00880>                    out <=   1.0 01:ST5STR       .45     .031 No_date   28:03   25.32  n/a     .000
00881>                overflow <=   1.0 03:ST5OVF        .00     .000 No_date    0:00     .00  n/a     .000
00882>     {MxStoUsed=.7003E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00883> R0002:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00884>     ADD HYD              1.0 02:DRAIN3        350.31    2.088 No_date   29:08   11.92  n/a     .000
00885>                    +     1.0 02:D3            2.51     .033 No_date   28:46   17.40  n/a     .000
00886>                    +     1.0 02:C1-STR        3.41     .065 No_date   28:36   34.35  n/a     .000
00887>                    +     1.0 02:C1-OVF         .00     .000 No_date    0:00     .00  n/a     .000
00888>                    +     1.0 02:ST5STR         .45     .031 No_date   28:03   25.32  n/a     .000
00889>                    +     1.0 02:ST5OVF         .00     .000 No_date    0:00     .00  n/a     .000
00890>                  SUM=    1.0 01:ST5-E         356.68    2.174 No_date   29:07   12.19  n/a     .000
00891> R0002:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00892>     CONTINUOUS STANDHYD   1.0 01:STRAND         7.59     .471 No_date   28:13   33.47 .735     .000
00893>       [XIMP=.64:TIMP=.85]
00894>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00895>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
00896>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=1230.:MNI=.013:SCI=   .0]
00897>       [IaREcimp=   4.00: IaRECper=    4.00]
00898> R0002:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00899>     ROUTE RESERVOIR ->    1.0 02:STRAND         7.59     .471 No_date   28:13   33.47  n/a     .000
00900>                    out <=   1.0 01:STRPOND      7.59     .032 No_date   30:14   33.47  n/a     .000
00901>                overflow <=   1.0 03:S-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00902>     {MxStoUsed=.1805E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00903> R0002:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00904>     ADD HYD              1.0 02:ST5-E         356.68    2.174 No_date   29:07   12.19  n/a     .000
00905>                    +     1.0 02:S-POND         7.59     .032 No_date   30:14   33.47  n/a     .000
00906>                    +     1.0 02:S-OVF          .00     .000 No_date    0:00     .00  n/a     .000
00907>                  SUM=    1.0 01:SSAOUT        364.27    2.204 No_date   29:07   12.63  n/a     .000
00908> R0002:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00909>     SAVE HYD             1.0 01:SSAOUT        364.27    2.204 No_date   29:07   12.63  n/a     .000
00910>       fname :SSAOUT.0002
00911>       remark:SSAOUT
00912> R0002:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00913>     CONTINUOUS STANDHYD   1.0 01:Area-A         66.75    3.902 No_date   28:13   32.66 .718     .000
00914>       [XIMP=.64:TIMP=.80]
00915>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00916>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00917>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=1155.:MNI=.013:SCI=   .0]
00918>       [IaREcimp=   4.00: IaRECper=    4.00]
00919> R0002:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00920>     SAVE HYD             1.0 01:Area-A         66.75    3.902 No_date   28:13   32.66  n/a     .000
00921>       fname :Area-A.0002
00922>       remark:SMWF-A Inflow
00923> R0002:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00924>     ROUTE RESERVOIR ->    1.0 02:Area-A         66.75    3.902 No_date   28:13   32.66  n/a     .000
00925>                    out <=   1.0 01:SWMF-A        66.75     .126 No_date   32:26   32.66  n/a     .000
00926>                overflow <=   1.0 03:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
00927>     {MxStoUsed=.1708E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00928> R0002:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00929>     SAVE HYD             1.0 01:SWMF-A         66.75     .126 No_date   32:26   32.66  n/a     .000
00930>       fname :SWMF-A.0002
00931>       remark:SMWF-A Outflow
00932> R0002:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00933>     ADD HYD              1.0 02:SSAOUT        364.27    2.204 No_date   29:07   12.63  n/a     .000
00934>                    +     1.0 02:SWMF-A         66.75     .126 No_date   32:26   32.66  n/a     .000
00935>                    +     1.0 02:SWMAOV         .00     .000 No_date    0:00     .00  n/a     .000

00936>                  SUM=    1.0 01:PT4ST5        431.02    2.323 No_date   29:07   15.73  n/a     .000
00937> R0002:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00938>     CONTINUOUS STANDHYD   1.0 01:C6            1.87     .196 No_date   28:01   34.35 .755     .000
00939>       [XIMP=.68:TIMP=.85]
00940>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00941>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00942>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 193.:MNI=.013:SCI=   .0]
00943>       [IaREcimp=   4.00: IaRECper=    4.00]
00944> R0002:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00945>     ROUTE RESERVOIR ->    1.0 02:C6            1.87     .196 No_date   28:01   34.35  n/a     .000
00946>                    out <=   1.0 01:C6-STR       1.87     .036 No_date   28:34   34.35  n/a     .000
00947>                overflow <=   1.0 03:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00948>     {MxStoUsed=.3218E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00949> R0002:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00950>     CONTINUOUS STANDHYD   1.0 01:C7            1.62     .171 No_date   28:01   34.35 .755     .000
00951>       [XIMP=.68:TIMP=.85]
00952>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00953>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00954>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI= 180.:MNI=.013:SCI=   .0]
00955>       [IaREcimp=   4.00: IaRECper=    4.00]
00956> R0002:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00957>     ROUTE RESERVOIR ->    1.0 02:C7            1.62     .171 No_date   28:01   34.35  n/a     .000
00958>                    out <=   1.0 01:C7-STR       1.62     .031 No_date   28:34   34.35  n/a     .000
00959>                overflow <=   1.0 03:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
00960>     {MxStoUsed=.2774E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00961> R0002:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00962>     CONTINUOUS STANDHYD   1.0 01:ST-6            .41     .031 No_date   28:00   25.32 .556     .000
00963>       [XIMP=.46:TIMP=.57]
00964>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00965>       [Pervious      area: IAper= 4.67:SLP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
00966>       [Impervious    area: IAimp= 1.57:SLPI=  .50:LGI=  91.:MNI=.013:SCI=   .0]
00967>       [IaREcimp=   4.00: IaRECper=    4.00]
00968> R0002:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00969>     ROUTE RESERVOIR ->    1.0 02:ST-6            .41     .031 No_date   28:00   25.32  n/a     .000
00970>                    out <=   1.0 01:ST6STR       .41     .028 No_date   28:03   25.32  n/a     .000
00971>                overflow <=   1.0 03:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
00972>     {MxStoUsed=.7725E-03  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
00973> R0002:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00974>     ADD HYD              1.0 02:PT5ST6        431.02    2.323 No_date   29:07   15.73  n/a     .000
00975>                    +     1.0 02:C6-STR        1.87     .036 No_date   28:34   34.35  n/a     .000
00976>                    +     1.0 02:C6-OVF         .00     .000 No_date    0:00     .00  n/a     .000
00977>                    +     1.0 02:C7-STR        1.62     .031 No_date   28:34   34.35  n/a     .000
00978>                    +     1.0 02:C7-OVF         .00     .000 No_date    0:00     .00  n/a     .000
00979>                    +     1.0 02:ST6STR         .41     .028 No_date   28:03   25.32  n/a     .000
00980>                    +     1.0 02:ST6OVF         .00     .000 No_date    0:00     .00  n/a     .000
00981>                  SUM=    1.0 01:PT5ST6        434.92    2.379 No_date   29:06   15.89  n/a     .000
00982> R0002:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00983>     ROUTE CHANNEL    ->    1.0 02:PT5ST6        434.92    2.379 No_date   29:06   15.89  n/a     .000
00984>      [RDT= 1.00] out<-    1.0 01:DRAIN4        434.92    2.319 No_date   29:17   15.89  n/a     .000
00985>       [L/S/n=  324./ .100/.043]
00986>       {Vmax=  .532:Dmax=  1.041}
00987> R0002:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00988>     CONTINUOUS NASHYD     1.0 01:D4            1.73     .030 No_date   28:36   18.93 .416     .000
00989>       [CN= 88.0: N= 3.00: Tp=  .49]
00990>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
00991>       [InterEventTime=  12.00]
00992> R0002:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
00993>     CONTINUOUS STANDHYD   1.0 01:Area-B         24.04    2.028 No_date   28:04   31.71 .697     .000
00994>       [XIMP=.62:TIMP=.77]
00995>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
00996>       [Pervious      area: IAper= 4.67:SLP=14.40:LGP=  50.:MNP=.250:SCP=   .0]
00997>       [Impervious    area: IAimp= 1.57:SLPI=14.40:LGI= 693.:MNI=.013:SCI=   .0]
00998>       [IaREcimp=   4.00: IaRECper=    4.00]
00999> R0002:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01000>     ROUTE RESERVOIR ->    1.0 02:Area-B         24.04    2.028 No_date   28:04   31.71  n/a     .000
01001>                    out <=   1.0 01:SWMF-B        24.04     .169 No_date   29:09   31.71  n/a     .000
01002>                overflow <=   1.0 03:SWMBOVF        .00     .000 No_date    0:00     .00  n/a     .000
01003>     {MxStoUsed=.4926E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01004> R0002:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01005>     ADD HYD              1.0 02:DRAIN4        434.92    2.319 No_date   29:17   15.89  n/a     .000
01006>                    +     1.0 02:D4            1.73     .030 No_date   28:36   18.93  n/a     .000
01007>                    +     1.0 02:SWMF-B        24.04     .169 No_date   29:09   31.71  n/a     .000
01008>                    +     1.0 02:SWMBOVF        .00     .000 No_date    0:00     .00  n/a     .000
01009>                  SUM=    1.0 01:D4-EX         460.69    2.507 No_date   29:17   16.73  n/a     .000
01010> R0002:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01011>     ROUTE CHANNEL    ->    1.0 02:D4-EX         460.69    2.507 No_date   29:17   16.73  n/a     .000
01012>      [RDT= 1.00] out<-    1.0 01:DRAIN5        460.69    2.448 No_date   29:30   16.73  n/a     .000
01013>       [L/S/n=  413./ .160/.033]
01014>       {Vmax=  .501:Dmax=  .708}
01015> R0002:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01016>     CONTINUOUS NASHYD     1.0 01:D5            1.90     .026 No_date   28:43   17.40 .382     .000
01017>       [CN= 86.0: N= 3.00: Tp=  .69]
01018>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
01019>       [InterEventTime=  12.00]
01020> R0002:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01021>     CONTINUOUS NASHYD     1.0 01:D-13SDF       9.74     .182 No_date   28:22   16.95 .372     .000
01022>       [CN= 81.0: N= 3.00: Tp=  .43]
01023>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
01024>       [InterEventTime=  12.00]
01025> R0002:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01026>     ROUTE RESERVOIR ->    1.0 02:D-13SDF       9.74     .182 No_date   28:22   16.95  n/a     .000
01027>                    out <=   1.0 01:D13SDF       9.74     .021 No_date   32:19   16.95  n/a     .000
01028>                overflow <=   1.0 03:OVFSDF        .00     .000 No_date    0:00     .00  n/a     .000
01029>     {MxStoUsed=.8320E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01030> R0002:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01031>     ADD HYD              1.0 02:DRAIN5        460.69    2.448 No_date   29:30   16.73  n/a     .000
01032>                    +     1.0 02:D5            1.90     .026 No_date   28:43   17.40  n/a     .000
01033>                    +     1.0 02:D13SDF        9.74     .021 No_date   32:19   16.95  n/a     .000
01034>                  SUM=    1.0 01:PT6MC         472.33    2.484 No_date   29:30   16.73  n/a     .000
01035> R0002:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01036>     CONTINUOUS NASHYD     1.0 01:D-15          10.67     .230 No_date   28:14   15.77 .347     .000
01037>       [CN= 82.0: N= 3.00: Tp=  .30]
01038>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
01039>       [InterEventTime=  12.00]
01040> R0002:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01041>     ADD HYD              1.0 02:PT6MC         472.33    2.484 No_date   29:30   16.73  n/a     .000
01042>                    +     1.0 02:D-15          10.67     .230 No_date   28:14   15.77  n/a     .000
01043>                  SUM=    1.0 01:M-C           483.00    2.528 No_date   29:29   16.71  n/a     .000
01044> R0002:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01045>     ROUTE CHANNEL    ->    1.0 02:M-C           483.00    2.528 No_date   29:29   16.71  n/a     .000
01046>      [RDT= 1.00] out<-    1.0 01:O-14Ch        483.00    2.419 No_date   29:44   16.71  n/a     .000
01047>       [L/S/n=  845./ .100/.033]
01048>       {Vmax=  .756:Dmax=  1.160}
01049> R0002:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01050>     CONTINUOUS NASHYD     1.0 01:O-14          5.00     .181 No_date   28:04   15.77 .347     .000
01051>       [CN= 82.0: N= 3.00: Tp=  .13]
01052>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
01053>       [InterEventTime=  12.00]
01054> R0002:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01055>     ADD HYD              1.0 02:O-14Ch        483.00    2.419 No_date   29:44   16.71  n/a     .000
01056>                    +     1.0 02:O-14          5.00     .181 No_date   28:04   15.77  n/a     .000
01057>                  SUM=    1.0 01:OKEEFE        488.00    2.434 No_date   29:44   16.70  n/a     .000
01058> #*************************************************************************
01059> #    Okeefe Pond
01060> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01061> #      and a ratio of the catchment area to the West Clarke pond rating curve
01062> #      from the MSS for the next coordinates
01063> #*************************************************************************
01064> R0002:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01065>     CONTINUOUS STANDHYD   1.0 01:S-1-D2          18.67    1.588 No_date   28:02   32.20 .707     .000
01066>       [XIMP=.65:TIMP=.65]
01067>       [LOSS= 2 :CN= 75.0]
01068>       [Pervious      area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01069>       [Impervious    area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
01070>       [IaREcimp=   4.00: IaRECper=    4.00]
01071>       [SMIN= 33.81: SMAX=225.43: SK= .010]
01072> R0002:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01073>     COMPUTE DUALHYD       1.0 01:S-1-D2        18.67    1.588 No_date   28:02   32.20  n/a     .000
01074>       Major System    /     1.0 02:S-1-D2J        .00     .000 No_date    0:00     .00  n/a     .000
01075>       Minor System    \     1.0 03:S-1-D2R      18.67    1.588 No_date   28:02   32.20  n/a     .000
01076>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01077> R0002:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01078>     ADD HYD              1.0 02:S-1-D2J        .00     .000 No_date    0:00     .00  n/a     .000
01079>                    +     1.0 02:S-1-D2N       18.67    1.588 No_date   28:02   32.20  n/a     .000
01080>                  SUM=    1.0 01:S-1-D2S       18.67    1.588 No_date   28:02   32.20  
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01123> #
01124> R0002:C00157-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01125>      ROUTE CHANNEL    ->     1.0 02:SN_OK      53577.82   47.629 No_date   34:57   12.82  n/a     .000
01126>       [RDT= 1.00] out<-     1.0 01:N_FO       53577.82   47.599 No_date   35:11   12.82  n/a     .000
01127>         [L/S/n= 1183./ .076/.035]
01128>         [Vmax=   .919:Dmax=  2.264]
01129> #*************************************************************************
01130> #    Catchment FOSTER
01131> #    - To Foster ditch (north of the Jock)
01132> #    - Partially developed (medium density); remaining agricultural
01133> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
01134> #    - 2020-12-01 decrease HA) to (307.98 HA) after increasing Okeefe drainage area to (5
01135> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
01136> #*************************************************************************
01137> R0002:C00158-----------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01138>      CONTINUOUS STANDHYD   1.0 01:FOSTER      325.44   13.697 No_date   28:15   28.56 .628     .000
01139>        [XIMP=.55:TIMP=.55]
01140>        [LOSS= 2 :CN= 74.0]
01141>        [Pervious   area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01142>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1473.:MNI=.013:SCI=   .0]
01143>        [IaRECimp=   4.00: IaRECper=   4.00]
01144>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01145> #*************************************************************************
01146> #    Foster Pond
01147> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
01148> #      and a ratio of the catchment area to the West Clarke pond rating curve
01149> #      from the MSS for the next coordinates
01150> #*************************************************************************
01151> R0002:C00159-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01152>      ROUTE RESERVOIR ->     1.0 02:FOSTER      325.44   13.697 No_date   28:15   28.56 .628     .000
01153>                  out <=     1.0 01:P_FOS       325.44    3.894 No_date   29:12   28.56  n/a     .000
01154>              overflow <=    1.0 03:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
01155>      {MxStoUsed=.3793E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01156> R0002:C00160-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01157>      ADD HYD              1.0 02:P_FOS       325.44    3.894 No_date   29:12   28.56  n/a     .000
01158>                       +   1.0 02:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
01159>                     SUM=  1.0 01:FOSTER-OUT  325.44    3.894 No_date   29:12   28.56  n/a     .000
01160> #*************************************************************************
01161> R0002:C00161-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01162>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29    4.584 No_date   28:07   31.34 .689     .000
01163>        [XIMP=.60:TIMP=.65]
01164>        [LOSS= 2 :CN= 77.0]
01165>        [Pervious   area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
01166>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 699.:MNI=.013:SCI=   .0]
01167>        [IaRECimp=   4.00: IaRECper=   4.00]
01168>        [SMIN= 31.15: SMAX=207.66: SK= .010]
01169> R0002:C00162-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01170>      ROUTE RESERVOIR ->     1.0 01:W_CLAR_BRA     73.29    4.584 No_date   28:07   31.34  n/a     .000
01171>                  out <=     1.0 01:MS_P10         73.29    1.033 No_date   28:50   31.34  n/a     .000
01172>              overflow <=    1.0 03:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
01173>      {MxStoUsed=.1433E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01174> R0002:C00163-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01175>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2     4.94     .383 No_date   28:01   28.56 .628     .000
01176>        [XIMP=.55:TIMP=.55]
01177>        [LOSS= 2 :CN= 74.0]
01178>        [Pervious   area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01179>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 181.:MNI=.013:SCI=   .0]
01180>        [IaRECimp=   4.00: IaRECper=   4.00]
01181>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01182> R0002:C00164-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01183>      COMPUTE DUALHYD       1.0 01:S-1-FO-D2     4.94     .383 No_date   28:01   28.56  n/a     .000
01184>        Major System   /    1.0 02:S-1-FO-D2J       .00     .000 No_date    0:00     .00  n/a     .000
01185>        Minor System   \    1.0 03:S-1-FO-D2N      4.94     .383 No_date   28:01   28.56  n/a     .000
01186>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01187> R0002:C00165-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01188>      ADD HYD              1.0 02:S-1-FO-D2J       .00     .000 No_date    0:00     .00  n/a     .000
01189>                       +   1.0 02:S-1-FO-D2N      4.94     .383 No_date   28:01   28.56  n/a     .000
01190>                     SUM=  1.0 01:S-1-FO-D2S      4.94     .383 No_date   28:01   28.56  n/a     .000
01191> R0002:C00166-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01192>      ROUTE RESERVOIR ->     1.0 02:S-1-FO-D2S      4.94     .383 No_date   28:01   28.56  n/a     .000
01193>                  out <=     1.0 01:S-1-FO-D2R      4.94     .025 No_date   29:35   28.56  n/a     .000
01194>              overflow <=    1.0 03:S-1FOD2ovf        .00     .000 No_date    0:00     .00  n/a     .000
01195>      {MxStoUsed=.8417E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01196> R0002:C00167-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01197>      ADD HYD              1.0 02:FOSTER-OUT  325.44    3.894 No_date   29:12   28.56  n/a     .000
01198>                       +   1.0 02:S-1-FO-D2R      4.94     .025 No_date   29:35   28.56  n/a     .000
01199>                       +   1.0 02:S-1FOD2ovf       .00     .000 No_date    0:00     .00  n/a     .000
01200>                     SUM=  1.0 01:980           330.38    3.919 No_date   29:12   28.56  n/a     .000
01201> R0002:C00168-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01202>      SAVE HYD             1.0 01:980           330.38    3.919 No_date   29:12   28.56  n/a     .000
01203>        fname :980.0002
01204>        remark:Total Flows at Station 980 on Foster Drain
01205> #
01206> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
01207> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
01208> #
01209> R0002:C00169-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01210>      ROUTE CHANNEL    ->     1.0 02:980           330.38    3.919 No_date   29:12   28.56  n/a     .000
01211>       [RDT= 1.00] out<-     1.0 01:980-out       330.38    3.791 No_date   29:25   28.56  n/a     .000
01212>         [L/S/n=  460./ .043/.035]
01213>         [Vmax=  .544:Dmax= 1.092]
01214> R0002:C00170-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01215>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1      5.11     .460 No_date   28:01   31.98 .703     .000
01216>        [XIMP=.65:TIMP=.65]
01217>        [LOSS= 2 :CN= 74.0]
01218>        [Pervious   area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01219>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 185.:MNI=.013:SCI=   .0]
01220>        [IaRECimp=   4.00: IaRECper=   4.00]
01221>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01222> R0002:C00171-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01223>      COMPUTE DUALHYD       1.0 01:S-1-FO-D1      5.11     .460 No_date   28:01   31.98  n/a     .000
01224>        Major System   /    1.0 02:S-1-FO-D1J       .00     .000 No_date    0:00     .00  n/a     .000
01225>        Minor System   \    1.0 03:S-1-FO-D1N      5.11     .460 No_date   28:01   31.98  n/a     .000
01226>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01227> R0002:C00172-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01228>      ADD HYD              1.0 02:S-1-FO-D1N      5.11     .460 No_date   28:01   31.98  n/a     .000
01229>                       +   1.0 02:S-1-FO-D1J       .00     .000 No_date    0:00     .00  n/a     .000
01230>                     SUM=  1.0 01:S-1-FO-D1S      5.11     .460 No_date   28:01   31.98  n/a     .000
01231> R0002:C00173-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01232>      ROUTE RESERVOIR ->     1.0 02:S-1-FO-D1S      5.11     .460 No_date   28:01   31.98  n/a     .000
01233>                  out <=     1.0 01:S-1-FO-D1R      5.11     .029 No_date   29:30   31.98  n/a     .000
01234>              overflow <=    1.0 03:S-1FOD1ovf        .00     .000 No_date    0:00     .00  n/a     .000
01235>      {MxStoUsed=.3836E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01236> R0002:C00174-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01237>      ADD HYD              1.0 02:980-out       330.38    3.791 No_date   29:25   28.56  n/a     .000
01238>                       +   1.0 02:S-1-FO-D1R      5.11     .029 No_date   29:30   31.98  n/a     .000
01239>                       +   1.0 02:S-1FOD1ovf        .00     .000 No_date    0:00     .00  n/a     .000
01240>                     SUM=  1.0 01:520           335.49    3.820 No_date   29:25   28.61  n/a     .000
01241> R0002:C00175-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01242>      SAVE HYD             1.0 01:520           335.49    3.820 No_date   29:25   28.61  n/a     .000
01243>        fname :520.0002
01244>        remark:Total Flows at Sation 520 on Foster Drain
01245> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
01246> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
01247> #
01248> R0002:C00176-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01249>      ROUTE CHANNEL    ->     1.0 02:520           335.49    3.820 No_date   29:25   28.61  n/a     .000
01250>       [RDT= 1.00] out<-     1.0 01:520-out       335.49    3.787 No_date   29:32   28.61  n/a     .000
01251>         [L/S/n=  860./ .587/.035]
01252>         [Vmax= 1.196:Dmax=  .520]
01253> R0002:C00177-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01254>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D     14.96    1.215 No_date   28:02   31.98 .703     .000
01255>        [XIMP=.65:TIMP=.65]
01256>        [LOSS= 2 :CN= 74.0]
01257>        [Pervious   area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
01258>        [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 316.:MNI=.013:SCI=   .0]
01259>        [IaRECimp=   4.00: IaRECper=   4.00]
01260>        [SMIN= 36.67: SMAX=244.49: SK= .010]
01261> R0002:C00178-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01262>      COMPUTE DUALHYD       1.0 01:S-1-FO-F-D     14.96    1.215 No_date   28:02   31.98  n/a     .000
01263>        Major System   /    1.0 02:S-1FO-F-DJ       .00     .000 No_date    0:00     .00  n/a     .000
01264>        Minor System   \    1.0 03:S-1FO-F-DN      14.96    1.215 No_date   28:02   31.98  n/a     .000
01265>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01266> R0002:C00179-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01267>      ADD HYD              1.0 02:S-1FO-F-DJ       .00     .000 No_date    0:00     .00  n/a     .000
01268>                       +   1.0 02:S-1FO-F-DN      14.96    1.215 No_date   28:02   31.98  n/a     .000
01269>                     SUM=  1.0 01:S-1FO-F-DS      14.96    1.215 No_date   28:02   31.98  n/a     .000
01270> R0002:C00180-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01271>      ROUTE RESERVOIR ->     1.0 02:S-1FO-F-DS      14.96    1.215 No_date   28:02   31.98  n/a     .000
01272>                  out <=     1.0 01:S-1FO-F-DR      14.96     .086 No_date   29:33   31.98  n/a     .000
01273>              overflow <=    1.0 03:S-1FoFDovf        .00     .000 No_date    0:00     .00  n/a     .000
01274>      {MxStoUsed=.2877E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01275> R0002:C00181-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01276>      CONTINUOUS STANDHYD   1.0 01:S-1-D8         5.27     .475 No_date   28:02   23.32 .512     .000
01277>        [XIMP=.32:TIMP=.65]
01278>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
01279>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01280>        [Impervious  area: IAimp= .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
01281>        [IaRECimp=   4.00: IaRECper=   4.00]
01282> R0002:C00182-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01283>      COMPUTE DUALHYD       1.0 01:S-1-D8         5.27     .475 No_date   28:02   23.32  n/a     .000
01284>        Major System   /    1.0 02:S-1-D8J          .00     .000 No_date    0:00     .00  n/a     .000
01285>        Minor System   \    1.0 03:S-1-D8N         5.27     .475 No_date   28:02   23.32  n/a     .000
01286>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01287> R0002:C00183-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01288>      ADD HYD              1.0 02:S-1-D8J          .00     .000 No_date    0:00     .00  n/a     .000
01289>                       +   1.0 02:S-1-D8N         5.27     .475 No_date   28:02   23.32  n/a     .000
01290>                     SUM=  1.0 01:S-1-D8S         5.27     .475 No_date   28:02   23.32  n/a     .000
01291> R0002:C00184-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01292>      ROUTE RESERVOIR ->     1.0 02:S-1-D8S         5.27     .475 No_date   28:02   23.32  n/a     .000
01293>                  out <=     1.0 01:S-1-D8R         5.27     .027 No_date   28:51   23.32  n/a     .000
01294>              overflow <=    1.0 03:S-1-D8Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01295>      {MxStoUsed=.8901E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01296> R0002:C00185-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01297>      CONTINUOUS NASHYD     1.0 01:S-1-A          75.88     .912 No_date   28:37   14.83 .326     .000
01298>        [CN= 77.0: N= 3.00: Tp=  .62]
01299>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01300>        [InterEventTime=  12.00]
01301> R0002:C00186-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01302>      CONTINUOUS NASHYD     1.0 01:W_CLAR_UND     35.65     .286 No_date   29:12   14.83 .326     .000
01303>        [CN= 77.0: N= 3.00: Tp= 1.10]
01304>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01305>        [InterEventTime=  12.00]
01306> R0002:C00187-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01307>      ADD HYD              1.0 02:N_FO        53577.82   47.599 No_date   35:11   12.82  n/a     .000
01308>                       +   1.0 02:520-out      335.49    3.787 No_date   29:32   28.61  n/a     .000
01309>                       +   1.0 02:MS_P10         73.29    1.033 No_date   28:50   31.34  n/a     .000
01310>                       +   1.0 02:P10-OVF          .00     .000 No_date    0:00     .00  n/a     .000
01311>                       +   1.0 02:W_CLAR_UND     35.65     .286 No_date   29:12   14.83  n/a     .000
01312>                       +   1.0 02:S-1FOFDOvf        .00     .000 No_date    0:00     .00  n/a     .000
01313>                       +   1.0 02:S-1FO-F-DR      14.96    .086 No_date   29:33   31.98  n/a     .000
01314>                       +   1.0 02:S-1-D8Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01315>                       +   1.0 02:S-1-D8R          5.27     .027 No_date   28:51   23.32  n/a     .000
01316>                       +   1.0 02:S-1-A           75.88     .912 No_date   28:37   14.83  n/a     .000
01317>                     SUM=  1.0 01:SN_FO       54118.36   49.278 No_date   34:33   12.96  n/a     .000
01318> R0002:C00188-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01319>      SAVE HYD             1.0 01:SN_FO       54118.36   49.278 No_date   34:33   12.96  n/a     .000
01320>        fname :SN_FO.0002
01321>        remark:Total Flows at Foster Drain
01322> # Hydrograph from Node Foster routed to Node at Cedarview Road
01323> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
01324> #
01325> R0002:C00189-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01326>      ROUTE CHANNEL    ->     1.0 02:SN_FO       54118.36   49.278 No_date   34:33   12.96  n/a     .000
01327> *    [RDT= 1.00] out<-     1.0 01:N_CE        54118.36   49.269 No_date   34:41   12.96  n/a     .000
01328>         [L/S/n=  159./ .082/.035]
01329>         [Vmax= 1.115:Dmax= 2.629]
01330> #*************************************************************************
01331> #    Catchment S-1
01332> #    - To Jock River (north and south of Jock)
01333> #    - Primarily agricultural fields; portion of sand quarry
01334> #*************************************************************************
01335> R0002:C00190-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01336>      CONTINUOUS NASHYD     1.0 01:S-1-B          55.36     .825 No_date   28:24   14.83 .326     .000
01337>        [CN= 77.0: N= 3.00: Tp=  .45]
01338>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
01339>        [InterEventTime=  12.00]
01340> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
01341> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
01342> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
01343> R0002:C00191-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01344>      CONTINUOUS STANDHYD   1.0 01:S-1-D1         21.67    1.802 No_date   28:02   32.20 .707     .000
01345>        [XIMP=.65:TIMP=.65]
01346>        [LOSS= 2 :CN= 75.0]
01347>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01348>        [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 380.:MNI=.013:SCI=   .0]
01349>        [IaRECimp=   4.00: IaRECper=   4.00]
01350>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01351> R0002:C00192-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01352>      COMPUTE DUALHYD       1.0 01:S-1-D1         21.67    1.802 No_date   28:02   32.20  n/a     .000
01353>        Major System   /    1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
01354>        Minor System   \    1.0 03:S-1-D1N        21.67    1.802 No_date   28:02   32.20  n/a     .000
01355>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01356> R0002:C00193-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01357>      ADD HYD              1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
01358>                       +   1.0 02:S-1-D1N        21.67    1.802 No_date   28:02   32.20  n/a     .000
01359>                     SUM=  1.0 01:S-1-D1S        21.67    1.802 No_date   28:02   32.20  n/a     .000
01360> R0002:C00194-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01361>      ROUTE RESERVOIR ->     1.0 02:S-1-D1S        21.67    1.802 No_date   28:02   32.20  n/a     .000
01362>                  out <=     1.0 01:S-1-D1R        21.67     .126 No_date   29:27   32.20  n/a     .000
01363>              overflow <=    1.0 03:S-1-D1Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01364>      {MxStoUsed=.4209E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01365> R0002:C00195-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01366>      CONTINUOUS STANDHYD   1.0 01:S-1-D4          3.28     .322 No_date   28:00   32.20 .707     .000
01367>        [XIMP=.65:TIMP=.65]
01368>        [LOSS= 2 :CN= 75.0]
01369>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01370>        [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 148.:MNI=.013:SCI=   .0]
01371>        [IaRECimp=   4.00: IaRECper=   4.00]
01372>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01373> R0002:C00196-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01374>      COMPUTE DUALHYD       1.0 01:S-1-D4          3.28     .322 No_date   28:00   32.20  n/a     .000
01375>        Major System   /    1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
01376>        Minor System   \    1.0 03:S-1-D4N         3.28     .322 No_date   28:00   32.20  n/a     .000
01377>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01378> R0002:C00197-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01379>      ADD HYD              1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
01380>                       +   1.0 02:S-1-D4N         3.28     .322 No_date   28:00   32.20  n/a     .000
01381>                     SUM=  1.0 01:S-1-D4S         3.28     .322 No_date   28:00   32.20  n/a     .000
01382> R0002:C00198-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01383>      ROUTE RESERVOIR ->     1.0 02:S-1-D4S         3.28     .322 No_date   28:00   32.20  n/a     .000
01384>                  out <=     1.0 01:S-1-D4R         3.28     .019 No_date   29:16   32.20  n/a     .000
01385>              overflow <=    1.0 03:S-1-D4Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01386>      {MxStoUsed=.6378E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01387> R0002:C00199-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01388>      CONTINUOUS STANDHYD   1.0 01:S-1-D5         12.84    1.124 No_date   28:02   32.20 .707     .000
01389>        [XIMP=.65:TIMP=.65]
01390>        [LOSS= 2 :CN= 75.0]
01391>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01392>        [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 293.:MNI=.013:SCI=   .0]
01393>        [IaRECimp=   4.00: IaRECper=   4.00]
01394>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01395> R0002:C00200-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01396>      COMPUTE DUALHYD       1.0 01:S-1-D5         12.84    1.124 No_date   28:02   32.20  n/a     .000
01397>        Major System   /    1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
01398>        Minor System   \    1.0 03:S-1-D5N        12.84    1.124 No_date   28:02   32.20  n/a     .000
01399>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01400> R0002:C00201-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01401>      ADD HYD              1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
01402>                       +   1.0 02:S-1-D5N        12.84    1.124 No_date   28:02   32.20  n/a     .000
01403>                     SUM=  1.0 01:S-1-D5S        12.84    1.124 No_date   28:02   32.20  n/a     .000
01404> R0002:C00202-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01405>      ROUTE RESERVOIR ->     1.0 02:S-1-D5S        12.84    1.124 No_date   28:02   32.20  n/a     .000
01406>                  out <=     1.0 01:S-1-D5R        12.84    .075 No_date   29:23   32.20  n/a     .000
01407>              overflow <=    1.0 03:S-1-D5Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01408>      {MxStoUsed=.2495E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01409> R0002:C00203-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01410>      CONTINUOUS STANDHYD   1.0 01:S-1-D6          1.75     .176 No_date   28:00   32.20 .707     .000
01411>        [XIMP=.65:TIMP=.65]
01412>        [LOSS= 2 :CN= 75.0]
01413>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01414>        [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 108.:MNI=.013:SCI=   .0]
01415>        [IaRECimp=   4.00: IaRECper=   4.00]
01416>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01417> R0002:C00204-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01418>      COMPUTE DUALHYD       1.0 01:S-1-D6          1.75     .176 No_date   28:00   32.20  n/a     .000
01419>        Major System   /    1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
01420>        Minor System   \    1.0 03:S-1-D6N         1.75     .176 No_date   28:00   32.20  n/a     .000
01421>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01422> R0002:C00205-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01423>      ADD HYD              1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
01424>                       +   1.0 02:S-1-D6N         1.75     .176 No_date   28:00   32.20  n/a     .000
01425>                     SUM=  1.0 01:S-1-D6S         1.75     .176 No_date   28:00   32.20  n/a     .000
01426> R0002:C00206-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01427>      ROUTE RESERVOIR ->     1.0 02:S-1-D6S         1.75     .176 No_date   28:00   32.20  n/a     .000
01428>                  out <=     1.0 01:S-1-D6R         1.75     .010 No_date   29:14   32.20  n/a     .000
01429>              overflow <=    1.0 03:S-1-D6Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01430>      {MxStoUsed=.3405E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01431> R0002:C00207-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01432>      CONTINUOUS STANDHYD   1.0 01:S-1-D7          2.03     .204 No_date   28:00   32.20 .707     .000
01433>        [XIMP=.65:TIMP=.65]
01434>        [LOSS= 2 :CN= 75.0]
01435>        [Pervious   area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
01436>        [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 116.:MNI=.013:SCI=   .0]
01437>        [IaRECimp=   4.00: IaRECper=   4.00]
01438>        [SMIN= 33.81: SMAX=225.43: SK= .010]
01439> R0002:C00208-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01440>      COMPUTE DUALHYD       1.0 01:S-1-D7          2.03     .204 No_date   28:00   32.20  n/a     .000
01441>        Major System   /    1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
01442>        Minor System   \    1.0 03:S-1-D7N         2.03     .204 No_date   28:00   32.20  n/a     .000
01443>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
01444> R0002:C00209-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01445>      ADD HYD              1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
01446>                       +   1.0 02:S-1-D7N         2.03     .204 No_date   28:00   32.20  n/a     .000
01447>                     SUM=  1.0 01:S-1-D7S         2.03     .204 No_date   28:00   32.20  n/a     .000
01448> R0002:C00210-----------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
01449>      ROUTE RESERVOIR ->     1.0 02:S-1-D7S         2.03     .204 No_date   28:00   32.20  n/a     .000
01450>                  out <=     1.0 01:S-1-D7R         2.03     .012 No_date   29:15   32.20  n/a     .000
01451>              overflow <=    1.0 03:S-1-D7Rovf        .00     .000 No_date    0:00     .00  n/a     .000
01452>      {MxStoUsed=.3948E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
01453> #    Catchment W_CLAR
01454> #    - To West Clarke Drain (south of the Jock)
01455> #    - Subdivision with 43% imp. as per Barrhaven South MSS
01456> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
01457> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
01458> #*************************************************************************
01459> R0002:C00211-----------DTmin-ID:
```

```
overflow <=    1.0 03:P2-OVF          .00     .000 No_date    0:00     .00  n/a    .000
  {MxStoUsed=.2096E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
#*************************************************************************
R0002:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:N_CE      54118.36   49.269 No_date   34:41   12.96  n/a    .000
                     +     1.0 02:S-1-D4R       3.28     .019 No_date   29:16   32.20  n/a    .000
                     +     1.0 02:S-1-D5R      12.84     .075 No_date   29:23   32.20  n/a    .000
                     +     1.0 02:S-1-D4Rovf      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:S-1-D5Rovf      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:MS_P2        119.40     .816 No_date   29:25   31.34  n/a    .000
                     +     1.0 02:P2-OVF          .00     .000 No_date    0:00     .00  n/a    .000
                   SUM=    1.0 01:SN_CE     54253.88   49.833 No_date   34:41   13.00  n/a    .000
R0002:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:SN_CE     54253.88   49.833 No_date   34:41   13.00  n/a    .000
       fname :SN_CE.0002
       remark:Total Flows before Station 5737 on Jock River
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
# 2021-02-25 add section 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\RVPJ\1474-16\Des
# JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
R0002:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:SN_CE     54253.88   49.833 No_date   34:41   13.00  n/a    .000
  *  [RDT= 1.00] out<-      1.0 01:5737      54253.88   48.535 No_date   37:45   13.00  n/a    .000
       [L/S/n=  270./ .018/.035]
       [Vmax=   .611:Dmax= 3.459]
R0002:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:5737      54253.88   48.535 No_date   37:45   13.00  n/a    .000
                     +     1.0 02:S-1-D1R      21.67     .126 No_date   29:27   32.20  n/a    .000
                     +     1.0 02:S-1-D6R       1.75     .010 No_date   29:14   32.20  n/a    .000
                     +     1.0 02:S-1-D7R       2.03     .012 No_date   29:15   32.20  n/a    .000
                     +     1.0 02:S-1-D1Rovf      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:S-1-D6Rovf      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:S-1-D7Rovf      .00     .000 No_date    0:00     .00  n/a    .000
                   SUM=    1.0 01:5002      54279.33   48.627 No_date   37:44   13.01  n/a    .000
R0002:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:5002      54279.33   48.627 No_date   37:44   13.01  n/a    .000
       fname :5002.0002
       remark:Total Flows before Station 5002 on Jock River
# Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
# JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
# JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
# JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
R0002:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:5002      54279.33   48.627 No_date   37:44   13.01  n/a    .000
       [RDT= 1.00] out<-      1.0 01:N_WCa     54279.33   48.684 No_date   37:20   13.01  n/a    .000
       [L/S/n=  245./ .095/.035]
       [Vmax=   .960:Dmax= 2.010]
R0002:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:N_WCa     54279.33   48.684 No_date   37:20   13.01  n/a    .000
       [RDT= 1.00] out<-      1.0 01:N_WCb     54279.33   48.709 No_date   37:36   13.01  n/a    .000
       [L/S/n=  245./ .095/.035]
       [Vmax=   .961:Dmax= 2.011]
R0002:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:N_WCb     54279.33   48.709 No_date   37:36   13.01  n/a    .000
       [RDT= 1.00] out<-      1.0 01:N_WC      54279.33   48.660 No_date   36:26   13.01  n/a    .000
       [L/S/n=  245./ .095/.035]
       [Vmax=   .961:Dmax= 2.011]
#*************************************************************************
# Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
#
R0002:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL    ->    1.0 02:N_WC      54279.33   48.660 No_date   36:26   13.01  n/a    .000
       [RDT= 1.00] out<-      1.0 01:N_KB      54279.33   48.613 No_date   37:48   13.01  n/a    .000
       [L/S/n= 1820./ .050/.035]
       [Vmax=   .848:Dmax= 2.423]
#*************************************************************************
#    Catchment KEN_BU
#    - To Kennedy-Burnett SWM Facility
#    - Outlets to Fraser-Clarke drain (north of the Jock)
#    - Medium density residential subdivision
#*************************************************************************
#    Existing Kennedy-Burnett SWM Facility
#    - Rating curve obtained from URTKBF
#    - Tributary Drainage Area to Pond = 160 ha
#*************************************************************************
R0002:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01A      40.82     1.627 No_date   28:18   14.35 .315    .000
       [XIMP=.10:TIMP=.40]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=  .50:LGI= 522.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01A      40.82     1.627 No_date   28:18   14.35  n/a    .000
       Major System   /     1.0 02:KB-01A-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-01A-MN     40.82     1.627 No_date   28:18   14.35  n/a    .000
       {MjSysSto=.0000E+00, MnSysSto=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01A-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-01A-MN     40.82     1.627 No_date   28:18   14.35  n/a    .000
                   SUM=    1.0 01:KB-01A-S      40.82     1.627 No_date   28:18   14.35  n/a    .000
R0002:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01B      31.10     1.062 No_date   28:08   16.28 .358    .000
       [XIMP=.19:TIMP=.38]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=  .42:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=  .42:LGI= 455.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01B      31.10     1.062 No_date   28:08   16.28  n/a    .000
       Major System   /     1.0 02:KB-01B-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-01B-MN     31.10     1.062 No_date   28:08   16.28  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01B-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-01B-MN     31.10     1.062 No_date   28:08   16.28  n/a    .000
                   SUM=    1.0 01:KB-01B-S      31.10     1.062 No_date   28:08   16.28  n/a    .000
R0002:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-01C      13.78      .776 No_date   28:06   17.09 .375    .000
       [XIMP=.20:TIMP=.41]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=  .50:LGI= 303.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-01C      13.78      .776 No_date   28:06   17.09  n/a    .000
       Major System   /     1.0 02:KB-01C-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-01C-MN     13.78      .776 No_date   28:06   17.09  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01C-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-01C-MN     13.78      .776 No_date   28:06   17.09  n/a    .000
                   SUM=    1.0 01:KB-01C-S      13.78      .776 No_date   28:06   17.09  n/a    .000
R0002:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-03       84.78     3.788 No_date   28:12   16.73 .368    .000
       [XIMP=.20:TIMP=.39]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=  .63:LGI= 752.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-03       84.78     3.788 No_date   28:12   16.73  n/a    .000
       Major System   /     1.0 02:KB-03-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-03-MN     84.78     3.788 No_date   28:12   16.73  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-03-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-03-MN     84.78     3.788 No_date   28:12   16.73  n/a    .000
                   SUM=    1.0 01:KB-03-S       84.78     3.788 No_date   28:12   16.73  n/a    .000
R0002:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-04        6.95      .792 No_date   28:01   30.80 .853    .000
       [XIMP=.85:TIMP=.85]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .94:SLPI=  .50:LGI= 215.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-04        6.95      .792 No_date   28:01   30.80  n/a    .000
       Major System   /     1.0 02:KB-04-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-04-MN      6.95      .503 No_date   27:53   39.02  n/a    .000
       {MjSysSto=.1541E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-04-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-04-MN      6.95      .503 No_date   27:53   39.02  n/a    .000
                   SUM=    1.0 01:KB-04-S       6.95      .503 No_date   27:53   39.02  n/a    .000
R0002:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-05        5.19      .653 No_date   28:01   41.29 .907    .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=1.57:SLPI=  .50:LGI= 186.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-06       12.93     1.683 No_date   28:00   39.68 .872    .000
       [XIMP=.87:TIMP=.87]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-06       12.93     1.683 No_date   28:00   39.68  n/a    .000
       Major System   /     1.0 02:KB-06-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-06-MN     12.93     1.683 No_date   28:00   39.68  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-06-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-06-MN     12.93     1.683 No_date   28:00   39.68  n/a    .000
                   SUM=    1.0 01:KB-06-S       12.93     1.683 No_date   28:00   39.68  n/a    .000
R0002:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-11        4.03      .425 No_date   28:00   32.17 .707    .000
       [XIMP=.68:TIMP=.68]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-11        4.03      .425 No_date   28:00   32.17  n/a    .000
       Major System   /     1.0 02:KB-11-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-11-MN      4.03      .425 No_date   28:00   32.17  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-11-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-11-MN      4.03      .425 No_date   28:00   32.17  n/a    .000
                   SUM=    1.0 01:KB-11-S       4.03      .425 No_date   28:00   32.17  n/a    .000
R0002:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:S1          4.99      .689 No_date   28:00   41.29 .907    .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 182.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-15        2.15      .241 No_date   28:00   37.11 .815    .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 120.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-01A-S      40.82     1.627 No_date   28:18   14.35  n/a    .000
                     +     1.0 02:KB-01B-S      31.10     1.062 No_date   28:08   16.28  n/a    .000
                     +     1.0 02:KB-01C-S      13.78      .776 No_date   28:06   17.09  n/a    .000
                     +     1.0 02:KB-03-S       84.78     3.788 No_date   28:12   16.73  n/a    .000
                     +     1.0 02:KB-04-S        6.95      .503 No_date   27:53   39.02  n/a    .000
                     +     1.0 02:KB-05-S        5.19      .653 No_date   28:01   41.29  n/a    .000
                     +     1.0 02:KB-06-S       12.93     1.683 No_date   28:00   39.68  n/a    .000
                     +     1.0 02:KB-11-S        4.03      .425 No_date   28:00   32.17  n/a    .000
                     +     1.0 02:KB-15-S        2.15      .241 No_date   28:00   37.11  n/a    .000
                     +     1.0 02:S1             4.99      .689 No_date   28:00   41.29  n/a    .000
                   SUM=    1.0 01:KB-P1        206.72     9.491 No_date   28:02   20.13  n/a    .000
R0002:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->    1.0 02:KB-P1        206.72     9.491 No_date   28:02   20.13  n/a    .000
                     out <=  1.0 01:KB-P1R     206.72     8.405 No_date   28:13   20.13  n/a    .000
                   overflow <=  1.0 01:KB-P1ovf     .00     .000 No_date    0:00     .00  n/a    .000
  {MxStoUsed=.3779E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-P1R       206.72     8.405 No_date   28:13   20.13  n/a    .000
                     +     1.0 02:KB-P1OF       .00     .000 No_date    0:00     .00  n/a    .000
                   SUM=    1.0 01:KB-Pond1     206.72     8.405 No_date   28:13   20.13  n/a    .000
R0002:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:KB-Pond1     206.72     8.405 No_date   28:13   20.13  n/a    .000
       fname :KB-Pond1.0002
       remark:Total Flows at KB first pond
R0002:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-07        10.86     1.337 No_date   28:00   39.32 .864    .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-07        10.86     1.337 No_date   28:00   39.32  n/a    .000
       Major System   /     1.0 02:KB-07-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-07-MN     10.86     1.337 No_date   28:00   39.32  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-07-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-07-MN     10.86     1.337 No_date   28:00   39.32  n/a    .000
                   SUM=    1.0 01:KB-07-S      10.86     1.337 No_date   28:00   39.32  n/a    .000
R0002:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-08         6.61      .651 No_date   28:00   30.82 .677    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-08         6.61      .651 No_date   28:00   30.82  n/a    .000
       Major System   /     1.0 02:KB-08-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-08-MN      6.61      .651 No_date   28:00   30.82  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-08-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-08-MN      6.61      .651 No_date   28:00   30.82  n/a    .000
                   SUM=    1.0 01:KB-08-S       6.61      .651 No_date   28:00   30.82  n/a    .000
R0002:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-09         2.60      .344 No_date   28:00   38.64 .849    .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37      .314 No_date   28:00   38.64 .849    .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14      .153 No_date   28:00   38.64 .849    .000
       [XIMP=.86:TIMP=.86]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-12         4.86      .581 No_date   28:00   36.37 .799    .000
       [XIMP=.79:TIMP=.79]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-12         4.86      .581 No_date   28:00   36.37  n/a    .000
       Major System   /     1.0 02:KB-12-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-12-MN      4.86      .581 No_date   28:00   36.37  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-12-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-12-MN      4.86      .581 No_date   28:00   36.37  n/a    .000
                   SUM=    1.0 01:KB-12-S       4.86      .581 No_date   28:00   36.37  n/a    .000
R0002:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-13        10.19      .970 No_date   28:00   30.82 .677    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-13        10.19      .970 No_date   28:00   30.82  n/a    .000
       Major System   /     1.0 02:KB-13-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-13-MN     10.19      .970 No_date   28:00   30.82  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-13-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-13-MN     10.19      .970 No_date   28:00   30.82  n/a    .000
                   SUM=    1.0 01:KB-13-S      10.19      .970 No_date   28:00   30.82  n/a    .000
R0002:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-14         5.47      .543 No_date   28:00   30.82 .677    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD       1.0 01:KB-14         5.47      .543 No_date   28:00   30.82  n/a    .000
       Major System   /     1.0 02:KB-14-MJ      .00     .000 No_date    0:00     .00  n/a    .000
       Minor System   \     1.0 03:KB-14-MN      5.47      .543 No_date   28:00   30.82  n/a    .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-14-MJ      .00     .000 No_date    0:00     .00  n/a    .000
                     +     1.0 02:KB-14-MN      5.47      .543 No_date   28:00   30.82  n/a    .000
                   SUM=    1.0 01:KB-14-S       5.47      .543 No_date   28:00   30.82  n/a    .000
R0002:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD   1.0 01:KB-16_2        3.42      .337 No_date   28:01   33.97 .746    .000
       [XIMP=.71:TIMP=.71]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 151.:MNI=.013:SCI=   .0]
       [IaREC imp=   4.00: IaRECper=   4.00]
R0002:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-Pond1     206.72     8.405 No_date   28:13   20.13  n/a    .000
                     +     1.0 02:KB-07-S       10.86     1.337 No_date   28:00   39.32  n/a    .000
                     +     1.0 02:KB-08-S        6.61      .651 No_date   28:00   30.82  n/a    .000
                     +     1.0 02:KB-09          2.60      .344 No_date   28:00   38.64  n/a    .000
                     +     1.0 02:KB-10_1        2.37      .314 No_date   28:00
```

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[IaREClmp=   4.00: IaRECper=   4.00]
R0002:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-Pond2      254.24    9.930 No_date   28:12   22.82  n/a     .000
                    +     1.0 02:KB-16_1         2.80     .293 No_date   28:01   35.54  n/a     .000
                   SUM=   1.0 01:KB-P3          257.04   10.049 No_date   28:11   22.96  n/a     .000
R0002:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P3         257.04   10.049 No_date   28:11   22.96  n/a     .000
                    out <=  1.0 01:KB-P3R         18.54     .051 No_date   18:09   22.96  n/a     .000
              overflow <=   1.0 03:KB-P3ovf      238.50    9.997 No_date   28:11   22.96  n/a     .000
   {MxStoUsed=.2001E-02  m3, TotOvfVol=.5477E+01  m3, N-Ovf=    1, TotDurOvf=   22.hrs}
R0002:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-P3R         18.54     .051 No_date   18:09   22.96  n/a     .000
                    +     1.0 02:KB-P3ovf      238.50    9.997 No_date   28:11   22.96  n/a     .000
                   SUM=   1.0 01:KB-Pond3       257.04   10.048 No_date   28:11   22.96  n/a     .000
R0002:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:KB-Pond3       257.04   10.048 No_date   28:11   22.96  n/a     .000
       fname :KB-Pond3.0002
       remark:Total Flows at KB third pond
#*************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#    - TO FRASER CLARKE DRAIN
#*************************************************************************
R0002:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-01          8.03     .575 No_date   28:01   23.89  .525     .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:FC-01          8.03     .575 No_date   28:01   23.89  n/a     .000
       Major System   /    1.0 02:FC-01-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:FC-01-MN        8.03     .575 No_date   28:01   23.89  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:FC-01-MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:FC-01-MN        8.03     .575 No_date   28:01   23.89  n/a     .000
                   SUM=   1.0 01:FC-01-S         8.03     .575 No_date   28:01   23.89  n/a     .000
R0002:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-02         16.05    1.936 No_date   28:01   41.29  .907     .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:FC-02         16.05    1.936 No_date   28:01   41.29  n/a     .000
       Major System   /    1.0 02:FC-02-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:FC-02-MN       16.05    1.159 No_date   27:52   41.31  n/a     .000
       {MjSysSto=.4641E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:FC-02-MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:FC-02-MN       16.05    1.159 No_date   27:52   41.31  n/a     .000
                   SUM=   1.0 01:FC-02-S        16.05    1.159 No_date   27:52   41.31  n/a     .000
R0002:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-03          7.37     .687 No_date   28:01   30.32  .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:FC-03          7.37     .687 No_date   28:01   30.32  n/a     .000
       Major System   /    1.0 02:FC-03-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:FC-03-MN        7.37     .358 No_date   27:49   30.49  n/a     .000
       {MjSysSto=.2043E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:FC-03-MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:FC-03-MN        7.37     .358 No_date   27:49   30.49  n/a     .000
                   SUM=   1.0 01:FC-03-S         7.37     .358 No_date   27:49   30.49  n/a     .000
R0002:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FC-04         12.87    1.148 No_date   28:01   30.32  n/a     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:FC-04         12.87    1.148 No_date   28:01   30.32  n/a     .000
       Major System   /    1.0 02:FC-04-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:FC-04-MN       12.87    .741 No_date   27:53   30.44  n/a     .000
       {MjSysSto=.2134E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:FC-04-MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:FC-04-MN       12.87    .741 No_date   27:53   30.44  n/a     .000
                   SUM=   1.0 01:FC-04-S        12.87    .741 No_date   27:53   30.44  n/a     .000
#*************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#    - TO JOCK RIVER
#*************************************************************************
R0002:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:JR-01          8.24     .764 No_date   28:01   30.32  .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:JR-01          8.24     .764 No_date   28:01   30.32  n/a     .000
       Major System   /    1.0 02:JR-01-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:JR-01-MN        8.24     .563 No_date   28:13   30.43  n/a     .000
       {MjSysSto=.8257E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:JR-01-MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:JR-01-MN        8.24     .563 No_date   27:55   30.43  n/a     .000
                   SUM=   1.0 01:JR-01-S         8.24     .563 No_date   27:55   30.43  n/a     .000
R0002:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:JR-02          1.59     .162 No_date   28:00   30.32  .666     .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
R0002:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:JR-02          1.59     .162 No_date   28:00   30.32  n/a     .000
       Major System   /    1.0 02:JR-02-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:JR-02-MN        1.59     .153 No_date   27:58   30.45  n/a     .000
       {MjSysSto=.1236E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:JR-02-MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:JR-02-MN        1.59     .153 No_date   27:58   30.45  n/a     .000
                   SUM=   1.0 01:JR-02-S         1.59     .153 No_date   27:58   30.45  n/a     .000
#*************************************************************************
#    Catchment FRASER
#    - To Fraser-Clarke drain (north of the Jock)
#    - Developed land with assumed 43% imp.
#    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#    - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*************************************************************************
R0002:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:FRASER-DRN     13.65     .212 No_date   28:22   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0002:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:FRASER-D       21.61    1.710 No_date   28:02   30.87  n/a     .000
       [XIMP=.58:TIMP=.58]
       [LOSS= 2 :CN= 80.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 26.32: SMAX=175.50: SK= .010]
R0002:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:FRASER-D       21.61    1.710 No_date   28:02   30.87  n/a     .000
       Major System   /    1.0 02:FRASER-J        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:FRASER-DRN     21.61    1.710 No_date   28:02   30.87  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:FRASER-J        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:FRASER-N       21.61    1.710 No_date   28:02   30.87  n/a     .000
                   SUM=   1.0 01:FRASER-S       21.61    1.710 No_date   28:02   30.87  n/a     .000
R0002:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:KB-Pond3       257.04   10.048 No_date   28:11   22.96  n/a     .000
                    +     1.0 02:S-1-B           55.36     .825 No_date   28:24   14.83  n/a     .000
                    +     1.0 02:FRASER-DRN      13.65     .212 No_date   28:22   14.83  n/a     .000
                    +     1.0 02:FRASER-S        21.61    1.710 No_date   28:02   30.87  n/a     .000
                    +     1.0 02:N_KB         54279.33   48.613 No_date   37:48   13.01  n/a     .000
                    +     1.0 02:FC-01-S          8.03     .575 No_date   28:01   23.89  n/a     .000
                    +     1.0 02:FC-02-S         16.05    1.159 No_date   27:52   41.31  n/a     .000
                    +     1.0 02:FC-03-S          7.37     .358 No_date   27:49   30.49  n/a     .000
                   SUM=   1.0 01:4241        54658.44   48.897 No_date   37:48   13.08  n/a     .000
R0002:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:4241        54658.44   48.897 No_date   37:48   13.08  n/a     .000
       fname :4241.0002
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0002:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:4241        54658.44   48.897 No_date   37:48   13.08  n/a     .000
     [RDT= 1.00] out<-     1.0 01:4241-out    54658.44   48.922 No_date   37:46   13.08  n/a     .000
       [L/S/n=  294./ .109/.035]
       [Vmax=   961:Dmax= 1.544]
R0002:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:4241-out    54658.44   48.922 No_date   37:46   13.08  n/a     .000
                    +     1.0 02:FC-04-S         12.87    .741 No_date   27:53   30.44  n/a     .000
                    +     1.0 02:JR-01-S          8.24     .563 No_date   27:55   30.43  n/a     .000
                    +     1.0 02:JR-02-S          1.59     .153 No_date   27:58   30.45  n/a     .000
                   SUM=   1.0 01:SN_KB        54681.13   48.944 No_date   37:46   13.09  n/a     .000
R0002:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:SN_KB       54681.13   48.944 No_date   37:46   13.09  n/a     .000
       fname :SN_KB.0002
       remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#
R0002:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB       54681.13   48.944 No_date   37:46   13.09  n/a     .000
     [RDT= 1.00] out<-     1.0 01:N_TO        54681.13   48.905 No_date   37:53   13.09  n/a     .000
       [L/S/n=  608./ .247/.035]
       [Vmax= 1.299:Dmax= 1.136]
#*************************************************************************
#    Catchment Greenbank
#    - To Greenbank Drain (south of the Jock)
#    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*************************************************************************
R0002:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:Greenbank      36.60    2.954 No_date   28:02   32.54  n/a     .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank      36.60    2.954 No_date   28:02   32.54  n/a     .000
                    out <=  1.0 01:GreenB_MN      36.60    2.954 No_date   28:02   32.54  n/a     .000
              overflow <=   1.0 03:GreenB_MJ        .00     .000 No_date   0:00     .00  n/a     .000
   {MxStoUsed=.6052E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:N_TO         54681.13   48.905 No_date   37:53   13.09  n/a     .000
                    +     1.0 02:GreenB_MJ        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:GreenB_MN      36.60    .569 No_date   28:38   32.54  n/a     .000
                   SUM=   1.0 01:GreenB       54717.73   48.982 No_date   37:53   13.10  n/a     .000
R0002:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:GreenB       54717.73   48.982 No_date   37:53   13.10  n/a     .000
       fname :GreenB.0002
       remark:Total Flows at Greenbank Drain
#*************************************************************************
#    Catchment TODD
#    - To Todd Drain (south of the Jock)
#    - Subdivision with 43% imp. as per Barrhaven South MSS
#    - 2020-11-30 increase imp. based on P598(04)-11
#    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0002:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN2        2.10     .179 No_date   28:00   28.91  .635     .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MN3         .12     .011 No_date   28:00   28.91  .635     .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_MJ         30.23    2.154 No_date   28:03   29.64  .651     .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_ALL       112.91    6.553 No_date   28:06   28.70  .631     .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:TODD_P           3.06     .295 No_date   28:00   31.76  .698     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0002:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ         30.23    2.154 No_date   28:03   29.64  n/a     .000
                    out <=  1.0 01:TODD_MJn       30.23    2.154 No_date   28:03   29.64  n/a     .000
              overflow <=   1.0 03:TODD_MJj         .00     .000 No_date   0:00     .00  n/a     .000
   {MxStoUsed=.6551E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0002:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2        2.10     .179 No_date   28:00   28.91  n/a     .000
                    out <=  1.0 01:TODD_MN2n      2.10     .179 No_date   28:00   28.91  n/a     .000
              overflow <=   1.0 03:TODD_MN2j         .00     .000 No_date   0:00     .00  n/a     .000
   {MxStoUsed=.6761E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3         .12     .011 No_date   28:00   28.91  n/a     .000
                    out <=  1.0 01:TODD_MN3n       .12     .010 No_date   28:00   28.91  n/a     .000
              overflow <=   1.0 03:TODD_MN3j         .00     .000 No_date   0:00     .00  n/a     .000
   {MxStoUsed=.6566E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A2             25.50    1.427 No_date   28:04   25.60  .563     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0002:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:A2             25.50    1.427 No_date   28:04   25.60  n/a     .000
       Major System   /    1.0 02:A2-MJ           .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:A2-MN          25.50    1.427 No_date   28:04   25.60  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:TODD_MN2n       2.10     .179 No_date   28:00   28.91  n/a     .000
                    +     1.0 02:TODD_MN3n        .12     .010 No_date   28:00   28.91  n/a     .000
                    +     1.0 02:TODD_MJj         .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:TODD_P          3.06     .295 No_date   28:00   31.77  n/a     .000
                    +     1.0 02:TODD_ALL      112.91    6.553 No_date   28:06   28.70  n/a     .000
                    +     1.0 02:W_CLAR_MJn      1.77     .141 No_date   28:00   27.78  n/a     .000
                   SUM=   1.0 01:TODD         119.95    6.882 No_date   28:05   28.77  n/a     .000
R0002:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:TODD        119.95    6.882 No_date   28:05   28.77  n/a     .000
       fname :TODD.0002
       remark:Total Flows at Todd Drain
#*************************************************************************
#    Todd Pond 3
#    - Rating curve obtained from Barrhaven South MSS modeling
#    - c. stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*************************************************************************
R0002:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD        119.95    6.882 No_date   28:05   28.77  n/a     .000
                    out <=  1.0 01:MS_P3       119.95    1.033 No_date   29:08   28.76  n/a     .000
              overflow <=   1.0 03:P3-OVF          .00     .000 No_date   0:00     .00  n/a     .000
   {MxStoUsed=.2185E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD              1.0 02:GreenB       54717.73   48.982 No_date   37:53   13.10  n/a     .000
                    +     1.0 02:MS_P3          119.95    1.033 No_date   29:08   28.76  n/a     .000
                    +     1.0 02:P3-OVF           .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:TODD_MN2j        .00     .000 No_date   0:00     .00  n/a     .000
                    +     1.0 02:A2-MJ            .00     .000 No_date   0:00     .00  n/a     .000
                   SUM=   1.0 01:SN_TO        54837.69   49.122 No_date   37:53   13.13  n/a     .000
R0002:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:SN_TO       54837.69   49.122 No_date   37:53   13.13  n/a     .000
       fname :SN_TO.0002
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0002:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO       54837.69   49.122 No_date   37:53   13.13  n/a     .000
   *  [RDT= 1.00] out<-     1.0 01:N_TO        54837.69   48.890 No_date   38:55   13.13  n/a     .000
       [L/S/n=  280./ .050/.045]
       [Vmax=   .729:Dmax= 2.132]
R0002:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD             1.0 01:N_TO        54837.69   48.890 No_date   38:55   13.13  n/a     .000
       fname :N_TO.0002
       remark:Total inflows at Station 2462
#*************************************************************************
#    Catchment CORRIG
#    - To Corrigan Drain (south of the Jock)
#    - Primarily Developed (medium density)
#    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*************************************************************************
R0002:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:corr1          15.87    1.352 No_date   28:02   31.77  .698     .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=   4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0002:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD      1.0 01:corr1          15.87    1.352 No_date   28:02   31.77  n/a     .000
       Major System   /    1.0 02:corr1-MJ        .00     .000 No_date   0:00     .00  n/a     .000
       Minor System   \    1.0 03:corr1-MN       15.87    1.352 No_date   28:02   31.77  n/a     .000
       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0002:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD    1.0 01:corr2          12.47     .100 No_date   29:12   14.83 .326     .000
       [CN= 77.0: N= 3.00: Tp= 1.10]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0002:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD  1.0 01:A1-Corrig      15.75     .982 No_date   28:02   25.60  .563     .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
```

```
02245>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
02246>       [IaRECimp=   4.00: IaRECper=   4.00]
02247>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02248> R0002:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02249>       COMPUTE DUALHYD      1.0 01:A1-Corrig    15.75      .982 No_date   28:02   25.60  n/a     .000
02250>        Major System   /     1.0 02:A1-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02251>        Minor System   \     1.0 03:A1-MN        15.75      .982 No_date   28:02   25.60  n/a     .000
02252>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02253> R0002:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02254>       CONTINUOUS NASHYD    1.0 01:B1           2.77      .033 No_date   28:09    9.64 .212     .000
02255>        [CN= 56.0: N= 3.00: Tp=   .23]
02256>        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
02257>        [InterEventTime=  12.00]
02258> R0002:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02259>       CONTINUOUS STANDHYD   1.0 01:A4           1.27      .116 No_date   28:01   32.20 .707     .000
02260>        [XIMP=.65:TIMP=.65]
02261>        [LOSS= 2 :CN= 75.0]
02262>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02263>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
02264>        [IaRECimp=   4.00: IaRECper=   4.00]
02265>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02266> R0002:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02267>       COMPUTE DUALHYD      1.0 01:A4           1.27      .116 No_date   28:01   32.20  n/a     .000
02268>        Major System   /     1.0 02:A4-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02269>        Minor System   \     1.0 03:A4-MN        1.27      .116 No_date   28:01   32.20  n/a     .000
02270>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02271> R0002:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02272>       ADD HYD              1.0 02:A1-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02273>                        +     1.0 02:A1-MN        15.75      .982 No_date   28:02   25.60  n/a     .000
02274>                        +     1.0 02:corr1-MJ       .00      .000 No_date   0:00     .00  n/a     .000
02275>                        +     1.0 02:corr1-MN     15.87     1.352 No_date   28:02   31.77  n/a     .000
02276>                        +     1.0 02:corr2        12.47      .100 No_date   29:12   14.83  n/a     .000
02277>                        +     1.0 02:B1            2.77      .033 No_date   28:09    9.64  n/a     .000
02278>                        +     1.0 02:A4-MN         1.27      .116 No_date   28:01   32.20  n/a     .000
02279>                      SUM=    1.0 01:MH101        48.13     2.497 No_date   28:02   24.10  n/a     .000
02280> R0002:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02281>       SAVE HYD             1.0 01:MH101        48.13     2.497 No_date   28:02   24.10  n/a     .000
02282>        fname :MH101.0002
02283>        remark:Total Flows at MH101
02284> R0002:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02285>       ROUTE PIPE       ->     1.0 02:MH101        48.13     2.497 No_date   28:02   24.10  n/a     .000
02286> *   [RDT= 1.00] out<-      1.0 01:101-102      48.13     2.412 No_date   28:03   24.10  n/a     .000
02287>        [L/S/n=  368./ .540/.013]
02288>        [Vmax= 2.789:Dmax=  .935]
02289>        [Din= 1.05:Dused= 1.14]
02290> R0002:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02291>       ADD HYD              1.0 02:A2-MN        25.50     1.427 No_date   28:04   25.60  n/a     .000
02292>                        +     1.0 02:101-102      48.13     2.412 No_date   28:03   24.10  n/a     .000
02293>                      SUM=    1.0 01:MH102        73.63     3.837 No_date   28:03   24.62  n/a     .000
02294> R0002:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02295>       SAVE HYD             1.0 01:MH102        73.63     3.837 No_date   28:03   24.62  n/a     .000
02296>        fname :MH102.0002
02297>        remark:Total Flows at MH102
02298> R0002:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02299>       CONTINUOUS STANDHYD   1.0 01:A5           1.60      .155 No_date   28:01   34.21 .752     .000
02300>        [XIMP=.71:TIMP=.71]
02301>        [LOSS= 2 :CN= 75.0]
02302>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02303>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
02304>        [IaRECimp=   4.00: IaRECper=   4.00]
02305>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02306> R0002:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02307>       ADD HYD              1.0 02:A4-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02308>                        +     1.0 02:A5           1.60      .155 No_date   28:01   34.21  n/a     .000
02309>                      SUM=    1.0 01:A5T          1.60      .155 No_date   28:01   34.21  n/a     .000
02310> R0002:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02311>       COMPUTE DUALHYD      1.0 01:A5T          1.60      .155 No_date   28:01   34.21  n/a     .000
02312>        Major System   /     1.0 02:A5-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02313>        Minor System   \     1.0 03:A5-MN        1.60      .155 No_date   28:01   34.21  n/a     .000
02314>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02315> R0002:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02316>       ROUTE PIPE       ->     1.0 02:MH102        73.63     3.837 No_date   28:03   24.62  n/a     .000
02317> *   [RDT= 1.00] out<-      1.0 01:102-103      73.63     3.600 No_date   28:05   24.62  n/a     .000
02318>        [L/S/n=  504./ .280/.013]
02319>        [Vmax= 2.428:Dmax= 1.243]
02320>        [Din= 1.50:Dused= 1.51]
02321> R0002:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02322>       ADD HYD              1.0 02:102-103      73.63     3.600 No_date   28:05   24.62  n/a     .000
02323>                        +     1.0 02:A5-MN        1.60      .155 No_date   28:01   34.21  n/a     .000
02324>                      SUM=    1.0 01:MH103        75.23     3.728 No_date   28:05   24.82  n/a     .000
02325> R0002:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02326>       SAVE HYD             1.0 01:MH103        75.23     3.728 No_date   28:05   24.82  n/a     .000
02327>        fname :MH103.0002
02328>        remark:Total Flows at MH103
02329> R0002:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02330>       ROUTE PIPE       ->     1.0 02:MH103        75.23     3.728 No_date   28:05   24.82  n/a     .000
02331>        [RDT= 1.00] out<-      1.0 01:103-104      75.23     3.629 No_date   28:07   24.82  n/a     .000
02332>        [L/S/n=  438./ .460/.013]
02333>        [Vmax= 3.024:Dmax=  .924]
02334>        [Din= 1.65:Dused= 1.65]
02335> R0002:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02336>       CONTINUOUS STANDHYD   1.0 01:A6           1.56      .152 No_date   28:01   34.21 .752     .000
02337>        [XIMP=.71:TIMP=.71]
02338>        [LOSS= 2 :CN= 75.0]
02339>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02340>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
02341>        [IaRECimp=   4.00: IaRECper=   4.00]
02342>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02343> R0002:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02344>       ADD HYD              1.0 02:A5-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02345>                        +     1.0 02:A6           1.56      .152 No_date   28:01   34.21  n/a     .000
02346>                      SUM=    1.0 01:A6T          1.56      .152 No_date   28:01   34.21  n/a     .000
02347> R0002:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02348>       COMPUTE DUALHYD      1.0 01:A6T          1.56      .152 No_date   28:01   34.21  n/a     .000
02349>        Major System   /     1.0 02:A6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02350>        Minor System   \     1.0 03:A6-MN        1.56      .152 No_date   28:01   34.21  n/a     .000
02351>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02352> R0002:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02353>       ADD HYD              1.0 02:A6-MN        1.56      .152 No_date   28:01   34.21  n/a     .000
02354>                        +     1.0 02:103-104      75.23     3.629 No_date   28:07   24.82  n/a     .000
02355>                        +     1.0 02:TODD_MJn     30.23     2.154 No_date   28:03   29.64  n/a     .000
02356>                      SUM=    1.0 01:MH104       107.02     5.765 No_date   28:05   26.32  n/a     .000
02357> R0002:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02358>       SAVE HYD             1.0 01:MH104       107.02     5.765 No_date   28:05   26.32  n/a     .000
02359>        fname :MH104.0002
02360>        remark:Total Flows at MH104
02361> R0002:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02362>       CONTINUOUS STANDHYD   1.0 01:B2           12.31      .731 No_date   28:03   25.66 .564     .000
02363>        [XIMP=.41:TIMP=.54]
02364>        [LOSS= 2 :CN= 75.0]
02365>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02366>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
02367>        [IaRECimp=   4.00: IaRECper=   4.00]
02368>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02369> R0002:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02370>       COMPUTE DUALHYD      1.0 01:B2           12.31      .731 No_date   28:03   25.66  n/a     .000
02371>        Major System   /     1.0 02:B2-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02372>        Minor System   \     1.0 03:B2-MN        12.31      .731 No_date   28:03   25.66  n/a     .000
02373>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02374> R0002:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02375>       ROUTE PIPE       ->     1.0 02:B2-MN        12.31      .731 No_date   28:03   25.66  n/a     .000
02376>        [RDT= 1.00] out<-      1.0 01:315-333      12.31      .675 No_date   28:04   25.66  n/a     .000
02377>        [L/S/n=  254./ .100/.013]
02378>        [Vmax= 4.136:Dmax=  .665]
02379>        [Din= 1.20:Dused= 1.20]
02380> R0002:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02381>       CONTINUOUS STANDHYD   1.0 01:B3           5.59      .346 No_date   28:02   25.66 .564     .000
02382>        [XIMP=.41:TIMP=.54]
02383>        [LOSS= 2 :CN= 75.0]
02384>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02385>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
02386>        [IaRECimp=   4.00: IaRECper=   4.00]
02387>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02388> R0002:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02389>       COMPUTE DUALHYD      1.0 01:B3           5.59      .346 No_date   28:02   25.66  n/a     .000
02390>        Major System   /     1.0 02:B3-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02391>        Minor System   \     1.0 03:B3-MN        5.59      .346 No_date   28:02   25.66  n/a     .000
02392>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02393> R0002:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02394>       ADD HYD              1.0 02:B3-MN        5.59      .346 No_date   28:02   25.66  n/a     .000
02395>                        +     1.0 02:315-333      12.31      .675 No_date   28:04   25.66  n/a     .000
02396>                      SUM=    1.0 01:MH333        17.90     1.009 No_date   28:04   25.66  n/a     .000
02397> R0002:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02398>       SAVE HYD             1.0 01:MH333        17.90     1.009 No_date   28:04   25.66  n/a     .000
02399>        fname :MH333.0002
02400>        remark:Total Flows at MH333
02401> R0002:C00363-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02402>       ROUTE PIPE       ->     1.0 02:MH333        17.90     1.009 No_date   28:04   25.66  n/a     .000
02403>        [RDT= 1.00] out<-      1.0 01:333-335      17.90      .937 No_date   28:05   25.66  n/a     .000
02404>        [L/S/n=  251./ .100/.013]
02405>        [Vmax= 1.217:Dmax=  .826]
02406>        [Din= 1.20:Dused= 1.20]
02407> R0002:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02408>       ROUTE PIPE       ->     1.0 02:333-335      17.90      .937 No_date   28:05   25.66  n/a     .000
02409>        [RDT= 1.00] out<-      1.0 01:335-338      17.90      .888 No_date   28:07   25.66  n/a     .000
02410>        [L/S/n=  185./ .100/.013]
02411>        [Vmax= 1.199:Dmax=  .782]
02412>        [Din= 1.20:Dused= 1.20]
02413> R0002:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02414>       ROUTE PIPE       ->     1.0 02:335-338      17.90      .888 No_date   28:07   25.66  n/a     .000
02415>        [RDT= 1.00] out<-      1.0 01:338-340      17.90      .838 No_date   28:08   25.66  n/a     .000
02416>        [L/S/n=  233./ .100/.013]
02417>        [Vmax= 1.194:Dmax=  .695]
02418>        [Din= 1.35:Dused= 1.35]
02419> R0002:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02420>       CONTINUOUS STANDHYD   1.0 01:B4           7.60      .459 No_date   28:02   25.66 .564     .000
02421>        [XIMP=.41:TIMP=.54]
02422>        [LOSS= 2 :CN= 75.0]
02423>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02424>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
02425>        [IaRECimp=   4.00: IaRECper=   4.00]
02426>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02427> R0002:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02428>       COMPUTE DUALHYD      1.0 01:B4           7.60      .459 No_date   28:02   25.66  n/a     .000
02429>        Major System   /     1.0 02:B4-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02430>        Minor System   \     1.0 03:B4-MN        7.60      .459 No_date   28:02   25.66  n/a     .000
02431>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02432> R0002:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02433>       ADD HYD              1.0 02:338-340      17.90      .838 No_date   28:08   25.66  n/a     .000
02434>                        +     1.0 02:B4-MN         7.60      .459 No_date   28:02   25.66  n/a     .000
02435>                      SUM=    1.0 01:MH340        25.50     1.234 No_date   28:05   25.66  n/a     .000
02436> R0002:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02437>       SAVE HYD             1.0 01:MH340        25.50     1.234 No_date   28:05   25.66  n/a     .000
02438>        fname :MH340.0002
02439>        remark:Total Flows at MH340
02440> R0002:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02441>       ROUTE PIPE       ->     1.0 02:MH340        25.50     1.234 No_date   28:05   25.66  n/a     .000
02442>        [RDT= 1.00] out<-      1.0 01:340-104      25.50     1.182 No_date   28:07   25.66  n/a     .000
02443>        [L/S/n=  240./ .150/.013]
02444>        [Vmax= 1.502:Dmax=  .672]
02445>        [Din= 1.65:Dused= 1.65]
02446> R0002:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02447>       ADD HYD              1.0 02:340-104      25.50     1.182 No_date   28:07   25.66  n/a     .000
02448>                        +     1.0 02:MH104       107.02     5.765 No_date   28:05   26.32  n/a     .000
02449>                      SUM=    1.0 01:MH104T       132.52     6.925 No_date   28:05   25.66  n/a     .000
02450> R0002:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02451>       ROUTE PIPE       ->     1.0 02:MH104T       132.52     6.925 No_date   28:05   26.19  n/a     .000
02452>        [RDT= 1.00] out<-      1.0 01:104-105      132.52     6.452 No_date   28:06   26.19  n/a     .000
02453>        [L/S/n=  380./ .100/.013]
02454>        [Vmax= 1.871:Dmax= 1.542]
02455>        [Din= 2.10:WDTH= 2.40]
02456> R0002:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02457>       CONTINUOUS STANDHYD   1.0 01:B5           2.20      .187 No_date   28:00   29.51 .648     .000
02458>        [XIMP=.57:TIMP=.57]
02459>        [LOSS= 2 :CN= 75.0]
02460>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02461>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
02462>        [IaRECimp=   4.00: IaRECper=   4.00]
02463>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02464> R0002:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02465>       COMPUTE DUALHYD      1.0 01:B5           2.20      .187 No_date   28:00   29.51  n/a     .000
02466>        Major System   /     1.0 02:B5-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02467>        Minor System   \     1.0 03:B5-MN        2.20      .187 No_date   28:00   29.51  n/a     .000
02468>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02469> R0002:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02470>       CONTINUOUS STANDHYD   1.0 01:A8            .96      .099 No_date   28:00   34.21 .752     .000
02471>        [XIMP=.71:TIMP=.71]
02472>        [LOSS= 2 :CN= 75.0]
02473>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02474>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
02475>        [IaRECimp=   4.00: IaRECper=   4.00]
02476>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02477> R0002:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02478>       ADD HYD              1.0 02:A6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02479>                        +     1.0 02:A8            .96      .099 No_date   28:00   34.21  n/a     .000
02480>                      SUM=    1.0 01:A8T           .96      .099 No_date   28:00   34.21  n/a     .000
02481> R0002:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02482>       COMPUTE DUALHYD      1.0 01:A8T           .96      .099 No_date   28:00   34.21  n/a     .000
02483>        Major System   /     1.0 02:A8-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02484>        Minor System   \     1.0 03:A8-MN         .96      .099 No_date   28:00   34.21  n/a     .000
02485>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02486> R0002:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02487>       ADD HYD              1.0 02:104-105      132.52     6.452 No_date   28:06   26.19  n/a     .000
02488>                        +     1.0 02:B5           2.20      .187 No_date   28:00   29.51  n/a     .000
02489>                        +     1.0 02:A8-MN         .96      .099 No_date   28:00   34.21  n/a     .000
02490>                        +     1.0 02:TODD_MN3j     .00      .000 No_date   0:00     .00  n/a     .000
02491>                      SUM=    1.0 01:MH105        135.68     6.624 No_date   28:06   26.30  n/a     .000
02492> R0002:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02493>       SAVE HYD             1.0 01:MH105        135.68     6.624 No_date   28:06   26.30  n/a     .000
02494>        fname :MH105.0002
02495>        remark:Total Flows at MH105
02496> R0002:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02497> *     DIVERT HYD           ->     1.0 01:A8-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02498>                      diverted <=   1.0 02:A8-MJ-JR       .00      .000 No_date   0:00     .00  n/a     .000
02499>                      diverted <=   1.0 03:A8-MJ-B6       .00      .000 No_date   0:00     .00  n/a     .000
02500> R0002:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02501>       DIVERT HYD           ->     1.0 01:MH105        135.68     6.624 No_date   28:06   26.30  n/a     .000
02502>                      diverted <=   1.0 02:MH105-JR      16.59     3.620 No_date   28:06   26.30  n/a     .000
02503>                      diverted <=   1.0 03:MH105-B6     119.09     3.004 No_date   28:06   26.30  n/a     .000
02504> R0002:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02505>       CONTINUOUS STANDHYD   1.0 01:B7           7.19      .479 No_date   28:01   25.66 .564     .000
02506>        [XIMP=.41:TIMP=.54]
02507>        [LOSS= 2 :CN= 75.0]
02508>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02509>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
02510>        [IaRECimp=   4.00: IaRECper=   4.00]
02511>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02512> R0002:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02513>       ADD HYD              1.0 02:B4-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02514>                        +     1.0 02:B7           7.19      .479 No_date   28:01   25.66  n/a     .000
02515>                      SUM=    1.0 01:B7-B4MJ      7.19      .479 No_date   28:01   25.66  n/a     .000
02516> R0002:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02517>       COMPUTE DUALHYD      1.0 01:B7-B4MJ      7.19      .479 No_date   28:01   25.66  n/a     .000
02518>        Major System   /     1.0 02:B7R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
02519>        Minor System   \     1.0 03:B7R-MN       7.19      .479 No_date   28:01   25.66  n/a     .000
02520>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02521> R0002:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02522>       ROUTE PIPE       ->     1.0 02:B7R-MN       7.19      .479 No_date   28:01   25.66  n/a     .000
02523>        [RDT= 1.00] out<-      1.0 01:300-106A     7.19      .451 No_date   28:02   25.66  n/a     .000
02524>        [L/S/n=  167./ .100/.013]
02525>        [Vmax= 1.023:Dmax=  .556]
02526>        [Din= 1.05:Dused= 1.05]
02527> R0002:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02528>       CONTINUOUS STANDHYD   1.0 01:B6           3.29      .229 No_date   28:00   25.66 .564     .000
02529>        [XIMP=.41:TIMP=.54]
02530>        [LOSS= 2 :CN= 75.0]
02531>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02532>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
02533>        [IaRECimp=   4.00: IaRECper=   4.00]
02534>        [SMIN= 33.81: SMAX=225.43: SK= .010]
02535> R0002:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02536>       COMPUTE DUALHYD      1.0 01:B6           3.29      .229 No_date   28:00   25.66  n/a     .000
02537>        Major System   /     1.0 02:B6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02538>        Minor System   \     1.0 03:B6-MN        3.29      .064 No_date   27:43   25.67  n/a     .000
02539>         {MjSysSto=.1576E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02540> R0002:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02541>       CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50     2.093 No_date   28:02   26.85 .590     .000
02542>        [XIMP=.50:TIMP=.50]
02543>        [LOSS= 2 :CN= 74.0]
02544>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02545>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
02546>        [IaRECimp=   4.00: IaRECper=   4.00]
02547>        [SMIN= 36.67: SMAX=244.49: SK= .010]
02548> R0002:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02549>       COMPUTE DUALHYD      1.0 01:EX-LAND      32.50     2.093 No_date   28:02   26.85  n/a     .000
02550>        Major System   /     1.0 02:EX-LAND-MJ     .00      .000 No_date   0:00     .00  n/a     .000
02551>        Minor System   \     1.0 03:EX-LAND-MN   32.50     2.093 No_date   28:02   26.85  n/a     .000
02552>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02553> R0002:C00390-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02554>       ADD HYD              1.0 02:B7R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
02555>                        +     1.0 02:EX-LAND-MJ     .00      .000 No_date   0:00     .00  n/a     .000
02556>                        +     1.0 02:B6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02557>                        +     1.0 02:B6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
02558>                        +     1.0 02:B6-MN        3.29      .064 No_date   27:43   25.67  n/a     .000
02559>                        +     1.0 02:TODD_MJ-B6     .00      .000 No_date   0:00     .00  n/a     .000
02560>                      SUM=    1.0 01:B6-B7ExMJ    3.29      .064 No_date   27:43   25.67  n/a     .000
02561> R0002:C00391-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02562>       COMPUTE DUALHYD      1.0 01:B6-B7ExMJ    3.29      .064 No_date   27:43   25.67  n/a     .000
02563>        Major System   /     1.0 02:B6R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
02564>        Minor System   \     1.0 03:B6R-MN       3.29      .064 No_date   27:43   25.67  n/a     .000
02565>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
02566> R0002:C00392-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02567>       ROUTE PIPE       ->     1.0 02:MH105-B6     119.09     3.004 No_date   28:06   26.30  n/a     .000
02568>        [RDT= 1.00] out<-      1.0 01:105-106A     119.09     3.006 No_date   28:08   26.30  n/a     .000
02569>        [L/S/n=  200./ .100/.013]
02570>        [Vmax= 1.596:Dmax= 1.247]
02571>        [Din= 1.80:Dused= 1.80]
02572> R0002:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02573>       ADD HYD              1.0 02:105-106A      7.19      .451 No_date   28:02   25.66  n/a     .000
02574>                        +     1.0 02:105-106      119.09     3.006 No_date   28:08   26.30  n/a     .000
02575>                        +     1.0 02:B6R-MN        3.29      .064 No_date   27:43   25.67  n/a     .000
02576>                        +     1.0 02:B6R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
02577>                      SUM=    1.0 01:MH106A       129.57     3.466 No_date   28:03   26.25  n/a     .000
02578> R0002:C00394-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02579>       SAVE HYD             1.0 01:MH106A       129.57     3.466 No_date   28:03   26.25  n/a     .000
02580>        fname :MH106A.0002
02581>        remark:Total Flows at MH106A
02582> R0002:C00395-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02583>       ROUTE PIPE       ->     1.0 02:MH106A       129.57     3.466 No_date   28:03   26.25  n/a     .000
02584> *     [RDT= 1.00] out<-      1.0 01:106A-106     129.57     3.450 No_date   28:04   26.25  n/a     .000
02585>        [L/S/n=  190./ .100/.013]
02586>        [Vmax= 1.626:Dmax= 1.406]
02587>        [Din= 1.80:Dused= 1.80]
02588> R0002:C00396-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02589>       CONTINUOUS STANDHYD   1.0 01:A9           2.44      .240 No_date   28
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02619>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02620>       [IaRECimp=   4.00: IaRECper=   4.00]
02621>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02622> R0002:C00402-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02623>     COMPUTE DUALHYD       1.0 01:A10          4.14     .246 No_date   28:01   23.49  n/a     .000
02624>       Major System   /      1.0 02:A10-MJ        .00     .000 No_date   0:00     .00  n/a     .000
02625>       Minor System   \      1.0 03:A10-MN        4.14     .246 No_date   28:01   23.49  n/a     .000
02626>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02627> R0002:C00403-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02628>     CONTINUOUS STANDHYD    1.0 01:A11         10.61     .781 No_date   28:02   29.20 .642     .000
02629>       [XIMP=.53:TIMP=.62]
02630>       [LOSS= 2 :CN= 75.0]
02631>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02632>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
02633>       [IaRECimp=   4.00: IaRECper=   4.00]
02634>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02635> R0002:C00404-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02636>     COMPUTE DUALHYD       1.0 01:A11         10.61     .781 No_date   28:02   29.20  n/a     .000
02637>       Major System   /      1.0 02:A11-MJ        .00     .000 No_date   0:00     .00  n/a     .000
02638>       Minor System   \      1.0 03:A11-MN       10.61     .781 No_date   28:02   29.20  n/a     .000
02639>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02640> R0002:C00405-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02641>     ADD HYD               1.0 02:106-107     132.01    3.602 No_date   28:06   26.40  n/a     .000
02642>                       +     1.0 02:A10-MN        4.14     .246 No_date   28:01   23.49  n/a     .000
02643>                       +     1.0 02:A11-MN       10.61     .781 No_date   28:02   29.20  n/a     .000
02644>                     SUM=    1.0 01:MH107       146.76    4.589 No_date   28:02   26.52  n/a     .000
02645> R0002:C00406-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02646>     SAVE HYD              1.0 01:MH107       146.76    4.589 No_date   28:02   26.52  n/a     .000
02647>       fname :MH107.0002
02648>       remark:Total Flows at MH107
02649> R0002:C00407-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02650>     ROUTE PIPE      ->    1.0 02:MH107       146.76    4.589 No_date   28:02   26.52  n/a     .000
02651> *   [RDT= 1.00] out<-     1.0 01:107-119     146.76    4.493 No_date   28:07   26.52  n/a     .000
02652>       [L/S/n=  114./ .120/.013]
02653>       {Vmax= 1.848:Dmax= 1.558}
02654>       [Din= 1.80:Dused= 1.80]
02655> R0002:C00408-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02656>     ROUTE PIPE      ->    1.0 02:107-119     146.76    4.493 No_date   28:07   26.52  n/a     .000
02657> *   [RDT= 1.00] out<-     1.0 01:119-108     146.76    4.469 No_date   28:07   26.52  n/a     .000
02658>       [L/S/n=   66./ .120/.013]
02659>       {Vmax= 1.838:Dmax= 1.546}
02660>       [Din= 1.80:Dused= 1.88]
02661> R0002:C00409-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02662>     CONTINUOUS STANDHYD    1.0 01:A12         12.29     .834 No_date   28:01   25.66 .564     .000
02663>       [XIMP=.41:TIMP=.54]
02664>       [LOSS= 2 :CN= 75.0]
02665>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02666>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02667>       [IaRECimp=   4.00: IaRECper=   4.00]
02668>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02669> R0002:C00410-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02670>     COMPUTE DUALHYD       1.0 01:A12         12.29     .834 No_date   28:01   25.66  n/a     .000
02671>       Major System   /      1.0 02:A12-MJ        .00     .000 No_date   0:00     .00  n/a     .000
02672>       Minor System   \      1.0 03:A12-MN       12.29     .834 No_date   28:01   25.66  n/a     .000
02673>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
02674> R0002:C00411-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02675>     CONTINUOUS STANDHYD    1.0 01:A13          2.59     .239 No_date   28:02   34.21 .752     .000
02676>       [XIMP=.71:TIMP=.71]
02677>       [LOSS= 2 :CN= 75.0]
02678>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02679>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
02680>       [IaRECimp=   4.00: IaRECper=   4.00]
02681>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02682> R0002:C00412-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02683>     COMPUTE DUALHYD       1.0 01:A13          2.59     .239 No_date   28:02   34.21  n/a     .000
02684>       Major System   /      1.0 02:A13-MJ        .00     .000 No_date   0:00     .00  n/a     .000
02685>       Minor System   \      1.0 03:A13-MN        2.59     .239 No_date   28:02   34.21  n/a     .000
02686> R0002:C00413-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02687>     CONTINUOUS STANDHYD    1.0 01:Pond-Block    2.94     .190 No_date   28:01   24.31 .534     .000
02688>       [XIMP=.41:TIMP=.41]
02689>       [LOSS= 2 :CN= 75.0]
02690>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02691>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
02692>       [IaRECimp=   4.00: IaRECper=   4.00]
02693>       [SMIN= 33.81: SMAX=225.43: SK= .010]
02694> R0002:C00414-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02695>     ADD HYD               1.0 02:119-108     146.76    4.469 No_date   28:07   26.52  n/a     .000
02696>                       +     1.0 02:A13-MN        2.59     .239 No_date   28:02   34.21  n/a     .000
02697>                       +     1.0 02:A12-MN       12.29     .834 No_date   28:01   25.66  n/a     .000
02698>                     SUM=    1.0 01:MH108       161.64    5.450 No_date   28:03   26.58  n/a     .000
02699> R0002:C00415-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02700>     SAVE HYD              1.0 01:MH108       161.64    5.450 No_date   28:03   26.58  n/a     .000
02701>       fname :MH108.0002
02702>       remark:Total Flows at MH108
02703> R0002:C00416-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02704>     ROUTE PIPE      ->    1.0 02:MH108       161.64    5.450 No_date   28:03   26.58  n/a     .000
02705> *   [RDT= 1.00] out<-     1.0 01:108-116     161.64    5.396 No_date   28:04   26.58  n/a     .000
02706>       [L/S/n=   77./ .130/.013]
02707>       {Vmax= 1.987:Dmax= 1.637}
02708>       [Din= 1.80:Dused= 1.99}
02709> R0002:C00417-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02710>     ROUTE PIPE      ->    1.0 02:108-116     161.64    5.396 No_date   28:04   26.58  n/a     .000
02711> *   [RDT= 1.00] out<-     1.0 01:116-corrig  161.64    5.363 No_date   28:04   26.58  n/a     .000
02712>       [L/S/n=   80./ .130/.013]
02713>       {Vmax= 1.983:Dmax= 1.631}
02714>       [Din= 1.80:Dused= 1.99}
02715> R0002:C00418-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02716>     ADD HYD               1.0 02:116-corrig  161.64    5.363 No_date   28:04   26.58  n/a     .000
02717>                       +     1.0 02:Pond-Block    2.94     .190 No_date   28:01   24.31  n/a     .000
02718>                     SUM=    1.0 01:Corrigan    164.58    5.522 No_date   28:04   26.54  n/a     .000
02719> R0002:C00419-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02720>     SAVE HYD              1.0 01:Corrigan    164.58    5.522 No_date   28:04   26.54  n/a     .000
02721>       fname :Corrigan.0002
02722>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
02723> R0002:C00420-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02724>     ROUTE RESERVOIR ->    1.0 02:Corrigan    164.58    5.522 No_date   28:04   26.54  n/a     .000
02725>                           1.0 01:Co-P        164.58    4.479 No_date   28:12   26.54  n/a     .000
02726>               overflow <=   1.0 03:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
02727>       {MxStoUsed=.9246E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02728> R0002:C00421-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02729>     ADD HYD               1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
02730>                       +     1.0 02:Co-P        164.58    4.479 No_date   28:12   26.54  n/a     .000
02731>                       +     1.0 02:N_TO      54837.69   48.890 No_date   38:55   13.18  n/a     .000
02732>                       +     1.0 02:MH105-JR     16.59    3.620 No_date   28:06   26.30  n/a     .000
02733>                       +     1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
02734>                       +     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02735>                       +     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02736>                       +     1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02737>                       +     1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02738>                       +     1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
02739>                     SUM=    1.0 01:corrig    55018.86   49.095 No_date   38:55   13.18  n/a     .000
02740> R0002:C00422-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02741>     SAVE HYD              1.0 01:corrig    55018.86   49.095 No_date   38:55   13.18  n/a     .000
02742>       fname :corrig.0002
02743>       remark:Total Flows at Corrigan Pond
02744> #*************************************************************************
02745> #    Corrigan Pond 1
02746> #    - Rating curve obtained from Barrhaven South MSS modeling
02747> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
02748> #*************************************************************************
02749> #
02750> # Hydrograph from Corrigan Drain routed to Jockvale Road
02751> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
02752> #
02753> R0002:C00423-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02754>     ROUTE CHANNEL   ->    1.0 02:corrig    55018.86   49.095 No_date   38:55   13.18  n/a     .000
02755>       [RDT= 1.00] out<-     1.0 01:N_MI      55018.86   49.093 No_date   38:58   13.18  n/a     .000
02756>       [L/S/n=  580./ .445/.045]
02757>       {Vmax= 1.454:Dmax= 1.224}
02758> #*************************************************************************
02759> #    Catchment MILLS
02760> #    - To SWM Facility north of the Jock
02761> #    - Primarily residental development
02762> #*************************************************************************
02763> R0002:C00424-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02764>     CONTINUOUS STANDHYD    1.0 01:MILLS       175.99    7.048 No_date   28:08   22.75 .500     .000
02765>       [XIMP=.38:TIMP=.38]
02766>       [LOSS= 2 :CN= 74.0]
02767>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02768>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
02769>       [IaRECimp=   4.00: IaRECper=   4.00]
02770>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02771> #*************************************************************************
02772> #    Chapman Mills SWM Pond
02773> #    - Rating curve obtained from CCL hydraulic modeling
02774> #*************************************************************************
02775> R0002:C00425-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02776>     ROUTE RESERVOIR ->    1.0 02:MILLS       175.99    7.048 No_date   28:08   22.75  n/a     .000
02777>                       out <=    1.0 01:MILL_P      175.99    2.401 No_date   28:46   22.75  n/a     .000
02778>               overflow <=   1.0 03:MIL-OV        .00     .000 No_date   0:00     .00  n/a     .000
02779>       {MxStoUsed=.1446E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02780> R0002:C00426-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02781>     ADD HYD               1.0 02:N_MI      55018.86   49.093 No_date   38:58   13.18  n/a     .000
02782>                       +     1.0 02:MIL-OV        .00     .000 No_date   0:00     .00  n/a     .000
02783>                       +     1.0 02:MILL_P      175.99    2.401 No_date   28:46   22.75  n/a     .000
02784>                     SUM=    1.0 01:SN_MI     55194.85   49.313 No_date   38:56   13.21  n/a     .000
02785> R0002:C00427-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02786>     SAVE HYD              1.0 01:SN_MI     55194.85   49.313 No_date   38:56   13.21  n/a     .000
02787>       fname :SN_MI.0002
02788>       remark:Total Flows at Jockvale Road
02789> #
02790> # Hydrograph from Jockvale Road routed to Heart's Desire
02791> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
02792> #
02793> R0002:C00428-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02794>     ROUTE CHANNEL   ->    1.0 02:SN_MI     55194.85   49.313 No_date   38:56   13.21  n/a     .000
02795>       [RDT= 1.00] out<-     1.0 01:N_DE      55194.85   49.260 No_date   39:17   13.21  n/a     .000
02796>       [L/S/n= 1962./ .223/.045]
02797>       {Vmax= 1.144:Dmax= 1.611}
02798> #*************************************************************************
02799> #    Catchment DESIRE
02800> #    - To Jock River (north of the Jock)
02801> #    - Rural-estate subdivision (Heart's Desire Community)
02802> #*************************************************************************
02803> R0002:C00429-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02804>     CONTINUOUS STANDHYD    1.0 01:DESIRE       23.78     .936 No_date   28:03   19.26 .423     .000
02805>       [XIMP=.25:TIMP=.25]
02806>       [LOSS= 2 :CN= 77.0]
02807>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02808>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
02809>       [IaRECimp=   4.00: IaRECper=   4.00]
02810>       [SMIN= 31.15: SMAX=207.66: SK= .010]
02811> #*************************************************************************
02812> #    Catchment JOCKVA
02813> #    - To Jockvale SWM Facility
02814> #    - Residential development & golf course
02815> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
02816> #          JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
02817> #*************************************************************************
02818> R0002:C00430-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02819>     CONTINUOUS STANDHYD    1.0 01:JOCKVA      225.13   10.636 No_date   28:10   26.85 .590     .000
02820>       [XIMP=.50:TIMP=.50]
02821>       [LOSS= 2 :CN= 74.0]
02822>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
02823>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
02824>       [IaRECimp=   4.00: IaRECper=   4.00]
02825>       [SMIN= 36.67: SMAX=244.49: SK= .010]
02826> R0002:C00431-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02827>     ADD HYD               1.0 02:EX-LAND-MN    32.50    2.093 No_date   28:02   26.85  n/a     .000
02828>                       +     1.0 02:JOCKVA      225.13   10.636 No_date   28:10   26.85  n/a     .000
02829>                       +     1.0 02:B2-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02830>                       +     1.0 02:B3-MJ          .00     .000 No_date   0:00     .00  n/a     .000
02831>                     SUM=    1.0 01:JOCKVA-TO   257.63   12.234 No_date   28:07   26.85  n/a     .000
02832> R0002:C00432-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02833>     SAVE HYD              1.0 01:JOCKVA-TO   257.63   12.234 No_date   28:07   26.85  n/a     .000
02834>       fname :JOCKVA-TO.0002
02835>       remark:Total Flows at KB first pond
02836> #*************************************************************************
02837> #    Jockvale SWM Facility
02838> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
02839> #*************************************************************************
02840> R0002:C00433-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02841>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO   257.63   12.234 No_date   28:07   26.85  n/a     .000
02842>                           out <=    1.0 01:JOCK_P      257.63    2.560 No_date   29:05   26.85  n/a     .000
02843>               overflow <=   1.0 03:JO-OVF         .00     .000 No_date   0:00     .00  n/a     .000
02844>       {MxStoUsed=.3334E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
02845> R0002:C00434-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02846>     ADD HYD               1.0 02:N_DE      55194.85   49.260 No_date   39:17   13.21  n/a     .000
02847>                       +     1.0 02:DESIRE        23.78     .936 No_date   28:03   19.26  n/a     .000
02848>                       +     1.0 02:JO-OVF         .00     .000 No_date   0:00     .00  n/a     .000
02849>                       +     1.0 02:JOCK_P      257.63    2.560 No_date   29:05   26.85  n/a     .000
02850>                     SUM=    1.0 01:SN_DE     55476.26   49.606 No_date   39:13   13.27  n/a     .000
02851> R0002:C00435-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02852>     SAVE HYD              1.0 01:SN_DE     55476.26   49.606 No_date   39:13   13.27  n/a     .000
02853>       fname :SN_DE.0002
02854>       remark:Total Flows at Heart's Desire
02855> #
02856> # Hydrograph from Heart's Desire routed to Rideau River
02857> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
02858> #
02859> R0002:C00436-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02860>     ROUTE CHANNEL   ->    1.0 02:SN_DE     55476.26   49.606 No_date   39:13   13.27  n/a     .000
02861>       [RDT= 1.00] out<-     1.0 01:N1        55476.26   49.604 No_date   39:19   13.27  n/a     .000
02862>       [L/S/n=  563./ .967/.045]
02863>       {Vmax= 1.490:Dmax=  .801}
02864> #*************************************************************************
02865> #    Catchment S-2
02866> #    - To Jock River (north and south)
02867> #    - Undeveloped floodplain and river
02868> #*************************************************************************
02869> R0002:C00437-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02870>     CONTINUOUS NASHYD      1.0 01:S-2         102.94    1.373 No_date   28:20   13.01 .286     .000
02871>       [CN= 72.0: N= 3.00: Tp=  .40]
02872>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02873>       [InterEventTime=  12.00]
02874> R0002:C00438-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02875>     ADD HYD               1.0 02:N1        55476.26   49.604 No_date   39:19   13.27  n/a     .000
02876>                       +     1.0 02:S-2         102.94    1.373 No_date   28:20   13.01  n/a     .000
02877>                     SUM=    1.0 01:SN_N1     55579.20   49.703 No_date   39:19   13.27  n/a     .000
02878> R0002:C00439-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02879>     SAVE HYD              1.0 01:SN_N1     55579.20   49.703 No_date   39:19   13.27  n/a     .000
02880>       fname :SN_N1.0002
02881>       remark:Total Flows at Rideau River
02882> ##############################################################################
02883>   ** END OF RUN :    4
02884>
02885> ******************************************************************************
02886>
02887>
02888>
02889>
02890>
02891>  RUN#:COMMAND#
02892> R0005:C00001-----------------------------------------------------------------
02893>       START
02894>         [TZERO =    .00 hrs on       0]
02895>         [METOUT=   2   (1=imperial, 2=metric output)]
02896>         [NSTORM=   1 ]
02897>         [NRUN  =  0005 ]
02898> *************************************************************************
02899> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
02900> *************************************************************************
02901> #  Project Name: [Jock River]    Project Number: [1474-16]
02902> #  Date       : 04-03-2021
02903> #  Modeller   : [M.M.]
02904> #  Company    : JFSAinc.
02905> #  License #  :  2549237
02906> *************************************************************************
02907> # CALIBRATION OF SUMMER MODEL PARAMETERS
02908> # USING CONTINUOUS SIMULATIONS
02909> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
02910> # Use data collected from May 1st to July 14, 2003
02911> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
02912> # 2020-12-01 correct pond curve values
02913> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
02914> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
02915> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
02916> # ------------------------------------------------------------------------
02917> R0005:C00002-----------------------------------------------------------------
02918>       READ STORM
02919>         Filename = storm.001
02920>         Comment  = Pluie SCS de 24 hres 1:5 ans pour Ottawa CDA
02921>         [SDT=10.00:SDUR=  24.00:PTOT=  57.12]
02922> R0005:C00003-----------------------------------------------------------------
02923>       MODIFY STORM
02924>         [REACT=  1.00:TSHIFT= 960.00 min]
02925>         [SDT=10.00:SDUR=  40.00:PTOT=  57.12]
02926> R0005:C00004-----------------------------------------------------------------
02927>       DEFAULT VALUES
02928>         Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
02929>         ICASEdv  = 1 (read and print data)
02930>         FileTitle= File comment: [Based onvarious calibration exercises in Onta
02931>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
02932>         Horton's infiltration equation parameters:
02933>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
02934>         Parameters for PERVIOUS surfaces in STANDHYD:
02935>         [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
02936>         Parameters for IMPERVIOUS surfaces in STANDHYD:
02937>         [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
02938>         Parameters used in NASHYD:
02939>         [Ia=   4.67 mm] [N= 3.00]
02940>         Average monthly Pan Evaporation data in    (mm)
02941>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02942>       .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02943>         Average monthly Potential Evapotranspiration in    (mm)
02944>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
02945>       .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
02946> R0005:C00005-----------------------------------------------------------------
02947>       COMPUTE API
02948>         [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
02949>         [APImax= 90.83: APIavg= 60.09: APImin= 44.87]
02950> #
02951> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02952> # of 1.32
02953> R0005:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02954>     CONTINUOUS NASHYD      1.0 01:JR_HW      3680.00    9.398 No_date   37:02   16.41 .287     .000
02955>       [CN= 64.0: N= 3.00: Tp= 7.13]
02956>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
02957>       [InterEventTime=  12.00]
02958> #
02959> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02960> # of 1.32
02961> R0005:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02962>     CONTINUOUS NASHYD      1.0 01:SW_13        971.00    3.405 No_date   32:36   15.29 .268     .000
02963>       [CN= 61.0: N= 3.00: Tp= 3.76]
02964>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
02965>       [InterEventTime=  12.00]
02966> #
02967> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02968> # of 1.80
02969> R0005:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02970>     CONTINUOUS NASHYD      1.0 01:JR_GWM     3074.00    4.682 No_date   39:59   13.23 .232     .000
02971>       [CN= 55.0: N= 3.00: Tp=11.33]
02972>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
02973>       [InterEventTime=  12.00]
02974> R0005:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02975>     CONTINUOUS NASHYD      1.0 01:JR_ASH     1781.00    8.521 No_date   32:43   20.12 .352     .000
02976>       [CN= 72.0: N= 3.00: Tp= 3.91]
02977>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02978>       [InterEventTime=  12.00]
02979> R0005:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02980>     CONTINUOUS NASHYD      1.0 01:SW_11        500.00    4.354 No_date   29:22   17.18 .301     .000
02981>       [CN= 66.0: N= 3.00: Tp= 1.24]
02982>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02983>       [InterEventTime=  12.00]
02984> #
02985> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02986> # of 1.80
02987> R0005:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02988>     CONTINUOUS NASHYD      1.0 01:NN_CK      1917.00    6.210 No_date   34:31   17.18 .301     .000
02989>       [CN= 66.0: N= 3.00: Tp= 5.29]
02990>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
02991>       [InterEventTime=  12.00]
02992> #
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02993> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
02994> # of 1.52
02995> R0005:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
02996>     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   16.924 No_date   38:02   20.12 .352     .000
02997>       [CN= 72.0: N= 3.00: Tp= 8.00]
02998>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
02999>       [InterEventTime=  12.00]
03000> #
03001> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03002> # of 1.75
03003> R0005:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03004>     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   16.342 No_date   39:59   17.18 .301     .000
03005>       [CN= 66.0: N= 3.00: Tp=11.66]
03006>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
03007>       [InterEventTime=  12.00]
03008> #
03009> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03010> # of 1.68
03011> R0005:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03012>     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00    6.963 No_date   30:55   19.24 .337     .000
03013>       [CN= 70.0: N= 3.00: Tp= 2.51]
03014>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
03015>       [InterEventTime=  12.00]
03016> #
03017> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03018> # of 1.82
03019> R0005:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03020>     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00    8.109 No_date   39:59   15.66 .274     .000
03021>       [CN= 62.0: N= 3.00: Tp=11.32]
03022>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
03023>       [InterEventTime=  12.00]
03024> #
03025> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03026> # of 1.80
03027> R0005:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03028>     CONTINUOUS NASHYD     1.0 01:SW_8        131.00    1.298 No_date   28:57   16.03 .281     .000
03029>       [CN= 63.0: N= 3.00: Tp=  .90]
03030>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
03031>       [InterEventTime=  12.00]
03032> #
03033> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03034> # of 1.65
03035> R0005:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03036>     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00    9.385 No_date   38:41   17.18 .301     .000
03037>       [CN= 66.0: N= 3.00: Tp= 8.42]
03038>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
03039>       [InterEventTime=  12.00]
03040> #
03041> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03042> # of 1.82
03043> R0005:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03044>     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00    7.027 No_date   36:28   13.89 .243     .000
03045>       [CN= 57.0: N= 3.00: Tp= 6.65]
03046>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
03047>       [InterEventTime=  12.00]
03048> #
03049> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03050> # of 1.75
03051> R0005:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03052>     CONTINUOUS NASHYD     1.0 01:SW_6         165.00     .641 No_date   33:06   17.58 .308     .000
03053>       [CN= 67.0: N= 3.00: Tp= 4.18]
03054>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
03055>       [InterEventTime=  12.00]
03056> #
03057> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03058> # of 1.67
03059> R0005:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03060>     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    4.803 No_date   35:19   20.12 .352     .000
03061>       [CN= 72.0: N= 3.00: Tp= 5.95]
03062>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
03063>       [InterEventTime=  12.00]
03064> R0005:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03065>     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    4.100 No_date   28:45   22.97 .402     .000
03066>       [CN= 77.0: N= 3.00: Tp=  .75]
03067>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03068>       [InterEventTime=  12.00]
03069> #
03070> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03071> # of 1.20
03072> R0005:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03073>     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   22.837 No_date   33:22   21.04 .368     .000
03074>       [CN= 74.0: N= 3.00: Tp= 4.45]
03075>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
03076>       [InterEventTime=  12.00]
03077> R0005:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03078>     CONTINUOUS NASHYD     1.0 01:SW_SA2        20.00     .483 No_date   28:36   25.62 .448     .000
03079>       [CN= 81.0: N= 3.00: Tp=  .62]
03080>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
03081>       [InterEventTime=  12.00]
03082> #
03083> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
03084> # of 1.61
03085> R0005:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03086>     CONTINUOUS NASHYD     1.0 01:SW_SA1      1412.00    4.646 No_date   37:58   21.98 .385     .000
03087>       [CN= 75.0: N= 3.00: Tp= 8.00]
03088>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
03089>       [InterEventTime=  12.00]
03090> R0005:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03091>     CONTINUOUS NASHYD     1.0 01:SW_4         585.00    6.688 No_date   29:57   25.62 .448     .000
03092>       [CN= 81.0: N= 3.00: Tp= 1.75]
03093>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
03094>       [InterEventTime=  12.00]
03095> R0005:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03096>     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00    8.861 No_date   30:48   25.07 .439     .000
03097>       [CN= 80.0: N= 3.00: Tp= 2.46]
03098>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
03099>       [InterEventTime=  12.00]
03100> R0005:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03101>     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    3.240 No_date   28:45   22.97 .402     .000
03102>       [CN= 77.0: N= 3.00: Tp=  .75]
03103>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
03104>       [InterEventTime=  12.00]
03105> R0005:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03106>     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00    8.165 No_date   31:48   25.62 .448     .000
03107>       [CN= 81.0: N= 3.00: Tp= 3.25]
03108>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
03109>       [InterEventTime=  12.00]
03110> R0005:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03111>     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   17.859 No_date   31:33   22.47 .393     .000
03112>       [CN= 76.0: N= 3.00: Tp= 3.03]
03113>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
03114>       [InterEventTime=  12.00]
03115> #
03116> # Routing hydrographs
03117> #
03118> # Starting with the addition of Jock River Headwater and Subwatershed 13
03119> #
03120> R0005:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03121>     ADD HYD               1.0 02:JR_HW       3680.00    9.398 No_date   37:02   16.41 n/a      .000
03122>                       +   1.0 02:SW_13        971.00    3.405 No_date   32:36   15.29 n/a      .000
03123>                   SUM=    1.0 01:S_N13       4651.00   11.949 No_date   35:33   16.17 n/a      .000
03124> #
03125> # Sum of hydrographs from Node 13 routed to Node 13A
03126> # (Approximated cross-section - see cross-section 258)
03127> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
03128> #
03129> R0005:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03130>     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   11.949 No_date   35:33   16.17 n/a      .000
03131>       [RDT= 1.00] out<-    1.0 01:N13A        4651.00    9.514 No_date   39:57   16.17 n/a      .000
03132>       [L/S/n= 9074./ .022/.040]
03133>       {Vmax=  .478:Dmax= 3.020}
03134> #
03135> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
03136> #
03137> R0005:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03138>     ADD HYD               1.0 02:N13A        4651.00    9.514 No_date   39:57   16.17 n/a      .000
03139>                       +   1.0 02:JR_GWM      3074.00    4.682 No_date   39:59   13.23 n/a      .000
03140>                   SUM=    1.0 01:SN13A       7725.00   14.196 No_date   39:59   15.00 n/a      .000
03141> #
03142> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
03143> #
03144> R0005:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03145>     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   14.196 No_date   39:59   15.00 n/a      .000
03146>                       out <=  1.0 01:RES_GM      7725.00    3.149 No_date   57:25   15.00 n/a      .000
03147>       {MxStoUsed=.6321E+02  m3}
03148> #
03149> R0005:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03150>     SAVE HYD              1.0 01:RES_GM      7725.00    3.149 No_date   57:25   15.00 n/a      .000
03151>       fname :H_RESGM
03152>       remark:Outflow from Res GM
03153> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
03154> # (Approximated cross-section - see cross-section 258)
03155> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
03156> R0005:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03157>     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.149 No_date   57:25   15.00 n/a      .000
03158>       [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.137 No_date   60:12   15.00 n/a      .000
03159>       [L/S/n= 5926./ .076/.040]
03160>       {Vmax=  .527:Dmax= 1.429}
03161> #
03162> # Addition of Subwatershed Jock River at Ashton to Node 12
03163> #
03164> R0005:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03165>     ADD HYD               1.0 02:N12         7725.00    3.137 No_date   60:12   15.00 n/a      .000
03166>                       +   1.0 02:JR_ASH      1781.00    8.521 No_date   32:43   20.12 n/a      .000
03167>                   SUM=    1.0 01:S_N12       9506.00   10.498 No_date   32:46   15.96 n/a      .000
03168> R0005:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03169>     SAVE HYD              1.0 01:S_N12       9506.00   10.498 No_date   32:46   15.96 n/a      .000
03170>       fname :H_SN12
03171>       remark:flow at S_N12 near Ashton
03172> #
03173> # Sum of hydrographs from Node 12 routed to Node 11
03174> # (Approximated cross-section - see cross-section 258)
03175> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
03176> #
03177> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
03178> #
03179> R0005:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03180>     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   10.498 No_date   32:46   15.96 n/a      .000
03181>       [RDT= 1.00] out<-    1.0 01:Dum11       9506.00   10.383 No_date   33:07   15.96 n/a      .000
03182>       [L/S/n=  972./ .054/.040]
03183>       {Vmax=  .648:Dmax= 2.406}
03184> #
03185> # Addition of Subwatershed 11 and No Name Creek to Node 11
03186> #
03187> R0005:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03188>     ADD HYD               1.0 02:Dum11       9506.00   10.383 No_date   33:07   15.96 n/a      .000
03189>                       +   1.0 02:SW_11        500.00    4.354 No_date   29:22   17.18 n/a      .000
03190>                       +   1.0 02:NN_CK       1917.00    6.210 No_date   34:31   17.18 n/a      .000
03191>                   SUM=    1.0 01:S_N11       11923.00   17.560 No_date   33:09   16.21 n/a      .000
03192> #
03193> # Sum of hydrographs from Node 11 routed to Node 10
03194> # Section 1
03195> #
03196> R0005:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03197>     ROUTE CHANNEL   ->    1.0 02:S_N11       11923.00   17.560 No_date   33:09   16.21 n/a      .000
03198>       [RDT= 1.00] out<-    1.0 01:N10         11923.00   12.006 No_date   38:17   16.21 n/a      .000
03199>       [L/S/n=14028./ .157/.040]
03200>       {Vmax=  .461:Dmax= 1.087}
03201> #
03202> # Addition of Subwatershed 10 to Node 10
03203> #
03204> R0005:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03205>     ADD HYD               1.0 02:N10         11923.00   12.006 No_date   38:17   16.21 n/a      .000
03206>                       +   1.0 02:SW_10       5666.00   16.924 No_date   38:02   20.12 n/a      .000
03207>                   SUM=    1.0 01:S_N10       17589.00   28.927 No_date   38:09   17.47 n/a      .000
03208> R0005:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03209>     SAVE HYD              1.0 01:S_N10       17589.00   28.927 No_date   38:09   17.47 n/a      .000
03210>       fname :H_SN10
03211>       remark:flow at S_N10: N10 + SW_10
03212> # Addition of Kings Creek to S_N10
03213> #
03214> R0005:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03215>     ADD HYD               1.0 02:S_N10       17589.00   28.927 No_date   38:09   17.47 n/a      .000
03216>                       +   1.0 02:KG_CK        8376.00   16.342 No_date   39:59   17.18 n/a      .000
03217>                   SUM=    1.0 01:S_N10A      25965.00   44.722 No_date   39:35   17.37 n/a      .000
03218> #
03219> # Sum of hydrographs from Node 10 routed to Node 9
03220> # Section 2
03221> #
03222> R0005:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03223>     ROUTE CHANNEL   ->    1.0 02:S_N10A      25965.00   44.722 No_date   39:35   17.37 n/a      .000
03224>       [RDT= 1.00] out<-    1.0 01:N9          25965.00   43.534 No_date   39:59   17.37 n/a      .000
03225>       [L/S/n= 3982./ .075/.040]
03226>       {Vmax=  .664:Dmax= 1.502}
03227> #
03228> # Addition of Subwatershed 9 and Nichols Creek to Node 9
03229> #
03230> R0005:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03231>     ADD HYD               1.0 02:N9          25965.00   43.534 No_date   39:59   17.37 n/a      .000
03232>                       +   1.0 02:SW_9        1132.00    6.963 No_date   30:55   19.24 n/a      .000
03233>                       +   1.0 02:NC_CK       4464.00    8.109 No_date   39:59   15.66 n/a      .000
03234>                   SUM=    1.0 01:S_N9        31561.00   53.366 No_date   39:59   17.20 n/a      .000
03235> #
03236> # Sum of hydrographs from Node 9 routed to Node 8
03237> # Section 3
03238> #
03239> R0005:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03240>     ROUTE CHANNEL   ->    1.0 02:S_N9        31561.00   53.366 No_date   39:59   17.20 n/a      .000
03241>       [RDT= 1.00] out<-    1.0 01:N8          31561.00   49.404 No_date   39:59   17.20 n/a      .000
03242>       [L/S/n= 2269./ .088/.045]
03243>       {Vmax=  .370:Dmax= 1.520}
03244> #
03245> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
03246> #
03247> R0005:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03248>     ADD HYD               1.0 02:N8          31561.00   49.404 No_date   39:59   17.20 n/a      .000
03249>                       +   1.0 02:SW_8         131.00    1.298 No_date   28:57   16.03 n/a      .000
03250>                       +   1.0 02:HB_DR       3854.00    9.385 No_date   38:41   17.18 n/a      .000
03251>                   SUM=    1.0 01:S_N8        35546.00   58.845 No_date   39:59   17.19 n/a      .000
03252> #
03253> # Sum of hydrographs from Node 8 routed to Node 7
03254> # Section 4
03255> #
03256> R0005:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03257>     ROUTE CHANNEL   ->    1.0 02:S_N8        35546.00   58.845 No_date   39:59   17.19 n/a      .000
03258>       [RDT= 1.00] out<-    1.0 01:N7          35546.00   48.127 No_date   45:08   17.19 n/a      .000
03259>       [L/S/n= 3750./ .053/.070]
03260>       {Vmax=  .208:Dmax= 1.855}
03261> #
03262> # Addition of Subwatershed 7 to Node 7
03263> #
03264> R0005:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03265>     ADD HYD               1.0 02:N7          35546.00   48.127 No_date   45:08   17.19 n/a      .000
03266>                       +   1.0 02:SW_7        3197.00    7.027 No_date   36:28   13.89 n/a      .000
03267>                   SUM=    1.0 01:S_N7        38743.00   51.395 No_date   44:14   16.92 n/a      .000
03268> R0005:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03269>     SAVE HYD              1.0 01:S_N7        38743.00   51.395 No_date   44:14   16.92 n/a      .000
03270>       fname :H_SN7
03271>       remark:flow at S_N7: N7 + SW_7
03272> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
03273> # Storage area and volumes were estimated from available topo maps.
03274> # Release rate from fen was assumed to be controlled by the downstream
03275> # river cross-section for summer conditions.  It is was assumed that for up to
03276> # 0.75 m of water, the main channel of the river provided the storage.  Above
03277> # this depth, the wetland starts to signigicantly store water.
03278> #
03279> R0005:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03280>     ROUTE RESERVOIR ->    1.0 02:S_N7        38743.00   51.395 No_date   44:14   16.92 n/a      .000
03281>                       out <=  1.0 01:RES_RF      38743.00   27.976 No_date   59:12   16.92 n/a      .000
03282>       {MxStoUsed=.1784E+03  m3}
03283> R0005:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03284>     SAVE HYD              1.0 01:RES_RF      38743.00   27.976 No_date   59:12   16.92 n/a      .000
03285>       fname :H_ResRF
03286>       remark:outflow of Richmond Fen
03287> #
03288> # Sum of hydrographs from Node 7 routed to Node 6
03289> # Section 5
03290> #
03291> R0005:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03292>     ROUTE CHANNEL   ->    1.0 02:RES_RF      38743.00   27.976 No_date   59:12   16.92 n/a      .000
03293>       [RDT= 1.00] out<-    1.0 01:N6          38743.00   27.930 No_date   60:29   16.92 n/a      .000
03294>       [L/S/n= 3056./ .082/.025]
03295>       {Vmax=  .460:Dmax=  .895}
03296> #
03297> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
03298> #
03299> R0005:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03300>     ADD HYD               1.0 02:N6          38743.00   27.930 No_date   60:29   16.92 n/a      .000
03301>                       +   1.0 02:SW_6         165.00     .641 No_date   33:06   17.58 n/a      .000
03302>                       +   1.0 02:VG_DR       1332.00    4.803 No_date   35:19   20.12 n/a      .000
03303>                   SUM=    1.0 01:S_N6        40240.01   27.944 No_date   60:06   17.03 n/a      .000
03304> #
03305> # Sum of hydrographs from Node 6 routed to Node 5
03306> # Section 6
03307> #
03308> R0005:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03309>     ROUTE CHANNEL   ->    1.0 02:S_N6        40240.01   27.944 No_date   60:06   17.03 n/a      .000
03310>       [RDT= 1.00] out<-    1.0 01:N5          40240.01   27.922 No_date   60:57   17.03 n/a      .000
03311>       [L/S/n= 1852./ .054/.035]
03312>       {Vmax=  .397:Dmax= 1.002}
03313> #
03314> # Addition of Subwatershed 5 and Flowing Creek to Node 5
03315> #
03316> R0005:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03317>     ADD HYD               1.0 02:N5          40240.01   27.922 No_date   60:57   17.03 n/a      .000
03318>                       +   1.0 02:SW_5         224.00    4.100 No_date   28:45   22.97 n/a      .000
03319>                       +   1.0 02:FL_CK       4945.00   22.837 No_date   33:22   21.04 n/a      .000
03320>                   SUM=    1.0 01:S_N5        45409.01   43.566 No_date   35:28   17.49 n/a      .000
03321> #
03322> # Sum of hydrographs from Node 5 routed to Node 5A
03323> # Section 7
03324> #
03325> R0005:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03326>     ROUTE CHANNEL   ->    1.0 02:S_N5        45409.01   43.566 No_date   35:28   17.49 n/a      .000
03327>       [RDT= 1.00] out<-    1.0 01:N5A         45409.01   43.490 No_date   35:47   17.49 n/a      .000
03328>       [L/S/n=  556./ .090/.040]
03329>       {Vmax=  .465:Dmax= 1.060}
03330> #
03331> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
03332> #
03333> R0005:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03334>     ADD HYD               1.0 02:N5A         45409.01   43.490 No_date   35:47   17.49 n/a      .000
03335>                       +   1.0 02:SW_5A2       20.00     .483 No_date   28:36   25.62 n/a      .000
03336>                       +   1.0 02:SW_5A1      1412.00    4.646 No_date   37:58   21.98 n/a      .000
03337>                   SUM=    1.0 01:S_N5A       46841.01   47.976 No_date   35:58   17.63 n/a      .000
03338> #
03339> # Sum of hydrographs from Node 5A routed to Node 4
03340> # Section 8
03341> #
03342> R0005:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03343>     ROUTE CHANNEL   ->    1.0 02:S_N5A       46841.01   47.976 No_date   35:58   17.63 n/a      .000
03344>       [RDT= 1.00] out<-    1.0 01:N4          46841.01   46.217 No_date   37:26   17.63 n/a      .000
03345>       [L/S/n= 4630./ .043/.035]
03346>       {Vmax=  .756:Dmax= 3.116}
03347> #
03348> # Addition of Subwatershed 4 and Leamy Creek to Node 4
03349> #
03350> R0005:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03351>     ADD HYD               1.0 02:N4          46841.01   46.217 No_date   37:26   17.63 n/a      .000
03352>                       +   1.0 02:SW_4         585.00    6.688 No_date   29:57   25.62 n/a      .000
03353>                       +   1.0 02:LM_CK       1021.00    8.861 No_date   30:48   25.07 n/a      .000
03354>                   SUM=    1.0 01:S_N4        47847.00   50.308 No_date   36:47   17.89 n/a      .000
03355> R0005:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03356>     SAVE HYD              1.0 01:S_N4        48447.00   50.308 No_date   36:47   17.89 n/a      .000
03357>       fname :S_N4.0005
03358>       remark:flow at S_N4
03359> #
03360> # Sum of hydrographs from Node 4 routed to Node 2
03361> # Section 9
03362> #
03363> R0005:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03364>     ROUTE CHANNEL   ->    1.0 02:S_N4        48447.00   50.308 No_date   36:47   17.89 n/a      .000
03365>       [RDT= 1.00] out<-    1.0 01:N2          48447.00   50.131 No_date   37:08   17.89 n/a      .000
03366>       [L/S/n= 1667./ .060/.040]
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03367>       {Vmax=  .781:Dmax= 3.131}
03368> #
03369> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
03370> #
03371> R0005:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03372>      ADD HYD              1.0 02:N2        48447.00   50.131 No_date   37:08   17.89  n/a     .000
03373>                       +     1.0 02:SW_2        177.00    3.240 No_date   28:45   22.97  n/a     .000
03374>                       +     1.0 02:SM_DR      1122.00    8.165 No_date   31:48   25.62  n/a     .000
03375>                       +     1.0 02:MO_DR      2737.00   17.859 No_date   31:33   22.47  n/a     .000
03376>                   SUM=      1.0 01:S_N2      52483.00   67.222 No_date   33:17   18.31  n/a     .000
03377> R0005:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03378>      SAVE HYD             1.0 01:S_N2      52483.00   67.222 No_date   33:17   18.31  n/a     .000
03379>         fname :H_SN2
03380>         remark:flow at S_N2 Jock River Gauge at Moodie Dr.
03381> #
03382> # Sum of hydrographs from Node 2 routed to Node 1
03383> # Section 10
03384> #
03385> #*******************************************************************************
03386> #
03387> # Hydrograph from Node 2 routed to Node 416
03388> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
03389> #
03390> R0005:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03391>      ROUTE CHANNEL    ->     1.0 02:S_N2      52483.00   67.222 No_date   33:17   18.31  n/a     .000
03392>        [RDT= 1.00] out<-     1.0 01:N_416     52483.00   65.664 No_date   34:34   18.31  n/a     .000
03393>          [L/S/n= 2327./ .050/ .055]
03394>          {Vmax=  .658:Dmax= 2.660}
03395> #*******************************************************************************
03396> #    Catchment SW-1a
03397> #  - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
03398> #  - Undeveloped agricultural land
03399> #*******************************************************************************
03400> R0005:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03401>      CONTINUOUS NASHYD    1.0 01:SW_1a       536.42    3.012 No_date   31:18   19.00 .333     .000
03402>          [CN= 72.0: N= 3.00: Tp= 2.79]
03403>          [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
03404>          [InterEventTime=  12.00]
03405> R0005:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03406>      CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    4.591 No_date   28:03   42.00 .735     .000
03407>          [XIMP=.65:TIMP=.65]
03408>          [LOSS= 2 :CN= 75.0]
03409>          [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
03410>          [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
03411>          [IaRECimp=   4.00: IaRECper=   4.00]
03412>          [SMIN= 33.81: SMAX=225.43: SK= .010]
03413> R0005:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03414>      COMPUTE DUALHYD      1.0 01:S-1+Okeefe    44.93    4.591 No_date   28:03   42.00 n/a      .000
03415>        Major System   /     1.0 02:S-1-OkMJ        .00     .000 No_date    0:00     .00 n/a      .000
03416>        Minor System         1.0 03:S-1-OkMN     44.93    4.591 No_date   28:03   42.00 n/a      .000
03417>          {MjStoSto=.0000E+00, TotOvfVol=.0000E+00, m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03418> R0005:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03419>      ADD HYD              1.0 02:S-1-OkMJ        .00     .000 No_date    0:00     .00 n/a      .000
03420>                       +     1.0 03:S-1-OkMN     44.93    4.591 No_date   28:03   42.00 n/a      .000
03421>                   SUM=      1.0 01:S-1-OkS      44.93    4.591 No_date   28:03   42.00 n/a      .000
03422> R0005:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03423>      ROUTE RESERVOIR  ->     1.0 02:S-1-OkS      44.93    4.591 No_date   28:03   42.00 n/a      .000
03424>                       out <=     1.0 01:S-1-OkSR     44.93     .340 No_date   29:30   42.00 n/a      .000
03425>                   overflow <=    1.0 03:S-1-OkSovf      .00     .000 No_date    0:00     .00 n/a      .000
03426>          {MxStoUsed=.3133E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03427> R0005:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03428>      ADD HYD              1.0 02:N_416     52483.00   65.664 No_date   34:34   18.31  n/a     .000
03429>                       +     1.0 02:SW_1a       536.42    3.012 No_date   31:18   19.00  n/a     .000
03430>                       +     1.0 02:S-1-OkSR     44.93     .340 No_date   29:30   42.00  n/a     .000
03431>                       +     1.0 02:S-1-OkSovf      .00     .000 No_date    0:00     .00  n/a     .000
03432>                   SUM=      1.0 01:SN_416    53064.36   68.103 No_date   34:06   18.33  n/a     .000
03433> R0005:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03434>      SAVE HYD             1.0 01:SN_416    53064.36   68.103 No_date   34:06   18.33  n/a     .000
03435>         fname :SN_416.0005
03436>         remark:Total Flows at Highway 416 before Station 7245
03437> #
03438> # Hydrograph from Node 416 routed to Node at Okeefe drain
03439> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
03440> #
03441> R0005:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03442>      ROUTE CHANNEL    ->     1.0 02:SN_416    53064.36   68.103 No_date   34:06   18.33  n/a     .000
03443>        [RDT= 1.00] out<-     1.0 01:N_OK      53064.36   68.074 No_date   34:06   18.33  n/a     .000
03444>          [L/S/n=  497./ .302/ .055]
03445>          {Vmax= 1.357:Dmax= 2.255}
03446> #*******************************************************************************
03447> #    Catchment OKEEFE
03448> #  - To O'Keefe drain (north of the Jock)
03449> #  - Developed with assumed 43% imp.
03450> #  - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
03451> #  - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
03452> #*******************************************************************************
03453> R0005:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03454>      CONTINUOUS NASHYD    1.0 01:O-1         63.72     .514 No_date   28:59   13.88 .243     .000
03455>          [CN= 61.0: N= 3.00: Tp=  .90]
03456>          [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
03457>          [InterEventTime=  12.00]
03458> R0005:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03459>      ROUTE CHANNEL    ->     1.0 02:O-1         63.72     .514 No_date   28:59   13.88  n/a     .000
03460>        [RDT= 1.00] out<-     1.0 01:O-1R        63.72     .470 No_date   29:19   13.88  n/a     .000
03461>          [L/S/n=  966./ .630/ .043]
03462>          {Vmax=  .682:Dmax=  .283}
03463> R0005:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03464>      CONTINUOUS NASHYD    1.0 01:O-2         28.61     .183 No_date   29:14   12.96 .227     .000
03465>          [CN= 57.0: N= 3.00: Tp= 1.10]
03466>          [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
03467>          [InterEventTime=  12.00]
03468> R0005:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03469>      CONTINUOUS NASHYD    1.0 01:O-4         46.94     .222 No_date   29:01    9.87 .173     .000
03470>          [CN= 49.0: N= 3.00: Tp=  .99]
03471>          [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
03472>          [InterEventTime=  12.00]
03473> R0005:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03474>      ADD HYD              1.0 02:O-1R        63.72     .470 No_date   29:19   13.88  n/a     .000
03475>                       +     1.0 02:O-2         28.61     .183 No_date   29:14   12.96  n/a     .000
03476>                       +     1.0 02:O-4         46.94     .222 No_date   29:01    9.87  n/a     .000
03477>                   SUM=      1.0 01:OKF-N      139.27     .867 No_date   29:14   12.34  n/a     .000
03478> R0005:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03479>      ROUTE CHANNEL    ->     1.0 02:OKF-N      139.27     .867 No_date   29:14   12.34  n/a     .000
03480>        [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27     .866 No_date   29:17   12.34  n/a     .000
03481>          [L/S/n=  210./ .810/.043]
03482>          {Vmax=  .853:Dmax=  .550}
03483> R0005:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03484>      CONTINUOUS NASHYD    1.0 01:O-6         16.46     .074 No_date   28:46    8.71 .152     .000
03485>          [CN= 43.0: N= 3.00: Tp=  .70]
03486>          [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
03487>          [InterEventTime=  12.00]
03488> R0005:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03489>      CONTINUOUS STANDHYD   1.0 01:O-3         39.67     .605 No_date   28:25   15.80 .277     .000
03490>          [XIMP=.15:TIMP=.30]
03491>          [LOSS= 2 :CN= 61.0]
03492>          [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
03493>          [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
03494>          [IaRECimp=   4.00: IaRECper=   4.00]
03495>          [SMIN= 99.77: SMAX=665.12: SK= .010]
03496> R0005:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03497>      CONTINUOUS STANDHYD   1.0 01:O-5         60.63    1.453 No_date   28:11   17.75 .311     .000
03498>          [XIMP=.13:TIMP=.26]
03499>          [LOSS= 2 :CN= 61.0]
03500>          [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
03501>          [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
03502>          [IaRECimp=   4.00: IaRECper=   4.00]
03503>          [SMIN= 64.50: SMAX=430.01: SK= .010]
03504> R0005:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03505>      ADD HYD              1.0 02:OKF-NR      139.27     .866 No_date   29:17   12.34  n/a     .000
03506>                       +     1.0 02:O-3         39.67     .605 No_date   28:25   15.80  n/a     .000
03507>                       +     1.0 02:O-5         60.63    1.453 No_date   28:11   17.75  n/a     .000
03508>                       +     1.0 02:O-6         16.46     .074 No_date   28:46    8.71  n/a     .000
03509>                   SUM=      1.0 01:PT1        256.03    2.312 No_date   28:24   13.92  n/a     .000
03510> R0005:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03511>      CONTINUOUS NASHYD    1.0 01:O-7          5.28     .041 No_date   28:37   11.36 .199     .000
03512>          [CN= 54.0: N= 3.00: Tp=  .60]
03513>          [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
03514>          [InterEventTime=  12.00]
03515> R0005:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03516>      ADD HYD              1.0 02:PT1        256.03    2.312 No_date   28:24   13.92  n/a     .000
03517>                       +     1.0 02:O-7          5.28     .041 No_date   28:37   11.36  n/a     .000
03518>                   SUM=      1.0 01:FF         261.31    2.351 No_date   28:25   13.87  n/a     .000
03519> R0005:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03520>      ROUTE CHANNEL    ->     1.0 02:FF         261.31    2.351 No_date   28:25   13.87  n/a     .000
03521>        [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31    2.298 No_date   28:31   13.87  n/a     .000
03522>          [L/S/n=  302./1.000/.043]
03523>          {Vmax=  .817:Dmax=  .623}
03524> R0005:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03525>      CONTINUOUS NASHYD    1.0 01:O1          1.17     .044 No_date   28:12   23.49 .411     .000
03526>          [CN= 84.0: N= 3.00: Tp=  .28]
03527>          [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
03528>          [InterEventTime=  12.00]
03529> R0005:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03530>      CONTINUOUS STANDHYD   1.0 01:A1          2.50     .337 No_date   28:01   44.03 .771     .000
03531>          [XIMP=.68:TIMP=.85]
03532>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03533>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03534>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
03535>          [IaRECimp=   4.00: IaRECper=   4.00]
03536> R0005:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03537>      ROUTE RESERVOIR  ->     1.0 02:A1          2.50     .337 No_date   28:01   44.03  n/a     .000
03538>                       out <=     1.0 01:A1-STR      2.50     .076 No_date   28:28   44.03  n/a     .000
03539>                   overflow <=    1.0 03:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03540>          {MxStoUsed=.5227E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03541> R0005:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03542>      CONTINUOUS STANDHYD   1.0 01:ST-2         .59     .062 No_date   28:00   33.25 .582     .000
03543>          [XIMP=.46:TIMP=.57]
03544>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03545>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03546>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
03547>          [IaRECimp=   4.00: IaRECper=   4.00]
03548> R0005:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03549>      ROUTE RESERVOIR  ->     1.0 02:ST-2         .59     .062 No_date   28:00   33.25  n/a     .000
03550>                       out <=     1.0 01:ST2STR      .59     .052 No_date   28:03   33.25  n/a     .000
03551>                   overflow <=    1.0 03:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
03552>          {MxStoUsed=.1200E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03553> R0005:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03554>      CONTINUOUS NASHYD    1.0 01:O-8         60.55     .658 No_date   29:05   18.08 .317     .000
03555>          [CN= 69.0: N= 3.00: Tp= 1.00]
03556>          [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
03557>          [InterEventTime=  12.00]
03558> R0005:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03559>      ROUTE PIPE       ->     1.0 02:O-8         60.55     .658 No_date   29:05   18.08  n/a     .000
03560>        [RDT= 1.00] out<-     1.0 01:O8PIPE      60.55     .654 No_date   29:09   18.08  n/a     .000
03561>          [L/S/n=  335./ .100/.013]
03562>          {Vmax=  .991:Dmax=  .368}
03563>          {HGT= 1.20:WDTH= 1.80}
03564> R0005:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03565>      ADD HYD              1.0 02:DRAIN1      261.31    2.298 No_date   28:31   13.87  n/a     .000
03566>                       +     1.0 02:D1          1.17     .044 No_date   28:12   23.49  n/a     .000
03567>                       +     1.0 02:A1-STR      2.50     .076 No_date   28:28   44.03  n/a     .000
03568>                       +     1.0 02:A1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03569>                       +     1.0 02:ST2STR       .59     .052 No_date   28:03   33.25  n/a     .000
03570>                       +     1.0 02:ST2OVF       .00     .000 No_date    0:00     .00  n/a     .000
03571>                       +     1.0 02:O8PIPE     60.55     .654 No_date   29:09   18.08  n/a     .000
03572>                   SUM=      1.0 01:ST2-IN     326.12    2.907 No_date   28:39   14.95  n/a     .000
03573> R0005:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03574>      CONTINUOUS STANDHYD   1.0 01:A7          3.51     .460 No_date   28:02   44.03 .771     .000
03575>          [XIMP=.68:TIMP=.85]
03576>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03577>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03578>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
03579>          [IaRECimp=   4.00: IaRECper=   4.00]
03580> R0005:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03581>      ROUTE RESERVOIR  ->     1.0 02:A7          3.51     .460 No_date   28:02   44.03  n/a     .000
03582>                       out <=     1.0 01:A7-STR      3.51     .108 No_date   28:29   44.03  n/a     .000
03583>                   overflow <=    1.0 03:A7-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03584>          {MxStoUsed=.7349E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03585> R0005:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03586>      CONTINUOUS STANDHYD   1.0 01:ST-3          .71     .073 No_date   28:00   33.25 .582     .000
03587>          [XIMP=.46:TIMP=.57]
03588>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03589>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03590>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
03591>          [IaRECimp=   4.00: IaRECper=   4.00]
03592> R0005:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03593>      ROUTE RESERVOIR  ->     1.0 02:ST-3          .71     .073 No_date   28:00   33.25  n/a     .000
03594>                       out <=     1.0 01:ST3STR      .71     .063 No_date   28:03   33.25  n/a     .000
03595>                   overflow <=    1.0 03:ST3OVF       .00     .000 No_date    0:00     .00  n/a     .000
03596>          {MxStoUsed=.1203E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03597> R0005:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03598>      ADD HYD              1.0 02:ST2-IN      326.12    2.907 No_date   28:39   14.95  n/a     .000
03599>                       +     1.0 02:A7-STR      3.51     .108 No_date   28:29   44.03  n/a     .000
03600>                       +     1.0 02:A7-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03601>                       +     1.0 02:ST3STR       .71     .063 No_date   28:03   33.25  n/a     .000
03602>                       +     1.0 02:ST3OVF       .00     .000 No_date    0:00     .00  n/a     .000
03603>                   SUM=      1.0 01:PT2STS     330.34    3.026 No_date   28:38   15.30  n/a     .000
03604> R0005:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03605>      ROUTE CHANNEL    ->     1.0 02:PT2STS     330.34    3.026 No_date   28:38   15.30  n/a     .000
03606>        [RDT= 1.00] out<-     1.0 01:DRAIN2     330.34    2.842 No_date   29:04   15.30  n/a     .000
03607>          [L/S/n=  592./ .230/.043]
03608>          {Vmax=  .607:Dmax=  .930}
03609> R0005:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03610>      CONTINUOUS NASHYD    1.0 01:D2          2.28     .035 No_date   29:05   23.49 .411     .000
03611>          [CN= 84.0: N= 3.00: Tp=  .99]
03612>          [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
03613>          [InterEventTime=  12.00]
03614> R0005:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03615>      CONTINUOUS STANDHYD   1.0 01:A17         12.04    1.379 No_date   28:04   44.03 .771     .000
03616>          [XIMP=.68:TIMP=.85]
03617>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03618>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03619>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
03620>          [IaRECimp=   4.00: IaRECper=   4.00]
03621> R0005:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03622>      ROUTE RESERVOIR  ->     1.0 02:A17         12.04    1.379 No_date   28:04   44.03  n/a     .000
03623>                       out <=     1.0 01:A17STR     12.04     .353 No_date   28:36   44.03  n/a     .000
03624>                   overflow <=    1.0 03:A17OVF       .00     .000 No_date    0:00     .00  n/a     .000
03625>          {MxStoUsed=.2492E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03626> R0005:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03627>      CONTINUOUS STANDHYD   1.0 01:ST-4          .35     .038 No_date   28:00   33.25 .582     .000
03628>          [XIMP=.46:TIMP=.57]
03629>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03630>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03631>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
03632>          [IaRECimp=   4.00: IaRECper=   4.00]
03633> R0005:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03634>      ROUTE RESERVOIR  ->     1.0 02:ST-4          .35     .038 No_date   28:00   33.25  n/a     .000
03635>                       out <=     1.0 01:ST4STR      .35     .031 No_date   28:03   33.25  n/a     .000
03636>                   overflow <=    1.0 03:ST4OVF       .00     .000 No_date    0:00     .00  n/a     .000
03637>          {MxStoUsed=.1040E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03638> R0005:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03639>      CONTINUOUS STANDHYD   1.0 01:A18         5.30     .671 No_date   28:02   44.03 .771     .000
03640>          [XIMP=.68:TIMP=.85]
03641>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03642>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03643>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
03644>          [IaRECimp=   4.00: IaRECper=   4.00]
03645> R0005:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03646>      ROUTE RESERVOIR  ->     1.0 02:A18         5.30     .671 No_date   28:02   44.03  n/a     .000
03647>                       out <=     1.0 01:A18STR      5.30     .160 No_date   28:31   44.03  n/a     .000
03648>                   overflow <=    1.0 03:A18OVF       .00     .000 No_date    0:00     .00  n/a     .000
03649>          {MxStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03650> R0005:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03651>      ADD HYD              1.0 02:DRAIN2      330.34    2.842 No_date   29:04   15.30  n/a     .000
03652>                       +     1.0 02:D2          2.28     .035 No_date   29:05   23.49  n/a     .000
03653>                       +     1.0 02:A17STR     12.04     .353 No_date   28:36   44.03  n/a     .000
03654>                       +     1.0 02:A17OVF       .00     .000 No_date    0:00     .00  n/a     .000
03655>                       +     1.0 02:ST4STR       .35     .031 No_date   28:03   33.25  n/a     .000
03656>                       +     1.0 02:ST4OVF       .00     .000 No_date    0:00     .00  n/a     .000
03657>                       +     1.0 02:A18STR      5.30     .160 No_date   28:31   44.03  n/a     .000
03658>                       +     1.0 02:A18OVF       .00     .000 No_date    0:00     .00  n/a     .000
03659>                   SUM=      1.0 01:PT3ST4     350.31    3.317 No_date   28:57   16.79  n/a     .000
03660> R0005:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03661>      ROUTE CHANNEL    ->     1.0 02:PT3ST4     350.31    3.317 No_date   28:57   16.79  n/a     .000
03662>        [RDT= 1.00] out<-     1.0 01:DRAIN3     350.31    3.191 No_date   29:19   16.79  n/a     .000
03663>          [L/S/n=  525./ .230/.043]
03664>          {Vmax=  .635:Dmax=  .979}
03665> R0005:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03666>      CONTINUOUS NASHYD    1.0 01:D3          2.51     .055 No_date   28:45   25.92 .454     .000
03667>          [CN= 86.0: N= 3.00: Tp=  .73]
03668>          [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
03669>          [InterEventTime=  12.00]
03670> R0005:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03671>      CONTINUOUS STANDHYD   1.0 01:C1          3.41     .450 No_date   28:01   44.03 .771     .000
03672>          [XIMP=.68:TIMP=.85]
03673>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03674>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03675>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
03676>          [IaRECimp=   4.00: IaRECper=   4.00]
03677> R0005:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03678>      ROUTE RESERVOIR  ->     1.0 02:C1          3.41     .450 No_date   28:01   44.03  n/a     .000
03679>                       out <=     1.0 01:C1-STR      3.41     .104 No_date   28:29   44.03  n/a     .000
03680>                   overflow <=    1.0 03:C1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03681>          {MxStoUsed=.7123E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03682> R0005:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03683>      CONTINUOUS STANDHYD   1.0 01:ST-5          .45     .048 No_date   28:00   33.25 .582     .000
03684>          [XIMP=.46:TIMP=.57]
03685>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03686>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
03687>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
03688>          [IaRECimp=   4.00: IaRECper=   4.00]
03689> R0005:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03690>      ROUTE RESERVOIR  ->     1.0 02:ST-5          .45     .048 No_date   28:00   33.25  n/a     .000
03691>                       out <=     1.0 01:ST5STR      .45     .040 No_date   28:03   33.25  n/a     .000
03692>                   overflow <=    1.0 03:ST5OVF       .00     .000 No_date    0:00     .00  n/a     .000
03693>          {MxStoUsed=.1108E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03694> R0005:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03695>      ADD HYD              1.0 02:DRAIN3      350.31    3.191 No_date   29:19   16.79  n/a     .000
03696>                       +     1.0 02:D3          2.51     .055 No_date   28:45   25.92  n/a     .000
03697>                       +     1.0 02:C1-STR      3.41     .104 No_date   28:29   44.03  n/a     .000
03698>                       +     1.0 02:C1-OVF       .00     .000 No_date    0:00     .00  n/a     .000
03699>                       +     1.0 02:ST5STR       .45     .040 No_date   28:03   33.25  n/a     .000
03700>                       +     1.0 02:ST5OVF       .00     .000 No_date    0:00     .00  n/a     .000
03701>                   SUM=      1.0 01:ST5-E       356.68    3.312 No_date   29:13   17.14  n/a     .000
03702> R0005:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03703>      CONTINUOUS STANDHYD   1.0 01:STRAND      7.59     .640 No_date   28:12   42.86 .750     .000
03704>          [XIMP=.64:TIMP=.85]
03705>          [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03706>          [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
03707>          [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
03708>          [IaRECimp=   4.00: IaRECper=   4.00]
03709> R0005:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03710>      ROUTE RESERVOIR  ->     1.0 02:STRAND      7.59     .640 No_date   28:12   42.86  n/a     .000
03711>                       out <=     1.0 01:S-POND      7.59     .048 No_date   29:55   42.86  n/a     .000
03712>                   overflow <=    1.0 03:S-OVF        .00     .000 No_date    0:00     .00  n/a     .000
03713>          {MxStoUsed=.2288E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03714> R0005:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03715>      ADD HYD              1.0 02:ST5-E       356.68    3.312 No_date   29:13   17.14  n/a     .000
03716>                       +     1.0 02:S-POND      7.59     .048 No_date   29:55   42.86  n/a     .000
03717>                       +     1.0 02:S-OVF        .00     .000 No_date    0:00     .00
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03741>       fname :SWMF-A.0005
03742>       remark:SMWF-A Outflow
03743> R0005:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03744>     ADD HYD            1.0 02:SSAOUT       364.27   3.358 No_date   29:13  17.68  n/a     .000
03745>                    +   1.0 02:SWMF-A        66.75    .298 No_date   30:20  42.06  n/a     .000
03746>                    +   1.0 02:SWMAOV         .00    .000 No_date    0:00    .00  n/a     .000
03747>                  SUM=  1.0 01:PT4ST5      431.02   3.613 No_date   29:19  21.45  n/a     .000
03748> R0005:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03749>     CONTINUOUS STANDHYD   1.0 01:C6          1.87    .260 No_date   28:01   44.03 .771    .000
03750>       [XIMP=.68:TIMP=.85]
03751>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03752>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50:MNP=.250:SCP=   .0]
03753>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 193:MNI=.013:SCI=   .0]
03754>       [IaRECimp=   4.00: IaRECper=    4.00]
03755> R0005:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03756>     ROUTE RESERVOIR ->    1.0 02:C6          1.87    .260 No_date   28:01   44.03  n/a     .000
03757>                     out <=  1.0 01:C6-STR     1.87    .058 No_date   28:26   44.03  n/a     .000
03758>                overflow <=  1.0 03:C6-OVF      .00    .000 No_date    0:00    .00  n/a     .000
03759>       {MxStoUsed=.3924E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03760> R0005:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03761>     CONTINUOUS STANDHYD   1.0 01:C7          1.62    .227 No_date   28:01   44.03 .771    .000
03762>       [XIMP=.68:TIMP=.85]
03763>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03764>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50:MNP=.250:SCP=   .0]
03765>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 180:MNI=.013:SCI=   .0]
03766>       [IaRECimp=   4.00: IaRECper=    4.00]
03767> R0005:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03768>     ROUTE RESERVOIR ->    1.0 02:C7          1.62    .227 No_date   28:01   44.03  n/a     .000
03769>                     out <=  1.0 01:C7-STR     1.62    .050 No_date   28:26   44.03  n/a     .000
03770>                overflow <=  1.0 03:C7-OVF      .00    .000 No_date    0:00    .00  n/a     .000
03771>       {MxStoUsed=.3391E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03772> R0005:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03773>     CONTINUOUS STANDHYD   1.0 01:ST-6        .41    .044 No_date   28:00   33.25 .582    .000
03774>       [XIMP=.46:TIMP=.57]
03775>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03776>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50:MNP=.250:SCP=   .0]
03777>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  91:MNI=.013:SCI=   .0]
03778>       [IaRECimp=   4.00: IaRECper=    4.00]
03779> R0005:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03780>     ROUTE RESERVOIR ->    1.0 02:ST-6        .41    .044 No_date   28:00   33.25  n/a     .000
03781>                     out <=  1.0 01:ST6STR     .41    .036 No_date   28:03   33.25  n/a     .000
03782>                overflow <=  1.0 03:ST6OVF      .00    .000 No_date    0:00    .00  n/a     .000
03783>       {MxStoUsed=.1092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03784> R0005:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03785>     ADD HYD            1.0 02:PT4ST5      431.02   3.613 No_date   29:19  21.45  n/a     .000
03786>                    +   1.0 02:C6-STR       1.87    .058 No_date   28:26   44.03  n/a     .000
03787>                    +   1.0 02:C6-OVF        .00    .000 No_date    0:00    .00  n/a     .000
03788>                    +   1.0 02:C7-STR       1.62    .050 No_date   28:26   44.03  n/a     .000
03789>                    +   1.0 02:C7-OVF        .00    .000 No_date    0:00    .00  n/a     .000
03790>                    +   1.0 02:ST6STR       .41    .036 No_date   28:03   33.25  n/a     .000
03791>                    +   1.0 02:ST6OVF        .00    .000 No_date    0:00    .00  n/a     .000
03792>                  SUM=  1.0 01:PT5ST6      434.92   3.684 No_date   29:13  21.64  n/a     .000
03793> R0005:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03794>     ROUTE CHANNEL     ->    1.0 02:PT5ST6      434.92   3.684 No_date   29:13  21.64  n/a     .000
03795>       [RDT= 1.00] out<-     1.0 01:DRAIN4      434.92   3.572 No_date   29:35  21.64  n/a     .000
03796>       [L/S/n=  324./ .100/.043]
03797>       [Vmax=  .480:Dmax= 1.218]
03798> R0005:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03799>     CONTINUOUS NASHYD     1.0 01:D4          1.73    .049 No_date   28:35   27.98 .490    .000
03800>       [CN= 88.0: N= 3.00: Tp=  .60]
03801>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
03802>       [InterEventTime=  12.00]
03803> R0005:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03804>     CONTINUOUS STANDHYD   1.0 01:Area-B      24.04   2.784 No_date   28:04   40.98 .717    .000
03805>       [XIMP=.62:TIMP=.77]
03806>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
03807>       [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50:MNP=.250:SCP=   .0]
03808>       [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI= 693:MNI=.013:SCI=   .0]
03809>       [IaRECimp=   4.00: IaRECper=    4.00]
03810> R0005:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03811>     ROUTE RESERVOIR ->    1.0 02:Area-B      24.04   2.784 No_date   28:04   40.98  n/a     .000
03812>                     out <=  1.0 01:SWMF-B     24.04    .278 No_date   28:55   40.98  n/a     .000
03813>                overflow <=  1.0 03:SWMBOVF      .00    .000 No_date    0:00    .00  n/a     .000
03814>       {MxStoUsed=.6277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03815> R0005:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03816>     ADD HYD            1.0 02:DRAIN4      434.92   3.572 No_date   29:35  21.64  n/a     .000
03817>                    +   1.0 02:D4            1.73    .049 No_date   28:35   27.98  n/a     .000
03818>                    +   1.0 02:SWMF-B       24.04    .278 No_date   28:55   40.98  n/a     .000
03819>                    +   1.0 02:SWMBOVF        .00    .000 No_date    0:00    .00  n/a     .000
03820>                  SUM=  1.0 01:D4-EX       460.69   3.861 No_date   29:25   22.68  n/a     .000
03821> R0005:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03822>     ROUTE CHANNEL     ->    1.0 02:D4-EX       460.69   3.861 No_date   29:25   22.68  n/a     .000
03823>       [RDT= 1.00] out<-     1.0 01:DRAIN5      460.69   3.810 No_date   29:44   22.68  n/a     .000
03824>       [L/S/n=  413./ .160/.033]
03825>       [Vmax=  .561:Dmax=  .821]
03826> R0005:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03827>     CONTINUOUS NASHYD     1.0 01:D5          1.90    .044 No_date   28:42   25.92 .454    .000
03828>       [CN= 86.0: N= 3.00: Tp=  .69]
03829>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
03830>       [InterEventTime=  12.00]
03831> R0005:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03832>     CONTINUOUS NASHYD     1.0 01:O-13SDF     9.74    .290 No_date   28:22   24.64 .431    .000
03833>       [CN= 81.0: N= 3.00: Tp=  .43]
03834>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
03835>       [InterEventTime=  12.00]
03836> R0005:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03837>     ROUTE RESERVOIR ->    1.0 02:O-13SDF     9.74    .290 No_date   28:22   24.64  n/a     .000
03838>                     out <=  1.0 01:SDF       9.74    .032 No_date   32:11   24.64  n/a     .000
03839>                overflow <=  1.0 03:OVFSDF      .00    .000 No_date    0:00    .00  n/a     .000
03840>       {MxStoUsed=.1268E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03841> R0005:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03842>     ADD HYD            1.0 02:DRAIN5      460.69   3.810 No_date   29:44   22.68  n/a     .000
03843>                    +   1.0 02:D5            1.90    .044 No_date   28:42   25.92  n/a     .000
03844>                    +   1.0 02:SDF           9.74    .032 No_date   32:11   24.64  n/a     .000
03845>                  SUM=  1.0 01:PT6MC       472.33   3.863 No_date   29:44   22.73  n/a     .000
03846> R0005:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03847>     CONTINUOUS NASHYD     1.0 01:O-15        10.67    .385 No_date   28:13   23.43 .410    .000
03848>       [CN= 82.0: N= 3.00: Tp=  .30]
03849>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
03850>       [InterEventTime=  12.00]
03851> R0005:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03852>     ADD HYD            1.0 02:PT6MC       472.33   3.863 No_date   29:44   22.73  n/a     .000
03853>                    +   1.0 02:O-15          10.67    .385 No_date   28:13   23.43  n/a     .000
03854>                  SUM=  1.0 01:M-C         483.00   3.921 No_date   29:44   22.75  n/a     .000
03855> R0005:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03856>     ROUTE CHANNEL     ->    1.0 02:M-C         483.00   3.921 No_date   29:44   22.75  n/a     .000
03857>       [RDT= 1.00] out<-     1.0 01:O-14Ch      483.00   3.787 No_date   30:06   22.75  n/a     .000
03858>       [L/S/n=  845./ .100/.033]
03859>       [Vmax=  .748:Dmax= 1.430]
03860> R0005:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03861>     CONTINUOUS NASHYD     1.0 01:O-14        5.00    .300 No_date   28:04   23.43 .410    .000
03862>       [CN= 82.0: N= 3.00: Tp=  .13]
03863>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
03864>       [InterEventTime=  12.00]
03865> R0005:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03866>     ADD HYD            1.0 02:O-14Ch      483.00   3.787 No_date   30:06   22.75  n/a     .000
03867>                    +   1.0 02:O-14          5.00    .300 No_date   28:04   23.43  n/a     .000
03868>                  SUM=  1.0 01:OKEEFE      488.00   3.807 No_date   30:06   22.75  n/a     .000
03869> #*************************************************************************
03870> #    Okeefe Pond
03871> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
03872> #      and a ratio of the catchment area to the West Clarke pond rating curve
03873> #      from the MSS for the next coordinates
03874> #*************************************************************************
03875> R0005:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03876>     CONTINUOUS STANDHYD   1.0 01:S-1-D2      18.67   2.097 No_date   28:02   42.00 .735    .000
03877>       [XIMP=.65:TIMP=.65]
03878>       [LOSS= 2 :CN= 75.0]
03879>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40:MNP=.250:SCP=   .0]
03880>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 353:MNI=.013:SCI=   .0]
03881>       [IaRECimp=   4.00: IaRECper=    4.00]
03882>       [SMIN= 33.81: SMAX=225.43: SK= .010]
03883> R0005:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03884>     COMPUTE DUALHYD       1.0 01:S-1-D2      18.67   2.097 No_date   28:02   42.00  n/a     .000
03885>       Major System   /    1.0 02:S-1-D2J       .00    .000 No_date    0:00    .00  n/a     .000
03886>       Minor System   \    1.0 03:S-1-D2N     18.67   2.097 No_date   28:02   42.00  n/a     .000
03887>       {MjSysSto=.1144E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
03888> R0005:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03889>     ADD HYD            1.0 02:S-1-D2J        .00    .000 No_date    0:00    .00  n/a     .000
03890>                    +   1.0 02:S-1-D2N      18.67   2.097 No_date   28:02   42.01  n/a     .000
03891>                  SUM=  1.0 01:S-1-D2S      18.67   2.097 No_date   28:02   42.01  n/a     .000
03892> R0005:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03893>     ROUTE RESERVOIR ->    1.0 02:S-1-D2S     18.67   2.097 No_date   28:02   42.01  n/a     .000
03894>                     out <=  1.0 01:S-1-D2R    18.67    .141 No_date   29:24   42.01  n/a     .000
03895>                overflow <=  1.0 03:S-1-D2Rovf      .00    .000 No_date    0:00    .00  n/a     .000
03896>       {MxStoUsed=.4714E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03897> R0005:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03898>     CONTINUOUS STANDHYD   1.0 01:S-1-D3        6.79    .831 No_date   28:01   42.00 .735    .000
03899>       [XIMP=.65:TIMP=.65]
03900>       [LOSS= 2 :CN= 75.0]
03901>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40:MNP=.250:SCP=   .0]
03902>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 213:MNI=.013:SCI=   .0]
03903>       [IaRECimp=   4.00: IaRECper=    4.00]
03904>       [SMIN= 33.81: SMAX=225.43: SK= .010]
03905> R0005:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03906>     COMPUTE DUALHYD       1.0 01:S-1-D3        6.79    .831 No_date   28:01   42.00  n/a     .000
03907>       Major System   /    1.0 02:S-1-D3J       .00    .000 No_date    0:00    .00  n/a     .000
03908>       Minor System   \    1.0 03:S-1-D3N       6.79    .831 No_date   28:01   42.00  n/a     .000
03909>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
03910> R0005:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03911>     ADD HYD            1.0 02:S-1-D3J        .00    .000 No_date    0:00    .00  n/a     .000
03912>                    +   1.0 02:S-1-D3N        6.79    .831 No_date   28:01   42.00  n/a     .000
03913>                  SUM=  1.0 01:S-1-D3S        6.79    .831 No_date   28:01   42.00  n/a     .000
03914> R0005:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03915>     ROUTE RESERVOIR ->    1.0 02:S-1-D3S       6.79    .831 No_date   28:01   42.00  n/a     .000
03916>                     out <=  1.0 01:S-1-D3R      6.79    .051 No_date   29:18   42.00  n/a     .000
03917>                overflow <=  1.0 03:S-1-D3Rovf      .00    .000 No_date    0:00    .00  n/a     .000
03918>       {MxStoUsed=.1715E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03919> R0005:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03920>     ADD HYD            1.0 02:N_OK        53064.36   68.074 No_date   34:06   18.33  n/a     .000
03921>                    +   1.0 02:OKEEFE        488.00    3.807 No_date   30:06   22.75  n/a     .000
03922>                    +   1.0 02:S-1-D2R        18.67    .141 No_date   29:24   42.01  n/a     .000
03923>                    +   1.0 02:S-1-D3R         6.79    .051 No_date   29:18   42.00  n/a     .000
03924>                    +   1.0 02:S-1-D2Rovf       .00    .000 No_date    0:00    .00  n/a     .000
03925>                    +   1.0 02:S-1-D3Rovf       .00    .000 No_date    0:00    .00  n/a     .000
03926>                  SUM=  1.0 01:SN_OK       53577.82   69.530 No_date   34:06   18.39  n/a     .000
03927> R0005:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03928>     SAVE HYD           1.0 01:SN_OK       53577.82   69.530 No_date   34:06   18.39  n/a     .000
03929>       fname :SN_OK.0005
03930>       remark:Total Flows at Okeefe Drain
03931> #
03932> # Hydrograph from Node Okeefe routed to Node at Foster Drain
03933> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
03934> #
03935> R0005:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03936>     ROUTE CHANNEL     ->    1.0 02:SN_OK       53577.82   69.530 No_date   34:06   18.39  n/a     .000
03937>       [RDT= 1.00] out<-     1.0 01:N_FO        53577.82   69.319 No_date   34:07   18.39  n/a     .000
03938>       [L/S/n= 1183./ .076/.035]
03939>       [Vmax= 1.032:Dmax= 2.625]
03940> #*************************************************************************
03941> #    Catchment FOSTER
03942> #    - To Foster ditch (north of the Jock)
03943> #    - Partially developed (medium density); remaining agricultural
03944> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
03945> #    - 2020-12-01 Increase Foster drainage area to 335.44 ha (373 HA) To (307.98 HA) after increasing Okeefe drainage area to (5
03946> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
03947> #*************************************************************************
03948> R0005:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03949>     CONTINUOUS STANDHYD   1.0 01:FOSTER      325.44   19.055 No_date   28:13   37.71 .660    .000
03950>       [XIMP=.55:TIMP=.55]
03951>       [LOSS= 2 :CN= 74.0]
03952>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40:MNP=.250:SCP=   .0]
03953>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
03954>       [IaRECimp=   4.00: IaRECper=    4.00]
03955>       [SMIN= 36.67: SMAX=244.49: SK= .010]
03956> #*************************************************************************
03957> #    Foster Pond
03958> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
03959> #      and a ratio of the catchment area to the West Clarke pond rating curve
03960> #      from the MSS for the next coordinates
03961> #*************************************************************************
03962> R0005:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03963>     ROUTE RESERVOIR ->    1.0 02:FOSTER      325.44   19.055 No_date   28:13   37.71  n/a     .000
03964>                     out <=  1.0 01:P_FOS      325.44    5.174 No_date   29:08   37.71  n/a     .000
03965>                overflow <=  1.0 03:FO-OVF      .00    .000 No_date    0:00    .00  n/a     .000
03966>       {MxStoUsed=.5004E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03967> R0005:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03968>     ADD HYD            1.0 02:P_FOS      325.44    5.174 No_date   29:08   37.71  n/a     .000
03969>                    +   1.0 02:FO-OVF        .00    .000 No_date    0:00    .00  n/a     .000
03970>                  SUM=  1.0 01:FOSTER-OUT  325.44    5.174 No_date   29:08   37.71  n/a     .000
03971> #*************************************************************************
03972> R0005:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03973>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA    73.29    6.276 No_date   28:06   41.22 .722    .000
03974>       [XIMP=.60:TIMP=.65]
03975>       [LOSS= 2 :CN= 77.0]
03976>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40:MNP=.250:SCP=   .0]
03977>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 699:MNI=.013:SCI=   .0]
03978>       [IaRECimp=   4.00: IaRECper=    4.00]
03979>       [SMIN= 31.15: SMAX=207.66: SK= .010]
03980> R0005:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03981>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA    73.29    6.276 No_date   28:06   41.22  n/a     .000
03982>                     out <=  1.0 01:MS_P10      73.29    1.101 No_date   28:56   41.22  n/a     .000
03983>                overflow <=  1.0 03:P10-OVF      .00    .000 No_date    0:00    .00  n/a     .000
03984>       {MxStoUsed=.1093E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
03985> R0005:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03986>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2      4.94    .508 No_date   28:01   37.71 .660    .000
03987>       [XIMP=.55:TIMP=.55]
03988>       [LOSS= 2 :CN= 74.0]
03989>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40:MNP=.250:SCP=   .0]
03990>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 181:MNI=.013:SCI=   .0]
03991>       [IaRECimp=   4.00: IaRECper=    4.00]
03992>       [SMIN= 36.67: SMAX=244.49: SK= .010]
03993> R0005:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03994>     COMPUTE DUALHYD       1.0 01:S-1-FO-D2      4.94    .508 No_date   28:01   37.71  n/a     .000
03995>       Major System   /    1.0 02:S-1-FO-D2J     .00    .000 No_date    0:00    .00  n/a     .000
03996>       Minor System   \    1.0 03:S-1-FO-D2N     4.94    .508 No_date   28:01   37.73  n/a     .000
03997>       {MjSysSto=.2737E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
03998> R0005:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
03999>     ADD HYD            1.0 02:S-1-FO-D2J     .00    .000 No_date    0:00    .00  n/a     .000
04000>                    +   1.0 02:S-1-FO-D2N      4.94    .508 No_date   28:01   37.73  n/a     .000
04001>                  SUM=  1.0 01:S-1-FO-D2S      4.94    .508 No_date   28:01   37.73  n/a     .000
04002> R0005:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04003>     ROUTE RESERVOIR ->    1.0 02:S-1-FO-D2S     4.94    .508 No_date   28:01   37.73  n/a     .000
04004>                     out <=  1.0 01:S-1-FO-D2R     4.94    .033 No_date   29:34   37.73  n/a     .000
04005>                overflow <=  1.0 03:S-1FOD2ovf      .00    .000 No_date    0:00    .00  n/a     .000
04006>       {MxStoUsed=.1108E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04007> R0005:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04008>     ADD HYD            1.0 02:FOSTER-OUT   325.44    5.174 No_date   29:08   37.71  n/a     .000
04009>                    +   1.0 02:S-1-FO-D2R      4.94    .033 No_date   29:34   37.73  n/a     .000
04010>                    +   1.0 02:S-1FOD2ovf        .00    .000 No_date    0:00    .00  n/a     .000
04011>                  SUM=  1.0 01:980          330.38    5.207 No_date   29:08   37.71  n/a     .000
04012> R0005:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04013>     SAVE HYD           1.0 01:980         330.38    5.207 No_date   29:08   37.71  n/a     .000
04014>       fname :980.0005
04015>       remark:Total Flows at Station 980 on Foster Drain
04016> #
04017> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
04018> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
04019> #
04020> R0005:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04021>     ROUTE CHANNEL     ->    1.0 02:980         330.38    5.207 No_date   29:08   37.71  n/a     .000
04022>       [RDT= 1.00] out<-     1.0 01:980-out     330.38    5.026 No_date   29:21   37.71  n/a     .000
04023>       [L/S/n=  460./ .043/.035]
04024>       [Vmax=  .602:Dmax= 1.267]
04025> R0005:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04026>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1      5.11    .605 No_date   28:00   41.68 .730    .000
04027>       [XIMP=.65:TIMP=.65]
04028>       [LOSS= 2 :CN= 74.0]
04029>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40:MNP=.250:SCP=   .0]
04030>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 185:MNI=.013:SCI=   .0]
04031>       [IaRECimp=   4.00: IaRECper=    4.00]
04032>       [SMIN= 36.67: SMAX=244.49: SK= .010]
04033> R0005:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04034>     COMPUTE DUALHYD       1.0 01:S-1-FO-D1      5.11    .605 No_date   28:00   41.68  n/a     .000
04035>       Major System   /    1.0 02:S-1-FO-D1J     .00    .000 No_date    0:00    .00  n/a     .000
04036>       Minor System   \    1.0 03:S-1-FO-D1N     5.11    .605 No_date   28:00   41.68  n/a     .000
04037>       {MjSysSto=.1107E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04038> R0005:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04039>     ADD HYD            1.0 02:S-1-FO-D1N      5.11    .605 No_date   28:00   41.68  n/a     .000
04040>                    +   1.0 02:S-1-FO-D1J        .00    .000 No_date    0:00    .00  n/a     .000
04041>                  SUM=  1.0 01:S-1-FO-D1S      5.11    .605 No_date   28:00   41.68  n/a     .000
04042> R0005:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04043>     ROUTE RESERVOIR ->    1.0 02:S-1-FO-D1S      5.11    .605 No_date   28:00   41.68  n/a     .000
04044>                     out <=  1.0 01:S-1-FO-D1R     5.11    .038 No_date   29:28   41.68  n/a     .000
04045>                overflow <=  1.0 03:S-1FOD1ovf      .00    .000 No_date    0:00    .00  n/a     .000
04046>       {MxStoUsed=.1277E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04047> R0005:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04048>     ADD HYD            1.0 02:980-out     330.38    5.026 No_date   29:21   37.71  n/a     .000
04049>                    +   1.0 02:S-1-FO-D1R      5.11    .038 No_date   29:28   41.68  n/a     .000
04050>                    +   1.0 02:S-1FOD1ovf        .00    .000 No_date    0:00    .00  n/a     .000
04051>                  SUM=  1.0 01:520          335.49    5.064 No_date   29:21   37.77  n/a     .000
04052> R0005:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04053>     SAVE HYD           1.0 01:520         335.49    5.064 No_date   29:21   37.77  n/a     .000
04054>       fname :520.0005
04055>       remark:Total Flows at Satson 520 on Foster Drain
04056> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
04057> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
04058> #
04059> R0005:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04060>     ROUTE CHANNEL     ->    1.0 02:520         335.49    5.064 No_date   29:21   37.77  n/a     .000
04061>       [RDT= 1.00] out<-     1.0 01:520-out     335.49    5.028 No_date   29:32   37.77  n/a     .000
04062>       [L/S/n=  860./ .587/.035]
04063>       [Vmax= 1.315:Dmax=  .603]
04064> R0005:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04065>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D     14.96    1.615 No_date   28:02   41.68 .730    .000
04066>       [XIMP=.65:TIMP=.65]
04067>       [LOSS= 2 :CN= 74.0]
04068>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40:MNP=.250:SCP=   .0]
04069>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 316:MNI=.013:SCI=   .0]
04070>       [IaRECimp=   4.00: IaRECper=    4.00]
04071>       [SMIN= 36.67: SMAX=244.49: SK= .010]
04072> R0005:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04073>     COMPUTE DUALHYD       1.0 01:S-1-FO-F-D     14.96    1.615 No_date   28:02   41.68  n/a     .000
04074>       Major System   /    1.0 02:S-1FO-F-DJ     .00    .000 No_date    0:00    .00  n/a     .000
04075>       Minor System   \    1.0 03:S-1FO-F-DN     14.96    1.615 No_date   28:02   41.69  n/a     .000
04076>       {MjSysSto=.8656E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04077> R0005:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04078>     ADD HYD            1.0 02:S-1FO-F-DJ      .00    .000 No_date    0:00    .00  n/a     .000
04079>                    +   1.0 02:S-1FO-F-DN     14.96    1.615 No_date   28:02   41.69  n/a     .000
04080>                  SUM=  1.0 01:S-1FO-F-DS     14.96    1.615 No_date   28:02   41.69  n/a     .000
04081> R0005:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04082>     ROUTE RESERVOIR ->    1.
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04115>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
04116>       [InterEventTime=  12.00]
04117> R0005:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04118>     ADD HYD                1.0 02:N_FO       53577.82   69.319 No_date   34:07   18.39  n/a     .000
04119>                        +    1.0 02:520-out      335.49    5.028 No_date   29:32   37.77  n/a     .000
04120>                        +    1.0 02:MS_P10        73.29    1.101 No_date   28:56   41.22  n/a     .000
04121>                        +    1.0 02:P10-OVF        .00     .000 No_date   0:00     .00  n/a     .000
04122>                        +    1.0 02:W_CLAR_UND    35.65     .462 No_date   29:11   21.69  n/a     .000
04123>                        +    1.0 02:S-1FOFDovf     .00     .000 No_date   0:00     .00  n/a     .000
04124>                        +    1.0 02:S-1FO-F-DR    14.96     .112 No_date   29:32   41.69  n/a     .000
04125>                        +    1.0 02:S-1-D8Rovf     .00     .000 No_date   0:00     .00  n/a     .000
04126>                        +    1.0 02:S-1-D8R       5.27     .036 No_date   28:48   30.30  n/a     .000
04127>                        +    1.0 02:S-1-A         75.88    1.479 No_date   28:37   21.69  n/a     .000
04128>                    SUM=     1.0 01:SN_FO      54118.36   72.161 No_date   33:44   18.55  n/a     .000
04129> R0005:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04130>     SAVE HYD               1.0 01:SN_FO      54118.36   72.161 No_date   33:44   18.55  n/a     .000
04131>       fname :SN_FO.0005
04132>       remark:Total Flows at Foster Drain
04133> # Hydrograph from Node Foster routed to Node at Cedarview Road
04134> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
04135> #
04136> R0005:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04137>     ROUTE CHANNEL    ->     1.0 02:SN_FO      54118.36   72.161 No_date   33:44   18.55  n/a     .000
04138> *   [RDT= 1.00] out<-       1.0 01:N_CE       54118.36   72.088 No_date   34:08   18.55  n/a     .000
04139>       [L/S/n=  159./ .082/ .035]
04140>       {Vmax= 1.248:Dmax= 3.107}
04141> #*************************************************************************
04142> #   Catchment S-1
04143> #    - To Jock River (north and south of Jock)
04144> #    - Primarily agricultural fields; portion of sand quarry
04145> #*************************************************************************
04146> R0005:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04147>     CONTINUOUS NASHYD      1.0 01:S-1-B         55.36    1.342 No_date   28:24   21.69 .380     .000
04148>       [CN= 77.0: N= 3.00: Tp=  .45]
04149>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
04150>       [InterEventTime=  12.00]
04151> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
04152> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
04153> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
04154> R0005:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04155>     CONTINUOUS STANDHYD    1.0 01:S-1-D1        21.67    2.409 No_date   28:02   42.00 .735     .000
04156>       [XIMP=.65:TIMP=.65]
04157>       [LOSS= 2 :CN= 75.0]
04158>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04159>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
04160>       [IaREC=mp=  4.00: IaREC per=  4.00]
04161>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04162> R0005:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04163>     COMPUTE DUALHYD        1.0 01:S-1-D1        21.67    2.409 No_date   28:02   42.00 n/a     .000
04164>       Major System   /     1.0 02:S-1-D1J        .00     .000 No_date   0:00     .00  n/a     .000
04165>       Minor System   \     1.0 03:S-1-D1N       21.67    2.409 No_date   28:02   42.01 n/a     .000
04166>       {MjSysSto=.2250E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04167> R0005:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04168>     ADD HYD                1.0 02:S-1-D1J        .00     .000 No_date   0:00     .00  n/a     .000
04169>                        +    1.0 02:S-1-D1N       21.67    2.409 No_date   28:02   42.01 n/a     .000
04170>                    SUM=     1.0 01:S-1-D1S       21.67    2.409 No_date   28:02   42.01 n/a     .000
04171> R0005:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04172>     ROUTE RESERVOIR ->     1.0 02:S-1-D1S       21.67    2.409 No_date   28:02   42.01 n/a     .000
04173>                    out <=   1.0 01:S-1-D1R       21.67     .164 No_date   29:24   42.01 n/a     .000
04174>                overflow <=  1.0 03:S-1-D1Rovf      .00     .000 No_date   0:00     .00  n/a     .000
04175>       {MxStoUsed=.5470E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04176> R0005:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04177>     CONTINUOUS STANDHYD    1.0 01:S-1-D4        3.28     .421 No_date   28:00   42.00 .735     .000
04178>       [XIMP=.65:TIMP=.65]
04179>       [LOSS= 2 :CN= 75.0]
04180>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04181>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
04182>       [IaREC=mp=  4.00: IaREC per=  4.00]
04183>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04184> R0005:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04185>     COMPUTE DUALHYD        1.0 01:S-1-D4        3.28     .421 No_date   28:00   42.00 n/a     .000
04186>       Major System   /     1.0 02:S-1-D4J        .00     .000 No_date   0:00     .00  n/a     .000
04187>       Minor System   \     1.0 03:S-1-D4N        3.28     .421 No_date   28:00   42.01 n/a     .000
04188>       {MjSysSto=.1821E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04189> R0005:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04190>     ADD HYD                1.0 02:S-1-D4J        .00     .000 No_date   0:00     .00  n/a     .000
04191>                        +    1.0 02:S-1-D4N        3.28     .421 No_date   28:00   42.01 n/a     .000
04192>                    SUM=     1.0 01:S-1-D4S        3.28     .421 No_date   28:00   42.01 n/a     .000
04193> R0005:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04194>     ROUTE RESERVOIR ->     1.0 02:S-1-D4S        3.28     .421 No_date   28:00   42.01 n/a     .000
04195>                    out <=   1.0 01:S-1-D4R        3.28     .025 No_date   29:15   42.01 n/a     .000
04196>                overflow <=  1.0 03:S-1-D4Rovf      .00     .000 No_date   0:00     .00  n/a     .000
04197>       {MxStoUsed=.8289E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04198> R0005:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04199>     CONTINUOUS STANDHYD    1.0 01:S-1-D5        12.84    1.500 No_date   28:01   42.00 .735     .000
04200>       [XIMP=.65:TIMP=.65]
04201>       [LOSS= 2 :CN= 75.0]
04202>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04203>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
04204>       [IaREC=mp=  4.00: IaREC per=  4.00]
04205>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04206> R0005:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04207>     COMPUTE DUALHYD        1.0 01:S-1-D5        12.84    1.500 No_date   28:01   42.00 n/a     .000
04208>       Major System   /     1.0 02:S-1-D5J        .00     .000 No_date   0:00     .00  n/a     .000
04209>       Minor System   \     1.0 03:S-1-D5N       12.84    1.500 No_date   28:02   42.00 n/a     .000
04210>       {MjSysSto=.1838E-01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04211> R0005:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04212>     ADD HYD                1.0 02:S-1-D5J        .00     .000 No_date   0:00     .00  n/a     .000
04213>                        +    1.0 02:S-1-D5N       12.84    1.500 No_date   28:01   42.00 n/a     .000
04214>                    SUM=     1.0 01:S-1-D5S       12.84    1.500 No_date   28:01   42.00 n/a     .000
04215> R0005:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04216>     ROUTE RESERVOIR ->     1.0 02:S-1-D5S       12.84    1.500 No_date   28:01   42.00 n/a     .000
04217>                    out <=   1.0 01:S-1-D5R       12.84     .097 No_date   29:21   42.00 n/a     .000
04218>                overflow <=  1.0 03:S-1-D5Rovf      .00     .000 No_date   0:00     .00  n/a     .000
04219>       {MxStoUsed=.3242E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04220> R0005:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04221>     CONTINUOUS STANDHYD    1.0 01:S-1-D6        1.75     .232 No_date   28:00   42.00 .735     .000
04222>       [XIMP=.65:TIMP=.65]
04223>       [LOSS= 2 :CN= 75.0]
04224>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04225>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
04226>       [IaREC=mp=  4.00: IaREC per=  4.00]
04227>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04228> R0005:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04229>     COMPUTE DUALHYD        1.0 01:S-1-D6        1.75     .232 No_date   28:00   42.00 n/a     .000
04230>       Major System   /     1.0 02:S-1-D6J        .00     .000 No_date   0:00     .00  n/a     .000
04231>       Minor System   \     1.0 03:S-1-D6N        1.75     .232 No_date   28:00   42.00 n/a     .000
04232>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04233> R0005:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04234>     ADD HYD                1.0 02:S-1-D6J        .00     .000 No_date   0:00     .00  n/a     .000
04235>                        +    1.0 02:S-1-D6N        1.75     .232 No_date   28:00   42.00 n/a     .000
04236>                    SUM=     1.0 01:S-1-D6S        1.75     .232 No_date   28:00   42.00 n/a     .000
04237> R0005:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04238>     ROUTE RESERVOIR ->     1.0 02:S-1-D6S        1.75     .232 No_date   28:00   42.00 n/a     .000
04239>                    out <=   1.0 01:S-1-D6R        1.75     .013 No_date   29:13   42.00 n/a     .000
04240>                overflow <=  1.0 03:S-1-D6Rovf      .00     .000 No_date   0:00     .00  n/a     .000
04241>       {MxStoUsed=.4422E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04242> R0005:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04243>     CONTINUOUS STANDHYD    1.0 01:S-1-D7        2.03     .265 No_date   28:00   42.00 .735     .000
04244>       [XIMP=.65:TIMP=.65]
04245>       [LOSS= 2 :CN= 75.0]
04246>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04247>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
04248>       [IaREC=mp=  4.00: IaREC per=  4.00]
04249>       [SMIN= 33.81: SMAX=225.43: SK= .010]
04250> R0005:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04251>     COMPUTE DUALHYD        1.0 01:S-1-D7        2.03     .265 No_date   28:00   42.00 n/a     .000
04252>       Major System   /     1.0 02:S-1-D7J        .00     .000 No_date   0:00     .00  n/a     .000
04253>       Minor System   \     1.0 03:S-1-D7N        2.03     .265 No_date   28:00   42.02 n/a     .000
04254>       {MjSysSto=.7775E-02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04255> R0005:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04256>     ADD HYD                1.0 02:S-1-D7J        .00     .000 No_date   0:00     .00  n/a     .000
04257>                        +    1.0 02:S-1-D7N        2.03     .265 No_date   28:00   42.02 n/a     .000
04258>                    SUM=     1.0 01:S-1-D7S        2.03     .265 No_date   28:00   42.02 n/a     .000
04259> R0005:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04260>     ROUTE RESERVOIR ->     1.0 02:S-1-D7S        2.03     .265 No_date   28:00   42.02 n/a     .000
04261>                    out <=   1.0 01:S-1-D7R        2.03     .015 No_date   29:14   42.01 n/a     .000
04262>                overflow <=  1.0 03:S-1-D7Rovf      .00     .000 No_date   0:00     .00  n/a     .000
04263>       {MxStoUsed=.5131E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04264> #    Catchment W_CLAR
04265> #    - To West Clarke Drain (south of the Jock)
04266> #    - Subdivision with 43% imp. as per Barrhaven South MSS
04267> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on PS98(04)-11
04268> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
04269> #*************************************************************************
04270> R0005:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04271>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ      1.77     .192 No_date   28:00   37.36 .654     .000
04272>       [XIMP=.46:TIMP=.59]
04273>       [LOSS= 2 :CN= 77.0]
04274>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04275>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
04276>       [IaREC=mp=  4.00: IaREC per=  4.00]
04277>       [SMIN= 31.15: SMAX=207.66: SK= .010]
04278> # 5-Year + 12% Capture
04279> R0005:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04280>     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ      1.77     .192 No_date   28:00   37.36 n/a     .000
04281>                    out <=   1.0 01:W_CLAR_MJn     1.77     .192 No_date   28:00   37.36 n/a     .000
04282>                overflow <=  1.0 03:W_CLAR_MJj      .00     .000 No_date   0:00     .00  n/a     .000
04283>       {MxStoUsed=.9116E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04284> R0005:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04285>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   10.597 No_date   28:05   41.22 .722     .000
04286>       [XIMP=.60:TIMP=.65]
04287>       [LOSS= 2 :CN= 77.0]
04288>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04289>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
04290>       [IaREC=mp=  4.00: IaREC per=  4.00]
04291>       [SMIN= 31.15: SMAX=207.66: SK= .010]
04292> R0005:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04293>     ADD HYD                1.0 02:W_CLAR_ALL    119.40   10.597 No_date   28:05   41.22 n/a     .000
04294>                        +    1.0 02:W_CLAR_MJj     .00     .000 No_date   0:00     .00  n/a     .000
04295>                    SUM=     1.0 01:W_CLAR        119.40   10.597 No_date   28:05   41.22 n/a     .000
04296> R0005:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04297>     SAVE HYD               1.0 01:W_CLAR        119.40   10.597 No_date   28:05   41.22 n/a     .000
04298>       fname :W_CLAR.0005
04299>       remark:Total Flows to West Clarke
04300> #*************************************************************************
04301> #    West Clarke Pond 2
04302> #    - Rating curve obtained from Barrhaven South MSS modeling
04303> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
04304> #*************************************************************************
04305> R0005:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04306>     ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.40   10.597 No_date   28:05   41.22  n/a     .000
04307>                    out <=   1.0 01:MS_P2       119.40    1.795 No_date   28:54   41.22  n/a     .000
04308>                overflow <=  1.0 03:P2-OVF        .00     .000 No_date   0:00     .00  n/a     .000
04309>       {MxStoUsed=.2665E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04310> #*************************************************************************
04311> R0005:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04312>     ADD HYD                1.0 02:N_CE       54118.36   72.088 No_date   34:08   18.55  n/a     .000
04313>                        +    1.0 02:S-1-D4R        3.28     .025 No_date   29:15   42.01  n/a     .000
04314>                        +    1.0 02:S-1-D5R       12.84     .097 No_date   29:21   42.00  n/a     .000
04315>                        +    1.0 02:S-1-D4Rovf     .00     .000 No_date   0:00     .00  n/a     .000
04316>                        +    1.0 02:S-1-D5Rovf     .00     .000 No_date   0:00     .00  n/a     .000
04317>                        +    1.0 02:MS_P2         119.40    1.795 No_date   28:54   41.22  n/a     .000
04318>                        +    1.0 02:P2-OVF         .00     .000 No_date   0:00     .00  n/a     .000
04319>                    SUM=     1.0 01:SN_CE      54253.88   72.881 No_date   33:45   18.61  n/a     .000
04320> R0005:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04321>     SAVE HYD               1.0 01:SN_CE      54253.88   72.881 No_date   33:45   18.61  n/a     .000
04322>       fname :SN_CE.0005
04323>       remark:Total Flows before Station 5737 on Jock River
04324> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
04325> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
04326> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
04327> R0005:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04328>     ROUTE CHANNEL    ->     1.0 02:SN_CE      54253.88   72.881 No_date   33:45   18.61  n/a     .000
04329> *   [RDT= 1.00] out<-       1.0 01:5737       54253.88   69.631 No_date   36:44   18.61  n/a     .000
04330>       [L/S/n=  270./ .018/.035]
04331>       {Vmax=  .687:Dmax= 4.083}
04332> R0005:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04333>     ADD HYD                1.0 02:5737       54253.88   69.631 No_date   36:44   18.61  n/a     .000
04334>                        +    1.0 02:S-1-D1R       21.67     .164 No_date   29:24   42.01  n/a     .000
04335>                        +    1.0 02:S-1-D6R        1.75     .013 No_date   29:13   42.00  n/a     .000
04336>                        +    1.0 02:S-1-D7R        2.03     .015 No_date   29:14   42.01  n/a     .000
04337>                        +    1.0 02:S-1-D1Rovf     .00     .000 No_date   0:00     .00  n/a     .000
04338>                        +    1.0 02:S-1-D6Rovf     .00     .000 No_date   0:00     .00  n/a     .000
04339>                        +    1.0 02:S-1-D7Rovf     .00     .000 No_date   0:00     .00  n/a     .000
04340>                    SUM=     1.0 01:5002       54279.33   69.760 No_date   36:44   18.62  n/a     .000
04341> R0005:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04342>     SAVE HYD               1.0 01:5002       54279.33   69.760 No_date   36:44   18.62  n/a     .000
04343>       fname :5002.0005
04344>       remark:Total Flows before Station 5002 on Jock River
04345> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
04346> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
04347> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
04348> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
04349> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
04350> R0005:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04351>     ROUTE CHANNEL    ->     1.0 02:5002       54279.33   69.760 No_date   36:44   18.62  n/a     .000
04352>       [RDT= 1.00] out<-       1.0 01:N_WCa      54279.33   69.764 No_date   36:42   18.62  n/a     .000
04353>       [L/S/n=  245./ .095/.035]
04354>       {Vmax= 1.068:Dmax= 2.322}
04355> R0005:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04356>     ROUTE CHANNEL    ->     1.0 02:N_WCa      54279.33   69.764 No_date   36:42   18.62  n/a     .000
04357>       [RDT= 1.00] out<-       1.0 01:N_WCb      54279.33   69.804 No_date   36:35   18.62  n/a     .000
04358>       [L/S/n=  245./ .095/.035]
04359>       {Vmax= 1.068:Dmax= 2.322}
04360> R0005:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04361>     ROUTE CHANNEL    ->     1.0 02:N_WCb      54279.33   69.804 No_date   36:35   18.62  n/a     .000
04362>       [RDT= 1.00] out<-       1.0 01:N_WC       54279.33   70.173 No_date   36:31   18.62  n/a     .000
04363>       [L/S/n=  245./ .095/.035]
04364>       {Vmax= 1.068:Dmax= 2.323}
04365> #*************************************************************************
04366> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
04367> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
04368> #
04369> R0005:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04370>     ROUTE CHANNEL    ->     1.0 02:N_WC       54279.33   70.173 No_date   36:31   18.62  n/a     .000
04371>       [RDT= 1.00] out<-       1.0 01:N_KB       54279.33   69.932 No_date   36:32   18.62  n/a     .000
04372>       [L/S/n= 1820./ .050/.035]
04373>       {Vmax=  .947:Dmax= 2.863}
04374> #*************************************************************************
04375> #    Catchment KEN_BU
04376> #    - To Kennedy-Burnett SWM Facility
04377> #    - Outlets to Fraser-Clarke drain (north of the Jock)
04378> #    - Medium density residential subdivision
04379> #*************************************************************************
04380> #*************************************************************************
04381> #    Existing Kennedy-Burnett SWM Facility
04382> #    - Rating curve obtained from URTKBP
04383> #    - Tributary Drainage Area to Pond = 160 ha
04384> #*************************************************************************
04385> R0005:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04386>     CONTINUOUS STANDHYD    1.0 01:KB-01A        40.82    2.624 No_date   28:14   20.08 .351     .000
04387>       [XIMP=.10:TIMP=.40]
04388>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04389>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
04390>       [Impervious  area: IAimp= .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
04391>       [IaREC=mp=  4.00: IaREC per=  4.00]
04392> R0005:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04393>     COMPUTE DUALHYD        1.0 01:KB-01A        40.82    2.624 No_date   28:14   20.08 n/a     .000
04394>       Major System   /     1.0 02:KB-01A-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04395>       Minor System   \     1.0 03:KB-01A-MN     40.82    2.624 No_date   28:14   20.08 n/a     .000
04396>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04397> R0005:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04398>     ADD HYD                1.0 02:KB-01A-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04399>                        +    1.0 02:KB-01A-MN     40.82    2.624 No_date   28:14   20.08 n/a     .000
04400>                    SUM=     1.0 01:KB-01A-S      40.82    2.624 No_date   28:14   20.08 n/a     .000
04401> R0005:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04402>     CONTINUOUS STANDHYD    1.0 01:KB-01B        31.10    1.779 No_date   28:08   22.42 .393     .000
04403>       [XIMP=.19:TIMP=.38]
04404>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04405>       [Pervious    area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
04406>       [Impervious  area: IAimp= .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
04407>       [IaREC=mp=  4.00: IaREC per=  4.00]
04408> R0005:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04409>     COMPUTE DUALHYD        1.0 01:KB-01B        31.10    1.779 No_date   28:08   22.42 n/a     .000
04410>       Major System   /     1.0 02:KB-01B-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04411>       Minor System   \     1.0 03:KB-01B-MN     31.10    1.585 No_date   28:03   22.52 n/a     .000
04412>       {MjSysSto=.1530E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04413> R0005:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04414>     ADD HYD                1.0 02:KB-01B-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04415>                        +    1.0 02:KB-01B-MN     31.10    1.585 No_date   28:03   22.52 n/a     .000
04416>                    SUM=     1.0 01:KB-01B-S      31.10    1.585 No_date   28:03   22.52 n/a     .000
04417> R0005:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04418>     CONTINUOUS STANDHYD    1.0 01:KB-01C        13.78    1.235 No_date   28:05   23.43 .410     .000
04419>       [XIMP=.20:TIMP=.41]
04420>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04421>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04422>       [Impervious  area: IAimp= .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
04423>       [IaREC=mp=  4.00: IaREC per=  4.00]
04424> R0005:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04425>     COMPUTE DUALHYD        1.0 01:KB-01C        13.78    1.235 No_date   28:05   23.43 n/a     .000
04426>       Major System   /     1.0 02:KB-01C-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04427>       Minor System   \     1.0 03:KB-01C-MN     13.78    1.235 No_date   28:05   23.43 n/a     .000
04428>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04429> R0005:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04430>     ADD HYD                1.0 02:KB-01C-MJ      .00     .000 No_date   0:00     .00  n/a     .000
04431>                        +    1.0 02:KB-01C-MN     13.78    1.235 No_date   28:05   23.43 n/a     .000
04432>                    SUM=     1.0 01:KB-01C-S      13.78    1.235 No_date   28:05   23.43 n/a     .000
04433> R0005:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04434>     CONTINUOUS STANDHYD    1.0 01:KB-03         84.78    6.180 No_date   28:10   22.99 .402     .000
04435>       [XIMP=.20:TIMP=.39]
04436>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04437>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04438>       [Impervious  area: IAimp= .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
04439>       [IaREC=mp=  4.00: IaREC per=  4.00]
04440> R0005:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04441>     COMPUTE DUALHYD        1.0 01:KB-03         84.78    6.180 No_date   28:10   22.99 n/a     .000
04442>       Major System   /     1.0 02:KB-03-MJ       .00     .000 No_date   0:00     .00  n/a     .000
04443>       Minor System   \     1.0 03:KB-03-MN      84.78    5.270 No_date   28:03   23.12 n/a     .000
04444>       {MjSysSto=.5145E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04445> R0005:C00237------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04446>     ADD HYD                1.0 02:KB-03-MJ       .00     .000 No_date   0:00     .00  n/a     .000
04447>                        +    1.0 02:KB-03-MN      84.78    5.270 No_date   28:03   23.12 n/a     .000
04448>                    SUM=     1.0 01:KB-03-S       84.78    5.270 No_date   28:03   23.12 n/a     .000
04449> R0005:C00238------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04450>     CONTINUOUS STANDHYD    1.0 01:KB-04          6.95    1.043 No_date   28:01   49.53 .867     .000
04451>       [XIMP=.85:TIMP=.85]
04452>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04453>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04454>       [Impervious  area: IAimp= .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
04455>       [IaREC=mp=  4.00: IaREC per=  4.00]
04456> R0005:C00239------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----R
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04489>      CONTINUOUS STANDHYD   1.0 01:KB-11          4.03     .584 No_date   28:00   41.88 .733     .000
04490>        [XIMP=.68:TIMP=.68]
04491>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04492>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04493>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
04494>        [IaRECimp=   4.00: IaRECper=   4.00]
04495> R0005:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04496>      COMPUTE DUALHYD       1.0 01:KB-11          4.03     .584 No_date   28:00   41.88  n/a     .000
04497>        Major System   /     1.0 02:KB-11-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04498>        Minor System   \     1.0 03:KB-11-MN        4.03     .577 No_date   28:00   41.89  n/a     .000
04499>        {MjSysSto=.4277E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04500> R0005:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04501>      ADD HYD               1.0 02:KB-11-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04502>                          +   1.0 02:KB-11-MN        4.03     .577 No_date   28:00   41.89  n/a     .000
04503>                        SUM=  1.0 01:KB-11-S         4.03     .577 No_date   28:00   41.89  n/a     .000
04504> R0005:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04505>      CONTINUOUS STANDHYD   1.0 01:S1            4.99     .892 No_date   28:00   52.49 .919     .000
04506>        [XIMP=.93:TIMP=.93]
04507>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04508>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04509>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
04510>        [IaRECimp=   4.00: IaRECper=   4.00]
04511> R0005:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04512>      CONTINUOUS STANDHYD   1.0 01:KB-15          2.15     .321 No_date   28:00   47.49 .831     .000
04513>        [XIMP=.79:TIMP=.79]
04514>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04515>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04516>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 120.:MNI=.013:SCI=   .0]
04517>        [IaRECimp=   4.00: IaRECper=   4.00]
04518> R0005:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04519>      ADD HYD               1.0 02:KB-01A-S       40.82    2.624 No_date   28:14   20.08  n/a     .000
04520>                          +   1.0 02:KB-01B-S       31.10    1.585 No_date   28:03   22.52  n/a     .000
04521>                          +   1.0 02:KB-01C-S       13.78    1.235 No_date   28:05   23.43  n/a     .000
04522>                          +   1.0 02:KB-03-S        84.78    5.270 No_date   28:03   23.12  n/a     .000
04523>                          +   1.0 02:KB-04-S         6.95     .503 No_date   27:48   49.78  n/a     .000
04524>                          +   1.0 02:KB-05           5.19     .855 No_date   28:00   52.49  n/a     .000
04525>                          +   1.0 02:KB-06-S        12.93    2.190 No_date   28:00   50.55  n/a     .000
04526>                          +   1.0 02:KB-11-S         4.03     .577 No_date   28:00   41.89  n/a     .000
04527>                          +   1.0 02:KB-15           2.15     .321 No_date   28:00   47.49  n/a     .000
04528>                          +   1.0 02:S1              4.99     .892 No_date   28:00   52.49  n/a     .000
04529>                        SUM=  1.0 01:KB-P1          206.72   14.564 No_date   28:02   27.13  n/a     .000
04530> R0005:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04531>      ROUTE RESERVOIR ->    1.0 02:KB-P1          206.72   14.564 No_date   28:02   27.13  n/a     .000
04532>                        out <=  1.0 01:KB-P1R       206.72   11.746 No_date   28:15   27.13  n/a     .000
04533>                overflow <=   1.0 03:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
04534>      {MxStoUsed=.5868E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
04535> R0005:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04536>      ADD HYD               1.0 02:KB-P1R         206.72   11.746 No_date   28:15   27.13  n/a     .000
04537>                          +   1.0 02:KB-P1ovf        .00     .000 No_date    0:00     .00  n/a     .000
04538>                        SUM=  1.0 01:KB-Pond1       206.72   11.746 No_date   28:15   27.13  n/a     .000
04539> R0005:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04540>      SAVE HYD              1.0 01:KB-Pond1       206.72   11.746 No_date   28:15   27.13  n/a     .000
04541>        fname :KB-Pond1.0005
04542>        remark:Total Flows at KB first pond
04543> R0005:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04544>      CONTINUOUS STANDHYD   1.0 01:KB-07          10.86    1.770 No_date   28:00   50.11 .877     .000
04545>        [XIMP=.86:TIMP=.86]
04546>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04547>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04548>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
04549>        [IaRECimp=   4.00: IaRECper=   4.00]
04550> R0005:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04551>      COMPUTE DUALHYD       1.0 01:KB-07          10.86    1.770 No_date   28:00   50.11  n/a     .000
04552>        Major System   /     1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04553>        Minor System   \     1.0 03:KB-07-MN       10.86    1.770 No_date   28:00   50.11  n/a     .000
04554>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04555> R0005:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04556>      ADD HYD               1.0 02:KB-07-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04557>                          +   1.0 02:KB-07-MN       10.86    1.770 No_date   28:00   50.11  n/a     .000
04558>                        SUM=  1.0 01:KB-07-S        10.86    1.770 No_date   28:00   50.11  n/a     .000
04559> R0005:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04560>      CONTINUOUS STANDHYD   1.0 01:KB-08          6.61     .900 No_date   28:00   40.32 .706     .000
04561>        [XIMP=.64:TIMP=.64]
04562>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04563>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04564>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
04565>        [IaRECimp=   4.00: IaRECper=   4.00]
04566> R0005:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04567>      COMPUTE DUALHYD       1.0 01:KB-08          6.61     .900 No_date   28:00   40.32  n/a     .000
04568>        Major System   /     1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04569>        Minor System   \     1.0 03:KB-08-MN        6.61     .900 No_date   28:00   40.32  n/a     .000
04570>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04571> R0005:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04572>      ADD HYD               1.0 02:KB-08-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04573>                          +   1.0 02:KB-08-MN        6.61     .900 No_date   28:00   40.32  n/a     .000
04574>                        SUM=  1.0 01:KB-08-S         6.61     .900 No_date   28:00   40.32  n/a     .000
04575> R0005:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04576>      CONTINUOUS STANDHYD   1.0 01:KB-09          2.60     .448 No_date   28:00   49.44 .865     .000
04577>        [XIMP=.86:TIMP=.86]
04578>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04579>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04580>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
04581>        [IaRECimp=   4.00: IaRECper=   4.00]
04582> R0005:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04583>      CONTINUOUS STANDHYD   1.0 01:KB-10_1        2.37     .409 No_date   28:00   49.44 .865     .000
04584>        [XIMP=.86:TIMP=.86]
04585>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04586>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04587>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
04588>        [IaRECimp=   4.00: IaRECper=   4.00]
04589> R0005:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04590>      CONTINUOUS STANDHYD   1.0 01:KB-10_2        1.14     .199 No_date   28:00   49.44 .865     .000
04591>        [XIMP=.86:TIMP=.86]
04592>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04593>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04594>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
04595>        [IaRECimp=   4.00: IaRECper=   4.00]
04596> R0005:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04597>      CONTINUOUS STANDHYD   1.0 01:KB-12          4.86     .777 No_date   28:00   46.75 .818     .000
04598>        [XIMP=.79:TIMP=.79]
04599>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04600>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04601>        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
04602>        [IaRECimp=   4.00: IaRECper=   4.00]
04603> R0005:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04604>      COMPUTE DUALHYD       1.0 01:KB-12          4.86     .777 No_date   28:00   46.75  n/a     .000
04605>        Major System   /     1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04606>        Minor System   \     1.0 03:KB-12-MN        4.86     .777 No_date   28:00   46.75  n/a     .000
04607>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04608> R0005:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04609>      ADD HYD               1.0 02:KB-12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04610>                          +   1.0 02:KB-12-MN        4.86     .777 No_date   28:00   46.75  n/a     .000
04611>                        SUM=  1.0 01:KB-12-S         4.86     .777 No_date   28:00   46.75  n/a     .000
04612> R0005:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04613>      CONTINUOUS STANDHYD   1.0 01:KB-13          10.19    1.364 No_date   28:00   40.32 .706     .000
04614>        [XIMP=.64:TIMP=.64]
04615>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04616>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04617>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
04618>        [IaRECimp=   4.00: IaRECper=   4.00]
04619> R0005:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04620>      COMPUTE DUALHYD       1.0 01:KB-13          10.19    1.364 No_date   28:00   40.32  n/a     .000
04621>        Major System   /     1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04622>        Minor System   \     1.0 03:KB-13-MN       10.19    1.364 No_date   28:00   40.32  n/a     .000
04623>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04624> R0005:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04625>      ADD HYD               1.0 02:KB-13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04626>                          +   1.0 02:KB-13-MN       10.19    1.364 No_date   28:00   40.32  n/a     .000
04627>                        SUM=  1.0 01:KB-13-S        10.19    1.364 No_date   28:00   40.32  n/a     .000
04628> R0005:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04629>      CONTINUOUS STANDHYD   1.0 01:KB-14          5.47     .756 No_date   28:00   40.32 .706     .000
04630>        [XIMP=.64:TIMP=.64]
04631>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04632>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04633>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
04634>        [IaRECimp=   4.00: IaRECper=   4.00]
04635> R0005:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04636>      COMPUTE DUALHYD       1.0 01:KB-14          5.47     .756 No_date   28:00   40.32  n/a     .000
04637>        Major System   /     1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04638>        Minor System   \     1.0 03:KB-14-MN        5.47     .756 No_date   28:00   40.32  n/a     .000
04639>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04640> R0005:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04641>      ADD HYD               1.0 02:KB-14-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04642>                          +   1.0 02:KB-14-MN        5.47     .756 No_date   28:00   40.32  n/a     .000
04643>                        SUM=  1.0 01:KB-14-S         5.47     .756 No_date   28:00   40.32  n/a     .000
04644> R0005:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04645>      CONTINUOUS STANDHYD   1.0 01:KB-16_2        3.42     .462 No_date   28:01   43.88 .768     .000
04646>        [XIMP=.71:TIMP=.71]
04647>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04648>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04649>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 151.:MNI=.013:SCI=   .0]
04650>        [IaRECimp=   4.00: IaRECper=   4.00]
04651> R0005:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04652>      ADD HYD               1.0 02:KB-Pond1       206.72   11.746 No_date   28:15   27.13  n/a     .000
04653>                          +   1.0 02:KB-07-S        10.86    1.770 No_date   28:00   50.11  n/a     .000
04654>                          +   1.0 02:KB-08           6.61     .900 No_date   28:00   40.32  n/a     .000
04655>                          +   1.0 02:KB-09           2.60     .448 No_date   28:00   49.44  n/a     .000
04656>                          +   1.0 02:KB-10_1         2.37     .409 No_date   28:00   49.43  n/a     .000
04657>                          +   1.0 02:KB-10_2         1.14     .199 No_date   28:00   49.44  n/a     .000
04658>                          +   1.0 02:KB-12-S         4.86     .777 No_date   28:00   46.75  n/a     .000
04659>                          +   1.0 02:KB-13-S        10.19    1.364 No_date   28:00   40.32  n/a     .000
04660>                          +   1.0 02:KB-14-S         5.47     .756 No_date   28:00   40.32  n/a     .000
04661>                          +   1.0 02:KB-16_2         3.42     .462 No_date   28:01   43.88  n/a     .000
04662>                        SUM=  1.0 01:KB-P2          254.24   16.750 No_date   28:01   30.40  n/a     .000
04663> R0005:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04664>      ROUTE RESERVOIR ->    1.0 02:KB-P2          254.24   16.750 No_date   28:01   30.40  n/a     .000
04665>                        out <=  1.0 01:KB-P2R       254.24   13.525 No_date   28:14   30.40  n/a     .000
04666>                overflow <=   1.0 03:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a     .000
04667>      {MxStoUsed=.6552E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
04668> R0005:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04669>      ADD HYD               1.0 02:KB-P2R         254.24   13.525 No_date   28:14   30.40  n/a     .000
04670>                          +   1.0 02:KB-P2ovf        .00     .000 No_date    0:00     .00  n/a     .000
04671>                        SUM=  1.0 01:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a     .000
04672> R0005:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04673>      SAVE HYD              1.0 01:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a     .000
04674>        fname :KB-Pond2.0005
04675>        remark:Total Flows at KB second pond

04676> R0005:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04677>      CONTINUOUS STANDHYD   1.0 01:KB-16_1        2.80     .398 No_date   28:01   45.69 .800     .000
04678>        [XIMP=.75:TIMP=.75]
04679>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04680>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04681>        [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 137.:MNI=.013:SCI=   .0]
04682>        [IaRECimp=   4.00: IaRECper=   4.00]
04683> R0005:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04684>      ADD HYD               1.0 02:KB-Pond2       254.24   13.525 No_date   28:14   30.40  n/a     .000
04685>                          +   1.0 02:KB-16_1        2.80     .398 No_date   28:01   45.69  n/a     .000
04686>                        SUM=  1.0 01:KB-P3          257.04   13.655 No_date   28:13   30.57  n/a     .000
04687> R0005:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04688>      ROUTE RESERVOIR ->    1.0 02:KB-P3          257.04   13.655 No_date   28:13   30.57  n/a     .000
04689>                        out <=  1.0 01:KB-P3R       14.18     .051 No_date   17:43   30.57  n/a     .000
04690>                overflow <=   1.0 03:KB-P3ovf      242.86   13.603 No_date   28:13   30.57  n/a     .000
04691>      {MxStoUsed=.1998E-02  m3, TotOvfVol=.7424E+01  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
04692> R0005:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04693>      ADD HYD               1.0 02:KB-P3R         14.18     .051 No_date   17:43   30.57  n/a     .000
04694>                          +   1.0 02:KB-P3ovf      242.86   13.603 No_date   28:13   30.57  n/a     .000
04695>                        SUM=  1.0 01:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a     .000
04696> R0005:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04697>      SAVE HYD              1.0 01:KB-Pond3       257.04   13.654 No_date   28:13   30.57  n/a     .000
04698>        fname :KB-Pond3.0005
04699>        remark:Total Flows at KB third pond
04700> #*************************************************************************
04701> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
04702> #    - TO FRASER-CLARKE DRAIN
04703> #*************************************************************************
04704> R0005:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04705>      CONTINUOUS STANDHYD   1.0 01:FC-01          8.03     .865 No_date   28:01   32.39 .567     .000
04706>        [XIMP=.47:TIMP=.47]
04707>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04708>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04709>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
04710>        [IaRECimp=   4.00: IaRECper=   4.00]
04711> R0005:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04712>      COMPUTE DUALHYD       1.0 01:FC-01          8.03     .865 No_date   28:01   32.39  n/a     .000
04713>        Major System   /     1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04714>        Minor System   \     1.0 03:FC-01-MN        8.03     .756 No_date   27:58   32.40  n/a     .000
04715>        {MjSysSto=.2912E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04716> R0005:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04717>      ADD HYD               1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04718>                          +   1.0 02:FC-01-MN        8.03     .756 No_date   27:58   32.40  n/a     .000
04719>                        SUM=  1.0 01:FC-01-S         8.03     .756 No_date   27:58   32.40  n/a     .000
04720> R0005:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04721>      CONTINUOUS STANDHYD   1.0 01:FC-02          16.05    2.547 No_date   28:01   52.49 .919     .000
04722>        [XIMP=.93:TIMP=.93]
04723>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04724>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04725>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
04726>        [IaRECimp=   4.00: IaRECper=   4.00]
04727> R0005:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04728>      COMPUTE DUALHYD       1.0 01:FC-02          16.05    2.547 No_date   28:01   52.49  n/a     .000
04729>        Major System   /     1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04730>        Minor System   \     1.0 03:FC-02-MN       16.05    1.159 No_date   27:47   52.68  n/a     .000
04731>        {MjSysSto=.1011E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04732> R0005:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04733>      ADD HYD               1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04734>                          +   1.0 02:FC-02-MN       16.05    1.159 No_date   27:47   52.68  n/a     .000
04735>                        SUM=  1.0 01:FC-02-S        16.05    1.159 No_date   27:47   52.68  n/a     .000
04736> R0005:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04737>      CONTINUOUS STANDHYD   1.0 01:FC-03          7.37     .956 No_date   28:01   39.82 .697     .000
04738>        [XIMP=.64:TIMP=.64]
04739>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04740>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04741>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
04742>        [IaRECimp=   4.00: IaRECper=   4.00]
04743> R0005:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04744>      COMPUTE DUALHYD       1.0 01:FC-03          7.37     .956 No_date   28:01   39.82  n/a     .000
04745>        Major System   /     1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04746>        Minor System   \     1.0 03:FC-03-MN        7.37     .358 No_date   27:45   39.85  n/a     .000
04747>        {MjSysSto=.4806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04748> R0005:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04749>      ADD HYD               1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04750>                          +   1.0 02:FC-03-MN        7.37     .358 No_date   27:45   39.85  n/a     .000
04751>                        SUM=  1.0 01:FC-03-S         7.37     .358 No_date   27:45   39.85  n/a     .000
04752> R0005:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04753>      CONTINUOUS STANDHYD   1.0 01:FC-04          12.87    1.600 No_date   28:01   39.82 .697     .000
04754>        [XIMP=.64:TIMP=.64]
04755>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04756>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04757>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
04758>        [IaRECimp=   4.00: IaRECper=   4.00]
04759> R0005:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04760>      COMPUTE DUALHYD       1.0 01:FC-04          12.87    1.600 No_date   28:01   39.82  n/a     .000
04761>        Major System   /     1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04762>        Minor System   \     1.0 03:FC-04-MN       12.87    .741 No_date   27:48   39.85  n/a     .000
04763>        {MjSysSto=.6277E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04764> R0005:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04765>      ADD HYD               1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04766>                          +   1.0 02:FC-04-MN       12.87    .741 No_date   27:48   39.85  n/a     .000
04767>                        SUM=  1.0 01:FC-04-S        12.87    .741 No_date   27:48   39.85  n/a     .000
04768> #*************************************************************************
04769> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
04770> #    - TO JOCK RIVER
04771> #*************************************************************************
04772> R0005:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04773>      CONTINUOUS STANDHYD   1.0 01:JR-01           8.24    1.064 No_date   28:01   39.82 .697     .000
04774>        [XIMP=.64:TIMP=.64]
04775>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04776>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04777>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
04778>        [IaRECimp=   4.00: IaRECper=   4.00]
04779> R0005:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04780>      COMPUTE DUALHYD       1.0 01:JR-01           8.24    1.064 No_date   28:01   39.82  n/a     .000
04781>        Major System   /     1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04782>        Minor System   \     1.0 03:JR-01-MN        8.24    .563 No_date   28:29   40.05  n/a     .000
04783>        {MjSysSto=.3052E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04784> R0005:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04785>      ADD HYD               1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04786>                          +   1.0 02:JR-01-MN        8.24    .563 No_date   27:50   40.05  n/a     .000
04787>                        SUM=  1.0 01:JR-01-S         8.24    .563 No_date   27:50   40.05  n/a     .000
04788> R0005:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04789>      CONTINUOUS STANDHYD   1.0 01:JR-02           1.59     .224 No_date   28:00   39.82 .697     .000
04790>        [XIMP=.64:TIMP=.64]
04791>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
04792>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
04793>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
04794>        [IaRECimp=   4.00: IaRECper=   4.00]
04795> R0005:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04796>      COMPUTE DUALHYD       1.0 01:JR-02           1.59     .224 No_date   28:00   39.82  n/a     .000
04797>        Major System   /     1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04798>        Minor System   \     1.0 03:JR-02-MN        1.59     .153 No_date   27:53   40.12  n/a     .000
04799>        {MjSysSto=.2948E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
04800> R0005:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04801>      ADD HYD               1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
04802>                          +   1.0 02:JR-02-MN        1.59     .153 No_date   27:53   40.12  n/a     .000
04803>                        SUM=  1.0 01:JR-02-S         1.59     .153 No_date   27:53   40.12  n/a     .000
04804> #*************************************************************************
04805> #    Catchment FRASER
04806> #    - To Fraser-Clarke drain (north of the Jock)
04807> #    - Developed land with assumed 43% imp.
04808> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
04809> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
04810> #*************************************************
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04863>       fname :SN_KB.0005
04864>       remark:Total Flows before Station 3633
04865> # Hydrograph from Station 3633 to Node Todd
04866> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
04867> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
04868> #
04869> R0005:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04870>     ROUTE CHANNEL   ->     1.0 02:SN_KB      54681.13   70.342 No_date   38:13   18.71  n/a     .000
04871>       [RDT= 1.00] out<-     1.0 01:N_TO       54681.13   70.065 No_date   36:56   18.71  n/a     .000
04872>       [L/S/n=  608./ .247/.035]
04873>       {Vmax= 1.451:Dmax= 1.378}
04874> #*************************************************************************
04875> #    Catchment Greenbank
04876> #    - To Greenbank Drain (south of the Jock)
04877> #    - JFSA 2021-01-19 add Greenbank pond as per JFSA, PS98(06)-15, June 2016
04878> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
04879> #*************************************************************************
04880> R0005:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04881>     CONTINUOUS STANDHYD    1.0 01:Greenbank    36.60    3.925 No_date   28:02   42.59 .745     .000
04882>       [XIMP=.64:TIMP=.68]
04883>       [LOSS= 2 :CN= 77.0]
04884>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04885>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
04886>       [IaRECimp=   4.00: IaRECper=   4.00]
04887>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
04888> R0005:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04889>     ROUTE RESERVOIR ->     1.0 02:Greenbank    36.60    3.925 No_date   28:02   42.59  n/a     .000
04890>                   out <=     1.0 01:GreenB_MN   36.60    .811 No_date   28:35   42.58  n/a     .000
04891>                overflow <=     1.0 03:GreenB_MJ      .00    .000 No_date    0:00     .00  n/a     .000
04892>       {MxStoUsed=.0000E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04893> R0005:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04894>     ADD HYD                1.0 02:N_TO       54681.13   70.065 No_date   36:56   18.71  n/a     .000
04895>                       +     1.0 02:GreenB_MJ      .00    .000 No_date    0:00     .00  n/a     .000
04896>                       +     1.0 02:GreenB_MN   36.60    .811 No_date   28:35   42.58  n/a     .000
04897>                     SUM=    1.0 01:GreenB     54717.73   70.171 No_date   36:56   18.73  n/a     .000
04898> R0005:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04899>     SAVE HYD               1.0 01:GreenB     54717.73   70.171 No_date   36:56   18.73  n/a     .000
04900>       fname :GreenB.0005
04901>       remark:Total Flows at Greenbank Drain
04902> #*************************************************************************
04903> #    Catchment TODD
04904> #    - To Todd Drain (south of the Jock)
04905> #    - Subdivision with 43% imp. as per Barrhaven South MSS
04906> #    - 2020-11-30 increase imp. based on PS98(04)-11
04907> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on PS98(04)-11
04908> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
04909> #*************************************************************************
04910> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
04911> R0005:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04912>     CONTINUOUS STANDHYD    1.0 01:TODD_MN2      2.10     .239 No_date   28:00   38.41 .672     .000
04913>       [XIMP=.53:TIMP=.57]
04914>       [LOSS= 2 :CN= 77.0]
04915>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04916>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
04917>       [IaRECimp=   4.00: IaRECper=   4.00]
04918>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
04919> R0005:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04920>     CONTINUOUS STANDHYD    1.0 01:TODD_MN3       .12     .014 No_date   28:00   38.39 .672     .000
04921>       [XIMP=.53:TIMP=.57]
04922>       [LOSS= 2 :CN= 77.0]
04923>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04924>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
04925>       [IaRECimp=   4.00: IaRECper=   4.00]
04926>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
04927> R0005:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04928>     CONTINUOUS STANDHYD    1.0 01:TODD_MJ       30.23    2.959 No_date   28:02   39.47 .691     .000
04929>       [XIMP=.52:TIMP=.64]
04930>       [LOSS= 2 :CN= 77.0]
04931>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04932>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
04933>       [IaRECimp=   4.00: IaRECper=   4.00]
04934>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
04935> R0005:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04936>     CONTINUOUS STANDHYD    1.0 01:TODD_ALL     112.91    9.069 No_date   28:05   38.19 .669     .000
04937>       [XIMP=.52:TIMP=.57]
04938>       [LOSS= 2 :CN= 77.0]
04939>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04940>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
04941>       [IaRECimp=   4.00: IaRECper=   4.00]
04942>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
04943> R0005:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04944>     CONTINUOUS STANDHYD    1.0 01:TODD_P        3.06     .385 No_date   28:00   41.58 .728     .000
04945>       [XIMP=.63:TIMP=.63]
04946>       [LOSS= 2 :CN= 77.0]
04947>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04948>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
04949>       [IaRECimp=   4.00: IaRECper=   4.00]
04950>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
04951> # 5-Year + 12% Capture
04952> R0005:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04953>     ROUTE RESERVOIR ->     1.0 02:TODD_MJ       30.23    2.959 No_date   28:02   39.47  n/a     .000
04954> *   [RDT= 1.00] out<-     1.0 01:TODD_MJn      30.23    2.959 No_date   28:02   39.47 n/a     .000
04955>                overflow <=     1.0 03:TODD_MJj      .00    .000 No_date    0:00     .00  n/a     .000
04956>       {MxStoUsed=.8948E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04957> # 5-Year + 12% Capture
04958> R0005:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04959>     ROUTE RESERVOIR ->     1.0 02:TODD_MN2      2.10     .239 No_date   28:00   38.41  n/a     .000
04960>                   out <=     1.0 01:TODD_MN2n     2.10     .238 No_date   28:00   38.41 n/a     .000
04961>                overflow <=     1.0 03:TODD_MN2j      .00    .000 No_date    0:00     .00  n/a     .000
04962>       {MxStoUsed=.8965E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04963> R0005:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04964>     ROUTE RESERVOIR ->     1.0 02:TODD_MN3       .12     .014 No_date   28:00   38.39  n/a     .000
04965>                   out <=     1.0 01:TODD_MN3n      .12     .014 No_date   28:00   38.39 n/a     .000
04966>                overflow <=     1.0 03:TODD_MN3j      .00    .000 No_date    0:00     .00  n/a     .000
04967>       {MxStoUsed=.8651E-04  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
04968> R0005:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04969>     CONTINUOUS STANDHYD    1.0 01:A2            25.50    1.991 No_date   28:03   34.66 .607     .000
04970>       [XIMP=.42:TIMP=.52]
04971>       [LOSS= 2 :CN= 75.0]
04972>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
04973>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
04974>       [IaRECimp=   4.00: IaRECper=   4.00]
04975>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
04976> R0005:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04977>     COMPUTE DUALHYD        1.0 01:A2            25.50    1.991 No_date   28:03   34.66  n/a     .000
04978>       Major System    /     1.0 02:A2-MJ          .00    .000 No_date    0:00     .00 n/a     .000
04979>       Minor System    \     1.0 03:A2-MN         25.50    1.818 No_date   28:00   34.70  n/a     .000
04980>       {MjSysSto=.5163E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
04981> R0005:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04982>     ADD HYD                1.0 02:TODD_MN2n     2.10     .238 No_date   28:00   38.41  n/a     .000
04983>                       +     1.0 02:TODD_MN3n      .12     .014 No_date   28:00   38.39  n/a     .000
04984>                       +     1.0 02:TODD_MJj       .00    .000 No_date    0:00     .00  n/a     .000
04985>                       +     1.0 02:TODD_P        3.06     .385 No_date   28:00   41.58  n/a     .000
04986>                       +     1.0 02:TODD_ALL    112.91    9.069 No_date   28:05   38.19  n/a     .000
04987>                       +     1.0 02:W_CLAR_MJn     1.77    .192 No_date   28:00   37.36  n/a     .000
04988>                     SUM=    1.0 01:TODD       119.95    9.538 No_date   28:04   38.27  n/a     .000
04989> R0005:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04990>     SAVE HYD               1.0 01:TODD       119.95    9.538 No_date   28:04   38.27  n/a     .000
04991>       fname :TODD.0005
04992>       remark:Total Flows at Todd Drain
04993> #*************************************************************************
04994> #    Todd Pond 3
04995> #    - Rating curve obtained from Barrhaven South MSS modeling
04996> #    - stantec 2007 - Drainage Area to MSS Pond 3 = 193 ha
04997> #*************************************************************************
04998> R0005:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
04999>     ROUTE RESERVOIR ->     1.0 02:TODD       119.95    9.538 No_date   28:04   38.27  n/a     .000
05000>                   out <=     1.0 01:MS_P3      119.95    3.765 No_date   28:29   38.27  n/a     .000
05001>                overflow <=     1.0 03:P3-OVF        .00    .000 No_date    0:00     .00  n/a     .000
05002>       {MxStoUsed=.2351E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05003> R0005:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05004>     ADD HYD                1.0 02:GreenB     54717.73   70.171 No_date   36:56   18.73  n/a     .000
05005>                       +     1.0 02:MS_P3      119.95    3.765 No_date   28:29   38.27  n/a     .000
05006>                       +     1.0 02:P3-OVF        .00    .000 No_date    0:00     .00  n/a     .000
05007>                       +     1.0 02:TODD_MNJ      .00    .000 No_date    0:00     .00  n/a     .000
05008>                       +     1.0 02:A2-MJ         .00    .000 No_date    0:00     .00  n/a     .000
05009>                     SUM=    1.0 01:SN_TO      54837.69   70.373 No_date   36:55   18.77  n/a     .000
05010> R0005:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05011>     SAVE HYD               1.0 01:SN_TO      54837.69   70.373 No_date   36:55   18.77  n/a     .000
05012>       fname :SN_TO.0005
05013>       remark:Total Flows at Todd Drain
05014> #
05015> # Hydrograph from Todd Drain routed to Corrigan Drain
05016> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
05017> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
05018> R0005:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05019>     ROUTE CHANNEL   ->     1.0 02:SN_TO      54837.69   70.373 No_date   36:55   18.77  n/a     .000
05020> *   [RDT= 1.00] out<-     1.0 01:N_TO       54837.69   70.283 No_date   37:09   18.77 n/a     .000
05021>       [L/S/n=  280./ .050/.045]
05022>       {Vmax=   .827:Dmax= 2.568}
05023> R0005:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05024>     SAVE HYD               1.0 01:N_TO       54837.69   70.283 No_date   37:09   18.77  n/a     .000
05025>       fname :N_TO.0005
05026>       remark:Total inflows at Station 2462
05027> #*************************************************************************
05028> #    Catchment CORRIG
05029> #    - To Corrigan Drain (south of the Jock)
05030> #    - Primarily Developed (medium density)
05031> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
05032> #*************************************************************************
05033> R0005:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05034>     CONTINUOUS STANDHYD    1.0 01:corr1         15.87    1.806 No_date   28:01   41.58 .728     .000
05035>       [XIMP=.63:TIMP=.63]
05036>       [LOSS= 2 :CN= 77.0]
05037>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05038>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
05039>       [IaRECimp=   4.00: IaRECper=   4.00]
05040>       {SMIN= 31.15: SMAX=207.66: Sk= .010}
05041> R0005:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05042>     COMPUTE DUALHYD        1.0 01:corr1         15.87    1.806 No_date   28:01   41.58  n/a     .000
05043>       Major System    /     1.0 02:corr1-MJ       .00    .000 No_date    0:00     .00 n/a     .000
05044>       Minor System    \     1.0 03:corr1-MN      15.87    1.806 No_date   28:01   41.58  n/a     .000
05045>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05046> R0005:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05047>     CONTINUOUS NASHYD      1.0 01:corr2         12.47     .161 No_date   29:11   21.69 .380     .000
05048>       [CN= 77.0: N= 3.00: Tp= 1.10]
05049>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: Sk= .010]
05050>       [InterEventTime=  12.00]
05051> R0005:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05052>     CONTINUOUS STANDHYD    1.0 01:A1-Corrig     15.75    1.357 No_date   28:02   34.66 .607     .000
05053>       [XIMP=.42:TIMP=.52]
05054>       [LOSS= 2 :CN= 75.0]
05055>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05056>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
05057>       [IaRECimp=   4.00: IaRECper=   4.00]
05058>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
05059> R0005:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05060>     COMPUTE DUALHYD        1.0 01:A1-Corrig     15.75    1.357 No_date   28:02   34.66  n/a     .000
05061>       Major System    /     1.0 02:A1-MJ          .00    .000 No_date    0:00     .00 n/a     .000
05062>       Minor System    \     1.0 03:A1-MN         15.75    1.357 No_date   28:02   34.66  n/a     .000
05063>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05064> R0005:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05065>     CONTINUOUS NASHYD      1.0 01:B1            2.77     .055 No_date   28:09   13.56 .237     .000
05066>       [CN= 56.0: N= 3.00: Tp=  .23]
05067>       [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: Sk= .010]
05068>       [InterEventTime=  12.00]
05069> R0005:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05070>     CONTINUOUS STANDHYD    1.0 01:A4            1.27     .153 No_date   28:00   42.00 .735     .000
05071>       [XIMP=.65:TIMP=.65]
05072>       [LOSS= 2 :CN= 75.0]
05073>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05074>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
05075>       [IaRECimp=   4.00: IaRECper=   4.00]
05076>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
05077> R0005:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05078>     COMPUTE DUALHYD        1.0 01:A4            1.27     .153 No_date   28:00   42.00  n/a     .000
05079>       Major System    /     1.0 02:A4-MJ          .00    .000 No_date    0:00     .00 n/a     .000
05080>       Minor System    \     1.0 03:A4-MN         1.27     .153 No_date   28:00   42.00  n/a     .000
05081>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05082> R0005:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05083>     ADD HYD                1.0 02:A1-MJ          .00    .000 No_date    0:00     .00  n/a     .000
05084>                       +     1.0 02:A1-MN      15.75    1.357 No_date   28:02   34.66  n/a     .000
05085>                       +     1.0 02:corr1-MJ       .00    .000 No_date    0:00     .00  n/a     .000
05086>                       +     1.0 02:corr1-MN   15.87    1.806 No_date   28:01   41.58  n/a     .000
05087>                       +     1.0 02:corr2      12.47     .161 No_date   29:11   21.69  n/a     .000
05088>                       +     1.0 02:B1          2.77     .055 No_date   28:09   13.56  n/a     .000
05089>                       +     1.0 02:A4-MN       1.27     .153 No_date   28:00   42.00  n/a     .000
05090>                     SUM=    1.0 01:MH101      48.13    3.389 No_date   28:01   32.56  n/a     .000
05091> R0005:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05092>     SAVE HYD               1.0 01:MH101      48.13    3.389 No_date   28:01   32.56  n/a     .000
05093>       fname :MH101.0005
05094>       remark:Total Flows at MH101
05095> R0005:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05096>     ROUTE PIPE      ->     1.0 02:MH101      48.13    3.389 No_date   28:01   32.56  n/a     .000
05097> *   [RDT= 1.00] out<-     1.0 01:101-102    48.13    3.277 No_date   28:03   32.56 n/a     .000
05098>       [L/S/n=  368./ .540/.013]
05099>       {Vmax= 3.010:Dmax= 1.049}
05100>       [Din= 1.05:Dused= 1.28]
05101> R0005:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05102>     ADD HYD                1.0 02:A2-MN      25.50    1.818 No_date   28:00   34.70  n/a     .000
05103>                       +     1.0 02:101-102    48.13    3.277 No_date   28:03   32.56  n/a     .000
05104>                     SUM=    1.0 01:MH102      73.63    5.095 No_date   28:03   33.30  n/a     .000
05105> R0005:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05106>     SAVE HYD               1.0 01:MH102      73.63    5.095 No_date   28:03   33.30  n/a     .000
05107>       fname :MH102.0005
05108>       remark:Total Flows at MH102
05109> R0005:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05110>     CONTINUOUS STANDHYD    1.0 01:A5            1.60     .202 No_date   28:01   44.32 .776     .000
05111>       [XIMP=.71:TIMP=.71]
05112>       [LOSS= 2 :CN= 75.0]
05113>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05114>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
05115>       [IaRECimp=   4.00: IaRECper=   4.00]
05116>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
05117> R0005:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05118>     ADD HYD                1.0 02:A4-MJ          .00    .000 No_date    0:00     .00  n/a     .000
05119>                       +     1.0 02:A5         1.60     .202 No_date   28:01   44.32  n/a     .000
05120>                     SUM=    1.0 01:A5T        1.60     .202 No_date   28:01   44.32  n/a     .000
05121> R0005:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05122>     COMPUTE DUALHYD        1.0 01:A5T        1.60     .202 No_date   28:01   44.32  n/a     .000
05123>       Major System    /     1.0 02:A5-MJ          .00    .000 No_date    0:00     .00 n/a     .000
05124>       Minor System    \     1.0 03:A5-MN      1.60     .202 No_date   28:01   44.32  n/a     .000
05125>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05126> R0005:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05127>     ROUTE PIPE      ->     1.0 02:MH102      73.63    5.095 No_date   28:03   33.30  n/a     .000
05128> *   [RDT= 1.00] out<-     1.0 01:102-103    73.63    4.821 No_date   28:05   33.30 n/a     .000
05129>       [L/S/n=  504./ .280/.013]
05130>       {Vmax= 2.606:Dmax= 1.382}
05131>       [Din= 1.50:Dused= 1.68]
05132> R0005:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05133>     ADD HYD                1.0 02:102-103    73.63    4.821 No_date   28:05   33.30  n/a     .000
05134>                       +     1.0 02:A5-MN      1.60     .202 No_date   28:01   44.32  n/a     .000
05135>                     SUM=    1.0 01:MH103      75.23    4.991 No_date   28:04   33.53  n/a     .000
05136> R0005:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05137>     SAVE HYD               1.0 01:MH103      75.23    4.991 No_date   28:04   33.53  n/a     .000
05138>       fname :MH103.0005
05139>       remark:Total Flows at MH103
05140> R0005:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05141>     ROUTE PIPE      ->     1.0 02:MH103      75.23    4.991 No_date   28:04   33.53  n/a     .000
05142>   [RDT= 1.00] out<-     1.0 01:103-104    75.23    4.875 No_date   28:06   33.53 n/a     .000
05143>       [L/S/n=  438./ .460/.013]
05144>       {Vmax= 3.219:Dmax= 1.124}
05145>       [Din= 1.65:Dused= 1.65]
05146> R0005:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05147>     CONTINUOUS STANDHYD    1.0 01:A6            1.56     .200 No_date   28:01   44.32 .776     .000
05148>       [XIMP=.71:TIMP=.71]
05149>       [LOSS= 2 :CN= 75.0]
05150>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05151>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
05152>       [IaRECimp=   4.00: IaRECper=   4.00]
05153>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
05154> R0005:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05155>     ADD HYD                1.0 02:A5-MJ          .00    .000 No_date    0:00     .00  n/a     .000
05156>                       +     1.0 02:A6         1.56     .200 No_date   28:01   44.32  n/a     .000
05157>                     SUM=    1.0 01:A6T        1.56     .200 No_date   28:01   44.32  n/a     .000
05158> R0005:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05159>     COMPUTE DUALHYD        1.0 01:A6T        1.56     .200 No_date   28:01   44.32  n/a     .000
05160>       Major System    /     1.0 02:A6-MJ          .00    .000 No_date    0:00     .00 n/a     .000
05161>       Minor System    \     1.0 03:A6-MN      1.56     .200 No_date   28:01   44.32  n/a     .000
05162>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05163> R0005:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05164>     ADD HYD                1.0 02:A6-MN      1.56     .200 No_date   28:01   44.32  n/a     .000
05165>                       +     1.0 02:103-104    75.23    4.875 No_date   28:06   33.53  n/a     .000
05166>                       +     1.0 02:TODD_MJn   30.23    2.959 No_date   28:02   39.47  n/a     .000
05167>                     SUM=    1.0 01:MH104     107.02    7.823 No_date   28:04   35.37  n/a     .000
05168> R0005:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05169>     SAVE HYD               1.0 01:MH104     107.02    7.823 No_date   28:04   35.37  n/a     .000
05170>       fname :MH104.0005
05171>       remark:Total Flows at MH104
05172> R0005:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05173>     CONTINUOUS STANDHYD    1.0 01:B2            12.31    1.023 No_date   28:02   34.82 .610     .000
05174>       [XIMP=.41:TIMP=.54]
05175>       [LOSS= 2 :CN= 75.0]
05176>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05177>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
05178>       [IaRECimp=   4.00: IaRECper=   4.00]
05179>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
05180> R0005:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05181>     COMPUTE DUALHYD        1.0 01:B2            12.31    1.023 No_date   28:02   34.82  n/a     .000
05182>       Major System    /     1.0 02:B2-MJ          .00    .000 No_date    0:00     .00 n/a     .000
05183>       Minor System    \     1.0 03:B2-MN         12.31    1.023 No_date   28:02   34.82  n/a     .000
05184>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05185> R0005:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05186>     ROUTE PIPE      ->     1.0 02:B2-MN         12.31    1.023 No_date   28:02   34.82  n/a     .000
05187>   [RDT= 1.00] out<-     1.0 01:315-333    12.31     .941 No_date   28:04   34.82 n/a     .000
05188>       [L/S/n=  254./ .100/.013]
05189>       {Vmax= 1.219:Dmax=  .834}
05190>       [Din= 1.20:Dused= 1.20]
05191> R0005:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05192>     CONTINUOUS STANDHYD    1.0 01:B3             5.59     .477 No_date   28:02   34.82 .610     .000
05193>       [XIMP=.41:TIMP=.54]
05194>       [LOSS= 2 :CN= 75.0]
05195>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05196>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
05197>       [IaRECimp=   4.00: IaRECper=   4.00]
05198>       {SMIN= 33.81: SMAX=225.43: Sk= .010}
05199> R0005:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05200>     COMPUTE DUALHYD        1.0 01:B3             5.59     .477 No_date   28:02   34.82  n/a     .000
05201>       Major System    /     1.0 02:B3-MJ          .00    .000 No_date    0:00     .00 n/a     .000
05202>       Minor System    \     1.0 03:B3-MN         5.59     .459 No_date   28:00   34.87  n/a     .000
05203>       {MjSysSto=.3215E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05204> R0005:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05205>     ADD HYD                1.0 02:B3-MN         5.59     .459 No_date   28:00   34.87  n/a     .000
05206>                       +     1.0 02:315-333    12.31     .941 No_date   28:04   34.82  n/a     .000
05207>                     SUM=    1.0 01:MH333      17.90    1.400 No_date   28:04   34.84  n/a     .000
05208> R0005:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05209>     SAVE HYD               1.0 01:MH333      17.90    1.400 No_date   28:04   34.84  n/a     .000
05210>       fname :MH333.0005
05211>       remark:Total Flows at MH333
05212> R0005:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05213>     ROUTE PIPE      ->     1.0 02:MH333      17.90    1.400 No_date   28:04   34.84  n/a     .000
05214> *   [RDT= 1.00] out<-     1.0 01:333-335    17.90    1.320 No_date   28:06   34.84 n/a     .000
05215>       [L/S/n=  251./ .100/.013]
05216>       {Vmax= 1.282:Dmax= 1.033}
05217>       [Din= 1.20:Dused= 1.26]
05218> R0005:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05219>     ROUTE PIPE      ->     1.0 02:333-335    17.90    1.320 No_date   28:06   34.84  n/a     .000
05220> *   [RDT= 1.00] out<-     1.0 01:335-338    17.90    1.265 No_date   28:06   34.84 n/a     .000
05221>       [L/S/n=  185./ .100/.013]
05222>       {Vmax= 1.264:Dmax= 1.010}
05223>       [Din= 1.20:Dused= 1.23]
05224> R0005:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05225>     ROUTE PIPE      ->     1.0 02:335-338    17.90    1.265 No_
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05237>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05238> R0005:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05239>     COMPUTE DUALHYD     1.0 01:B4          7.60     .638 No_date   28:02   34.82  n/a     .000
05240>       Major System   /     1.0 02:B4-MJ          .00     .000 No_date   0:00    .00  n/a     .000
05241>       Minor System   \     1.0 03:B4-MN         7.60     .638 No_date   28:02   34.82  n/a     .000
05242>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05243> R0005:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05244>     ADD HYD             1.0 02:338-340      17.90    1.183 No_date   28:06   34.84  n/a     .000
05245>                    +    1.0 02:B4-MN         7.60     .638 No_date   28:02   34.82  n/a     .000
05246>                  SUM=   1.0 01:MH340       25.50    1.761 No_date   28:05   34.83  n/a     .000
05247> R0005:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05248>     SAVE HYD            1.0 01:MH340        25.50    1.761 No_date   28:05   34.83  n/a     .000
05249>       fname :MH340.0005
05250>       remark:Total Flows at MH340
05251> R0005:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05252>     ROUTE PIPE      ->    1.0 02:MH340        25.50    1.761 No_date   28:05   34.83  n/a     .000
05253>     [RDT= 1.00] out<-     1.0 01:340-104      25.50    1.698 No_date   28:06   34.83  n/a     .000
05254>       [L/S/n=  240./ .150/.013]
05255>       {Vmax= 1.648:Dmax=  .823}
05256>       [Din= 1.65:Dused= 1.65}
05257> R0005:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05258>     ADD HYD             1.0 02:340-104      25.50    1.698 No_date   28:06   34.83  n/a     .000
05259>                    +    1.0 02:MH104        107.02   7.823 No_date   28:04   35.37  n/a     .000
05260>                  SUM=   1.0 01:MH104       132.52   9.463 No_date   28:04   35.27  n/a     .000
05261> R0005:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05262>     ROUTE PIPE      ->    1.0 02:MH104T       132.52   9.463 No_date   28:04   35.27  n/a     .000
05263> *   [RDT= 1.00] out<-     1.0 01:104-105      132.52   8.848 No_date   28:06   35.27  n/a     .000
05264>       [L/S/n=  380./ .100/.013]
05265>       {Vmax= 2.012:Dmax= 1.868}
05266>       {HGT= 2.20:WDTH= 2.52}
05267> R0005:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05268>     CONTINUOUS STANDHYD   1.0 01:B5           2.20     .248 No_date   28:00   38.90 .681    .000
05269>       [XIMP=.57:TIMP=.57]
05270>       [LOSS= 2 :CN= 75.0]
05271>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05272>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
05273>       [IaRECimp=  4.00: IaRECper=   4.00]
05274>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05275> R0005:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05276>     COMPUTE DUALHYD     1.0 01:B5           2.20     .248 No_date   28:00   38.90  n/a     .000
05277>       Major System   /     1.0 02:B5-MJ          .00     .000 No_date   0:00    .00  n/a     .000
05278>       Minor System   \     1.0 03:B5-MN         2.20     .248 No_date   28:00   38.90  n/a     .000
05279>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05280> R0005:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05281>     CONTINUOUS STANDHYD   1.0 01:A8           .96     .130 No_date   28:00   44.32 .776    .000
05282>       [XIMP=.71:TIMP=.71]
05283>       [LOSS= 2 :CN= 75.0]
05284>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05285>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
05286>       [IaRECimp=  4.00: IaRECper=   4.00]
05287>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05288> R0005:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05289>     ADD HYD             1.0 02:A6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05290>                    +    1.0 02:A8           .96     .130 No_date   28:00   44.32  n/a     .000
05291>                  SUM=   1.0 01:A8T          .96     .130 No_date   28:00   44.32  n/a     .000
05292> R0005:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05293>     COMPUTE DUALHYD     1.0 01:A8T          .96     .130 No_date   28:00   44.32  n/a     .000
05294>       Major System   /     1.0 02:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05295>       Minor System   \     1.0 03:A8-MN         .96     .130 No_date   28:00   44.32  n/a     .000
05296>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05297> R0005:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05298>     ADD HYD             1.0 02:104-105      132.52   8.848 No_date   28:06   35.27  n/a     .000
05299>                    +    1.0 02:B5-MN         2.20     .248 No_date   28:00   38.90  n/a     .000
05300>                    +    1.0 02:A8-MN         .96     .130 No_date   28:00   44.32  n/a     .000
05301>                    +    1.0 02:TODD_MNJ      .00     .000 No_date   0:00     .00  n/a     .000
05302>                  SUM=   1.0 01:MH105       135.68   9.064 No_date   28:05   35.39  n/a     .000
05303> R0005:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05304>     SAVE HYD            1.0 01:MH105        135.68   9.064 No_date   28:05   35.39  n/a     .000
05305>       fname :MH105.0005
05306>       remark:Total Flows at MH105
05307> R0005:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05308>   * DIVERT HYD      ->    1.0 01:A8-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05309>                 diverted <=   1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
05310>                 diverted <=   1.0 03:A8-MJ-B6       .00     .000 No_date   0:00     .00  n/a     .000
05311> R0005:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05312>     DIVERT HYD      ->    1.0 01:MH105        135.68   9.064 No_date   28:05   35.39  n/a     .000
05313>                 diverted <=   1.0 02:MH105-JR      25.07    6.058 No_date   28:05   35.39  n/a     .000
05314>                 diverted <=   1.0 03:MH105-B6     110.61   3.006 No_date   28:05   35.39  n/a     .000
05315> R0005:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05316>     CONTINUOUS STANDHYD   1.0 01:B7           7.19     .661 No_date   28:01   34.82 .610    .000
05317>       [XIMP=.41:TIMP=.54]
05318>       [LOSS= 2 :CN= 75.0]
05319>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05320>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
05321>       [IaRECimp=  4.00: IaRECper=   4.00]
05322>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05323> R0005:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05324>     ADD HYD             1.0 02:B4-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05325>                    +    1.0 02:B7           7.19     .661 No_date   28:01   34.82  n/a     .000
05326>                  SUM=   1.0 01:B7-B4MJ      7.19     .661 No_date   28:01   34.82  n/a     .000
05327> R0005:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05328>     COMPUTE DUALHYD     1.0 01:B7-B4MJ      7.19     .661 No_date   28:01   34.82  n/a     .000
05329>       Major System   /     1.0 02:B7R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05330>       Minor System   \     1.0 03:B7R-MN        7.19     .629 No_date   27:59   34.89  n/a     .000
05331>       {MjSysSto=.5005E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05332> R0005:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05333>     ROUTE PIPE      ->    1.0 02:B7R-MN        7.19     .629 No_date   27:59   34.89  n/a     .000
05334>     [RDT= 1.00] out<-     1.0 01:360-106A     7.19     .615 No_date   28:05   34.89  n/a     .000
05335>       [L/S/n=  167./ .100/.013]
05336>       {Vmax= 1.089:Dmax=  .665}
05337>       [Din= 1.80:Dused= 1.05}
05338> R0005:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05339>     CONTINUOUS STANDHYD   1.0 01:B6           3.29     .315 No_date   28:00   34.82 .610    .000
05340>       [XIMP=.41:TIMP=.54]
05341>       [LOSS= 2 :CN= 75.0]
05342>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05343>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
05344>       [IaRECimp=  4.00: IaRECper=   4.00]
05345>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05346> R0005:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05347>     COMPUTE DUALHYD     1.0 01:B6           3.29     .315 No_date   28:00   34.82  n/a     .000
05348>       Major System   /     1.0 02:B6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05349>       Minor System   \     1.0 03:B6-MN         3.29     .064 No_date   27:39   34.87  n/a     .000
05350>       {MjSysSto=.2841E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05351> R0005:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05352>     CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50    2.843 No_date   28:02   35.73 .626    .000
05353>       [XIMP=.50:TIMP=.50]
05354>       [LOSS= 2 :CN= 74.0]
05355>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05356>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
05357>       [IaRECimp=  4.00: IaRECper=   4.00]
05358>       [SMIN= 36.67: SMAX=244.49: SK= .010]
05359> R0005:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05360>     COMPUTE DUALHYD     1.0 01:EX-LAND      32.50    2.843 No_date   28:02   35.73  n/a     .000
05361>       Major System   /     1.0 02:EX-LAND-MJ     .00     .000 No_date   0:00     .00  n/a     .000
05362>       Minor System   \     1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:57   35.73  n/a     .000
05363>       {MjSysSto=.2310E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05364> R0005:C00390-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05365>     ADD HYD             1.0 02:B7R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05366>                    +    1.0 02:EX-LAND-MJ     .00     .000 No_date   0:00     .00  n/a     .000
05367>                    +    1.0 02:B5-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05368>                    +    1.0 02:B6-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05369>                    +    1.0 02:B6-MN         3.29     .064 No_date   27:39   34.87  n/a     .000
05370>                    +    1.0 02:A8-MJ-B6       .00     .000 No_date   0:00     .00  n/a     .000
05371>                  SUM=   1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:39   34.87  n/a     .000
05372> R0005:C00391-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05373>     COMPUTE DUALHYD     1.0 01:B6-B7EXMJ    3.29     .064 No_date   27:39   34.87  n/a     .000
05374>       Major System   /     1.0 02:B6R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05375>       Minor System   \     1.0 03:B6R-MN        3.29     .064 No_date   27:39   34.87  n/a     .000
05376>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05377> R0005:C00392-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05378>     ROUTE PIPE      ->    1.0 02:MH105-B6     110.61   3.006 No_date   28:05   35.39  n/a     .000
05379>     [RDT= 1.00] out<-     1.0 01:105-106A     110.61   3.005 No_date   28:08   35.39  n/a     .000
05380>       [L/S/n=  208./ .100/.013]
05381>       {Vmax= 1.597:Dmax= 1.248}
05382>       [Din= 1.80:Dused= 1.80}
05383> R0005:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05384>     ADD HYD             1.0 02:360-106A       7.19     .615 No_date   28:05   34.89  n/a     .000
05385>                    +    1.0 02:105-106A     110.61   3.005 No_date   28:08   35.39  n/a     .000
05386>                    +    1.0 02:B6R-MN        3.29     .064 No_date   27:39   34.87  n/a     .000
05387>                    +    1.0 02:B6R-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05388>                  SUM=   1.0 01:MH106A      121.09    3.682 No_date   28:05   35.35  n/a     .000
05389> R0005:C00394-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05390>     SAVE HYD            1.0 01:MH106A       121.09    3.682 No_date   28:05   35.35  n/a     .000
05391>       fname :MH106A.0005
05392>       remark:Total Flows at MH106A
05393> R0005:C00395-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05394>     ROUTE PIPE      ->    1.0 02:MH106A       121.09    3.682 No_date   28:05   35.35  n/a     .000
05395> *   [RDT= 1.00] out<-     1.0 01:106A-106     121.09    3.651 No_date   28:05   35.35  n/a     .000
05396>       [L/S/n=  190./ .100/.013]
05397>       {Vmax= 1.633:Dmax= 1.484}
05398>       [Din= 1.80:Dused= 1.81}
05399> R0005:C00396-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05400>     CONTINUOUS STANDHYD   1.0 01:A9           2.44     .316 No_date   28:00   44.32 .776    .000
05401>       [XIMP=.71:TIMP=.71]
05402>       [LOSS= 2 :CN= 75.0]
05403>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05404>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
05405>       [IaRECimp=  4.00: IaRECper=   4.00]
05406>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05407> R0005:C00397-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05408>     COMPUTE DUALHYD     1.0 01:A9           2.44     .316 No_date   28:00   44.32  n/a     .000
05409>       Major System   /     1.0 02:A9-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05410>       Minor System   \     1.0 03:A9-MN         2.44     .316 No_date   28:00   44.32  n/a     .000
05411> R0005:C00398-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05412>     ADD HYD             1.0 02:106A-106     121.09    3.651 No_date   28:05   35.35  n/a     .000
05413>                    +    1.0 02:A9-MN         2.44     .316 No_date   28:00   44.32  n/a     .000
05414>                  SUM=   1.0 01:MH106       123.53    3.896 No_date   28:03   35.52  n/a     .000
05415> R0005:C00399-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05416>     SAVE HYD            1.0 01:MH106        123.53    3.896 No_date   28:03   35.52  n/a     .000
05417>       fname :MH106.0005
05418>       remark:Total Flows at MH106
05419> R0005:C00400-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05420>     ROUTE PIPE      ->    1.0 02:MH106        123.53    3.896 No_date   28:03   35.52  n/a     .000
05421> *   [RDT= 1.00] out<-     1.0 01:106-107      123.53    3.814 No_date   28:07   35.52  n/a     .000
05422>       [L/S/n=  123./ .100/.013]
05423>       {Vmax= 1.656:Dmax= 1.516}
05424>       [Din= 1.80:Dused= 1.85}
05425> R0005:C00401-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05426>     CONTINUOUS STANDHYD   1.0 01:A10          4.14     .345 No_date   28:01   32.29 .565    .000
05427>       [XIMP=.35:TIMP=.47]
05428>       [LOSS= 2 :CN= 75.0]
05429>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05430>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05431>       [IaRECimp=  4.00: IaRECper=   4.00]
05432>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05433> R0005:C00402-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05434>     COMPUTE DUALHYD     1.0 01:A10          4.14     .345 No_date   28:01   32.29  n/a     .000
05435>       Major System   /     1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05436>       Minor System   \     1.0 03:A10-MN        4.14     .310 No_date   27:58   32.34  n/a     .000
05437>       {MjSysSto=.7677E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05438> R0005:C00403-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05439>     CONTINUOUS STANDHYD   1.0 01:A11         10.61    1.053 No_date   28:02   38.79 .679    .000
05440>       [XIMP=.53:TIMP=.62]
05441>       [LOSS= 2 :CN= 75.0]
05442>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05443>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05444>       [IaRECimp=  4.00: IaRECper=   4.00]
05445>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05446> R0005:C00404-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05447>     COMPUTE DUALHYD     1.0 01:A11         10.61    1.053 No_date   28:02   38.79  n/a     .000
05448>       Major System   /     1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05449>       Minor System   \     1.0 03:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
05450>       {MjSysSto=.1280E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05451> R0005:C00405-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05452>     ADD HYD             1.0 02:106-107      123.53    3.814 No_date   28:07   35.52  n/a     .000
05453>                    +    1.0 02:A10-MN        4.14     .310 No_date   27:58   32.34  n/a     .000
05454>                    +    1.0 02:A11-MN       10.61     .993 No_date   28:00   38.82  n/a     .000
05455>                  SUM=   1.0 01:MH107       138.28    5.112 No_date   28:06   35.68  n/a     .000
05456> R0005:C00406-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05457>     SAVE HYD            1.0 01:MH107        138.28    5.112 No_date   28:06   35.68  n/a     .000
05458>       fname :MH107.0005
05459>       remark:Total Flows at MH107
05460> R0005:C00407-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05461>     ROUTE PIPE      ->    1.0 02:MH107        138.28    5.112 No_date   28:06   35.68  n/a     .000
05462> *   [RDT= 1.00] out<-     1.0 01:107-119      138.28    5.061 No_date   28:07   35.68  n/a     .000
05463>       [L/S/n=  114./ .120/.013]
05464>       {Vmax= 1.898:Dmax= 1.622}
05465>       [Din= 1.80:Dused= 1.90}
05466> R0005:C00408-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05467>     ROUTE PIPE      ->    1.0 02:107-119      138.28    5.061 No_date   28:07   35.68  n/a     .000
05468> *   [RDT= 1.00] out<-     1.0 01:119-108      138.28    5.009 No_date   28:07   35.68  n/a     .000
05469>       [L/S/n=   66./ .120/.013]
05470>       {Vmax= 1.893:Dmax= 1.616}
05471>       [Din= 1.80:Dused= 1.97}
05472> R0005:C00409-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05473>     CONTINUOUS STANDHYD   1.0 01:A12          12.29    1.145 No_date   28:00   34.82 .610    .000
05474>       [XIMP=.41:TIMP=.54]
05475>       [LOSS= 2 :CN= 75.0]
05476>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05477>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05478>       [IaRECimp=  4.00: IaRECper=   4.00]
05479>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05480> R0005:C00410-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05481>     COMPUTE DUALHYD     1.0 01:A12          12.29    1.145 No_date   28:00   34.82  n/a     .000
05482>       Major System   /     1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05483>       Minor System   \     1.0 03:A12-MN       12.29    1.029 No_date   27:57   34.93  n/a     .000
05484>       {MjSysSto=.2567E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
05485> R0005:C00411-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05486>     CONTINUOUS STANDHYD   1.0 01:A13           2.59     .312 No_date   28:01   44.32 .776    .000
05487>       [XIMP=.71:TIMP=.71]
05488>       [LOSS= 2 :CN= 75.0]
05489>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05490>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
05491>       [IaRECimp=  4.00: IaRECper=   4.00]
05492>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05493> R0005:C00412-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05494>     COMPUTE DUALHYD     1.0 01:A13           2.59     .312 No_date   28:01   44.32  n/a     .000
05495>       Major System   /     1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05496>       Minor System   \     1.0 03:A13-MN        2.59     .312 No_date   28:01   44.32  n/a     .000
05497> R0005:C00413-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05498>     CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94     .261 No_date   28:00   32.90 .576    .000
05499>       [XIMP=.41:TIMP=.41]
05500>       [LOSS= 2 :CN= 75.0]
05501>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05502>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
05503>       [IaRECimp=  4.00: IaRECper=   4.00]
05504>       [SMIN= 33.81: SMAX=225.43: SK= .010]
05505> R0005:C00414-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05506>     ADD HYD             1.0 02:119-108      138.28    5.009 No_date   28:07   35.68  n/a     .000
05507>                    +    1.0 02:A13-MN        2.59     .312 No_date   28:01   44.32  n/a     .000
05508>                    +    1.0 02:A12-MN       12.29    1.029 No_date   27:57   34.93  n/a     .000
05509>                  SUM=   1.0 01:MH108       153.16    6.257 No_date   28:01   35.77  n/a     .000
05510> R0005:C00415-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05511>     SAVE HYD            1.0 01:MH108        153.16    6.257 No_date   28:01   35.77  n/a     .000
05512>       fname :MH108.0005
05513>       remark:Total Flows at MH108
05514> R0005:C00416-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05515>     ROUTE PIPE      ->    1.0 02:MH108        153.16    6.257 No_date   28:01   35.77  n/a     .000
05516> *   [RDT= 1.00] out<-     1.0 01:108-116      153.16    6.250 No_date   28:02   35.77  n/a     .000
05517>       [L/S/n=   77./ .130/.013]
05518>       {Vmax= 2.057:Dmax= 1.742}
05519>       [Din= 1.80:Dused= 2.10}
05520> R0005:C00417-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05521>     ROUTE PIPE      ->    1.0 02:108-116      153.16    6.250 No_date   28:02   35.77  n/a     .000
05522> *   [RDT= 1.00] out<-     1.0 01:116-corrig   153.16    6.248 No_date   28:07   35.77  n/a     .000
05523>       [L/S/n=   80./ .130/.013]
05524>       {Vmax= 2.057:Dmax= 1.743}
05525>       [Din= 1.80:Dused= 2.10}
05526> R0005:C00418-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05527>     ADD HYD             1.0 02:116-corrig   153.16    6.248 No_date   28:07   35.77  n/a     .000
05528>                    +    1.0 02:Pond-Block    2.94     .261 No_date   28:00   32.90  n/a     .000
05529>                  SUM=   1.0 01:Corrigan      156.10    6.442 No_date   28:02   35.71  n/a     .000
05530> R0005:C00419-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05531>     SAVE HYD            1.0 01:Corrigan     156.10    6.442 No_date   28:02   35.71  n/a     .000
05532>       fname :Corrigan.0005
05533>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
05534> R0005:C00420-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05535>     ROUTE RESERVOIR ->    1.0 02:Corrigan     156.10    6.442 No_date   28:02   35.71  n/a     .000
05536>                     out <=    1.0 01:Co-P       156.10    5.462 No_date   28:10   35.71  n/a     .000
05537>               overflow <=    1.0 03:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
05538>       {MxStoUsed=.9809E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05539> R0005:C00421-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05540>     ADD HYD             1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
05541>                    +    1.0 02:Co-P       156.10    5.462 No_date   28:10   35.71  n/a     .000
05542>                    +    1.0 02:IN_TO    54837.69   70.283 No_date   37:09   18.77  n/a     .000
05543>                    +    1.0 02:MH105-JR     25.07    6.058 No_date   28:05   35.39  n/a     .000
05544>                    +    1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
05545>                    +    1.0 02:A9-MJ          .00     .000 No_date   0:00     .00  n/a     .000
05546>                    +    1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05547>                    +    1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05548>                    +    1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05549>                    +    1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
05550>                  SUM=   1.0 01:corrig      55018.86   70.610 No_date   37:06   18.83  n/a     .000
05551> R0005:C00422-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05552>     SAVE HYD            1.0 01:corrig       55018.86   70.610 No_date   37:06   18.83  n/a     .000
05553>       fname :corrig.0005
05554>       remark:Total Flows at Corrigan Pond
05555> #*************************************************************************
05556> #    Corrigan Pond 1
05557> #    - Rating curve obtained from Barrhaven South MSS modeling
05558> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
05559> #*************************************************************************
05560> #
05561> # Hydrograph from Corrigan Drain routed to Jockvale Road
05562> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
05563> #
05564> R0005:C00423-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05565>     ROUTE CHANNEL   ->    1.0 02:corrig     55018.86   70.610 No_date   37:06   18.83  n/a     .000
05566>     [RDT= 1.00] out<-     1.0 01:N_MI       55018.86   70.599 No_date   37:10   18.83  n/a     .000
05567>       [L/S/n=  580./ .445/.045]
05568>       {Vmax= 1.647:Dmax= 1.477}
05569> #*************************************************************************
05570> #    Catchment MILLS
05571> #    - To SWM Facility north of the Jock
05572> #    - Primarily residental development
05573> #*************************************************************************
05574> R0005:C00424-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05575>     CONTINUOUS STANDHYD   1.0 01:MILLS        175.99    9.992 No_date   28:07   30.98 .542    .000
05576>       [XIMP=.38:TIMP=.38]
05577>       [LOSS= 2 :CN= 74.0]
05578>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05579>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
05580>       [IaRECimp=  4.00: IaRECper=   4.00]
05581>       [SMIN= 36.67: SMAX=244.49: SK= .010]
05582> #*************************************************************************
05583> #    Chapman Mills SWM Pond
05584> #    - Rating curve obtained from CCL hydraulic modeling
05585> #*************************************************************************
05586> R0005:C00425-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05587>     ROUTE RESERVOIR ->    1.0 02:MILLS        175.99    9.992 No_date   28:07   30.97  n/a     .000
05588>                     out <=    1.0 01:MILL_P       175.99    3.368 No_date   28:44   30.97  n/a     .000
05589>               overflow <=    1.0 03:MIL-OV         .00     .000 No_date   0:00     .00  n/a     .000
05590>       {MxStoUsed=.1941E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
```

```
05611> #     - To Jock River (north of the Jock)
05612> #     - Rural-estate subdivision (Heart's Desire Community)
05613> #*************************************************************************
05614> R0005:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05615>      CONTINUOUS STANDHYD     1.0 01:DESIRE        23.78    1.359 No_date   28:03   27.22 .477     .000
05616>        [XIMP=.25:TIMP=.25]
05617>        [LOSS= 2 :CN= 77.0]
05618>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05619>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
05620>        [IaRECimp=   4.00: IaRECper=   4.00]
05621>        [SMIN= 31.15: SMAX=207.66: SK= .010]
05622> #*************************************************************************
05623> #    Catchment JOCKVA
05624> #     - To Jockvale SWM Facility
05625> #     - Residential development & golf course
05626> #     - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
05627> #       JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
05628> #*************************************************************************
05629> R0005:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05630>      CONTINUOUS STANDHYD     1.0 01:JOCKVA       225.13   14.675 No_date   28:09   35.73 .626     .000
05631>        [XIMP=.50:TIMP=.50]
05632>        [LOSS= 2 :CN= 74.0]
05633>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
05634>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
05635>        [IaRECimp=   4.00: IaRECper=   4.00]
05636>        [SMIN= 36.67: SMAX=244.49: SK= .010]
05637> R0005:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05638>      ADD HYD                 1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:57   35.73 n/a      .000
05639>                        +     1.0 02:JOCKVA       225.13   14.675 No_date   28:09   35.73 n/a      .000
05640>                        +     1.0 02:B2-MJ           .00     .000 No_date    0:00     .00 n/a      .000
05641>                        +     1.0 02:B3-MJ           .00     .000 No_date    0:00     .00 n/a      .000
05642>                      SUM=    1.0 01:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73 n/a      .000
05643> R0005:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05644>      SAVE HYD                1.0 01:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73 n/a      .000
05645>        fname :JOCKVA-TO.0005
05646>        remark:Total Flows at KB first pond
05647> #*************************************************************************
05648> #    Jockvale SWM Facility
05649> #     - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
05650> #*************************************************************************
05651> R0005:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05652>      ROUTE RESERVOIR ->      1.0 02:JOCKVA-TO    257.63   16.950 No_date   28:09   35.73 n/a      .000
05653>                          out <=  1.0 01:JOCK_P    257.63    4.781 No_date   28:48   35.73 n/a      .000
05654>              overflow <=     1.0 03:JO-OVF          .00     .000 No_date    0:00     .00 n/a      .000
05655>        {MxStoUsed=.4115E+01 m3, TotOvfVol=.0000E+00 m3, N-Ovf=    0, TotDurOvf=    0.hrs}
05656> R0005:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05657>      ADD HYD                 1.0 02:N_DE       55194.85   70.846 No_date   37:22   18.87 n/a      .000
05658>                        +     1.0 02:DESIRE        23.78    1.359 No_date   28:03   27.22 n/a      .000
05659>                        +     1.0 02:JO-OVF          .00     .000 No_date    0:00     .00 n/a      .000
05660>                        +     1.0 02:JOCK_P       257.63    4.781 No_date   28:48   35.73 n/a      .000
05661>                      SUM=    1.0 01:SN_DE      55476.26   71.408 No_date   37:19   18.95 n/a      .000
05662> R0005:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05663>      SAVE HYD                1.0 01:SN_DE      55476.26   71.408 No_date   37:19   18.95 n/a      .000
05664>        fname :SN_DE.0005
05665>        remark:Total Flows at Heart's Desire
05666> #
05667> # Hydrograph from Heart's Desire routed to Rideau River
05668> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
05669> #
05670> R0005:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05671>      ROUTE CHANNEL   ->      1.0 02:SN_DE      55476.26   71.408 No_date   37:19   18.95 n/a      .000
05672>        [RDT= 1.00] out<-     1.0 01:N1         55476.26   71.403 No_date   37:23   18.95 n/a      .000
05673>        [L/S/n=  563./ .967/.045]
05674>        {Vmax= 1.679:Dmax=  .957}
05675> #*************************************************************************
05676> #    Catchment S-2
05677> #    - To Jock River (north and south)
05678> #    - Undeveloped floodplain and river
05679> #*************************************************************************
05680> R0005:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05681>      CONTINUOUS NASHYD       1.0 01:S-2          102.94    2.262 No_date   28:20   19.00 .333     .000
05682>        [CN= 72.0: N= 3.00: Tp=  .40]
05683>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05684>        [InterEventTime=  12.00]
05685> R0005:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05686>      ADD HYD                 1.0 02:N1         55476.26   71.403 No_date   37:23   18.95 n/a      .000
05687>                        +     1.0 02:S-2          102.94    2.262 No_date   28:20   19.00 n/a      .000
05688>                      SUM=    1.0 01:SN_N1      55579.20   71.539 No_date   37:23   18.95 n/a      .000
05689> R0005:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05690>      SAVE HYD                1.0 01:SN_N1      55579.20   71.539 No_date   37:23   18.95 n/a      .000
05691>        fname :SN_N1.0005
05692>        remark:Total Flows at Rideau River
05693> ############################################################################
05694>    ** END OF RUN :    9
05695>
05696> ************************************************************************************************************
05697>
05698>
05699>
05700>
05701>
05702>  RUN#:COMMAND#
05703> R0010:C00001------------------------------------------------------------------------------------------------
05704>      START
05705>        [TZERO =    .00 hrs on       0]
05706>        [METOUT=   2    (1=imperial, 2=metric output)]
05707>        [NSTORM=   1 ]
05708>        [NRUN   = 0010 ]
05709> #*************************************************************************
05710> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
05711> #*************************************************************************
05712> #  Project Name: [Jock River]     Project Number: [1474-16]
05713> #  Date        : 04-03-2021
05714> #  Modeller    : [M.M.]
05715> #  Company     : JFSAinc.
05716> #  License #   :  2549237
05717> #*************************************************************************
05718> # CALIBRATION OF SUMMER MODEL PARAMETERS
05719> # USING CONTINUOUS SIMULATIONS
05720> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
05721> # Use data collected from May 1st to July 14, 2003
05722> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
05723> # 2020-12-01 correct pond curve values
05724> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
05725> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO" ,NHYDin=["SN_TO"]) from 0.033 % (as per S
05726> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
05727> # ------------------------------------------------------------------------------------------------------------
05728> R0010:C00002------------------------------------------------------------------------------------------------
05729>      READ STORM
05730>        Filename = storm.001
05731>        Comment  = Pluie SCS de 24 hres 1:10 ans pour Ottawa CDA
05732>        [SDT=10.00:SDUR=  24.00:PTOT=  64.69]
05733> R0010:C00003------------------------------------------------------------------------------------------------
05734>      MODIFY STORM
05735>        [RFACT=  1.00:TSHIFT= 960.00 min]
05736>        [SDT=10.00:SDUR=  40.00:PTOT=  64.69]
05737> R0010:C00004------------------------------------------------------------------------------------------------
05738>      DEFAULT VALUES
05739>        Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
05740>        ICASEdv  = 1 (read and print data)
05741>        FileTitle= File comment: [Based onvarious calibration exercises in Onta
05742>                   THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
05743>        Horton's infiltration equation parameters:
05744>        [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
05745>        Parameters for PERVIOUS surfaces in STANDHYD:
05746>        [IAper=   4.67 mm] [LGP=50.00 m] [MNP=  .250]
05747>        Parameters for IMPERVIOUS surfaces in STANDHYD:
05748>        [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
05749>        Parameters used in NASHYD:
05750>        [Ia=   4.67 mm] [N= 3.00]
05751>        Average monthly Pan Evaporation data in    (mm)
05752>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
05753>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
05754>        Average monthly Potential Evapotranspiration in    (mm)
05755>      JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
05756>      .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
05757> R0010:C00005------------------------------------------------------------------------------------------------
05758>      COMPUTE API
05759>        [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
05760>        {APImax= 97.81: APIavg= 62.29: APImin= 44.87}
05761> #
05762> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05763> # of 1.32
05764> R0010:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05765>      CONTINUOUS NASHYD       1.0 01:JR_HW       3680.00   11.879 No_date   36:59   20.23 .313     .000
05766>        [CN= 64.0: N= 3.00: Tp= 7.13]
05767>        [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
05768>        [InterEventTime=  12.00]
05769> #
05770> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05771> # of 1.32
05772> R0010:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05773>      CONTINUOUS NASHYD       1.0 01:SW_13         971.00    4.365 No_date   32:35   18.83 .291     .000
05774>        [CN= 61.0: N= 3.00: Tp= 3.76]
05775>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
05776>        [InterEventTime=  12.00]
05777> #
05778> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05779> # of 1.80
05780> R0010:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05781>      CONTINUOUS NASHYD       1.0 01:JR_GWM      3074.00    5.829 No_date   39:59   16.22 .251     .000
05782>        [CN= 55.0: N= 3.00: Tp=11.33]
05783>        [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
05784>        [InterEventTime=  12.00]
05785> R0010:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05786>      CONTINUOUS NASHYD       1.0 01:JR_ASH      1781.00   10.839 No_date   32:42   24.81 .383     .000
05787>        [CN= 72.0: N= 3.00: Tp= 3.91]
05788>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05789>        [InterEventTime=  12.00]
05790> R0010:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05791>      CONTINUOUS NASHYD       1.0 01:SW_11         500.00    5.639 No_date   29:22   21.19 .328     .000
05792>        [CN= 66.0: N= 3.00: Tp= 1.24]
05793>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05794>        [InterEventTime=  12.00]
05795> #
05796> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05797> # of 1.80
05798> R0010:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05799>      CONTINUOUS NASHYD       1.0 01:NN_CK       1917.00    7.897 No_date   34:28   21.19 .328     .000
05800>        [CN= 66.0: N= 3.00: Tp= 5.29]
05801>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05802>        [InterEventTime=  12.00]
05803> #
05804> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05805> # of 1.52
05806> R0010:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05807>      CONTINUOUS NASHYD       1.0 01:SW_10       5666.00   21.255 No_date   37:58   24.81 .383     .000
05808>        [CN= 72.0: N= 3.00: Tp= 8.00]
05809>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05810>        [InterEventTime=  12.00]
05811> #
05812> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05813> # of 1.75
05814> R0010:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05815>      CONTINUOUS NASHYD       1.0 01:KG_CK       8376.00   20.398 No_date   39:59   21.19 .328     .000
05816>        [CN= 66.0: N= 3.00: Tp=11.66]
05817>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05818>        [InterEventTime=  12.00]
05819> #
05820> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05821> # of 1.68
05822> R0010:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05823>      CONTINUOUS NASHYD       1.0 01:SW_9        1132.00    8.921 No_date   30:54   23.73 .367     .000
05824>        [CN= 70.0: N= 3.00: Tp= 2.51]
05825>        [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
05826>        [InterEventTime=  12.00]
05827> #
05828> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05829> # of 1.82
05830> R0010:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05831>      CONTINUOUS NASHYD       1.0 01:NC_CK       4464.00   10.128 No_date   39:59   19.29 .298     .000
05832>        [CN= 62.0: N= 3.00: Tp=11.32]
05833>        [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
05834>        [InterEventTime=  12.00]
05835> #
05836> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05837> # of 1.80
05838> R0010:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05839>      CONTINUOUS NASHYD       1.0 01:SW_8        1689.00    1.689 No_date   28:57   19.76 .305     .000
05840>        [CN= 63.0: N= 3.00: Tp=  .90]
05841>        [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
05842>        [InterEventTime=  12.00]
05843> #
05844> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05845> # of 1.65
05846> R0010:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05847>      CONTINUOUS NASHYD       1.0 01:HB_DR       3854.00   11.811 No_date   38:37   21.19 .328     .000
05848>        [CN= 66.0: N= 3.00: Tp= 3.42]
05849>        [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
05850>        [InterEventTime=  12.00]
05851> #
05852> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05853> # of 1.82
05854> R0010:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05855>      CONTINUOUS NASHYD       1.0 01:SW_7        3197.00    8.899 No_date   36:26   17.07 .264     .000
05856>        [CN= 57.0: N= 3.00: Tp= 6.65]
05857>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
05858>        [InterEventTime=  12.00]
05859> #
05860> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05861> # of 1.75
05862> R0010:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05863>      CONTINUOUS NASHYD       1.0 01:SW_6         165.00     .818 No_date   33:04   21.69 .335     .000
05864>        [CN= 67.0: N= 3.00: Tp= 4.18]
05865>        [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
05866>        [InterEventTime=  12.00]
05867> #
05868> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05869> # of 1.67
05870> R0010:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05871>      CONTINUOUS NASHYD       1.0 01:VG_DR       1332.00    6.069 No_date   35:17   24.81 .383     .000
05872>        [CN= 72.0: N= 3.00: Tp= 5.95]
05873>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
05874>        [InterEventTime=  12.00]
05875> R0010:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05876>      CONTINUOUS NASHYD       1.0 01:SW_5         224.00    5.246 No_date   28:45   28.24 .437     .000
05877>        [CN= 77.0: N= 3.00: Tp=  .75]
05878>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05879>        [InterEventTime=  12.00]
05880> #
05881> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05882> # of 1.20
05883> R0010:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05884>      CONTINUOUS NASHYD       1.0 01:FL_CK       4945.00   28.945 No_date   33:21   25.91 .401     .000
05885>        [CN= 74.0: N= 3.00: Tp= 4.45]
05886>        [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
05887>        [InterEventTime=  12.00]
05888> R0010:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05889>      CONTINUOUS NASHYD       1.0 01:SW_5A2        20.00     .614 No_date   28:36   31.37 .485     .000
05890>        [CN= 81.0: N= 3.00: Tp=  .62]
05891>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05892>        [InterEventTime=  12.00]
05893> #
05894> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
05895> # of 1.61
05896> R0010:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05897>      CONTINUOUS NASHYD       1.0 01:SW_5A1      1412.00    5.817 No_date   37:54   27.06 .418     .000
05898>        [CN= 75.0: N= 3.00: Tp= 6.00]
05899>        [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
05900>        [InterEventTime=  12.00]
05901> R0010:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05902>      CONTINUOUS NASHYD       1.0 01:SW_4         585.00    8.458 No_date   29:57   31.37 .485     .000
05903>        [CN= 81.0: N= 3.00: Tp= 1.75]
05904>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05905>        [InterEventTime=  12.00]
05906> R0010:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05907>      CONTINUOUS NASHYD       1.0 01:LM_CK       1021.00   11.195 No_date   30:48   30.72 .475     .000
05908>        [CN= 80.0: N= 3.00: Tp= 2.46]
05909>        [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
05910>        [InterEventTime=  12.00]
05911> R0010:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05912>      CONTINUOUS NASHYD       1.0 01:SW_2         177.00    4.146 No_date   28:45   28.24 .437     .000
05913>        [CN= 77.0: N= 3.00: Tp=  .75]
05914>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
05915>        [InterEventTime=  12.00]
05916> R0010:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05917>      CONTINUOUS NASHYD       1.0 01:SM_DR       1122.00   10.275 No_date   31:46   31.37 .485     .000
05918>        [CN= 81.0: N= 3.00: Tp= 3.25]
05919>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
05920>        [InterEventTime=  12.00]
05921> R0010:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05922>      CONTINUOUS NASHYD       1.0 01:MO_DR       2737.00   22.669 No_date   31:32   27.64 .427     .000
05923>        [CN= 76.0: N= 3.00: Tp= 3.03]
05924>        [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
05925>        [InterEventTime=  12.00]
05926> #
05927> # Routing hydrographs
05928> #
05929> # Starting with the addition of Jock River Headwater and Subwatershed 13
05930> #
05931> R0010:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05932>      ADD HYD                 1.0 02:JR_HW       3680.00   11.879 No_date   36:59   20.23 n/a      .000
05933>                        +     1.0 02:SW_13         971.00    4.365 No_date   32:35   18.83 n/a      .000
05934>                      SUM=    1.0 01:SN_N13      4651.00   15.130 No_date   35:28   19.94 n/a      .000
05935> #
05936> # Sum of hydrographs from Node 13 routed to Node 13A
05937> # (Approximated cross-section - see cross-section 258)
05938> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05939> #
05940> R0010:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05941>      ROUTE CHANNEL   ->      1.0 02:S_N13       4651.00   15.130 No_date   35:28   19.94 n/a      .000
05942>        [RDT= 1.00] out<-     1.0 01:N13A        4651.00   12.097 No_date   39:41   19.94 n/a      .000
05943>        [L/S/n= 9074./ .022/.040]
05944>        {Vmax=  .508:Dmax= 3.307}
05945> #
05946> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
05947> #
05948> R0010:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05949>      ADD HYD                 1.0 02:N13A        4651.00   12.097 No_date   39:41   19.94 n/a      .000
05950>                        +     1.0 02:JR_GWM      3074.00    5.829 No_date   39:59   16.22 n/a      .000
05951>                      SUM=    1.0 01:SN13A       7725.00   17.918 No_date   39:59   18.46 n/a      .000
05952> #
05953> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
05954> #
05955> R0010:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05956>      ROUTE RESERVOIR ->      1.0 02:SN13A       7725.00   17.918 No_date   39:59   18.46 n/a      .000
05957>                          out <=  1.0 01:RES_GM      7725.00    3.524 No_date   58:32   18.46 n/a      .000
05958>        {MxStoUsed=.8503E+02  m3}
05959> #
05960> R0010:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05961>      SAVE HYD                1.0 01:RES_GM      7725.00    3.524 No_date   58:32   18.46 n/a      .000
05962>        fname :H_RESGM
05963>        remark:Outflow from Res GM
05964> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
05965> # (Approximated cross-section - see cross-section 258)
05966> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05967> R0010:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05968>      ROUTE CHANNEL   ->      1.0 02:RES_GM      7725.00    3.524 No_date   58:32   18.46 n/a      .000
05969>        [RDT= 1.00] out<-     1.0 01:N12         7725.00    3.519 No_date   61:53   18.46 n/a      .000
05970>        [L/S/n= 5926./ .076/.040]
05971>        {Vmax=  .546:Dmax= 1.499}
05972> #
05973> # Addition of Subwatershed Jock River at Ashton to Node 12
05974> #
05975> R0010:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05976>      ADD HYD                 1.0 02:N12         7725.00    3.519 No_date   61:53   18.46 n/a      .000
05977>                        +     1.0 02:JR_ASH      1781.00   10.839 No_date   32:42   24.81 n/a      .000
05978>                      SUM=    1.0 01:S_N12       9506.00   12.834 No_date   32:45   19.65 n/a      .000
05979> R0010:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05980>      SAVE HYD                1.0 01:S_N12       9506.00   12.834 No_date   32:45   19.65 n/a      .000
05981>        fname :H_SN12
05982>        remark:flow at S_N12 near Ashton
05983> #
05984> # Sum of hydrographs from Node 12 routed to Node 11
```

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05985> # (Approximated cross-section - see cross-section 258)
05986> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
05987> #
05988> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
05989> #
05990> R0010:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05991>     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   12.834 No_date   32:45   19.65  n/a     .000
05992>       [RDT= 1.00] out<-     1.0 01:Dum11      9506.00   12.710 No_date   33:02   19.65  n/a     .000
05993>         [L/S/n=  972./  .054/.040]
05994>         {Vmax=  .680:Dmax= 2.598}
05995> #
05996> # Addition of Subwatershed 11 and No Name Creek to Node 11
05997> #
05998> R0010:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
05999>     ADD HYD                1.0 02:Dum11      9506.00   12.710 No_date   33:02   19.65  n/a     .000
06000>                       +     1.0 02:SW_11       500.00    5.639 No_date   29:22   21.19  n/a     .000
06001>                       +     1.0 02:NN_CK      1917.00    7.897 No_date   34:28   21.19  n/a     .000
06002>                   SUM=      1.0 01:S_N11     11923.00   21.813 No_date   33:05   19.96  n/a     .000
06003> #
06004> # Sum of hydrographs from Node 11 routed to Node 10
06005> # Section 1
06006> #
06007> R0010:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06008>     ROUTE CHANNEL   ->    1.0 02:S_N11      11923.00   21.813 No_date   33:05   19.96  n/a     .000
06009>       [RDT= 1.00] out<-     1.0 01:N10      11923.00   14.761 No_date   39:58   19.96  n/a     .000
06010>         [L/S/n=14028./ .157/.040]
06011>         {Vmax=  .452:Dmax= 1.212}
06012> #
06013> # Addition of Subwatershed 10 to Node 10
06014> #
06015> R0010:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06016>     ADD HYD                1.0 02:N10      11923.00   14.761 No_date   39:58   19.96  n/a     .000
06017>                       +     1.0 02:SW_10      5666.00   21.255 No_date   37:58   24.81  n/a     .000
06018>                   SUM=      1.0 01:S_N10     17589.00   35.808 No_date   38:35   21.52  n/a     .000
06019> R0010:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06020>     SAVE HYD               1.0 01:S_N10      17589.00   35.808 No_date   38:35   21.52  n/a     .000
06021>       fname :H_SN10
06022>       remark:flow at S_N10: N10 + SW_10
06023> # Addition of Kings Creek to S_N10
06024> #
06025> R0010:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06026>     ADD HYD                1.0 02:S_N10      17589.00   35.808 No_date   38:35   21.52  n/a     .000
06027>                       +     1.0 02:KG_CK       8376.00   20.398 No_date   39:59   21.19  n/a     .000
06028>                   SUM=      1.0 01:S_N10A     25965.00   55.807 No_date   39:58   21.41  n/a     .000
06029> #
06030> # Sum of hydrographs from Node 10 routed to Node 9
06031> # Section 2
06032> #
06033> R0010:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06034>     ROUTE CHANNEL   ->    1.0 02:S_N10A     25965.00   55.807 No_date   39:58   21.41  n/a     .000
06035>       [RDT= 1.00] out<-     1.0 01:N9       25965.00   54.076 No_date   39:59   21.41  n/a     .000
06036>         [L/S/n= 3982./ .075/.040]
06037>         {Vmax=  .682:Dmax= 1.695}
06038> #
06039> # Addition of Subwatershed 9 and Nichols Creek to Node 9
06040> #
06041> R0010:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06042>     ADD HYD                1.0 02:N9       25965.00   54.076 No_date   39:59   21.41  n/a     .000
06043>                       +     1.0 02:SW_9        1132.00    8.921 No_date   30:54   23.73  n/a     .000
06044>                       +     1.0 02:NC_CK       4464.00   10.128 No_date   39:59   19.29  n/a     .000
06045>                   SUM=      1.0 01:S_N9      31561.00   66.284 No_date   39:59   21.20  n/a     .000
06046> #
06047> # Sum of hydrographs from Node 9 routed to Node 8
06048> # Section 3
06049> #
06050> R0010:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06051>     ROUTE CHANNEL   ->    1.0 02:S_N9       31561.00   66.284 No_date   39:59   21.20  n/a     .000
06052>       [RDT= 1.00] out<-     1.0 01:N8       31561.00   61.483 No_date   39:57   21.20  n/a     .000
06053>         [L/S/n= 2269./ .088/.045]
06054>         {Vmax=  .363:Dmax= 1.619}
06055> #
06056> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
06057> #
06058> R0010:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06059>     ADD HYD                1.0 02:N8       31561.00   61.483 No_date   39:57   21.20  n/a     .000
06060>                       +     1.0 02:SW_8        131.00    1.689 No_date   28:57   19.76  n/a     .000
06061>                       +     1.0 02:HB_DR      3854.00   11.811 No_date   38:37   21.19  n/a     .000
06062>                   SUM=      1.0 01:S_N8      35546.00   73.344 No_date   39:57   21.19  n/a     .000
06063> #
06064> # Sum of hydrographs from Node 8 routed to Node 7
06065> # Section 4
06066> #
06067> R0010:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06068>     ROUTE CHANNEL   ->    1.0 02:S_N8       35546.00   73.344 No_date   39:57   21.19  n/a     .000
06069>       [RDT= 1.00] out<-     1.0 01:N7       35546.00   61.416 No_date   45:01   21.19  n/a     .000
06070>         [L/S/n= 3750./ .053/.070]
06071>         {Vmax=  .218:Dmax= 1.987}
06072> #
06073> # Addition of Subwatershed 7 to Node 7
06074> #
06075> R0010:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06076>     ADD HYD                1.0 02:N7       35546.00   61.416 No_date   45:01   21.19  n/a     .000
06077>                       +     1.0 02:SW_7        3197.00    8.899 No_date   36:26   17.07  n/a     .000
06078>                   SUM=      1.0 01:S_N7      38743.00   65.819 No_date   44:06   20.85  n/a     .000
06079> R0010:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06080>     SAVE HYD               1.0 01:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
06081>       fname :H_SN7
06082>       remark:flow at S_N7: N7 + SW_7
06083> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
06084> # Storage area and volumes were estimated from available topo maps.
06085> # Release rate from fen was assumed to be controlled by the downstream
06086> # river cross-section for summer conditions.  It is was assumed that for up to
06087> # 0.75 m of water, the main channel of the river provided the storage.  Above
06088> # this depth, the wetland starts to signigicantly store water.
06089> #
06090> R0010:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06091>     ROUTE RESERVOIR ->    1.0 02:S_N7       38743.00   65.819 No_date   44:06   20.85  n/a     .000
06092>                     out <=    1.0 01:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
06093>         {MxStoUsed=.2597E+03  m3}
06094> R0010:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06095>     SAVE HYD               1.0 01:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
06096>       fname :H_ResRF
06097>       remark:outflow of Richmond Fen
06098> #
06099> # Sum of hydrographs from Node 7 routed to Node 6
06100> # Section 5
06101> #
06102> R0010:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06103>     ROUTE CHANNEL   ->    1.0 02:RES_RF     38743.00   31.796 No_date   60:32   20.85  n/a     .000
06104>       [RDT= 1.00] out<-     1.0 01:N6       38743.00   31.737 No_date   62:00   20.85  n/a     .000
06105>         [L/S/n= 3056./ .082/.025]
06106>         {Vmax=  .477:Dmax=  .960}
06107> #
06108> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
06109> #
06110> R0010:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06111>     ADD HYD                1.0 02:N6       38743.00   31.737 No_date   62:00   20.85  n/a     .000
06112>                       +     1.0 02:SW_6        165.00    .818 No_date   33:04   21.69  n/a     .000
06113>                       +     1.0 02:VG_DR      1332.00    6.069 No_date   35:17   24.81  n/a     .000
06114>                   SUM=      1.0 01:S_N6      40240.01   31.737 No_date   62:00   20.99  n/a     .000
06115> #
06116> # Sum of hydrographs from Node 6 routed to Node 5
06117> # Section 6
06118> #
06119> R0010:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06120>     ROUTE CHANNEL   ->    1.0 02:S_N6       40240.01   31.737 No_date   62:00   20.99  n/a     .000
06121>       [RDT= 1.00] out<-     1.0 01:N5       40240.01   31.713 No_date   62:48   20.99  n/a     .000
06122>         [L/S/n= 1852./ .054/.035]
06123>         {Vmax=  .412:Dmax= 1.069}
06124> #
06125> # Addition of Subwatershed 5 and Flowing Creek to Node 5
06126> #
06127> R0010:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06128>     ADD HYD                1.0 02:N5       40240.01   31.713 No_date   62:48   20.99  n/a     .000
06129>                       +     1.0 02:SW_5        224.00    5.246 No_date   28:45   28.24  n/a     .000
06130>                       +     1.0 02:FL_CK      4945.00   28.945 No_date   33:21   25.91  n/a     .000
06131>                   SUM=      1.0 01:S_N5      45409.01   51.448 No_date   34:54   21.56  n/a     .000
06132> #
06133> # Sum of hydrographs from Node 5 routed to Node 5A
06134> # Section 7
06135> #
06136> R0010:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06137>     ROUTE CHANNEL   ->    1.0 02:S_N5       45409.01   51.448 No_date   34:54   21.56  n/a     .000
06138>       [RDT= 1.00] out<-     1.0 01:N5A      45409.01   51.312 No_date   35:12   21.56  n/a     .000
06139>         [L/S/n=  556./ .090/.040]
06140>         {Vmax=  .485:Dmax= 1.131}
06141> #
06142> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
06143> #
06144> R0010:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06145>     ADD HYD                1.0 02:N5A      45409.01   51.312 No_date   35:12   21.56  n/a     .000
06146>                       +     1.0 02:SW_5A2       20.00     .614 No_date   28:36   31.37  n/a     .000
06147>                       +     1.0 02:SW_5A1     1412.00    5.817 No_date   37:54   27.06  n/a     .000
06148>                   SUM=      1.0 01:S_N5A     46841.01   56.788 No_date   35:22   21.73  n/a     .000
06149> #
06150> # Sum of hydrographs from Node 5A routed to Node 4
06151> # Section 8
06152> #
06153> R0010:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06154>     ROUTE CHANNEL   ->    1.0 02:S_N5A      46841.01   56.788 No_date   35:22   21.73  n/a     .000
06155>       [RDT= 1.00] out<-     1.0 01:N4       46841.01   54.543 No_date   36:56   21.73  n/a     .000
06156>         [L/S/n= 4630./ .043/.035]
06157>         {Vmax=  .793:Dmax= 3.295}
06158> #
06159> # Addition of Subwatershed 4 and Leamy Creek to Node 4
06160> #
06161> R0010:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06162>     ADD HYD                1.0 02:N4       46841.01   54.543 No_date   36:56   21.73  n/a     .000
06163>                       +     1.0 02:SW_4        585.00    8.458 No_date   29:57   31.37  n/a     .000
06164>                       +     1.0 02:LM_CK      1021.00   11.195 No_date   30:48   30.72  n/a     .000
06165>                   SUM=      1.0 01:S_N4      48447.00   59.934 No_date   36:12   22.03  n/a     .000
06166> R0010:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06167>     SAVE HYD               1.0 01:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
06168>       fname :S_N4.0010
06169>       remark:flow at S_N4
06170> #
06171> # Sum of hydrographs from Node 4 routed to Node 2
06172> # Section 9
06173> #
06174> R0010:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06175>     ROUTE CHANNEL   ->    1.0 02:S_N4       48447.00   59.934 No_date   36:12   22.03  n/a     .000
06176>       [RDT= 1.00] out<-     1.0 01:N2       48447.00   59.699 No_date   36:35   22.03  n/a     .000
06177>         [L/S/n= 1667./ .060/.040]
06178>         {Vmax=  .824:Dmax= 3.325}
06179> #
06180> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
06181> #
06182> R0010:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06183>     ADD HYD                1.0 02:N2       48447.00   59.699 No_date   36:35   22.03  n/a     .000
06184>                       +     1.0 02:SW_2        177.00    4.146 No_date   28:45   28.24  n/a     .000
06185>                       +     1.0 02:SM_DR      1122.00   10.275 No_date   31:46   31.37  n/a     .000
06186>                       +     1.0 02:MO_DR      2737.00   22.669 No_date   31:32   27.64  n/a     .000
06187>                   SUM=      1.0 01:S_N2      52483.00   83.235 No_date   33:15   22.55  n/a     .000
06188> R0010:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06189>     SAVE HYD               1.0 01:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
06190>       fname :H_SN2
06191>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
06192> #
06193> # Sum of hydrographs from Node 2 routed to Node 1
06194> # Section 10
06195> #
06196> #*************************************************************************************
06197> #
06198> # Hydrograph from Node 2 routed to Node 416
06199> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
06200> #
06201> R0010:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06202>     ROUTE CHANNEL   ->    1.0 02:S_N2       52483.00   83.235 No_date   33:15   22.55  n/a     .000
06203>       [RDT= 1.00] out<-     1.0 01:N_416    52483.00   81.216 No_date   34:18   22.55  n/a     .000
06204>         [L/S/n= 2327./ .050/.055]
06205>         {Vmax=  .705:Dmax= 2.943}
06206> #*************************************************************************
06207> #    Catchment SW-1a
06208> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
06209> #    - Undeveloped agricultural land
06210> #*************************************************************************
06211> R0010:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06212>     CONTINUOUS NASHYD     1.0 01:SW_1a        536.42    3.888 No_date   31:17   23.57 .364      .000
06213>       [CN= 72.0: N= 3.00: Tp=  2.78]
06214>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
06215>       [InterEventTime=  12.00]
06216> R0010:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06217>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    5.420 No_date   28:03   48.63 .752      .000
06218>       [XIMP=.65:TIMP=.65]
06219>       [LOSS= 2 :CN= 75.0]
06220>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06221>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
06222>       [IaRECimp=   4.00: IaRECper=   4.00]
06223>       [SMN= 33.81: SMAX=225.43: SK= .010]
06224> R0010:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06225>     COMPUTE DUALHYD       1.0 01:S-1-Okeefe    44.93    5.420 No_date   28:03   48.63  n/a     .000
06226>       Major System   /     1.0 02:S-1-OkMJ       .00     .000 No_date   0:00    .00  n/a     .000
06227>       Minor System   \     1.0 03:S-1-OkMN     44.93    4.591 No_date   27:58   48.66  n/a     .000
06228>                     {MjSysSto=.3168E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
06229> R0010:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06230>     ADD HYD               1.0 02:S-1-OkMJ       .00     .000 No_date   0:00    .00  n/a     .000
06231>                       +     1.0 02:S-1-OkMN     44.93    4.591 No_date   27:58   48.66  n/a     .000
06232>                   SUM=      1.0 01:S-1-OkS      44.93    4.591 No_date   27:58   48.66  n/a     .000
06233> R0010:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06234>     ROUTE RESERVOIR ->    1.0 02:S-1-OkS      44.93    4.591 No_date   27:58   48.66  n/a     .000
06235>                     out <=    1.0 01:S-1-OkSR     44.93     .393 No_date   29:29   48.66  n/a     .000
06236>               overflow <=     1.0 03:S-1-OkSovf     .00     .000 No_date   0:00    .00  n/a     .000
06237>         {MxStoUsed=.1312E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06238> R0010:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06239>     ADD HYD               1.0 02:N_416      52483.00   81.216 No_date   34:18   22.55  n/a     .000
06240>                       +     1.0 02:SW_1a       536.42    3.888 No_date   31:17   23.57  n/a     .000
06241>                       +     1.0 02:S-1-OkSR     44.93     .393 No_date   29:29   48.66  n/a     .000
06242>                       +     1.0 02:S-1-OkSovf     .00     .000 No_date   0:00    .00  n/a     .000
06243>                   SUM=      1.0 01:SN_416     53064.36   84.340 No_date   33:41   22.58  n/a     .000
06244> R0010:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06245>     SAVE HYD              1.0 01:SN_416     53064.36   84.340 No_date   33:41   22.58  n/a     .000
06246>       fname :SN_416.0010
06247>       remark:Total Flows at Highway 416 before Station 7245
06248> #
06249> # Hydrograph from Node 416 routed to Node at Okeefe drain
06250> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
06251> #
06252> R0010:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06253>     ROUTE CHANNEL   ->    1.0 02:SN_416     53064.36   84.340 No_date   33:41   22.58  n/a     .000
06254>       [RDT= 1.00] out<-     1.0 01:N_OK     53064.36   84.256 No_date   33:41   22.58  n/a     .000
06255>         [L/S/n=  497./ .302/.055]
06256>         {Vmax= 1.451:Dmax= 2.498}
06257> #*************************************************************************
06258> #    Catchment OKEEFE
06259> #    - To O'Keefe drain (north of the Jock)
06260> #    - Developed with assumed 65% imp.
06261> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
06262> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
06263> #*************************************************************************
06264> R0010:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06265>     CONTINUOUS NASHYD     1.0 01:O-1         63.72     .684 No_date   28:58   17.24 .266      .000
06266>       [CN= 61.0: N= 3.00: Tp=  .90]
06267>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
06268>       [InterEventTime=  12.00]
06269> R0010:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06270>     ROUTE CHANNEL   ->    1.0 02:O-1         63.72     .684 No_date   28:58   17.24  n/a     .000
06271>       [RDT= 1.00] out<-     1.0 01:O-1R        63.72     .637 No_date   29:17   17.24  n/a     .000
06272>         [L/S/n=  960./ .630/.043]
06273>         {Vmax=  .755:Dmax=  .334}
06274> R0010:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06275>     CONTINUOUS NASHYD     1.0 01:O-2         28.61     .242 No_date   29:13   16.01 .248      .000
06276>       [CN= 57.0: N= 3.00: Tp= 1.10]
06277>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
06278>       [InterEventTime=  12.00]
06279> R0010:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06280>     CONTINUOUS NASHYD     1.0 01:O-4         46.94     .303 No_date   29:00   12.15 .188      .000
06281>       [CN= 49.0: N= 3.00: Tp=  .90]
06282>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
06283>       [InterEventTime=  12.00]
06284> R0010:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06285>     ADD HYD               1.0 02:O-1R        63.72     .637 No_date   29:17   17.24  n/a     .000
06286>                       +     1.0 02:O-2         28.61     .242 No_date   29:13   16.01  n/a     .000
06287>                       +     1.0 02:O-4         46.94     .303 No_date   29:00   12.15  n/a     .000
06288>                   SUM=      1.0 01:OKF-N      139.27    1.172 No_date   29:12   15.27  n/a     .000
06289> R0010:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06290>     ROUTE CHANNEL   ->    1.0 02:OKF-N      139.27    1.172 No_date   29:12   15.27  n/a     .000
06291>       [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27    1.170 No_date   29:16   15.27  n/a     .000
06292>         [L/S/n=  210./ .810/.043]
06293>         {Vmax=  .916:Dmax=  .609}
06294> R0010:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06295>     CONTINUOUS NASHYD     1.0 01:O-6         16.46     .101 No_date   28:45   10.60 .164      .000
06296>       [CN= 43.0: N= 3.00: Tp=  .70]
06297>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
06298>       [InterEventTime=  12.00]
06299> R0010:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06300>     CONTINUOUS STANDHYD   1.0 01:O-3         39.67     .767 No_date   28:24   19.36 .299      .000
06301>       [XIMP=.15:TIMP=.30]
06302>       [LOSS= 2 :CN= 50.0]
06303>       [Pervious     area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
06304>       [Impervious   area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
06305>       [IaRECimp=   4.00: IaRECper=   4.00]
06306>       [SMN= 99.77: SMAX=665.12: SK= .010]
06307> R0010:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06308>     CONTINUOUS STANDHYD   1.0 01:O-5         60.63    1.881 No_date   28:10   22.00 .340      .000
06309>       [XIMP=.13:TIMP=.26]
06310>       [LOSS= 2 :CN= 61.0]
06311>       [Pervious     area: IAper= 4.67:SLPP=1.38:LGP=  550.:MNP=.035:SCP=   .0]
06312>       [Impervious   area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
06313>       [IaRECimp=   4.00: IaRECper=   4.00]
06314>       [SMN= 64.50: SMAX=430.01: SK= .010]
06315> R0010:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06316>     ADD HYD               1.0 02:OKF-NR      139.27    1.170 No_date   29:16   15.27  n/a     .000
06317>                       +     1.0 02:O-3         39.67     .767 No_date   28:24   19.36  n/a     .000
06318>                       +     1.0 02:O-5         60.63    1.881 No_date   28:10   22.00  n/a     .000
06319>                       +     1.0 02:O-6         16.46     .101 No_date   28:45   10.60  n/a     .000
06320>                   SUM=      1.0 01:PT1        256.03    3.008 No_date   28:23   17.20  n/a     .000
06321> R0010:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06322>     CONTINUOUS NASHYD     1.0 01:O-7          5.28     .056 No_date   28:37   14.05 .217      .000
06323>       [CN= 54.0: N= 3.00: Tp=  .60]
06324>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
06325>       [InterEventTime=  12.00]
06326> R0010:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06327>     ADD HYD               1.0 02:PT1        256.03    3.008 No_date   28:23   17.20  n/a     .000
06328>                       +     1.0 02:O-7          5.28     .056 No_date   28:37   14.05  n/a     .000
06329>                   SUM=      1.0 01:FF         261.31    3.058 No_date   28:23   17.14  n/a     .000
06330> R0010:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06331>     ROUTE CHANNEL   ->    1.0 02:FF         261.31    3.058 No_date   28:23   17.14  n/a     .000
06332>       [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31    2.972 No_date   28:31   17.14  n/a     .000
06333>         [L/S/n=  302./1.000/.043]
06334>         {Vmax=  .783:Dmax=  .667}
06335> R0010:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06336>     CONTINUOUS NASHYD     1.0 01:D1           1.17     .058 No_date   28:12   29.30 .453      .000
06337>       [CN= 84.0: N= 3.00: Tp=  .20]
06338>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
06339>       [InterEventTime=  12.00]
06340> R0010:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06341>     CONTINUOUS STANDHYD   1.0 01:A1          2.50     .391 No_date   28:01   50.29 .777      .000
06342>       [XIMP=.68:TIMP=.85]
06343>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06344>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06345>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
06346>       [IaRECimp=   4.00: IaRECper=   4.00]
06347> R0010:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06348>     ROUTE RESERVOIR ->    1.0 02:A1          2.50     .391 No_date   28:01   50.29  n/a     .000
06349>                     out <=    1.0 01:A1-STR      2.50     .098 No_date   28:24   50.29  n/a     .000
06350>               overflow <=     1.0 03:A1-OVF       .00     .000 No_date   0:00    .00  n/a     .000
06351>         {MxStoUsed=.5829E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06352> R0010:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06353>     CONTINUOUS STANDHYD   1.0 01:ST-2         .59     .075 No_date   28:00   38.69 .598      .000
06354>       [XIMP=.46:TIMP=.57]
06355>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06356>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06357>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
06358>       [IaRECimp=   4.00: IaRECper=   4.00]
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06359> R0010:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06360>      ROUTE RESERVOIR ->    1.0 02:ST-2          .59      .075 No_date   28:00   38.69  n/a     .000
06361>                  out <=    1.0 01:ST2STR        .59      .052 No_date   28:05   38.69  n/a     .000
06362>              overflow <=   1.0 03:ST2OVF        .00      .000 No_date    0:00     .00  n/a     .000
06363>     {MxStoUsed=.1835E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06364> R0010:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06365>      CONTINUOUS NASHYD     1.0 01:O-8           60.55      .857 No_date   29:04   22.40 .346    .000
06366>        [CN= 69.0: N= 3.00: Tp= 1.00]
06367>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
06368>        [InterEventTime=  12.00]
06369> R0010:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06370>      ROUTE PIPE    ->    1.0 02:O-8           60.55      .857 No_date   29:04   22.40  n/a     .000
06371>        [RDT= 1.00] out<-     1.0 01:O8PIPE    60.55      .852 No_date   29:08   22.40  n/a     .000
06372>        [L/S/n=  335./ .100/.013]
06373>        [Vmax=  1.080:Dmax=  .441]
06374>        [HGTH= 1.20:WDTH= 1.80]
06375> R0010:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06376>      ADD HYD               1.0 02:DRAIN1       261.31     2.972 No_date   28:31   17.14  n/a     .000
06377>                      +     1.0 02:D1            1.17      .058 No_date   28:12   29.30  n/a     .000
06378>                      +     1.0 02:A1-STR        2.50      .098 No_date   28:24   50.29  n/a     .000
06379>                      +     1.0 02:A1-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06380>                      +     1.0 02:ST2STR        .59      .052 No_date   28:05   38.69  n/a     .000
06381>                      +     1.0 02:ST2OVF         .00      .000 No_date    0:00     .00  n/a     .000
06382>                      +     1.0 02:O8PIPE        60.55      .852 No_date   29:08   22.40  n/a     .000
06383>                    SUM=    1.0 01:ST2-IN       326.12     3.771 No_date   28:40   18.45  n/a     .000
06384> R0010:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06385>      CONTINUOUS STANDHYD   1.0 01:A7            3.51      .538 No_date   28:01   50.29 .777    .000
06386>        [XIMP=.68:TIMP=.85]
06387>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06388>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06389>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
06390>        [IaREC=  4.00: IaRECper=   4.00]
06391> R0010:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06392>      ROUTE RESERVOIR ->    1.0 02:A7            3.51      .538 No_date   28:01   50.29  n/a     .000
06393>                  out <=    1.0 01:A7-STR        3.51      .139 No_date   28:25   50.29  n/a     .000
06394>              overflow <=   1.0 03:A7-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06395>     {MxStoUsed=.8167E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06396> R0010:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06397>      CONTINUOUS STANDHYD   1.0 01:ST-3           .71      .089 No_date   28:00   38.69 .598    .000
06398>        [XIMP=.46:TIMP=.57]
06399>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06400>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06401>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
06402>        [IaREC=  4.00: IaRECper=   4.00]
06403> R0010:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06404>      ROUTE RESERVOIR ->    1.0 02:ST-3           .71      .089 No_date   28:00   38.69  n/a     .000
06405>                  out <=    1.0 01:ST3STR        .71      .063 No_date   28:05   38.69  n/a     .000
06406>              overflow <=   1.0 03:ST3OVF         .00      .000 No_date    0:00     .00  n/a     .000
06407>     {MxStoUsed=.1988E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06408> R0010:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06409>      ADD HYD               1.0 02:ST2-IN       326.12     3.771 No_date   28:40   18.45  n/a     .000
06410>                      +     1.0 02:A7-STR        3.51      .139 No_date   28:25   50.29  n/a     .000
06411>                      +     1.0 02:A7-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06412>                      +     1.0 02:ST3STR        .71      .063 No_date   28:05   38.69  n/a     .000
06413>                      +     1.0 02:ST3OVF         .00      .000 No_date    0:00     .00  n/a     .000
06414>                    SUM=    1.0 01:PT2ST3       330.34     3.914 No_date   28:39   18.83  n/a     .000
06415> R0010:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06416>      ROUTE CHANNEL   ->    1.0 02:PT2ST3       330.34     3.914 No_date   28:39   18.83  n/a     .000
06417>        [RDT= 1.00] out<-     1.0 01:DRAIN2      330.34     3.640 No_date   29:01   18.83  n/a     .000
06418>        [L/S/n=  592./ .230/.043]
06419>        [Vmax=  .582:Dmax= 1.002]
06420> R0010:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06421>      CONTINUOUS NASHYD     1.0 01:D2            2.28      .046 No_date   29:04   29.30 .453    .000
06422>        [CN= 84.0: N= 3.00: Tp=  .99]
06423>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
06424>        [InterEventTime=  12.00]
06425> R0010:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06426>      CONTINUOUS STANDHYD   1.0 01:A17          12.04     1.618 No_date   28:04   50.29 .777    .000
06427>        [XIMP=.68:TIMP=.85]
06428>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06429>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06430>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
06431>        [IaREC=  4.00: IaRECper=   4.00]
06432> R0010:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06433>      ROUTE RESERVOIR ->    1.0 02:A17          12.04     1.618 No_date   28:04   50.29  n/a     .000
06434>                  out <=    1.0 01:A17STR       12.04      .460 No_date   28:31   50.29  n/a     .000
06435>              overflow <=   1.0 03:A17OVF         .00      .000 No_date    0:00     .00  n/a     .000
06436>     {MxStoUsed=.2771E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06437> R0010:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06438>      CONTINUOUS STANDHYD   1.0 01:ST-4           .35      .046 No_date   28:00   38.69 .598    .000
06439>        [XIMP=.46:TIMP=.57]
06440>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06441>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06442>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
06443>        [IaREC=  4.00: IaRECper=   4.00]
06444> R0010:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06445>      ROUTE RESERVOIR ->    1.0 02:ST-4           .35      .046 No_date   28:00   38.69  n/a     .000
06446>                  out <=    1.0 01:ST4STR        .35      .031 No_date   28:04   38.69  n/a     .000
06447>              overflow <=   1.0 03:ST4OVF         .00      .000 No_date    0:00     .00  n/a     .000
06448>     {MxStoUsed=.1424E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06449> R0010:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06450>      CONTINUOUS STANDHYD   1.0 01:A18           5.30      .780 No_date   28:02   50.29 .777    .000
06451>        [XIMP=.68:TIMP=.85]
06452>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06453>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06454>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
06455>        [IaREC=  4.00: IaRECper=   4.00]
06456> R0010:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06457>      ROUTE RESERVOIR ->    1.0 02:A18           5.30      .780 No_date   28:02   50.29  n/a     .000
06458>                  out <=    1.0 01:A18STR        5.30      .206 No_date   28:27   50.29  n/a     .000
06459>              overflow <=   1.0 03:A18OVF         .00      .000 No_date    0:00     .00  n/a     .000
06460>     {MxStoUsed=.1232E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06461> R0010:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06462>      ADD HYD               1.0 02:DRAIN2       330.34     3.640 No_date   29:01   18.83  n/a     .000
06463>                      +     1.0 02:D2            2.28      .046 No_date   29:04   29.30  n/a     .000
06464>                      +     1.0 02:A17STR       12.04      .460 No_date   28:31   50.29  n/a     .000
06465>                      +     1.0 02:A17OVF         .00      .000 No_date    0:00     .00  n/a     .000
06466>                      +     1.0 02:ST4STR        .35      .031 No_date   28:04   38.69  n/a     .000
06467>                      +     1.0 02:ST4OVF         .00      .000 No_date    0:00     .00  n/a     .000
06468>                      +     1.0 02:A18STR        5.30      .206 No_date   28:27   50.29  n/a     .000
06469>                      +     1.0 02:A18OVF         .00      .000 No_date    0:00     .00  n/a     .000
06470>                    SUM=    1.0 01:PT3ST4       350.31     4.213 No_date   28:57   20.48  n/a     .000
06471> R0010:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06472>      ROUTE CHANNEL   ->    1.0 02:PT3ST4       350.31     4.213 No_date   28:57   20.48  n/a     .000
06473>        [RDT= 1.00] out<-     1.0 01:DRAIN3      350.31     4.037 No_date   29:17   20.48  n/a     .000
06474>        [L/S/n=  525./ .230/.043]
06475>        [Vmax=  .606:Dmax= 1.049]
06476> R0010:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06477>      CONTINUOUS NASHYD     1.0 01:D3            2.51      .072 No_date   28:44   32.13 .497    .000
06478>        [CN= 86.0: N= 3.00: Tp=  .73]
06479>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
06480>        [InterEventTime=  12.00]
06481> R0010:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06482>      CONTINUOUS STANDHYD   1.0 01:C1            3.41      .523 No_date   28:01   50.29 .777    .000
06483>        [XIMP=.68:TIMP=.85]
06484>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06485>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06486>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
06487>        [IaREC=  4.00: IaRECper=   4.00]
06488> R0010:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06489>      ROUTE RESERVOIR ->    1.0 02:C1            3.41      .523 No_date   28:01   50.29  n/a     .000
06490>                  out <=    1.0 01:C1-STR        3.41      .133 No_date   28:25   50.29  n/a     .000
06491>              overflow <=   1.0 03:C1-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06492>     {MxStoUsed=.7936E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06493> R0010:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06494>      CONTINUOUS STANDHYD   1.0 01:ST-5           .45      .058 No_date   28:00   38.69 .598    .000
06495>        [XIMP=.46:TIMP=.57]
06496>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06497>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06498>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
06499>        [IaREC=  4.00: IaRECper=   4.00]
06500> R0010:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06501>      ROUTE RESERVOIR ->    1.0 02:ST-5           .45      .058 No_date   28:00   38.69  n/a     .000
06502>                  out <=    1.0 01:ST5STR        .45      .040 No_date   28:04   38.69  n/a     .000
06503>              overflow <=   1.0 03:ST5OVF         .00      .000 No_date    0:00     .00  n/a     .000
06504>     {MxStoUsed=.1552E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06505> R0010:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06506>      ADD HYD               1.0 02:DRAIN3       350.31     4.037 No_date   29:17   20.48  n/a     .000
06507>                      +     1.0 02:D3            2.51      .072 No_date   28:44   32.13  n/a     .000
06508>                      +     1.0 02:C1-STR        3.41      .133 No_date   28:25   50.29  n/a     .000
06509>                      +     1.0 02:C1-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06510>                      +     1.0 02:ST5STR        .45      .040 No_date   28:04   38.69  n/a     .000
06511>                      +     1.0 02:ST5OVF         .00      .000 No_date    0:00     .00  n/a     .000
06512>                    SUM=    1.0 01:ST5-E         356.68     4.181 No_date   29:15   20.87  n/a     .000
06513> R0010:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06514>      CONTINUOUS STANDHYD   1.0 01:STRAND        7.59      .759 No_date   28:11   49.05 .758    .000
06515>        [XIMP=.64:TIMP=.85]
06516>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06517>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06518>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
06519>        [IaREC=  4.00: IaRECper=   4.00]
06520> R0010:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06521>      ROUTE RESERVOIR ->    1.0 02:STRAND        7.59      .759 No_date   28:11   49.05  n/a     .000
06522>                  out <=    1.0 01:S-POND        7.59      .066 No_date   29:41   49.05  n/a     .000
06523>              overflow <=   1.0 03:S-OVF          .00      .000 No_date    0:00     .00  n/a     .000
06524>     {MxStoUsed=.2593E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06525> R0010:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06526>      ADD HYD               1.0 02:ST5-E         356.68     4.181 No_date   29:15   20.87  n/a     .000
06527>                      +     1.0 02:S-POND        7.59      .066 No_date   29:41   49.05  n/a     .000
06528>                      +     1.0 02:S-OVF          .00      .000 No_date    0:00     .00  n/a     .000
06529>                    SUM=    1.0 01:SSAOUT       364.27     4.242 No_date   29:15   21.45  n/a     .000
06530> R0010:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06531>      SAVE HYD              1.0 01:SSAOUT       364.27     4.242 No_date   29:15   21.45  n/a     .000
06532>        fname :SSAOUT.0010
06533>        remark:SSAOUT
06534> R0010:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06535>      CONTINUOUS STANDHYD   1.0 01:Area-A        66.75     6.470 No_date   28:10   48.24 .746    .000
06536>        [XIMP=.64:TIMP=.80]
06537>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06538>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06539>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
06540>        [IaREC=  4.00: IaRECper=   4.00]
06541> R0010:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06542>      SAVE HYD              1.0 01:Area-A        66.75     6.470 No_date   28:10   48.24  n/a     .000
06543>        fname :Area-A.0010
06544>        remark:SMWF-A Inflow
06545> R0010:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06546>      ROUTE RESERVOIR ->    1.0 02:Area-A        66.75     6.470 No_date   28:10   48.24  n/a     .000
06547>                  out <=    1.0 01:SWMF-A        66.75      .465 No_date   29:54   48.24  n/a     .000
06548>              overflow <=   1.0 03:SWMAOV          .00      .000 No_date    0:00     .00  n/a     .000
06549>     {MxStoUsed=.2359E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06550> R0010:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06551>      SAVE HYD              1.0 01:SWMF-A        66.75      .465 No_date   29:54   48.24  n/a     .000
06552>        fname :SWMF-A.0010
06553>        remark:SMWF-A Outflow
06554> R0010:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06555>      ADD HYD               1.0 02:SSAOUT       364.27     4.242 No_date   29:15   21.45  n/a     .000
06556>                      +     1.0 02:SWMF-A        66.75      .465 No_date   29:54   48.24  n/a     .000
06557>                      +     1.0 02:SWMAOV          .00      .000 No_date    0:00     .00  n/a     .000
06558>                    SUM=    1.0 01:PT4ST5       431.02     4.657 No_date   29:18   25.60  n/a     .000
06559> R0010:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06560>      CONTINUOUS STANDHYD   1.0 01:C6            1.87      .301 No_date   28:01   50.29 .777    .000
06561>        [XIMP=.68:TIMP=.85]
06562>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06563>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06564>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
06565>        [IaREC=  4.00: IaRECper=   4.00]
06566> R0010:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06567>      ROUTE RESERVOIR ->    1.0 02:C6            1.87      .301 No_date   28:01   50.29  n/a     .000
06568>                  out <=    1.0 01:C6-STR        1.87      .074 No_date   28:22   50.29  n/a     .000
06569>              overflow <=   1.0 03:C6-OVF          .00      .000 No_date    0:00     .00  n/a     .000
06570>     {MxStoUsed=.4376E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06571> R0010:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06572>      CONTINUOUS STANDHYD   1.0 01:C7            1.62      .262 No_date   28:01   50.29 .777    .000
06573>        [XIMP=.68:TIMP=.85]
06574>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06575>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06576>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
06577>        [IaREC=  4.00: IaRECper=   4.00]
06578> R0010:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06579>      ROUTE RESERVOIR ->    1.0 02:C7            1.62      .262 No_date   28:01   50.29  n/a     .000
06580>                  out <=    1.0 01:C7-STR        1.62      .064 No_date   28:22   50.29  n/a     .000
06581>              overflow <=   1.0 03:C7-OVF          .00      .000 No_date    0:00     .00  n/a     .000
06582>     {MxStoUsed=.3781E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06583> R0010:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06584>      CONTINUOUS STANDHYD   1.0 01:ST-6           .41      .053 No_date   28:00   38.69 .598    .000
06585>        [XIMP=.46:TIMP=.57]
06586>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06587>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
06588>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
06589>        [IaREC=  4.00: IaRECper=   4.00]
06590> R0010:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06591>      ROUTE RESERVOIR ->    1.0 02:ST-6           .41      .053 No_date   28:00   38.69  n/a     .000
06592>                  out <=    1.0 01:ST6STR        .41      .036 No_date   28:04   38.69  n/a     .000
06593>              overflow <=   1.0 03:ST6OVF          .00      .000 No_date    0:00     .00  n/a     .000
06594>     {MxStoUsed=.1514E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06595> R0010:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06596>      ADD HYD               1.0 02:PT4ST5       431.02     4.657 No_date   29:18   25.60  n/a     .000
06597>                      +     1.0 02:C6-STR        1.87      .074 No_date   28:22   50.29  n/a     .000
06598>                      +     1.0 02:C6-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06599>                      +     1.0 02:C7-STR        1.62      .064 No_date   28:22   50.29  n/a     .000
06600>                      +     1.0 02:C7-OVF         .00      .000 No_date    0:00     .00  n/a     .000
06601>                      +     1.0 02:ST6STR        .41      .036 No_date   28:04   38.69  n/a     .000
06602>                      +     1.0 02:ST6OVF         .00      .000 No_date    0:00     .00  n/a     .000
06603>                    SUM=    1.0 01:PT5ST6       434.92     4.740 No_date   29:18   25.81  n/a     .000
06604> R0010:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06605>      ROUTE CHANNEL   ->    1.0 02:PT5ST6       434.92     4.740 No_date   29:18   25.81  n/a     .000
06606>        [RDT= 1.00] out<-     1.0 01:DRAIN4      434.92     4.599 No_date   29:31   25.81  n/a     .000
06607>        [L/S/n=  324./ .100/.043]
06608>        [Vmax=  .468:Dmax= 1.312]
06609> R0010:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06610>      CONTINUOUS NASHYD     1.0 01:D4            1.73      .063 No_date   28:35   34.48 .533    .000
06611>        [CN= 88.0: N= 3.00: Tp=  .60]
06612>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
06613>        [InterEventTime=  12.00]
06614> R0010:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06615>      CONTINUOUS STANDHYD   1.0 01:Area-B        24.04     3.287 No_date   28:03   47.09 .728    .000
06616>        [XIMP=.82:TIMP=.77]
06617>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06618>        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
06619>        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
06620>        [IaREC=  4.00: IaRECper=   4.00]
06621> R0010:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06622>      ROUTE RESERVOIR ->    1.0 02:Area-B        24.04     3.287 No_date   28:03   47.09  n/a     .000
06623>                  out <=    1.0 01:SWMF-B        24.04      .356 No_date   28:50   47.09  n/a     .000
06624>              overflow <=   1.0 03:SWMBOVF          .00      .000 No_date    0:00     .00  n/a     .000
06625>     {MxStoUsed=.7142E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06626> R0010:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06627>      ADD HYD               1.0 02:DRAIN4       434.92     4.599 No_date   29:31   25.81  n/a     .000
06628>                      +     1.0 02:D4            1.73      .063 No_date   28:35   34.48  n/a     .000
06629>                      +     1.0 02:SWMF-B        24.04      .356 No_date   28:50   47.09  n/a     .000
06630>                      +     1.0 02:SWMBOVF         .00      .000 No_date    0:00     .00  n/a     .000
06631>                    SUM=    1.0 01:M-EEX         460.69     4.958 No_date   29:31   26.95  n/a     .000
06632> R0010:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06633>      ROUTE CHANNEL   ->    1.0 02:D4-EX         460.69     4.958 No_date   29:31   26.95  n/a     .000
06634>        [RDT= 1.00] out<-     1.0 01:DRAIN5      460.69     4.881 No_date   29:37   26.95  n/a     .000
06635>        [L/S/n=  413./ .160/.033]
06636>        [Vmax=  .599:Dmax=  .896]
06637> R0010:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06638>      CONTINUOUS NASHYD     1.0 01:D5            1.90      .057 No_date   28:41   32.13 .497    .000
06639>        [CN= 86.0: N= 3.00: Tp=  .69]
06640>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
06641>        [InterEventTime=  12.00]
06642> R0010:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06643>      CONTINUOUS NASHYD     1.0 01:O-13SDF       9.74      .371 No_date   28:22   30.32 .469    .000
06644>        [CN= 81.0: N= 3.00: Tp=  .43]
06645>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
06646>        [InterEventTime=  12.00]
06647> R0010:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06648>      ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74      .371 No_date   28:22   30.32  n/a     .000
06649>                  out <=    1.0 01:OVFSDF        9.74      .040 No_date   31:17   30.32  n/a     .000
06650>              overflow <=   1.0 03:OVFSDF         .00      .000 No_date    0:00     .00  n/a     .000
06651>     {MxStoUsed=.1596E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
06652> R0010:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06653>      ADD HYD               1.0 02:DRAIN5       460.69     4.881 No_date   29:37   26.95  n/a     .000
06654>                      +     1.0 02:D5            1.90      .057 No_date   28:41   32.13  n/a     .000
06655>                      +     1.0 02:SDF           9.74      .040 No_date   31:17   30.32  n/a     .000
06656>                    SUM=    1.0 01:PT6MC        472.33     4.951 No_date   29:37   27.04  n/a     .000
06657> R0010:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06658>      CONTINUOUS NASHYD     1.0 01:O-15           10.67      .502 No_date   28:13   29.12 .450    .000
06659>        [CN= 82.0: N= 3.00: Tp=  .30]
06660>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
06661>        [InterEventTime=  12.00]
06662> R0010:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06663>      ADD HYD               1.0 02:PT6MC        472.33     4.951 No_date   29:37   27.04  n/a     .000
06664>                      +     1.0 02:O-15          10.67      .502 No_date   28:13   29.12  n/a     .000
06665>                    SUM=    1.0 01:M-C          483.00     5.029 No_date   29:36   27.09  n/a     .000
06666> R0010:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06667>      ROUTE CHANNEL   ->    1.0 02:M-C          483.00     5.029 No_date   29:36   27.09  n/a     .000
06668>        [RDT= 1.00] out<-     1.0 01:O-14Ch      483.00     4.686 No_date   30:11   27.09  n/a     .000
06669>        [L/S/n=  845./ .100/.033]
06670>        [Vmax=  .618:Dmax= 1.065]
06671> R0010:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06672>      CONTINUOUS NASHYD     1.0 01:O-14          5.00      .389 No_date   28:04   29.12 .450    .000
06673>        [CN= 82.0: N= 3.00: Tp=  .13]
06674>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
06675>        [InterEventTime=  12.00]
06676> R0010:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06677>      ADD HYD               1.0 02:O-14Ch       483.00     4.686 No_date   30:11   27.09  n/a     .000
06678>                      +     1.0 02:O-14          5.00      .389 No_date   28:04   29.12  n/a     .000
06679>                    SUM=    1.0 01:OKEEFE       488.00     4.709 No_date   30:11   27.11  n/a     .000
06680> #*************************************************************************
06681> #     Okeefe Pond
06682> #     - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
06683> #       and a ratio of the catchment area to the West Clarke pond rating curve
06684> #       from the MSS for the next coordinates
06685> #*************************************************************************
06686> R0010:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06687>      CONTINUOUS STANDHYD   1.0 01:S-1-D2        18.67     2.448 No_date   28:02   48.63 .752    .000
06688>        [XIMP=.65:TIMP=.85]
06689>        [LOSS= 2 :CN= 75.0]
06690>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06691>        [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI
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06733>                    +     1.0 02:S-1-D2R       18.67     .163 No_date   29:23   48.63  n/a     .000
06734>                    +     1.0 02:S-1-D3R        6.79     .060 No_date   29:16   48.93  n/a     .000
06735>                    +     1.0 02:S-1-D2Rovf      .00     .000 No_date    0:00     .00  n/a     .000
06736>                    +     1.0 02:S-1-D3Rovf      .00     .000 No_date    0:00     .00  n/a     .000
06737>                  SUM=    1.0 01:SN_OK      53577.82   86.110 No_date   33:41   22.63  n/a     .000
06738> R0010:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06739>      SAVE HYD            1.0 01:SN_OK      53577.82   86.110 No_date   33:41   22.63  n/a     .000
06740>        fname :SN_OK.0010
06741>        remark:Total Flows at Okeefe Drain
06742> #
06743> # Hydrograph from Node Okeefe routed to Node at Foster Drain
06744> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
06745> #
06746> R0010:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06747>      ROUTE CHANNEL       ->    1.0 02:SN_OK      53577.82   86.110 No_date   33:41   22.63  n/a     .000
06748>        [RDT= 1.00] out<-       1.0 01:N_FO       53577.82   85.870 No_date   34:07   22.63  n/a     .000
06749>        [L/S/n= 1183./ .076/.035]
06750>        {Vmax= .104 Dmax= 2.866}
06751> #*************************************************************************
06752> #    Catchment FOSTER
06753> #    - To Foster Ditch (north of the Jock)
06754> #    - Partially developed (medium density); remaining agricultural
06755> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
06756> #    - 2020-12-01 decrease area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
06757> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
06758> #*************************************************************************
06759> R0010:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06760>      CONTINUOUS STANDHYD   1.0 01:FOSTER     325.44   22.870 No_date   28:13   43.99 .680    .000
06761>        [XIMP=.55:TIMP=.55]
06762>        [LOSS= 2 :CN= 74.0]
06763>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06764>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
06765>        [IaRECimp=   4.00: IaRECper=   4.00]
06766>        [SMIN= 36.67: SMAX=244.49: SK= .010]
06767> #*************************************************************************
06768> #    Foster Pond
06769> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
06770> #      and a ratio of the catchment area to the West Clarke pond rating curve
06771> #      from the MSS for the next coordinates
06772> #*************************************************************************
06773> R0010:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06774>      ROUTE RESERVOIR     ->    1.0 02:FOSTER     325.44   22.870 No_date   28:13   43.99  n/a     .000
06775>                          out <=    1.0 01:P_FOS      325.44    6.061 No_date   29:06   43.99  n/a     .000
06776>                overflow <=     1.0 03:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06777>        {MxStoUsed=.5862E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06778> R0010:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06779>      ADD HYD             1.0 02:P_FOS      325.44    6.061 No_date   29:06   43.99  n/a     .000
06780>                    +     1.0 02:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06781>                  SUM=    1.0 01:FOSTER-OUT 325.44    6.061 No_date   29:06   43.99  n/a     .000
06782> #*************************************************************************
06783> R0010:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06784>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA    73.29    7.523 No_date   28:05   47.94 .741    .000
06785>        [XIMP=.60:TIMP=.65]
06786>        [LOSS= 2 :CN= 77.0]
06787>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
06788>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
06789>        [IaRECimp=   4.00: IaRECper=   4.00]
06790>        [SMIN= 31.15: SMAX=207.66: SK= .010]
06791> R0010:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06792>      ROUTE RESERVOIR     ->    1.0 02:W_CLAR_BRA    73.29    7.523 No_date   28:05   47.94  n/a     .000
06793>                          out <=    1.0 01:MS_P10       73.29    1.136 No_date   29:00   47.94  n/a     .000
06794>                overflow <=     1.0 03:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
06795>        {MxStoUsed=.1341E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06796> R0010:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06797>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2     4.94     .594 No_date   28:01   43.99 .680    .000
06798>        [XIMP=.55:TIMP=.55]
06799>        [LOSS= 2 :CN= 74.0]
06800>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06801>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
06802>        [IaRECimp=   4.00: IaRECper=   4.00]
06803>        [SMIN= 36.67: SMAX=244.49: SK= .010]
06804> R0010:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06805>      COMPUTE DUALHYD       1.0 01:S-1-FO-D2     4.94     .594 No_date   28:01   43.99  n/a     .000
06806>        Major System   /      1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
06807>        Minor System   \      1.0 03:S-1-FO-D2N     4.94     .508 No_date   27:57   44.15  n/a     .000
06808>        {MjSysSto=.2536E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06809> R0010:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06810>      ADD HYD             1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
06811>                    +     1.0 02:S-1-FO-D2N     4.94     .508 No_date   27:57   44.15  n/a     .000
06812>                  SUM=    1.0 01:S-1-FO-D2S     4.94     .508 No_date   27:57   44.15  n/a     .000
06813> R0010:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06814>      ROUTE RESERVOIR     ->    1.0 02:S-1-FO-D2S     4.94     .508 No_date   27:57   44.15  n/a     .000
06815>                          out <=    1.0 01:S-1-FO-D2R     4.94     .039 No_date   29:33   44.15  n/a     .000
06816>                overflow <=     1.0 03:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
06817>        {MxStoUsed=.1298E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06818> R0010:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06819>      ADD HYD             1.0 02:FOSTER-OUT 325.44    6.061 No_date   29:06   43.99  n/a     .000
06820>                    +     1.0 02:S-1-FO-D2R     4.94     .039 No_date   29:33   44.15  n/a     .000
06821>                    +     1.0 02:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
06822>                  SUM=    1.0 01:980        330.38    6.100 No_date   29:06   43.99  n/a     .000
06823> R0010:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06824>      SAVE HYD            1.0 01:980        330.38    6.100 No_date   29:06   43.99  n/a     .000
06825>        fname :980.0010
06826>        remark:Total Flows at Station 980 on Foster Drain
06827> #
06828> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
06829> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
06830> #
06831> R0010:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06832>      ROUTE CHANNEL       ->    1.0 02:980        330.38    6.100 No_date   29:06   43.99  n/a     .000
06833>        [RDT= 1.00] out<-       1.0 01:980-out    330.38    5.927 No_date   29:17   43.99  n/a     .000
06834>        [L/S/n=  460./ .043/.035]
06835>        {Vmax=  .634:Dmax= 1.379}
06836> R0010:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06837>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1     5.11     .702 No_date   28:00   48.24 .746    .000
06838>        [XIMP=.65:TIMP=.65]
06839>        [LOSS= 2 :CN= 74.0]
06840>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06841>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
06842>        [IaRECimp=   4.00: IaRECper=   4.00]
06843>        [SMIN= 36.67: SMAX=244.49: SK= .010]
06844> R0010:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06845>      COMPUTE DUALHYD       1.0 01:S-1-FO-D1     5.11     .702 No_date   28:00   48.24  n/a     .000
06846>        Major System   /      1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
06847>        Minor System   \      1.0 03:S-1-FO-D1N     5.11     .605 No_date   28:07   48.27  n/a     .000
06848>        {MjSysSto=.2822E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06849> R0010:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06850>      ADD HYD             1.0 02:S-1-FO-D1N     5.11     .605 No_date   27:57   48.27  n/a     .000
06851>                    +     1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
06852>                  SUM=    1.0 01:S-1-FO-D1S     5.11     .605 No_date   27:57   48.27  n/a     .000
06853> R0010:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06854>      ROUTE RESERVOIR     ->    1.0 02:S-1-FO-D1S     5.11     .605 No_date   27:57   48.27  n/a     .000
06855>                          out <=    1.0 01:S-1-FO-D1R     5.11     .044 No_date   29:26   48.27  n/a     .000
06856>                overflow <=     1.0 03:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
06857>        {MxStoUsed=.2478E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06858> R0010:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06859>      ADD HYD             1.0 02:980-out    330.38    5.927 No_date   29:17   43.99  n/a     .000
06860>                    +     1.0 02:S-1-FO-D1R     5.11     .044 No_date   29:26   48.27  n/a     .000
06861>                    +     1.0 02:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
06862>                  SUM=    1.0 01:520        335.49    5.972 No_date   29:17   44.06  n/a     .000
06863> R0010:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06864>      SAVE HYD            1.0 01:520        335.49    5.972 No_date   29:17   44.06  n/a     .000
06865>        fname :520.0010
06866>        remark:Total Flows at Sation 520 on Foster Drain
06867> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
06868> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
06869> #
06870> R0010:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06871>      ROUTE CHANNEL       ->    1.0 02:520        335.49    5.972 No_date   29:17   44.06  n/a     .000
06872>        [RDT= 1.00] out<-       1.0 01:520-out    335.49    5.909 No_date   29:24   44.06  n/a     .000
06873>        [L/S/n=  860./ .587/.035]
06874>        {Vmax= 1.391:Dmax=  .659}
06875> R0010:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06876>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D    14.96    1.881 No_date   28:02   48.24 .746    .000
06877>        [XIMP=.65:TIMP=.65]
06878>        [LOSS= 2 :CN= 74.0]
06879>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
06880>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 316.:MNI=.013:SCI=   .0]
06881>        [IaRECimp=   4.00: IaRECper=   4.00]
06882>        [SMIN= 36.67: SMAX=244.49: SK= .010]
06883> R0010:C00178------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06884>      COMPUTE DUALHYD       1.0 01:S-1-FO-F-D    14.96    1.881 No_date   28:02   48.24  n/a     .000
06885>        Major System   /      1.0 02:S-1FO-F-DJ      .00     .000 No_date    0:00     .00  n/a     .000
06886>        Minor System   \      1.0 03:S-1FO-F-DN    14.96    1.615 No_date   27:58   48.25  n/a     .000
06887>        {MjSysSto=.8828E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06888> R0010:C00179------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06889>      ADD HYD             1.0 02:S-1FO-F-DJ      .00     .000 No_date    0:00     .00  n/a     .000
06890>                    +     1.0 02:S-1FO-F-DN    14.96    1.615 No_date   27:58   48.25  n/a     .000
06891>                  SUM=    1.0 01:S-1FO-F-DS    14.96    1.615 No_date   27:58   48.25  n/a     .000
06892> R0010:C00180------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06893>      ROUTE RESERVOIR     ->    1.0 02:S-1FO-F-DS    14.96    1.615 No_date   27:58   48.25  n/a     .000
06894>                          out <=    1.0 01:S-1FO-F-DR    14.96     .130 No_date   29:31   48.25  n/a     .000
06895>                overflow <=     1.0 03:S-1FOFDovf      .00     .000 No_date    0:00     .00  n/a     .000
06896>        {MxStoUsed=.4323E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06897> R0010:C00181------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06898>      CONTINUOUS STANDHYD   1.0 01:S-1-D8        5.27     .781 No_date   28:01   35.83 .554    .000
06899>        [XIMP=.32:TIMP=.65]
06900>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
06901>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06902>        [Impervious  area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
06903>        [IaRECimp=   4.00: IaRECper=   4.00]
06904> R0010:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06905>      COMPUTE DUALHYD       1.0 01:S-1-D8        5.27     .781 No_date   28:01   35.83  n/a     .000
06906>        Major System   /      1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
06907>        Minor System   \      1.0 03:S-1-D8N        5.27     .672 No_date   27:58   35.92  n/a     .000
06908>        {MjSysSto=.3074E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06909> R0010:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06910>      ADD HYD             1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
06911>                    +     1.0 02:S-1-D8N        5.27     .672 No_date   27:58   35.92  n/a     .000
06912>                  SUM=    1.0 01:S-1-D8S        5.27     .672 No_date   27:58   35.92  n/a     .000
06913> R0010:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06914>      ROUTE RESERVOIR     ->    1.0 02:S-1-D8S        5.27     .672 No_date   27:58   35.92  n/a     .000
06915>                          out <=    1.0 01:S-1-D8R        5.27     .042 No_date   28:48   35.92  n/a     .000
06916>                overflow <=     1.0 03:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
06917>        {MxStoUsed=.1398E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06918> R0010:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06919>      CONTINUOUS NASHYD     1.0 01:S-1-A         75.88    1.915 No_date   28:36   26.85 .415    .000

06920>        [CN= 77.0: N= 3.00: Tp=  .62]
06921>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06922>        [InterEventTime=  12.00]
06923> R0010:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06924>      CONTINUOUS NASHYD     1.0 01:W_CLAR_UND    35.65     .596 No_date   29:11   26.85 .415    .000
06925>        [CN= 77.0: N= 3.00: Tp= 1.10]
06926>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06927>        [InterEventTime=  12.00]
06928> R0010:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06929>      ADD HYD             1.0 02:N_FO       53577.82   85.870 No_date   34:07   22.63  n/a     .000
06930>                    +     1.0 02:520-out      335.49    5.909 No_date   29:24   44.06  n/a     .000
06931>                    +     1.0 02:MS_P10        73.29    1.136 No_date   29:00   47.94  n/a     .000
06932>                    +     1.0 02:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
06933>                    +     1.0 02:W_CLAR_UND    35.65     .596 No_date   29:11   26.85  n/a     .000
06934>                    +     1.0 02:S-1-D8R        5.27     .042 No_date   28:48   35.92  n/a     .000
06935>                    +     1.0 02:S-1FO-F-DR    14.96     .130 No_date   29:31   48.25  n/a     .000
06936>                    +     1.0 02:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
06937>                    +     1.0 02:S-1-D8R        5.27     .042 No_date   28:48   35.92  n/a     .000
06938>                    +     1.0 02:S-1-A         75.88    1.915 No_date   28:36   26.85  n/a     .000
06939>                  SUM=    1.0 01:SN_FO      54118.36   89.426 No_date   33:26   22.82  n/a     .000
06940> R0010:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06941>      SAVE HYD            1.0 01:SN_FO      54118.36   89.426 No_date   33:26   22.82  n/a     .000
06942>        fname :SN_FO.0010
06943>        remark:Total Flows at Foster Drain
06944> # Hydrograph from Node Foster routed to Node at Cedarview Road
06945> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
06946> #
06947> R0010:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06948>      ROUTE CHANNEL       ->    1.0 02:SN_FO      54118.36   89.426 No_date   33:26   22.82  n/a     .000
06949> *    [RDT= 1.00] out<-       1.0 01:N_CE       54118.36   89.319 No_date   33:44   22.82  n/a     .000
06950>        [L/S/n=  159./ .092/.035]
06951>        {Vmax= 1.329:Dmax= 3.419}
06952> #*************************************************************************
06953> #    Catchment S-1
06954> #    - To Jock River (north and south of Jock)
06955> #    - Primarily agricultural fields; portion of sand quarry
06956> #*************************************************************************
06957> R0010:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06958>      CONTINUOUS NASHYD     1.0 01:S-1-0         55.36    1.740 No_date   28:24   26.85 .415    .000
06959>        [CN= 77.0: N= 3.00: Tp=  .45]
06960>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
06961>        [InterEventTime=  12.00]
06962> #    -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new
06963> #    -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
06964> #    -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
06965> R0010:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06966>      CONTINUOUS STANDHYD   1.0 01:S-1-D1        21.67    2.814 No_date   28:02   48.63 .752    .000
06967>        [XIMP=.65:TIMP=.65]
06968>        [LOSS= 2 :CN= 75.0]
06969>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06970>        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
06971>        [IaRECimp=   4.00: IaRECper=   4.00]
06972>        [SMIN= 33.81: SMAX=225.43: SK= .010]
06973> R0010:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06974>      COMPUTE DUALHYD       1.0 01:S-1-D1        21.67    2.814 No_date   28:02   48.63  n/a     .000
06975>        Major System   /      1.0 02:S-1-D1J         .00     .000 No_date    0:00     .00  n/a     .000
06976>        Minor System   \      1.0 03:S-1-D1N        21.67    2.409 No_date   27:58   48.83  n/a     .000
06977>        {MjSysSto=.1351E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
06978> R0010:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06979>      ADD HYD             1.0 02:S-1-D1J         .00     .000 No_date    0:00     .00  n/a     .000
06980>                    +     1.0 02:S-1-D1N        21.67    2.409 No_date   27:58   48.83  n/a     .000
06981>                  SUM=    1.0 01:S-1-D1S        21.67    2.409 No_date   27:58   48.83  n/a     .000
06982> R0010:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06983>      ROUTE RESERVOIR     ->    1.0 02:S-1-D1S        21.67    2.409 No_date   27:58   48.83  n/a     .000
06984>                          out <=    1.0 01:S-1-D1R        21.67     .191 No_date   29:23   48.83  n/a     .000
06985>                overflow <=     1.0 03:S-1-D1Rovf      .00     .000 No_date    0:00     .00  n/a     .000
06986>        {MxStoUsed=.6364E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
06987> R0010:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06988>      CONTINUOUS STANDHYD   1.0 01:S-1-D4         3.28     .489 No_date   28:00   48.63 .752    .000
06989>        [XIMP=.65:TIMP=.65]
06990>        [LOSS= 2 :CN= 75.0]
06991>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
06992>        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
06993>        [IaRECimp=   4.00: IaRECper=   4.00]
06994>        [SMIN= 33.81: SMAX=225.43: SK= .010]
06995> R0010:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
06996>      COMPUTE DUALHYD       1.0 01:S-1-D4         3.28     .489 No_date   28:00   48.63  n/a     .000
06997>        Major System   /      1.0 02:S-1-D4J         .00     .000 No_date    0:00     .00  n/a     .000
06998>        Minor System   \      1.0 03:S-1-D4N        3.28     .421 No_date   27:56   48.79  n/a     .000
06999>        {MjSysSto=.1840E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07000> R0010:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07001>      ADD HYD             1.0 02:S-1-D4J         .00     .000 No_date    0:00     .00  n/a     .000
07002>                    +     1.0 02:S-1-D4N        3.28     .421 No_date   27:56   48.79  n/a     .000
07003>                  SUM=    1.0 01:S-1-D4S        3.28     .421 No_date   27:56   48.79  n/a     .000
07004> R0010:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07005>      ROUTE RESERVOIR     ->    1.0 02:S-1-D4S        3.28     .421 No_date   27:56   48.79  n/a     .000
07006>                          out <=    1.0 01:S-1-D4R        3.28     .029 No_date   29:14   48.79  n/a     .000
07007>                overflow <=     1.0 03:S-1-D4Rovf      .00     .000 No_date    0:00     .00  n/a     .000
07008>        {MxStoUsed=.9638E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07009> R0010:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07010>      CONTINUOUS STANDHYD   1.0 01:S-1-D5        12.84    1.749 No_date   28:01   48.63 .752    .000
07011>        [XIMP=.65:TIMP=.65]
07012>        [LOSS= 2 :CN= 75.0]
07013>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07014>        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
07015>        [IaRECimp=   4.00: IaRECper=   4.00]
07016>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07017> R0010:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07018>      COMPUTE DUALHYD       1.0 01:S-1-D5        12.84    1.749 No_date   28:01   48.63  n/a     .000
07019>        Major System   /      1.0 02:S-1-D5J         .00     .000 No_date    0:00     .00  n/a     .000
07020>        Minor System   \      1.0 03:S-1-D5N        12.84    1.500 No_date   28:09   48.75  n/a     .000
07021>        {MjSysSto=.7643E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07022> R0010:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07023>      ADD HYD             1.0 02:S-1-D5J         .00     .000 No_date    0:00     .00  n/a     .000
07024>                    +     1.0 02:S-1-D5N        12.84    1.500 No_date   27:57   48.75  n/a     .000
07025>                  SUM=    1.0 01:S-1-D5S        12.84    1.500 No_date   27:57   48.75  n/a     .000
07026> R0010:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07027>      ROUTE RESERVOIR     ->    1.0 02:S-1-D5S        12.84    1.500 No_date   27:57   48.75  n/a     .000
07028>                          out <=    1.0 01:S-1-D5R        12.84     .113 No_date   29:20   48.75  n/a     .000
07029>                overflow <=     1.0 03:S-1-D5Rovf      .00     .000 No_date    0:00     .00  n/a     .000
07030>        {MxStoUsed=.3763E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07031> R0010:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07032>      CONTINUOUS STANDHYD   1.0 01:S-1-D6         1.75     .269 No_date   28:00   48.63 .752    .000
07033>        [XIMP=.65:TIMP=.65]
07034>        [LOSS= 2 :CN= 75.0]
07035>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07036>        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
07037>        [IaRECimp=   4.00: IaRECper=   4.00]
07038>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07039> R0010:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07040>      COMPUTE DUALHYD       1.0 01:S-1-D6         1.75     .269 No_date   28:00   48.63  n/a     .000
07041>        Major System   /      1.0 02:S-1-D6J         .00     .000 No_date    0:00     .00  n/a     .000
07042>        Minor System   \      1.0 03:S-1-D6N        1.75     .232 No_date   27:55   48.88  n/a     .000
07043>        {MjSysSto=.9608E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07044> R0010:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07045>      ADD HYD             1.0 02:S-1-D6J         .00     .000 No_date    0:00     .00  n/a     .000
07046>                    +     1.0 02:S-1-D6N        1.75     .232 No_date   27:55   48.88  n/a     .000
07047>                  SUM=    1.0 01:S-1-D6S        1.75     .232 No_date   27:55   48.88  n/a     .000
07048> R0010:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07049>      ROUTE RESERVOIR     ->    1.0 02:S-1-D6S        1.75     .232 No_date   27:55   48.88  n/a     .000
07050>                          out <=    1.0 01:S-1-D6R        1.75     .015 No_date   29:12   48.88  n/a     .000
07051>                overflow <=     1.0 03:S-1-D6Rovf      .00     .000 No_date    0:00     .00  n/a     .000
07052>        {MxStoUsed=.5153E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07053> R0010:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07054>      CONTINUOUS STANDHYD   1.0 01:S-1-D7         2.03     .311 No_date   28:00   48.63 .752    .000
07055>        [XIMP=.65:TIMP=.65]
07056>        [LOSS= 2 :CN= 75.0]
07057>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07058>        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
07059>        [IaRECimp=   4.00: IaRECper=   4.00]
07060>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07061> R0010:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07062>      COMPUTE DUALHYD       1.0 01:S-1-D7         2.03     .311 No_date   28:00   48.63  n/a     .000
07063>        Major System   /      1.0 02:S-1-D7J         .00     .000 No_date    0:00     .00  n/a     .000
07064>        Minor System   \      1.0 03:S-1-D7N        2.03     .265 No_date   27:55   48.75  n/a     .000
07065>        {MjSysSto=.1235E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07066> R0010:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07067>      ADD HYD             1.0 02:S-1-D7J         .00     .000 No_date    0:00     .00  n/a     .000
07068>                    +     1.0 02:S-1-D7N        2.03     .265 No_date   27:55   48.75  n/a     .000
07069>                  SUM=    1.0 01:S-1-D7S        2.03     .265 No_date   27:55   48.75  n/a     .000
07070> R0010:C00210------------DTmin-ID:NHYD---------AREAha-QP
```

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07107> R0010:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07108>      SAVE HYD              1.0 01:W_CLAR      119.40   12.497 No_date   28:05   47.94  n/a     .000
07109>        fname :W_CLAR.0010
07110>        remark:Total Flows to West Clarke
07111> #*************************************************************************
07112> #    West Clarke Pond 2
07113> #  - Rating curve obtained from Barrhaven South MSS modeling
07114> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
07115> #*************************************************************************
07116> R0010:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07117>      ROUTE RESERVOIR ->    1.0 02:W_CLAR      119.40   12.497 No_date   28:05   47.94  n/a     .000
07118>                    out <=    1.0 01:MS_P2       119.40    3.959 No_date   28:33   47.94  n/a     .000
07119>              overflow <=    1.0 03:P2-OVF        .00     .000 No_date    0:00     .00  n/a     .000
07120>        {MxStoUsed=.2802E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07121> #*************************************************************************
07122> R0010:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07123>      ADD HYD               1.0 02:N_CE      54118.36   89.319 No_date   33:44   22.82  n/a     .000
07124>                      +     1.0 02:S-1-D4R       3.28     .029 No_date   29:14   48.79  n/a     .000
07125>                      +     1.0 02:S-1-D5R      12.84     .113 No_date   29:20   48.75  n/a     .000
07126>                      +     1.0 02:S-1-D4Rovf     .00     .000 No_date    0:00     .00  n/a     .000
07127>                      +     1.0 02:S-1-D5Rovf     .00     .000 No_date    0:00     .00  n/a     .000
07128>                      +     1.0 02:MS_P2       119.40    3.959 No_date   28:33   47.94  n/a     .000
07129>                      +     1.0 02:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
07130>                    SUM=    1.0 01:SN_CE      54253.88   90.199 No_date   33:44   22.88  n/a     .000
07131> R0010:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07132>      SAVE HYD              1.0 01:SN_CE      54253.88   90.199 No_date   33:44   22.88  n/a     .000
07133>        fname :SN_CE.0010
07134>        remark:Total Flows before Station 5737 on Jock River
07135> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
07136> # 2021-02-25 add simulation 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
07137> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
07138> R0010:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07139>      ROUTE CHANNEL    ->    1.0 02:SN_CE      54253.88   90.199 No_date   33:44   22.88  n/a     .000
07140> *   [RDT= 1.00] out<-     1.0 01:5737       54253.88   85.563 No_date   36:21   22.88  n/a     .000
07141>        [L/S/n=  270./ .018/.035]
07142>        {Vmax=   .730:Dmax=  4.478}
07143> R0010:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07144>      ADD HYD               1.0 02:5737       54253.88   85.563 No_date   36:21   22.88  n/a     .000
07145>                      +     1.0 02:S-1-D1R       21.67     .191 No_date   29:23   48.83  n/a     .000
07146>                      +     1.0 02:S-1-D6R        1.75     .015 No_date   29:12   48.88  n/a     .000
07147>                      +     1.0 02:S-1-D7R        2.03     .018 No_date   29:12   48.75  n/a     .000
07148>                      +     1.0 02:S-1-D1Rovf     .00     .000 No_date    0:00     .00  n/a     .000
07149>                      +     1.0 02:S-1-D6Rovf     .00     .000 No_date    0:00     .00  n/a     .000
07150>                      +     1.0 02:S-1-D7Rovf     .00     .000 No_date    0:00     .00  n/a     .000
07151>                    SUM=    1.0 01:5002       54279.34   85.716 No_date   36:21   22.89  n/a     .000
07152> R0010:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07153>      SAVE HYD              1.0 01:5002       54279.34   85.716 No_date   36:21   22.89  n/a     .000
07154>        fname :5002.0010
07155>        remark:Total Flows before Station 5002 on Jock River
07156> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
07157> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
07158> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
07159> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
07160> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
07161> R0010:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07162>      ROUTE CHANNEL    ->    1.0 02:5002       54279.34   85.716 No_date   36:21   22.89  n/a     .000
07163> *   [RDT= 1.00] out<-     1.0 02:N_WCa      54279.34   85.732 No_date   36:17   22.89  n/a     .000
07164>        [L/S/n=  245./ .095/.035]
07165>        {Vmax= 1.133:Dmax= 2.527}
07166> R0010:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07167>      ROUTE CHANNEL    ->    1.0 02:N_WCa      54279.34   85.732 No_date   36:17   22.89  n/a     .000
07168> *   [RDT= 1.00] out<-     1.0 01:N_WCb      54279.34   85.711 No_date   36:25   22.89  n/a     .000
07169>        [L/S/n=  245./ .095/.035]
07170>        {Vmax= 1.134:Dmax= 2.527}
07171> R0010:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07172>      ROUTE CHANNEL    ->    1.0 02:N_WCb      54279.34   85.711 No_date   36:25   22.89  n/a     .000
07173> *   [RDT= 1.00] out<-     1.0 01:N_WC       54279.34   85.718 No_date   36:25   22.89  n/a     .000
07174>        [L/S/n=  245./ .095/.035]
07175>        {Vmax= 1.133:Dmax= 2.527}
07176> #*************************************************************************
07177> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
07178> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
07179> #
07180> R0010:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07181>      ROUTE CHANNEL    ->    1.0 02:N_WC       54279.34   85.718 No_date   36:25   22.89  n/a     .000
07182>        [RDT= 1.00] out<-     1.0 01:N_KB       54279.34   85.356 No_date   36:41   22.89  n/a     .000
07183>        [L/S/n= 1020./ .050/.035]
07184>        {Vmax= 1.004:Dmax= 3.138}
07185> #*************************************************************************
07186> #    Catchment KEN_BU
07187> #   - To Kennedy-Burnett SWM Facility
07188> #   - Outlets to Fraser-Clarke drain (north of the Jock)
07189> #     - Medium density residential subdivision
07190> #*************************************************************************
07191> #*************************************************************************
07192> #   Existing Kennedy-Burnett SWM Facility
07193> #     - Rating curve obtained from URTKBP
07194> #     - Tributary Drainage Area to Pond = 160 ha
07195> #*************************************************************************
07196> R0010:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07197>      CONTINUOUS STANDHYD   1.0 01:KB-01A       40.82     3.338 No_date   28:12   24.14 .373    .000
07198>        [XIMP=.20:TIMP=.40]
07199>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07200>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07201>        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
07202>        [IaRECimp=   4.00: IaRECper=   4.00]
07203> R0010:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07204>      COMPUTE DUALHYD       1.0 01:KB-01A       40.82     3.338 No_date   28:12   24.14  n/a     .000
07205>        Major System   /     1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07206>        Minor System   \     1.0 03:KB-01A-MN     40.82     3.338 No_date   28:12   24.14  n/a     .000
07207>          {MjSysSto=.0000E+00, N-Ovf=    0, TotOvfVol=.0000E+00,    0.hrs}
07208> R0010:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07209>      ADD HYD               1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07210>                      +     1.0 02:KB-01A-MN     40.82     3.338 No_date   28:12   24.14  n/a     .000
07211>                    SUM=    1.0 01:KB-01A-S      40.82     3.338 No_date   28:12   24.14  n/a     .000
07212> R0010:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07213>      CONTINUOUS STANDHYD   1.0 01:KB-01B       31.10     2.335 No_date   28:08   26.73 .413    .000
07214>        [XIMP=.19:TIMP=.38]
07215>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07216>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07217>        [Impervious   area: IAimp=  .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
07218>        [IaRECimp=   4.00: IaRECper=   4.00]
07219> R0010:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07220>      COMPUTE DUALHYD       1.0 01:KB-01B       31.10     2.335 No_date   28:08   26.73  n/a     .000
07221>        Major System   /     1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07222>        Minor System   \     1.0 03:KB-01B-MN     31.10    1.585 No_date   27:59   26.78  n/a     .000
07223>          {MjSysSto=.8272E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07224> R0010:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07225>      ADD HYD               1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07226>                      +     1.0 02:KB-01B-MN     31.10    1.585 No_date   27:59   26.78  n/a     .000
07227>                    SUM=    1.0 01:KB-01B-S      31.10    1.585 No_date   27:59   26.78  n/a     .000
07228> R0010:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07229>      CONTINUOUS STANDHYD   1.0 01:KB-01C       13.78     1.534 No_date   28:05   27.74 .429    .000
07230>        [XIMP=.20:TIMP=.41]
07231>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07232>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07233>        [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
07234>        [IaRECimp=   4.00: IaRECper=   4.00]
07235> R0010:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07236>      COMPUTE DUALHYD       1.0 01:KB-01C       13.78     1.534 No_date   28:05   27.74  n/a     .000
07237>        Major System   /     1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07238>        Minor System   \     1.0 03:KB-01C-MN     13.78    1.350 No_date   28:00   27.93  n/a     .000
07239>          {MjSysSto=.6901E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07240> R0010:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07241>      ADD HYD               1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07242>                      +     1.0 02:KB-01C-MN     13.78    1.350 No_date   28:00   27.93  n/a     .000
07243>                    SUM=    1.0 01:KB-01C-S      13.78    1.350 No_date   28:00   27.93  n/a     .000
07244> R0010:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07245>      CONTINUOUS STANDHYD   1.0 01:KB-03        84.78     7.685 No_date   28:09   27.30 .422    .000
07246>        [XIMP=.20:TIMP=.39]
07247>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07248>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07249>        [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
07250>        [IaRECimp=   4.00: IaRECper=   4.00]
07251> R0010:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07252>      COMPUTE DUALHYD       1.0 01:KB-03        84.78     7.685 No_date   28:09   27.30  n/a     .000
07253>        Major System   /     1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07254>        Minor System   \     1.0 03:KB-03-MN     84.78    5.270 No_date   27:59   27.40  n/a     .000
07255>          {MjSysSto=.2022E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07256> R0010:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07257>      ADD HYD               1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07258>                      +     1.0 02:KB-03-MN     84.78    5.270 No_date   27:59   27.40  n/a     .000
07259>                    SUM=    1.0 01:KB-03-S       84.78    5.270 No_date   27:59   27.40  n/a     .000
07260> R0010:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07261>      CONTINUOUS STANDHYD   1.0 01:KB-04         6.95     1.217 No_date   28:01   56.45 .843    .000
07262>        [XIMP=.85:TIMP=.85]
07263>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07264>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07265>        [Impervious   area: IAimp=  .94:SLPI= .50:LGI= 215.:MNI=.013:SCI=   .0]
07266>        [IaRECimp=   4.00: IaRECper=   4.00]
07267> R0010:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07268>      COMPUTE DUALHYD       1.0 01:KB-04         6.95     1.217 No_date   28:01   56.45  n/a     .000
07269>        Major System   /     1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07270>        Minor System   \     1.0 03:KB-04-MN      6.95     .503 No_date   27:46   56.53  n/a     .000
07271>          {MjSysSto=.5392E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07272> R0010:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07273>      ADD HYD               1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07274>                      +     1.0 02:KB-04-MN      6.95     .503 No_date   27:46   56.53  n/a     .000
07275>                    SUM=    1.0 01:KB-04-S       6.95     .503 No_date   27:46   56.53  n/a     .000
07276> R0010:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07277>      CONTINUOUS STANDHYD   1.0 01:KB-05         5.19      .983 No_date   28:00   59.76 .924    .000
07278>        [XIMP=.93:TIMP=.93]
07279>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07280>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07281>        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 186.:MNI=.013:SCI=   .0]
07282>        [IaRECimp=   4.00: IaRECper=   4.00]
07283> R0010:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07284>      CONTINUOUS STANDHYD   1.0 01:KB-06        12.93     2.536 No_date   28:00   57.57 .890    .000
07285>        [XIMP=.87:TIMP=.87]
07286>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07287>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07288>        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
07289>        [IaRECimp=   4.00: IaRECper=   4.00]
07290> R0010:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07291>      COMPUTE DUALHYD       1.0 01:KB-06        12.93     2.536 No_date   28:00   57.57  n/a     .000
07292>        Major System   /     1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07293>        Minor System   \     1.0 03:KB-06-MN     12.93    2.262 No_date   27:56   57.80  n/a     .000
07294>          {MjSysSto=.6369E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07295> R0010:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07296>      ADD HYD               1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07297>                      +     1.0 02:KB-06-MN     12.93    2.262 No_date   27:56   57.80  n/a     .000
07298>                    SUM=    1.0 01:KB-06-S      12.93    2.262 No_date   27:56   57.80  n/a     .000
07299> R0010:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07300>      CONTINUOUS STANDHYD   1.0 01:KB-11        4.03      .686 No_date   28:00   48.04 .743    .000
07301>        [XIMP=.68:TIMP=.68]
07302>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07303>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07304>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
07305>        [IaRECimp=   4.00: IaRECper=   4.00]
07306> R0010:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07307>      COMPUTE DUALHYD       1.0 01:KB-11        4.03      .686 No_date   28:00   48.04  n/a     .000
07308>        Major System   /     1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07309>        Minor System   \     1.0 03:KB-11-MN     4.03      .577 No_date   27:55   48.44  n/a     .000
07310>          {MjSysSto=.2954E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07311> R0010:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07312>      ADD HYD               1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07313>                      +     1.0 02:KB-11-MN     4.03      .577 No_date   27:55   48.44  n/a     .000
07314>                    SUM=    1.0 01:KB-11-S      4.03      .577 No_date   27:55   48.44  n/a     .000
07315> R0010:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07316>      CONTINUOUS STANDHYD   1.0 01:S1           4.99     1.020 No_date   28:00   59.76 .924    .000
07317>        [XIMP=.93:TIMP=.93]
07318>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07319>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07320>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
07321>        [IaRECimp=   4.00: IaRECper=   4.00]
07322> R0010:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07323>      CONTINUOUS STANDHYD   1.0 01:KB-15        2.15      .377 No_date   28:00   54.15 .837    .000
07324>        [XIMP=.79:TIMP=.79]
07325>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07326>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07327>        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
07328>        [IaRECimp=   4.00: IaRECper=   4.00]
07329> R0010:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07330>      ADD HYD               1.0 02:KB-01A-S      40.82     3.338 No_date   28:12   24.14  n/a     .000
07331>                      +     1.0 02:KB-01B-S      31.10    1.585 No_date   27:59   26.78  n/a     .000
07332>                      +     1.0 02:KB-01C-S      13.78    1.350 No_date   28:00   27.93  n/a     .000
07333>                      +     1.0 02:KB-03-S       84.78    5.270 No_date   27:59   27.40  n/a     .000
07334>                      +     1.0 02:KB-04-S        6.95     .503 No_date   27:46   56.53  n/a     .000
07335>                      +     1.0 02:KB-05          5.19     .983 No_date   28:00   59.76  n/a     .000
07336>                      +     1.0 02:KB-06-S       12.93    2.262 No_date   27:56   57.80  n/a     .000
07337>                      +     1.0 02:KB-11-S        4.03     .577 No_date   27:55   48.44  n/a     .000
07338>                      +     1.0 02:KB-15          2.15     .377 No_date   28:00   54.15  n/a     .000
07339>                      +     1.0 02:S1             4.99    1.020 No_date   28:00   59.76  n/a     .000
07340>                    SUM=    1.0 01:KB-P1        206.72   16.418 No_date   28:01   31.86  n/a     .000
07341> R0010:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07342>      ROUTE RESERVOIR ->    1.0 02:KB-P1        206.72   16.418 No_date   28:01   31.86  n/a     .000
07343>                    out <=    1.0 01:KB-P1R       206.72   12.427 No_date   28:17   31.86  n/a     .000
07344>              overflow <=    1.0 03:KB-P1ovf       .00     .000 No_date    0:00     .00  n/a     .000
07345>        {MxStoUsed=.7282E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
07346> R0010:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07347>      ADD HYD               1.0 02:KB-P1R       206.72   12.427 No_date   28:17   31.86  n/a     .000
07348>                      +     1.0 02:KB-P1ovf       .00     .000 No_date    0:00     .00  n/a     .000
07349>                    SUM=    1.0 01:KB-Pond1     206.72   12.427 No_date   28:17   31.86  n/a     .000
07350> R0010:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07351>      SAVE HYD              1.0 01:KB-Pond1     206.72   12.427 No_date   28:17   31.86  n/a     .000
07352>        fname :KB-Pond1.0010
07353>        remark:Total Flows at KB first pond
07354> R0010:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07355>      CONTINUOUS STANDHYD   1.0 01:KB-07        10.86     2.042 No_date   28:00   57.07 .882    .000
07356>        [XIMP=.86:TIMP=.86]
07357>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07358>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07359>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
07360>        [IaRECimp=   4.00: IaRECper=   4.00]
07361> R0010:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07362>      COMPUTE DUALHYD       1.0 01:KB-07        10.86     2.042 No_date   28:00   57.07  n/a     .000
07363>        Major System   /     1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07364>        Minor System   \     1.0 03:KB-07-MN     10.86     2.042 No_date   28:00   57.07  n/a     .000
07365>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07366> R0010:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07367>      ADD HYD               1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07368>                      +     1.0 02:KB-07-MN     10.86     2.042 No_date   28:00   57.07  n/a     .000
07369>                    SUM=    1.0 01:KB-07-S      10.86     2.042 No_date   28:00   57.07  n/a     .000
07370> R0010:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07371>      CONTINUOUS STANDHYD   1.0 01:KB-08         6.61     1.072 No_date   28:00   46.33 .716    .000
07372>        [XIMP=.64:TIMP=.64]
07373>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07374>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07375>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
07376>        [IaRECimp=   4.00: IaRECper=   4.00]
07377> R0010:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07378>      COMPUTE DUALHYD       1.0 01:KB-08         6.61     1.072 No_date   28:00   46.33  n/a     .000
07379>        Major System   /     1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07380>        Minor System   \     1.0 03:KB-08-MN      6.61     1.058 No_date   28:00   46.37  n/a     .000
07381>          {MjSysSto=.9091E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07382> R0010:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07383>      ADD HYD               1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07384>                      +     1.0 02:KB-08-MN      6.61     1.058 No_date   28:00   46.37  n/a     .000
07385>                    SUM=    1.0 01:KB-08-S       6.61     1.058 No_date   28:00   46.37  n/a     .000
07386> R0010:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07387>      CONTINUOUS STANDHYD   1.0 01:KB-09         2.60      .515 No_date   28:00   56.40 .872    .000
07388>        [XIMP=.86:TIMP=.86]
07389>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07390>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07391>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
07392>        [IaRECimp=   4.00: IaRECper=   4.00]
07393> R0010:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07394>      CONTINUOUS STANDHYD   1.0 01:KB-10_1       2.37      .470 No_date   28:00   56.40 .872    .000
07395>        [XIMP=.86:TIMP=.86]
07396>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07397>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07398>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
07399>        [IaRECimp=   4.00: IaRECper=   4.00]
07400> R0010:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07401>      CONTINUOUS STANDHYD   1.0 01:KB-10_2       1.14      .229 No_date   28:00   56.40 .872    .000
07402>        [XIMP=.86:TIMP=.86]
07403>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07404>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07405>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
07406>        [IaRECimp=   4.00: IaRECper=   4.00]
07407> R0010:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07408>      CONTINUOUS STANDHYD   1.0 01:KB-12        4.86      .900 No_date   28:00   53.41 .826    .000
07409>        [XIMP=.79:TIMP=.79]
07410>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07411>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07412>        [Impervious   area: IAimp= 1.18:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
07413>        [IaRECimp=   4.00: IaRECper=   4.00]
07414> R0010:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07415>      COMPUTE DUALHYD       1.0 01:KB-12        4.86      .900 No_date   28:00   53.41  n/a     .000
07416>        Major System   /     1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07417>        Minor System   \     1.0 03:KB-12-MN      4.86     .867 No_date   27:58   53.47  n/a     .000
07418>          {MjSysSto=.3261E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07419> R0010:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07420>      ADD HYD               1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07421>                      +     1.0 02:KB-12-MN      4.86     .867 No_date   27:58   53.47  n/a     .000
07422>                    SUM=    1.0 01:KB-12-S       4.86     .867 No_date   27:58   53.47  n/a     .000
07423> R0010:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07424>      CONTINUOUS STANDHYD   1.0 01:KB-13        10.19     1.611 No_date   28:00   46.33 .716    .000
07425>        [XIMP=.64:TIMP=.64]
07426>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
07427>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
07428>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
07429>        [IaRECimp=   4.00: IaRECper=   4.00]
07430> R0010:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07431>      COMPUTE DUALHYD       1.0 01:KB-13        10.19     1.611 No_date   28:00   46.33  n/a     .000
07432>        Major System   /     1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07433>        Minor System   \     1.0 03:KB-13-MN     10.19     1.611 No_date   28:00   46.33  n/a     .000
07434>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
07435> R0010:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07436>      ADD HYD               1.0 02:KB-13-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07437>                      +     1.0 02:KB-13-MN     10.19     1.611 No_date   28:00   46.33  n/a     
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                  +     1.0 02:KB-P2ovf         .00     .000 No_date   0:00     .00  n/a     .000
                SUM=    1.0 01:KB-Pond2       254.24   15.083 No_date  28:10   35.46  n/a     .000
R0010:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:KB-Pond2       254.24   15.083 No_date  28:10   35.46  n/a     .000
       fname :KB-Pond2.0010
       remark:Total Flows at KB second pond
R0010:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:KB-16_1        2.80     .465 No_date   28:01   52.17 .806    .000
       [XIMP=.75:TIMP=.75]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P3R         12.26     .051 No_date   17:31   35.64  n/a     .000
                  +     1.0 02:KB-P3ovf       244.78   15.243 No_date   28:09   35.64  n/a     .000
                SUM=    1.0 01:KB-Pond3       257.04   15.294 No_date   28:09   35.64  n/a     .000
R0010:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:KB-P3          257.04   15.295 No_date   28:08   35.64  n/a     .000
                  out <=    1.0 01:KB-P3R          12.26     .051 No_date   17:31   35.64  n/a     .000
             overflow <=    1.0 03:KB-P3ovf       244.78   15.243 No_date   28:09   35.64  n/a     .000
       {MxStoUsed=.1993E-02  m3, TotOvfVol=.8724E+01  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
R0010:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-P3R         12.26     .051 No_date   17:31   35.64  n/a     .000
                  +     1.0 02:KB-P3ovf       244.78   15.243 No_date   28:09   35.64  n/a     .000
                SUM=    1.0 01:KB-Pond3       257.04   15.294 No_date   28:09   35.64  n/a     .000
R0010:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:KB-Pond3       257.04   15.294 No_date   28:09   35.64  n/a     .000
       fname :KB-Pond3.0010
       remark:Total Flows at KB third pond
#*************************************************************************
#    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
#  - TO FRASER-CLARKE DRAIN
#*************************************************************************
R0010:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-01          8.03    1.049 No_date   28:01   37.67  n/a     .000
       [XIMP=.47:TIMP=.47]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-01          8.03    1.049 No_date   28:01   37.67  n/a     .000
       Major System   /     1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:FC-01-MN       8.03     .756 No_date   27:55   37.91  n/a     .000
       {MjSysSto=.1270E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:FC-01-MN       8.03     .756 No_date   27:55   37.91  n/a     .000
                SUM=    1.0 01:FC-01-S        8.03     .756 No_date   27:55   37.91  n/a     .000
R0010:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-02         16.05    2.930 No_date   28:01   59.76 .924    .000
       [XIMP=.93:TIMP=.93]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-02         16.05    2.930 No_date   28:01   59.76  n/a     .000
       Major System   /     1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:FC-02-MN      16.05    1.159 No_date   27:46   59.94  n/a     .000
       {MjSysSto=.1407E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:FC-02-MN      16.05    1.159 No_date   27:46   59.94  n/a     .000
                SUM=    1.0 01:FC-02-S       16.05    1.159 No_date   27:46   59.94  n/a     .000
R0010:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-03          7.37    1.130 No_date   28:01   45.83 .708    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-03          7.37    1.130 No_date   28:01   45.83  n/a     .000
       Major System   /     1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:FC-03-MN       7.37     .358 No_date   27:45   45.93  n/a     .000
       {MjSysSto=.6763E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-03-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:FC-03-MN       7.37     .358 No_date   27:45   45.93  n/a     .000
                SUM=    1.0 01:FC-03-S        7.37     .358 No_date   27:45   45.93  n/a     .000
R0010:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FC-04         12.87    1.906 No_date   28:01   45.83 .708    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FC-04         12.87    1.906 No_date   28:01   45.83  n/a     .000
       Major System   /     1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:FC-04-MN      12.87     .741 No_date   27:46   45.93  n/a     .000
       {MjSysSto=.9380E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FC-04-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:FC-04-MN      12.87     .741 No_date   27:46   45.93  n/a     .000
                SUM=    1.0 01:FC-04-S       12.87     .741 No_date   27:46   45.93  n/a     .000
#*************************************************************************
#    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
#  - TO JOCK RIVER
#*************************************************************************
R0010:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JR-01          8.24    1.257 No_date   28:01   45.83 .708    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:JR-01          8.24    1.257 No_date   28:01   45.83  n/a     .000
       Major System   /     1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:JR-01-MN       8.24     .563 No_date   28:39   46.14  n/a     .000
       {MjSysSto=.4889E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR-01-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:JR-01-MN       8.24     .563 No_date   27:47   46.14  n/a     .000
                SUM=    1.0 01:JR-01-S        8.24     .563 No_date   27:47   46.14  n/a     .000
R0010:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:JR-02          1.59     .264 No_date   28:00   45.83 .708    .000
       [XIMP=.64:TIMP=.64]
       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
R0010:C00298-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:JR-02          1.59     .264 No_date   28:00   45.83  n/a     .000
       Major System   /     1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:JR-02-MN       1.59     .153 No_date   27:51   46.12  n/a     .000
       {MjSysSto=.5453E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00299-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:JR-02-MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:JR-02-MN       1.59     .153 No_date   27:51   46.12  n/a     .000
                SUM=    1.0 01:JR-02-S        1.59     .153 No_date   27:51   46.12  n/a     .000
#*************************************************************************
#    Catchment FRASER
#  - To Fraser-Clarke drain (north of the Jock)
#  - Developed land with assumed 43% imp.
#  - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
#  - 2020-12-17 All Fraser is undeveloped (Nashyd)
#*************************************************************************
R0010:C00300-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS NASHYD      1.0 01:FRASER-DRN     13.65     .447 No_date   28:22   26.85 .415    .000
       [CN= 77.0: N= 3.00: Tp=  .43]
       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
       [InterEventTime=  12.00]
R0010:C00301-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:FRASER-D       21.61    2.700 No_date   28:01   47.42 .733    .000
       [XIMP=.58:TIMP=.58]
       [LOSS= 2 :CN= 80.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 26.32: SMAX=175.50: SK= .010]
R0010:C00302-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:FRASER-D       21.61    2.700 No_date   28:01   47.42  n/a     .000
       Major System   /     1.0 02:FRASER-J        .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:FRASER-N       21.61    2.281 No_date   27:57   47.46  n/a     .000
       {MjSysSto=.1390E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00303-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:FRASER-J        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:FRASER-N       21.61    2.281 No_date   27:57   47.46  n/a     .000
                SUM=    1.0 01:FRASER-S       21.61    2.281 No_date   27:57   47.46  n/a     .000
R0010:C00304-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:KB-Pond3      257.04   15.294 No_date   28:09   35.64  n/a     .000
                  +     1.0 02:S-1-B          55.36    1.740 No_date   28:24   26.85  n/a     .000
                  +     1.0 02:FRASER-DRN     13.65     .447 No_date   28:22   26.85  n/a     .000
                  +     1.0 02:FRASER-S       21.61    2.281 No_date   27:57   47.46  n/a     .000
                  +     1.0 02:N_KB         54279.34   85.356 No_date   36:41   22.89  n/a     .000
                  +     1.0 02:FC-01-S         8.03     .756 No_date   27:55   37.91  n/a     .000
                  +     1.0 02:FC-02-S        16.05    1.159 No_date   27:46   59.94  n/a     .000
                  +     1.0 02:FC-03-S         7.37     .358 No_date   27:45   45.93  n/a     .000
                SUM=    1.0 01:4241         54658.45   85.806 No_date   36:39   22.98  n/a     .000
R0010:C00305-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:4241         54658.45   85.806 No_date   36:39   22.98  n/a     .000
       fname :4241.0010
       remark:Total Flows at Ken-Burnett Outlet
# Hydrograph from Node Ken-Burnett to station 3633
# Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
#
R0010:C00306-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:4241         54658.45   85.806 No_date   36:39   22.98  n/a     .000
       [RDT= 1.00] out<-     1.0 01:4241-out     54658.45   85.856 No_date   36:23   22.98  n/a     .000
         [L/S/n=  294./  .109/.035]
         {Vmax= 1.172:Dmax= 2.015}
R0010:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:4241-out     54658.45   85.856 No_date   36:23   22.98  n/a     .000
                  +     1.0 02:FC-04-S        12.87     .741 No_date   27:46   45.93  n/a     .000
                  +     1.0 02:JR-01-S         8.24     .563 No_date   27:47   46.14  n/a     .000
                  +     1.0 02:JR-02-S         1.59     .153 No_date   27:51   46.12  n/a     .000
                SUM=    1.0 01:SN_KB          54681.14   85.887 No_date   36:23   22.99  n/a     .000
R0010:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:SN_KB          54681.14   85.887 No_date   36:23   22.99  n/a     .000
       fname :SN_KB.0010
       remark:Total Flows before Station 3633
# Hydrograph from Station 3633 to Node Todd
# Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
# JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
#*************************************************************************
R0010:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_KB          54681.14   85.887 No_date   36:23   22.99  n/a     .000
       [RDT= 1.00] out<-     1.0 01:N_TO           54681.14   85.808 No_date   36:44   22.99  n/a     .000
         [L/S/n=  608./ .247/.035]
         {Vmax= 1.553:Dmax= 1.518}
#*************************************************************************
#    Catchment Greenbank
#  - To Greenbank Drain (south of the Jock)
#  - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
#  - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
#*************************************************************************
R0010:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:Greenbank      36.60    4.662 No_date   28:02   49.38 .763    .000
       [XIMP=.64:TIMP=.68]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:Greenbank      36.60    4.662 No_date   28:02   49.38  n/a     .000
                  out <=    1.0 01:GreenB_MN      36.60    1.697 No_date   28:18   49.38  n/a     .000
             overflow <=    1.0 03:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.8299E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:N_TO           54681.14   85.808 No_date   36:44   22.99  n/a     .000
                  +     1.0 02:GreenB_MJ        .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:GreenB_MN      36.60    1.697 No_date   28:18   49.38  n/a     .000
                SUM=    1.0 01:GreenB         54717.74   85.928 No_date   36:44   23.01  n/a     .000
R0010:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:GreenB         54717.74   85.928 No_date   36:44   23.01  n/a     .000
       fname :GreenB.0010
       remark:Total Flows at Greenbank Drain
#*************************************************************************
#    Catchment TODD
#  - To Todd Drain (south of the Jock)
#  - Subdivision with 43% imp. as per Barrhaven South MSS
#  - 2020-11-30 increase imp. based on P598(04)-11
#  - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
#  - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
#*************************************************************************
#    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
R0010:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10     .282 No_date   28:00   44.92 .694    .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MN3       3.12     .016 No_date   28:00   44.90 .694    .000
       [XIMP=.53:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23    3.512 No_date   28:02   46.20 .714    .000
       [XIMP=.52:TIMP=.64]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_ALL      112.91   10.943 No_date   28:05   44.71 .691    .000
       [XIMP=.52:TIMP=.57]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:TODD_P         3.06     .451 No_date   28:00   48.23 .745    .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
# 5-Year + 12% Capture
R0010:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23    3.512 No_date   28:02   46.20  n/a     .000
                  out <=    1.0 01:TODD_MJn       30.14    3.314 No_date   28:00   46.20  n/a     .000
             overflow <=    1.0 03:TODD_MJj         .09     .190 No_date   28:03   46.20  n/a     .000
       {MxStoUsed=.4110E-03  m3, TotOvfVol=.4062E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
# 5-Year + 12% Capture
R0010:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN2       2.10     .282 No_date   28:00   44.92  n/a     .000
                  out <=    1.0 01:TODD_MN2n      2.10     .268 No_date   27:58   44.92  n/a     .000
             overflow <=    1.0 03:TODD_MN2j        .00     .011 No_date   28:00   44.92  n/a     .000
       {MxStoUsed=.1267E-03  m3, TotOvfVol=.1440E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD_MN3       3.12     .016 No_date   28:00   44.90  n/a     .000
                  out <=    1.0 01:TODD_MN3n      3.12     .016 No_date   28:00   44.90  n/a     .000
             overflow <=    1.0 03:TODD_MN3j        .00     .000 No_date   28:00   44.90  n/a     .000
       {MxStoUsed=.1007E-03  m3, TotOvfVol=.1379E-05  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
R0010:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:A2             25.50    2.388 No_date   28:03   40.97 .633    .000
       [XIMP=.42:TIMP=.52]
       [LOSS= 2 :CN= 75.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 33.81: SMAX=225.43: SK= .010]
R0010:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:A2             25.50    2.388 No_date   28:03   40.97  n/a     .000
       Major System   /     1.0 02:A2-MJ           .00     .000 No_date    0:00     .00  n/a     .000
       Minor System   \     1.0 03:A2-MN          25.50    1.818 No_date   27:57   40.97  n/a     .000
       {MjSysSto=.2896E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:TODD_MN2n      2.10     .268 No_date   27:58   44.92  n/a     .000
                  +     1.0 02:TODD_MN3n      3.12     .016 No_date   28:00   44.90  n/a     .000
                  +     1.0 02:TODD_MJj         .09     .190 No_date   28:03   46.20  n/a     .000
                  +     1.0 02:TODD_P         3.06     .451 No_date   28:00   48.23  n/a     .000
                  +     1.0 02:TODD_ALL     112.91   10.943 No_date   28:05   44.71  n/a     .000
                  +     1.0 02:TODD_MJn       1.77     .213 No_date   27:58   43.97  n/a     .000
                SUM=    1.0 01:TODD         120.03   11.699 No_date   28:03   44.79  n/a     .000
R0010:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:TODD         120.03   11.699 No_date   28:03   44.79  n/a     .000
       fname :TODD.0010
       remark:Total Flows at Todd Drain
#*************************************************************************
#    Todd Pond 3
#  - Rating curve obtained from Barrhaven South MSS modeling
#  - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
#*************************************************************************
R0010:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE RESERVOIR ->     1.0 02:TODD          120.03   11.699 No_date   28:03   44.79  n/a     .000
                  out <=    1.0 01:MS_P3         120.03    6.151 No_date   28:20   44.79  n/a     .000
             overflow <=    1.0 03:P3-OVF          .00     .000 No_date    0:00     .00  n/a     .000
       {MxStoUsed=.2461E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
R0010:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ADD HYD                1.0 02:GreenB         54717.74   85.928 No_date   36:44   23.01  n/a     .000
                  +     1.0 02:MS_P3          120.03    6.151 No_date   28:20   44.79  n/a     .000
                  +     1.0 02:P3-OVF           .00     .000 No_date    0:00     .00  n/a     .000
                  +     1.0 02:TODD_MN2j        .00     .011 No_date   28:00   44.92  n/a     .000
                  +     1.0 02:A2-MJ            .00     .000 No_date    0:00     .00  n/a     .000
                SUM=    1.0 01:SN_TO          54837.78   86.177 No_date   36:43   23.06  n/a     .000
R0010:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:SN_TO          54837.78   86.177 No_date   36:43   23.06  n/a     .000
       fname :SN_TO.0010
       remark:Total Flows at Todd Drain
#
# Hydrograph from Todd Drain routed to Corrigan Drain
# Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
# 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
R0010:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     ROUTE CHANNEL   ->     1.0 02:SN_TO          54837.78   86.177 No_date   36:43   23.06  n/a     .000
*    [RDT= 1.00] out<-     1.0 01:N_TO           54837.78   85.488 No_date   37:22   23.06  n/a     .000
       [L/S/n=  280./ .050/.045]
       {Vmax=  .883:Dmax= 2.859}
R0010:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     SAVE HYD           1.0 01:N_TO           54837.78   85.488 No_date   37:22   23.06  n/a     .000
       fname :N_TO.0010
       remark:Total inflows at Station 2462
#*************************************************************************
#    Catchment CORRIG
#  - To Corrigan Drain (south of the Jock)
#  - Primarily Developed (medium density)
#  - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
#*************************************************************************
R0010:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     CONTINUOUS STANDHYD    1.0 01:corr1          15.87    2.113 No_date   28:01   48.23 .746    .000
       [XIMP=.63:TIMP=.63]
       [LOSS= 2 :CN= 77.0]
       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
       [IaRECimp=   4.00: IaRECper=    4.00]
       [SMIN= 31.15: SMAX=207.66: SK= .010]
R0010:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
     COMPUTE DUALHYD        1.0 01:corr1          15.87    2.113 No_date   28:01   48.23  n/a     .000
       Major System   /     1.0 02:corr1-MJ        .00     .000 No_date    0:00     .00  n/a     .000
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07855>      Minor System   \     1.0 03:corr1-MN      15.87    1.818 No_date   28:09   48.38  n/a     .000
07856>        {MjSysSto=.8936E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07857> R0010:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07858>      CONTINUOUS NASHYD     1.0 01:corr2         12.47     .209 No_date   29:11   26.85 .415     .000
07859>        [CN= 77.0: N= 3.00: Tp= 1.10]
07860>        [IaREC=  4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
07861>        [InterEventTime=  12.00]
07862> R0010:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07863>      CONTINUOUS STANDHYD   1.0 01:A1-Corrig      15.75    1.640 No_date   28:02   40.97 .633     .000
07864>        [XIMP=.42:TIMP=.52]
07865>        [LOSS= 2 :CN= 75.0]
07866>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07867>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
07868>        [IaRECimp=   4.00: IaRECper=   4.00]
07869>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07870> R0010:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07871>      COMPUTE DUALHYD       1.0 01:A1-Corrig     15.75    1.640 No_date   28:02   40.97  n/a     .000
07872>        Major System   /     1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07873>        Minor System   \     1.0 03:A1-MN         15.75    1.640 No_date   28:02   40.97  n/a     .000
07874>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07875> R0010:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07876>      CONTINUOUS NASHYD     1.0 01:B1            2.77     .072 No_date   28:09   16.64 .257     .000
07877>        [CN= 56.0: N= 3.00: Tp=  .23]
07878>        [IaREC=  4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
07879>        [InterEventTime=  12.00]
07880> R0010:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07881>      CONTINUOUS STANDHYD   1.0 01:A4            1.27     .178 No_date   28:00   48.63 .752     .000
07882>        [XIMP=.65:TIMP=.65]
07883>        [LOSS= 2 :CN= 75.0]
07884>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07885>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
07886>        [IaRECimp=   4.00: IaRECper=   4.00]
07887>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07888> R0010:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07889>      COMPUTE DUALHYD       1.0 01:A4            1.27     .178 No_date   28:00   48.63  n/a     .000
07890>        Major System   /     1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07891>        Minor System   \     1.0 03:A4-MN         1.27     .178 No_date   28:00   48.63  n/a     .000
07892>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07893> R0010:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07894>      ADD HYD               1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07895>                      +     1.0 02:A1-MN         15.75    1.640 No_date   28:02   40.97  n/a     .000
07896>                      +     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
07897>                      +     1.0 02:corr1-MN      15.87    1.818 No_date   28:09   48.38  n/a     .000
07898>                      +     1.0 02:corr2         12.47     .209 No_date   29:11   26.85  n/a     .000
07899>                      +     1.0 02:B1             2.77     .072 No_date   28:09   16.64  n/a     .000
07900>                      +     1.0 02:A4-MN          1.27     .178 No_date   28:00   48.63  n/a     .000
07901>                    SUM=    1.0 01:MH101         48.13    3.734 No_date   28:02   38.56  n/a     .000
07902> R0010:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07903>      SAVE HYD              1.0 01:MH101         48.13    3.734 No_date   28:02   38.56  n/a     .000
07904>        fname :MH101.0010
07905>        remark:Total Flows at MH101
07906> R0010:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07907>      ROUTE PIPE       ->     1.0 02:MH101         48.13    3.734 No_date   28:02   38.56  n/a     .000
07908> *   [RDT= 1.00] out<-       1.0 01:101-102       48.13    3.662 No_date   28:03   38.56  n/a     .000
07909>        [L/S/n=  368./ .540/.013]
07910>        {Vmax= 3.084:Dmax= 1.088}
07911>        [Din= 1.05:Dused= 1.33]
07912> R0010:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07913>      ADD HYD               1.0 02:A2-MN         25.50    1.818 No_date   27:57   40.97  n/a     .000
07914>                      +     1.0 02:101-102       48.13    3.662 No_date   28:03   38.56  n/a     .000
07915>                    SUM=    1.0 01:MH102         73.63    5.480 No_date   28:03   39.39  n/a     .000
07916> R0010:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07917>      SAVE HYD              1.0 01:MH102         73.63    5.480 No_date   28:03   39.39  n/a     .000
07918>        fname :MH102.0010
07919>        remark:Total Flows at MH102
07920> R0010:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07921>      CONTINUOUS STANDHYD   1.0 01:A5            1.60     .236 No_date   28:01   51.11 .790     .000
07922>        [XIMP=.71:TIMP=.71]
07923>        [LOSS= 2 :CN= 75.0]
07924>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07925>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
07926>        [IaRECimp=   4.00: IaRECper=   4.00]
07927>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07928> R0010:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07929>      ADD HYD               1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07930>                      +     1.0 02:A5            1.60     .236 No_date   28:01   51.11  n/a     .000
07931>                    SUM=    1.0 01:A5T           1.60     .236 No_date   28:01   51.11  n/a     .000
07932> R0010:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07933>      COMPUTE DUALHYD       1.0 01:A5T           1.60     .236 No_date   28:01   51.11  n/a     .000
07934>        Major System   /     1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07935>        Minor System   \     1.0 03:A5-MN         1.60     .236 No_date   28:01   51.11  n/a     .000
07936>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07937> R0010:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07938>      ROUTE PIPE       ->     1.0 02:MH102         73.63    5.480 No_date   28:03   39.39  n/a     .000
07939> *   [RDT= 1.00] out<-       1.0 01:102-103       73.63    5.291 No_date   28:06   39.39  n/a     .000
07940>        [L/S/n=  504./ .280/.013]
07941>        {Vmax= 2.654:Dmax= 1.421}
07942>        [Din= 1.50:Dused= 1.73]
07943> R0010:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07944>      ADD HYD               1.0 02:102-103       73.63    5.291 No_date   28:06   39.39  n/a     .000
07945>                      +     1.0 02:A5-MN          1.60     .236 No_date   28:01   51.11  n/a     .000
07946>                    SUM=    1.0 01:MH103         75.23    5.462 No_date   28:05   39.64  n/a     .000
07947> R0010:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07948>      SAVE HYD              1.0 01:MH103         75.23    5.462 No_date   28:05   39.64  n/a     .000
07949>        fname :MH103.0010
07950>        remark:Total Flows at MH103
07951> R0010:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07952>      ROUTE PIPE       ->     1.0 02:MH103         75.23    5.462 No_date   28:05   39.64  n/a     .000
07953>        [RDT= 1.00] out<-       1.0 01:103-104       75.23    5.382 No_date   28:07   39.64  n/a     .000
07954>        [L/S/n=  438./ .460/.013]
07955>        {Vmax= 3.265:Dmax= 1.295}
07956>        [Din= 1.65:Dused= 1.65]
07957> R0010:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07958>      CONTINUOUS STANDHYD   1.0 01:A6            1.56     .232 No_date   28:00   51.11 .790     .000
07959>        [XIMP=.71:TIMP=.71]
07960>        [LOSS= 2 :CN= 75.0]
07961>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07962>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
07963>        [IaRECimp=   4.00: IaRECper=   4.00]
07964>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07965> R0010:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07966>      ADD HYD               1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07967>                      +     1.0 02:A6            1.56     .232 No_date   28:00   51.11  n/a     .000
07968>                    SUM=    1.0 01:A6T           1.56     .232 No_date   28:00   51.11  n/a     .000
07969> R0010:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07970>      COMPUTE DUALHYD       1.0 01:A6T           1.56     .232 No_date   28:00   51.11  n/a     .000
07971>        Major System   /     1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07972>        Minor System   \     1.0 03:A6-MN         1.56     .232 No_date   28:00   51.11  n/a     .000
07973>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07974> R0010:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07975>      ADD HYD               1.0 02:A6-MN         1.56     .232 No_date   28:00   51.11  n/a     .000
07976>                      +     1.0 02:103-104       75.23    5.382 No_date   28:07   39.64  n/a     .000
07977>                      +     1.0 02:TODD_MJn      30.14    3.314 No_date   28:00   46.20  n/a     .000
07978>                    SUM=    1.0 01:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
07979> R0010:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07980>      SAVE HYD              1.0 01:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
07981>        fname :MH104.0010
07982>        remark:Total Flows at MH104
07983> R0010:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07984>      CONTINUOUS STANDHYD   1.0 01:B2            12.31    1.229 No_date   28:02   41.19 .637     .000
07985>        [XIMP=.41:TIMP=.54]
07986>        [LOSS= 2 :CN= 75.0]
07987>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
07988>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
07989>        [IaRECimp=   4.00: IaRECper=   4.00]
07990>        [SMIN= 33.81: SMAX=225.43: SK= .010]
07991> R0010:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07992>      COMPUTE DUALHYD       1.0 01:B2            12.31    1.229 No_date   28:02   41.19  n/a     .000
07993>        Major System   /     1.0 02:B2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
07994>        Minor System   \     1.0 03:B2-MN         12.31    1.029 No_date   27:58   41.28  n/a     .000
07995>        {MjSysSto=.7604E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
07996> R0010:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
07997>      ROUTE PIPE       ->     1.0 02:B2-MN         12.31    1.029 No_date   27:58   41.28  n/a     .000
07998>        [RDT= 1.00] out<-       1.0 01:315-333       12.31    1.019 No_date   28:12   41.28  n/a     .000
07999>        [L/S/n=  254./ .100/.013]
08000>        {Vmax= 1.220:Dmax= .838}
08001>        [Din= 1.20:Dused= 1.20]
08002> R0010:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08003>      CONTINUOUS STANDHYD   1.0 01:B3            5.59     .579 No_date   28:02   41.19 .637     .000
08004>        [XIMP=.41:TIMP=.54]
08005>        [LOSS= 2 :CN= 75.0]
08006>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08007>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
08008>        [IaRECimp=   4.00: IaRECper=   4.00]
08009>        [SMIN= 33.81: SMAX=225.43: SK= .010]
08010> R0010:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08011>      COMPUTE DUALHYD       1.0 01:B3            5.59     .579 No_date   28:02   41.19  n/a     .000
08012>        Major System   /     1.0 02:B3-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08013>        Minor System   \     1.0 03:B3-MN         5.59     .459 No_date   27:57   41.35  n/a     .000
08014>        {MjSysSto=.4795E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08015> R0010:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08016>      ADD HYD               1.0 02:B3-MN         5.59     .459 No_date   27:57   41.35  n/a     .000
08017>                      +     1.0 02:315-333       12.31    1.019 No_date   28:12   41.28  n/a     .000
08018>                    SUM=    1.0 01:MH333         17.90    1.478 No_date   28:12   41.30  n/a     .000
08019> R0010:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08020>      SAVE HYD              1.0 01:MH333         17.90    1.478 No_date   28:12   41.30  n/a     .000
08021>        fname :MH333.0010
08022>        remark:Total Flows at MH333
08023> R0010:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08024>      ROUTE PIPE       ->     1.0 02:MH333         17.90    1.478 No_date   28:12   41.30  n/a     .000
08025> *   [RDT= 1.00] out<-       1.0 01:333-335       17.90    1.450 No_date   28:14   41.30  n/a     .000
08026>        [L/S/n=  251./ .100/.013]
08027>        {Vmax= 1.300:Dmax= 1.054}
08028>        [Din= 1.20:Dused= 1.28]
08029> R0010:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08030>      ROUTE PIPE       ->     1.0 02:333-335       17.90    1.450 No_date   28:14   41.30  n/a     .000
08031> *   [RDT= 1.00] out<-       1.0 01:335-338       17.90    1.447 No_date   28:14   41.30  n/a     .000
08032>        [L/S/n=  185./ .100/.013]
08033>        {Vmax= 1.294:Dmax= 1.047}
08034>        [Din= 1.20:Dused= 1.28]
08035> R0010:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08036>      ROUTE PIPE       ->     1.0 02:335-338       17.90    1.447 No_date   28:14   41.30  n/a     .000
08037> *   [RDT= 1.00] out<-       1.0 01:338-340       17.90    1.418 No_date   28:15   41.30  n/a     .000
08038>        [L/S/n=  233./ .100/.013]
08039>        {Vmax= 1.325:Dmax=  .963}
08040>        [Din= 1.35:Dused= 1.35]
08041> R0010:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms

08042>      CONTINUOUS STANDHYD   1.0 01:B4            7.60     .768 No_date   28:02   41.19 .637     .000
08043>        [XIMP=.41:TIMP=.54]
08044>        [LOSS= 2 :CN= 75.0]
08045>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08046>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
08047>        [IaRECimp=   4.00: IaRECper=   4.00]
08048>        [SMIN= 33.81: SMAX=225.43: SK= .010]
08049> R0010:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08050>      COMPUTE DUALHYD       1.0 01:B4            7.60     .768 No_date   28:02   41.19  n/a     .000
08051>        Major System   /     1.0 02:B4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08052>        Minor System   \     1.0 03:B4-MN         7.60     .655 No_date   27:58   41.31  n/a     .000
08053>        {MjSysSto=.3776E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08054> R0010:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08055>      ADD HYD               1.0 02:338-340       17.90    1.418 No_date   28:15   41.30  n/a     .000
08056>                      +     1.0 02:B4-MN          7.60     .655 No_date   27:58   41.31  n/a     .000
08057>                    SUM=    1.0 01:MH340         25.50    2.022 No_date   28:12   41.30  n/a     .000
08058> R0010:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08059>      SAVE HYD              1.0 01:MH340         25.50    2.022 No_date   28:12   41.30  n/a     .000
08060>        fname :MH340.0010
08061>        remark:Total Flows at MH340
08062> R0010:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08063>      ROUTE PIPE       ->     1.0 02:MH340         25.50    2.022 No_date   28:12   41.30  n/a     .000
08064>      [RDT= 1.00] out<-       1.0 01:340-104       25.50    1.986 No_date   28:12   41.30  n/a     .000
08065>        [L/S/n=  240./ .150/.013]
08066>        {Vmax= 1.706:Dmax=  .895}
08067>        [Din= 1.65:Dused= 1.65]
08068> R0010:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08069>      ADD HYD               1.0 02:340-104       25.50    1.986 No_date   28:12   41.30  n/a     .000
08070>                      +     1.0 02:MH104        106.93    8.816 No_date   28:05   41.66  n/a     .000
08071>                    SUM=    1.0 01:MH104T       132.43   10.636 No_date   28:05   41.59  n/a     .000
08072> R0010:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08073>      ROUTE PIPE       ->     1.0 02:MH104T       132.43   10.636 No_date   28:05   41.59  n/a     .000
08074> *   [RDT= 1.00] out<-       1.0 01:104-105       132.43   10.007 No_date   28:06   41.59  n/a     .000
08075>        [L/S/n=  380./ .100/.013]
08076>        {Vmax= 2.071:Dmax= 1.952}
08077>        [HGT= 2.30:WDTH= 2.63]
08078> R0010:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08079>      CONTINUOUS STANDHYD   1.0 01:B5            2.20     .291 No_date   28:00   45.32 .701     .000
08080>        [XIMP=.57:TIMP=.57]
08081>        [LOSS= 2 :CN= 75.0]
08082>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08083>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
08084>        [IaRECimp=   4.00: IaRECper=   4.00]
08085>        [SMIN= 33.81: SMAX=225.43: SK= .010]
08086> R0010:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08087>      COMPUTE DUALHYD       1.0 01:B5            2.20     .291 No_date   28:00   45.32  n/a     .000
08088>        Major System   /     1.0 02:B5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08089>        Minor System   \     1.0 03:B5-MN         2.20     .260 No_date   27:57   45.39  n/a     .000
08090>        {MjSysSto=.6886E+01, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08091> R0010:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08092>      CONTINUOUS STANDHYD   1.0 01:A8            .96     .151 No_date   28:00   51.11 .790     .000
08093>        [XIMP=.71:TIMP=.71]
08094>        [LOSS= 2 :CN= 75.0]
08095>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08096>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
08097>        [IaRECimp=   4.00: IaRECper=   4.00]
08098>        [SMIN= 33.81: SMAX=225.43: SK= .010]
08099> R0010:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08100>      ADD HYD               1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08101>                      +     1.0 02:A8            .96     .151 No_date   28:00   51.11  n/a     .000
08102>                    SUM=    1.0 01:A8T           .96     .151 No_date   28:00   51.11  n/a     .000
08103> R0010:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08104>      COMPUTE DUALHYD       1.0 01:A8T           .96     .151 No_date   28:00   51.11  n/a     .000
08105>        Major System   /     1.0 02:A8-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08106>        Minor System   \     1.0 03:A8-MN         .96     .151 No_date   28:00   51.11  n/a     .000
08107>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08108> R0010:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08109>      ADD HYD               1.0 02:104-105       132.43   10.007 No_date   28:06   41.59  n/a     .000
08110>                      +     1.0 02:B5-MN         2.20     .260 No_date   27:57   45.39  n/a     .000
08111>                      +     1.0 02:A8-MN          .96     .151 No_date   28:00   51.11  n/a     .000
08112>                      +     1.0 02:TODD_MN3j      .00     .000 No_date   28:00   44.90  n/a     .000
08113>                    SUM=    1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
08114> R0010:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08115>      SAVE HYD              1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
08116>        fname :MH105.0010
08117>        remark:Total Flows at MH105
08118> R0010:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08119> *  DIVERT HYD       ->     1.0 01:A8-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08120>          Diverted <=     1.0 02:A8-MJ-JR       .00     .000 No_date    0:00     .00  n/a     .000
08121>          Diverted <=     1.0 03:A8-MJ-B6       .00     .000 No_date    0:00     .00  n/a     .000
08122> R0010:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08123>      DIVERT HYD       ->     1.0 01:MH105        135.59   10.343 No_date   28:05   41.72  n/a     .000
08124>          Diverted <=     1.0 02:MH105-JR      28.70    7.335 No_date   28:05   41.72  n/a     .000
08125>          Diverted <=     1.0 03:MH105-B6      106.90    3.008 No_date   28:05   41.72  n/a     .000
08126> R0010:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08127>      CONTINUOUS STANDHYD   1.0 01:B7            7.19     .792 No_date   28:01   41.19 .637     .000
08128>        [XIMP=.41:TIMP=.54]
08129>        [LOSS= 2 :CN= 75.0]
08130>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08131>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
08132>        [IaRECimp=   4.00: IaRECper=   4.00]
08133>        [SMIN= 33.81: SMAX=225.43: SK= .010]
08134> R0010:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08135>      ADD HYD               1.0 02:B4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08136>                      +     1.0 02:B7            7.19     .792 No_date   28:01   41.19  n/a     .000
08137>                    SUM=    1.0 01:B7-B4MJ       7.19     .792 No_date   28:01   41.19  n/a     .000
08138> R0010:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08139>      COMPUTE DUALHYD       1.0 01:B7-B4MJ       7.19     .792 No_date   28:01   41.19  n/a     .000
08140>        Major System   /     1.0 02:B7R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
08141>        Minor System   \     1.0 03:B7R-MN        7.19     .629 No_date   27:55   41.31  n/a     .000
08142>        {MjSysSto=.5641E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08143> R0010:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08144>      ROUTE PIPE       ->     1.0 02:B7R-MN        7.19     .629 No_date   27:55   41.31  n/a     .000
08145> *   [RDT= 1.00] out<-       1.0 01:360-106A      7.19     .628 No_date   28:11   41.31  n/a     .000
08146>        [L/S/n=  167./ .100/.013]
08147>        {Vmax= 1.089:Dmax=  .665}
08148>        [Din= 1.05:Dused= 1.05]
08149> R0010:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08150>      CONTINUOUS STANDHYD   1.0 01:B6            3.29     .376 No_date   28:00   41.19 .637     .000
08151>        [XIMP=.41:TIMP=.54]
08152>        [LOSS= 2 :CN= 75.0]
08153>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08154>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
08155>        [IaRECimp=   4.00: IaRECper=   4.00]
08156>        [SMIN= 33.81: SMAX=225.43: SK= .010]
08157> R0010:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08158>      COMPUTE DUALHYD       1.0 01:B6            3.29     .376 No_date   28:00   41.19  n/a     .000
08159>        Major System   /     1.0 02:B6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08160>        Minor System   \     1.0 03:B6-MN         3.29     .064 No_date   27:36   41.22  n/a     .000
08161>        {MjSysSto=.3813E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08162> R0010:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08163>      CONTINUOUS STANDHYD   1.0 01:EX-LAND       32.50    3.367 No_date   28:02   41.86 .647     .000
08164>        [XIMP=.50:TIMP=.50]
08165>        [LOSS= 2 :CN= 74.0]
08166>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08167>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
08168>        [IaRECimp=   4.00: IaRECper=   4.00]
08169>        [SMIN= 36.67: SMAX=245.49: SK= .010]
08170> R0010:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08171>      COMPUTE DUALHYD       1.0 01:EX-LAND       32.50    3.367 No_date   28:02   41.86  n/a     .000
08172>        Major System   /     1.0 02:EX-LAND-MJ     .00     .000 No_date    0:00     .00  n/a     .000
08173>        Minor System   \     1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:55   41.99  n/a     .000
08174>        {MjSysSto=.5949E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08175> R0010:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08176>      ADD HYD               1.0 02:B7R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
08177>                      +     1.0 02:EX-LAND-MJ     .00     .000 No_date    0:00     .00  n/a     .000
08178>                      +     1.0 02:B5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08179>                      +     1.0 02:B6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
08180>                      +     1.0 02:B6-MN         3.29     .064 No_date   27:36   41.22  n/a     .000
08181>                      +     1.0 02:B4-MJ-B6       .00     .000 No_date    0:00     .00  n/a     .000
08182>                    SUM=    1.0 01:B6-B7ExMJ     3.29     .064 No_date   27:36   41.22  n/a     .000
08183> R0010:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08184>      COMPUTE DUALHYD       1.0 01:B7-B7ExMJ     3.29     .064 No_date   27:36   41.22  n/a     .000
08185>        Major System   /     1.0 02:B6R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
08186>        Minor System   \     1.0 03:B6R-MN        3.29     .064 No_date   27:36   41.22  n/a     .000
08187>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08188> R0010:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08189>      ROUTE PIPE       ->     1.0 02:MH105-B6      106.90    3.008 No_date   28:05   41.72  n/a     .000
08190>      [RDT= 1.00] out<-       1.0 01:105-106A      106.90    3.006 No_date   28:12   41.72  n/a     .000
08191>        [L/S/n=  200./ .100/.013]
08192>        {Vmax= 1.597:Dmax= 1.249}
08193>        [Din= 1.80:Dused= 1.80]
08194> R0010:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08195>      ADD HYD               1.0 02:B6R-106A      7.19     .628 No_date   28:11   41.31  n/a     .000
08196>                      +     1.0 02:105-106A     106.90    3.006 No_date   28:12   41.72  n/a     .000
08197>                      +     1.0 02:B6R-MN        3.29     .064 No_date   27:36   41.22  n/a     .000
08198>                      +     1.0 02:B6R-MJ         .00     .000 No_date    0:00     .00  n/a     .000
08199>                    SUM=    1.0 01:MH106A       117.38    3.698 No_date   28:11   41.68  n/
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08229>       reach:Total Flows at MH106
08230> R0010:C00400-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08231>     ROUTE PIPE     ->    1.0 02:MH106      119.82    3.992 No_date   28:02   41.87  n/a     .000
08232> *   [RDT= 1.00] out<-    1.0 01:106-107    119.82    3.962 No_date   28:03   41.87  n/a     .000
08233>       [L/S/n=  123./ .100/.013]
08234>       [Vmax= 1.666:Dmax= 1.530]
08235>       [Din= 1.80:Dused= 1.86]
08236> R0010:C00401-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08237>     CONTINUOUS STANDHYD   1.0 01:A10          4.14     .416 No_date   28:01   38.46 .595     .000
08238>       [XIMP=.35:TIMP=.47]
08239>       [LOSS= 2 :CN= 75.0]
08240>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08241>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
08242>       [IaRECimp=   4.00: IaRECper=    4.00]
08243>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08244> R0010:C00402-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08245>     COMPUTE DUALHYD       1.0 01:A10          4.14     .416 No_date   28:01   38.46  n/a     .000
08246>       Major System   /    1.0 02:A10-MJ        .00     .000 No_date   0:00     .00  n/a     .000
08247>       Minor System   \    1.0 03:A10-MN       4.14     .310 No_date   27:55   38.48  n/a     .000
08248>       {MjSysSto=.4172E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08249> R0010:C00403-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08250>     CONTINUOUS STANDHYD   1.0 01:A11         10.61    1.251 No_date   28:01   45.36 .701     .000
08251>       [XIMP=.53:TIMP=.62]
08252>       [LOSS= 2 :CN= 75.0]
08253>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08254>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
08255>       [IaRECimp=   4.00: IaRECper=    4.00]
08256>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08257> R0010:C00404-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08258>     COMPUTE DUALHYD       1.0 01:A11         10.61    1.251 No_date   28:01   45.36  n/a     .000
08259>       Major System   /    1.0 02:A11-MJ        .00     .000 No_date   0:00     .00  n/a     .000
08260>       Minor System   \    1.0 03:A11-MN       10.61     .993 No_date   27:56   45.38  n/a     .000
08261>       {MjSysSto=.1016E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08262> R0010:C00405-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08263>     ADD HYD               1.0 02:106-107     119.82    3.962 No_date   28:03   41.87  n/a     .000
08264>                       +   1.0 02:A10-MN        4.14     .310 No_date   27:55   38.48  n/a     .000
08265>                       +   1.0 02:A11-MN       10.61     .993 No_date   27:56   45.38  n/a     .000
08266>                     SUM=  1.0 01:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
08267> R0010:C00406-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08268>     SAVE HYD              1.0 01:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
08269>       fname :MH107.0010
08270>       remark:Total Flows at MH107
08271> R0010:C00407-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08272>     ROUTE PIPE     ->    1.0 02:MH107       134.57    5.265 No_date   28:03   42.04  n/a     .000
08273> *   [RDT= 1.00] out<-    1.0 01:107-119     134.57    5.251 No_date   28:05   42.04  n/a     .000
08274>       [L/S/n=  114./ .120/.013]
08275>       [Vmax= 1.912:Dmax= 1.640]
08276>       [Din= 1.80:Dused= 2.00]
08277> R0010:C00408-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08278>     ROUTE PIPE     ->    1.0 02:107-119     134.57    5.251 No_date   28:05   42.04  n/a     .000
08279> *   [RDT= 1.00] out<-    1.0 01:119-108     134.57    5.248 No_date   28:06   42.04  n/a     .000
08280>       [L/S/n=   66./ .120/.013]
08281>       [Vmax= 1.911:Dmax= 1.639]
08282>       [Din= 1.80:Dused= 2.00]
08283> R0010:C00409-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08284>     CONTINUOUS STANDHYD   1.0 01:A12          12.29    1.385 No_date   28:01   41.19 .637     .000
08285>       [XIMP=.41:TIMP=.54]
08286>       [LOSS= 2 :CN= 75.0]
08287>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08288>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
08289>       [IaRECimp=   4.00: IaRECper=    4.00]
08290>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08291> R0010:C00410-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08292>     COMPUTE DUALHYD       1.0 01:A12          12.29    1.385 No_date   28:01   41.19  n/a     .000
08293>       Major System   /    1.0 02:A12-MJ        .00     .000 No_date   0:00     .00  n/a     .000
08294>       Minor System   \    1.0 03:A12-MN       12.29    1.029 No_date   27:54   41.27  n/a     .000
08295>       {MjSysSto=.1401E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
08296> R0010:C00411-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08297>     CONTINUOUS STANDHYD   1.0 01:A13           2.59     .368 No_date   28:01   51.11 .790     .000
08298>       [XIMP=.71:TIMP=.71]
08299>       [LOSS= 2 :CN= 75.0]
08300>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08301>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
08302>       [IaRECimp=   4.00: IaRECper=    4.00]
08303>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08304> R0010:C00412-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08305>     COMPUTE DUALHYD       1.0 01:A13           2.59     .368 No_date   28:01   51.11  n/a     .000
08306>       Major System   /    1.0 02:A13-MJ        .00     .000 No_date   0:00     .00  n/a     .000
08307>       Minor System   \    1.0 03:A13-MN        2.59     .368 No_date   28:01   51.11  n/a     .000
08308> R0010:C00413-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08309>     CONTINUOUS STANDHYD   1.0 01:Pond-Block     2.94     .309 No_date   28:00   38.90 .601     .000
08310>       [XIMP=.41:TIMP=.41]
08311>       [LOSS= 2 :CN= 75.0]
08312>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08313>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
08314>       [IaRECimp=   4.00: IaRECper=    4.00]
08315>       [SMIN= 33.81: SMAX=225.43: SK= .010]
08316> R0010:C00414-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08317>     ADD HYD               1.0 02:119-108     134.57    5.248 No_date   28:06   42.04  n/a     .000
08318>                       +   1.0 02:A13-MN        2.59     .368 No_date   28:01   51.11  n/a     .000
08319>                       +   1.0 02:A12-MN       12.29    1.029 No_date   27:54   41.27  n/a     .000
08320>                     SUM=  1.0 01:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
08321> R0010:C00415-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08322>     SAVE HYD              1.0 01:MH108       149.45    6.598 No_date   28:04   42.14  n/a     .000
08323>       fname :MH108.0010
08324>       remark:Total Flows at MH108
08325> R0010:C00416-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08326>     ROUTE PIPE     ->    1.0 02:MH108       149.45    6.590 No_date   28:04   42.14  n/a     .000
08327> *   [RDT= 1.00] out<-    1.0 01:108-116     149.45    6.590 No_date   28:05   42.14  n/a     .000
08328>       [L/S/n=   77./ .130/.013]
08329>       [Vmax= 2.005:Dmax= 1.759]
08330>       [Din= 1.80:Dused= 2.14}
08331> R0010:C00417-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08332>     ROUTE PIPE     ->    1.0 02:108-116     149.45    6.590 No_date   28:05   42.14  n/a     .000
08333> *   [RDT= 1.00] out<-    1.0 01:116-corrig  149.45    6.577 No_date   28:06   42.14  n/a     .000
08334>       [L/S/n=   80./ .130/.013]
08335>       [Vmax= 2.084:Dmax= 1.758]
08336>       [Din= 1.80:Dused= 2.14}
08337> R0010:C00418-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08338>     ADD HYD               1.0 02:116-corrig  149.45    6.577 No_date   28:06   42.14  n/a     .000
08339>                       +   1.0 02:Pond-Block     2.94     .309 No_date   28:00   38.90  n/a     .000
08340>                     SUM=  1.0 01:Corrigan      152.39    6.779 No_date   28:05   42.08  n/a     .000
08341> R0010:C00419-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08342>     SAVE HYD              1.0 01:Corrigan    152.39    6.779 No_date   28:05   42.08  n/a     .000
08343>       fname :Corrigan.0010
08344>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
08345> R0010:C00420-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08346>     ROUTE RESERVOIR ->    1.0 02:Corrigan    152.39    6.779 No_date   28:05   42.08  n/a     .000
08347>                     out <=  1.0 01:Co-P      152.39    6.100 No_date   28:15   42.07  n/a     .000
08348>           overflow <=   1.0 03:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
08349>       {MxStoUsed=.1015E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08350> R0010:C00421-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08351>     ADD HYD               1.0 02:Co-P-OVF       .00     .000 No_date   0:00     .00  n/a     .000
08352>                       +   1.0 02:Co-P       152.39    6.100 No_date   28:15   42.07  n/a     .000
08353>                       +   1.0 02:N_TO      54837.78   85.488 No_date   37:22   23.06  n/a     .000
08354>                       +   1.0 02:MH105-JR     28.70    7.335 No_date   28:05   41.72  n/a     .000
08355>                       +   1.0 02:A8-MJ-JR       .00     .000 No_date   0:00     .00  n/a     .000
08356>                       +   1.0 02:A9-MJ          .00     .000 No_date   0:00     .00  n/a     .000
08357>                       +   1.0 02:A10-MJ         .00     .000 No_date   0:00     .00  n/a     .000
08358>                       +   1.0 02:A11-MJ         .00     .000 No_date   0:00     .00  n/a     .000
08359>                       +   1.0 02:A12-MJ         .00     .000 No_date   0:00     .00  n/a     .000
08360>                       +   1.0 02:A13-MJ         .00     .000 No_date   0:00     .00  n/a     .000
08361>                     SUM=  1.0 01:corrig    55018.86   85.837 No_date   37:21   23.12  n/a     .000
08362> R0010:C00422-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08363>     SAVE HYD              1.0 01:corrig    55018.86   85.837 No_date   37:21   23.12  n/a     .000
08364>       fname :corrig.0010
08365>       remark:Total Flows at Corrigan Pond
08366> #*************************************************************************
08367> #    Corrigan Pond 1
08368> #    - Rating curve obtained from Barrhaven South MSS modeling
08369> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
08370> #*************************************************************************
08371> #
08372> # Hydrograph from Corrigan Drain routed to Jockvale Road
08373> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
08374> #
08375> R0010:C00423-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08376>     ROUTE CHANNEL   ->    1.0 02:corrig    55018.86   85.837 No_date   37:21   23.12  n/a     .000
08377>       [RDT= 1.00] out<-   1.0 01:N_MI      55018.86   85.828 No_date   37:24   23.12  n/a     .000
08378>       [L/S/n=  580./ .445/.045]
08379>       [Vmax= 1.788:Dmax= 1.629]
08380> #*************************************************************************
08381> #    Catchment MILLS
08382> #    - To SWM Facility north of the Jock
08383> #    - Primarily residental development
08384> #*************************************************************************
08385> R0010:C00424-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08386>     CONTINUOUS STANDHYD   1.0 01:MILLS       175.99   12.212 No_date   28:07   36.76 .568     .000
08387>       [XIMP=.38:TIMP=.38]
08388>       [LOSS= 2 :CN= 74.0]
08389>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08390>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:SCI=   .0]
08391>       [IaRECimp=   4.00: IaRECper=    4.00]
08392>       [SMIN= 36.67: SMAX=244.49: SK= .010]
08393> #*************************************************************************
08394> #    Chapman Mills SWM Pond
08395> #    - Rating curve obtained from CCL hydraulic modeling
08396> #*************************************************************************
08397> R0010:C00425-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08398>     ROUTE RESERVOIR ->    1.0 02:MILLS       175.99   12.212 No_date   28:07   36.76  n/a     .000
08399>                     out <=  1.0 01:MILL_P    175.99    4.030 No_date   28:43   36.76  n/a     .000
08400>           overflow <=   1.0 03:MIL-OV          .00     .000 No_date   0:00     .00  n/a     .000
08401>       {MxStoUsed=.2299E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08402> R0010:C00426-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08403>     ADD HYD               1.0 02:N_MI    55018.86   85.820 No_date   37:24   23.12  n/a     .000
08404>                       +   1.0 02:MIL-OV        .00     .000 No_date   0:00     .00  n/a     .000
08405>                       +   1.0 02:MILL_P     175.99    4.030 No_date   28:43   36.76  n/a     .000
08406>                     SUM=  1.0 01:SN_MI     55194.85   86.233 No_date   37:23   23.16  n/a     .000
08407> R0010:C00427-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08408>     SAVE HYD              1.0 01:SN_MI     55194.85   86.233 No_date   37:23   23.16  n/a     .000
08409>       fname :SN_MI.0010
08410>       remark:Total Flows at Jockvale Road
08411> #
08412> # Hydrograph from Jockvale Road routed to Heart's Desire
08413> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
08414> #
08415> R0010:C00428-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08416>     ROUTE CHANNEL   ->    1.0 02:SN_MI     55194.85   86.233 No_date   37:23   23.16  n/a     .000
08417>       [RDT= 1.00] out<-   1.0 01:N_DE      55194.85   86.067 No_date   37:44   23.16  n/a     .000
08418>       [L/S/n=  1962./ .223/.045]
08419>       [Vmax= 1.393:Dmax= 2.071]
08420> #*************************************************************************
08421> #    Catchment DESIRE
08422> #    - To Jock River (north of the Jock)
08423> #    - Rural-estate subdivision (Heart's Desire Community)
08424> #*************************************************************************
08425> R0010:C00429-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08426>     CONTINUOUS STANDHYD   1.0 01:DESIRE         23.78    1.694 No_date   28:03   32.93 .509     .000
08427>       [XIMP=.25:TIMP=.25]
08428>       [LOSS= 2 :CN= 77.0]
08429>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08430>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
08431>       [IaRECimp=   4.00: IaRECper=    4.00]
08432>       [SMIN= 31.15: SMAX=207.66: SK= .010]
08433> #*************************************************************************
08434> #    Catchment JOCKVA
08435> #    - To Jockvale SWM Facility
08436> #    - Residential development & golf course
08437> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
08438> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
08439> #*************************************************************************
08440> R0010:C00430-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08441>     CONTINUOUS STANDHYD   1.0 01:JOCKVA       225.13   17.670 No_date   28:08   41.86 .647     .000
08442>       [XIMP=.50:TIMP=.50]
08443>       [LOSS= 2 :CN= 74.0]
08444>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
08445>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
08446>       [IaRECimp=   4.00: IaRECper=    4.00]
08447>       [SMIN= 36.67: SMAX=244.49: SK= .010]
08448> R0010:C00431-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08449>     ADD HYD               1.0 02:EX-LAND-MN     32.50    2.275 No_date   27:55   41.99  n/a     .000
08450>                       +   1.0 02:JOCKVA      225.13   17.670 No_date   28:08   41.86  n/a     .000
08451>                       +   1.0 02:B2-MJ          .00     .000 No_date   0:00     .00  n/a     .000
08452>                       +   1.0 02:B3-MJ          .00     .000 No_date   0:00     .00  n/a     .000
08453>                     SUM=  1.0 01:JOCKVA-TO   257.63   19.945 No_date   28:08   41.88  n/a     .000
08454> R0010:C00432-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08455>     SAVE HYD              1.0 01:JOCKVA-TO   257.63   19.945 No_date   28:08   41.88  n/a     .000
08456>       fname :JOCKVA-TO.0010
08457>       remark:Total Flows at KB first pond
08458> #*************************************************************************
08459> #    Jockvale SWM Facility
08460> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
08461> #*************************************************************************
08462> R0010:C00433-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08463>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO   257.63   19.945 No_date   28:08   41.88  n/a     .000
08464>                     out <=  1.0 01:JOCK_P    257.63    6.542 No_date   28:42   41.88  n/a     .000
08465>           overflow <=   1.0 03:JO-OVF          .00     .000 No_date   0:00     .00  n/a     .000
08466>       {MxStoUsed=.4673E+01  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
08467> R0010:C00434-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08468>     ADD HYD               1.0 02:N_DE     55194.85   86.067 No_date   37:44   23.16  n/a     .000
08469>                       +   1.0 02:DESIRE      23.78    1.694 No_date   28:03   32.93  n/a     .000
08470>                       +   1.0 02:JO-OVF         .00     .000 No_date   0:00     .00  n/a     .000
08471>                       +   1.0 02:JOCK_P     257.63    6.542 No_date   28:42   41.88  n/a     .000
08472>                     SUM=  1.0 01:SN_DE     55476.26   86.690 No_date   37:37   23.26  n/a     .000
08473> R0010:C00435-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08474>     SAVE HYD              1.0 01:SN_DE     55476.26   86.690 No_date   37:37   23.26  n/a     .000
08475>       fname :SN_DE.0010
08476>       remark:Total Flows at Heart's Desire
08477> #
08478> # Hydrograph from Heart's Desire routed to Rideau River
08479> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
08480> #
08481> R0010:C00436-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08482>     ROUTE CHANNEL   ->    1.0 02:SN_DE     55476.26   86.690 No_date   37:37   23.26  n/a     .000
08483>       [RDT= 1.00] out<-   1.0 01:N1        55476.26   86.683 No_date   37:44   23.25  n/a     .000
08484>       [L/S/n=  563./ .967/.045]
08485>       [Vmax= 1.709:Dmax= 1.038]
08486> #*************************************************************************
08487> #    Catchment S-2
08488> #    - To Jock River (north and south)
08489> #    - Undeveloped floodplain and river
08490> #*************************************************************************
08491> R0010:C00437-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08492>     CONTINUOUS NASHYD     1.0 01:S-2          102.94    2.957 No_date   28:20   23.57 .364     .000
08493>       [CN= 72.0: N= 3.00: Tp=  .40]
08494>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08495>       [InterEventTime=  12.00]
08496> R0010:C00438-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08497>     ADD HYD               1.0 02:N1        55476.26   86.683 No_date   37:44   23.25  n/a     .000
08498>                       +   1.0 02:S-2         102.94    2.957 No_date   28:20   23.57  n/a     .000
08499>                     SUM=  1.0 01:SN_N1     55579.20   86.846 No_date   37:44   23.26  n/a     .000
08500> R0010:C00439-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08501>     SAVE HYD              1.0 01:SN_N1     55579.20   86.846 No_date   37:44   23.26  n/a     .000
08502>       fname :SN_N1.0010
08503>       remark:Total Flows at Rideau River
08504> ##########################################################################
08505>   ** END OF RUN :  24
08506>
08507>  ************************************************************************************************************
08508>
08509>
08510>
08511>
08512>
08513>  RUN#:COMMAND#
08514> R0025:C00001-----------------------------------------------------------------------------------------------
08515>       START
08516>       [TZERO =    .00 hrs on        0]
08517>       [METOUT=   2   (1=imperial, 2=metric output)]
08518>       [NSTORM=   1 ]
08519>       [NRUN  = 0025 ]
08520> #*************************************************************************
08521> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
08522> #*************************************************************************
08523> #  Project Name: [Jock River]    Project Number: [1474-16]
08524> #  Date        : 04-03-2021
08525> #  Modeller    : [M.M.]
08526> #  Company     : JFSAinc.
08527> #  License #   : 2549237
08528> #*************************************************************************
08529> # CALIBRATION OF SUMMER MODEL PARAMETERS
08530> # USING CONTINUOUS SIMULATIONS
08531> # Rainfall data from JFSA rainguage installed at site + other gauges by the City
08532> # Use data collected from May 1st to July 14, 2003
08533> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
08534> # 2020-12-01 correct pond curve values
08535> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
08536> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"] ,NHYDin=["SN_TO"]) from 0.033 % (as per S
08537> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
08538> # ------------------------------------------------------------------------
08539> R0025:C00002-----------------------------------------------------------------------------------------------
08540>       READ STORM
08541>       Filename = storm.001
08542>       Comment  = Pluie SCS de 24 hres 1:25 ans pour Ottawa CDA
08543>       [SDT=10.00:SDUR=  24.00:PTOT=  74.39]
08544> R0025:C00003-----------------------------------------------------------------------------------------------
08545>       MODIFY STORM
08546>       [PFAC=  1.00:TSHIFT= 960.00 min]
08547>       [SDT=10.00:SDUR=  40.00:PTOT=  74.39]
08548> R0025:C00004-----------------------------------------------------------------------------------------------
08549>       DEFAULT VALUES
08550>       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
08551>       ICASEdv  = 1 (read and print data)
08552>       FileTitle= File comment: [Based onvarious calibration exercises in Onta
08553>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
08554>       Horton's infiltration equation parameters:
08555>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
08556>       Parameters for PERVIOUS surfaces in STANDHYD:
08557>       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
08558>       Parameters for IMPERVIOUS surfaces in STANDHYD:
08559>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
08560>       Parameters used in NASHYD:
08561>       [Ia=   4.67 mm] [N= 3.00]
08562>       Average monthly Pan Evaporation data in    (mm)
08563>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
08564>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
08565>       Average monthly Potential Evapotranspiration in    (mm)
08566>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
08567>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
08568> R0025:C00005-----------------------------------------------------------------------------------------------
08569>       COMPUTE API
08570>       [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
08571>       [APImax=106.76: APIavg= 65.09: APImin= 44.87]
08572> #
08573> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08574> # of 1.32
08575> R0025:C00006-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08576>     CONTINUOUS NASHYD     1.0 01:JR_HW       3680.00   15.500 No_date   36:57   25.80 .347     .000
08577>       [CN= 64.0: N= 3.00: Tp= 7.13]
08578>       [IaREC= 4.00: SMIN= 37.05: SMAX=380.32: SK= .010]
08579>       [InterEventTime=  12.00]
08580> #
08581> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08582> # of 1.32
08583> R0025:C00007-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08584>     CONTINUOUS NASHYD     1.0 01:SW_13        971.00    5.778 No_date   32:34   24.02 .323     .000
08585>       [CN= 61.0: N= 3.00: Tp= 3.76]
08586>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
08587>       [InterEventTime=  12.00]
08588> #
08589> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08590> # of 1.80
08591> R0025:C00008-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08592>     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00    7.521 No_date   39:59   20.65 .278     .000
08593>       [CN= 55.0: N= 3.00: Tp=11.33]
08594>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
08595>       [InterEventTime=  12.00]
08596> R0025:C00009-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08597>     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   14.166 No_date   32:40   31.50 .423     .000
08598>       [CN= 72.0: N= 3.00: Tp= 3.91]
08599>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08600>       [InterEventTime=  12.00]
08601> R0025:C00010-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08602>     CONTINUOUS NASHYD     1.0 01:SW_11        500.00    7.521 No_date   29:22   27.01 .363     .000
```

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08603>       [CN= 66.0: N= 3.00: Tp= 1.24]
08604>       [IaREc= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08605>       [InterEventTime=  12.00]
08606> #
08607> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08608> # of 1.80
08609> R0025:C00011-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08610>      CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   10.351 No_date   34:27   27.01 .363     .000
08611>       [CN= 66.0: N= 3.00: Tp= 5.29]
08612>       [IaREc= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08613>       [InterEventTime=  12.00]
08614> #
08615> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08616> # of 1.52
08617> R0025:C00012-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08618>      CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   27.457 No_date   37:54   31.50 .423     .000
08619>       [CN= 72.0: N= 3.00: Tp= 8.00]
08620>       [IaREc= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08621>       [InterEventTime=  12.00]
08622> #
08623> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08624> # of 1.75
08625> R0025:C00013-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08626>      CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   26.276 No_date   39:59   27.01 .363     .000
08627>       [CN= 66.0: N= 3.00: Tp=11.66]
08628>       [IaREc= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08629>       [InterEventTime=  12.00]
08630> #
08631> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08632> # of 1.68
08633> R0025:C00014-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08634>      CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   11.752 No_date   30:54   30.18 .406     .000
08635>       [CN= 70.0: N= 3.00: Tp= 2.51]
08636>       [IaREc= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
08637>       [InterEventTime=  12.00]
08638> #
08639> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08640> # of 1.82
08641> R0025:C00015-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08642>      CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   13.075 No_date   39:59   24.61 .331     .000
08643>       [CN= 62.0: N= 3.00: Tp=11.32]
08644>       [IaREc= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
08645>       [InterEventTime=  12.00]
08646> #
08647> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08648> # of 1.80
08649> R0025:C00016-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08650>      CONTINUOUS NASHYD     1.0 01:SW_8         131.00    2.266 No_date   28:57   25.20 .339     .000
08651>       [CN= 63.0: N= 3.00: Tp=  .90]
08652>       [IaREc= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
08653>       [InterEventTime=  12.00]
08654> #
08655> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08656> # of 1.65
08657> R0025:C00017-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08658>      CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   15.333 No_date   38:34   27.01 .363     .000
08659>       [CN= 66.0: N= 3.00: Tp= 8.42]
08660>       [IaREc= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
08661>       [InterEventTime=  12.00]
08662> #
08663> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08664> # of 1.82
08665> R0025:C00018-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08666>      CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   11.663 No_date   36:24   21.75 .292     .000
08667>       [CN= 57.0: N= 3.00: Tp= 6.65]
08668>       [IaREc= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
08669>       [InterEventTime=  12.00]
08670> #
08671> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08672> # of 1.75
08673> R0025:C00019-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08674>      CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.076 No_date   33:03   27.63 .371     .000
08675>       [CN= 67.0: N= 3.00: Tp= 4.18]
08676>       [IaREc= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
08677>       [InterEventTime=  12.00]
08678> #
08679> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08680> # of 1.67
08681> R0025:C00020-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08682>      CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00    7.882 No_date   35:14   31.50 .423     .000
08683>       [CN= 72.0: N= 3.00: Tp= 5.95]
08684>       [IaREc= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
08685>       [InterEventTime=  12.00]
08686> R0025:C00021-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08687>      CONTINUOUS NASHYD     1.0 01:SW_5         224.00    6.882 No_date   28:45   35.66 .479     .000
08688>       [CN= 77.0: N= 3.00: Tp=  .75]
08689>       [IaREc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08690>       [InterEventTime=  12.00]
08691> #
08692> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08693> # of 1.20
08694> R0025:C00022-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08695>      CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   37.664 No_date   33:18   32.85 .442     .000
08696>       [CN= 74.0: N= 3.00: Tp= 4.45]
08697>       [IaREc= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
08698>       [InterEventTime=  12.00]
08699> R0025:C00023-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08700>      CONTINUOUS NASHYD     1.0 01:SW_SA2        20.00     .798 No_date   28:35   39.36 .529     .000
08701>       [CN= 81.0: N= 3.00: Tp=  .62]
08702>       [IaREc= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08703>       [InterEventTime=  12.00]
08704> #
08705> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
08706> # of 1.61
08707> R0025:C00024-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08708>      CONTINUOUS NASHYD     1.0 01:SW_SA1      1412.00    7.480 No_date   37:50   34.24 .460     .000
08709>       [CN= 75.0: N= 3.00: Tp= 8.00]
08710>       [IaREc= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
08711>       [InterEventTime=  12.00]
08712> R0025:C00025-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08713>      CONTINUOUS NASHYD     1.0 01:SW_4         585.00   10.942 No_date   29:56   39.36 .529     .000
08714>       [CN= 81.0: N= 3.00: Tp= 1.75]
08715>       [IaREc= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08716>       [InterEventTime=  12.00]
08717> R0025:C00026-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08718>      CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   14.476 No_date   30:46   38.60 .519     .000
08719>       [CN= 80.0: N= 3.00: Tp= 2.46]
08720>       [IaREc= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
08721>       [InterEventTime=  12.00]
08722> R0025:C00027-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08723>      CONTINUOUS NASHYD     1.0 01:SW_2         177.00    5.438 No_date   28:45   35.66 .479     .000
08724>       [CN= 77.0: N= 3.00: Tp=  .75]
08725>       [IaREc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
08726>       [InterEventTime=  12.00]
08727> R0025:C00028-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08728>      CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   13.229 No_date   31:45   39.36 .529     .000
08729>       [CN= 81.0: N= 3.00: Tp= 3.25]
08730>       [IaREc= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
08731>       [InterEventTime=  12.00]
08732> R0025:C00029-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08733>      CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   29.508 No_date   31:30   34.94 .470     .000
08734>       [CN= 76.0: N= 3.00: Tp= 3.03]
08735>       [IaREc= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
08736>       [InterEventTime=  12.00]
08737> #
08738> # Routing hydrographs
08739> #
08740> # Starting with the addition of Jock River Headwater and Subwatershed 13
08741> #
08742> R0025:C00030-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08743>      ADD HYD               1.0 02:JR_HW       3680.00   15.500 No_date   36:56   25.80  n/a     .000
08744>                       +    1.0 02:SW_13        971.00    5.778 No_date   32:34   24.02  n/a     .000
08745>                   SUM=     1.0 01:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
08746> #
08747> # Sum of hydrographs from Node 13 routed to Node 13A
08748> # (Approximated cross-section - see cross-section 258)
08749> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08750> #
08751> R0025:C00031-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08752>      ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   19.777 No_date   35:26   25.42  n/a     .000
08753>       [RDT= 1.00] out<-    1.0 01:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
08754>        [L/S/n= 9074./ .022/.040]
08755>        {Vmax=  .548:Dmax= 3.659}
08756> #
08757> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
08758> #
08759> R0025:C00032-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08760>      ADD HYD               1.0 02:N13A        4651.00   15.935 No_date   39:17   25.42  n/a     .000
08761>                       +    1.0 02:JR_GWM      3074.00    7.521 No_date   39:59   20.65  n/a     .000
08762>                   SUM=     1.0 01:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
08763> #
08764> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
08765> #
08766> R0025:C00033-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08767>      ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   23.402 No_date   39:59   23.52  n/a     .000
08768>                        out <=    1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08769>        {MxStoUsed=.1192E+03  m3}
08770> #
08771> R0025:C00034-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08772>      SAVE HYD              1.0 01:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08773>       fname :H_RESGM
08774>       remark:Outflow from Res GM
08775> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
08776> # (Approximated cross-section - see cross-section 258)
08777> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08778> R0025:C00035-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08779>      ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.678 No_date   60:27   23.52  n/a     .000
08780>       [RDT= 1.00] out<-    1.0 01:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
08781>        [L/S/n= 5926./ .076/.040]
08782>        {Vmax=  .552:Dmax= 1.524}
08783> #
08784> # Addition of Subwatershed Jock River at Ashton to Node 12
08785> #
08786> R0025:C00036-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08787>      ADD HYD               1.0 02:N12         7725.00    3.675 No_date   63:05   23.52  n/a     .000
08788>                       +    1.0 02:JR_ASH      1781.00   14.166 No_date   32:40   31.50  n/a     .000
08789>                   SUM=     1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08790> R0025:C00037-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08791>      SAVE HYD              1.0 01:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08792>       fname :H_SN12
08793>       remark:flow at S_N12 near Ashton
08794> #
08795> # Sum of hydrographs from Node 12 routed to Node 11
08796> # (Approximated cross-section - see cross-section 258)
08797> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
08798> #
08799> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
08800> #
08801> R0025:C00038-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08802>      ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   16.182 No_date   32:43   25.02  n/a     .000
08803>       [RDT= 1.00] out<-    1.0 01:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
08804>        [L/S/n=  972./ .054/.040]
08805>        {Vmax=  .721:Dmax= 2.847}
08806> #
08807> # Addition of Subwatershed 11 and No Name Creek to Node 11
08808> #
08809> R0025:C00039-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08810>      ADD HYD               1.0 02:Dum11       9506.00   16.007 No_date   33:02   25.02  n/a     .000
08811>                       +    1.0 02:SW_11        500.00    7.521 No_date   29:22   27.01  n/a     .000
08812>                       +    1.0 02:NN_CK       1917.00   10.351 No_date   34:27   27.01  n/a     .000
08813>                   SUM=     1.0 01:S_N11       11923.00  27.908 No_date   33:04   25.42  n/a     .000
08814> #
08815> # Sum of hydrographs from Node 11 routed to Node 10
08816> # Section 1
08817> #
08818> R0025:C00040-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08819>      ROUTE CHANNEL   ->    1.0 02:S_N11       11923.00  27.908 No_date   33:04   25.42  n/a     .000
08820>       [RDT= 1.00] out<-    1.0 01:N10         11923.00  18.039 No_date   40:01   25.42  n/a     .000
08821>        [L/S/n=14628./ .157/.040]
08822>        {Vmax=  .464:Dmax= 1.329}
08823> #
08824> # Addition of Subwatershed 10 to Node 10
08825> #
08826> R0025:C00041-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08827>      ADD HYD               1.0 02:N10         11923.00  18.039 No_date   40:01   25.42  n/a     .000
08828>                       +    1.0 02:SW_10       5666.00   27.457 No_date   37:54   31.50  n/a     .000
08829>                   SUM=     1.0 01:S_N10       17589.00  45.026 No_date   38:35   27.38  n/a     .000
08830> R0025:C00042-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08831>      SAVE HYD              1.0 01:S_N10       17589.00  45.026 No_date   38:35   27.38  n/a     .000
08832>       fname :H_SN10
08833>       remark:flow at S_N10: N10 + SW_10
08834> # Addition of Kings Creek to S_N10
08835> #
08836> R0025:C00043-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08837>      ADD HYD               1.0 02:S_N10       17589.00  45.026 No_date   38:35   27.38  n/a     .000
08838>                       +    1.0 02:KG_CK        8376.00   26.276 No_date   39:59   27.01  n/a     .000
08839>                   SUM=     1.0 01:S_N10A      25965.00  70.812 No_date   39:59   27.26  n/a     .000
08840> #
08841> # Sum of hydrographs from Node 10 routed to Node 9
08842> # Section 2
08843> #
08844> R0025:C00044-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08845>      ROUTE CHANNEL   ->    1.0 02:S_N10A      25965.00  70.812 No_date   39:59   27.26  n/a     .000
08846>       [RDT= 1.00] out<-    1.0 01:N9          25965.00  69.032 No_date   39:59   27.26  n/a     .000
08847>        [L/S/n= 3982./ .075/.040]
08848>        {Vmax=  .718:Dmax= 1.889}
08849> #
08850> # Addition of Subwatershed 9 and Nichols Creek to Node 9
08851> #
08852> R0025:C00045-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08853>      ADD HYD               1.0 02:N9          25965.00  69.032 No_date   39:59   27.26  n/a     .000
08854>                       +    1.0 02:SW_9        1132.00   11.752 No_date   30:54   30.18  n/a     .000
08855>                       +    1.0 02:NC_CK       4464.00   13.075 No_date   39:59   24.61  n/a     .000
08856>                   SUM=     1.0 01:S_N9        31561.00  84.684 No_date   39:59   26.99  n/a     .000
08857> #
08858> # Sum of hydrographs from Node 9 routed to Node 8
08859> # Section 3
08860> #
08861> R0025:C00046-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08862>      ROUTE CHANNEL   ->    1.0 02:S_N9        31561.00  84.684 No_date   39:59   26.99  n/a     .000
08863>       [RDT= 1.00] out<-    1.0 01:N8          31561.00  79.245 No_date   39:59   26.99  n/a     .000
08864>        [L/S/n= 2269./ .088/.045]
08865>        {Vmax=  .363:Dmax= 1.743}
08866> #
08867> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
08868> #
08869> R0025:C00047-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08870>      ADD HYD               1.0 02:N8          31561.00  79.245 No_date   39:59   26.99  n/a     .000
08871>                       +    1.0 02:SW_8         131.00    2.266 No_date   28:57   25.20  n/a     .000
08872>                       +    1.0 02:HB_DR       3854.00   15.333 No_date   38:34   27.01  n/a     .000
08873>                   SUM=     1.0 01:S_N8        35546.00  94.597 No_date   39:59   26.99  n/a     .000
08874> #
08875> # Sum of hydrographs from Node 8 routed to Node 7
08876> # Section 4
08877> #
08878> R0025:C00048-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08879>      ROUTE CHANNEL   ->    1.0 02:S_N8        35546.00  94.597 No_date   39:59   26.99  n/a     .000
08880>       [RDT= 1.00] out<-    1.0 01:N7          35546.00  80.337 No_date   45:08   26.98  n/a     .000
08881>        [L/S/n= 3750./ .053/.070]
08882>        {Vmax=  .226:Dmax= 2.161}
08883> #
08884> # Addition of Subwatershed 7 to Node 7
08885> #
08886> R0025:C00049-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08887>      ADD HYD               1.0 02:N7          35546.00  80.337 No_date   45:08   26.98  n/a     .000
08888>                       +    1.0 02:SW_7        3197.00   11.663 No_date   36:24   21.75  n/a     .000
08889>                   SUM=     1.0 01:S_N7        38743.00  86.331 No_date   44:08   26.55  n/a     .000
08890> R0025:C00050-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08891>      SAVE HYD              1.0 01:S_N7        38743.00  86.331 No_date   44:08   26.55  n/a     .000
08892>       fname :H_SN7
08893>       remark:flow at S_N7: N7 + SW_7
08894> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
08895> # Storage area and volumes were estimated from available topo maps.
08896> # Release rate from fen was assumed to be controlled by the downstream
08897> # river cross-section for summer conditions.  It is was assumed that for up to
08898> # 0.75 m of water, the main channel of the river provided the storage.  Above
08899> # this depth, the wetland starts to signigicantly store water.
08900> #
08901> R0025:C00051-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08902>      ROUTE RESERVOIR ->    1.0 02:S_N7        38743.00  86.331 No_date   44:08   26.55  n/a     .000
08903>                        out <=    1.0 01:RES_RF      38743.00  42.032 No_date   60:05   26.55  n/a     .000
08904>        {MxStoUsed=.3671E+03  m3}
08905> R0025:C00052-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08906>      SAVE HYD              1.0 01:RES_RF      38743.00  42.032 No_date   60:05   26.55  n/a     .000
08907>       fname :H_ResRF
08908>       remark:outflow of Richmond Fen
08909> #
08910> # Sum of hydrographs from Node 7 routed to Node 6
08911> # Section 5
08912> #
08913> R0025:C00053-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08914>      ROUTE CHANNEL   ->    1.0 02:RES_RF      38743.00  42.032 No_date   60:05   26.55  n/a     .000
08915>       [RDT= 1.00] out<-    1.0 01:N6          38743.00  41.826 No_date   61:26   26.55  n/a     .000
08916>        [L/S/n= 3056./ .082/.025]
08917>        {Vmax=  .514:Dmax= 1.120}
08918> #
08919> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
08920> #
08921> R0025:C00054-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08922>      ADD HYD               1.0 02:N6          38743.00  41.826 No_date   61:26   26.55  n/a     .000
08923>                       +    1.0 02:SW_6         165.00    1.076 No_date   33:03   27.63  n/a     .000
08924>                       +    1.0 02:VG_DR       1332.00    7.882 No_date   35:14   31.50  n/a     .000
08925>                   SUM=     1.0 01:S_N6        40240.01  41.832 No_date   61:20   26.72  n/a     .000
08926> #
08927> # Sum of hydrographs from Node 6 routed to Node 5
08928> # Section 6
08929> #
08930> R0025:C00055-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08931>      ROUTE CHANNEL   ->    1.0 02:S_N6        40240.01  41.832 No_date   61:20   26.72  n/a     .000
08932>       [RDT= 1.00] out<-    1.0 01:N5          40240.01  41.717 No_date   62:14   26.72  n/a     .000
08933>        [L/S/n= 1852./ .054/.035]
08934>        {Vmax=  .444:Dmax= 1.222}
08935> #
08936> # Addition of Subwatershed 5 and Flowing Creek to Node 5
08937> #
08938> R0025:C00056-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08939>      ADD HYD               1.0 02:N5          40240.01  41.717 No_date   62:14   26.72  n/a     .000
08940>                       +    1.0 02:SW_5         224.00    6.882 No_date   28:45   35.66  n/a     .000
08941>                       +    1.0 02:FL_CK       4945.00   37.664 No_date   33:18   32.85  n/a     .000
08942>                   SUM=     1.0 01:S_N5        45409.01  62.634 No_date   34:27   27.43  n/a     .000
08943> #
08944> # Sum of hydrographs from Node 5 routed to Node 5A
08945> # Section 7
08946> #
08947> R0025:C00057-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08948>      ROUTE CHANNEL   ->    1.0 02:S_N5        45409.01  62.634 No_date   34:27   27.43  n/a     .000
08949>       [RDT= 1.00] out<-    1.0 01:N5A         45409.01  62.487 No_date   34:43   27.43  n/a     .000
08950>        [L/S/n=  556./ .090/.040]
08951>        {Vmax=  .511:Dmax= 1.222}
08952> #
08953> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
08954> #
08955> R0025:C00058-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08956>      ADD HYD               1.0 02:N5A         45409.01  62.487 No_date   34:43   27.43  n/a     .000
08957>                       +    1.0 02:SW_SA2        20.00     .798 No_date   28:35   39.36  n/a     .000
08958>                       +    1.0 02:SW_SA1      1412.00    7.480 No_date   37:50   34.24  n/a     .000
08959>                   SUM=     1.0 01:S_N5A       46841.01  69.334 No_date   35:01   27.64  n/a     .000
08960> #
08961> # Sum of hydrographs from Node 5A routed to Node 4
08962> # Section 8
08963> #
08964> R0025:C00059-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08965>      ROUTE CHANNEL   ->    1.0 02:S_N5A       46841.01  69.334 No_date   35:01   27.64  n/a     .000
08966>       [RDT= 1.00] out<-    1.0 01:N4          46841.01  66.496 No_date   36:27   27.64  n/a     .000
08967>        [L/S/n= 4630./ .043/.035]
08968>        {Vmax=  .840:Dmax= 3.530}
08969> #
08970> # Addition of Subwatershed 4 and Leamy Creek to Node 4
08971> #
08972> R0025:C00060-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08973>      ADD HYD               1.0 02:N4          46841.01  66.496 No_date   36:27   27.64  n/a     .000
08974>                       +    1.0 02:SW_4         585.00   10.942 No_date   29:56   39.36  n/a     .000
08975>                       +    1.0 02:LM_CK       1021.00   14.476 No_date   30:46   38.60  n/a     .000
08976>                   SUM=     1.0 01:S_N4        48447.00  73.819 No_date   35:41   28.02  n/a     .000
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08977> R0025:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08978>      SAVE HYD                1.0 01:S_N4       48447.00   73.819 No_date   35:41   28.02  n/a     .000
08979>        fname :S_N4.0025
08980>        remark:flow at S_N4
08981> #
08982> # Sum of hydrographs from Node 4 routed to Node 2
08983> # Section 9
08984> #
08985> R0025:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08986>      ROUTE CHANNEL   ->     1.0 02:S_N4       48447.00   73.819 No_date   35:41   28.02  n/a     .000
08987>        [RDT= 1.00] out<-     1.0 01:N2         48447.00   73.485 No_date   35:42   28.02  n/a     .000
08988>          [L/S/n= 1667./ .060/ .040]
08989>          {Vmax=  .874:Dmax= 3.570}
08990> #
08991> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
08992> #
08993> R0025:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
08994>      ADD HYD                 1.0 02:N2         48447.00   73.485 No_date   35:42   28.02  n/a     .000
08995>                            +     1.0 02:SW_2       177.00     5.438 No_date   28:45   35.66  n/a     .000
08996>                            +     1.0 02:SM_DR      1122.00   13.229 No_date   31:45   39.36  n/a     .000
08997>                            +     1.0 02:MO_DR      2737.00   29.508 No_date   31:30   34.94  n/a     .000
08998>                        SUM=      1.0 01:S_N2       52483.00  106.109 No_date   33:07   28.64  n/a     .000
08999> R0025:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09000>      SAVE HYD                1.0 01:S_N2       52483.00  106.109 No_date   33:07   28.64  n/a     .000
09001>        fname :H_SN2
09002>        remark:flow at S_N2 Jock River Gauge at Moodie Dr.
09003> #
09004> # Sum of hydrographs from Node 2 routed to Node 1
09005> # Section 10
09006> #
09007> #*************************************************************************
09008> #
09009> # Hydrograph from Node 2 routed to Node 416
09010> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
09011> #
09012> R0025:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09013>      ROUTE CHANNEL   ->     1.0 02:S_N2       52483.00  106.109 No_date   33:07   28.64  n/a     .000
09014>        [RDT= 1.00] out<-     1.0 01:N_416      52483.00  103.234 No_date   34:03   28.64  n/a     .000
09015>          [L/S/n= 2327./ .050/.055]
09016>          {Vmax=  .754:Dmax= 3.305}
09017> #*************************************************************************
09018> #    Catchment SW-1a
09019> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
09020> #    - Undeveloped agricultural land
09021> #*************************************************************************
09022> R0025:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09023>      CONTINUOUS NASHYD       1.0 01:SW_1a      536.42     5.154 No_date   31:16   30.13 .405     .000
09024>        [CN= 72.0: N= 3.00: Tp= 2.79]
09025>        [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
09026>        [InterEventTime=  12.00]
09027> R0025:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09028>      CONTINUOUS STANDHYD     1.0 01:S-1-Okeefe    44.93     6.507 No_date   28:03   57.38 .771     .000
09029>        [XIMP=.65:TIMP=.65]
09030>        [LOSS= 2 :CN= 75.8]
09031>        [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09032>        [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
09033>        [IaREC=mp=   4.00: IaRECper=   4.00]
09034>        [SMIN= 33.81: SMAX=225.43: SK= .010]
09035> R0025:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09036>      COMPUTE DUALHYD         1.0 01:S-1-Okeefe    44.93     6.507 No_date   28:03   57.38  n/a     .000
09037>        Major System   /     1.0 02:S-1-OkMJ       .00      .000 No_date    0:00     .00  n/a     .000
09038>        Minor System   \     1.0 03:S-1-OkMN     44.93     4.591 No_date   27:56   57.68  n/a     .000
09039>          {MjSysStor=.1037E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09040> R0025:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09041>      ADD HYD                 1.0 02:S-1-OkMJ       .00      .000 No_date    0:00     .00  n/a     .000
09042>                            +     1.0 02:S-1-OkMN     44.93     4.591 No_date   27:56   57.68  n/a     .000
09043>                        SUM=      1.0 01:S-1-OkS      44.93     4.591 No_date   27:56   57.68  n/a     .000
09044> R0025:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09045>      ROUTE RESERVOIR ->      1.0 02:S-1-OkS      44.93     4.591 No_date   27:56   57.68  n/a     .000
09046>                        out <=    1.0 01:S-1-OkSR     44.93      .467 No_date   29:26   57.68  n/a     .000
09047>                    overflow <=   1.0 03:S-1-OkSovf      .00      .000 No_date    0:00     .00  n/a     .000
09048>        {MxStoUsed=.1559E+01 m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOf=    0.hrs}
09049> R0025:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09050>      ADD HYD                 1.0 02:N_416      52483.00  103.234 No_date   34:03   28.64  n/a     .000
09051>                            +     1.0 02:SW_1a      536.42     5.154 No_date   31:16   30.13  n/a     .000
09052>                            +     1.0 02:S-1-OkSR     44.93      .467 No_date   29:26   57.68  n/a     .000
09053>                            +     1.0 02:S-1-OkSovf     .00      .000 No_date    0:00     .00  n/a     .000
09054>                        SUM=      1.0 01:SN_416     53064.36  107.436 No_date   33:26   28.68  n/a     .000
09055> R0025:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09056>      SAVE HYD                1.0 01:SN_416     53064.36  107.436 No_date   33:26   28.68  n/a     .000
09057>        fname :SN_416.0025
09058>        remark:Total Flows at Highway 416 before Station 7245
09059> #
09060> # Hydrograph from Node 416 routed to Node at Okeefe drain
09061> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
09062> #
09063> R0025:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09064>      ROUTE CHANNEL   ->     1.0 02:SN_416     53064.36  107.436 No_date   33:26   28.68  n/a     .000
09065>        [RDT= 1.00] out<-     1.0 01:N_OK       53064.36  107.360 No_date   33:27   28.68  n/a     .000
09066>          [L/S/n=  497./ .302/.055]
09067>          {Vmax= 1.569:Dmax= 2.814}
09068> #*************************************************************************
09069> #    Catchment OKEEFE
09070> #    - To O'Keefe drain (north of the Jock)
09071> #    - Developed with assumed 45% imp
09072> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
09073> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
09074> #*************************************************************************
09075> R0025:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09076>      CONTINUOUS NASHYD       1.0 01:O-1        63.72      .937 No_date   28:58   22.21 .299     .000
09077>        [CN= 61.0: N= 3.00: Tp=  .99]
09078>        [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
09079>        [InterEventTime=  12.00]
09080> R0025:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09081>      ROUTE CHANNEL   ->     1.0 02:O-1        63.72      .937 No_date   28:58   22.21  n/a     .000
09082>        [RDT= 1.00] out<-     1.0 01:O-1R       63.72      .877 No_date   29:15   22.21  n/a     .000
09083>          [L/S/n=  960./ .630/.040]
09084>          {Vmax=  .829:Dmax=  .398}
09085> R0025:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09086>      CONTINUOUS NASHYD       1.0 01:O-2        28.61      .330 No_date   29:13   20.55 .276     .000
09087>        [CN= 57.0: N= 3.00: Tp= 1.10]
09088>        [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
09089>        [InterEventTime=  12.00]
09090> R0025:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09091>      CONTINUOUS NASHYD       1.0 01:O-4        46.94      .426 No_date   29:00   15.62 .210     .000
09092>        [CN= 49.0: N= 3.00: Tp=  .90]
09093>        [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
09094>        [InterEventTime=  12.00]
09095> R0025:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09096>      ADD HYD                 1.0 02:O-1R       63.72      .877 No_date   29:15   22.21  n/a     .000
09097>                            +     1.0 02:O-2        28.61      .330 No_date   29:13   20.55  n/a     .000
09098>                            +     1.0 02:O-4        46.94      .426 No_date   29:00   15.62  n/a     .000
09099>                        SUM=      1.0 01:OKF-N     139.27     1.623 No_date   29:11   19.65  n/a     .000
09100> R0025:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09101>      ROUTE CHANNEL   ->     1.0 02:OKF-N      139.27     1.623 No_date   29:11   19.65  n/a     .000
09102>        [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27     1.620 No_date   29:14   19.65  n/a     .000
09103>          [L/S/n=  210./ .810/.043]
09104>          {Vmax=  .998:Dmax=  .685}
09105> R0025:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09106>      CONTINUOUS NASHYD       1.0 01:O-6        16.46      .143 No_date   28:45   13.49 .181     .000
09107>        [CN= 43.0: N= 3.00: Tp=  .70]
09108>        [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
09109>        [InterEventTime=  12.00]
09110> R0025:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09111>      CONTINUOUS STANDHYD     1.0 01:O-3        39.67     1.013 No_date   28:23   24.45 .329     .000
09112>        [XIMP=.15:TIMP=.30]
09113>        [LOSS= 2 :CN= 50.0]
09114>        [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
09115>        [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
09116>        [IaREC=mp=   4.00: IaRECper=   4.00]
09117>        [SMIN= 99.77: SMAX=665.12: SK= .010]
09118> R0025:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09119>      CONTINUOUS STANDHYD     1.0 01:O-5        60.63     2.500 No_date   28:10   28.05 .377     .000
09120>        [XIMP=.13:TIMP=.26]
09121>        [LOSS= 2 :CN= 61.0]
09122>        [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
09123>        [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
09124>        [IaREC=mp=   4.00: IaRECper=   4.00]
09125>        [SMIN= 64.50: SMAX=430.01: SK= .010]
09126> R0025:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09127>      ADD HYD                 1.0 02:OKF-NR     139.27     1.620 No_date   29:14   19.65  n/a     .000
09128>                            +     1.0 02:O-3        39.67     1.013 No_date   28:23   24.45  n/a     .000
09129>                            +     1.0 02:O-5        60.63     2.500 No_date   28:10   28.05  n/a     .000
09130>                            +     1.0 02:O-6        16.46      .143 No_date   28:45   13.49  n/a     .000
09131>                        SUM=      1.0 01:PT1        256.03    4.071 No_date   28:22   21.98  n/a     .000
09132> R0025:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09133>      CONTINUOUS NASHYD       1.0 01:O-7         5.28      .078 No_date   28:37   18.08 .243     .000
09134>        [CN= 54.0: N= 3.00: Tp=  .60]
09135>        [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
09136>        [InterEventTime=  12.00]
09137> R0025:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09138>      ADD HYD                 1.0 02:PT1        256.03    4.071 No_date   28:22   21.98  n/a     .000
09139>                            +     1.0 02:O-7         5.28      .078 No_date   28:37   18.08  n/a     .000
09140>                        SUM=      1.0 01:FF         261.31    4.141 No_date   28:22   21.91  n/a     .000
09141> R0025:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09142>      ROUTE CHANNEL   ->     1.0 02:FF         261.31    4.141 No_date   28:22   21.91  n/a     .000
09143>        [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31    4.014 No_date   28:28   21.91  n/a     .000
09144>          [L/S/n=  302./1.000/.043]
09145>          {Vmax=  .793:Dmax=  .719}
09146> R0025:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09147>      CONTINUOUS NASHYD       1.0 01:D1          1.17      .078 No_date   28:12   37.38 .502     .000
09148>        [CN= 84.0: N= 3.00: Tp=  .28]
09149>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
09150>        [InterEventTime=  12.00]
09151> R0025:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09152>      CONTINUOUS STANDHYD     1.0 01:A1         2.50      .464 No_date   28:01   58.43 .785     .000
09153>        [XIMP=.68:TIMP=.85]
09154>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09155>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09156>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
09157>        [IaREC=mp=   4.00: IaRECper=   4.00]
09158> R0025:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09159>      ROUTE RESERVOIR ->      1.0 02:A1         2.50      .464 No_date   28:01   58.43  n/a     .000
09160>                        out <=    1.0 01:A1-STR     2.50      .117 No_date   28:22   58.43  n/a     .000
09161>                    overflow <=   1.0 03:A1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
09162>        {MxStoUsed=.6660E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOf=    0.hrs}
09163> R0025:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09164>      CONTINUOUS STANDHYD     1.0 01:ST-2           .59      .091 No_date   28:00   45.54 .612     .000
09165>        [XIMP=.46:TIMP=.57]
09166>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09167>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09168>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
09169>        [IaREC=mp=   4.00: IaRECper=   4.00]
09170> R0025:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09171>      ROUTE RESERVOIR ->      1.0 02:ST-2           .59      .091 No_date   28:00   45.54  n/a     .000
09172>                        out <=    1.0 01:ST2STR         .59      .052 No_date   28:07   45.54  n/a     .000
09173>                    overflow <=   1.0 03:ST2OVF         .00      .000 No_date    0:00     .00  n/a     .000
09174>        {MxStoUsed=.2899E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09175> R0025:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09176>      CONTINUOUS NASHYD       1.0 01:O-8        60.55     1.147 No_date   29:04   28.63 .385     .000
09177>        [CN= 69.0: N= 3.00: Tp= 1.00]
09178>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
09179>        [InterEventTime=  12.00]
09180> R0025:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09181>      ROUTE PIPE      ->      1.0 02:O-8        60.55     1.147 No_date   29:04   28.63  n/a     .000
09182>        [RDT= 1.00] out<-     1.0 01:O8PIPE     60.55     1.141 No_date   29:08   28.63  n/a     .000
09183>          [L/S/n=  335./ .100/.013]
09184>          {Vmax= 1.178:Dmax=  .516}
09185>          {HGT= 1.20:WDTH= 1.80}
09186> R0025:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09187>      ADD HYD                 1.0 02:DRAIN1     261.31    4.014 No_date   28:28   21.91  n/a     .000
09188>                            +     1.0 02:D1         1.17      .078 No_date   28:12   37.38  n/a     .000
09189>                            +     1.0 02:A1-STR     2.50      .117 No_date   28:22   58.43  n/a     .000
09190>                            +     1.0 02:A1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
09191>                            +     1.0 02:ST2STR       .59      .052 No_date   28:07   45.54  n/a     .000
09192>                            +     1.0 02:ST2OVF       .00      .000 No_date    0:00     .00  n/a     .000
09193>                            +     1.0 02:O8PIPE     60.55     1.141 No_date   29:08   28.63  n/a     .000
09194>                        SUM=      1.0 01:ST2-IN     326.12    5.017 No_date   28:36   23.53  n/a     .000
09195> R0025:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09196>      CONTINUOUS STANDHYD     1.0 01:A7         3.51      .635 No_date   28:01   58.43 .785     .000
09197>        [XIMP=.68:TIMP=.85]
09198>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09199>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09200>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
09201>        [IaREC=mp=   4.00: IaRECper=   4.00]
09202> R0025:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09203>      ROUTE RESERVOIR ->      1.0 02:A7         3.51      .635 No_date   28:01   58.43  n/a     .000
09204>                        out <=    1.0 01:A7-STR     3.51      .164 No_date   28:23   58.43  n/a     .000
09205>                    overflow <=   1.0 03:A7-OVF       .00      .000 No_date    0:00     .00  n/a     .000
09206>        {MxStoUsed=.9358E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09207> R0025:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09208>      CONTINUOUS STANDHYD     1.0 01:ST-3           .71      .108 No_date   28:00   45.54 .612     .000
09209>        [XIMP=.46:TIMP=.57]
09210>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09211>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09212>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
09213>        [IaREC=mp=   4.00: IaRECper=   4.00]
09214> R0025:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09215>      ROUTE RESERVOIR ->      1.0 02:ST-3           .71      .108 No_date   28:00   45.54  n/a     .000
09216>                        out <=    1.0 01:ST3STR         .71      .063 No_date   28:08   45.54  n/a     .000
09217>                    overflow <=   1.0 03:ST3OVF         .00      .000 No_date    0:00     .00  n/a     .000
09218>        {MxStoUsed=.3355E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09219> R0025:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09220>      ADD HYD                 1.0 02:ST2-IN     326.12    5.017 No_date   28:36   23.53  n/a     .000
09221>                            +     1.0 02:A7-STR     3.51      .164 No_date   28:23   58.43  n/a     .000
09222>                            +     1.0 02:A7-OVF       .00      .000 No_date    0:00     .00  n/a     .000
09223>                            +     1.0 02:ST3STR       .71      .063 No_date   28:08   45.54  n/a     .000
09224>                            +     1.0 02:ST3OVF       .00      .000 No_date    0:00     .00  n/a     .000
09225>                        SUM=      1.0 01:PT2ST3     330.34    5.204 No_date   28:28   23.95  n/a     .000
09226> R0025:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09227>      ROUTE CHANNEL   ->      1.0 02:PT2ST3     330.34    5.204 No_date   28:28   23.95  n/a     .000
09228>        [RDT= 1.00] out<-     1.0 01:DRAIN2     330.34    4.806 No_date   29:00   23.95  n/a     .000
09229>          [L/S/n=  592./ .230/.043]
09230>          {Vmax=  .581:Dmax= 1.088}
09231> R0025:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09232>      CONTINUOUS NASHYD       1.0 01:D2         2.28      .062 No_date   29:03   37.38 .502     .000
09233>        [CN= 84.0: N= 3.00: Tp=  .99]
09234>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
09235>        [InterEventTime=  12.00]
09236> R0025:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09237>      CONTINUOUS STANDHYD     1.0 01:A17       12.04     1.933 No_date   28:03   58.43 .785     .000
09238>        [XIMP=.68:TIMP=.85]
09239>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09240>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09241>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
09242>        [IaREC=mp=   4.00: IaRECper=   4.00]
09243> R0025:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09244>      ROUTE RESERVOIR ->      1.0 02:A17       12.04     1.933 No_date   28:03   58.43  n/a     .000
09245>                        out <=    1.0 01:A17STR     12.04      .553 No_date   28:29   58.43  n/a     .000
09246>                    overflow <=   1.0 03:A17OVF       .00      .000 No_date    0:00     .00  n/a     .000
09247>        {MxStoUsed=.3155E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09248> R0025:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09249>      CONTINUOUS STANDHYD     1.0 01:ST-4           .35      .055 No_date   28:00   45.54 .612     .000
09250>        [XIMP=.46:TIMP=.57]
09251>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09252>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09253>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
09254>        [IaREC=mp=   4.00: IaRECper=   4.00]
09255> R0025:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09256>      ROUTE RESERVOIR ->      1.0 02:ST-4           .35      .055 No_date   28:00   45.54  n/a     .000
09257>                        out <=    1.0 01:ST4STR         .35      .031 No_date   28:07   45.54  n/a     .000
09258>                    overflow <=   1.0 03:ST4OVF         .00      .000 No_date    0:00     .00  n/a     .000
09259>        {MxStoUsed=.2092E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09260> R0025:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09261>      CONTINUOUS STANDHYD     1.0 01:A18        5.30      .922 No_date   28:02   58.43 .785     .000
09262>        [XIMP=.68:TIMP=.85]
09263>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09264>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09265>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
09266>        [IaREC=mp=   4.00: IaRECper=   4.00]
09267> R0025:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09268>      ROUTE RESERVOIR ->      1.0 02:A18        5.30      .922 No_date   28:02   58.43  n/a     .000
09269>                        out <=    1.0 01:A18STR     5.30      .247 No_date   28:25   58.43  n/a     .000
09270>                    overflow <=   1.0 03:A18OVF       .00      .000 No_date    0:00     .00  n/a     .000
09271>        {MxStoUsed=.1408E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09272> R0025:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09273>      ADD HYD                 1.0 02:DRAIN2     330.34    4.806 No_date   29:00   23.95  n/a     .000
09274>                            +     1.0 02:D2         2.28      .062 No_date   29:03   37.38  n/a     .000
09275>                            +     1.0 02:A17STR     12.04     .553 No_date   28:29   58.43  n/a     .000
09276>                            +     1.0 02:A17OVF       .00      .000 No_date    0:00     .00  n/a     .000
09277>                            +     1.0 02:ST4STR       .35      .031 No_date   28:07   45.54  n/a     .000
09278>                            +     1.0 02:ST4OVF       .00      .000 No_date    0:00     .00  n/a     .000
09279>                            +     1.0 02:A18STR     5.30      .247 No_date   28:25   58.43  n/a     .000
09280>                            +     1.0 02:A18OVF       .00      .000 No_date    0:00     .00  n/a     .000
09281>                        SUM=      1.0 01:PT3ST4     350.31    5.557 No_date   28:56   25.77  n/a     .000
09282> R0025:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09283>      ROUTE CHANNEL   ->      1.0 02:PT3ST4     350.31    5.557 No_date   28:56   25.77  n/a     .000
09284>        [RDT= 1.00] out<-     1.0 01:DRAIN3     350.31    5.293 No_date   29:13   25.77  n/a     .000
09285>          [L/S/n=  525./ .230/.043]
09286>          {Vmax=  .603:Dmax= 1.137}
09287> R0025:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09288>      CONTINUOUS NASHYD       1.0 01:D3         2.51      .095 No_date   28:43   40.67 .547     .000
09289>        [CN= 86.0: N= 3.00: Tp=  .73]
09290>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
09291>        [InterEventTime=  12.00]
09292> R0025:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09293>      CONTINUOUS STANDHYD     1.0 01:C1         3.41      .618 No_date   28:01   58.43 .785     .000
09294>        [XIMP=.68:TIMP=.85]
09295>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09296>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09297>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
09298>        [IaREC=mp=   4.00: IaRECper=   4.00]
09299> R0025:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09300>      ROUTE RESERVOIR ->      1.0 02:C1         3.41      .618 No_date   28:01   58.43  n/a     .000
09301>                        out <=    1.0 01:C1-STR     3.41      .159 No_date   28:23   58.43  n/a     .000
09302>                    overflow <=   1.0 03:C1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
09303>        {MxStoUsed=.9080E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09304> R0025:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09305>      CONTINUOUS STANDHYD     1.0 01:ST-5           .45      .071 No_date   28:00   45.54 .612     .000
09306>        [XIMP=.46:TIMP=.57]
09307>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09308>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
09309>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
09310>        [IaREC=mp=   4.00: IaRECper=   4.00]
09311> R0025:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09312>      ROUTE RESERVOIR ->      1.0 02:ST-5           .45      .071 No_date   28:00   45.54  n/a     .000
09313>                        out <=    1.0 01:ST5STR         .45      .040 No_date   28:07   45.54  n/a     .000
09314>                    overflow <=   1.0 03:ST5OVF         .00      .000 No_date    0:00     .00  n/a     .000
09315>        {MxStoUsed=.2455E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09316> R0025:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09317>      ADD HYD                 1.0 02:DRAIN3     350.31    5.293 No_date   29:13   25.77  n/a     .000
09318>                            +     1.0 02:D3         2.51      .095 No_date   28:43   40.67  n/a     .000
09319>                            +     1.0 02:C1-STR     3.41      .159 No_date   28:23   58.43  n/a     .000
09320>                            +     1.0 02:C1-OVF       .00      .000 No_date    0:00     .00  n/a     .000
09321>                            +     1.0 02:ST5STR       .45      .040 No_date   28:07   45.54  n/a     .000
09322>                            +     1.0 02:ST5OVF       .00      .000 No_date    0:00     .00  n/a     .000
09323>                        SUM=      1.0 01:ST5-E      356.68    5.480 No_date   29:11   26.21  n/a     .000
09324> R0025:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09325>      CONTINUOUS STANDHYD     1.0 01:STRAND         7.59      .918 No_date   28:10   57.02 .767     .000
09326>        [XIMP=.64:TIMP=.85]
09327>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
09328>        [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
09329>        [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
09330>        [IaREC=mp=   4.00: IaRECper=   4.00]
09331> R0025:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFc
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09351>       [IaREClmp=   4.00: IaRECper=   4.00]
09352> R0025:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09353>       SAVE HYD              1.0 01:Area-A       66.75    7.879 No_date   28:09   56.06  n/a     .000
09354>         fname :Area-A.0025
09355>         remark:SMWF-A Inflow
09356> R0025:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09357>       ROUTE RESERVOIR ->    1.0 02:Area-A       66.75    7.879 No_date   28:09   56.06  n/a     .000
09358>                   out <=    1.0 01:SWMF-A       66.75     .788 No_date   29:28   56.05  n/a     .000
09359>              overflow <=    1.0 03:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
09360>      {MxStoUsed=.2643E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09361> R0025:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09362>       SAVE HYD              1.0 01:SWMF-A       66.75     .788 No_date   29:28   56.05  n/a     .000
09363>         fname :SWMF-A.0025
09364>         remark:SMWF-A Outflow
09365> R0025:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09366>       ADD HYD               1.0 02:SSAOUT      364.27    5.589 No_date   29:11   26.85  n/a     .000
09367>                         +   1.0 02:SWMF-A       66.75     .788 No_date   29:28   56.05  n/a     .000
09368>                         +   1.0 02:SWMAOV        .00     .000 No_date    0:00     .00  n/a     .000
09369>                       SUM=  1.0 01:PT4ST5       431.02    6.356 No_date   29:13   31.37  n/a     .000
09370> R0025:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09371>       CONTINUOUS STANDHYD   1.0 01:C6           1.87     .354 No_date   28:01   58.43 .785     .000
09372>         [XIMP=.68:TIMP=.85]
09373>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09374>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
09375>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 193.:MNI=.013:SCI=   .0]
09376>         [IaREClmp=   4.00: IaRECper=   4.00]
09377> R0025:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09378>       ROUTE RESERVOIR ->    1.0 02:C6           1.87     .354 No_date   28:01   58.43  n/a     .000
09379>                   out <=    1.0 01:C6-STR       1.87     .009 No_date   28:21   58.43  n/a     .000
09380>              overflow <=    1.0 03:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
09381>      {MxStoUsed=.5013E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09382> R0025:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09383>       CONTINUOUS STANDHYD   1.0 01:C7           1.62     .309 No_date   28:01   58.43 .785     .000
09384>         [XIMP=.68:TIMP=.85]
09385>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09386>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
09387>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 180.:MNI=.013:SCI=   .0]
09388>         [IaREClmp=   4.00: IaRECper=   4.00]
09389> R0025:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09390>       ROUTE RESERVOIR ->    1.0 02:C7           1.62     .309 No_date   28:01   58.43  n/a     .000
09391>                   out <=    1.0 01:C7-STR       1.62     .077 No_date   28:21   58.43  n/a     .000
09392>              overflow <=    1.0 03:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
09393>      {MxStoUsed=.4331E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09394> R0025:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09395>       CONTINUOUS STANDHYD   1.0 01:ST-6          .41     .065 No_date   28:00   45.54 .612     .000
09396>         [XIMP=.46:TIMP=.57]
09397>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09398>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  50.:MNP=.250:SCP=   .0]
09399>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=  91.:MNI=.013:SCI=   .0]
09400>         [IaREClmp=   4.00: IaRECper=   4.00]
09401> R0025:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09402>       ROUTE RESERVOIR ->    1.0 02:ST-6          .41     .065 No_date   28:00   45.54  n/a     .000
09403>                   out <=    1.0 01:ST6STR        .41     .036 No_date   28:07   45.54  n/a     .000
09404>              overflow <=    1.0 03:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
09405>      {MxStoUsed=.2350E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09406> R0025:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09407>       ADD HYD               1.0 02:PT4ST5       431.02    6.356 No_date   29:13   31.37  n/a     .000
09408>                         +   1.0 02:C6-STR       1.87     .089 No_date   28:21   58.43  n/a     .000
09409>                         +   1.0 02:C6-OVF        .00     .000 No_date    0:00     .00  n/a     .000
09410>                         +   1.0 02:C7-STR       1.62     .077 No_date   28:21   58.43  n/a     .000
09411>                         +   1.0 02:C7-OVF        .00     .000 No_date    0:00     .00  n/a     .000
09412>                         +   1.0 02:ST6STR        .41     .036 No_date   28:07   45.54  n/a     .000
09413>                         +   1.0 02:ST6OVF        .00     .000 No_date    0:00     .00  n/a     .000
09414>                       SUM=  1.0 01:PT5ST6       434.92    6.464 No_date   29:12   31.60  n/a     .000
09415> R0025:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09416>       ROUTE CHANNEL    ->    1.0 02:PT5ST6       434.92    6.464 No_date   29:12   31.60  n/a     .000
09417>        [RDT= 1.00] out<-    1.0 01:DRAIN4       434.92    6.229 No_date   29:21   31.60  n/a     .000
09418>         [L/S/n=  324./ .100/.043]
09419>         [Vmax=  .475:Dmax= 1.440]
09420> R0025:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09421>       CONTINUOUS NASHYD     1.0 01:D4           1.73     .082 No_date   28:34   43.34 .583     .000
09422>         [CN= 88.0: N= 3.00: Tp=  .60]
09423>         [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
09424>         [InterEventTime=  12.00]
09425> R0025:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09426>       CONTINUOUS STANDHYD   1.0 01:Area-B       24.04    3.916 No_date   28:03   54.85 .737     .000
09427>         [XIMP=.62:TIMP=.77]
09428>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
09429>         [Pervious    area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
09430>         [Impervious  area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
09431>         [IaREClmp=   4.00: IaRECper=   4.00]
09432> R0025:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09433>       ROUTE RESERVOIR ->    1.0 02:Area-B       24.04    3.916 No_date   28:03   54.85  n/a     .000
09434>                   out <=    1.0 01:SWMF-B       24.04     .492 No_date   28:44   54.85  n/a     .000
09435>              overflow <=    1.0 03:SWMBOVF       .00     .000 No_date    0:00     .00  n/a     .000
09436>      {MxStoUsed=.8178E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09437> R0025:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09438>       ADD HYD               1.0 02:DRAIN4       434.92    6.229 No_date   29:21   31.60  n/a     .000
09439>                         +   1.0 02:D4          1.73     .082 No_date   28:34   43.34  n/a     .000
09440>                         +   1.0 02:SWMF-B       24.04     .492 No_date   28:44   54.85  n/a     .000
09441>                         +   1.0 02:SWMBOVF       .00     .000 No_date    0:00     .00  n/a     .000
09442>                       SUM=  1.0 01:D4-EX        460.69    6.717 No_date   29:21   32.86  n/a     .000
09443> R0025:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09444>       ROUTE CHANNEL    ->    1.0 02:D4-EX        460.69    6.717 No_date   29:21   32.86  n/a     .000
09445>        [RDT= 1.00] out<-    1.0 01:DRAIN5       460.69    6.598 No_date   29:35   32.86  n/a     .000
09446>         [L/S/n=  413./ .160/.033]
09447>         [Vmax=  .641:Dmax=  .984]
09448> R0025:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09449>       CONTINUOUS NASHYD     1.0 01:D5           1.90     .075 No_date   28:41   40.67 .547     .000
09450>         [CN= 86.0: N= 3.00: Tp=  .69]
09451>         [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
09452>         [InterEventTime=  12.00]
09453> R0025:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09454>       CONTINUOUS NASHYD     1.0 01:O-13SDF      9.74     .487 No_date   28:22   38.23 .514     .000
09455>         [CN= 81.0: N= 3.00: Tp=  .43]
09456>         [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
09457>         [InterEventTime=  12.00]
09458> R0025:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09459>       ROUTE RESERVOIR ->    1.0 02:O-13SDF      9.74     .487 No_date   28:22   38.23  n/a     .000
09460>                   out <=    1.0 01:SDF          9.74     .052 No_date   31:01   38.23  n/a     .000
09461>              overflow <=    1.0 03:OVFSDF        .00     .000 No_date    0:00     .00  n/a     .000
09462>      {MxStoUsed=.2061E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09463> R0025:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09464>       ADD HYD               1.0 02:DRAIN5       460.69    6.598 No_date   29:35   32.86  n/a     .000
09465>                         +   1.0 02:D5          1.90     .075 No_date   28:41   40.67  n/a     .000
09466>                         +   1.0 02:SDF          9.74     .052 No_date   31:01   38.23  n/a     .000
09467>                       SUM=  1.0 01:PT6MC       472.33    6.689 No_date   29:35   33.00  n/a     .000
09468> R0025:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09469>       CONTINUOUS NASHYD     1.0 01:O-15          10.67     .668 No_date   28:13   37.06 .498     .000
09470>         [CN= 82.0: N= 3.00: Tp=  .30]
09471>         [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
09472>         [InterEventTime=  12.00]
09473> R0025:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09474>       ADD HYD               1.0 02:PT6MC       472.33    6.689 No_date   29:35   33.00  n/a     .000
09475>                         +   1.0 02:O-15         10.67     .668 No_date   28:13   37.06  n/a     .000
09476>                       SUM=  1.0 01:M-C         483.00    6.790 No_date   29:34   33.09  n/a     .000
09477> R0025:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09478>       ROUTE CHANNEL    ->    1.0 01:M-C          483.00    6.790 No_date   29:34   33.09  n/a     .000
09479>        [RDT= 1.00] out<-    1.0 01:O-14Ch       483.00    6.173 No_date   30:10   33.09  n/a     .000
09480>         [L/S/n=  845./ .100/.033]
09481>         [Vmax=  .552:Dmax= 1.692]
09482> R0025:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09483>       CONTINUOUS NASHYD     1.0 01:O-14          5.00     .516 No_date   28:04   37.06 .498     .000
09484>         [CN= 82.0: N= 3.00: Tp=  .13]
09485>         [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
09486>         [InterEventTime=  12.00]
09487> R0025:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09488>       ADD HYD               1.0 02:O-14Ch       483.00    6.173 No_date   30:10   33.09  n/a     .000
09489>                         +   1.0 02:O-14         5.00     .516 No_date   28:04   37.06  n/a     .000
09490>                       SUM=  1.0 01:OKEEFE      488.00    6.203 No_date   30:09   33.13  n/a     .000
09491> #*************************************************************************
09492> #    Okeefe Pond
09493> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
09494> #      and a ratio of the catchment area to the West Clarke pond rating curve
09495> #      from the MSS for the next coordinates
09496> #*************************************************************************
09497> R0025:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09498>       CONTINUOUS STANDHYD   1.0 01:S-1-D2        18.67    2.960 No_date   28:01   57.38 .771     .000
09499>         [XIMP=.65:TIMP=.65]
09500>         [LOSS= 2 :CN= 75.0]
09501>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09502>         [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 353.:MNI=.013:SCI=   .0]
09503>         [IaREClmp=   4.00: IaRECper=   4.00]
09504>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
09505> R0025:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09506>       COMPUTE DUALHYD       1.0 01:S-1-D2        18.67    2.960 No_date   28:01   57.38  n/a     .000
09507>         Major System   /    1.0 02:S-1-D2J        .00     .000 No_date    0:00     .00  n/a     .000
09508>         Minor System   \    1.0 02:S-1-D2N      18.67    2.097 No_date   27:55   57.70  n/a     .000
09509>         {MjSysSto=.4055E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09510> R0025:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09511>       ADD HYD               1.0 02:S-1-D2J        .00     .000 No_date    0:00     .00  n/a     .000
09512>                         +   1.0 02:S-1-D2N      18.67    2.097 No_date   27:55   57.70  n/a     .000
09513>                       SUM=  1.0 01:S-1-D2S      18.67    2.097 No_date   27:55   57.70  n/a     .000
09514> R0025:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09515>       ROUTE RESERVOIR ->    1.0 02:S-1-D2S      18.67    2.097 No_date   27:55   57.70  n/a     .000
09516>                   out <=    1.0 01:S-1-D2R      18.67     .194 No_date   29:20   57.70  n/a     .000
09517>              overflow <=    1.0 03:S-1-D2Rovf     .00     .000 No_date    0:00     .00  n/a     .000
09518>      {MxStoUsed=.6483E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09519> R0025:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09520>       CONTINUOUS STANDHYD   1.0 01:S-1-D3         6.79    1.150 No_date   28:01   57.38 .771     .000
09521>         [XIMP=.65:TIMP=.65]
09522>         [LOSS= 2 :CN= 75.0]
09523>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09524>         [Impervious  area: IAimp= 1.57:SLPI=  .75:LGI= 213.:MNI=.013:SCI=   .0]
09525>         [IaREClmp=   4.00: IaRECper=   4.00]
09526>         [SMIN= 33.81: SMAX=225.43: SK=  .010]
09527> R0025:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09528>       COMPUTE DUALHYD       1.0 01:S-1-D3         6.79    1.150 No_date   28:01   57.38  n/a     .000
09529>         Major System   /    1.0 02:S-1-D3J        .00     .000 No_date    0:00     .00  n/a     .000
09530>         Minor System   \    1.0 03:S-1-D3N        6.79     .831 No_date   27:54   57.61  n/a     .000
09531>         {MjSysSto=.1361E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09532> R0025:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09533>       ADD HYD               1.0 02:S-1-D3J        .00     .000 No_date    0:00     .00  n/a     .000
09534>                         +   1.0 02:S-1-D3N        6.79     .831 No_date   27:54   57.61  n/a     .000
09535>                       SUM=  1.0 01:S-1-D3S        6.79     .831 No_date   27:54   57.61  n/a     .000
09536> R0025:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09537>       ROUTE RESERVOIR ->    1.0 02:S-1-D3S        6.79     .831 No_date   27:54   57.61  n/a     .000
09538>                   out <=    1.0 01:S-1-D3R        6.79     .070 No_date   29:16   57.61  n/a     .000
09539>              overflow <=    1.0 03:S-1-D3Rovf     .00     .000 No_date    0:00     .00  n/a     .000
09540>      {MxStoUsed=.2353E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09541> R0025:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09542>       ADD HYD               1.0 02:N_OK         53064.36  107.360 No_date   33:27   28.68  n/a     .000
09543>                         +   1.0 02:OKEEFE       488.00    6.203 No_date   30:09   33.13  n/a     .000
09544>                         +   1.0 02:S-1-D2R        18.67     .194 No_date   29:20   57.70  n/a     .000
09545>                         +   1.0 02:S-1-D3R         6.79     .070 No_date   29:16   57.61  n/a     .000
09546>                         +   1.0 02:S-1-D2Rovf      .00     .000 No_date    0:00     .00  n/a     .000
09547>                         +   1.0 02:S-1-D3Rovf      .00     .000 No_date    0:00     .00  n/a     .000
09548>                       SUM=  1.0 01:SN_OK        53577.82  109.739 No_date   33:27   28.74  n/a     .000
09549> R0025:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09550>       SAVE HYD              1.0 01:SN_OK        53577.82  109.739 No_date   33:27   28.74  n/a     .000
09551>         fname :SN_OK.0025
09552>         remark:Total Flows at Okeefe Drain
09553> #
09554> # Hydrograph from Node Okeefe routed to Node at Foster Drain
09555> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
09556> #
09557> R0025:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09558>       ROUTE CHANNEL    ->    1.0 02:SN_OK        53577.82  109.739 No_date   33:27   28.74  n/a     .000
09559>        [RDT= 1.00] out<-    1.0 01:N_FO         53577.82  109.449 No_date   33:28   28.74  n/a     .000
09560>         [L/S/n=  1183./ .076/.035]
09561>         [Vmax= 1.186:Dmax= 3.166]
09562> #*************************************************************************
09563> #    Catchment FOSTER
09564> #    - To Foster ditch (north of the Jock)
09565> #    - Partially developed (medium density); remaining agricultural
09566> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
09567> #    - 2020-12-01 decrease total drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
09568> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
09569> #*************************************************************************
09570> R0025:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09571>       CONTINUOUS STANDHYD   1.0 01:FOSTER       325.44   28.008 No_date   28:12   52.35 .704     .000
09572>         [XIMP=.55:TIMP=.55]
09573>         [LOSS= 2 :CN= 74.0]
09574>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
09575>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1473.:MNI=.013:SCI=   .0]
09576>         [IaREClmp=   4.00: IaRECper=   4.00]
09577>         [SMIN= 36.67: SMAX=244.49: SK=  .010]
09578> #*************************************************************************
09579> #    Foster Pond
09580> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
09581> #      and a ratio of the catchment area to the West Clarke pond rating curve
09582> #      from the MSS for the next coordinates
09583> #*************************************************************************
09584> R0025:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09585>       ROUTE RESERVOIR ->    1.0 02:FOSTER       325.44   28.008 No_date   28:12   52.35  n/a     .000
09586>                   out <=    1.0 01:P_FOS        325.44    7.246 No_date   29:04   52.35  n/a     .000
09587>              overflow <=    1.0 03:FO-OVF         .00     .000 No_date    0:00     .00  n/a     .000
09588>      {MxStoUsed=.7008E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09589> R0025:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09590>       ADD HYD               1.0 02:P_FOS        325.44    7.246 No_date   29:04   52.35  n/a     .000
09591>                         +   1.0 02:FO-OVF        .00     .000 No_date    0:00     .00  n/a     .000
09592>                       SUM=  1.0 01:FOSTER-OUT   325.44    7.246 No_date   29:04   52.35  n/a     .000
09593> #*************************************************************************
09594> R0025:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09595>       CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29    9.076 No_date   28:05   56.82 .764     .000
09596>         [XIMP=.60:TIMP=.65]
09597>         [LOSS= 2 :CN= 77.0]
09598>         [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09599>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 699.:MNI=.013:SCI=   .0]
09600>         [IaREClmp=   4.00: IaRECper=   4.00]
09601>         [SMIN= 31.15: SMAX=207.66: SK=  .010]
09602> R0025:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09603>       ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA     73.29    9.076 No_date   28:05   56.82  n/a     .000
09604>                   out <=    1.0 01:MS_P10         73.29    1.168 No_date   29:06   56.82  n/a     .000
09605>              overflow <=    1.0 03:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
09606>      {MxStoUsed=.1685E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09607> R0025:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09608>       CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2      4.94     .707 No_date   28:01   52.35 .704     .000
09609>         [XIMP=.55:TIMP=.55]
09610>         [LOSS= 2 :CN= 74.0]
09611>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
09612>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 181.:MNI=.013:SCI=   .0]
09613>         [IaREClmp=   4.00: IaRECper=   4.00]
09614>         [SMIN= 36.67: SMAX=244.49: SK=  .010]
09615> R0025:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09616>       COMPUTE DUALHYD       1.0 01:S-1-FO-D2      4.94     .707 No_date   28:01   52.35  n/a     .000
09617>         Major System   /    1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
09618>         Minor System   \    1.0 03:S-1-FO-D2N      4.94     .508 No_date   28:14   52.51  n/a     .000
09619>         {MjSysSto=.8671E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09620> R0025:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09621>       ADD HYD               1.0 02:S-1-FO-D2J      .00     .000 No_date    0:00     .00  n/a     .000
09622>                         +   1.0 02:S-1-FO-D2N      4.94     .508 No_date   28:14   52.51  n/a     .000
09623>                       SUM=  1.0 01:S-1-FO-D2S      4.94     .508 No_date   28:14   52.51  n/a     .000
09624> R0025:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09625>       ROUTE RESERVOIR ->    1.0 02:S-1-FO-D2S      4.94     .508 No_date   28:14   52.51  n/a     .000
09626>                   out <=    1.0 01:S-1-FO-D2R      4.94     .046 No_date   29:33   52.50  n/a     .000
09627>              overflow <=    1.0 03:S-1FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
09628>      {MxStoUsed=.1543E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09629> R0025:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09630>       ADD HYD               1.0 02:FOSTER-OUT   325.44    7.246 No_date   29:04   52.35  n/a     .000
09631>                         +   1.0 02:S-1-FO-D2R      4.94     .046 No_date   29:33   52.50  n/a     .000
09632>                         +   1.0 02:S-1-FOD2ovf      .00     .000 No_date    0:00     .00  n/a     .000
09633>                       SUM=  1.0 01:980          330.38    7.292 No_date   29:04   52.35  n/a     .000
09634> R0025:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09635>       SAVE HYD              1.0 01:980          330.38    7.292 No_date   29:04   52.35  n/a     .000
09636>         fname :980.0025
09637>         remark:Total Flows at Station 980 on Foster Drain
09638> #
09639> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
09640> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
09641> #
09642> R0025:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09643>       ROUTE CHANNEL    ->    1.0 02:980          330.38    7.292 No_date   29:04   52.35  n/a     .000
09644>     *  [RDT= 1.00] out<-    1.0 01:980-out      330.38    7.051 No_date   29:15   52.35  n/a     .000
09645>         [L/S/n=  460./ .043/.035]
09646>         [Vmax=  .642:Dmax= 1.516]
09647> R0025:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09648>       CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1        5.11     .830 No_date   28:00   56.90 .765     .000
09649>         [XIMP=.65:TIMP=.65]
09650>         [LOSS= 2 :CN= 74.0]
09651>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
09652>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 185.:MNI=.013:SCI=   .0]
09653>         [IaREClmp=   4.00: IaRECper=   4.00]
09654>         [SMIN= 36.67: SMAX=244.49: SK=  .010]
09655> R0025:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09656>       COMPUTE DUALHYD       1.0 01:S-1-FO-D1        5.11     .830 No_date   28:00   56.90  n/a     .000
09657>         Major System   /    1.0 02:S-1-FO-D1J      .00     .000 No_date    0:00     .00  n/a     .000
09658>         Minor System   \    1.0 03:S-1-FO-D1N      5.11     .605 No_date   28:13   57.24  n/a     .000
09659>         {MjSysSto=.9506E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09660> R0025:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09661>       ADD HYD               1.0 02:S-1-FO-D1N      5.11     .605 No_date   27:54   57.24  n/a     .000
09662>                         +   1.0 02:S-1-FO-D2N      4.94     .508 No_date   28:14   52.51  n/a     .000
09663>                       SUM=  1.0 01:S-1-FO-D1S      5.11     .605 No_date   27:54   57.24  n/a     .000
09664> R0025:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09665>       ROUTE RESERVOIR ->    1.0 02:S-1-FO-D1S      5.11     .605 No_date   27:54   57.24  n/a     .000
09666>                   out <=    1.0 01:S-1-FO-D1R      5.11     .053 No_date   29:23   57.24  n/a     .000
09667>              overflow <=    1.0 03:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
09668>      {MxStoUsed=.1756E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09669> R0025:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09670>       ADD HYD               1.0 02:980-out      330.38    7.051 No_date   29:15   52.35  n/a     .000
09671>                         +   1.0 02:S-1-FO-D1R      5.11     .053 No_date   29:23   57.24  n/a     .000
09672>                         +   1.0 02:S-1FOD1ovf      .00     .000 No_date    0:00     .00  n/a     .000
09673>                       SUM=  1.0 01:520          335.49    7.103 No_date   29:15   52.43  n/a     .000
09674> R0025:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09675>       SAVE HYD              1.0 01:520          335.49    7.103 No_date   29:15   52.43  n/a     .000
09676>         fname :520.0025
09677>         remark:Total Flows at Sation 520 on Foster Drain
09678> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
09679> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
09680> #
09681> R0025:C00176------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09682>       ROUTE CHANNEL    ->    1.0 02:520          335.49    7.103 No_date   29:15   52.43  n/a     .000
09683>        [RDT= 1.00] out<-    1.0 01:520-out      335.49    7.032 No_date   29:23   52.43  n/a     .000
09684>         [L/S/n=  860./ .587/.035]
09685>         [Vmax= 1.474:Dmax=  .723]
09686> R0025:C00177------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFCms
09687>       CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D      14.96    2.238 No_date   28:02   56.90 .765     .000
09688>         [XIMP=.65:TIMP=.65]
09689>         [LOSS= 2 :CN= 74.0]
09690>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
09691>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 316.:MNI=.013:SCI=   .0]
09692>         [IaREClmp=   4.00: IaRECper=   4.00]
09693>         [SMIN=
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09725>     ROUTE RESERVOIR ->     1.0 02:S-1-D8S        5.27     .672 No_date   27:55   42.30  n/a     .000
09726>                out <=     1.0 01:S-1-D8R        5.27     .650 No_date   28:47   42.30  n/a     .000
09727>           overflow <=     1.0 03:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
09728>    {MxStoUsed=.1658E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09729> R0025:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09730>     CONTINUOUS NASHYD      1.0 01:S-1-A          75.88    2.541 No_date   28:36   34.14 .459     .000
09731>       [CN= 77.0: N= 3.00: Tp=  .62]
09732>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09733>       [InterEventTime=  12.00]
09734> R0025:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09735>     CONTINUOUS NASHYD      1.0 01:W_CLAR_UND     35.65     .789 No_date   29:10   34.14 .459     .000
09736>       [CN= 77.0: N= 3.00: Tp= 1.10]
09737>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09738>       [InterEventTime=  12.00]
09739> R0025:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09740>     ADD HYD                1.0 02:N_FO       53577.82  109.449 No_date   33:28   28.74  n/a     .000
09741>                       +    1.0 02:520-out      335.49    7.032 No_date   29:23   52.43  n/a     .000
09742>                       +    1.0 02:MS_P10        73.29    1.168 No_date   29:06   56.82  n/a     .000
09743>                       +    1.0 02:P10-OVF        .00     .000 No_date    0:00     .00  n/a     .000
09744>                       +    1.0 02:W_CLAR_UND     35.65    .789 No_date   29:10   34.14  n/a     .000
09745>                       +    1.0 02:S-1-FroFOrovf      .00     .000 No_date    0:00     .00  n/a     .000
09746>                       +    1.0 02:S-1FO-F-DR     14.96    .153 No_date   29:30   56.95  n/a     .000
09747>                       +    1.0 02:S-1-D8Rovf         .00     .000 No_date    0:00     .00  n/a     .000
09748>                       +    1.0 02:S-1-D8R         5.27     .050 No_date   28:47   42.30  n/a     .000
09749>                       +    1.0 02:S-1-A          75.88    2.541 No_date   28:36   34.14  n/a     .000
09750>                     SUM=   1.0 01:SN_FO       54118.36  114.198 No_date   33:27   28.94  n/a     .000
09751> R0025:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09752>     SAVE HYD               1.0 01:SN_FO      54118.36  114.198 No_date   33:27   28.94  n/a     .000
09753>       fname :SN_FO 0025
09754>       remark:Total Flows at Foster Drain
09755> # Hydrograph from Node Foster routed to Node at Cedarview Road
09756> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
09757> #
09758> R0025:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09759>     ROUTE CHANNEL    ->     1.0 02:SN_FO      54118.36  114.198 No_date   33:27   28.94  n/a     .000
09760> *   [RDT= 1.00] out<-      1.0 01:SN_CE      54118.36  114.014 No_date   33:32   28.94  n/a     .000
09761>       [L/S/n=  159./ .082/.035]
09762>       [Vmax= 1.425:Dmax= 3.814]
09763> #*************************************************************************
09764> #    Catchment S-1
09765> #    - To Jock River (north and south of Jock)
09766> #    - Primarily agricultural fields; portion of sand quarry
09767> #*************************************************************************
09768> R0025:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09769>     CONTINUOUS NASHYD      1.0 01:S-1-B          55.36    2.311 No_date   28:23   34.14 .459     .000
09770>       [CN= 77.0: N= 3.00: Tp=  .45]
09771>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
09772>       [InterEventTime=  12.00]
09773> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
09774> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore, "S-1-BCDC-1" is part of "S-1-FO-D2" and
09775> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
09776> R0025:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09777>     CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    3.385 No_date   28:01   57.38 .771     .000
09778>       [XIMP=.65:TIMP=.65]
09779>       [LOSS= 2 :CN= 75.0]
09780>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09781>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
09782>       [IaRECimp=   4.00: IaRECper=   4.00]
09783>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09784> R0025:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09785>     COMPUTE DUALHYD        1.0 01:S-1-D1         21.67    3.385 No_date   28:01   57.38  n/a     .000
09786>       Major System   /     1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
09787>       Minor System   \     1.0 03:S-1-D1N        21.67    2.409 No_date   27:55   57.58  n/a     .000
09788>       {MjSysSto=.4594E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09789> R0025:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09790>     ADD HYD                1.0 02:S-1-D1J          .00     .000 No_date    0:00     .00  n/a     .000
09791>                       +    1.0 02:S-1-D1N        21.67    2.409 No_date   27:55   57.58  n/a     .000
09792>                     SUM=   1.0 01:S-1-D1S        21.67    2.409 No_date   27:55   57.58  n/a     .000
09793> R0025:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09794>     ROUTE RESERVOIR ->     1.0 02:S-1-D1S        21.67    2.409 No_date   27:55   57.58  n/a     .000
09795>                out <=     1.0 01:S-1-D1R        21.67     .225 No_date   29:22   57.58  n/a     .000
09796>           overflow <=     1.0 03:S-1-D1Rovf       .00     .000 No_date    0:00     .00  n/a     .000
09797>    {MxStoUsed=.7499E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09798> R0025:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09799>     CONTINUOUS STANDHYD    1.0 01:S-1-D4         3.28     .581 No_date   28:00   57.38 .771     .000
09800>       [XIMP=.65:TIMP=.65]
09801>       [LOSS= 2 :CN= 75.0]
09802>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09803>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
09804>       [IaRECimp=   4.00: IaRECper=   4.00]
09805>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09806> R0025:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09807>     COMPUTE DUALHYD        1.0 01:S-1-D4         3.28     .581 No_date   28:00   57.38  n/a     .000
09808>       Major System   /     1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
09809>       Minor System   \     1.0 03:S-1-D4N        3.28     .421 No_date   27:54   57.72  n/a     .000
09810>       {MjSysSto=.6427E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09811> R0025:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09812>     ADD HYD                1.0 02:S-1-D4J          .00     .000 No_date    0:00     .00  n/a     .000
09813>                       +    1.0 02:S-1-D4N        3.28     .421 No_date   27:54   57.72  n/a     .000
09814>                     SUM=   1.0 01:S-1-D4S        3.28     .421 No_date   27:54   57.72  n/a     .000
09815> R0025:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09816>     ROUTE RESERVOIR ->     1.0 02:S-1-D4S        3.28     .421 No_date   27:54   57.72  n/a     .000
09817>                out <=     1.0 01:S-1-D4R        3.28     .034 No_date   29:13   57.71  n/a     .000
09818>           overflow <=     1.0 03:S-1-D4Rovf       .00     .000 No_date    0:00     .00  n/a     .000
09819>    {MxStoUsed=.1446E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09820> R0025:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09821>     CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    2.083 No_date   28:01   57.38 .771     .000
09822>       [XIMP=.65:TIMP=.65]
09823>       [LOSS= 2 :CN= 75.0]
09824>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09825>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
09826>       [IaRECimp=   4.00: IaRECper=   4.00]
09827>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09828> R0025:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09829>     COMPUTE DUALHYD        1.0 01:S-1-D5         12.84    2.083 No_date   28:01   57.38  n/a     .000
09830>       Major System   /     1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
09831>       Minor System   \     1.0 03:S-1-D5N        12.84    1.500 No_date   27:57   57.52  n/a     .000
09832>       {MjSysSto=.2624E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09833> R0025:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09834>     ADD HYD                1.0 02:S-1-D5J          .00     .000 No_date    0:00     .00  n/a     .000
09835>                       +    1.0 02:S-1-D5N        12.84    1.500 No_date   27:55   57.52  n/a     .000
09836>                     SUM=   1.0 01:S-1-D5S        12.84    1.500 No_date   27:55   57.52  n/a     .000
09837> R0025:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09838>     ROUTE RESERVOIR ->     1.0 02:S-1-D5S        12.84    1.500 No_date   27:55   57.52  n/a     .000
09839>                out <=     1.0 01:S-1-D5R        12.84     .133 No_date   29:19   57.52  n/a     .000
09840>           overflow <=     1.0 03:S-1-D5Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09841>    {MxStoUsed=.4437E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09842> R0025:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09843>     CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .319 No_date   28:00   57.38 .771     .000
09844>       [XIMP=.65:TIMP=.65]
09845>       [LOSS= 2 :CN= 75.0]
09846>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09847>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
09848>       [IaRECimp=   4.00: IaRECper=   4.00]
09849>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09850> R0025:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09851>     COMPUTE DUALHYD        1.0 01:S-1-D6          1.75     .319 No_date   28:00   57.38  n/a     .000
09852>       Major System   /     1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
09853>       Minor System   \     1.0 03:S-1-D6N         1.75     .232 No_date   27:53   57.55  n/a     .000
09854>       {MjSysSto=.3427E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09855> R0025:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09856>     ADD HYD                1.0 02:S-1-D6J          .00     .000 No_date    0:00     .00  n/a     .000
09857>                       +    1.0 02:S-1-D6N         1.75     .232 No_date   27:53   57.55  n/a     .000
09858>                     SUM=   1.0 01:S-1-D6S         1.75     .232 No_date   27:53   57.55  n/a     .000
09859> R0025:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09860>     ROUTE RESERVOIR ->     1.0 02:S-1-D6S         1.75     .232 No_date   27:53   57.55  n/a     .000
09861>                out <=     1.0 01:S-1-D6R         1.75     .018 No_date   29:12   57.55  n/a     .000
09862>           overflow <=     1.0 03:S-1-D6Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09863>    {MxStoUsed=.6057E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09864> R0025:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09865>     CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .369 No_date   28:00   57.38 .771     .000
09866>       [XIMP=.65:TIMP=.65]
09867>       [LOSS= 2 :CN= 75.0]
09868>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
09869>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
09870>       [IaRECimp=   4.00: IaRECper=   4.00]
09871>       [SMIN= 33.81: SMAX=225.43: SK= .010]
09872> R0025:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09873>     COMPUTE DUALHYD        1.0 01:S-1-D7          2.03     .369 No_date   28:00   57.38  n/a     .000
09874>       Major System   /     1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
09875>       Minor System   \     1.0 03:S-1-D7N         2.03     .265 No_date   27:53   57.80  n/a     .000
09876>       {MjSysSto=.4131E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
09877> R0025:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09878>     ADD HYD                1.0 02:S-1-D7J          .00     .000 No_date    0:00     .00  n/a     .000
09879>                       +    1.0 02:S-1-D7N         2.03     .265 No_date   27:53   57.80  n/a     .000
09880>                     SUM=   1.0 01:S-1-D7S         2.03     .265 No_date   27:53   57.80  n/a     .000
09881> R0025:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09882>     ROUTE RESERVOIR ->     1.0 02:S-1-D7S         2.03     .265 No_date   27:53   57.80  n/a     .000
09883>                out <=     1.0 01:S-1-D7R         2.03     .021 No_date   29:11   57.80  n/a     .000
09884>           overflow <=     1.0 03:S-1-D7Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09885>    {MxStoUsed=.7068E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09886> #    Catchment W_CLAR
09887> #    - To West Clarke Drain (south of the Jock)
09888> #    - Subdivision with 43% imp. as per Barrhaven South MSS
09889> #    - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
09890> #    - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
09891> #*************************************************************************
09892> R0025:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09893>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ       1.77     .279 No_date   28:00   52.78 .709     .000
09894>       [XIMP=.46:TIMP=.59]
09895>       [LOSS= 2 :CN= 77.0]
09896>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09897>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
09898>       [IaRECimp=   4.00: IaRECper=   4.00]
09899>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09900> # 5-Year + 12% Capture
09901> R0025:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09902>     ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ       1.77     .279 No_date   28:00   52.78  n/a     .000
09903>                out <=     1.0 01:W_CLAR_MJn      1.73     .213 No_date   27:54   52.78  n/a     .000
09904>           overflow <=     1.0 03:W_CLAR_MJj       .04     .062 No_date   28:01   52.78  n/a     .000
09905>    {MxStoUsed=.1173E-03  m3, TotOvfVol=.2205E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
09906> R0025:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09907>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL    119.40   15.305 No_date   28:04   56.82 .764     .000
09908>       [XIMP=.60:TIMP=.65]
09909>       [LOSS= 2 :CN= 77.0]
09910>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
09911>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
09912>       [IaRECimp=   4.00: IaRECper=   4.00]
09913>       [SMIN= 31.15: SMAX=207.66: SK= .010]
09914> R0025:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09915>     ADD HYD                1.0 02:W_CLAR_ALL    119.40   15.305 No_date   28:04   56.82  n/a     .000
09916>                       +    1.0 02:W_CLAR_MJj       .04     .062 No_date   28:01   52.78  n/a     .000
09917>                     SUM=   1.0 01:W_CLAR        119.44   15.305 No_date   28:04   56.81  n/a     .000
09918> R0025:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09919>     SAVE HYD               1.0 01:W_CLAR       119.44   15.305 No_date   28:04   56.81  n/a     .000
09920>       fname :W_CLAR.0025
09921>       remark:Total Flows to West Clarke
09922> #*************************************************************************
09923> #    West Clarke Pond 2
09924> #    - Rating curve obtained from Barrhaven South MSS modeling
09925> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
09926> #*************************************************************************
09927> R0025:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09928>     ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.44   15.305 No_date   28:04   56.81  n/a     .000
09929>                out <=     1.0 01:MS_P2        119.44    7.398 No_date   28:20   56.81  n/a     .000
09930>           overflow <=     1.0 03:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
09931>    {MxStoUsed=.2962E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
09932> #*************************************************************************
09933> R0025:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09934>     ADD HYD                1.0 02:N_CE       54118.36  114.014 No_date   33:32   28.94  n/a     .000
09935>                       +    1.0 02:S-1-D4R        3.28     .034 No_date   29:13   57.71  n/a     .000
09936>                       +    1.0 02:S-1-D5R       12.84     .133 No_date   29:19   57.52  n/a     .000
09937>                       +    1.0 02:S-1-D4Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09938>                       +    1.0 02:S-1-D5Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09939>                       +    1.0 02:MS_P2          119.44    7.398 No_date   28:20   56.81  n/a     .000
09940>                       +    1.0 02:P2-OVF            .00     .000 No_date    0:00     .00  n/a     .000
09941>                     SUM=   1.0 01:SN_CE       54253.92  114.982 No_date   33:32   29.01  n/a     .000
09942> R0025:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09943>     SAVE HYD               1.0 01:SN_CE      54253.92  114.982 No_date   33:32   29.01  n/a     .000
09944>       fname :SN_CE.0025
09945>       remark:Total Flows before Station 5737 on Jock River
09946> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
09947> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
09948> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
09949> R0025:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09950>     ROUTE CHANNEL    ->     1.0 02:SN_CE      54253.92  114.982 No_date   33:32   29.01  n/a     .000
09951> *   [RDT= 1.00] out<-      1.0 01:S737       54253.92  108.094 No_date   36:08   29.01  n/a     .000
09952>       [L/S/n=  270./ .018/.035]
09953>       [Vmax=  .784:Dmax= 4.985]
09954> R0025:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09955>     ADD HYD                1.0 02:S737       54253.92  108.094 No_date   36:08   29.01  n/a     .000
09956>                       +    1.0 02:S-1-D1R        21.67     .225 No_date   29:22   57.58  n/a     .000
09957>                       +    1.0 02:S-1-D6R         1.75     .018 No_date   29:12   57.55  n/a     .000
09958>                       +    1.0 02:S-1-D7R         2.03     .021 No_date   29:11   57.80  n/a     .000
09959>                       +    1.0 02:S-1-D1Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09960>                       +    1.0 02:S-1-D6Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09961>                       +    1.0 02:S-1-D7Rovf        .00     .000 No_date    0:00     .00  n/a     .000
09962>                     SUM=   1.0 01:S5002       54279.37  108.278 No_date   36:07   29.03  n/a     .000
09963> R0025:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09964>     SAVE HYD               1.0 01:S5002      54279.37  108.278 No_date   36:07   29.03  n/a     .000
09965>       fname :5002.0025
09966>       remark:Total Flows before Station 5002 on Jock River
09967> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
09968> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
09969> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
09970> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
09971> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
09972> R0025:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09973>     ROUTE CHANNEL    ->     1.0 02:5002       54279.37  108.278 No_date   36:07   29.03  n/a     .000
09974> *   [RDT= 1.00] out<-      1.0 01:N_WCa      54279.37  108.230 No_date   36:18   29.03  n/a     .000
09975>       [L/S/n=  245./ .095/.035]
09976>       [Vmax= 1.212:Dmax= 2.784]
09977> R0025:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09978>     ROUTE CHANNEL    ->     1.0 02:N_WCa      54279.37  108.230 No_date   36:18   29.03  n/a     .000
09979> *   [RDT= 1.00] out<-      1.0 01:N_WCb      54279.37  108.213 No_date   36:26   29.03  n/a     .000
09980>       [L/S/n=  245./ .095/.035]
09981>       [Vmax= 1.212:Dmax= 2.783]
09982> R0025:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09983>     ROUTE CHANNEL    ->     1.0 02:N_WCb      54279.37  108.213 No_date   36:26   29.03  n/a     .000
09984> *   [RDT= 1.00] out<-      1.0 01:N_WC       54279.37  108.189 No_date   36:34   29.03  n/a     .000
09985>       [L/S/n=  245./ .095/.035]
09986>       [Vmax= 1.212:Dmax= 2.783]
09987> #*************************************************************************
09988> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
09989> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
09990> #
09991> R0025:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
09992>     ROUTE CHANNEL    ->     1.0 02:N_WC       54279.37  108.189 No_date   36:34   29.03  n/a     .000
09993> *   [RDT= 1.00] out<-      1.0 01:N_KB       54279.37  103.026 No_date   38:57   29.03  n/a     .000
09994>       [L/S/n= 1020./ .050/.035]
09995>       [Vmax= 1.074:Dmax= 3.491]
09996> #*************************************************************************
09997> #    Catchment KEN_BU
09998> #    - To Kennedy-Burnett SWM Facility
09999> #    - Outlets to Fraser-Clarke drain (north of the Jock)
10000> #    - Medium density residential subdivision
10001> #*************************************************************************
10002> #*************************************************************************
10003> #    Existing Kennedy-Burnett SWM Facility
10004> #    - Rating curve obtained from URTKBP
10005> #    - Tributary Drainage Area to Pond = 160 ha
10006> #*************************************************************************
10007> R0025:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10008>     CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    4.186 No_date   28:11   29.35 .395     .000
10009>       [XIMP=.10:TIMP=.40]
10010>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
10011>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
10012>       [Impervious   area: IAimp= .79:SLPI= .50:LGI= 522.:MNI=.013:SCI=   .0]
10013>       [IaRECimp=   4.00: IaRECper=   4.00]
10014> R0025:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10015>     COMPUTE DUALHYD        1.0 01:KB-01A         40.82    4.186 No_date   28:11   29.35  n/a     .000
10016>       Major System   /     1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10017>       Minor System   \     1.0 03:KB-01A-MN      40.82    3.600 No_date   28:03   29.50  n/a     .000
10018>       {MjSysSto=.3786E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10019> R0025:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10020>     ADD HYD                1.0 02:KB-01A-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10021>                       +    1.0 02:KB-01A-MN      40.82    3.600 No_date   28:03   29.50  n/a     .000
10022>                     SUM=   1.0 01:KB-01A-S       40.82    3.600 No_date   28:03   29.50  n/a     .000
10023> R0025:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10024>     CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    3.068 No_date   28:07   32.30 .434     .000
10025>       [XIMP=.19:TIMP=.38]
10026>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
10027>       [Pervious     area: IAper= 4.67:SLPP= .42:LGP=  40.:MNP=.250:SCP=   .0]
10028>       [Impervious   area: IAimp= .79:SLPI= .42:LGI= 455.:MNI=.013:SCI=   .0]
10029>       [IaRECimp=   4.00: IaRECper=   4.00]
10030> R0025:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10031>     COMPUTE DUALHYD        1.0 01:KB-01B         31.10    3.068 No_date   28:07   32.30  n/a     .000
10032>       Major System   /     1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10033>       Minor System   \     1.0 03:KB-01B-MN      31.10    1.585 No_date   27:55   32.52  n/a     .000
10034>       {MjSysSto=.1849E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10035> R0025:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10036>     ADD HYD                1.0 02:KB-01B-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10037>                       +    1.0 02:KB-01B-MN      31.10    1.585 No_date   27:55   32.52  n/a     .000
10038>                     SUM=   1.0 01:KB-01B-S       31.10    1.585 No_date   27:55   32.52  n/a     .000
10039> R0025:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10040>     CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    1.868 No_date   28:04   33.51 .450     .000
10041>       [XIMP=.20:TIMP=.41]
10042>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
10043>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10044>       [Impervious   area: IAimp=  .79:SLPI= .50:LGI= 303.:MNI=.013:SCI=   .0]
10045>       [IaRECimp=   4.00: IaRECper=   4.00]
10046> R0025:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10047>     COMPUTE DUALHYD        1.0 01:KB-01C         13.78    1.868 No_date   28:04   33.51  n/a     .000
10048>       Major System   /     1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10049>       Minor System   \     1.0 03:KB-01C-MN      13.78    1.350 No_date   27:57   33.69  n/a     .000
10050>       {MjSysSto=.3173E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10051> R0025:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10052>     ADD HYD                1.0 02:KB-01C-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10053>                       +    1.0 02:KB-01C-MN      13.78    1.350 No_date   27:57   33.69  n/a     .000
10054>                     SUM=   1.0 01:KB-01C-S       13.78    1.350 No_date   27:57   33.69  n/a     .000
10055> R0025:C00235------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10056>     CONTINUOUS STANDHYD    1.0 01:KB-03          84.78    9.657 No_date   28:08   32.97 .443     .000
10057>       [XIMP=.20:TIMP=.39]
10058>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
10059>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10060>       [Impervious   area: IAimp=  .79:SLPI= .63:LGI= 752.:MNI=.013:SCI=   .0]
10061>       [IaRECimp=   4.00: IaRECper=   4.00]
10062> R0025:C00236------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10063>     COMPUTE DUALHYD        1.0 01:KB-03          84.78    9.657 No_date   28:08   32.97  n/a     .000
10064>       Major System   /     1.0 02:KB-03-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10065>       Minor System   \     1.0 03:KB-03-MN       84.78    5.270 No_date   27:56   33.21  n/a     .000
10066>       {MjSysSto=.4456E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10067> R0025:
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10099>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
10100>       [IaRECimp=   4.00: IaRECper=    4.00]
10101> R0025:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10102>     COMPUTE DUALHYD       1.0 01:KB-06          12.93    2.960 No_date   28:00   66.54 n/a     .000
10103>       Major System   /     1.0 02:KB-06-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10104>       Minor System   \     1.0 03:KB-06-MN        12.93    2.262 No_date   28:07   66.58 n/a     .000
10105>       {MjSysSto=.2613E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10106> R0025:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10107>       ADD HYD               1.0 02:KB-06-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10108>                         +     1.0 02:KB-06-MN        12.93    2.262 No_date   28:07   66.58 n/a     .000
10109>                       SUM=    1.0 01:KB-06-S         12.93    2.262 No_date   28:07   66.58 n/a     .000
10110> R0025:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10111>     CONTINUOUS STANDHYD   1.0 01:KB-11          4.03     .817 No_date   28:00   55.88 .751     .000
10112>       [XIMP=.68:TIMP=.68]
10113>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10114>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10115>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
10116>       [IaRECimp=   4.00: IaRECper=    4.00]
10117> R0025:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10118>     COMPUTE DUALHYD       1.0 01:KB-11          4.03     .817 No_date   28:00   55.88 n/a     .000
10119>       Major System   /     1.0 02:KB-11-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10120>       Minor System   \     1.0 03:KB-11-MN        4.03     .577 No_date   27:53   55.96 n/a     .000
10121>       {MjSysSto=.9558E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10122> R0025:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10123>       ADD HYD               1.0 02:KB-11-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10124>                         +     1.0 02:KB-11-MN        4.03     .577 No_date   27:53   55.96 n/a     .000
10125>                       SUM=    1.0 01:KB-11-S         4.03     .577 No_date   27:53   55.96 n/a     .000
10126> R0025:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10127>     CONTINUOUS STANDHYD   1.0 01:S1             4.99    1.184 No_date   28:00   69.06 .928     .000
10128>       [XIMP=.93:TIMP=.93]
10129>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10130>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10131>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
10132>       [IaRECimp=   4.00: IaRECper=    4.00]
10133> R0025:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10134>     CONTINUOUS STANDHYD   1.0 01:KB-15          2.15     .447 No_date   28:00   62.65 .842     .000
10135>       [XIMP=.79:TIMP=.79]
10136>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10137>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10138>       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 120.:MNI=.013:SCI=   .0]
10139>       [IaRECimp=   4.00: IaRECper=    4.00]
10140> R0025:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10141>       ADD HYD               1.0 02:KB-01A-S         40.82    3.600 No_date   28:03   29.50 n/a     .000
10142>                         +     1.0 02:KB-01B-S         31.10    1.585 No_date   27:55   32.52 n/a     .000
10143>                         +     1.0 02:KB-01C-S         13.78    1.350 No_date   27:57   33.69 n/a     .000
10144>                         +     1.0 02:KB-03-S          84.78    5.270 No_date   27:56   33.21 n/a     .000
10145>                         +     1.0 02:KB-04-S           6.95     .503 No_date   27:45   65.54 n/a     .000
10146>                         +     1.0 02:KB-05             5.19    1.147 No_date   28:00   69.06 n/a     .000
10147>                         +     1.0 02:KB-06-S          12.93    2.262 No_date   28:07   66.58 n/a     .000
10148>                         +     1.0 02:KB-11-S           4.03     .577 No_date   27:53   55.96 n/a     .000
10149>                         +     1.0 02:KB-15             2.15     .447 No_date   28:00   62.65 n/a     .000
10150>                         +     1.0 02:S1                4.99    1.184 No_date   28:00   69.06 n/a     .000
10151>                       SUM=    1.0 01:KB-P1           206.72   17.555 No_date   28:01   38.09 n/a     .000
10152> R0025:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10153>     ROUTE RESERVOIR ->    1.0 02:KB-P1          206.72   17.555 No_date   28:01   38.09 n/a     .000
10154>                         out <=    1.0 01:KB-P1R        201.26   12.438 No_date   28:05   38.09 n/a     .000
10155>                       overflow <=   1.0 03:KB-P1ovf        5.46    4.400 No_date   28:05   38.09 n/a     .000
10156>     {MxStoUsed=.7322E+00  m3, TotOvfVol=.2079E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
10157> R0025:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10158>       ADD HYD               1.0 02:KB-P1R         201.26   12.438 No_date   28:05   38.09 n/a     .000
10159>                         +     1.0 02:KB-P1ovf          5.46    4.400 No_date   28:05   38.09 n/a     .000
10160>                       SUM=    1.0 01:KB-Pond1        206.72   16.838 No_date   28:05   38.09 n/a     .000
10161> R0025:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10162>       SAVE HYD              1.0 01:KB-Pond1        206.72   16.838 No_date   28:05   38.09 n/a     .000
10163>         fname :KB-Pond1.0025
10164>         remark:Total Flows at KB first pond
10165> R0025:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10166>     CONTINUOUS STANDHYD   1.0 01:KB-07          10.86    2.392 No_date   28:00   65.97 .887     .000
10167>       [XIMP=.86:TIMP=.86]
10168>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10169>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10170>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
10171>       [IaRECimp=   4.00: IaRECper=    4.00]
10172> R0025:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10173>     COMPUTE DUALHYD       1.0 01:KB-07          10.86    2.392 No_date   28:00   65.97 n/a     .000
10174>       Major System   /     1.0 02:KB-07-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10175>       Minor System   \     1.0 03:KB-07-MN        10.86    2.094 No_date   27:56   66.02 n/a     .000
10176>       {MjSysSto=.7523E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10177> R0025:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10178>       ADD HYD               1.0 02:KB-07-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10179>                         +     1.0 02:KB-07-MN        10.86    2.094 No_date   27:56   66.02 n/a     .000
10180>                       SUM=    1.0 01:KB-07-S         10.86    2.094 No_date   27:56   66.02 n/a     .000
10181> R0025:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10182>     CONTINUOUS STANDHYD   1.0 01:KB-08           6.61    1.292 No_date   28:00   53.97 .726     .000
10183>       [XIMP=.64:TIMP=.64]
10184>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10185>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10186>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
10187>       [IaRECimp=   4.00: IaRECper=    4.00]
10188> R0025:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10189>     COMPUTE DUALHYD       1.0 01:KB-08           6.61    1.292 No_date   28:00   53.97 n/a     .000
10190>       Major System   /     1.0 02:KB-08-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10191>       Minor System   \     1.0 03:KB-08-MN        6.61    1.058 No_date   27:55   54.34 n/a     .000
10192>       {MjSysSto=.6817E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10193> R0025:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10194>       ADD HYD               1.0 02:KB-08-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10195>                         +     1.0 02:KB-08-MN        6.61    1.058 No_date   27:55   54.34 n/a     .000
10196>                       SUM=    1.0 01:KB-08-S         6.61    1.058 No_date   27:55   54.34 n/a     .000
10197> R0025:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10198>     CONTINUOUS STANDHYD   1.0 01:KB-09           2.60     .599 No_date   28:00   65.30 .878     .000
10199>       [XIMP=.86:TIMP=.86]
10200>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10201>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10202>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
10203>       [IaRECimp=   4.00: IaRECper=    4.00]
10204> R0025:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10205>     CONTINUOUS STANDHYD   1.0 01:KB-10_1         2.37     .550 No_date   28:00   65.30 .878     .000
10206>       [XIMP=.86:TIMP=.86]
10207>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10208>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10209>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
10210>       [IaRECimp=   4.00: IaRECper=    4.00]
10211> R0025:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10212>     CONTINUOUS STANDHYD   1.0 01:KB-10_2         1.14     .266 No_date   28:00   65.30 .878     .000
10213>       [XIMP=.86:TIMP=.86]
10214>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10215>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10216>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
10217>       [IaRECimp=   4.00: IaRECper=    4.00]
10218> R0025:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10219>     CONTINUOUS STANDHYD   1.0 01:KB-12           4.86    1.059 No_date   28:00   61.90 .832     .000
10220>       [XIMP=.79:TIMP=.79]
10221>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10222>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10223>       [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
10224>       [IaRECimp=   4.00: IaRECper=    4.00]
10225> R0025:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10226>     COMPUTE DUALHYD       1.0 01:KB-12           4.86    1.059 No_date   28:00   61.90 n/a     .000
10227>       Major System   /     1.0 02:KB-12-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10228>       Minor System   \     1.0 03:KB-12-MN        4.86     .867 No_date   27:54   62.20 n/a     .000
10229>       {MjSysSto=.6022E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10230> R0025:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10231>       ADD HYD               1.0 02:KB-12-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10232>                         +     1.0 02:KB-12-MN        4.86     .867 No_date   27:54   62.20 n/a     .000
10233>                       SUM=    1.0 01:KB-12-S         4.86     .867 No_date   27:54   62.20 n/a     .000
10234> R0025:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10235>     CONTINUOUS STANDHYD   1.0 01:KB-13          10.19    1.930 No_date   28:00   53.97 .726     .000
10236>       [XIMP=.64:TIMP=.64]
10237>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10238>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10239>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
10240>       [IaRECimp=   4.00: IaRECper=    4.00]
10241> R0025:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10242>     COMPUTE DUALHYD       1.0 01:KB-13          10.19    1.930 No_date   28:00   53.97 n/a     .000
10243>       Major System   /     1.0 02:KB-13-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10244>       Minor System   \     1.0 03:KB-13-MN       10.19    1.722 No_date   27:57   53.98 n/a     .000
10245>       {MjSysSto=.4703E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10246> R0025:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10247>       ADD HYD               1.0 02:KB-13-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10248>                         +     1.0 02:KB-13-MN       10.19    1.722 No_date   27:57   53.98 n/a     .000
10249>                       SUM=    1.0 01:KB-13-S        10.19    1.722 No_date   27:57   53.98 n/a     .000
10250> R0025:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10251>     CONTINUOUS STANDHYD   1.0 01:KB-14           5.47    1.075 No_date   28:00   53.97 .726     .000
10252>       [XIMP=.64:TIMP=.64]
10253>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10254>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10255>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
10256>       [IaRECimp=   4.00: IaRECper=    4.00]
10257> R0025:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10258>     COMPUTE DUALHYD       1.0 01:KB-14           5.47    1.075 No_date   28:00   53.97 n/a     .000
10259>       Major System   /     1.0 02:KB-14-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10260>       Minor System   \     1.0 03:KB-14-MN        5.47     .873 No_date   27:55   54.32 n/a     .000
10261>       {MjSysSto=.6018E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10262> R0025:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10263>       ADD HYD               1.0 02:KB-14-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10264>                         +     1.0 02:KB-14-MN        5.47     .873 No_date   27:55   54.32 n/a     .000
10265>                       SUM=    1.0 01:KB-14-S         5.47     .873 No_date   27:55   54.32 n/a     .000
10266> R0025:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10267>     CONTINUOUS STANDHYD   1.0 01:KB-16_2         3.42     .649 No_date   28:01   58.24 .783     .000
10268>       [XIMP=.71:TIMP=.71]
10269>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10270>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10271>       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 151.:MNI=.013:SCI=   .0]
10272>       [IaRECimp=   4.00: IaRECper=    4.00]
10273> R0025:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10274>       ADD HYD               1.0 02:KB-Pond1        206.72   16.838 No_date   28:05   38.09 n/a     .000
10275>                         +     1.0 02:KB-07-S         10.86    2.094 No_date   27:56   66.02 n/a     .000
10276>                         +     1.0 02:KB-08-S          6.61    1.058 No_date   27:55   54.34 n/a     .000
10277>                         +     1.0 02:KB-09            2.60     .599 No_date   28:00   65.30 n/a     .000
10278>                         +     1.0 02:KB-10_1          2.37     .550 No_date   28:00   65.30 n/a     .000
10279>                         +     1.0 02:KB-10_2          1.14     .266 No_date   28:00   65.30 n/a     .000
10280>                         +     1.0 02:KB-12-S          4.86     .867 No_date   27:54   62.20 n/a     .000
10281>                         +     1.0 02:KB-13-S         10.19    1.722 No_date   27:57   53.98 n/a     .000
10282>                         +     1.0 02:KB-14-S          5.47     .873 No_date   27:55   54.32 n/a     .000
10283>                         +     1.0 02:KB-16_2          3.42     .649 No_date   28:01   58.24 n/a     .000
10284>                       SUM=    1.0 01:KB-P2          254.24   24.423 No_date   28:05   42.08 n/a     .000
10285> R0025:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10286>       ROUTE RESERVOIR ->    1.0 02:KB-P2          254.24   24.423 No_date   28:05   42.08 n/a     .000
10287>                         out <=    1.0 01:KB-P2R        254.24   17.126 No_date   28:11   42.08 n/a     .000
10288>                       overflow <=   1.0 03:KB-P2ovf          .00     .000 No_date    0:00     .00 n/a     .000
10289>       {MxStoUsed=.9755E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
10290> R0025:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10291>       ADD HYD               1.0 02:KB-P2R         254.24   17.126 No_date   28:11   42.08 n/a     .000
10292>                         +     1.0 02:KB-P2ovf          .00     .000 No_date    0:00     .00 n/a     .000
10293>                       SUM=    1.0 01:KB-Pond2       254.24   17.126 No_date   28:11   42.08 n/a     .000
10294> R0025:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10295>       SAVE HYD              1.0 01:KB-Pond2       254.24   17.126 No_date   28:11   42.08 n/a     .000
10296>         fname :KB-Pond2.0025
10297>         remark:Total Flows at KB second pond
10298> R0025:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10299>     CONTINUOUS STANDHYD   1.0 01:KB-16_1         2.80     .551 No_date   28:01   60.44 .812     .000
10300>       [XIMP=.75:TIMP=.75]
10301>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10302>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10303>       [Impervious   area: IAimp= 1.36:SLPI=2.00:LGI= 137.:MNI=.013:SCI=   .0]
10304>       [IaRECimp=   4.00: IaRECper=    4.00]
10305> R0025:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10306>       ADD HYD               1.0 02:KB-Pond2       254.24   17.126 No_date   28:11   42.08 n/a     .000
10307>                         +     1.0 02:KB-16_1         2.80     .551 No_date   28:01   60.44 n/a     .000
10308>                       SUM=    1.0 01:KB-P3          257.04   17.347 No_date   28:10   42.28 n/a     .000
10309> R0025:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10310>     ROUTE RESERVOIR ->    1.0 02:KB-P3          257.04   17.347 No_date   28:10   42.28 n/a     .000
10311>                         out <=    1.0 01:KB-P3R         10.42     .051 No_date   17:19   42.28 n/a     .000
10312>                       overflow <=   1.0 03:KB-P3ovf       246.62   17.293 No_date   28:10   42.28 n/a     .000
10313>       {MxStoUsed=.1993E-02  m3, TotOvfVol=.1043E+02  m3, N-Ovf=    2, TotDurOvf=   23.hrs}
10314> R0025:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10315>       ADD HYD               1.0 02:KB-P3R          10.42     .051 No_date   17:19   42.28 n/a     .000
10316>                         +     1.0 02:KB-P3ovf       246.62   17.293 No_date   28:10   42.28 n/a     .000
10317>                       SUM=    1.0 01:KB-Pond3       257.04   17.344 No_date   28:10   42.28 n/a     .000
10318> R0025:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10319>       SAVE HYD              1.0 01:KB-Pond3       257.04   17.344 No_date   28:10   42.28 n/a     .000
10320>         fname :KB-Pond3.0025
10321>         remark:Total Flows at KB third pond
10322> #*************************************************************************
10323> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
10324> #    - TO FRASER-CLARKE DRAIN
10325> #*************************************************************************
10326> R0025:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10327>     CONTINUOUS STANDHYD   1.0 01:FC-01           8.03    1.288 No_date   28:01   44.33 .596     .000
10328>       [XIMP=.47:TIMP=.47]
10329>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10330>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10331>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
10332>       [IaRECimp=   4.00: IaRECper=    4.00]
10333> R0025:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10334>     COMPUTE DUALHYD       1.0 01:FC-01           8.03    1.288 No_date   28:01   44.33 n/a     .000
10335>       Major System   /     1.0 02:FC-01-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10336>       Minor System   \     1.0 03:FC-01-MN        8.03     .756 No_date   28:25   44.53 n/a     .000
10337>       {MjSysSto=.2943E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10338> R0025:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10339>       ADD HYD               1.0 02:FC-01-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10340>                         +     1.0 02:FC-01-MN        8.03     .756 No_date   27:53   44.53 n/a     .000
10341>                       SUM=    1.0 01:FC-01-S         8.03     .756 No_date   27:53   44.53 n/a     .000
10342> R0025:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10343>     CONTINUOUS STANDHYD   1.0 01:FC-02          16.05    3.458 No_date   28:00   69.06 .928     .000
10344>       [XIMP=.93:TIMP=.93]
10345>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10346>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10347>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
10348>       [IaRECimp=   4.00: IaRECper=    4.00]
10349> R0025:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10350>     COMPUTE DUALHYD       1.0 01:FC-02          16.05    3.458 No_date   28:00   69.06 n/a     .000
10351>       Major System   /     1.0 02:FC-02-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10352>       Minor System   \     1.0 03:FC-02-MN       16.05    1.159 No_date   27:44   69.13 n/a     .000
10353>       {MjSysSto=.1941E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10354> R0025:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10355>       ADD HYD               1.0 02:FC-02-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10356>                         +     1.0 02:FC-02-MN       16.05    1.159 No_date   27:44   69.13 n/a     .000
10357>                       SUM=    1.0 01:FC-02-S        16.05    1.159 No_date   27:44   69.13 n/a     .000
10358> R0025:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10359>     CONTINUOUS STANDHYD   1.0 01:FC-03           7.37    1.375 No_date   28:00   53.47 .719     .000
10360>       [XIMP=.64:TIMP=.64]
10361>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10362>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10363>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
10364>       [IaRECimp=   4.00: IaRECper=    4.00]
10365> R0025:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10366>     COMPUTE DUALHYD       1.0 01:FC-03           7.37    1.375 No_date   28:00   53.47 n/a     .000
10367>       Major System   /     1.0 02:FC-03-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10368>       Minor System   \     1.0 03:FC-03-MN        7.37     .358 No_date   27:43   53.66 n/a     .000
10369>       {MjSysSto=.9407E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10370> R0025:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10371>       ADD HYD               1.0 02:FC-03-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10372>                         +     1.0 02:FC-03-MN        7.37     .358 No_date   27:43   53.66 n/a     .000
10373>                       SUM=    1.0 01:FC-03-S         7.37     .358 No_date   27:43   53.66 n/a     .000
10374> R0025:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10375>     CONTINUOUS STANDHYD   1.0 01:FC-04          12.87    2.308 No_date   28:01   53.47 .719     .000
10376>       [XIMP=.64:TIMP=.64]
10377>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10378>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10379>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
10380>       [IaRECimp=   4.00: IaRECper=    4.00]
10381> R0025:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10382>     COMPUTE DUALHYD       1.0 01:FC-04          12.87    2.308 No_date   28:01   53.47 n/a     .000
10383>       Major System   /     1.0 02:FC-04-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10384>       Minor System   \     1.0 03:FC-04-MN       12.87     .741 No_date   27:45   53.74 n/a     .000
10385>       {MjSysSto=.1387E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10386> R0025:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10387>       ADD HYD               1.0 02:FC-04-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10388>                         +     1.0 02:FC-04-MN       12.87     .741 No_date   27:45   53.74 n/a     .000
10389>                       SUM=    1.0 01:FC-04-S        12.87     .741 No_date   27:45   53.74 n/a     .000
10390> #*************************************************************************
10391> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
10392> #    - TO JOCK RIVER
10393> #*************************************************************************
10394> R0025:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10395>     CONTINUOUS STANDHYD   1.0 01:JR-01           8.24    1.515 No_date   28:00   53.47 .719     .000
10396>       [XIMP=.64:TIMP=.64]
10397>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10398>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10399>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
10400>       [IaRECimp=   4.00: IaRECper=    4.00]
10401> R0025:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10402>     COMPUTE DUALHYD       1.0 01:JR-01           8.24    1.515 No_date   28:00   53.47 n/a     .000
10403>       Major System   /     1.0 02:JR-01-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10404>       Minor System   \     1.0 03:JR-01-MN        8.24     .563 No_date   28:50   53.74 n/a     .000
10405>       {MjSysSto=.7433E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10406> R0025:C00296-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10407>       ADD HYD               1.0 02:JR-01-MJ          .00       .000 No_date    0:00     .00 n/a     .000
10408>                         +     1.0 02:JR-01-MN        8.24     .563 No_date   27:45   53.74 n/a     .000
10409>                       SUM=    1.0 01:JR-01-S         8.24     .563 No_date   27:45   53.74 n/a     .000
10410> R0025:C00297-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10411>     CONTINUOUS STANDHYD   1.0 01:JR-02           1.59     .316 No_date   28:00   53.47 .719     .000
10412>       [XIMP=.64:TIMP=.64]
10413>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
10414>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
10415>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LG
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10473>     ROUTE CHANNEL   ->     1.0 02:4241       54658.48  103.518 No_date   38:57   29.12  n/a     .000
10474> *   [RDT= 1.00] out<-      1.0 01:4241-out   54658.48  103.664 No_date   38:36   29.12  n/a     .000
10475>       [L/S/n=  294./ .109/.035]
10476>       {Vmax= 1.253:Dmax= 2.209}
10477> R0025:C00307-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10478>       ADD HYD                1.0 02:4241-out   54658.48  103.664 No_date   38:36   29.12  n/a     .000
10479>                        +     1.0 02:FC-04-S        12.87     .741 No_date   27:45   53.74  n/a     .000
10480>                        +     1.0 02:JR-01-S         8.24     .563 No_date   27:45   53.74  n/a     .000
10481>                        +     1.0 02:JR-02-S         1.59     .153 No_date   27:47   53.69  n/a     .000
10482>                    SUM=      1.0 01:SN_KB      54681.18  103.700 No_date   38:36   29.13  n/a     .000
10483> R0025:C00308-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10484>       SAVE HYD               1.0 01:SN_KB      54681.18  103.700 No_date   38:36   29.13  n/a     .000
10485>         fname :SN_KB.0025
10486>         remark:Total Flows before Station 3633
10487> # Hydrograph from Station 3633 to Node Todd
10488> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
10489> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
10490> #
10491> R0025:C00309-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10492>       ROUTE CHANNEL   ->     1.0 02:SN_KB      54681.18  103.700 No_date   38:36   29.13  n/a     .000
10493>         [RDT= 1.00] out<-    1.0 01:N_TO       54681.18  103.546 No_date   39:00   29.13  n/a     .000
10494>         [L/S/n=  608./ .247/.035]
10495>         {Vmax= 1.675:Dmax= 1.657}
10496> #*************************************************************************
10497> #    Catchment Greenbank
10498> #     - To Greenbank Drain (south of the Jock)
10499> #     - JFSA 2021-01-18 add Greenbank pond as per JFSA, PS98(06)-15, June 2016
10500> #     - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
10501> #*************************************************************************
10502> R0025:C00310-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10503>       CONTINUOUS STANDHYD    1.0 01:Greenbank    36.60     5.574 No_date   28:02   58.33 .784     .000
10504>         [XIMP=.64:TIMP=.68]
10505>         [SDES= 2 :CN= 77.0]
10506>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10507>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
10508>         [IaRECimp=   4.00: IaRECper=   4.00]
10509>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10510> R0025:C00311-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10511>       ROUTE RESERVOIR ->     1.0 02:Greenbank    36.60     5.574 No_date   28:02   58.33  n/a     .000
10512>                        out <=    1.0 01:GreenB_MN   36.60     3.118 No_date   28:11   58.33  n/a     .000
10513>                   overflow <=    1.0 03:GreenB_MJ      .00      .000 No_date    0:00     .00  n/a     .000
10514>         {MxStoUsed=.8739E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotOvfOvf=    0.hrs}
10515> R0025:C00312-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10516>       ADD HYD                1.0 02:N_TO       54681.18  103.546 No_date   39:00   29.13  n/a     .000
10517>                        +     1.0 02:GreenB_MJ      .00      .000 No_date    0:00     .00  n/a     .000
10518>                        +     1.0 02:GreenB_MN   36.60     3.118 No_date   28:11   58.33  n/a     .000
10519>                    SUM=      1.0 01:GreenB     54717.78  103.651 No_date   39:00   29.15  n/a     .000
10520> R0025:C00313-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10521>       SAVE HYD               1.0 01:GreenB     54717.78  103.651 No_date   39:00   29.15  n/a     .000
10522>         fname :GreenB.0025
10523>         remark:Total Flows at Greenbank Drain
10524> #*************************************************************************
10525> #    Catchment TODD
10526> #     - To Todd Drain (south of the Jock)
10527> #     - Subdivision with 43% imp. as per Barrhaven South MSS
10528> #     - 2020-11-30 increase imp. based on PS98(04)-11
10529> #     - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on PS98(04)-11
10530> #     - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
10531> #*************************************************************************
10532> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
10533> R0025:C00314-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10534>       CONTINUOUS STANDHYD    1.0 01:TODD_MN2       2.10      .339 No_date   28:00   53.59 .720     .000
10535>         [XIMP=.53:TIMP=.57]
10536>         [SDES= 2 :CN= 77.0]
10537>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10538>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
10539>         [IaRECimp=   4.00: IaRECper=   4.00]
10540>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10541> R0025:C00315-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10542>       CONTINUOUS STANDHYD    1.0 01:TODD_MN3        .12      .020 No_date   28:00   53.57 .720     .000
10543>         [XIMP=.53:TIMP=.57]
10544>         [SDES= 2 :CN= 77.0]
10545>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10546>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
10547>         [IaRECimp=   4.00: IaRECper=   4.00]
10548>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10549> R0025:C00316-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10550>       CONTINUOUS STANDHYD    1.0 01:TODD_MJ        30.23     4.269 No_date   28:02   55.13 .741     .000
10551>         [XIMP=.52:TIMP=.64]
10552>         [SDES= 2 :CN= 77.0]
10553>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10554>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
10555>         [IaRECimp=   4.00: IaRECper=   4.00]
10556>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10557> R0025:C00317-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10558>       CONTINUOUS STANDHYD    1.0 01:TODD_ALL     112.91   13.312 No_date   28:05   53.38 .718     .000
10559>         [XIMP=.52:TIMP=.57]
10560>         [SDES= 2 :CN= 77.0]
10561>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10562>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
10563>         [IaRECimp=   4.00: IaRECper=   4.00]
10564>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10565> R0025:C00318-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10566>       CONTINUOUS STANDHYD    1.0 01:TODD_P         3.06      .535 No_date   28:00   57.01 .766     .000
10567>         [XIMP=.63:TIMP=.63]
10568>         [SDES= 2 :CN= 77.0]
10569>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10570>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
10571>         [IaRECimp=   4.00: IaRECper=   4.00]
10572>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10573> # 5-Year + 12% Capture
10574> R0025:C00319-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10575>       ROUTE RESERVOIR ->     1.0 02:TODD_MJ        30.23     4.269 No_date   28:02   55.13  n/a     .000
10576>                        out <=    1.0 01:TODD_MJn      29.48     3.314 No_date   27:57   55.13  n/a     .000
10577>                   overflow <=    1.0 03:TODD_MJj        .75      .946 No_date   28:03   55.13  n/a     .000
10578>         {MxStoUsed=.1175E-03  m3, TotOvfVol=.4153E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
10579> # 5-Year + 12% Capture
10580> R0025:C00320-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10581>       ROUTE RESERVOIR ->     1.0 02:TODD_MN2       2.10      .339 No_date   28:00   53.59  n/a     .000
10582>                        out <=    1.0 01:TODD_MN2n      2.06      .268 No_date   27:54   53.60  n/a     .000
10583>                   overflow <=    1.0 03:TODD_MN2j       .04      .067 No_date   28:00   53.59  n/a     .000
10584>         {MxStoUsed=.8415E-04  m3, TotOvfVol=.2217E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
10585> R0025:C00321-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10586>       ROUTE RESERVOIR ->     1.0 02:TODD_MN3        .12      .020 No_date   28:00   53.58  n/a     .000
10587>                        out <=    1.0 01:TODD_MN3n       .11      .016 No_date   27:53   53.58  n/a     .000
10588>                   overflow <=    1.0 03:TODD_MN3j       .00      .004 No_date   28:00   53.58  n/a     .000
10589>         {MxStoUsed=.1067E-03  m3, TotOvfVol=.1192E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
10590> R0025:C00322-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10591>       CONTINUOUS STANDHYD    1.0 01:A2             25.50     2.974 No_date   28:03   49.44 .665     .000
10592>         [XIMP=.42:TIMP=.52]
10593>         [SDES= 2 :CN= 75.0]
10594>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10595>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
10596>         [IaRECimp=   4.00: IaRECper=   4.00]
10597>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10598> R0025:C00323-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10599>       COMPUTE DUALHYD        1.0 01:A2             25.50     2.974 No_date   28:03   49.44  n/a     .000
10600>         Major System   /     1.0 02:A2-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10601>         Minor System   \     1.0 03:A2-MN          25.50     1.818 No_date   27:54   49.64  n/a     .000
10602>         {MjSysSto=.8120E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10603> R0025:C00324-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10604>       ADD HYD                1.0 02:TODD_MN2n      2.06      .268 No_date   27:54   53.60  n/a     .000
10605>                        +     1.0 02:TODD_MN3n       .11      .016 No_date   27:53   53.58  n/a     .000
10606>                        +     1.0 02:TODD_MJj        .75      .946 No_date   28:03   55.13  n/a     .000
10607>                        +     1.0 02:TODD_P         3.06      .535 No_date   28:00   57.01  n/a     .000
10608>                        +     1.0 02:TODD_ALL     112.91   13.312 No_date   28:05   53.38  n/a     .000
10609>                        +     1.0 02:W_CLAR_MJn     1.73      .213 No_date   27:54   52.78  n/a     .000
10610>                    SUM=      1.0 01:TODD          120.62   14.962 No_date   28:03   53.48  n/a     .000
10611> R0025:C00325-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10612>       SAVE HYD               1.0 01:TODD       120.62   14.962 No_date   28:03   53.48  n/a     .000
10613>         fname :TODD.0025
10614>         remark:Total Flows at Todd Drain
10615> #*************************************************************************
10616> #    Todd Pond 3
10617> #     - Rating curve obtained from Barrhaven South MSS modeling
10618> #     - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
10619> #*************************************************************************
10620> R0025:C00326-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10621>       ROUTE RESERVOIR ->     1.0 02:TODD       120.62   14.962 No_date   28:03   53.48  n/a     .000
10622>                        out <=    1.0 01:MS_P3      120.62    9.717 No_date   28:14   53.48  n/a     .000
10623>                   overflow <=    1.0 03:P3-OVF         .00      .000 No_date    0:00     .00  n/a     .000
10624>         {MxStoUsed=.2619E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
10625> R0025:C00327-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10626>       ADD HYD                1.0 02:GreenB     54717.78  103.651 No_date   39:00   29.15  n/a     .000
10627>                        +     1.0 02:MS_P3      120.62    9.717 No_date   28:14   53.48  n/a     .000
10628>                        +     1.0 02:P3-OVF         .00      .000 No_date    0:00     .00  n/a     .000
10629>                        +     1.0 02:TODD_MNJ       .04      .067 No_date   28:00   53.59  n/a     .000
10630>                        +     1.0 02:A2-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10631>                    SUM=      1.0 01:SN_TO      54838.44  103.908 No_date   39:00   29.21  n/a     .000
10632> R0025:C00328-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10633>       SAVE HYD               1.0 01:SN_TO      54838.44  103.908 No_date   39:00   29.21  n/a     .000
10634>         fname :SN_TO.0025
10635>         remark:Total Flows at Todd Drain
10636> #
10637> # Hydrograph from Todd Drain routed to Corrigan Drain
10638> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
10639> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
10640> R0025:C00329-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10641>       ROUTE CHANNEL   ->     1.0 02:SN_TO      54838.44  103.908 No_date   39:00   29.21  n/a     .000
10642> *   [RDT= 1.00] out<-      1.0 01:N_TO       54838.44  103.688 No_date   39:23   29.21  n/a     .000
10643>       [L/S/n=  280./ .050/.045]
10644>       {Vmax=  905:Dmax= 3.151}
10645> R0025:C00330-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10646>       SAVE HYD               1.0 01:N_TO       54838.44  103.688 No_date   39:23   29.21  n/a     .000
10647>         fname :N_TO.0025
10648>         remark:Total inflows at Station 2462
10649> #*************************************************************************
10650> #    Catchment CORRIG
10651> #     - To Corrigan Drain (south of the Jock)
10652> #     - Primarily Developed (medium density)
10653> #     - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
10654> #*************************************************************************
10655> R0025:C00331-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10656>       CONTINUOUS STANDHYD    1.0 01:corr1          15.87     2.535 No_date   28:01   57.01 .766     .000
10657>         [XIMP=.63:TIMP=.63]
10658>         [SDES= 2 :CN= 77.0]
10659>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10660>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
10661>         [IaRECimp=   4.00: IaRECper=   4.00]
10662>         [SMIN= 31.15: SMAX=207.66: SK= .010]
10663> R0025:C00332-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10664>       COMPUTE DUALHYD        1.0 01:corr1          15.87     2.535 No_date   28:01   57.01  n/a     .000
10665>         Major System   /     1.0 02:corr1-MJ         .00      .000 No_date    0:00     .00  n/a     .000
10666>         Minor System   \     1.0 03:corr1-MN       15.87     1.818 No_date   28:15   57.37  n/a     .000
10667>         {MjSysSto=.3150E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10668> R0025:C00333-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10669>       CONTINUOUS NASHYD      1.0 01:corr2          12.47      .276 No_date   29:10   34.14 .459     .000
10670>         [CN= 77.0: N= 3.00: Tp= 1.10]
10671>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
10672>         [InterEventTime=  12.00]
10673> R0025:C00334-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10674>       CONTINUOUS STANDHYD    1.0 01:A1-Corrig      15.75     2.022 No_date   28:01   49.44 .665     .000
10675>         [XIMP=.42:TIMP=.52]
10676>         [SDES= 2 :CN= 75.0]
10677>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10678>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
10679>         [IaRECimp=   4.00: IaRECper=   4.00]
10680>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10681> R0025:C00335-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10682>       COMPUTE DUALHYD        1.0 01:A1-Corrig      15.75     2.022 No_date   28:01   49.44  n/a     .000
10683>         Major System   /     1.0 02:A1-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10684>         Minor System   \     1.0 03:A1-MN          15.75     1.818 No_date   27:58   49.57  n/a     .000
10685>         {MjSysSto=.4966E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10686> R0025:C00336-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10687>       CONTINUOUS NASHYD      1.0 01:B1             2.77      .097 No_date   28:09   21.19 .285     .000
10688>         [CN= 56.0: N= 3.00: Tp=  .23]
10689>         [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
10690>         [InterEventTime=  12.00]
10691> R0025:C00337-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10692>       CONTINUOUS STANDHYD    1.0 01:A4             1.27      .212 No_date   28:01   57.38 .771     .000
10693>         [XIMP=.65:TIMP=.65]
10694>         [SDES= 2 :CN= 75.0]
10695>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10696>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
10697>         [IaRECimp=   4.00: IaRECper=   4.00]
10698>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10699> R0025:C00338-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10700>       COMPUTE DUALHYD        1.0 01:A4             1.27      .212 No_date   28:01   57.38  n/a     .000
10701>         Major System   /     1.0 02:A4-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10702>         Minor System   \     1.0 03:A4-MN          1.27      .212 No_date   28:01   57.38  n/a     .000
10703>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10704> R0025:C00339-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10705>       ADD HYD                1.0 02:A1-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10706>                        +     1.0 02:A1-MN          15.75     1.818 No_date   27:58   49.57  n/a     .000
10707>                        +     1.0 02:corr1-MJ       .00      .000 No_date    0:00     .00  n/a     .000
10708>                        +     1.0 02:corr1-MN       15.87     1.818 No_date   28:15   57.37  n/a     .000
10709>                        +     1.0 02:corr2          12.47      .276 No_date   29:10   34.14  n/a     .000
10710>                        +     1.0 02:B1             2.77      .097 No_date   28:09   21.19  n/a     .000
10711>                        +     1.0 02:A4-MN          1.27      .212 No_date   28:01   57.38  n/a     .000
10712>                    SUM=      1.0 01:MH101         48.13     3.979 No_date   28:02   46.72  n/a     .000
10713> R0025:C00340-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10714>       SAVE HYD               1.0 01:MH101          48.13     3.979 No_date   28:02   46.72  n/a     .000
10715>         fname :MH101.0025
10716>         remark:Total Flows at MH101
10717> R0025:C00341-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10718>       ROUTE PIPE      ->     1.0 02:MH101          48.13     3.979 No_date   28:02   46.72  n/a     .000
10719> *   [RDT= 1.00] out<-      1.0 01:101-102        48.13     3.953 No_date   28:05   46.72  n/a     .000
10720>         [L/S/n=  368./ .540/.013]
10721>         {Vmax= 3.134:Dmax= 1.114}
10722>         [Din= 1.05:Dused= 1.05]
10723> R0025:C00342-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10724>       ADD HYD                1.0 02:A2-MN          25.50     1.818 No_date   27:54   49.64  n/a     .000
10725>                        +     1.0 02:101-102        48.13     3.953 No_date   28:05   46.72  n/a     .000
10726>                    SUM=      1.0 01:MH102          73.63     5.771 No_date   28:05   47.73  n/a     .000
10727> R0025:C00343-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10728>       SAVE HYD               1.0 01:MH102          73.63     5.771 No_date   28:05   47.73  n/a     .000
10729>         fname :MH102.0025
10730>         remark:Total Flows at MH102
10731> R0025:C00344-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10732>       CONTINUOUS STANDHYD    1.0 01:A5             1.60      .279 No_date   28:01   60.02 .807     .000
10733>         [XIMP=.71:TIMP=.71]
10734>         [SDES= 2 :CN= 75.0]
10735>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10736>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
10737>         [IaRECimp=   4.00: IaRECper=   4.00]
10738>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10739> R0025:C00345-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10740>       ADD HYD                1.0 02:A4-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10741>                        +     1.0 02:A5             1.60      .279 No_date   28:01   60.02  n/a     .000
10742>                    SUM=      1.0 01:A5T            1.60      .279 No_date   28:01   60.02  n/a     .000
10743> R0025:C00346-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10744>       COMPUTE DUALHYD        1.0 01:A5T            1.60      .279 No_date   28:01   60.02  n/a     .000
10745>         Major System   /     1.0 02:A5-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10746>         Minor System   \     1.0 03:A5-MN          1.60      .279 No_date   28:01   60.02  n/a     .000
10747>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10748> R0025:C00347-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10749>       ROUTE PIPE      ->     1.0 02:MH102          73.63     5.771 No_date   28:05   47.73  n/a     .000
10750> *   [RDT= 1.00] out<-      1.0 01:102-103        73.63     5.682 No_date   28:08   47.73  n/a     .000
10751>         [L/S/n=  504./ .280/.013]
10752>         {Vmax= 2.688:Dmax= 1.448}
10753>         [Din= 1.50:Dused= 1.76]
10754> R0025:C00348-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10755>       ADD HYD                1.0 02:102-103        73.63     5.682 No_date   28:08   47.73  n/a     .000
10756>                        +     1.0 02:A5-MN          1.60      .279 No_date   28:01   60.02  n/a     .000
10757>                    SUM=      1.0 01:MH103          75.23     5.850 No_date   28:06   47.99  n/a     .000
10758> R0025:C00349-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10759>       SAVE HYD               1.0 01:MH103          75.23     5.850 No_date   28:06   47.99  n/a     .000
10760>         fname :MH103.0025
10761>         remark:Total Flows at MH103
10762> R0025:C00350-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10763>       ROUTE PIPE      ->     1.0 02:MH103          75.23     5.850 No_date   28:06   47.99  n/a     .000
10764>       [RDT= 1.00] out<-      1.0 01:103-104        75.23     5.807 No_date   28:08   47.99  n/a     .000
10765>         [L/S/n=  438./ .460/.013]
10766>         {Vmax= 3.289:Dmax= 1.288}
10767>         [Din= 1.65:Dused= 1.65]
10768> R0025:C00351-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10769>       CONTINUOUS STANDHYD    1.0 01:A6             1.56      .274 No_date   28:00   60.02 .807     .000
10770>         [XIMP=.71:TIMP=.71]
10771>         [SDES= 2 :CN= 75.0]
10772>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10773>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
10774>         [IaRECimp=   4.00: IaRECper=   4.00]
10775>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10776> R0025:C00352-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10777>       ADD HYD                1.0 02:A5-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10778>                        +     1.0 02:A6             1.56      .274 No_date   28:00   60.02  n/a     .000
10779>                    SUM=      1.0 01:A6T            1.56      .274 No_date   28:00   60.02  n/a     .000
10780> R0025:C00353-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10781>       COMPUTE DUALHYD        1.0 01:A6T            1.56      .274 No_date   28:00   60.02  n/a     .000
10782>         Major System   /     1.0 02:A6-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10783>         Minor System   \     1.0 03:A6-MN          1.56      .274 No_date   28:00   60.02  n/a     .000
10784>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10785> R0025:C00354-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10786>       ADD HYD                1.0 02:A6-MN          1.56      .274 No_date   28:00   60.02  n/a     .000
10787>                        +     1.0 02:103-104        75.23     5.807 No_date   28:08   47.99  n/a     .000
10788>                        +     1.0 02:TODD_MJn       29.48     3.314 No_date   27:57   55.13  n/a     .000
10789>                    SUM=      1.0 01:MH104         106.27     9.269 No_date   28:06   50.14  n/a     .000
10790> R0025:C00355-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10791>       SAVE HYD               1.0 01:MH104         106.27     9.269 No_date   28:06   50.14  n/a     .000
10792>         fname :MH104.0025
10793>         remark:Total Flows at MH104
10794> R0025:C00356-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10795>       CONTINUOUS STANDHYD    1.0 01:B2             12.31     1.521 No_date   28:02   49.75 .669     .000
10796>         [XIMP=.41:TIMP=.54]
10797>         [SDES= 2 :CN= 75.0]
10798>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10799>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
10800>         [IaRECimp=   4.00: IaRECper=   4.00]
10801>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10802> R0025:C00357-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10803>       COMPUTE DUALHYD        1.0 01:B2             12.31     1.521 No_date   28:02   49.75  n/a     .000
10804>         Major System   /     1.0 02:B2-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10805>         Minor System   \     1.0 03:B2-MN          12.31     1.029 No_date   27:55   49.85  n/a     .000
10806>         {MjSysSto=.2691E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10807> R0025:C00358-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10808>       ROUTE PIPE      ->     1.0 02:B2-MN          12.31     1.029 No_date   27:55   49.85  n/a     .000
10809> *   [RDT= 1.00] out<-      1.0 01:315-333        12.31     1.029 No_date   28:24   49.85  n/a     .000
10810>         [L/S/n=  254./ .100/.013]
10811>         {Vmax= 1.220:Dmax=  .838}
10812>         [Din= 1.20:Dused= 1.20]
10813> R0025:C00359-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10814>       CONTINUOUS STANDHYD    1.0 01:B3              5.59      .715 No_date   28:02   49.75 .669     .000
10815>         [XIMP=.41:TIMP=.54]
10816>         [SDES= 2 :CN= 75.0]
10817>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10818>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
10819>         [IaRECimp=   4.00: IaRECper=   4.00]
10820>         [SMIN= 33.81: SMAX=225.43: SK= .010]
10821> R0025:C00360-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10822>       COMPUTE DUALHYD        1.0 01:B3              5.59      .715 No_date   28:02   49.75  n/a     .000
10823>         Major System   /     1.0 02:B3-MJ          .00      .000 No_date    0:00     .00  n/a     .000
10824>         Minor System   \     1.0 03:B3-MN          5.59      .459 No_date   27:54   49.80  n/a     .000
10825>         {MjSysSto=.1451E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10826> R0025:C00361-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10827>       ADD HYD                1.0 02:B3-MN          5.59      .459 No_date   27:54   49.80  n/a     .000
10828>                        +     1.0 02:315-333        12.31     1.029 No_date   28:24   49.85  n/a     .000
10829>                    SUM=      1.0 01:MH333          17.90     1.488 No_date   28:24   49.83  n/a     .000
10830> R0025:C00362-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10831>       SAVE HYD               1.0 01:MH333          17.90     1.488 No_date   28:24   49.83  n/a     .000
10832>         fname :MH333.0
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10847>     ROUTE PIPE      ->    1.0 02:335-338       17.90    1.490 No_date   28:26   49.83  n/a     .000
10848>      [RDT= 1.00] out<-    1.0 01:338-340       17.90    1.456 No_date   28:26   49.83  n/a     .000
10849>        [L/S/n=  233./ .100/.013]
10850>        {Vmax= 1.331:Dmax=  .985}
10851>        [Din= 1.35:Dused= 1.35}
10852> R0025:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10853>     CONTINUOUS STANDHYD   1.0 01:B4            7.60     .960 No_date   28:02   49.75 .669    .000
10854>       [XIMP=.41:TIMP=.54]
10855>       [LOSS= 2 :CN= 75.0]
10856>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10857>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
10858>       [IaREC imp=  4.00: IaRECper=   4.00]
10859>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10860> R0025:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10861>     COMPUTE DUALHYD       1.0 01:B4            7.60     .960 No_date   28:02   49.75  n/a     .000
10862>       Major System   /    1.0 02:B4-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10863>       Minor System   \    1.0 03:B4-MN        7.60     .655 No_date   27:55   50.00  n/a     .000
10864>         {MjSysSto=.611E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10865> R0025:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10866>     ADD HYD               1.0 02:338-340       17.90    1.456 No_date   28:26   49.83  n/a     .000
10867>                     +     1.0 01:B4-MN         7.60     .655 No_date   27:55   50.00  n/a     .000
10868>                   SUM=    1.0 01:MH340        25.50    2.104 No_date   28:18   49.88  n/a     .000
10869> R0025:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10870>     SAVE HYD              1.0 01:MH340        25.50    2.104 No_date   28:18   49.88  n/a     .000
10871>       fname :MH340.0025
10872>       remark:Total Flows at MH340
10873> R0025:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10874>     ROUTE PIPE      ->    1.0 02:MH340        25.50    2.104 No_date   28:18   49.88  n/a     .000
10875>      [RDT= 1.00] out<-    1.0 01:340-104       25.50    2.086 No_date   28:18   49.88  n/a     .000
10876>        [L/S/n=  240./ .150/.013]
10877>        {Vmax= 1.722:Dmax=  .917}
10878>        [Din= 1.65:Dused= 1.65}
10879> R0025:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10880>     ADD HYD               1.0 02:340-104       25.50    2.086 No_date   28:18   49.88  n/a     .000
10881>                     +     1.0 02:MH104        106.27    9.269 No_date   28:06   50.14  n/a     .000
10882>                   SUM=    1.0 01:MH104        131.77   11.233 No_date   28:08   50.09  n/a     .000
10883> R0025:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10884>     ROUTE PIPE      ->    1.0 02:MH104T       131.77   11.233 No_date   28:08   50.09  n/a     .000
10885> *   [RDT= 1.00] out<-    1.0 01:104-105       131.77   10.846 No_date   28:08   50.09  n/a     .000
10886>        [L/S/n=  380./ .100/.013]
10887>        {Vmax= 2.100:Dmax= 1.992}
10888>        {HGT= 2.35:WDTH= 2.68}
10889> R0025:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10890>     CONTINUOUS STANDHYD   1.0 01:B5            2.20     .346 No_date   28:00   53.85 .724    .000
10891>       [XIMP=.57:TIMP=.57]
10892>       [LOSS= 2 :CN= 75.0]
10893>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10894>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
10895>       [IaREC imp=  4.00: IaRECper=   4.00]
10896>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10897> R0025:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10898>     COMPUTE DUALHYD       1.0 01:B5            2.20     .346 No_date   28:00   53.85  n/a     .000
10899>       Major System   /    1.0 02:B5-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10900>       Minor System   \    1.0 03:B5-MN        2.20     .260 No_date   27:54   53.87  n/a     .000
10901>         {MjSysSto=.3304E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10902> R0025:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10903>     CONTINUOUS STANDHYD   1.0 01:A8            .96     .177 No_date   28:00   60.02 .807    .000
10904>       [XIMP=.71:TIMP=.71]
10905>       [LOSS= 2 :CN= 75.0]
10906>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10907>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
10908>       [IaREC imp=  4.00: IaRECper=   4.00]
10909>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10910> R0025:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10911>     ADD HYD               1.0 02:A6-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10912>                     +     1.0 02:A8            .96     .177 No_date   28:00   60.02  n/a     .000
10913>                   SUM=    1.0 01:A8T           .96     .177 No_date   28:00   60.02  n/a     .000
10914> R0025:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10915>     COMPUTE DUALHYD       1.0 01:A8T           .96     .177 No_date   28:00   60.02  n/a     .000
10916>       Major System   /    1.0 02:A8-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10917>       Minor System   \    1.0 03:A8-MN         .96     .177 No_date   28:00   60.02  n/a     .000
10918>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10919> R0025:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10920>     ADD HYD               1.0 02:104-105       131.77   10.846 No_date   28:08   50.09  n/a     .000
10921>                     +     1.0 02:B5-MN         2.20     .260 No_date   27:54   53.87  n/a     .000
10922>                     +     1.0 02:A8-MN         .96     .177 No_date   28:00   60.02  n/a     .000
10923>                     +     1.0 02:TODD_MNJ      .00     .004 No_date   23:00   53.58  n/a     .000
10924>                   SUM=    1.0 01:MH105        134.93   11.175 No_date   28:08   50.23  n/a     .000
10925> R0025:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10926>     SAVE HYD              1.0 01:MH105        134.93   11.175 No_date   28:08   50.23  n/a     .000
10927>       fname :MH105.0025
10928>       remark:Total Flows at MH105
10929> R0025:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10930> *   DIVERT HYD      ->    1.0 01:A8-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10931>                  diverted <=  1.0 02:A8-MJ-JR      .00     .000 No_date    0:00     .00  n/a     .000
10932>                  diverted <=  1.0 02:A8-MJ-B6      .00     .000 No_date    0:00     .00  n/a     .000
10933> R0025:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10934>     DIVERT HYD      ->    1.0 01:MH105        134.93   11.175 No_date   28:08   50.23  n/a     .000
10935>                  diverted <=  1.0 02:MH105-JR      33.95     8.167 No_date   28:08   50.23  n/a     .000
10936>                  diverted <=  1.0 03:MH105-B6     100.98    3.008 No_date   28:08   50.23  n/a     .000
10937> R0025:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10938>     CONTINUOUS STANDHYD   1.0 01:B7            7.19     .975 No_date   28:01   49.75 .669    .000
10939>       [XIMP=.41:TIMP=.54]
10940>       [LOSS= 2 :CN= 75.0]
10941>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10942>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
10943>       [IaREC imp=  4.00: IaRECper=   4.00]
10944>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10945> R0025:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10946>     ADD HYD               1.0 02:B4-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10947>                     +     1.0 02:B7            7.19     .975 No_date   28:01   49.75  n/a     .000
10948>                   SUM=    1.0 01:B7-B4MJ       7.19     .975 No_date   28:01   49.75  n/a     .000
10949> R0025:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10950>     COMPUTE DUALHYD       1.0 01:B7-B4MJ       7.19     .975 No_date   28:01   49.75  n/a     .000
10951>       Major System   /    1.0 02:B7R-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10952>       Minor System   \    1.0 03:B7R-MN        7.19     .629 No_date   27:53   50.01  n/a     .000
10953>         {MjSysSto=.724E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10954> R0025:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10955>     ROUTE PIPE      ->    1.0 02:B7R-MN        7.19     .629 No_date   27:53   50.01  n/a     .000
10956> *   [RDT= 1.00] out<-    1.0 01:360-106A      7.19     .629 No_date   28:21   50.01  n/a     .000
10957>        [L/S/n=  167./ .100/.013]
10958>        {Vmax= 1.089:Dmax=  .665}
10959>        [Din= 1.05:Dused= 1.05}
10960> R0025:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10961>     CONTINUOUS STANDHYD   1.0 01:B6            3.29     .465 No_date   28:00   49.75 .669    .000
10962>       [XIMP=.41:TIMP=.54]
10963>       [LOSS= 2 :CN= 75.0]
10964>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10965>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
10966>       [IaREC imp=  4.00: IaRECper=   4.00]
10967>       [SMIN= 33.81: SMAX=225.43: SK= .010]
10968> R0025:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10969>     COMPUTE DUALHYD       1.0 01:B6            3.29     .465 No_date   28:00   49.75  n/a     .000
10970>       Major System   /    1.0 02:B6-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10971>       Minor System   \    1.0 03:B6-MN        3.29     .064 No_date   27:34   49.75  n/a     .000
10972>         {MjSysSto=.5165E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10973> R0025:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10974>     CONTINUOUS STANDHYD   1.0 01:EX-LAND      32.50    4.063 No_date   28:02   50.08 .673    .000
10975>       [XIMP=.50:TIMP=.50]
10976>       [LOSS= 2 :CN= 74.0]
10977>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
10978>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
10979>       [IaREC imp=  4.00: IaRECper=   4.00]
10980>       [SMIN= 36.67: SMAX=244.49: SK= .010]
10981> R0025:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10982>     COMPUTE DUALHYD       1.0 01:EX-LAND      32.50    4.063 No_date   28:02   50.08  n/a     .000
10983>       Major System   /    1.0 02:EX-LAND-MJ    .00     .000 No_date    0:00     .00  n/a     .000
10984>       Minor System   \    1.0 03:EX-LAND-MN    32.50    2.275 No_date   27:52   50.26  n/a     .000
10985>         {MjSysSto=.1224E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10986> R0025:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10987>     ADD HYD               1.0 02:B7R-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10988>                     +     1.0 02:EX-LAND-MJ    .00     .000 No_date    0:00     .00  n/a     .000
10989>                     +     1.0 02:B5-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10990>                     +     1.0 02:B6-MJ         .00     .000 No_date    0:00     .00  n/a     .000
10991>                     +     1.0 02:B6-MN        3.29     .064 No_date   27:34   49.75  n/a     .000
10992>                     +     1.0 02:A8-MJ-B6      .00     .000 No_date    0:00     .00  n/a     .000
10993>                   SUM=    1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:34   49.75  n/a     .000
10994> R0025:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
10995>     COMPUTE DUALHYD       1.0 01:B6-B7EXMJ     3.29     .064 No_date   27:34   49.75  n/a     .000
10996>       Major System   /    1.0 02:B6R-MJ        .00     .000 No_date    0:00     .00  n/a     .000
10997>       Minor System   \    1.0 03:B6R-MN        3.29     .064 No_date   27:34   49.75  n/a     .000
10998>         {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
10999> R0025:C00392------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11000>     ROUTE PIPE      ->    1.0 02:MH105-B6     100.98    3.008 No_date   28:08   50.23  n/a     .000
11001>      [RDT= 1.00] out<-    1.0 01:105-106A     100.98    3.018 No_date   28:02   50.23  n/a     .000
11002>        [L/S/n=  208./ .100/.013]
11003>        {Vmax= 1.597:Dmax= 1.249}
11004>        [Din= 1.80:Dused= 1.80}
11005> R0025:C00393------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11006>     ADD HYD               1.0 02:360-106A      7.19     .629 No_date   28:21   50.01  n/a     .000
11007>                     +     1.0 02:105-106A     100.98    3.018 No_date   28:02   50.23  n/a     .000
11008>                     +     1.0 02:B6R-MN        3.29     .064 No_date   27:34   49.75  n/a     .000
11009>                     +     1.0 02:B6R-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11010>                   SUM=    1.0 01:MH106A       111.46    3.702 No_date   28:02   50.20  n/a     .000
11011> R0025:C00394------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11012>     SAVE HYD              1.0 01:MH106A       111.46    3.702 No_date   28:02   50.20  n/a     .000
11013>       fname :MH106A.0025
11014>       remark:Total Flows at MH106A
11015> R0025:C00395------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11016>     ROUTE PIPE      ->    1.0 02:MH106A       111.46    3.702 No_date   28:02   50.20  n/a     .000
11017> *   [RDT= 1.00] out<-    1.0 01:106A-106     111.46    3.699 No_date   28:16   50.20  n/a     .000
11018>        [L/S/n=  190./ .100/.013]
11019>        {Vmax= 1.635:Dmax= 1.487}
11020>        [Din= 1.80:Dused= 1.81}
11021> R0025:C00396------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11022>     CONTINUOUS STANDHYD   1.0 01:A9            2.44     .433 No_date   28:00   60.02 .807    .000
11023>       [XIMP=.71:TIMP=.71]
11024>       [LOSS= 2 :CN= 75.0]
11025>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11026>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0]
11027>       [IaREC imp=  4.00: IaRECper=   4.00]
11028>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11029> R0025:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11030>     COMPUTE DUALHYD       1.0 01:A9            2.44     .433 No_date   28:00   60.02  n/a     .000
11031>       Major System   /    1.0 02:A9-MJ         .00     .000 No_date    0:00     .00  n/a     .000
11032>       Minor System   \    1.0 03:A9-MN        2.44     .433 No_date   28:00   60.02  n/a     .000
11033> R0025:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11034>     ADD HYD               1.0 02:106A-106     111.46    3.699 No_date   28:16   50.20  n/a     .000
11035>                     +     1.0 02:A9-MN         2.44     .433 No_date   28:00   60.02  n/a     .000
11036>                   SUM=    1.0 01:MH106        113.90    4.090 No_date   28:01   50.41  n/a     .000
11037> R0025:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11038>     SAVE HYD              1.0 01:MH106        113.90    4.090 No_date   28:01   50.41  n/a     .000
11039>       fname :MH106.0025
11040>       remark:Total Flows at MH106
11041> R0025:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11042>     ROUTE PIPE      ->    1.0 02:MH106        113.90    4.090 No_date   28:01   50.41  n/a     .000
11043> *   [RDT= 1.00] out<-    1.0 01:106-107       113.90    4.067 No_date   28:03   50.41  n/a     .000
11044>        [L/S/n=  123./ .100/.013]
11045>        {Vmax= 1.676:Dmax= 1.644}
11046>        [Din= 1.80:Dused= 1.88}
11047> R0025:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11048>     CONTINUOUS STANDHYD   1.0 01:A10           4.14     .526 No_date   28:01   46.81 .629    .000
11049>       [XIMP=.35:TIMP=.47]
11050>       [LOSS= 2 :CN= 75.0]
11051>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11052>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
11053>       [IaREC imp=  4.00: IaRECper=   4.00]
11054>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11055> R0025:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11056>     COMPUTE DUALHYD       1.0 01:A10           4.14     .526 No_date   28:01   46.81  n/a     .000
11057>       Major System   /    1.0 02:A10-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11058>       Minor System   \    1.0 03:A10-MN        4.14     .310 No_date   27:52   46.90  n/a     .000
11059>         {MjSysSto=.1196E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
11060> R0025:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11061>     CONTINUOUS STANDHYD   1.0 01:A11          10.61    1.511 No_date   28:01   54.09 .727    .000
11062>       [XIMP=.53:TIMP=.62]
11063>       [LOSS= 2 :CN= 75.0]
11064>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11065>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
11066>       [IaREC imp=  4.00: IaRECper=   4.00]
11067>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11068> R0025:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11069>     COMPUTE DUALHYD       1.0 01:A11          10.61    1.511 No_date   28:01   54.09  n/a     .000
11070>       Major System   /    1.0 02:A11-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11071>       Minor System   \    1.0 03:A11-MN       10.61    .993 No_date   27:54   54.21  n/a     .000
11072>         {MjSysSto=.2791E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
11073> R0025:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11074>     ADD HYD               1.0 02:106-107       113.90    4.067 No_date   28:03   50.41  n/a     .000
11075>                     +     1.0 02:A10-MN        4.14     .310 No_date   27:52   46.90  n/a     .000
11076>                     +     1.0 02:A11-MN       10.61     .993 No_date   27:54   54.21  n/a     .000
11077>                   SUM=    1.0 01:MH107        128.65    5.370 No_date   28:03   50.61  n/a     .000
11078> R0025:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11079>     SAVE HYD              1.0 01:MH107        128.65    5.370 No_date   28:03   50.61  n/a     .000
11080>       fname :MH107.0025
11081>       remark:Total Flows at MH107
11082> R0025:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11083>     ROUTE PIPE      ->    1.0 02:MH107        128.65    5.370 No_date   28:03   50.61  n/a     .000
11084> *   [RDT= 1.00] out<-    1.0 01:107-119       128.65    5.374 No_date   28:04   50.61  n/a     .000
11085>        [L/S/n=  114./ .120/.013]
11086>        {Vmax= 1.922:Dmax= 1.653}
11087>        [Din= 1.80:Dused= 2.01}
11088> R0025:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11089>     ROUTE PIPE      ->    1.0 02:107-119       128.65    5.374 No_date   28:04   50.61  n/a     .000
11090> *   [RDT= 1.00] out<-    1.0 01:119-108       128.65    5.354 No_date   28:04   50.61  n/a     .000
11091>        [L/S/n=   66./ .120/.013]
11092>        {Vmax= 1.922:Dmax= 1.653}
11093>        [Din= 1.80:Dused= 2.01}
11094> R0025:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11095>     CONTINUOUS STANDHYD   1.0 01:A12          12.29    1.704 No_date   28:01   49.75 .669    .000
11096>       [XIMP=.41:TIMP=.54]
11097>       [LOSS= 2 :CN= 75.0]
11098>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11099>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
11100>       [IaREC imp=  4.00: IaRECper=   4.00]
11101>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11102> R0025:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11103>     COMPUTE DUALHYD       1.0 01:A12          12.29    1.704 No_date   28:01   49.75  n/a     .000
11104>       Major System   /    1.0 02:A12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11105>       Minor System   \    1.0 03:A12-MN       12.29    1.029 No_date   27:52   49.91  n/a     .000
11106>         {MjSysSto=.3558E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
11107> R0025:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11108>     CONTINUOUS STANDHYD   1.0 01:A13           2.59     .435 No_date   28:01   60.02 .807    .000
11109>       [XIMP=.71:TIMP=.71]
11110>       [LOSS= 2 :CN= 75.0]
11111>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11112>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0]
11113>       [IaREC imp=  4.00: IaRECper=   4.00]
11114>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11115> R0025:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11116>     COMPUTE DUALHYD       1.0 01:A13           2.59     .435 No_date   28:01   60.02  n/a     .000
11117>       Major System   /    1.0 02:A13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11118>       Minor System   \    1.0 03:A13-MN        2.59     .435 No_date   28:01   60.02  n/a     .000
11119> R0025:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11120>     CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94     .375 No_date   28:00   47.01 .632    .000
11121>       [XIMP=.41:TIMP=.41]
11122>       [LOSS= 2 :CN= 75.0]
11123>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11124>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0]
11125>       [IaREC imp=  4.00: IaRECper=   4.00]
11126>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11127> R0025:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11128>     ADD HYD               1.0 01:MH108        128.65    5.354 No_date   28:04   50.61  n/a     .000
11129>                     +     1.0 02:A13-MN        2.59     .435 No_date   28:01   60.02  n/a     .000
11130>                     +     1.0 02:A12-MN       12.29    1.029 No_date   27:52   49.91  n/a     .000
11131>                   SUM=    1.0 01:MH108        143.53    6.791 No_date   28:03   50.72  n/a     .000
11132> R0025:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11133>     SAVE HYD              1.0 01:MH108        143.53    6.791 No_date   28:03   50.72  n/a     .000
11134>       fname :MH108.0025
11135>       remark:Total Flows at MH108
11136> R0025:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11137>     ROUTE PIPE      ->    1.0 02:MH108        143.53    6.791 No_date   28:03   50.72  n/a     .000
11138> *   [RDT= 1.00] out<-    1.0 01:108-116       143.53    6.772 No_date   28:04   50.72  n/a     .000
11139>        [L/S/n=   77./ .130/.013]
11140>        {Vmax= 2.100:Dmax= 1.772}
11141>        [Din= 1.80:Dused= 2.17}
11142> R0025:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11143>     ROUTE PIPE      ->    1.0 02:108-116       143.53    6.772 No_date   28:04   50.72  n/a     .000
11144> *   [RDT= 1.00] out<-    1.0 01:116-corrig    143.53    6.762 No_date   28:05   50.72  n/a     .000
11145>        [L/S/n=   80./ .130/.013]
11146>        {Vmax= 2.098:Dmax= 1.776}
11147>        [Din= 1.80:Dused= 2.16}
11148> R0025:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11149>     ADD HYD               1.0 01:116-corrig    143.53    6.762 No_date   28:05   50.72  n/a     .000
11150>                     +     1.0 02:Pond-Block    2.94     .375 No_date   28:00   47.01  n/a     .000
11151>                   SUM=    1.0 01:Corrigan      146.47    7.034 No_date   28:04   50.65  n/a     .000
11152> R0025:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11153>     SAVE HYD              1.0 01:Corrigan      146.47    7.034 No_date   28:04   50.65  n/a     .000
11154>       fname :Corrigan.0025
11155>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
11156> R0025:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11157>     ROUTE RESERVOIR ->    1.0 02:Corrigan      146.47    7.034 No_date   28:04   50.65  n/a     .000
11158>                     out <=  1.0 01:Corr_P      146.47    6.458 No_date   28:16   50.64  n/a     .000
11159>               overflow <=   1.0 03:Co-P-OVF      .00     .000 No_date    0:00     .00  n/a     .000
11160>         {MxStoUsed=.1034E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
11161> R0025:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11162>     ADD HYD               1.0 02:Co-P-OVF      .00     .000 No_date    0:00     .00  n/a     .000
11163>                     +     1.0 02:Co-P          146.47    6.458 No_date   28:16   50.64  n/a     .000
11164>                     +     1.0 02:MH_TO       54838.44  103.688 No_date   39:23   29.21  n/a     .000
11165>                     +     1.0 02:MH105-JR      33.95    8.167 No_date   28:08   50.23  n/a     .000
11166>                     +     1.0 02:A8-MJ-JR      .00     .000 No_date    0:00     .00  n/a     .000
11167>                     +     1.0 02:B5-MJ         .00     .000 No_date    0:00     .00  n/a     .000
11168>                     +     1.0 02:A10-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11169>                     +     1.0 02:A11-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11170>                     +     1.0 02:A12-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11171>                     +     1.0 02:A13-MJ        .00     .000 No_date    0:00     .00  n/a     .000
11172>                   SUM=    1.0 01:Corrig      55018.86  103.978 No_date   39:24   29.28  n/a     .000
11173> R0025:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11174>     SAVE HYD              1.0 01:corrig      55018.86  103.978 No_date   39:24   29.28  n/a     .000
11175>       fname :corrig.0025
11176>       remark:Total Flows at Corrigan Pond
11177> #*********************************************************************
11178> #    Corrigan Pond 1
11179> #    - Rating curve obtained from Barrhaven South MSS modeling
11180> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
11181> #*********************************************************************
11182> #
11183> # Hydrograph from Corrigan Drain routed to Jockvale Road
11184> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
11185> #
11186> R0025:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11187>     ROUTE CHANNEL   ->    1.0 02:corrig      55018.86  103.978 No_date   39:24   29.28  n/a     .000
11188>      [RDT= 1.00] out<-    1.0 01:N_MI        55018.86  103.970 No_date   39:27   29.28  n/a     .000
11189>        [L/S/n=  580./ .445/.045]
11190>        {Vmax= 1.914:Dmax= 1.789}
11191> #*********************************************************************
11192> #    Catchment MILLS
11193> #    - To SWM Facility north of the Jock
11194> #    - Primarily residental development
11195> #*********************************************************************
11196> R0025:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11197>     CONTINUOUS STANDHYD   1.0 01:MILLS        175.99   15.275 No_date   28:07   44.62 .600    .000
11198>       [XIMP=.38:TIMP=.38]
11199>       [LOSS= 2 :CN= 74.0]
11200>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11201>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1118.:MNI=.013:
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11221>       remark:Total Flows at Jockvale Road
11222> #
11223> # Hydrograph from Jockvale Road routed to Heart's Desire
11224> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
11225> #
11226> R0025:C00428------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11227>     ROUTE CHANNEL   ->     1.0 02:SN_MI      55194.86  104.359 No_date   39:26   29.33  n/a     .000
11228>      [RDT= 1.00] out<-     1.0 01:N_DE       55194.86  104.140 No_date   39:45   29.33  n/a     .000
11229>       [L/S/n= 1962./ .223/.045]
11230>       {Vmax= 1.483:Dmax= 2.264}
11231> #*************************************************************************
11232> #    Catchment DESIRE
11233> #    - To Jock River (north of the Jock)
11234> #    - Rural-estate subdivision (Heart's Desire Community)
11235> #*************************************************************************
11236> R0025:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11237>     CONTINUOUS STANDHYD    1.0 01:DESIRE        23.78    2.161 No_date   28:03   40.77 .548     .000
11238>       [XIMP=.25:TIMP=.25]
11239>       [LOSS= 2 :CN= 77.0]
11240>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11241>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
11242>       [IaRECimp=   4.00: IaRECper=   4.00]
11243>       [SMIN= 31.15: SMAX=207.66: SK= .010]
11244> #*************************************************************************
11245> #    Catchment JOCKVA
11246> #    - To Jockvale SWM Facility
11247> #    - Residential development & golf course
11248> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
11249> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
11250> #*************************************************************************
11251> R0025:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11252>     CONTINUOUS STANDHYD    1.0 01:JOCKVA       225.13   21.797 No_date   28:07   50.08 .673     .000
11253>       [XIMP=.50:TIMP=.50]
11254>       [LOSS= 2 :CN= 74.0]
11255>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
11256>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
11257>       [IaRECimp=   4.00: IaRECper=   4.00]
11258>       [SMIN= 36.67: SMAX=244.49: SK= .010]
11259> R0025:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11260>     ADD HYD                1.0 02:EX-LAND-MN    32.50    2.275 No_date   27:52   50.26  n/a     .000
11261>                        +   1.0 02:JOCKVA      225.13   21.797 No_date   28:07   50.08  n/a     .000
11262>                        +   1.0 02:B2-MJ         .00     .000 No_date   0:00     .00  n/a     .000
11263>                        +   1.0 02:B3-MJ         .00     .000 No_date   0:00     .00  n/a     .000
11264>                      SUM=  1.0 01:JOCKVA-TO   257.63   24.072 No_date   28:07   50.10  n/a     .000
11265> R0025:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11266>     SAVE HYD               1.0 01:JOCKVA-TO     257.63   24.072 No_date   28:07   50.10  n/a     .000
11267>       fname :JOCKVA-TO.0025
11268>       remark:Total Flows at KB first pond
11269> #*************************************************************************
11270> #    Jockvale SWM Facility
11271> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
11272> #*************************************************************************
11273> R0025:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11274>     ROUTE RESERVOIR ->     1.0 02:JOCKVA-TO     257.63   24.072 No_date   28:07   50.10  n/a     .000
11275>                   out <=   1.0 01:JOCK_P       257.63    9.145 No_date   28:37   50.10  n/a     .000
11276>          overflow <=       1.0 03:JO-OVF          .00     .000 No_date   0:00     .00  n/a     .000
11277>       {MxStoUsed=.5425E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
11278> R0025:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11279>     ADD HYD                1.0 02:N_DE        55194.86  104.140 No_date   39:45   29.33  n/a     .000
11280>                        +   1.0 02:DESIRE       23.78    2.161 No_date   28:03   40.77  n/a     .000
11281>                        +   1.0 02:JO-OVF         .00     .000 No_date   0:00     .00  n/a     .000
11282>                        +   1.0 02:JOCK_P       257.63    9.145 No_date   28:37   50.10  n/a     .000
11283>                      SUM=  1.0 01:SN_DE       55476.27  104.765 No_date   39:44   29.43  n/a     .000
11284> R0025:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11285>     SAVE HYD               1.0 01:SN_DE       55476.27  104.765 No_date   39:44   29.43  n/a     .000
11286>       fname :SN_DE.0025
11287>       remark:Total Flows at Heart's Desire
11288> #
11289> # Hydrograph from Heart's Desire routed to Rideau River
11290> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
11291> #
11292> R0025:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11293>     ROUTE CHANNEL   ->     1.0 02:SN_DE       55476.27  104.765 No_date   39:44   29.43  n/a     .000
11294>      [RDT= 1.00] out<-     1.0 01:N1          55476.27  104.757 No_date   39:48   29.43  n/a     .000
11295>       [L/S/n=  563./ .967/.045]
11296>       {Vmax= 1.941:Dmax= 1.134}
11297> #*************************************************************************
11298> #    Catchment S-2
11299> #    - To Jock River (north and south)
11300> #    - Undeveloped floodplain and river
11301> #*************************************************************************
11302> R0025:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11303>     CONTINUOUS NASHYD      1.0 01:S-2           102.94    3.971 No_date   28:20   30.13 .405     .000
11304>       [CN= 72.0: N= 3.00: Tp=  .40]
11305>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
11306>       [InterEventTime=  12.00]
11307> R0025:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11308>     ADD HYD                1.0 02:N1          55476.27  104.757 No_date   39:48   29.43  n/a     .000
11309>                        +   1.0 02:S-2          102.94    3.971 No_date   28:20   30.13  n/a     .000
11310>                      SUM=  1.0 01:SN_N1       55579.21  104.958 No_date   39:48   29.43  n/a     .000
11311> R0025:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11312>     SAVE HYD               1.0 01:SN_N1       55579.21  104.958 No_date   39:48   29.43  n/a     .000
11313>       fname :SN_N1.0025
11314>       remark:Total Flows at Rideau River
11315> ###########################################################################
11316>   ** END OF RUN :   49
11317>
11318> ***************************************************************************************************************
11319>
11320>
11321>
11322>
11323>
11324>  RUN#:COMMAND#
11325> R0050:C00001------------------------------------------------------------------------------------------------
11326>       START
11327>       [TZERO =    .00 hrs on       0]
11328>       [METOUT=   2    (1=imperial, 2=metric output)]
11329>       [NSTORM=   1 ]
11330>       [NRUN   = 0050 ]
11331> #*************************************************************************
11332> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
11333> #*************************************************************************
11334> #  Project Name: [Jock River]    Project Number: [1474-16]
11335> #  Date        : 04-03-2021
11336> #  Modeller    : [M.M.]
11337> #  Company     : JFSAinc.
11338> #  License #   :  2549237
11339> #*************************************************************************
11340> # CALIBRATION OF SUMMER MODEL PARAMETERS
11341> # USING CONTINUOUS SIMULATIONS
11342> # Rainfall data from JFSA raingauge installed at site + other gauges by the City
11343> # Use data collected from May 1st to July 14, 2003
11344> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
11345> # 2020-12-01 correct pond curve values
11346> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
11347> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO"]) from 0.033 % (as per S
11348> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
11349> # ------------------------------------------------------------------------------------------------
11350> R0050:C00002------------------------------------------------------------------------------------------------
11351>       READ STORM
11352>       Filename = storm.001
11353>       Comment  = Pluie SCS de 24 hres 1:50 ans pour Ottawa CDA
11354>       [SDT=10.00:SDUR=  24.00:PTOT=  81.51]
11355> R0050:C00003------------------------------------------------------------------------------------------------
11356>       MODIFY STORM
11357>       [RFACT=  1.00:TSHIFT= 960.00 min]
11358>       [SDT=10.00:SDUR=  40.00:PTOT=  81.51]
11359> R0050:C00004------------------------------------------------------------------------------------------------
11360>       DEFAULT VALUES
11361>       Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnalysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
11362>       ICASEdv  = 1 (read and print data)
11363>       FileTitle= File comment: [Based onvarious callibration exercises in Onta
11364>                  THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
11365>       Horton's infiltration equation parameters:
11366>       [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
11367>       Parameters for PERVIOUS surfaces in STANDHYD:
11368>       [IAper=   4.67 mm] [LGP=50.00 m] [MNP= .250]
11369>       Parameters for IMPERVIOUS surfaces in STANDHYD:
11370>       [IAimp=   1.57 mm] [CLI= 1.50]   [MNI= .013]
11371>       Parameters used in NASHYD:
11372>       [Ia=   4.67 mm] [N= 3.00]
11373>       Average monthly Pan Evaporation data in    (mm)
11374>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
11375>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
11376>       Average monthly Potential Evapotranspiration in    (mm)
11377>     JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
11378>     .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
11379> R0050:C00005------------------------------------------------------------------------------------------------
11380>       COMPUTE API
11381>       [APIini= 50.00: APIkdy=  .8500: APIkdt= .9989]
11382>       {APImax=113.33: APIavg= 67.14: APImin= 44.87}
11383> #
11384> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11385> # of 1.32
11386> R0050:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11387>     CONTINUOUS NASHYD      1.0 01:JR_HW       3680.00   18.440 No_date   36:55   30.33 .372     .000
11388>       [CN= 64.0: N= 3.00: Tp= 7.13]
11389>       [IaREC= 4.00: SMIN= 57.05: SMAX=380.32: SK= .010]
11390>       [InterEventTime=  12.00]
11391> #
11392> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11393> # of 1.32
11394> R0050:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11395>     CONTINUOUS NASHYD      1.0 01:SW_13         971.00    6.937 No_date   32:34   28.27 .347     .000
11396>       [CN= 61.0: N= 3.00: Tp= 3.76]
11397>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
11398>       [InterEventTime=  12.00]
11399> #
11400> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11401> # of 1.80
11402> R0050:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11403>     CONTINUOUS NASHYD      1.0 01:JR_GWM      3074.00    8.912 No_date   39:59   24.31 .298     .000
11404>       [CN= 55.0: N= 3.00: Tp=11.33]
11405>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
11406>       [InterEventTime=  12.00]
11407> R0050:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11408>     CONTINUOUS NASHYD      1.0 01:JR_ASH      1781.00   16.834 No_date   32:39   36.85 .452     .000
11409>       [CN= 72.0: N= 3.00: Tp= 3.91]
11410>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
11411>       [InterEventTime=  12.00]
11412> R0050:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11413>     CONTINUOUS NASHYD      1.0 01:SW_11         500.00    9.061 No_date   29:21   31.73 .389     .000
11414>       [CN= 66.0: N= 3.00: Tp= 1.24]
11415>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
11416>       [InterEventTime=  12.00]
11417> #
11418> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11419> # of 1.80
11420> R0050:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11421>     CONTINUOUS NASHYD      1.0 01:NN_CK       1917.00   12.342 No_date   34:26   31.73 .389     .000
11422>       [CN= 66.0: N= 3.00: Tp= 5.29]
11423>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
11424>       [InterEventTime=  12.00]
11425> #
11426> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11427> # of 1.52
11428> R0050:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11429>     CONTINUOUS NASHYD      1.0 01:SW_10       5666.00   32.402 No_date   37:52   36.85 .452     .000
11430>       [CN= 72.0: N= 3.00: Tp= 8.00]
11431>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
11432>       [InterEventTime=  12.00]
11433> #
11434> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11435> # of 1.75
11436> R0050:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11437>     CONTINUOUS NASHYD      1.0 01:KG_CK       8376.00   31.024 No_date   39:59   31.73 .389     .000
11438>       [CN= 66.0: N= 3.00: Tp=11.66]
11439>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
11440>       [InterEventTime=  12.00]
11441> #
11442> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11443> # of 1.68
11444> R0050:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11445>     CONTINUOUS NASHYD      1.0 01:SW_9        1132.00   14.039 No_date   30:53   35.35 .434     .000
11446>       [CN= 70.0: N= 3.00: Tp= 2.51]
11447>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
11448>       [InterEventTime=  12.00]
11449> #
11450> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11451> # of 1.82
11452> R0050:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11453>     CONTINUOUS NASHYD      1.0 01:NC_CK       4464.00   15.472 No_date   39:59   28.95 .355     .000
11454>       [CN= 62.0: N= 3.00: Tp=11.32]
11455>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
11456>       [InterEventTime=  12.00]
11457> #
11458> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11459> # of 1.80
11460> R0050:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11461>     CONTINUOUS NASHYD      1.0 01:SW_8        131.00    2.740 No_date   28:57   29.64 .364     .000
11462>       [CN= 63.0: N= 3.00: Tp=  .90]
11463>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
11464>       [InterEventTime=  12.00]
11465> #
11466> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11467> # of 1.65
11468> R0050:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11469>     CONTINUOUS NASHYD      1.0 01:HB_DR       3854.00   18.180 No_date   38:32   31.73 .389     .000
11470>       [CN= 66.0: N= 3.00: Tp= 8.42]
11471>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
11472>       [InterEventTime=  12.00]
11473> #
11474> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11475> # of 1.82
11476> R0050:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11477>     CONTINUOUS NASHYD      1.0 01:SW_7        3197.00   13.937 No_date   36:23   25.61 .314     .000
11478>       [CN= 57.0: N= 3.00: Tp= 6.65]
11479>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
11480>       [InterEventTime=  12.00]
11481> #
11482> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11483> # of 1.75
11484> R0050:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11485>     CONTINUOUS NASHYD      1.0 01:SW_6         165.00    1.285 No_date   33:02   32.44 .398     .000
11486>       [CN= 67.0: N= 3.00: Tp= 4.18]
11487>       [IaREC= 4.00: SMIN= 50.55: SMAX=336.97: SK= .010]
11488>       [InterEventTime=  12.00]
11489> #
11490> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11491> # of 1.67
11492> R0050:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11493>     CONTINUOUS NASHYD      1.0 01:VG_DR       1332.00    9.332 No_date   35:12   36.85 .452     .000
11494>       [CN= 72.0: N= 3.00: Tp= 5.95]
11495>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
11496>       [InterEventTime=  12.00]
11497> R0050:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11498>     CONTINUOUS NASHYD      1.0 01:SW_5         224.00    8.187 No_date   28:45   41.51 .509     .000
11499>       [CN= 77.0: N= 3.00: Tp=  .75]
11500>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11501>       [InterEventTime=  12.00]
11502> #
11503> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11504> # of 1.20
11505> R0050:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11506>     CONTINUOUS NASHYD      1.0 01:FL_CK       4945.00   44.623 No_date   33:18   38.37 .471     .000
11507>       [CN= 74.0: N= 3.00: Tp= 4.45]
11508>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
11509>       [InterEventTime=  12.00]
11510> R0050:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11511>     CONTINUOUS NASHYD      1.0 01:SW_5A2        20.00     .943 No_date   28:35   45.60 .500     .000
11512>       [CN= 81.0: N= 3.00: Tp=  .62]
11513>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
11514>       [InterEventTime=  12.00]
11515> #
11516> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
11517> # of 1.61
11518> R0050:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11519>     CONTINUOUS NASHYD      1.0 01:SW_5A1      1412.00    8.794 No_date   37:48   39.93 .490     .000
11520>       [CN= 75.0: N= 3.00: Tp= 8.00]
11521>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
11522>       [InterEventTime=  12.00]
11523> R0050:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11524>     CONTINUOUS NASHYD      1.0 01:SW_4         585.00   12.896 No_date   29:55   45.60 .560     .000
11525>       [CN= 81.0: N= 3.00: Tp= 1.75]
11526>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
11527>       [InterEventTime=  12.00]
11528> R0050:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11529>     CONTINUOUS NASHYD      1.0 01:LM_CK       1021.00   17.059 No_date   30:46   44.77 .549     .000
11530>       [CN= 80.0: N= 3.00: Tp= 2.46]
11531>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
11532>       [InterEventTime=  12.00]
11533> R0050:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11534>     CONTINUOUS NASHYD      1.0 01:SW_2         177.00    6.469 No_date   28:45   41.51 .509     .000
11535>       [CN= 77.0: N= 3.00: Tp=  .75]
11536>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
11537>       [InterEventTime=  12.00]
11538> R0050:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11539>     CONTINUOUS NASHYD      1.0 01:SM_DR       1122.00   15.544 No_date   31:43   45.60 .560     .000
11540>       [CN= 81.0: N= 3.00: Tp= 3.25]
11541>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
11542>       [InterEventTime=  12.00]
11543> R0050:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11544>     CONTINUOUS NASHYD      1.0 01:MO_DR       2737.00   34.946 No_date   31:29   40.72 .500     .000
11545>       [CN= 76.0: N= 3.00: Tp= 3.03]
11546>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
11547>       [InterEventTime=  12.00]
11548> #
11549> # Routing hydrographs
11550> #
11551> # Starting with the addition of Jock River Headwater and Subwatershed 13
11552> #
11553> R0050:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11554>     ADD HYD                1.0 02:JR_HW       3680.00   18.440 No_date   36:55   30.33  n/a     .000
11555>                        +   1.0 02:SW_13        971.00    6.937 No_date   32:34   28.27  n/a     .000
11556>                      SUM=  1.0 01:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
11557> #
11558> # Sum of hydrographs from Node 13 routed to Node 13A
11559> # (Approximated cross-section - see cross-section 258)
11560> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
11561> #
11562> R0050:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11563>     ROUTE CHANNEL   ->     1.0 02:S_N13       4651.00   23.559 No_date   35:24   29.90  n/a     .000
11564>      [RDT= 1.00] out<-     1.0 01:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
11565>       [L/S/n= 9074./ .022/.040]
11566>       {Vmax=  .574:Dmax= 3.920}
11567> #
11568> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
11569> #
11570> R0050:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11571>     ADD HYD                1.0 02:N13A        4651.00   19.136 No_date   39:06   29.90  n/a     .000
11572>                        +   1.0 02:JR_GWM      3074.00    8.912 No_date   39:59   24.31  n/a     .000
11573>                      SUM=  1.0 01:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
11574> #
11575> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
11576> #
11577> R0050:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11578>     ROUTE RESERVOIR ->     1.0 02:SN13A       7725.00   27.939 No_date   39:54   27.68  n/a     .000
11579>                   out <=   1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
11580>       {MxStoUsed=.1481E+03  m3}
11581> #
11582> R0050:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11583>     SAVE HYD               1.0 01:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
11584>       fname :H_RESGM
11585>       remark:Outflow from Res GM
11586> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
11587> # (Approximated cross-section - see cross-section 258)
11588> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
11589> R0050:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11590>     ROUTE CHANNEL   ->     1.0 02:RES_GM      7725.00    3.808 No_date   61:35   27.67  n/a     .000
11591>      [RDT= 1.00] out<-     1.0 01:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
11592>       [L/S/n= 5926./ .076/.040]
11593>       {Vmax=  .556:Dmax= 1.541}
11594> #
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11595> # Addition of Subwatershed Jock River at Ashton to Node 12
11596> #
11597> R0050:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11598>     ADD HYD                1.0 02:N12         7725.00    3.804 No_date   64:19   27.68  n/a     .000
11599>                      +     1.0 02:JR_ASH      1781.00   16.834 No_date   32:39   36.85  n/a     .000
11600>                    SUM=    1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
11601> R0050:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11602>     SAVE HYD               1.0 01:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
11603>       fname :H_SN12
11604>       remark:flow at S_N12 near Ashton
11605> #
11606> # Sum of hydrographs from Node 12 routed to Node 11
11607> # (Approximated cross-section - see cross-section 258)
11608> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
11609> #
11610> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
11611> #
11612> R0050:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11613>     ROUTE CHANNEL   ->     1.0 02:S_N12       9506.00   18.867 No_date   32:42   29.39  n/a     .000
11614>      [RDT= 1.00] out<-     1.0 01:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
11615>        [L/S/n=  972./ .054/.040]
11616>        {Vmax=  .751:Dmax= 3.029}
11617> #
11618> # Addition of Subwatershed 11 and No Name Creek to Node 11
11619> #
11620> R0050:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11621>     ADD HYD                1.0 02:Dum11       9506.00   18.687 No_date   32:59   29.39  n/a     .000
11622>                      +     1.0 02:SW_11        500.00    9.061 No_date   29:21   31.73  n/a     .000
11623>                      +     1.0 02:NN_CK       1917.00   12.342 No_date   34:26   31.73  n/a     .000
11624>                    SUM=    1.0 01:S_N11       11923.00  32.851 No_date   33:00   29.87  n/a     .000
11625> #
11626> # Sum of hydrographs from Node 11 routed to Node 10
11627> # Section 1
11628> #
11629> R0050:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11630>     ROUTE CHANNEL   ->     1.0 02:S_N11       11923.00  32.851 No_date   33:00   29.87  n/a     .000
11631>      [RDT= 1.00] out<-     1.0 01:N10         11923.00  20.490 No_date   40:02   29.87  n/a     .000
11632>        [L/S/n=14028./ .157/.040]
11633>        {Vmax=  .474:Dmax= 1.423}
11634> #
11635> # Addition of Subwatershed 10 to Node 10
11636> #
11637> R0050:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11638>     ADD HYD                1.0 02:N10         11923.00  20.490 No_date   40:02   29.87  n/a     .000
11639>                      +     1.0 02:SW_10       5666.00   32.402 No_date   37:52   36.85  n/a     .000
11640>                    SUM=    1.0 01:S_N10       17589.00  52.600 No_date   38:19   32.12  n/a     .000
11641> R0050:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11642>     SAVE HYD               1.0 01:S_N10       17589.00  52.600 No_date   38:19   32.12  n/a     .000
11643>       fname :H_SN10
11644>       remark:flow at S_N10: N10 + SW_10
11645> # Addition of Kings Creek to S_N10
11646> #
11647> R0050:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11648>     ADD HYD                1.0 02:S_N10       17589.00  52.600 No_date   38:19   32.12  n/a     .000
11649>                      +     1.0 02:KG_CK        8376.00   31.024 No_date   39:59   31.73  n/a     .000
11650>                    SUM=    1.0 01:S_N10A      25965.00  82.746 No_date   39:45   31.99  n/a     .000
11651> #
11652> # Sum of hydrographs from Node 10 routed to Node 9
11653> # Section 2
11654> #
11655> R0050:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11656>     ROUTE CHANNEL   ->     1.0 02:S_N10A      25965.00  82.746 No_date   39:45   31.99  n/a     .000
11657>      [RDT= 1.00] out<-     1.0 01:N9          25965.00  80.980 No_date   39:59   31.99  n/a     .000
11658>        [L/S/n= 3982./ .075/.040]
11659>        {Vmax=  .744:Dmax= 2.015}
11660> #
11661> # Addition of Subwatershed 9 and Nichols Creek to Node 9
11662> #
11663> R0050:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11664>     ADD HYD                1.0 02:N9          25965.00  80.980 No_date   39:59   31.99  n/a     .000
11665>                      +     1.0 02:SW_9         1132.00   14.039 No_date   30:53   35.35  n/a     .000
11666>                      +     1.0 02:NC_CK        4464.00   15.472 No_date   39:59   28.95  n/a     .000
11667>                    SUM=    1.0 01:S_N9        31561.00  99.424 No_date   39:59   31.68  n/a     .000
11668> #
11669> # Sum of hydrographs from Node 9 routed to Node 8
11670> # Section 3
11671> #
11672> R0050:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11673>     ROUTE CHANNEL   ->     1.0 02:S_N9        31561.00  99.424 No_date   39:59   31.68  n/a     .000
11674>      [RDT= 1.00] out<-     1.0 01:N8          31561.00  93.665 No_date   39:59   31.68  n/a     .000
11675>        [L/S/n= 2269./ .088/.045]
11676>        {Vmax=  .367:Dmax= 1.834}
11677> #
11678> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
11679> #
11680> R0050:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11681>     ADD HYD                1.0 02:N8          31561.00  93.665 No_date   39:59   31.68  n/a     .000
11682>                      +     1.0 02:SW_8          131.00    2.740 No_date   28:57   29.64  n/a     .000
11683>                      +     1.0 02:HB_DR        3854.00   18.180 No_date   30:32   31.73  n/a     .000
11684>                    SUM=    1.0 01:S_N8        35546.00  111.843 No_date   39:59   31.68  n/a     .000
11685> #
11686> # Sum of hydrographs from Node 8 routed to Node 7
11687> # Section 4
11688> #
11689> R0050:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11690>     ROUTE CHANNEL   ->     1.0 02:S_N8        35546.00  111.843 No_date   39:59   31.68  n/a     .000
11691>      [RDT= 1.00] out<-     1.0 01:N7          35546.00  95.475 No_date   44:55   31.68  n/a     .000
11692>        [L/S/n= 3750./ .053/.070]
11693>        {Vmax=  .231:Dmax= 2.290}
11694> #
11695> # Addition of Subwatershed 7 to Node 7
11696> #
11697> R0050:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11698>     ADD HYD                1.0 02:N7          35546.00   95.475 No_date   44:55   31.68  n/a     .000
11699>                      +     1.0 02:SW_7         3197.00   13.937 No_date   36:23   25.61  n/a     .000
11700>                    SUM=    1.0 01:S_N7        38743.00  102.892 No_date   43:46   31.18  n/a     .000
11701> R0050:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11702>     SAVE HYD               1.0 01:S_N7        38743.00  102.892 No_date   43:46   31.18  n/a     .000
11703>       fname :H_SN7
11704>       remark:flow at S_N7: N7 + SW_7
11705> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
11706> # Storage area and volumes were estimated from available topo maps.
11707> # Release rate from fen was assumed to be controlled by the downstream
11708> # river cross-section for summer conditions.  It is was assumed that for up to
11709> # 0.75 m of water, the main channel of the river provided the storage.  Above
11710> # this depth, the wetland starts to signigicantly store water.
11711> #
11712> R0050:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11713>     ROUTE RESERVOIR ->     1.0 02:S_N7        38743.00  102.892 No_date   43:46   31.18  n/a     .000
11714>                   out <=   1.0 01:RES_RF      38743.00   52.029 No_date   59:07   31.18  n/a     .000
11715>        {MxStoUsed=.4394E+03  m3}
11716> R0050:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11717>     SAVE HYD               1.0 01:RES_RF      38743.00   52.029 No_date   59:07   31.18  n/a     .000
11718>       fname :H_ResRF
11719>       remark:outflow of Richmond Fen
11720> #
11721> # Sum of hydrographs from Node 7 routed to Node 6
11722> # Section 5
11723> #
11724> R0050:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11725>     ROUTE CHANNEL   ->     1.0 02:RES_RF      38743.00   52.029 No_date   59:07   31.18  n/a     .000
11726>      [RDT= 1.00] out<-     1.0 01:N6          38743.00   51.784 No_date   60:27   31.18  n/a     .000
11727>        [L/S/n= 3056./ .082/.025]
11728>        {Vmax=  .538:Dmax= 1.253}
11729> #
11730> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
11731> #
11732> R0050:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11733>     ADD HYD                1.0 02:N6          38743.00   51.784 No_date   60:27   31.18  n/a     .000
11734>                      +     1.0 02:SW_6         165.00    1.285 No_date   33:02   32.44  n/a     .000
11735>                      +     1.0 02:VG_DR       1332.00    9.332 No_date   35:12   36.85  n/a     .000
11736>                    SUM=    1.0 01:S_N6        40240.01  51.810 No_date   60:20   31.37  n/a     .000
11737> #
11738> # Sum of hydrographs from Node 6 routed to Node 5
11739> # Section 6
11740> #
11741> R0050:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11742>     ROUTE CHANNEL   ->     1.0 02:S_N6        40240.01  51.810 No_date   60:20   31.37  n/a     .000
11743>      [RDT= 1.00] out<-     1.0 01:N5          40240.01  51.693 No_date   61:06   31.37  n/a     .000
11744>        [L/S/n= 1852./ .054/.035]
11745>        {Vmax=  .469:Dmax= 1.351}
11746> #
11747> # Addition of Subwatershed 5 and Flowing Creek to Node 5
11748> #
11749> R0050:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11750>     ADD HYD                1.0 02:N5          40240.01   51.693 No_date   61:06   31.37  n/a     .000
11751>                      +     1.0 02:SW_5         224.00    8.187 No_date   28:45   41.51  n/a     .000
11752>                      +     1.0 02:FL_CK       4945.00   44.623 No_date   33:18   38.37  n/a     .000
11753>                    SUM=    1.0 01:S_N5        45409.01  71.514 No_date   34:20   32.18  n/a     .000
11754> #
11755> # Sum of hydrographs from Node 5 routed to Node 5A
11756> # Section 7
11757> #
11758> R0050:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11759>     ROUTE CHANNEL   ->     1.0 02:S_N5        45409.01   71.514 No_date   34:20   32.18  n/a     .000
11760>      [RDT= 1.00] out<-     1.0 01:N5A         45409.01   71.311 No_date   34:15   32.18  n/a     .000
11761>        [L/S/n=  556./ .090/.040]
11762>        {Vmax=  .530:Dmax= 1.290}
11763> #
11764> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
11765> #
11766> R0050:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11767>     ADD HYD                1.0 02:N5A         45409.01   71.311 No_date   34:15   32.18  n/a     .000
11768>                      +     1.0 02:SW_5A2         29.00     .943 No_date   28:35   45.60  n/a     .000
11769>                      +     1.0 02:SW_5A1        1412.00    8.794 No_date   37:48   39.93  n/a     .000
11770>                    SUM=    1.0 01:S_N5A       46841.01  79.247 No_date   34:46   32.42  n/a     .000
11771> #
11772> # Sum of hydrographs from Node 5A routed to Node 4
11773> # Section 8
11774> #
11775> R0050:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11776>     ROUTE CHANNEL   ->     1.0 02:S_N5A       46841.01   79.247 No_date   34:46   32.42  n/a     .000
11777>      [RDT= 1.00] out<-     1.0 01:N4          46841.01   75.833 No_date   36:02   32.42  n/a     .000
11778>        [L/S/n= 4630./ .043/.035]
11779>        {Vmax=  .874:Dmax= 3.702}
11780> #
11781> # Addition of Subwatershed 4 and Leamy Creek to Node 4
11782> #
11783> R0050:C00060------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11784>     ADD HYD                1.0 02:N4          46841.01   75.833 No_date   36:02   32.42  n/a     .000
11785>                      +     1.0 02:SW_4          585.00   12.896 No_date   29:55   45.60  n/a     .000
11786>                      +     1.0 02:LM_CK        1021.00   17.059 No_date   30:46   44.77  n/a     .000
11787>                    SUM=    1.0 01:S_N4        47847.00   84.908 No_date   35:20   32.84  n/a     .000
11788> R0050:C00061------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11789>     SAVE HYD               1.0 01:S_N4        47847.00   84.908 No_date   35:20   32.84  n/a     .000
11790>       fname :S_N4.0050
11791>       remark:flow at S_N4
11792> #
11793> # Sum of hydrographs from Node 4 routed to Node 2
11794> # Section 9
11795> #
11796> R0050:C00062------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11797>     ROUTE CHANNEL   ->     1.0 02:S_N4        47847.00   84.908 No_date   35:20   32.84  n/a     .000
11798>      [RDT= 1.00] out<-     1.0 01:N2          47847.00   84.582 No_date   35:30   32.84  n/a     .000
11799>        [L/S/n= 1667./ .060/.040]
11800>        {Vmax=  .909:Dmax= 3.749}
11801> #
11802> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
11803> #
11804> R0050:C00063------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11805>     ADD HYD                1.0 02:N2          47847.00   84.582 No_date   35:30   32.84  n/a     .000
11806>                      +     1.0 02:SW_2          177.00    6.469 No_date   28:45   41.51  n/a     .000
11807>                      +     1.0 02:SM_DR        1122.00   15.544 No_date   31:43   45.60  n/a     .000
11808>                      +     1.0 02:MO_DR        2737.00   34.946 No_date   31:29   40.72  n/a     .000
11809>                    SUM=    1.0 01:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
11810> R0050:C00064------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11811>     SAVE HYD               1.0 01:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
11812>       fname :H_SN2
11813>       remark:flow at S_N2 Jock River Gauge at Moodie Dr.
11814> #
11815> # Sum of hydrographs from Node 2 routed to Node 1
11816> # Section 10
11817> #
11818> #*************************************************************************
11819> #
11820> # Hydrograph from Node 2 routed to Node 416
11821> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
11822> #
11823> R0050:C00065------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11824>     ROUTE CHANNEL   ->     1.0 02:S_N2        52483.00  124.249 No_date   32:52   33.56  n/a     .000
11825>      [RDT= 1.00] out<-     1.0 01:N_416       52483.00  120.589 No_date   33:57   33.56  n/a     .000
11826>        [L/S/n= 2327./ .050/.055]
11827>        {Vmax=  .781:Dmax= 3.561}
11828> #*************************************************************************
11829> #    Catchment SW-1a
11830> #    - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
11831> #    - Undeveloped agricultural land
11832> #*************************************************************************
11833> R0050:C00066------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11834>     CONTINUOUS NASHYD    1.0 01:SW_1a        536.42    6.175 No_date   31:15   35.39 .434     .000
11835>       [CN= 72.0: N= 3.00: Tp=  .29]
11836>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
11837>       [InterEventTime=  12.00]
11838> R0050:C00067------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11839>     CONTINUOUS STANDHYD   1.0 01:S-1-Okeefe    44.93    7.341 No_date   28:03   63.95 .785     .000
11840>       [XIMP=.65:TIMP=.65]
11841>       [LOSS= 2 :CN= 75.0]
11842>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
11843>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
11844>       [IaRECimp=   4.00: IaRECper=   4.00]
11845>       [SMIN= 33.81: SMAX=225.43: SK= .010]
11846> R0050:C00068------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11847>     COMPUTE DUALHYD       1.0 01:S-1-Okeefe    44.93    7.341 No_date   28:03   63.95  n/a     .000
11848>      Major System   /     1.0 02:S-1-OkMJ      .00      .000 No_date   0:00    .00    n/a     .000
11849>      Minor System   \     1.0 03:S-1-OkMN      44.93    4.591 No_date   27:54   64.28  n/a     .000
11850>       {MjSysSto=.1733E+04, TotOvfVol=.0000E+00, N-Ovf=   0, TotDurOvf=    0.hrs}
11851> R0050:C00069------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11852>     ADD HYD               1.0 02:S-1-OkMJ      .00      .000 No_date   0:00    .00    n/a     .000
11853>                      +     1.0 02:S-1-OkMN      44.93    4.591 No_date   27:54   64.28  n/a     .000
11854>                    SUM=    1.0 01:S-1-OkS       44.93    4.591 No_date   27:54   64.28  n/a     .000
11855> R0050:C00070------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11856>     ROUTE RESERVOIR ->     1.0 02:S-1-OkS       44.93    4.591 No_date   27:54   64.28  n/a     .000
11857>                   out <=   1.0 01:S-1-OkSR      44.93     .521 No_date   29:25   64.28  n/a     .000
11858>              overflow <=   1.0 03:S-1-OkSovf     .00      .000 No_date   0:00    .00    n/a     .000
11859>       {MxStoUsed=.1739E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
11860> R0050:C00071------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11861>     ADD HYD               1.0 02:N_416       52483.00  120.589 No_date   33:57   33.56  n/a     .000
11862>                      +     1.0 02:SW_1a        536.42    6.175 No_date   31:15   35.39  n/a     .000
11863>                      +     1.0 02:S-1-OkSR      44.93     .521 No_date   29:25   64.28  n/a     .000
11864>                      +     1.0 02:S-1-OkSovf     .00      .000 No_date   0:00    .00    n/a     .000
11865>                    SUM=    1.0 01:SN_416      53064.36  125.710 No_date   33:19   33.60  n/a     .000
11866> R0050:C00072------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11867>     SAVE HYD               1.0 01:SN_416      53064.36  125.710 No_date   33:19   33.60  n/a     .000
11868>       fname :SN_416.0050
11869>       remark:Total Flows at Highway 416 before Station 7245
11870> #
11871> # Hydrograph from Node 416 routed to Node at Okeefe drain
11872> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
11873> #
11874> R0050:C00073------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11875>     ROUTE CHANNEL   ->     1.0 02:SN_416      53064.36  125.710 No_date   33:19   33.60  n/a     .000
11876>      [RDT= 1.00] out<-     1.0 01:N_OK        53064.36  125.608 No_date   33:43   33.60  n/a     .000
11877>        [L/S/n=  497./ .302/.055]
11878>        {Vmax= 1.650:Dmax= 3.041}
11879> #*************************************************************************
11880> #    Catchment OKEEFE
11881> #    - To O'Keefe drain (north of the Jock)
11882> #    - Developed with assumed 43% imp.
11883> #    - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
11884> #    - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
11885> #*************************************************************************
11886> R0050:C00074------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11887>     CONTINUOUS NASHYD     1.0 01:O-1          63.72    1.147 No_date   28:58   26.31 .323     .000
11888>       [CN= 61.0: N= 3.00: Tp=  .90]
11889>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
11890>       [InterEventTime=  12.00]
11891> R0050:C00075------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11892>     ROUTE CHANNEL   ->     1.0 02:O-1          63.72    1.147 No_date   28:58   26.31  n/a     .000
11893>      [RDT= 1.00] out<-     1.0 01:O-1R         63.72    1.084 No_date   29:14   26.31  n/a     .000
11894>        [L/S/n=  960./ .030/.043]
11895>        {Vmax=  .880:Dmax=  .445}
11896> R0050:C00076------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11897>     CONTINUOUS NASHYD     1.0 01:O-2          28.61     .404 No_date   29:13   24.30 .298     .000
11898>       [CN= 57.0: N= 3.00: Tp= 1.10]
11899>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
11900>       [InterEventTime=  12.00]
11901> R0050:C00077------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11902>     CONTINUOUS NASHYD     1.0 01:O-4          46.94     .531 No_date   29:00   18.55 .228     .000
11903>       [CN= 49.0: N= 3.00: Tp=  .90]
11904>       [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
11905>       [InterEventTime=  12.00]
11906> R0050:C00078------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11907>     ADD HYD               1.0 02:O-1R         63.72    1.084 No_date   29:14   26.31  n/a     .000
11908>                      +     1.0 02:O-2          28.61     .404 No_date   29:13   24.30  n/a     .000
11909>                      +     1.0 02:O-4          46.94     .531 No_date   29:00   18.55  n/a     .000
11910>                    SUM=    1.0 01:OKF-N       139.27    2.005 No_date   29:11   23.28  n/a     .000
11911> R0050:C00079------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11912>     ROUTE CHANNEL   ->     1.0 02:OKF-N       139.27    2.005 No_date   29:11   23.28  n/a     .000
11913>      [RDT= 1.00] out<-     1.0 01:OKF-NR      139.27    2.004 No_date   29:13   23.28  n/a     .000
11914>        [L/S/n=  210./ .810/.043]
11915>        {Vmax= 1.081:Dmax=  .751}
11916> R0050:C00080------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11917>     CONTINUOUS NASHYD     1.0 01:O-6          16.46     .179 No_date   28:45   15.94 .196     .000
11918>       [CN= 43.0: N= 3.00: Tp=  .70]
11919>       [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
11920>       [InterEventTime=  12.00]
11921> R0050:C00081------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11922>     CONTINUOUS STANDHYD   1.0 01:O-3          39.67    1.212 No_date   28:22   28.54 .350     .000
11923>       [XIMP=.15:TIMP=.30]
11924>       [LOSS= 2 :CN= 50.0]
11925>       [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
11926>       [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
11927>       [IaRECimp=   4.00: IaRECper=   4.00]
11928>       [SMIN= 99.77: SMAX=665.12: SK= .010]
11929> R0050:C00082------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11930>     CONTINUOUS STANDHYD   1.0 01:O-5          60.63    3.085 No_date   28:10   32.89 .403     .000
11931>       [XIMP=.13:TIMP=.26]
11932>       [LOSS= 2 :CN= 61.0]
11933>       [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
11934>       [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
11935>       [IaRECimp=   4.00: IaRECper=   4.00]
11936>       [SMIN= 64.50: SMAX=430.01: SK= .010]
11937> R0050:C00083------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11938>     ADD HYD               1.0 02:OKF-NR       139.27    2.004 No_date   29:13   23.28  n/a     .000
11939>                      +     1.0 02:O-3          39.67    1.212 No_date   28:22   28.54  n/a     .000
11940>                      +     1.0 02:O-5          60.63    3.085 No_date   28:10   32.89  n/a     .000
11941>                      +     1.0 02:O-6          16.46     .179 No_date   28:45   15.94  n/a     .000
11942>                    SUM=    1.0 01:PT1         256.03    4.968 No_date   28:20   25.90  n/a     .000
11943> R0050:C00084------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11944>     CONTINUOUS NASHYD     1.0 01:O-7           5.28     .096 No_date   28:37   21.46 .263     .000
11945>       [CN= 54.0: N= 3.00: Tp=  .60]
11946>       [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
11947>       [InterEventTime=  12.00]
11948> R0050:C00085------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11949>     ADD HYD               1.0 02:PT1         256.03    4.968 No_date   28:20   25.90  n/a     .000
11950>                      +     1.0 02:O-7          5.28     .096 No_date   28:37   21.46  n/a     .000
11951>                    SUM=    1.0 01:FF          261.31    5.051 No_date   28:20   25.81  n/a     .000
11952> R0050:C00086------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11953>     ROUTE CHANNEL   ->     1.0 02:FF          261.31    5.051 No_date   28:20   25.81  n/a     .000
11954>      [RDT= 1.00] out<-     1.0 01:DRAIN1      261.31    4.883 No_date   28:25   25.81  n/a     .000
11955>        [L/S/n=  302./1.000/.043]
11956>        {Vmax=  .822:Dmax=  .759}
11957> R0050:C00087------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11958>     CONTINUOUS NASHYD     1.0 01:D1            1.17     .094 No_date   28:12   43.70 .536     .000
11959>       [CN= 84.0: N= 3.00: Tp=  .28]
11960>       [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
11961>       [InterEventTime=  12.00]
11962> R0050:C00088------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11963>     CONTINUOUS STANDHYD   1.0 01:A1           2.50     .517 No_date   28:01   64.42 .790     .000
11964>       [XIMP=.68:TIMP=.85]
11965>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
11966>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11967>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
11968>       [IaRECimp=   4.00: IaRECper=   4.00]
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11969> R0050:C00089------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11970>      ROUTE RESERVOIR ->    1.0 02:A1           2.50     .517 No_date   28:01   64.42  n/a     .000
11971>                        out <=    1.0 01:A1-STR       2.50     .146 No_date   28:19   64.42  n/a     .000
11972>                overflow <=    1.0 03:A1-OVF       .00     .000 No_date    0:00    .00  n/a     .000
11973>       {MxStoUsed=.7243E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11974> R0050:C00090------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11975>      CONTINUOUS STANDHYD    1.0 01:ST-2          .59     .103 No_date   28:00   50.67 .622     .000
11976>        [XIMP=.46:TIMP=.57]
11977>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
11978>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
11979>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
11980>        [IaRECimp=   4.00: IaRECper=   4.00]
11981> R0050:C00091------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11982>      ROUTE RESERVOIR ->    1.0 02:ST-2          .59     .103 No_date   28:00   50.67  n/a     .000
11983>                        out <=    1.0 01:ST2STR       .59     .052 No_date   28:11   50.67  n/a     .000
11984>                overflow <=    1.0 03:ST2OVF       .00     .000 No_date    0:00    .00  n/a     .000
11985>       {MxStoUsed=.3952E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
11986> R0050:C00092------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11987>      CONTINUOUS NASHYD      1.0 01:O-8          60.55    1.383 No_date   29:04   33.66 .413     .000
11988>        [CN= 69.0: N= 3.00: Tp= 1.00]
11989>        [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
11990>        [InterEventTime=  12.00]
11991> R0050:C00093------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11992>      ROUTE PIPE    ->    1.0 02:O-8          60.55    1.383 No_date   29:04   33.66  n/a     .000
11993>        [RDT= 1.00] out<-    1.0 01:O8PIPE       60.55    1.376 No_date   29:07   33.66  n/a     .000
11994>        [L/S/n=  335./ .100/.013]
11995>        [Vmax=  1.244:Dmax=  .617]
11996>        [HGT= 1.20:WDTH= 1.80]
11997> R0050:C00094------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
11998>      ADD HYD               1.0 02:DRAIN1       261.31    4.883 No_date   28:25   25.81  n/a     .000
11999>                        +    1.0 02:D1           1.17     .094 No_date   28:12   43.70  n/a     .000
12000>                        +    1.0 02:A1-STR       2.50     .146 No_date   28:19   64.42  n/a     .000
12001>                        +    1.0 02:A1-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12002>                        +    1.0 02:ST2STR       .59     .052 No_date   28:11   50.67  n/a     .000
12003>                        +    1.0 02:ST2OVF       .00     .000 No_date    0:00    .00  n/a     .000
12004>                        +    1.0 02:O8PIPE      60.55    1.376 No_date   29:07   33.66  n/a     .000
12005>                      SUM=    1.0 01:ST2-IN     326.12    6.061 No_date   28:35   27.67  n/a     .000
12006> R0050:C00095------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12007>      CONTINUOUS STANDHYD    1.0 01:A7           3.51     .704 No_date   28:01   64.42 .790     .000
12008>        [XIMP=.68:TIMP=.85]
12009>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12010>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12011>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
12012>        [IaRECimp=   4.00: IaRECper=   4.00]
12013> R0050:C00096------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12014>      ROUTE RESERVOIR ->    1.0 02:A7           3.51     .704 No_date   28:01   64.42  n/a     .000
12015>                        out <=    1.0 01:A7-STR       3.51     .199 No_date   28:21   64.42  n/a     .000
12016>                overflow <=    1.0 03:A7-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12017>       {MxStoUsed=.1019E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12018> R0050:C00097------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12019>      CONTINUOUS STANDHYD    1.0 01:ST-3          .71     .123 No_date   28:00   50.67 .622     .000
12020>        [XIMP=.46:TIMP=.57]
12021>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12022>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12023>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
12024>        [IaRECimp=   4.00: IaRECper=   4.00]
12025> R0050:C00098------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12026>      ROUTE RESERVOIR ->    1.0 02:ST-3          .71     .123 No_date   28:00   50.67  n/a     .000
12027>                        out <=    1.0 01:ST3STR       .71     .063 No_date   28:11   50.67  n/a     .000
12028>                overflow <=    1.0 03:ST3OVF       .00     .000 No_date    0:00    .00  n/a     .000
12029>       {MxStoUsed=.4527E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12030> R0050:C00099------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12031>      ADD HYD               1.0 02:ST2-IN       326.12    6.061 No_date   28:35   27.67  n/a     .000
12032>                        +    1.0 02:A7-STR       3.51     .199 No_date   28:21   64.42  n/a     .000
12033>                        +    1.0 02:A7-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12034>                        +    1.0 02:ST3STR       .71     .063 No_date   28:11   50.67  n/a     .000
12035>                        +    1.0 02:ST3OVF       .00     .000 No_date    0:00    .00  n/a     .000
12036>                      SUM=    1.0 01:PT2ST3     330.34    6.299 No_date   28:33   28.11  n/a     .000
12037> R0050:C00100------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12038>      ROUTE CHANNEL   ->    1.0 02:PT2ST3     330.34    6.299 No_date   28:33   28.11  n/a     .000
12039>        [RDT= 1.00] out<-    1.0 01:DRAIN2       330.34    5.789 No_date   28:58   28.11  n/a     .000
12040>        [L/S/n=  592./ .230/.043]
12041>        [Vmax=  .593:Dmax= 1.152]
12042> R0050:C00101------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12043>      CONTINUOUS NASHYD      1.0 01:D2           2.28     .074 No_date   29:02   43.70 .536     .000
12044>        [CN= 84.0: N= 3.00: Tp=  .99]
12045>        [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
12046>        [InterEventTime=  12.00]
12047> R0050:C00102------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12048>      CONTINUOUS STANDHYD    1.0 01:A17          12.04    2.163 No_date   28:03   64.42 .790     .000
12049>        [XIMP=.68:TIMP=.85]
12050>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12051>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12052>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
12053>        [IaRECimp=   4.00: IaRECper=   4.00]
12054> R0050:C00103------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12055>      ROUTE RESERVOIR ->    1.0 02:A17          12.04    2.163 No_date   28:03   64.42  n/a     .000
12056>                        out <=    1.0 01:A17STR       12.04     .654 No_date   28:27   64.42  n/a     .000
12057>                overflow <=    1.0 03:A17OVF       .00     .000 No_date    0:00    .00  n/a     .000
12058>       {MxStoUsed=.3445E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12059> R0050:C00104------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12060>      CONTINUOUS STANDHYD    1.0 01:ST-4          .35     .063 No_date   28:00   50.67 .622     .000
12061>        [XIMP=.46:TIMP=.57]
12062>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12063>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12064>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
12065>        [IaRECimp=   4.00: IaRECper=   4.00]
12066> R0050:C00105------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12067>      ROUTE RESERVOIR ->    1.0 02:ST-4          .35     .063 No_date   28:00   50.67  n/a     .000
12068>                        out <=    1.0 01:ST4STR       .35     .031 No_date   28:10   50.67  n/a     .000
12069>                overflow <=    1.0 03:ST4OVF       .00     .000 No_date    0:00    .00  n/a     .000
12070>       {MxStoUsed=.2719E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12071> R0050:C00106------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12072>      CONTINUOUS STANDHYD    1.0 01:A18          5.30    1.036 No_date   28:01   64.42 .790     .000
12073>        [XIMP=.68:TIMP=.85]
12074>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12075>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12076>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
12077>        [IaRECimp=   4.00: IaRECper=   4.00]
12078> R0050:C00107------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12079>      ROUTE RESERVOIR ->    1.0 02:A18          5.30    1.036 No_date   28:01   64.42  n/a     .000
12080>                        out <=    1.0 01:A18STR       5.30     .300 No_date   28:22   64.42  n/a     .000
12081>                overflow <=    1.0 03:A18OVF       .00     .000 No_date    0:00    .00  n/a     .000
12082>       {MxStoUsed=.1532E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12083> R0050:C00108------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12084>      ADD HYD               1.0 02:DRAIN2       330.34    5.789 No_date   28:58   28.11  n/a     .000
12085>                        +    1.0 02:D2           2.28     .074 No_date   29:02   43.70  n/a     .000
12086>                        +    1.0 02:A17STR       12.04     .654 No_date   28:27   64.42  n/a     .000
12087>                        +    1.0 02:A17OVF       .00     .000 No_date    0:00    .00  n/a     .000
12088>                        +    1.0 02:ST4STR       .35     .031 No_date   28:10   50.67  n/a     .000
12089>                        +    1.0 02:ST4OVF       .00     .000 No_date    0:00    .00  n/a     .000
12090>                        +    1.0 02:A18STR       5.30     .300 No_date   28:22   64.42  n/a     .000
12091>                        +    1.0 02:A18OVF       .00     .000 No_date    0:00    .00  n/a     .000
12092>                      SUM=    1.0 01:PT3ST4     350.31    6.632 No_date   28:55   30.03  n/a     .000
12093> R0050:C00109------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12094>      ROUTE CHANNEL   ->    1.0 02:PT3ST4     350.31    6.632 No_date   28:55   30.03  n/a     .000
12095>        [RDT= 1.00] out<-    1.0 01:DRAIN3       350.31    6.350 No_date   29:11   30.03  n/a     .000
12096>        [L/S/n=  525./ .230/.043]
12097>        [Vmax=  .613:Dmax= 1.197]
12098> R0050:C00110------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12099>      CONTINUOUS NASHYD      1.0 01:D3           2.51     .113 No_date   28:43   47.27 .580     .000
12100>        [CN= 86.0: N= 3.00: Tp=  .73]
12101>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
12102>        [InterEventTime=  12.00]
12103> R0050:C00111------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12104>      CONTINUOUS STANDHYD    1.0 01:C1           3.41     .690 No_date   28:01   64.42 .790     .000
12105>        [XIMP=.68:TIMP=.85]
12106>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12107>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12108>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
12109>        [IaRECimp=   4.00: IaRECper=   4.00]
12110> R0050:C00112------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12111>      ROUTE RESERVOIR ->    1.0 02:C1           3.41     .690 No_date   28:01   64.42  n/a     .000
12112>                        out <=    1.0 01:C1-STR       3.41     .194 No_date   28:20   64.42  n/a     .000
12113>                overflow <=    1.0 03:C1-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12114>       {MxStoUsed=.9900E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12115> R0050:C00113------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12116>      CONTINUOUS STANDHYD    1.0 01:ST-5          .45     .079 No_date   28:00   50.67 .622     .000
12117>        [XIMP=.46:TIMP=.57]
12118>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12119>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12120>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
12121>        [IaRECimp=   4.00: IaRECper=   4.00]
12122> R0050:C00114------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12123>      ROUTE RESERVOIR ->    1.0 02:ST-5          .45     .079 No_date   28:00   50.67  n/a     .000
12124>                        out <=    1.0 01:ST5STR       .45     .040 No_date   28:10   50.67  n/a     .000
12125>                overflow <=    1.0 03:ST5OVF       .00     .000 No_date    0:00    .00  n/a     .000
12126>       {MxStoUsed=.3164E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12127> R0050:C00115------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12128>      ADD HYD               1.0 02:DRAIN3       350.31    6.350 No_date   29:11   30.03  n/a     .000
12129>                        +    1.0 02:D3           2.51     .113 No_date   28:43   47.27  n/a     .000
12130>                        +    1.0 02:C1-STR       3.41     .194 No_date   28:20   64.42  n/a     .000
12131>                        +    1.0 02:C1-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12132>                        +    1.0 02:ST5STR       .45     .040 No_date   28:10   50.67  n/a     .000
12133>                        +    1.0 02:ST5OVF       .00     .000 No_date    0:00    .00  n/a     .000
12134>                      SUM=    1.0 01:ST5-E      356.68    6.575 No_date   29:09   30.51  n/a     .000
12135> R0050:C00116------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12136>      CONTINUOUS STANDHYD    1.0 01:STRAND        7.59    1.038 No_date   28:09   62.95 .772     .000
12137>        [XIMP=.64:TIMP=.85]
12138>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12139>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
12140>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1230.:MNI=.013:SCI=   .0]
12141>        [IaRECimp=   4.00: IaRECper=   4.00]
12142> R0050:C00117------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12143>      ROUTE RESERVOIR ->    1.0 02:STRAND        7.59    1.038 No_date   28:09   62.95  n/a     .000
12144>                        out <=    1.0 01:S-POND       7.59     .137 No_date   29:13   62.95  n/a     .000
12145>                overflow <=    1.0 03:S-OVF        .00     .000 No_date    0:00    .00  n/a     .000
12146>       {MxStoUsed=.3159E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12147> R0050:C00118------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12148>      ADD HYD               1.0 02:ST5-E        356.68    6.575 No_date   29:09   30.51  n/a     .000
12149>                        +    1.0 02:S-POND       7.59     .137 No_date   29:13   62.95  n/a     .000
12150>                        +    1.0 02:S-OVF        .00     .000 No_date    0:00    .00  n/a     .000
12151>                      SUM=    1.0 01:SSAOUT     364.27    6.711 No_date   29:09   31.19  n/a     .000
12152> R0050:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12153>      SAVE HYD              1.0 01:SSAOUT     364.27    6.711 No_date   29:09   31.19  n/a     .000
12154>        fname :SSAOUT.0050
12155>        remark:SSAOUT

12156> R0050:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12157>      CONTINUOUS STANDHYD    1.0 01:Area-A        66.75    8.917 No_date   28:08   61.83 .759     .000
12158>        [XIMP=.64:TIMP=.80]
12159>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12160>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12161>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
12162>        [IaRECimp=   4.00: IaRECper=   4.00]
12163> R0050:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12164>      SAVE HYD              1.0 01:Area-A        66.75    8.917 No_date   28:08   61.83  n/a     .000
12165>        fname :Area-A.0050
12166>        remark:SMWF-A Inflow
12167> R0050:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12168>      ROUTE RESERVOIR ->    1.0 02:Area-A        66.75    8.917 No_date   28:08   61.83  n/a     .000
12169>                        out <=    1.0 01:SWMF-A       66.75    1.070 No_date   29:16   61.83  n/a     .000
12170>                overflow <=    1.0 03:SWMAOV       .00     .000 No_date    0:00    .00  n/a     .000
12171>       {MxStoUsed=.2845E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12172> R0050:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12173>      SAVE HYD              1.0 01:SWMF-A        66.75    1.070 No_date   29:16   61.83  n/a     .000
12174>        fname :SWMF-A.0050
12175>        remark:SMWF-A Outflow
12176> R0050:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12177>      ADD HYD               1.0 02:SSAOUT       364.27    6.711 No_date   29:09   31.19  n/a     .000
12178>                        +    1.0 02:SWMF-A       66.75    1.070 No_date   29:16   61.83  n/a     .000
12179>                        +    1.0 02:SWMAOV       .00     .000 No_date    0:00    .00  n/a     .000
12180>                      SUM=    1.0 01:PT4ST5     431.02    7.776 No_date   29:10   35.93  n/a     .000
12181> R0050:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12182>      CONTINUOUS STANDHYD    1.0 01:C6           1.87     .395 No_date   28:01   64.42 .790     .000
12183>        [XIMP=.68:TIMP=.85]
12184>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12185>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12186>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
12187>        [IaRECimp=   4.00: IaRECper=   4.00]
12188> R0050:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12189>      ROUTE RESERVOIR ->    1.0 02:C6           1.87     .395 No_date   28:01   64.42  n/a     .000
12190>                        out <=    1.0 01:C6-STR       1.87     .110 No_date   28:18   64.42  n/a     .000
12191>                overflow <=    1.0 03:C6-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12192>       {MxStoUsed=.5452E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12193> R0050:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12194>      CONTINUOUS STANDHYD    1.0 01:C7           1.62     .347 No_date   28:00   64.42 .790     .000
12195>        [XIMP=.68:TIMP=.85]
12196>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12197>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12198>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
12199>        [IaRECimp=   4.00: IaRECper=   4.00]
12200> R0050:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12201>      ROUTE RESERVOIR ->    1.0 02:C7           1.62     .347 No_date   28:00   64.42  n/a     .000
12202>                        out <=    1.0 01:C7-STR       1.62     .096 No_date   28:17   64.42  n/a     .000
12203>                overflow <=    1.0 03:C7-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12204>       {MxStoUsed=.4698E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12205> R0050:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12206>      CONTINUOUS STANDHYD    1.0 01:C-6          .41     .073 No_date   28:00   50.67 .622     .000
12207>        [XIMP=.46:TIMP=.57]
12208>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12209>        [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
12210>        [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
12211>        [IaRECimp=   4.00: IaRECper=   4.00]
12212> R0050:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12213>      ROUTE RESERVOIR ->    1.0 02:ST-6          .41     .073 No_date   28:00   50.67  n/a     .000
12214>                        out <=    1.0 01:ST6STR       .41     .036 No_date   28:10   50.67  n/a     .000
12215>                overflow <=    1.0 03:ST6OVF       .00     .000 No_date    0:00    .00  n/a     .000
12216>       {MxStoUsed=.3103E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12217> R0050:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12218>      ADD HYD               1.0 02:PT4ST5       431.02    7.776 No_date   29:10   35.93  n/a     .000
12219>                        +    1.0 02:C6-STR       1.87     .110 No_date   28:18   64.42  n/a     .000
12220>                        +    1.0 02:C6-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12221>                        +    1.0 02:C7-STR       1.62     .096 No_date   28:17   64.42  n/a     .000
12222>                        +    1.0 02:C7-OVF       .00     .000 No_date    0:00    .00  n/a     .000
12223>                        +    1.0 02:ST6STR       .41     .036 No_date   28:10   50.67  n/a     .000
12224>                        +    1.0 02:ST6OVF       .00     .000 No_date    0:00    .00  n/a     .000
12225>                      SUM=    1.0 01:PT5ST6     434.92    7.904 No_date   29:09   36.17  n/a     .000
12226> R0050:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12227>      ROUTE CHANNEL   ->    1.0 02:PT5ST6     434.92    7.904 No_date   29:09   36.17  n/a     .000
12228>        [RDT= 1.00] out<-    1.0 01:DRAIN4       434.92    7.615 No_date   29:20   36.17  n/a     .000
12229>        [L/S/n=  324./ .100/.043]
12230>        [Vmax=  .490:Dmax= 1.531]
12231> R0050:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12232>      CONTINUOUS NASHYD      1.0 01:D4           1.73     .097 No_date   28:34   50.14 .615     .000
12233>        [CN= 88.0: N= 3.00: Tp=  .60]
12234>        [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
12235>        [InterEventTime=  12.00]
12236> R0050:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12237>      CONTINUOUS STANDHYD    1.0 01:Area-B        24.04    4.418 No_date   28:02   60.51 .742     .000
12238>        [XIMP=.62:TIMP=.77]
12239>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12240>        [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
12241>        [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
12242>        [IaRECimp=   4.00: IaRECper=   4.00]
12243> R0050:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12244>      ROUTE RESERVOIR ->    1.0 02:Area-B        24.04    4.418 No_date   28:02   60.51  n/a     .000
12245>                        out <=    1.0 01:SWMF-B       24.04     .566 No_date   28:42   60.51  n/a     .000
12246>                overflow <=    1.0 03:SWMBOVF      .00     .000 No_date    0:00    .00  n/a     .000
12247>       {MxStoUsed=.8944E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12248> R0050:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12249>      ADD HYD               1.0 02:DRAIN4       434.92    7.615 No_date   29:20   36.17  n/a     .000
12250>                        +    1.0 02:D4           1.73     .097 No_date   28:34   50.14  n/a     .000
12251>                        +    1.0 02:SWMF-B       24.04     .566 No_date   28:42   60.51  n/a     .000
12252>                        +    1.0 02:SWMBOVF      .00     .000 No_date    0:00    .00  n/a     .000
12253>                      SUM=    1.0 01:D4-EX      460.69    8.190 No_date   29:19   37.49  n/a     .000
12254> R0050:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12255>      ROUTE CHANNEL   ->    1.0 02:D4-EX        460.69    8.190 No_date   29:19   37.49  n/a     .000
12256>        [RDT= 1.00] out<-    1.0 01:DRAIN5       460.69    8.038 No_date   29:27   37.49  n/a     .000
12257>        [L/S/n=  413./ .160/.033]
12258>        [Vmax=  .675:Dmax= 1.051]
12259> R0050:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12260>      CONTINUOUS NASHYD      1.0 01:D5           1.90     .089 No_date   28:40   47.27 .580     .000
12261>        [CN= 86.0: N= 3.00: Tp=  .69]
12262>        [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
12263>        [InterEventTime=  12.00]
12264> R0050:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12265>      CONTINUOUS NASHYD      1.0 01:O-13SDF       9.74    .578 No_date   28:21   44.42 .545     .000
12266>        [CN= 81.0: N= 3.00: Tp=  .43]
12267>        [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
12268>        [InterEventTime=  12.00]
12269> R0050:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12270>      ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74    .578 No_date   28:21   44.42  n/a     .000
12271>                        out <=    1.0 01:SDF          9.74     .061 No_date   30:55   44.42  n/a     .000
12272>                overflow <=    1.0 03:OVFSDF       .00     .000 No_date    0:00    .00  n/a     .000
12273>       {MxStoUsed=.2427E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12274> R0050:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12275>      ADD HYD               1.0 02:DRAIN5       460.69    8.038 No_date   29:27   37.49  n/a     .000
12276>                        +    1.0 02:D5           1.90     .089 No_date   28:40   47.27  n/a     .000
12277>                        +    1.0 02:SDF          9.74     .061 No_date   30:55   44.42  n/a     .000
12278>                      SUM=    1.0 01:PT6MC      472.33    8.151 No_date   29:27   37.68  n/a     .000
12279> R0050:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12280>      CONTINUOUS NASHYD      1.0 01:O-5          10.67    .800 No_date   28:13   43.28 .531     .000
12281>        [CN= 82.0: N= 3.00: Tp=  .30]
12282>        [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
12283>        [InterEventTime=  12.00]
12284> R0050:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12285>      ADD HYD               1.0 02:PT6MC        472.33    8.151 No_date   29:27   37.68  n/a     .000
12286>                        +    1.0 02:O-15         10.67     .800 No_date   28:13   43.28  n/a     .000
12287>                      SUM=    1.0 01:M-C        483.00    8.281 No_date   29:26   37.80  n/a     .000
12288> R0050:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12289>      ROUTE CHANNEL   ->    1.0 02:M-C          483.00    8.281 No_date   29:26   37.80  n/a     .000
12290>        [RDT= 1.00] out<-    1.0 01:O-14Ch       483.00    7.494 No_date   29:58   37.80  n/a     .000
12291>        [L/S/n=  845./ .100/.033]
12292>        [Vmax=  .549:Dmax= 1.780]
12293> R0050:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12294>      CONTINUOUS NASHYD      1.0 01:O-14         5.00    .616 No_date   28:04   43.28 .531     .000
12295>        [CN= 82.0: N= 3.00: Tp=  .13]
12296
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12343> R0050:C00153-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12344>      ADD HYD                1.0 02:S-1-D3J        .00      .000 No_date   0:00     .00  n/a      .000
12345>                         +     1.0 02:S-1-D3N       6.79      .831 No_date   27:52   63.98  n/a      .000
12346>                       SUM=    1.0 01:S-1-D3S       6.79      .831 No_date   27:52   63.98  n/a      .000
12347> R0050:C00154-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12348>      ROUTE RESERVOIR ->     1.0 02:S-1-D3S       6.79      .831 No_date   27:52   63.98  n/a      .000
12349>                       out <=    1.0 01:S-1-D3R       6.79      .078 No_date   29:16   63.98  n/a      .000
12350>                    overflow <=    1.0 03:S-1-D3Rovf     .00      .000 No_date   0:00     .00  n/a      .000
12351>     {MxStoUsed=.2609E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12352> R0050:C00155-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12353>      ADD HYD                1.0 02:N_OK      53064.36  125.608 No_date   33:43   33.60  n/a      .000
12354>                         +     1.0 02:P-OKEFE     480.00     7.533 No_date   29:58   37.86  n/a      .000
12355>                         +     1.0 02:S-1-D2R      18.67      .217 No_date   29:19   64.33  n/a      .000
12356>                         +     1.0 02:S-1-D3R       6.79      .078 No_date   29:16   63.98  n/a      .000
12357>                         +     1.0 02:S-1-D2Rovf     .00      .000 No_date   0:00     .00  n/a      .000
12358>                         +     1.0 02:S-1-D3Rovf     .00      .000 No_date   0:00     .00  n/a      .000
12359>                       SUM=    1.0 01:SN_OK     53577.82  128.466 No_date   33:19   33.65  n/a      .000
12360> R0050:C00156-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12361>      SAVE HYD               1.0 01:SN_OK     53577.82  128.466 No_date   33:19   33.65  n/a      .000
12362>         fname :SN_OK.0050
12363>         remark:Total Flows at Okeefe Drain
12364> #
12365> # Hydrograph from Node Okeefe routed to Node at Foster Drain
12366> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
12367> #
12368> R0050:C00157-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12369>      ROUTE CHANNEL      ->     1.0 02:SN_OK     53577.82  128.466 No_date   33:19   33.65  n/a      .000
12370>         [RDT= 1.00] out<-      1.0 01:N_FO      53577.82  128.055 No_date   33:44   33.65  n/a      .000
12371>         [L/S/n= 1183./ .076/.035]
12372>         {Vmax= 1.240:Dmax= 3.378}
12373> #*************************************************************************
12374> #    Catchment FOSTER
12375> #    - To Foster ditch (north of the Jock)
12376> #    - Partially developed (medium density); remaining agricultural
12377> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
12378> #    - 2020-12-01 decreased Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
12379> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
12380> #*************************************************************************
12381> R0050:C00158-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12382>      CONTINUOUS STANDHYD   1.0 01:FOSTER      325.44   32.213 No_date   28:11   58.69 .720     .000
12383>         [XIMP=.55:TIMP=.55]
12384>         [LOSS= 2 :CN= 74.0]
12385>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
12386>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI=1473.:MNI=.013:SCI=   .0]
12387>         [IaRECimp=   4.00: IaRECper=   4.00]
12388>         [SMIN= 36.67: SMAX=244.49: SK= .010]
12389> #*************************************************************************
12390> #    Foster Pond
12391> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
12392> #      and a ratio of the catchment area to the West Clarke pond rating curve
12393> #      from the MSP for the next coordinates
12394> #*************************************************************************
12395> R0050:C00159-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12396>      ROUTE RESERVOIR ->     1.0 02:FOSTER      325.44   32.213 No_date   28:11   58.69  n/a      .000
12397>                       out <=    1.0 01:P_FOS      325.44    8.155 No_date   29:03   58.69  n/a      .000
12398>                    overflow <=    1.0 03:FO-OVF         .00      .000 No_date   0:00     .00  n/a      .000
12399>     {MxStoUsed=.7887E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12400> R0050:C00160-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12401>      ADD HYD                1.0 02:P_FOS      325.44    8.155 No_date   29:03   58.69  n/a      .000
12402>                         +     1.0 02:FO-OVF         .00      .000 No_date   0:00     .00  n/a      .000
12403>                       SUM=    1.0 01:FOSTER-OUT  325.44    8.155 No_date   29:03   58.69  n/a      .000
12404> #*************************************************************************
12405> R0050:C00161-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12406>      CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA    73.29   10.462 No_date   28:05   63.49 .779     .000
12407>         [XIMP=.60:TIMP=.65]
12408>         [LOSS= 2 :CN= 77.0]
12409>         [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12410>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 699.:MNI=.013:SCI=   .0]
12411>         [IaRECimp=   4.00: IaRECper=   4.00]
12412>         [SMIN= 31.15: SMAX=207.66: SK= .010]
12413> R0050:C00162-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12414>      ROUTE RESERVOIR ->     1.0 02:W_CLAR_BRA    73.29   10.462 No_date   28:05   63.49  n/a      .000
12415>                       out <=    1.0 01:MS_P10      73.29    1.204 No_date   29:09   63.49  n/a      .000
12416>                    overflow <=    1.0 03:P10-OVF        .00      .000 No_date   0:00     .00  n/a      .000
12417>     {MxStoUsed=.1950E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12418> R0050:C00163-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12419>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2     4.94     .796 No_date   28:01   58.69 .720     .000
12420>         [XIMP=.55:TIMP=.55]
12421>         [LOSS= 2 :CN= 74.0]
12422>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
12423>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 181.:MNI=.013:SCI=   .0]
12424>         [IaRECimp=   4.00: IaRECper=   4.00]
12425>         [SMIN= 36.67: SMAX=244.49: SK= .010]
12426> R0050:C00164-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12427>      COMPUTE DUALHYD       1.0 01:S-1-FO-D2     4.94     .796 No_date   28:01   58.69  n/a      .000
12428>         Major System    /     1.0 02:S-1-FO-D2J       .00      .000 No_date   0:00     .00  n/a      .000
12429>         Minor System    \     1.0 03:S-1-FO-D2N      4.94     .508 No_date   27:53   58.77  n/a      .000
12430>         {MjSysSto=.1462E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12431> R0050:C00165-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12432>      ADD HYD                1.0 02:S-1-FO-D2J       .00      .000 No_date   0:00     .00  n/a      .000
12433>                         +     1.0 02:S-1-FO-D2N      4.94     .508 No_date   27:53   58.77  n/a      .000
12434>                       SUM=    1.0 01:S-1-FO-D2S      4.94     .508 No_date   27:53   58.77  n/a      .000
12435> R0050:C00166-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12436>      ROUTE RESERVOIR ->     1.0 02:S-1-FO-D2S      4.94     .508 No_date   27:53   58.77  n/a      .000
12437>                       out <=    1.0 01:S-1-FO-D2R      4.94     .052 No_date   29:33   58.76  n/a      .000
12438>                    overflow <=    1.0 03:S-1FOD2ovf     .00      .000 No_date   0:00     .00  n/a      .000
12439>     {MxStoUsed=.1726E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12440> R0050:C00167-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12441>      ADD HYD                1.0 02:FOSTER-OUT  325.44    8.155 No_date   29:03   58.69  n/a      .000
12442>                         +     1.0 02:S-1-FO-D2R      4.94     .052 No_date   29:33   58.76  n/a      .000
12443>                         +     1.0 02:S-1-FOD2ovf    .00      .000 No_date   0:00     .00  n/a      .000
12444>                       SUM=    1.0 01:980        330.38    8.207 No_date   29:03   58.69  n/a      .000
12445> R0050:C00168-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12446>      SAVE HYD               1.0 01:980        330.38    8.207 No_date   29:03   58.69  n/a      .000
12447>         fname :980.0050
12448>         remark:Total Flows at Station 980 on Foster Drain
12449> #
12450> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
12451> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
12452> #
12453> R0050:C00169-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12454>      ROUTE CHANNEL      ->     1.0 02:980        330.38    8.207 No_date   29:03   58.69  n/a      .000
12455> *    [RDT= 1.00] out<-      1.0 01:980-out     330.38    7.836 No_date   29:23   58.69  n/a      .000
12456>         [L/S/n=  460./ .043/.035]
12457>         {Vmax=  .595:Dmax= 1.599}
12458> R0050:C00170-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12459>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1     5.11     .927 No_date   28:00   63.41 .778     .000
12460>         [XIMP=.65:TIMP=.65]
12461>         [LOSS= 2 :CN= 74.0]
12462>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
12463>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 185.:MNI=.013:SCI=   .0]
12464>         [IaRECimp=   4.00: IaRECper=   4.00]
12465>         [SMIN= 36.67: SMAX=244.49: SK= .010]
12466> R0050:C00171-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12467>      COMPUTE DUALHYD       1.0 01:S-1-FO-D1     5.11     .927 No_date   28:00   63.41  n/a      .000
12468>         Major System    /     1.0 02:S-1-FO-D1J       .00      .000 No_date   0:00     .00  n/a      .000
12469>         Minor System    \     1.0 03:S-1-FO-D1N      5.11     .605 No_date   28:17   63.68  n/a      .000
12470>         {MjSysSto=.1586E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12471> R0050:C00172-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12472>      ADD HYD                1.0 02:S-1-FO-D1N      5.11     .605 No_date   27:53   63.68  n/a      .000
12473>                         +     1.0 02:S-1-FO-D1J       .00      .000 No_date   0:00     .00  n/a      .000
12474>                       SUM=    1.0 01:S-1-FO-D1S      5.11     .605 No_date   27:53   63.68  n/a      .000
12475> R0050:C00173-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12476>      ROUTE RESERVOIR ->     1.0 02:S-1-FO-D1S      5.11     .605 No_date   27:53   63.68  n/a      .000
12477>                       out <=    1.0 01:S-1-FO-D1R      5.11     .059 No_date   29:23   63.68  n/a      .000
12478>                    overflow <=    1.0 03:S-1FOD1ovf     .00      .000 No_date   0:00     .00  n/a      .000
12479>     {MxStoUsed=.1586E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12480> R0050:C00174-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12481>      ADD HYD                1.0 02:980-out    330.38    7.836 No_date   29:23   58.69  n/a      .000
12482>                         +     1.0 02:S-1-FO-D1R      5.11     .059 No_date   29:23   63.68  n/a      .000
12483>                         +     1.0 02:S-1FOD1ovf     .00      .000 No_date   0:00     .00  n/a      .000
12484>                       SUM=    1.0 01:520        335.49    7.895 No_date   29:23   58.77  n/a      .000
12485> R0050:C00175-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12486>      SAVE HYD               1.0 01:520        335.49    7.895 No_date   29:23   58.77  n/a      .000
12487>         fname :520.0050
12488>         remark:Total Flows at Sation 520 on Foster Drain
12489> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
12490> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
12491> #
12492> R0050:C00176-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12493>      ROUTE CHANNEL      ->     1.0 02:520        335.49    7.895 No_date   29:23   58.77  n/a      .000
12494>         [RDT= 1.00] out<-      1.0 01:520-out    335.49    7.860 No_date   29:27   58.77  n/a      .000
12495>         [L/S/n=  860./ .587/.035]
12496>         {Vmax= 1.531:Dmax=  .760}
12497> R0050:C00177-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12498>      CONTINUOUS STANDHYD   1.0 01:S-1-FO-F-D    14.96    2.535 No_date   28:01   63.41 .778     .000
12499>         [XIMP=.65:TIMP=.65]
12500>         [LOSS= 2 :CN= 74.0]
12501>         [Pervious    area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
12502>         [Impervious  area: IAimp= 1.57:SLPI=  .50:LGI= 316.:MNI=.013:SCI=   .0]
12503>         [IaRECimp=   4.00: IaRECper=   4.00]
12504>         [SMIN= 36.67: SMAX=244.49: SK= .010]
12505> R0050:C00178-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12506>      COMPUTE DUALHYD       1.0 01:S-1-FO-F-D    14.96    2.535 No_date   28:01   63.41  n/a      .000
12507>         Major System    /     1.0 02:S-1-FO-F-DJ      .00      .000 No_date   0:00     .00  n/a      .000
12508>         Minor System    \     1.0 03:S-1-FO-F-DN     14.96    1.615 No_date   27:53   63.62  n/a      .000
12509>         {MjSysSto=.5006E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12510> R0050:C00179-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12511>      ADD HYD                1.0 02:S-1-FO-F-DJ      .00      .000 No_date   0:00     .00  n/a      .000
12512>                         +     1.0 02:S-1-FO-F-DN     14.96    1.615 No_date   27:53   63.62  n/a      .000
12513>                       SUM=    1.0 01:S-1-FO-F-DS     14.96    1.615 No_date   27:53   63.62  n/a      .000
12514> R0050:C00180-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12515>      ROUTE RESERVOIR ->     1.0 02:S-1-FO-F-DS     14.96    1.615 No_date   27:53   63.62  n/a      .000
12516>                       out <=    1.0 01:S-1-FO-F-DR     14.96     .171 No_date   29:28   63.62  n/a      .000
12517>                    overflow <=    1.0 03:S-1FOFDovf     .00      .000 No_date   0:00     .00  n/a      .000
12518>     {MxStoUsed=.5709E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12519> R0050:C00181-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12520>      CONTINUOUS STANDHYD   1.0 01:S-1-D8        5.27    1.052 No_date   28:01   46.77 .574     .000
12521>         [XIMP=.32:TIMP=.65]
12522>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
12523>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12524>         [Impervious  area: IAimp=  .79:SLPI= .75:LGI= 187.:MNI=.013:SCI=   .0]
12525>         [IaRECimp=   4.00: IaRECper=   4.00]
12526> R0050:C00182-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12527>      COMPUTE DUALHYD       1.0 01:S-1-D8        5.27    1.052 No_date   28:01   46.77  n/a      .000
12528>         Major System    /     1.0 02:S-1-D8J          .00      .000 No_date   0:00     .00  n/a      .000
12529>         Minor System    \     1.0 03:S-1-D8N         5.27     .672 No_date   27:53   46.88  n/a      .000
12530>         {MjSysSto=.2053E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12531> R0050:C00183-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12532>      ADD HYD                1.0 02:S-1-D8J          .00      .000 No_date   0:00     .00  n/a      .000
12533>                         +     1.0 02:S-1-D8N         5.27     .672 No_date   27:53   46.88  n/a      .000
12534>                       SUM=    1.0 01:S-1-D8S         5.27     .672 No_date   27:53   46.88  n/a      .000
12535> R0050:C00184-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12536>      ROUTE RESERVOIR ->     1.0 02:S-1-D8S         5.27     .672 No_date   27:53   46.88  n/a      .000
12537>                       out <=    1.0 01:S-1-D8R         5.27     .055 No_date   28:46   46.88  n/a      .000
12538>                    overflow <=    1.0 03:S-1-D8Rovf     .00      .000 No_date   0:00     .00  n/a      .000
12539>     {MxStoUsed=.1843E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12540> R0050:C00185-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12541>      CONTINUOUS NASHYD     1.0 01:S-1-A          75.88    3.042 No_date   28:36   39.91 .490     .000
12542>         [CN= 77.0: N= 3.00: Tp=  .62]
12543>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12544>         [InterEventTime=  12.00]
12545> R0050:C00186-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12546>      CONTINUOUS NASHYD     1.0 01:W_CLAR_UND     35.65     .943 No_date   29:10   39.91 .490     .000
12547>         [CN= 77.0: N= 3.00: Tp=  .59]
12548>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12549>         [InterEventTime=  12.00]
12550> R0050:C00187-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12551>      ADD HYD                1.0 02:N_FO       53577.82  128.055 No_date   33:44   33.65  n/a      .000
12552>                         +     1.0 02:520-out      335.49    7.860 No_date   29:27   58.77  n/a      .000
12553>                         +     1.0 02:MS_P10        73.29    1.204 No_date   29:09   63.49  n/a      .000
12554>                         +     1.0 02:P10-OVF         .00      .000 No_date   0:00     .00  n/a      .000
12555>                         +     1.0 02:W_CLAR_UND     35.65     .943 No_date   29:10   39.91  n/a      .000
12556>                         +     1.0 02:S-1FOBovf       .00      .000 No_date   0:00     .00  n/a      .000
12557>                         +     1.0 02:S-1FO-F-DR     14.96     .171 No_date   29:28   63.62  n/a      .000
12558>                         +     1.0 02:S-1-D8Rovf      .00      .000 No_date   0:00     .00  n/a      .000
12559>                         +     1.0 02:S-1-D8R         5.27     .055 No_date   28:46   46.88  n/a      .000
12560>                         +     1.0 02:S-1-A          75.88    3.042 No_date   28:36   39.91  n/a      .000
12561>                       SUM=    1.0 01:SN_FO      54118.36  133.255 No_date   33:20   33.87  n/a      .000
12562> R0050:C00188-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12563>      SAVE HYD               1.0 01:SN_FO      54118.36  133.255 No_date   33:20   33.87  n/a      .000
12564>         fname :SN_FO.0050
12565>         remark:Total Flows at Foster Drain
12566> # Hydrograph from Node Foster routed to Node at Cedarview Road
12567> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
12568> #
12569> R0050:C00189-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12570>      ROUTE CHANNEL      ->     1.0 02:SN_FO      54118.36  133.255 No_date   33:20   33.87  n/a      .000
12571> *    [RDT= 1.00] out<-      1.0 01:N_CE       54118.36  133.007 No_date   33:45   33.87  n/a      .000
12572>         [L/S/n=  159./ .082/.035]
12573>         {Vmax= 1.438:Dmax= 4.182}
12574> #*************************************************************************
12575> #    Catchment S-1
12576> #    - To Jock River (north and south of Jock)
12577> #    - Primarily agricultural fields; portion of sand quarry
12578> #*************************************************************************
12579> R0050:C00190-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12580>      CONTINUOUS NASHYD     1.0 01:S-1-B          55.36    2.770 No_date   28:23   39.91 .490     .000
12581>         [CN= 77.0: N= 3.00: Tp=  .45]
12582>         [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
12583>         [InterEventTime=  12.00]
12584> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new area
12585> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
12586> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
12587> R0050:C00191-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12588>      CONTINUOUS STANDHYD   1.0 01:S-1-D1        21.67    3.809 No_date   28:01   63.95 .785     .000
12589>         [XIMP=.65:TIMP=.65]
12590>         [LOSS= 2 :CN= 75.0]
12591>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12592>         [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
12593>         [IaRECimp=   4.00: IaRECper=   4.00]
12594>         [SMIN= 33.81: SMAX=225.43: SK= .010]
12595> R0050:C00192-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12596>      COMPUTE DUALHYD       1.0 01:S-1-D1        21.67    3.809 No_date   28:01   63.95  n/a      .000
12597>         Major System    /     1.0 02:S-1-D1J          .00      .000 No_date   0:00     .00  n/a      .000
12598>         Minor System    \     1.0 03:S-1-D1N        21.67    2.409 No_date   27:53   64.14  n/a      .000
12599>         {MjSysSto=.7710E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12600> R0050:C00193-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12601>      ADD HYD                1.0 02:S-1-D1J          .00      .000 No_date   0:00     .00  n/a      .000
12602>                         +     1.0 02:S-1-D1N        21.67    2.409 No_date   27:53   64.14  n/a      .000
12603>                       SUM=    1.0 01:S-1-D1S        21.67    2.409 No_date   27:53   64.14  n/a      .000
12604> R0050:C00194-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12605>      ROUTE RESERVOIR ->     1.0 02:S-1-D1S        21.67    2.409 No_date   27:53   64.14  n/a      .000
12606>                       out <=    1.0 01:S-1-D1R        21.67     .250 No_date   29:21   64.14  n/a      .000
12607>                    overflow <=    1.0 03:S-1-D1Rovf      .00      .000 No_date   0:00     .00  n/a      .000
12608>     {MxStoUsed=.8355E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12609> R0050:C00195-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12610>      CONTINUOUS STANDHYD   1.0 01:S-1-D4         3.28     .652 No_date   28:00   63.95 .785     .000
12611>         [XIMP=.65:TIMP=.65]
12612>         [LOSS= 2 :CN= 75.0]
12613>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12614>         [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
12615>         [IaRECimp=   4.00: IaRECper=   4.00]
12616>         [SMIN= 33.81: SMAX=225.43: SK= .010]
12617> R0050:C00196-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12618>      COMPUTE DUALHYD       1.0 01:S-1-D4         3.28     .652 No_date   28:00   63.95  n/a      .000
12619>         Major System    /     1.0 02:S-1-D4J          .00      .000 No_date   0:00     .00  n/a      .000
12620>         Minor System    \     1.0 03:S-1-D4N         3.28     .421 No_date   27:52   63.99  n/a      .000
12621>         {MjSysSto=.1072E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12622> R0050:C00197-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12623>      ADD HYD                1.0 02:S-1-D4J          .00      .000 No_date   0:00     .00  n/a      .000
12624>                         +     1.0 02:S-1-D4N         3.28     .421 No_date   27:52   63.99  n/a      .000
12625>                       SUM=    1.0 01:S-1-D4S         3.28     .421 No_date   27:52   63.99  n/a      .000
12626> R0050:C00198-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12627>      ROUTE RESERVOIR ->     1.0 02:S-1-D4S         3.28     .421 No_date   27:52   63.99  n/a      .000
12628>                       out <=    1.0 01:S-1-D4R         3.28     .038 No_date   29:14   63.98  n/a      .000
12629>                    overflow <=    1.0 03:S-1-D4Rovf      .00      .000 No_date   0:00     .00  n/a      .000
12630>     {MxStoUsed=.1260E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12631> R0050:C00199-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12632>      CONTINUOUS STANDHYD   1.0 01:S-1-D5        12.84    2.360 No_date   28:01   63.95 .785     .000
12633>         [XIMP=.65:TIMP=.65]
12634>         [LOSS= 2 :CN= 75.0]
12635>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12636>         [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
12637>         [IaRECimp=   4.00: IaRECper=   4.00]
12638>         [SMIN= 33.81: SMAX=225.43: SK= .010]
12639> R0050:C00200-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12640>      COMPUTE DUALHYD       1.0 01:S-1-D5        12.84    2.360 No_date   28:01   63.95  n/a      .000
12641>         Major System    /     1.0 02:S-1-D5J          .00      .000 No_date   0:00     .00  n/a      .000
12642>         Minor System    \     1.0 03:S-1-D5N        12.84    1.500 No_date   27:53   64.12  n/a      .000
12643>         {MjSysSto=.4409E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12644> R0050:C00201-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12645>      ADD HYD                1.0 02:S-1-D5J          .00      .000 No_date   0:00     .00  n/a      .000
12646>                         +     1.0 02:S-1-D5N        12.84    1.500 No_date   27:53   64.12  n/a      .000
12647>                       SUM=    1.0 01:S-1-D5S        12.84    1.500 No_date   27:53   64.12  n/a      .000
12648> R0050:C00202-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12649>      ROUTE RESERVOIR ->     1.0 02:S-1-D5S        12.84    1.500 No_date   27:53   64.12  n/a      .000
12650>                       out <=    1.0 01:S-1-D5R        12.84     .148 No_date   29:18   64.12  n/a      .000
12651>                    overflow <=    1.0 03:S-1-D5Rovf      .00      .000 No_date   0:00     .00  n/a      .000
12652>     {MxStoUsed=.4948E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12653> R0050:C00203-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12654>      CONTINUOUS STANDHYD   1.0 01:S-1-D6         1.75     .357 No_date   28:00   63.95 .785     .000
12655>         [XIMP=.65:TIMP=.65]
12656>         [LOSS= 2 :CN= 75.0]
12657>         [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12658>         [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
12659>         [IaRECimp=   4.00: IaRECper=   4.00]
12660>         [SMIN= 33.81: SMAX=225.43: SK= .010]
12661> R0050:C00204-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12662>      COMPUTE DUALHYD       1.0 01:S-1-D6         1.75     .357 No_date   28:00   63.95  n/a      .000
12663>         Major System    /     1.0 02:S-1-D6J          .00      .000 No_date   0:00     .00  n/a      .000
12664>         Minor System    \     1.0 03:S-1-D6N         1.75     .232 No_date   27:52   64.46  n/a      .000
12665>         {MjSysSto=.5657E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
12666> R0050:C00205-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12667>      ADD HYD                1.0 02:S-1-D6J          .00      .000 No_date   0:00     .00  n/a      .000
12668>                         +     1.0 02:S-1-D6N         1.75     .232 No_date   27:52   64.46  n/a      .000
12669>                       SUM=    1.0 01:S-1-D6S         1.75     .232 No_date   27:52   64.46  n/a      .000
12670> R0050:C00206-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12671>      ROUTE RESERVOIR ->     1.0 02:S-1-D6S         1.75     .232 No_date   27:52   64.46  n/a      .000
12672>                       out <=    1.0 01:S-1-D6R         1.75     .020 No_date   29:11   64.45  n/a      .000
12673>                    overflow <=    1.0 03:S-1-D6Rovf      .00      .000 No_date   0:00     .00  n/a      .000
12674>     {MxStoUsed=.6799E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
12675> R0050:C00207-------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12676>      CONTINUOUS STANDHYD   1.0 01:S-1-D7         2.03     .411 No_date   28:00   63.95 .785     .000
12677>         [X
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12717> R0050:C00213-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12718>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL   119.40   17.358 No_date   28:04   63.49 .779     .000
12719>       [XIMP=.60:TIMP=.65]
12720>       [LOSS= 2 :CN= 77.0]
12721>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
12722>       [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
12723>       [IaRECimp=  4.00: IaRECper=   4.00]
12724>       [SMIN= 31.15: SMAX=207.66: SK= .010]
12725> R0050:C00214-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12726>     ADD HYD                1.0 02:W_CLAR_ALL   119.40   17.358 No_date   28:04   63.49  n/a     .000
12727>                        +   1.0 02:W_CLAR_MJj     .08     .102 No_date   28:01   59.44  n/a     .000
12728>                    SUM=    1.0 01:W_CLAR       119.47   17.371 No_date   28:04   63.49  n/a     .000
12729> R0050:C00215-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12730>     SAVE HYD               1.0 01:W_CLAR       119.47   17.371 No_date   28:04   63.49  n/a     .000
12731>       fname :W_CLAR.0050
12732>       remark:Total Flows to West Clarke
12733> #*************************************************************************
12734> #     West Clarke Pond 2
12735> #   - Rating curve obtained from Barrhaven South MSS modeling
12736> #   - Tributary Drainage Area to MSS Pond 2 = 241 ha
12737> #*************************************************************************
12738> R0050:C00216-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12739>     ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.47   17.371 No_date   28:04   63.49  n/a     .000
12740>                    out <=  1.0 01:MS_P2        119.47   10.246 No_date   28:16   63.49  n/a     .000
12741>               overflow <=  1.0 03:P2-OVF         .00     .000 No_date    0:00     .00  n/a     .000
12742>       {MxStoUsed=.3076E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=   0.hrs}
12743> #*************************************************************************
12744> R0050:C00217-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12745>     ADD HYD                1.0 02:N_CE       54118.36  133.007 No_date   33:45   33.87  n/a     .000
12746>                        +   1.0 02:S-1-D4R       3.28     .038 No_date   29:14   63.98  n/a     .000
12747>                        +   1.0 02:S-1-D5R        12.84     .148 No_date   29:18   64.12  n/a     .000
12748>                        +   1.0 02:S-1-D4Rovf       .00     .000 No_date    0:00     .00  n/a     .000
12749>                        +   1.0 02:S-1-D5Rovf       .00     .000 No_date    0:00     .00  n/a     .000
12750>                        +   1.0 02:MS_P2        119.47   10.246 No_date   28:16   63.49  n/a     .000
12751>                        +   1.0 02:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
12752>                    SUM=    1.0 01:SN_CE        54253.95  134.004 No_date   33:44   33.95  n/a     .000
12753> R0050:C00218-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12754>     SAVE HYD               1.0 01:SN_CE        54253.95  134.004 No_date   33:44   33.95  n/a     .000
12755>       fname :SN_CE.0050
12756>       remark:Total Flows before Station 5737 on Jock River
12757> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
12758> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
12759> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
12760> R0050:C00219-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12761>     ROUTE CHANNEL    ->    1.0 02:SN_CE        54253.95  134.004 No_date   33:44   33.95  n/a     .000
12762> *   [RDT= 1.00] out<-     1.0 01:5737         54253.95  125.921 No_date   35:58   33.95  n/a     .000
12763>       [L/S/n=  270./ .018/.035]
12764>       {Vmax=  .827:Dmax= 5.276}
12765> R0050:C00220-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12766>     ADD HYD                1.0 02:5737         54253.95  125.921 No_date   35:58   33.95  n/a     .000
12767>                        +   1.0 02:S-1-D1R        21.67     .250 No_date   29:12   64.14  n/a     .000
12768>                        +   1.0 02:S-1-D6R         1.75     .020 No_date   29:11   64.45  n/a     .000
12769>                        +   1.0 02:S-1-D7R         2.03     .024 No_date   29:12   64.19  n/a     .000
12770>                        +   1.0 02:S-1-D1Rovf       .00     .000 No_date    0:00     .00  n/a     .000
12771>                        +   1.0 02:S-1-D6Rovf       .00     .000 No_date    0:00     .00  n/a     .000
12772>                        +   1.0 02:S-1-D7Rovf       .00     .000 No_date    0:00     .00  n/a     .000
12773>                    SUM=    1.0 01:5002         54279.41  126.128 No_date   35:58   33.96  n/a     .000
12774> R0050:C00221-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12775>     SAVE HYD               1.0 01:5002         54279.41  126.128 No_date   35:58   33.96  n/a     .000
12776>       fname :5002.0050
12777>       remark:Total Flows before Station 5002 on Jock River
12778> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
12779> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
12780> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
12781> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
12782> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
12783> R0050:C00222-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12784>     ROUTE CHANNEL    ->    1.0 02:5002         54279.41  126.128 No_date   35:58   33.96  n/a     .000
12785> *   [RDT= 1.00] out<-     1.0 01:N_WCa        54279.41  126.118 No_date   36:03   33.96  n/a     .000
12786>       [L/S/n=  245./ .095/.035]
12787>       {Vmax= 1.266:Dmax= 2.967}
12788> R0050:C00223-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12789>     ROUTE CHANNEL    ->    1.0 02:N_WCa        54279.41  126.118 No_date   36:03   33.96  n/a     .000
12790> *   [RDT= 1.00] out<-     1.0 01:N_WCb        54279.41  126.102 No_date   36:10   33.96  n/a     .000
12791>       [L/S/n=  245./ .095/.035]
12792>       {Vmax= 1.266:Dmax= 2.967}
12793> R0050:C00224-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12794>     ROUTE CHANNEL    ->    1.0 02:N_WCb        54279.41  126.102 No_date   36:10   33.96  n/a     .000
12795> *   [RDT= 1.00] out<-     1.0 01:N_WC         54279.41  125.986 No_date   36:27   33.96  n/a     .000
12796>       [L/S/n=  245./ .095/.035]
12797>       {Vmax= 1.266:Dmax= 2.967}
12798> #*************************************************************************
12799> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
12800> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
12801> #
12802> R0050:C00225-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12803>     ROUTE CHANNEL    ->    1.0 02:N_WC         54279.41  125.986 No_date   36:27   33.96  n/a     .000
12804> *   [RDT= 1.00] out<-     1.0 01:N_KB         54279.41  125.695 No_date   36:39   33.96  n/a     .000
12805>       [L/S/n=  1020./ .050/.035]
12806>       {Vmax= 1.123:Dmax= 3.747}
12807> #*************************************************************************
12808> #     Catchment KEN_BU
12809> #   - To Kennedy-Burnett SWM Facility
12810> #   - Outlets to Fraser-Clarke drain (north of the Jock)
12811> #   - Medium density residential subdivision
12812> #*************************************************************************
12813> #*************************************************************************
12814> #   Existing Kennedy-Burnett SWM Facility
12815> #   - Rating curve obtained from URTKBP
12816> #   - Tributary Drainage Area to Pond = 160 ha
12817> #*************************************************************************
12818> R0050:C00226-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12819>     CONTINUOUS STANDHYD    1.0 01:KB-01A        40.82    4.812 No_date   28:10   33.07 .406     .000
12820>       [XIMP=.10:TIMP=.40]
12821>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12822>       [Pervious     area: IAper= 4.67:SLPP=  .50:LGP=  40.:MNP=.250:SCP=   .0]
12823>       [Impervious   area: IAimp=  .79:SLPI=  .50:LGI= 522.:MNI=.013:SCI=   .0]
12824>       [IaRECimp=  4.00: IaRECper=   4.00]
12825> R0050:C00227-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12826>     COMPUTE DUALHYD        1.0 01:KB-01A        40.82    4.812 No_date   28:10   33.07  n/a     .000
12827>       Major System   /     1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12828>       Minor System   \     1.0 03:KB-01A-MN     40.82    3.600 No_date   28:00   33.14  n/a     .000
12829>         {MjSysSto=.1012E+04, N-Ovf=    0, TotOvfVol=   0.hrs}
12830> R0050:C00228-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12831>     ADD HYD                1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12832>                        +   1.0 02:KB-01A-MN     40.82    3.600 No_date   28:00   33.14  n/a     .000
12833>                    SUM=    1.0 01:KB-01A-S      40.82    3.600 No_date   28:00   33.14  n/a     .000
12834> R0050:C00229-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12835>     CONTINUOUS STANDHYD    1.0 01:KB-01B        31.10    3.541 No_date   28:07   36.47 .447     .000
12836>       [XIMP=.19:TIMP=.38]
12837>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12838>       [Pervious     area: IAper= 4.67:SLPP=  .42:LGP=  40.:MNP=.250:SCP=   .0]
12839>       [Impervious   area: IAimp=  .79:SLPI=  .42:LGI= 455.:MNI=.013:SCI=   .0]
12840>       [IaRECimp=  4.00: IaRECper=   4.00]
12841> R0050:C00230-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12842>     COMPUTE DUALHYD        1.0 01:KB-01B        31.10    3.541 No_date   28:07   36.47  n/a     .000
12843>       Major System   /     1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12844>       Minor System   \     1.0 03:KB-01B-MN     31.10    1.585 No_date   27:53   36.51  n/a     .000
12845>         {MjSysSto=.2627E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12846> R0050:C00231-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12847>     ADD HYD                1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12848>                        +   1.0 02:KB-01B-MN     31.10    1.585 No_date   27:53   36.51  n/a     .000
12849>                    SUM=    1.0 01:KB-01B-S      31.10    1.585 No_date   27:53   36.51  n/a     .000
12850> R0050:C00232-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12851>     CONTINUOUS STANDHYD    1.0 01:KB-01C        13.78    2.163 No_date   28:04   37.72 .463     .000
12852>       [XIMP=.20:TIMP=.41]
12853>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12854>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12855>       [Impervious   area: IAimp=  .79:SLPI=  .50:LGI= 303.:MNI=.013:SCI=   .0]
12856>       [IaRECimp=  4.00: IaRECper=   4.00]
12857> R0050:C00233-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12858>     COMPUTE DUALHYD        1.0 01:KB-01C        13.78    2.163 No_date   28:04   37.72  n/a     .000
12859>       Major System   /     1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12860>       Minor System   \     1.0 03:KB-01C-MN     13.78    1.350 No_date   27:55   37.86  n/a     .000
12861>         {MjSysSto=.5764E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12862> R0050:C00234-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12863>     ADD HYD                1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12864>                        +   1.0 02:KB-01C-MN     13.78    1.350 No_date   27:55   37.86  n/a     .000
12865>                    SUM=    1.0 01:KB-01C-S      13.78    1.350 No_date   27:55   37.86  n/a     .000
12866> R0050:C00235-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12867>     CONTINUOUS STANDHYD    1.0 01:KB-03         84.78   11.183 No_date   28:07   37.17 .456     .000
12868>       [XIMP=.20:TIMP=.39]
12869>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12870>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12871>       [Impervious   area: IAimp=  .79:SLPI=  .63:LGI= 752.:MNI=.013:SCI=   .0]
12872>       [IaRECimp=  4.00: IaRECper=   4.00]
12873> R0050:C00236-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12874>     COMPUTE DUALHYD        1.0 01:KB-03         84.78   11.183 No_date   28:07   37.17  n/a     .000
12875>       Major System   /     1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12876>       Minor System   \     1.0 03:KB-03-MN      84.78    5.270 No_date   27:54   37.24  n/a     .000
12877>         {MjSysSto=.6453E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12878> R0050:C00237-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12879>     ADD HYD                1.0 02:KB-03-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12880>                        +   1.0 02:KB-03-MN      84.78    5.270 No_date   27:54   37.24  n/a     .000
12881>                    SUM=    1.0 01:KB-03-S       84.78    5.270 No_date   27:54   37.24  n/a     .000
12882> R0050:C00238-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12883>     CONTINUOUS STANDHYD    1.0 01:KB-04         6.95    1.592 No_date   28:00   71.86 .882     .000
12884>       [XIMP=.85:TIMP=.85]
12885>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12886>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12887>       [Impervious   area: IAimp=  .94:SLPI=  .50:LGI= 215.:MNI=.013:SCI=   .0]
12888>       [IaRECimp=  4.00: IaRECper=   4.00]
12889> R0050:C00239-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12890>     COMPUTE DUALHYD        1.0 01:KB-04         6.95    1.592 No_date   28:00   71.86  n/a     .000
12891>       Major System   /     1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12892>       Minor System   \     1.0 03:KB-04-MN      6.95     .503 No_date   27:44   72.11  n/a     .000
12893>         {MjSysSto=.9423E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12894> R0050:C00240-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12895>     ADD HYD                1.0 02:KB-04-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12896>                        +   1.0 02:KB-04-MN       6.95     .503 No_date   27:44   72.11  n/a     .000
12897>                    SUM=    1.0 01:KB-04-S       6.95     .503 No_date   27:44   72.11  n/a     .000
12898> R0050:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12899>     CONTINUOUS STANDHYD    1.0 01:KB-05         5.19    1.270 No_date   28:00   75.92 .931     .000
12900>       [XIMP=.93:TIMP=.93]
12901>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12902>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12903>       [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 186.:MNI=.013:SCI=   .0]
12904>       [IaRECimp=  4.00: IaRECper=   4.00]
12905> R0050:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12906>     CONTINUOUS STANDHYD    1.0 01:KB-06         12.93    3.268 No_date   28:00   73.20 .898     .000
12907>       [XIMP=.87:TIMP=.87]
12908>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12909>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12910>       [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
12911>       [IaRECimp=  4.00: IaRECper=   4.00]
12912> R0050:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12913>     COMPUTE DUALHYD        1.0 01:KB-06         12.93    3.268 No_date   28:00   73.20  n/a     .000
12914>       Major System   /     1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12915>       Minor System   \     1.0 03:KB-06-MN      12.93    2.262 No_date   27:52   73.67  n/a     .000
12916>         {MjSysSto=.4323E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12917> R0050:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12918>     ADD HYD                1.0 02:KB-06-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12919>                        +   1.0 02:KB-06-MN      12.93    2.262 No_date   27:52   73.67  n/a     .000
12920>                    SUM=    1.0 01:KB-06-S       12.93    2.262 No_date   27:52   73.67  n/a     .000
12921> R0050:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12922>     CONTINUOUS STANDHYD    1.0 01:KB-11          4.03     .921 No_date   28:00   61.82 .758     .000
12923>       [XIMP=.68:TIMP=.68]
12924>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12925>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12926>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
12927>       [IaRECimp=  4.00: IaRECper=   4.00]
12928> R0050:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12929>     COMPUTE DUALHYD        1.0 01:KB-11          4.03     .921 No_date   28:00   61.82  n/a     .000
12930>       Major System   /     1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12931>       Minor System   \     1.0 03:KB-11-MN       4.03     .577 No_date   27:52   62.10  n/a     .000
12932>         {MjSysSto=.1581E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12933> R0050:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12934>     ADD HYD                1.0 02:KB-11-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12935>                        +   1.0 02:KB-11-MN       4.03     .577 No_date   27:52   62.10  n/a     .000
12936>                    SUM=    1.0 01:KB-11-S        4.03     .577 No_date   27:52   62.10  n/a     .000
12937> R0050:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12938>     CONTINUOUS STANDHYD    1.0 01:S1             4.99    1.304 No_date   28:00   75.92 .931     .000
12939>       [XIMP=.93:TIMP=.93]
12940>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12941>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12942>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
12943>       [IaRECimp=  4.00: IaRECper=   4.00]
12944> R0050:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12945>     CONTINUOUS STANDHYD    1.0 01:KB-15          2.15     .497 No_date   28:00   69.00 .847     .000
12946>       [XIMP=.79:TIMP=.79]
12947>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12948>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12949>       [Impervious   area: IAimp=  .16:SLPI=  .30:LGI= 120.:MNI=.013:SCI=   .0]
12950>       [IaRECimp=  4.00: IaRECper=   4.00]
12951> R0050:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12952>     ADD HYD                1.0 02:KB-01A-S      40.82    3.600 No_date   28:00   33.14  n/a     .000
12953>                        +   1.0 02:KB-01B-S      31.10    1.585 No_date   27:53   36.51  n/a     .000
12954>                        +   1.0 02:KB-01C-S      13.78    1.350 No_date   27:55   37.86  n/a     .000
12955>                        +   1.0 02:KB-03-S       84.78    5.270 No_date   27:54   37.24  n/a     .000
12956>                        +   1.0 02:KB-04-S        6.95     .503 No_date   27:44   72.11  n/a     .000
12957>                        +   1.0 02:KB-05          5.19    1.270 No_date   28:00   75.92  n/a     .000
12958>                        +   1.0 02:KB-06-S       12.93    2.262 No_date   27:52   73.67  n/a     .000
12959>                        +   1.0 02:KB-11-S        4.03     .577 No_date   27:52   62.10  n/a     .000
12960>                        +   1.0 02:KB-15          2.15     .497 No_date   28:00   69.00  n/a     .000
12961>                        +   1.0 02:S1             4.99    1.304 No_date   28:00   75.92  n/a     .000
12962>                    SUM=    1.0 01:KB-P1        206.72   18.218 No_date   28:00   42.53  n/a     .000
12963> R0050:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12964>     ROUTE RESERVOIR ->     1.0 02:KB-P1        206.72   18.218 No_date   28:00   42.53  n/a     .000
12965>                    out <=  1.0 01:KB-P10       198.38   12.438 No_date   28:02   42.53  n/a     .000
12966>               overflow <=  1.0 03:KB-P1ovf       8.34    5.573 No_date   28:02   42.53  n/a     .000
12967>       {MxStoUsed=.7313E+00  m3, TotOvfVol=.3545E+00  m3, N-Ovf=    2, TotDurOvf=   1.hrs}
12968> R0050:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12969>     ADD HYD                1.0 02:KB-P1R       198.38   12.438 No_date   28:02   42.53  n/a     .000
12970>                        +   1.0 02:KB-P1ovf       8.34    5.573 No_date   28:02   42.53  n/a     .000
12971>                    SUM=    1.0 01:KB-Pond1     206.72   18.011 No_date   28:02   42.53  n/a     .000
12972> R0050:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12973>     SAVE HYD               1.0 01:KB-Pond1     206.72   18.011 No_date   28:02   42.53  n/a     .000
12974>       fname :KB-Pond1.0050
12975>       remark:Total Flows at KB first pond
12976> R0050:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12977>     CONTINUOUS STANDHYD    1.0 01:KB-07         10.86    2.656 No_date   28:00   72.58 .890     .000
12978>       [XIMP=.86:TIMP=.86]
12979>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12980>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12981>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
12982>       [IaRECimp=  4.00: IaRECper=   4.00]
12983> R0050:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12984>     COMPUTE DUALHYD        1.0 01:KB-07         10.86    2.656 No_date   28:00   72.58  n/a     .000
12985>       Major System   /     1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12986>       Minor System   \     1.0 03:KB-07-MN      10.86    2.094 No_date   28:08   72.95  n/a     .000
12987>         {MjSysSto=.1950E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
12988> R0050:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12989>     ADD HYD                1.0 02:KB-07-MJ       .00     .000 No_date    0:00     .00  n/a     .000
12990>                        +   1.0 02:KB-07-MN      10.86    2.094 No_date   28:08   72.95  n/a     .000
12991>                    SUM=    1.0 01:KB-07-S       10.86    2.094 No_date   28:08   72.95  n/a     .000
12992> R0050:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
12993>     CONTINUOUS STANDHYD    1.0 01:KB-08          6.61    1.444 No_date   28:00   59.78 .733     .000
12994>       [XIMP=.64:TIMP=.64]
12995>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
12996>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
12997>       [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
12998>       [IaRECimp=  4.00: IaRECper=   4.00]
12999> R0050:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13000>     COMPUTE DUALHYD        1.0 01:KB-08          6.61    1.444 No_date   28:00   59.78  n/a     .000
13001>       Major System   /     1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
13002>       Minor System   \     1.0 03:KB-08-MN       6.61    1.058 No_date   27:53   60.05  n/a     .000
13003>         {MjSysSto=.1439E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13004> R0050:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13005>     ADD HYD                1.0 02:KB-08-MJ       .00     .000 No_date    0:00     .00  n/a     .000
13006>                        +   1.0 02:KB-08-MN       6.61    1.058 No_date   27:53   60.05  n/a     .000
13007>                    SUM=    1.0 01:KB-08-S        6.61    1.058 No_date   27:53   60.05  n/a     .000
13008> R0050:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13009>     CONTINUOUS STANDHYD    1.0 01:KB-09          2.60     .665 No_date   28:00   71.90 .882     .000
13010>       [XIMP=.86:TIMP=.86]
13011>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13012>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13013>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
13014>       [IaRECimp=  4.00: IaRECper=   4.00]
13015> R0050:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13016>     CONTINUOUS STANDHYD    1.0 01:KB-10_1        2.37     .607 No_date   28:00   71.90 .882     .000
13017>       [XIMP=.86:TIMP=.86]
13018>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13019>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13020>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
13021>       [IaRECimp=  4.00: IaRECper=   4.00]
13022> R0050:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13023>     CONTINUOUS STANDHYD    1.0 01:KB-10_2        1.14     .295 No_date   28:00   71.90 .882     .000
13024>       [XIMP=.86:TIMP=.86]
13025>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13026>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13027>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
13028>       [IaRECimp=  4.00: IaRECper=   4.00]
13029> R0050:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13030>     CONTINUOUS STANDHYD    1.0 01:KB-12          4.86    1.174 No_date   28:00   68.26 .837     .000
13031>       [XIMP=.79:TIMP=.79]
13032>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13033>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13034>       [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 100.:MNI=.013:SCI=   .0]
13035>       [IaRECimp=  4.00: IaRECper=   4.00]
13036> R0050:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13037>     COMPUTE DUALHYD        1.0 01:KB-12          4.86    1.174 No_date   28:00   68.26  n/a     .000
13038>       Major System   /     1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
13039>       Minor System   \     1.0 03:KB-12-MN       4.86     .867 No_date   28:09   68.93  n/a     .000
13040>         {MjSysSto=.1203E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13041> R0050:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13042>     ADD HYD                1.0 02:KB-12-MJ       .00     .000 No_date    0:00     .00  n/a     .000
13043>                        +   1.0 02:KB-12-MN       4.86     .867 No_date   28:09   68.93  n/a     .000
13044>                    SUM=    1.0 01:KB-12-S        4.86     .867 No_date   28:09   68.93  n/a     .000
13045> R0050:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13046>     CONTINUOUS STANDHYD    1.0 01:KB-13         10.19    2.184 No_date   28:00   59.78 .733     .000
13047>       [XIMP=.64:TIMP=.64]
13048>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=  .00]
13049>       [Pervious     
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13091>                    +     1.0 02:KB-12-S       4.86     .867 No_date   28:09   68.93  n/a     .000
13092>                    +     1.0 02:KB-13-S      10.19    1.722 No_date   27:55   60.01  n/a     .000
13093>                    +     1.0 02:KB-14-S       5.47     .873 No_date   27:53   60.02  n/a     .000
13094>                    +     1.0 02:KB-16_2       3.42     .724 No_date   28:01   64.30  n/a     .000
13095>                  SUM=    1.0 01:KB-P2       254.24   26.339 No_date   28:02   46.87  n/a     .000
13096> R0050:C00274------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13097>     ROUTE RESERVOIR ->     1.0 02:KB-P2       254.24   26.339 No_date   28:02   46.87  n/a     .000
13098>                    out <=  1.0 01:KB-P2R      253.10   17.634 No_date   28:09   46.87  n/a     .000
13099>               overflow <=  1.0 03:KB-P2ovf      1.14    5.257 No_date   28:09   46.87  n/a     .000
13100>     {MxStoSued=.1109E+01  m3, TotOvfVol=.5351E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
13101> R0050:C00275------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13102>       ADD HYD          +     1.0 02:KB-P2R      253.10   17.634 No_date   28:09   46.87  n/a     .000
13103>                        +     1.0 02:KB-P2ovf      1.14    5.257 No_date   28:09   46.87  n/a     .000
13104>                      SUM=    1.0 01:KB-Pond2    254.24   22.891 No_date   28:09   46.87  n/a     .000
13105> R0050:C00276------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13106>       SAVE HYD           1.0 01:KB-Pond2    254.24   22.891 No_date   28:09   46.87  n/a     .000
13107>         fname :KB-Pond2.0050
13108>         remark:Total Flows at KB second pond
13109> R0050:C00277------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13110>       CONTINUOUS STANDHYD    1.0 01:KB-16_1       2.80     .624 No_date   28:00   66.65 .818    .000
13111>         [XIMP=.75:TIMP=.75]
13112>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13113>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13114>         [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 137.:MNI=.013:SCI=   .0]
13115>         [IaRECimp=   4.00: IaRECper=    4.00]
13116> R0050:C00278------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13117>       ADD HYD          +     1.0 02:KB-Pond2    254.24   22.891 No_date   28:09   46.87  n/a     .000
13118>                        +     1.0 02:KB-16_1       2.80     .624 No_date   28:00   66.65  n/a     .000
13119>                      SUM=    1.0 01:KB-P3       257.04   23.147 No_date   28:09   47.08  n/a     .000
13120> R0050:C00279------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13121>     ROUTE RESERVOIR ->     1.0 02:KB-P3       257.04   23.147 No_date   28:09   47.08  n/a     .000
13122>                    out <=  1.0 01:KB-P3R      257.04   23.147 No_date   28:09   47.08  n/a     .000
13123>               overflow <=  1.0 03:KB-P3ovf      7.64   22.286 No_date   28:10   47.08  n/a     .000
13124>     {MxStoSued=.1988E-02  m3, TotOvfVol=.1166E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
13125> R0050:C00280------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13126>       ADD HYD          +     1.0 02:KB-P3R        9.40     .051 No_date   17:13   47.07  n/a     .000
13127>                        +     1.0 02:KB-P3ovf      7.64   22.286 No_date   28:10   47.08  n/a     .000
13128>                      SUM=    1.0 01:KB-Pond3    257.04   22.337 No_date   28:10   47.08  n/a     .000
13129> R0050:C00281------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13130>       SAVE HYD           1.0 01:KB-Pond3    257.04   22.337 No_date   28:10   47.08  n/a     .000
13131>         fname :KB-Pond3.0050
13132>         remark:Total Flows at KB third pond
13133> #*************************************************************************
13134> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
13135> #    - TO FRASER-CLARKE DRAIN
13136> #*************************************************************************
13137> R0050:C00282------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13138>       CONTINUOUS STANDHYD    1.0 01:FC-01         8.03    1.483 No_date   28:01   49.52  n/a     .000
13139>         [XIMP=.47:TIMP=.47]
13140>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13141>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13142>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 231.:MNI=.013:SCI=   .0]
13143>         [IaRECimp=   4.00: IaRECper=    4.00]
13144> R0050:C00283------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13145>       COMPUTE DUALHYD        1.0 01:FC-01         8.03    1.483 No_date   28:01   49.52  n/a     .000
13146>         Major System   /     1.0 02:FC-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13147>         Minor System   \     1.0 03:FC-01-MN      8.03    .756 No_date   27:51   49.91  n/a     .000
13148>         {MjSysSto=.4662E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13149> R0050:C00284------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13150>       ADD HYD          +     1.0 02:FC-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13151>                        +     1.0 02:FC-01-MN      8.03    .756 No_date   27:51   49.91  n/a     .000
13152>                      SUM=    1.0 01:FC-01-S       8.03    .756 No_date   27:51   49.91  n/a     .000
13153> R0050:C00285------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13154>       CONTINUOUS STANDHYD    1.0 01:FC-02        16.05    3.831 No_date   28:00   75.92 .931    .000
13155>         [XIMP=.93:TIMP=.93]
13156>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13157>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13158>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
13159>         [IaRECimp=   4.00: IaRECper=    4.00]
13160> R0050:C00286------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13161>       COMPUTE DUALHYD        1.0 01:FC-02        16.05    3.831 No_date   28:00   75.92  n/a     .000
13162>         Major System   /     1.0 02:FC-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13163>         Minor System   \     1.0 03:FC-02-MN     16.05    1.159 No_date   27:43   75.94  n/a     .000
13164>         {MjSysSto=.2348E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13165> R0050:C00287------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13166>       ADD HYD          +     1.0 02:FC-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13167>                        +     1.0 02:FC-02-MN     16.05    1.159 No_date   27:43   75.94  n/a     .000
13168>                      SUM=    1.0 01:FC-02-S      16.05    1.159 No_date   27:43   75.94  n/a     .000
13169> R0050:C00288------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13170>       CONTINUOUS STANDHYD    1.0 01:FC-03         7.37    1.540 No_date   28:00   59.28 .727    .000
13171>         [XIMP=.64:TIMP=.64]
13172>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13173>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13174>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
13175>         [IaRECimp=   4.00: IaRECper=    4.00]
13176> R0050:C00289------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13177>       COMPUTE DUALHYD        1.0 01:FC-03         7.37    1.540 No_date   28:00   59.28  n/a     .000
13178>         Major System   /     1.0 02:FC-03-MJ      .02     .092 No_date   28:14   59.28  n/a     .000
13179>         Minor System   \     1.0 03:FC-03-MN      7.35    .358 No_date   27:42   59.51  n/a     .000
13180>         {MjSysSto=.1131E+04, TotOvfVol=.1375E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
13181> R0050:C00290------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13182>       ADD HYD          +     1.0 02:FC-03-MJ      .02     .092 No_date   28:14   59.28  n/a     .000
13183>                        +     1.0 02:FC-03-MN      7.35    .358 No_date   27:42   59.51  n/a     .000
13184>                      SUM=    1.0 01:FC-03-S       7.37    .450 No_date   28:14   59.51  n/a     .000
13185> R0050:C00291------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13186>       CONTINUOUS STANDHYD    1.0 01:FC-04        12.87    2.587 No_date   28:01   59.28 .727    .000
13187>         [XIMP=.64:TIMP=.64]
13188>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13189>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13190>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
13191>         [IaRECimp=   4.00: IaRECper=    4.00]
13192> R0050:C00292------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13193>       COMPUTE DUALHYD        1.0 01:FC-04        12.87    2.587 No_date   28:01   59.28  n/a     .000
13194>         Major System   /     1.0 02:FC-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13195>         Minor System   \     1.0 03:FC-04-MN     12.87    .741 No_date   27:44   59.54  n/a     .000
13196>         {MjSysSto=.1729E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13197> R0050:C00293------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13198>       ADD HYD          +     1.0 02:FC-04-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13199>                        +     1.0 02:FC-04-MN     12.87    .741 No_date   27:44   59.54  n/a     .000
13200>                      SUM=    1.0 01:FC-04-S      12.87    .741 No_date   27:44   59.54  n/a     .000
13201> #*************************************************************************
13202> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
13203> #    - TO JACOB RIVER
13204> #*************************************************************************
13205> R0050:C00294------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13206>       CONTINUOUS STANDHYD    1.0 01:JR-01         8.24    1.714 No_date   28:00   59.28 .727    .000
13207>         [XIMP=.64:TIMP=.64]
13208>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13209>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13210>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
13211>         [IaRECimp=   4.00: IaRECper=    4.00]
13212> R0050:C00295------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13213>       COMPUTE DUALHYD        1.0 01:JR-01         8.24    1.714 No_date   28:00   59.28  n/a     .000
13214>         Major System   /     1.0 02:JR-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13215>         Minor System   \     1.0 03:JR-01-MN      8.24    .563 No_date   28:59   59.48  n/a     .000
13216>         {MjSysSto=.9643E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13217> R0050:C00296------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13218>       ADD HYD          +     1.0 02:JR-01-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13219>                        +     1.0 02:JR-01-MN      8.24    .563 No_date   27:44   59.48  n/a     .000
13220>                      SUM=    1.0 01:JR-01-S       8.24    .563 No_date   27:44   59.48  n/a     .000
13221> R0050:C00297------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13222>       CONTINUOUS STANDHYD    1.0 01:JR-02         1.59     .357 No_date   28:00   59.28 .727    .000
13223>         [XIMP=.64:TIMP=.64]
13224>         [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
13225>         [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
13226>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 103.:MNI=.013:SCI=   .0]
13227>         [IaRECimp=   4.00: IaRECper=    4.00]
13228> R0050:C00298------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13229>       COMPUTE DUALHYD        1.0 01:JR-02         1.59     .357 No_date   28:00   59.28  n/a     .000
13230>         Major System   /     1.0 02:JR-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13231>         Minor System   \     1.0 03:JR-02-MN      1.59    .153 No_date   27:45   59.66  n/a     .000
13232>         {MjSysSto=.1319E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13233> R0050:C00299------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13234>       ADD HYD          +     1.0 02:JR-02-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13235>                        +     1.0 02:JR-02-MN      1.59    .153 No_date   27:45   59.66  n/a     .000
13236>                      SUM=    1.0 01:JR-02-S       1.59    .153 No_date   27:45   59.66  n/a     .000
13237> #*************************************************************************
13238> #    Catchment FRASER
13239> #    - To Fraser-Clarke drain (north of the Jock)
13240> #    - Developed land with assumed 43% imp.
13241> #    - 2020-12-17 Change Fraser area to be 35.1 as measured from QGIS
13242> #    - 2020-12-17 All Fraser is undeveloped (Nashyd)
13243> #*************************************************************************
13244> R0050:C00300------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13245>       CONTINUOUS NASHYD      1.0 01:FRASER-DRN    13.65     .711 No_date   28:22   39.91 .490    .000
13246>         [CN= 77.0: N= 3.00: Tp=  .43]
13247>         [IaREC=  4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13248>         [InterEventTime=  12.00]
13249> R0050:C00301------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13250>       CONTINUOUS STANDHYD    1.0 01:FRASER-D      21.61    3.688 No_date   28:01   62.97 .773    .000
13251>         [XIMP=.58:TIMP=.58]
13252>         [LOSS= 2 :CN= 80.0]
13253>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13254>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 380.:MNI=.013:SCI=   .0]
13255>         [IaRECimp=   4.00: IaRECper=    4.00]
13256>         [SMIN= 26.32: SMAX=175.50: SK= .010]
13257> R0050:C00302------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13258>       COMPUTE DUALHYD        1.0 01:FRASER-D      21.61    3.688 No_date   28:01   62.97  n/a     .000
13259>         Major System   /     1.0 02:FRASER-J       .00     .000 No_date   0:00     .00  n/a     .000
13260>         Minor System   \     1.0 03:FRASER-N      21.61    2.281 No_date   27:53   63.21  n/a     .000
13261>         {MjSysSto=.7987E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13262> R0050:C00303------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13263>       ADD HYD          +     1.0 02:FRASER-J       .00     .000 No_date   0:00     .00  n/a     .000
13264>                        +     1.0 02:FRASER-N      21.61    2.281 No_date   27:53   63.21  n/a     .000
13265>                      SUM=    1.0 01:FRASER-S      21.61    2.281 No_date   27:53   63.21  n/a     .000
13266> R0050:C00304------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13267>       ADD HYD          +     1.0 02:KB-Pond3    257.04   22.337 No_date   28:10   47.08  n/a     .000
13268>                        +     1.0 02:S-1-B        55.36    2.770 No_date   28:14   59.51  n/a     .000
13269>                        +     1.0 02:FRASER-DRN   13.65     .711 No_date   28:22   39.91  n/a     .000
13270>                        +     1.0 02:FRASER-S     21.61    2.281 No_date   27:53   63.21  n/a     .000
13271>                        +     1.0 02:N_KB      54279.41  125.695 No_date   36:19   33.96  n/a     .000
13272>                        +     1.0 02:FC-01-S       8.03     .756 No_date   27:51   49.91  n/a     .000
13273>                        +     1.0 02:FC-02-S      16.05    1.159 No_date   27:43   75.94  n/a     .000
13274>                        +     1.0 02:FC-03-S       7.37     .450 No_date   28:14   59.51  n/a     .000
13275>                      SUM=    1.0 01:4241      54658.52  126.368 No_date   36:19   34.06  n/a     .000
13276> R0050:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13277>       SAVE HYD           1.0 01:4241      54658.52  126.368 No_date   36:19   34.06  n/a     .000
13278>         fname :4241.0050
13279>         remark:Total Flows at Ken-Burnett Outlet
13280> # Hydrograph from Node Ken-Burnett to station 3633
13281> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
13282> #
13283> R0050:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13284>     ROUTE CHANNEL    ->     1.0 02:4241      54658.52  126.368 No_date   36:19   34.06  n/a     .000
13285> *   [RDT= 1.00] out<-     1.0 01:4241-out   54658.52  127.099 No_date   36:18   34.06  n/a     .000
13286>         [L/S/n=  294./ .109/.035]
13287>         {Vmax= 1.330:Dmax= 2.427}
13288> R0050:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13289>       ADD HYD          +     1.0 03:4241-out   54658.52  127.099 No_date   36:18   34.06  n/a     .000
13290>                        +     1.0 02:FC-04-S      12.87     .741 No_date   27:44   59.54  n/a     .000
13291>                        +     1.0 02:JR-01-S       8.24     .563 No_date   27:44   59.48  n/a     .000
13292>                        +     1.0 02:JR-02-S       1.59     .153 No_date   27:45   59.66  n/a     .000
13293>                      SUM=    1.0 01:SN_KB      54681.21  127.139 No_date   36:18   34.07  n/a     .000
13294> R0050:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13295>       SAVE HYD           1.0 01:SN_KB      54681.21  127.139 No_date   36:18   34.07  n/a     .000
13296>         fname :SN_KB.0050
13297>         remark:Total Flows before Station 3633
13298> # Hydrograph from Station 3633 to Node Todd
13299> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
13300> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
13301> #
13302> R0050:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13303>     ROUTE CHANNEL    ->     1.0 02:SN_KB      54681.21  127.139 No_date   36:18   34.07  n/a     .000
13304> *   [RDT= 1.00] out<-     1.0 01:N_TO       54681.21  126.373 No_date   36:19   34.07  n/a     .000
13305>         [L/S/n=  608./ .247/.035]
13306>         {Vmax= 1.812:Dmax= 1.825}
13307> #*************************************************************************
13308> #    Catchment Greenbank
13309> #    - To Greenbank Drain (south of the Jock)
13310> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, P598(06)-15, June 2016
13311> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
13312> #*************************************************************************
13313> R0050:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13314>       CONTINUOUS STANDHYD    1.0 01:Greenbank     36.60    6.286 No_date   28:02   65.04 .798    .000
13315>         [XIMP=.64:TIMP=.68]
13316>         [LOSS= 2 :CN= 77.0]
13317>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13318>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
13319>         [IaRECimp=   4.00: IaRECper=    4.00]
13320>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13321> R0050:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13322>     ROUTE RESERVOIR ->     1.0 02:Greenbank     36.60    6.286 No_date   28:02   65.04  n/a     .000
13323>                    out <=  1.0 01:GreenBank     36.60    4.176 No_date   28:09   65.04  n/a     .000
13324>               overflow <=  1.0 03:GreenB_MJ      .00     .000 No_date   0:00     .00  n/a     .000
13325>     {MxStoSued=.9063E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13326> R0050:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13327>       ADD HYD          +     1.0 02:N_TO       54681.21  126.373 No_date   36:19   34.07  n/a     .000
13328>                        +     1.0 02:GreenB_MJ     .00     .000 No_date   0:00     .00  n/a     .000
13329>                        +     1.0 02:GreenB_MN    36.60    4.176 No_date   28:09   65.04  n/a     .000
13330>                      SUM=    1.0 01:GreenB     54717.81  126.537 No_date   36:19   34.09  n/a     .000
13331> R0050:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13332>       SAVE HYD           1.0 01:GreenB     54717.81  126.537 No_date   36:19   34.09  n/a     .000
13333>         fname :GreenB.0050
13334>         remark:Total Flows at Greenbank Drain
13335> #*************************************************************************
13336> #    Catchment TODD
13337> #    - To Todd Drain (south of the Jock)
13338> #    - Subdivision with 43% imp. as per Barrhaven South MSS
13339> #    - 2020-11-30 increase imp. based on P598(04)-11
13340> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on P598(04)-11
13341> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
13342> #*************************************************************************
13343> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
13344> R0050:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13345>       CONTINUOUS STANDHYD    1.0 01:TODD_MN2      2.10     .384 No_date   28:00   60.14 .738    .000
13346>         [XIMP=.53:TIMP=.57]
13347>         [LOSS= 2 :CN= 77.0]
13348>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13349>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
13350>         [IaRECimp=   4.00: IaRECper=    4.00]
13351>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13352> R0050:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13353>       CONTINUOUS STANDHYD    1.0 01:TODD_MN3      .12     .022 No_date   28:00   60.13 .738    .000
13354>         [XIMP=.53:TIMP=.57]
13355>         [LOSS= 2 :CN= 77.0]
13356>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13357>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
13358>         [IaRECimp=   4.00: IaRECper=    4.00]
13359>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13360> R0050:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13361>       CONTINUOUS STANDHYD    1.0 01:TODD_MJ       30.23    4.894 No_date   28:02   61.85 .759    .000
13362>         [XIMP=.52:TIMP=.64]
13363>         [LOSS= 2 :CN= 77.0]
13364>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13365>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
13366>         [IaRECimp=   4.00: IaRECper=    4.00]
13367>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13368> R0050:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13369>       CONTINUOUS STANDHYD    1.0 01:TODD_ALL     112.91   15.270 No_date   28:04   59.95 .735    .000
13370>         [XIMP=.52:TIMP=.57]
13371>         [LOSS= 2 :CN= 77.0]
13372>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13373>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
13374>         [IaRECimp=   4.00: IaRECper=    4.00]
13375>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13376> R0050:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13377>       CONTINUOUS STANDHYD    1.0 01:TODD_P        3.06     .600 No_date   28:00   63.61 .780    .000
13378>         [XIMP=.63:TIMP=.63]
13379>         [LOSS= 2 :CN= 77.0]
13380>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13381>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
13382>         [IaRECimp=   4.00: IaRECper=    4.00]
13383>         [SMIN= 31.15: SMAX=207.66: SK= .010]
13384> # 5-Year + 12% Capture
13385> R0050:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13386>     ROUTE RESERVOIR ->     1.0 02:TODD_MJ       30.23    4.894 No_date   28:02   61.85  n/a     .000
13387>                    out <=  1.0 01:TODD_MJ       28.89    3.314 No_date   27:54   61.07  n/a     .000
13388>               overflow <=  1.0 03:TODD_MJj       1.34    1.567 No_date   28:02   61.85  n/a     .000
13389>     {MxStoSued=.1169E-02  m3, TotOvfVol=.8285E-01  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
13390> # 5-Year + 12% Capture
13391> R0050:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13392>     ROUTE RESERVOIR ->     1.0 02:TODD_MN2      2.10     .384 No_date   28:00   60.14  n/a     .000
13393>                    out <=  1.0 01:TODD_MN2n     2.02     .268 No_date   27:53   60.14  n/a     .000
13394>               overflow <=  1.0 03:TODD_MN2j      .08     .111 No_date   28:00   60.14  n/a     .000
13395>     {MxStoSued=.1643E-03  m3, TotOvfVol=.4631E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
13396> R0050:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13397>     ROUTE RESERVOIR ->     1.0 02:TODD_MN3      .12     .022 No_date   28:00   60.13  n/a     .000
13398>                    out <=  1.0 01:TODD_MN3n     .11     .016 No_date   27:52   60.13  n/a     .000
13399>               overflow <=  1.0 03:TODD_MN3j      .00     .006 No_date   28:00   60.13  n/a     .000
13400>     {MxStoSued=.8712E-04  m3, TotOvfVol=.2472E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
13401> R0050:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13402>       CONTINUOUS STANDHYD    1.0 01:A2           25.50    3.441 No_date   28:03   55.89 .686    .000
13403>         [XIMP=.42:TIMP=.52]
13404>         [LOSS= 2 :CN= 75.0]
13405>         [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13406>         [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
13407>         [IaRECimp=   4.00: IaRECper=    4.00]
13408>         [SMIN= 33.81: SMAX=225.42: SK= .010]
13409> R0050:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13410>       COMPUTE DUALHYD        1.0 01:A2           25.50    3.441 No_date   28:03   55.89  n/a     .000
13411>         Major System   /     1.0 02:A2-MJ         .64    1.180 No_date   28:07   55.89  n/a     .000
13412>         Minor System   \     1.0 03:A2-MN        24.86    1.818 No_date   28:39   56.08  n/a     .000
13413>         {MjSysSto=.9240E+03, TotOvfVol=.3586E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
13414> R0050:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13415>       ADD HYD          +     1.0 02:TODD_MN2n     2.02     .268 No_date   27:53   60.14  n/a     .000
13416>                        +     1.0 02:TODD_MN3n      .11     .016 No_date   27:52   60.13  n/a     .000
13417>                        +     1.0 02:TODD_MJ       1.34    1.567 No_date   28:02   61.85  n/a     .000
13418>                        +     1.0 02:TODD_P        3.06     .600 No_date   28:00   63.61  n/a     .000
13419>                        +     1.0 02:TODD_ALL    112.91   15.270 No_date   28:04   59.95  n/a     .000
13420>                        +     1.0 02:W_CLAR_MJn    1.70     .213 No_date   27:53   59.44  n/a     .000
13421>                      SUM=    1.0 01:TODD        121.14   17.643 No_date   28:03   60.06  n/a     .000
13422> R0050:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13423>       SAVE HYD           1.0 01:TODD        121.14   17.643 No_date   28:03   60.06  n/a     .000
13424>         fname :TODD.0050
13425>         remark:Total Flows at Todd Drain
13426> #*************************************************************************
13427> #    Todd Pond 3
13428> #    - Rating curve obtained from Barrhaven South MSS modeling
13429> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
13430> #*************************************************************************
13431> R0050:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13432>     ROUTE RESERVOIR ->     1.0 02:TODD        121.14   17.643 No_date   28:03   60.06  n/a     .000
13433>                    out <=  1.0 01:MS_P3       121.14   12.815 No_date   28:10   60.05  n/a     .000
13434>               overflow <=  1.0 03:P3-OVF         .00     .000 No_date   0:00     .00  n/a     .000
13435>     {MxStoSued=.2728E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13436> R0050:C00327------------DTmin-ID:N
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13465> #*************************************************************************
13466> R0050:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13467>      CONTINUOUS STANDHYD    1.0 01:corr1        15.87    2.851 No_date   28:01   63.61 .780    .000
13468>        [XIMP=.63:TIMP=.63]
13469>        [LOSS= 2 :CN= 77.0]
13470>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13471>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
13472>        [IaRECimp=   4.00: IaRECper=   4.00]
13473>        [SMIN= 31.15: SMAX=207.66: SK= .010]
13474> R0050:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13475>      COMPUTE DUALHYD        1.0 01:corr1        15.87    2.851 No_date   28:01   63.61  n/a     .000
13476>        Major System   /     1.0 02:corr1-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13477>        Minor System   \     1.0 03:corr1-MN     15.87    1.818 No_date   28:19   63.67  n/a     .000
13478>        {MjSysSto=.5297E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13479> R0050:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13480>      CONTINUOUS NASHYD      1.0 01:corr2        12.47     .330 No_date   29:10   39.91 .490    .000
13481>        [CN= 77.0: N= 3.00: Tp= 1.10]
13482>        [IaRECc= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
13483>        [InterEventTime=  12.00]
13484> R0050:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13485>      CONTINUOUS STANDHYD    1.0 01:A1-Corrig    15.75    2.330 No_date   28:01   55.89 .686    .000
13486>        [XIMP=.42:TIMP=.52]
13487>        [LOSS= 2 :CN= 75.0]
13488>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13489>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
13490>        [IaRECimp=   4.00: IaRECper=   4.00]
13491>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13492> R0050:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13493>      COMPUTE DUALHYD        1.0 01:A1-Corrig    15.75    2.330 No_date   28:01   55.89  n/a     .000
13494>        Major System   /     1.0 02:A1-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13495>        Minor System   \     1.0 03:A1-MN        15.75    1.818 No_date   27:56   56.07  n/a     .000
13496>        {MjSysSto=.1953E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13497> R0050:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13498>      CONTINUOUS NASHYD      1.0 01:B1           2.77     .119 No_date   28:09   24.96 .306    .000
13499>        [CN= 56.0: N= 3.00: Tp=  .23]
13500>        [IaRECc= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
13501>        [InterEventTime=  12.00]
13502> R0050:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13503>      CONTINUOUS STANDHYD    1.0 01:A4           1.27     .239 No_date   28:00   63.95 .785    .000
13504>        [XIMP=.65:TIMP=.65]
13505>        [LOSS= 2 :CN= 75.0]
13506>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13507>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
13508>        [IaRECimp=   4.00: IaRECper=   4.00]
13509>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13510> R0050:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13511>      COMPUTE DUALHYD        1.0 01:A4           1.27     .239 No_date   28:00   63.95  n/a     .000
13512>        Major System   /     1.0 02:A4-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13513>        Minor System   \     1.0 03:A4-MN        1.27     .239 No_date   28:00   63.95  n/a     .000
13514>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13515> R0050:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13516>      ADD HYD                1.0 02:A1-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13517>                         +   1.0 02:A1-MN        15.75    1.818 No_date   27:56   56.07  n/a     .000
13518>                         +   1.0 02:corr1-MJ      .00     .000 No_date   0:00     .00  n/a     .000
13519>                         +   1.0 02:corr1-MN     15.87    1.818 No_date   28:19   63.67  n/a     .000
13520>                         +   1.0 02:corr2        12.47     .330 No_date   29:10   39.91  n/a     .000
13521>                         +   1.0 02:B1            2.77     .119 No_date   28:09   24.96  n/a     .000
13522>                         +   1.0 02:A4-MN         1.27     .239 No_date   28:00   63.95  n/a     .000
13523>                     SUM=    1.0 01:MH101        48.13    4.028 No_date   28:02   52.81  n/a     .000
13524> R0050:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13525>      SAVE HYD               1.0 01:MH101        48.13    4.028 No_date   28:02   52.81  n/a     .000
13526>        fname :MH101.0050
13527>        remark:Total Flows at MH101
13528> R0050:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13529>      ROUTE PIPE       ->    1.0 02:MH101        48.13    4.028 No_date   28:02   52.81  n/a     .000
13530> *  [RDT= 1.00] out<-       1.0 01:101-102      48.13    4.005 No_date   28:03   52.81  n/a     .000
13531>        [L/S/n=  368./ .540/.013]
13532>        {Vmax= 3.143:Dmax= 1.119}
13533>        [Din= 1.05:Dused= 1.36]
13534> R0050:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13535>      ADD HYD                1.0 02:A2-MN        24.86    1.818 No_date   28:39   56.08  n/a     .000
13536>                         +   1.0 02:101-102      48.13    4.005 No_date   28:03   52.81  n/a     .000
13537>                     SUM=    1.0 01:MH102        72.99    5.823 No_date   28:03   53.92  n/a     .000
13538> R0050:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13539>      SAVE HYD               1.0 01:MH102        72.99    5.823 No_date   28:03   53.92  n/a     .000
13540>        fname :MH102.0050
13541>        remark:Total Flows at MH102
13542> R0050:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13543>      CONTINUOUS STANDHYD    1.0 01:A5           1.60     .312 No_date   28:01   66.69 .818    .000
13544>        [XIMP=.71:TIMP=.71]
13545>        [LOSS= 2 :CN= 75.0]
13546>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13547>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
13548>        [IaRECimp=   4.00: IaRECper=   4.00]
13549>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13550> R0050:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13551>      ADD HYD                1.0 02:A4-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13552>                         +   1.0 02:A5           1.60     .312 No_date   28:01   66.69  n/a     .000
13553>                     SUM=    1.0 01:A5T          1.60     .312 No_date   28:01   66.69  n/a     .000
13554> R0050:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13555>      COMPUTE DUALHYD        1.0 01:A5T          1.60     .312 No_date   28:01   66.69  n/a     .000
13556>        Major System   /     1.0 02:A5-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13557>        Minor System   \     1.0 03:A5-MN        1.60     .312 No_date   28:01   66.69  n/a     .000
13558>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13559> R0050:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13560>      ROUTE PIPE       ->    1.0 02:MH102        72.99    5.823 No_date   28:03   53.92  n/a     .000
13561> *  [RDT= 1.00] out<-       1.0 01:102-103      72.99    5.773 No_date   28:14   53.92  n/a     .000
13562>        [L/S/n=  504./ .280/.013]
13563>        {Vmax= 2.694:Dmax= 1.453}
13564>        [Din= 1.50:Dused= 1.77]
13565> R0050:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13566>      ADD HYD                1.0 02:102-103      72.99    5.773 No_date   28:14   53.92  n/a     .000
13567>                         +   1.0 02:A5-MN         1.60     .312 No_date   28:01   66.69  n/a     .000
13568>                     SUM=    1.0 01:MH103        74.59    5.961 No_date   28:03   54.19  n/a     .000
13569> R0050:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13570>      SAVE HYD               1.0 01:MH103        74.59    5.961 No_date   28:03   54.19  n/a     .000
13571>        fname :MH103.0050
13572>        remark:Total Flows at MH103
13573> R0050:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13574>      ROUTE PIPE       ->    1.0 02:MH103        74.59    5.961 No_date   28:03   54.19  n/a     .000
13575>        [RDT= 1.00] out<-       1.0 01:103-104      74.59    5.915 No_date   28:07   54.19  n/a     .000
13576>        [L/S/n=  438./ .460/.013]
13577>        {Vmax= 4.295:Dmax= 1.301}
13578>        [Din= 1.65:Dused= 1.65]
13579> R0050:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13580>      CONTINUOUS STANDHYD    1.0 01:A6           1.56     .306 No_date   28:00   66.69 .818    .000
13581>        [XIMP=.71:TIMP=.71]
13582>        [LOSS= 2 :CN= 75.0]
13583>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13584>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
13585>        [IaRECimp=   4.00: IaRECper=   4.00]
13586>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13587> R0050:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13588>      ADD HYD                1.0 02:A5-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13589>                         +   1.0 02:A6           1.56     .306 No_date   28:00   66.69  n/a     .000
13590>                     SUM=    1.0 01:A6T          1.56     .306 No_date   28:00   66.69  n/a     .000
13591> R0050:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13592>      COMPUTE DUALHYD        1.0 01:A6T          1.56     .306 No_date   28:00   66.69  n/a     .000
13593>        Major System   /     1.0 02:A6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13594>        Minor System   \     1.0 03:A6-MN        1.56     .306 No_date   28:00   66.69  n/a     .000
13595>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13596> R0050:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13597>      ADD HYD                1.0 02:A6-MN        1.56     .306 No_date   28:00   66.69  n/a     .000
13598>                         +   1.0 02:103-104      74.59    5.915 No_date   28:07   54.19  n/a     .000
13599>                         +   1.0 02:TODD_MJn     28.89    3.314 No_date   27:54   61.87  n/a     .000
13600>                     SUM=    1.0 01:MH104       105.04    9.444 No_date   28:04   56.49  n/a     .000
13601> R0050:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13602>      SAVE HYD               1.0 01:MH104       105.04    9.444 No_date   28:04   56.49  n/a     .000
13603>        fname :MH104.0050
13604>        remark:Total Flows at MH104
13605> R0050:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13606>      CONTINUOUS STANDHYD    1.0 01:B2           12.31    1.758 No_date   28:02   56.26 .690    .000
13607>        [XIMP=.41:TIMP=.54]
13608>        [LOSS= 2 :CN= 75.0]
13609>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13610>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
13611>        [IaRECimp=   4.00: IaRECper=   4.00]
13612>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13613> R0050:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13614>      COMPUTE DUALHYD        1.0 01:B2           12.31    1.758 No_date   28:02   56.26  n/a     .000
13615>        Major System   /     1.0 02:B2-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13616>        Minor System   \     1.0 03:B2-MN        12.31    1.029 No_date   27:53   56.54  n/a     .000
13617>        {MjSysSto=.4799E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13618> R0050:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13619>      ROUTE PIPE       ->    1.0 02:B2-MN        12.31    1.029 No_date   27:53   56.54  n/a     .000
13620> *  [RDT= 1.00] out<-       1.0 01:315-333      12.31    1.029 No_date   28:33   56.54  n/a     .000
13621>        [L/S/n=  254./ .100/.013]
13622>        {Vmax= 1.220:Dmax=  .838}
13623>        [Din= 1.20:Dused= 1.20]
13624> R0050:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13625>      CONTINUOUS STANDHYD    1.0 01:B3           5.59     .825 No_date   28:01   56.26 .690    .000
13626>        [XIMP=.41:TIMP=.54]
13627>        [LOSS= 2 :CN= 75.0]
13628>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13629>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
13630>        [IaRECimp=   4.00: IaRECper=   4.00]
13631>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13632> R0050:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13633>      COMPUTE DUALHYD        1.0 01:B3           5.59     .825 No_date   28:01   56.26  n/a     .000
13634>        Major System   /     1.0 02:B3-MJ         .02     .083 No_date   28:09   56.26  n/a     .000
13635>        Minor System   \     1.0 03:B3-MN        5.57     .459 No_date   27:52   56.28  n/a     .000
13636>        {MjSysSto.2278E+03, TotOvfVol=.1279E+02, N-Ovf=    1, TotDurOvf=   0.hrs}
13637> R0050:C00361------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13638>      ADD HYD                1.0 02:B3-MN        5.57     .459 No_date   27:52   56.28  n/a     .000
13639>                         +   1.0 02:315-333      12.31    1.029 No_date   28:33   56.54  n/a     .000
13640>                     SUM=    1.0 01:MH333       17.88    1.488 No_date   28:32   56.46  n/a     .000
13641> R0050:C00362------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13642>      SAVE HYD               1.0 01:MH333       17.88    1.488 No_date   28:32   56.46  n/a     .000
13643>        fname :MH333.0050
13644>        remark:Total Flows at MH333
13645> R0050:C00363------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13646>      ROUTE PIPE       ->    1.0 02:MH333       17.88    1.488 No_date   28:32   56.46  n/a     .000
13647> *  [RDT= 1.00] out<-       1.0 01:333-335      17.88    1.479 No_date   28:19   56.46  n/a     .000
13648>        [L/S/n=  251./ .100/.013]
13649>        {Vmax= 1.302:Dmax= 1.057}
13650>        [Din= 1.20:Dused= 1.29]
13651> R0050:C00364------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13652>      ROUTE PIPE       ->    1.0 02:333-335      17.88    1.479 No_date   28:19   56.46  n/a     .000
13653> *  [RDT= 1.00] out<-       1.0 01:335-338      17.88    1.478 No_date   28:16   56.46  n/a     .000
13654>        [L/S/n=  185./ .100/.013]
13655>        {Vmax= 1.300:Dmax= 1.054}
13656>        [Din= 1.20:Dused= 1.28]
13657> R0050:C00365------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13658>      ROUTE PIPE       ->    1.0 02:335-338      17.88    1.478 No_date   28:16   56.46  n/a     .000
13659>        [RDT= 1.00] out<-       1.0 01:338-340      17.88    1.454 No_date   28:18   56.46  n/a     .000
13660>        [L/S/n=  233./ .100/.013]
13661>        {Vmax= 1.330:Dmax=  .979}
13662>        [Din= 1.35:Dused= 1.35]
13663> R0050:C00366------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13664>      CONTINUOUS STANDHYD    1.0 01:B4           7.60    1.094 No_date   28:02   56.26 .690    .000
13665>        [XIMP=.41:TIMP=.54]
13666>        [LOSS= 2 :CN= 75.0]
13667>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13668>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0]
13669>        [IaRECimp=   4.00: IaRECper=   4.00]
13670>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13671> R0050:C00367------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13672>      COMPUTE DUALHYD        1.0 01:B4           7.60    1.094 No_date   28:02   56.26  n/a     .000
13673>        Major System   /     1.0 02:B4-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13674>        Minor System   \     1.0 03:B4-MN        7.60     .655 No_date   27:53   56.27  n/a     .000
13675>        {MjSysSto=.2780E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13676> R0050:C00368------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13677>      ADD HYD                1.0 02:338-340      17.88    1.454 No_date   28:18   56.46  n/a     .000
13678>                         +   1.0 02:B4-MN        7.60     .655 No_date   27:53   56.27  n/a     .000
13679>                     SUM=    1.0 01:MH340       25.48    2.109 No_date   28:18   56.41  n/a     .000
13680> R0050:C00369------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13681>      SAVE HYD               1.0 01:MH340       25.48    2.109 No_date   28:18   56.41  n/a     .000
13682>        fname :MH340.0050
13683>        remark:Total Flows at MH340
13684> R0050:C00370------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13685>      ROUTE PIPE       ->    1.0 02:MH340       25.48    2.109 No_date   28:18   56.41  n/a     .000
13686>        [RDT= 1.00] out<-       1.0 01:340-104      25.48    2.090 No_date   28:18   56.41  n/a     .000
13687>        [L/S/n=  240./ .150/.013]
13688>        {Vmax= 1.723:Dmax=  .918}
13689>        [Din= 1.65:Dused= 1.65]
13690> R0050:C00371------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13691>      ADD HYD                1.0 02:340-104      25.48    2.090 No_date   28:18   56.41  n/a     .000
13692>                         +   1.0 02:MH104      105.04    9.444 No_date   28:04   56.49  n/a     .000
13693>                     SUM=    1.0 01:MH104T      130.52   11.391 No_date   28:07   56.48  n/a     .000
13694> R0050:C00372------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13695>      ROUTE PIPE       ->    1.0 02:MH104T      130.52   11.391 No_date   28:07   56.48  n/a     .000
13696> *  [RDT= 1.00] out<-       1.0 01:104-105      130.52   11.118 No_date   28:10   56.48  n/a     .000
13697>        [L/S/n=  380./ .100/.013]
13698>        {Vmax= 2.107:Dmax= 2.003}
13699>        [HGT= 2.36:WID= 2.70]
13700> R0050:C00373------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13701>      CONTINUOUS STANDHYD    1.0 01:B5           2.20     .390 No_date   28:00   60.29 .740    .000
13702>        [XIMP=.57:TIMP=.57]
13703>        [LOSS= 2 :CN= 75.0]
13704>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13705>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0]
13706>        [IaRECimp=   4.00: IaRECper=   4.00]
13707>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13708> R0050:C00374------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13709>      COMPUTE DUALHYD        1.0 01:B5           2.20     .390 No_date   28:00   60.29  n/a     .000
13710>        Major System   /     1.0 02:B5-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13711>        Minor System   \     1.0 03:B5-MN        2.20     .260 No_date   27:53   60.60  n/a     .000
13712>        {MjSysSto=.5913E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13713> R0050:C00375------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13714>      CONTINUOUS STANDHYD    1.0 01:A8           .96     .198 No_date   28:00   66.69 .818    .000
13715>        [XIMP=.71:TIMP=.71]
13716>        [LOSS= 2 :CN= 75.0]
13717>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13718>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0]
13719>        [IaRECimp=   4.00: IaRECper=   4.00]
13720>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13721> R0050:C00376------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13722>      ADD HYD                1.0 02:A6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13723>                         +   1.0 02:A8           .96     .198 No_date   28:00   66.69  n/a     .000
13724>                     SUM=    1.0 01:A8T          .96     .198 No_date   28:00   66.69  n/a     .000
13725> R0050:C00377------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13726>      COMPUTE DUALHYD        1.0 01:A8T          .96     .198 No_date   28:00   66.69  n/a     .000
13727>        Major System   /     1.0 02:A8-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13728>        Minor System   \     1.0 03:A8-MN         .96     .198 No_date   28:00   66.69  n/a     .000
13729>        {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13730> R0050:C00378------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13731>      ADD HYD                1.0 01:MH104-105    130.52   11.118 No_date   28:10   56.48  n/a     .000
13732>                         +   1.0 02:B5-MN        2.20     .260 No_date   27:53   60.60  n/a     .000
13733>                         +   1.0 02:A8-MN         .96     .198 No_date   28:00   66.69  n/a     .000
13734>                         +   1.0 02:TODD_MN3j     .00     .000 No_date   28:00   60.13  n/a     .000
13735>                     SUM=    1.0 01:MH105       133.68   11.441 No_date   28:10   56.62  n/a     .000
13736> R0050:C00379------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13737>      SAVE HYD               1.0 01:MH105       133.68   11.441 No_date   28:10   56.62  n/a     .000
13738>        fname :MH105.0050
13739>        remark:Total Flows at MH105
13740> R0050:C00380------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13741> *  DIVERT HYD       ->    1.0 01:A8-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13742>                     diverted <=   1.0 02:A8-MJ-JR      .00     .000 No_date   0:00     .00  n/a     .000
13743>                     diverted <=   1.0 02:A8-MJ-B6      .00     .000 No_date   0:00     .00  n/a     .000
13744> R0050:C00381------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13745>      DIVERT HYD       ->    1.0 01:MH105       133.68   11.441 No_date   28:10   56.62  n/a     .000
13746>                     diverted <=   1.0 02:MH105-JR      35.42    8.432 No_date   28:10   56.62  n/a     .000
13747>                     diverted <=   1.0 03:MH105-B6      98.26    3.009 No_date   28:10   56.62  n/a     .000
13748> R0050:C00382------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13749>      CONTINUOUS STANDHYD    1.0 01:B7           7.19    1.124 No_date   28:01   56.26 .690    .000
13750>        [XIMP=.41:TIMP=.54]
13751>        [LOSS= 2 :CN= 75.0]
13752>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13753>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0]
13754>        [IaRECimp=   4.00: IaRECper=   4.00]
13755>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13756> R0050:C00383------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13757>      ADD HYD                1.0 02:B4-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13758>                         +   1.0 02:B7           7.19    1.124 No_date   28:01   56.26  n/a     .000
13759>                     SUM=    1.0 01:B7-B4MJ      7.19    1.124 No_date   28:01   56.26  n/a     .000
13760> R0050:C00384------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13761>      COMPUTE DUALHYD        1.0 01:B7-B4MJ      7.19    1.124 No_date   28:01   56.26  n/a     .000
13762>        Major System   /     1.0 02:B7R-MJ        .00     .000 No_date   0:00     .00  n/a     .000
13763>        Minor System   \     1.0 03:B7R-MN       7.19     .629 No_date   27:51   56.37  n/a     .000
13764>        {MjSysSto=.2888E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13765> R0050:C00385------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13766>      ROUTE PIPE       ->    1.0 02:B7R-MN       7.19     .629 No_date   27:51   56.37  n/a     .000
13767> *  [RDT= 1.00] out<-       1.0 01:360-106A     7.19     .629 No_date   28:28   56.37  n/a     .000
13768>        [L/S/n=  167./ .100/.013]
13769>        {Vmax= 1.089:Dmax=  .665}
13770>        [Din= 1.05:Dused= 1.05]
13771> R0050:C00386------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13772>      CONTINUOUS STANDHYD    1.0 01:B6           3.29     .535 No_date   28:00   56.26 .690    .000
13773>        [XIMP=.41:TIMP=.54]
13774>        [LOSS= 2 :CN= 75.0]
13775>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13776>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0]
13777>        [IaRECimp=   4.00: IaRECper=   4.00]
13778>        [SMIN= 33.81: SMAX=225.43: SK= .010]
13779> R0050:C00387------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13780>      COMPUTE DUALHYD        1.0 01:B6           3.29     .535 No_date   28:00   56.26  n/a     .000
13781>        Major System   /     1.0 02:B6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13782>        Minor System   \     1.0 03:B6-MN        3.29     .064 No_date   27:33   56.32  n/a     .000
13783>        {MjSysSto=.623BE+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13784> R0050:C00388------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13785>      CONTINUOUS STANDHYD    1.0 01:EX-LAND      32.50    4.637 No_date   28:02   56.33 .691    .000
13786>        [XIMP=.50:TIMP=.50]
13787>        [LOSS= 2 :CN= 74.0]
13788>        [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13789>        [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0]
13790>        [IaRECimp=   4.00: IaRECper=   4.00]
13791>        [SMIN= 36.67: SMAX=244.49: SK= .010]
13792> R0050:C00389------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13793>      COMPUTE DUALHYD        1.0 01:EX-LAND      32.50    4.637 No_date   28:02   56.33  n/a     .000
13794>        Major System   /     1.0 02:EX-LAND-MJ     .76    1.533 No_date   28:06   56.33  n/a     .000
13795>        Minor System   \     1.0 03:EX-LAND-MN   31.74    2.275 No_date   27:49   56.55  n/a     .000
13796>        {MjSysSto=.1365E+04, TotOvfVol=.4274E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
13797> R0050:C00390------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13798>      ADD HYD                1.0 02:B7R-MJ        .00     .000 No_date   0:00     .00  n/a     .000
13799>                         +   1.0 02:EX-LAND-MJ     .76    1.533 No_date   28:06   56.33  n/a     .000
13800>                         +   1.0 02:B6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13801>                         +   1.0 02:B6-MJ         .00     .000 No_date   0:00     .00  n/a     .000
13802>                         +   1.0 02:B6-MN        3.29     .064 No_date   27:33   56.32  n/a     .000
13803>                         +   1.0 02:A8-MJ-B6      .00     .000 No_date   0:00     .00  n/a     .000
13804>                     SUM=    1.0 01:B6-B7EXMJ     4.05    1.597 No_date   28:06   56.32  n/a     .000
13805> R0050:C00391------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13806>      COMPUTE DUALHYD        1.0 01:B6-B7EXMJ     4.05    1.597 No_date   28:06   56.32  n/a     .000
13807>        Major System   /     1.0 02:B6R-MJ        .00     .000 No_date   0:00     .00  n/a     .000
13808>        Minor System   \     1.0 03:B6R-MN       4.05     .064 No_date   27:33   56.36  n/a     .000
13809>        {MjSysSto=.4274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
13810> R0050:C00392------------DTm
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13839>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13840> R0050:C00397------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13841>     COMPUTE DUALHYD     1.0 01:A9          2.44     .481 No_date   28:00   66.69  n/a     .000
13842>       Major System   /     1.0 02:A9-MJ        .00     .000 No_date   0:00    .00  n/a     .000
13843>       Minor System   \     1.0 03:A9-MN       2.44     .481 No_date   28:00   66.69  n/a     .000
13844> R0050:C00398------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13845>     ADD HYD             1.0 02:106A-106    109.50    3.702 No_date   27:59   56.59  n/a     .000
13846>                   +     1.0 02:A9-MN         2.44     .481 No_date   28:00   66.69  n/a     .000
13847>                 SUM=    1.0 01:MH106       111.94    4.177 No_date   28:00   56.81  n/a     .000
13848> R0050:C00399------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13849>     SAVE HYD            1.0 01:MH106       111.94    4.177 No_date   28:00   56.81  n/a     .000
13850>       fname :MH106.0050
13851>       remark:Total Flows at MH106
13852> R0050:C00400------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13853>     ROUTE PIPE      ->    1.0 02:MH106       111.94    4.177 No_date   28:00   56.81  n/a     .000
13854> *   [RDT= 1.00] out<-     1.0 01:106-107     111.94    4.129 No_date   28:00   56.81  n/a     .000
13855>       [L/S/n=  123./ .100/.013]
13856>       {Vmax= 1.605:Dmax= 1.556}
13857>       [Din= 1.80:Dused= 1.90}
13858> R0050:C00401------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13859>     CONTINUOUS STANDHYD   1.0 01:A10          4.14     .602 No_date   28:01   53.20 .653     .000
13860>       [XIMP=.35:TIMP=.47]
13861>       [LOSS= 2 :CN= 75.0]
13862>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13863>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 183.:MNI=.013:SCI=   .0]
13864>       [IaRECimp=   4.00: IaRECper=    4.00]
13865>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13866> R0050:C00402------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13867>     COMPUTE DUALHYD     1.0 01:A10          4.14     .602 No_date   28:01   53.20  n/a     .000
13868>       Major System   /     1.0 02:A10-MJ       .00     .000 No_date   0:00    .00  n/a     .000
13869>       Minor System   \     1.0 03:A10-MN       4.14     .310 No_date   27:50   53.25  n/a     .000
13870>       {MjSysSto=.1897E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13871> R0050:C00403------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13872>     CONTINUOUS STANDHYD   1.0 01:A11         10.61    1.720 No_date   28:02   60.69 .745     .000
13873>       [XIMP=.53:TIMP=.62]
13874>       [LOSS= 2 :CN= 75.0]
13875>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13876>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 379.:MNI=.013:SCI=   .0]
13877>       [IaRECimp=   4.00: IaRECper=    4.00]
13878>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13879> R0050:C00404------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13880>     COMPUTE DUALHYD     1.0 01:A11         10.61    1.720 No_date   28:02   60.69  n/a     .000
13881>       Major System   /     1.0 02:A11-MJ       .00     .000 No_date   0:00    .00  n/a     .000
13882>       Minor System   \     1.0 03:A11-MN      10.61     .993 No_date   27:52   60.86  n/a     .000
13883>       {MjSysSto=.4548E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13884> R0050:C00405------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13885>     ADD HYD             1.0 02:106-107     111.94    4.129 No_date   28:00   56.81  n/a     .000
13886>                   +     1.0 02:A10-MN        4.14     .310 No_date   27:50   53.25  n/a     .000
13887>                   +     1.0 02:A11-MN       10.61     .993 No_date   27:52   60.86  n/a     .000
13888>                 SUM=    1.0 01:MH107       126.69    5.432 No_date   28:00   57.03  n/a     .000
13889> R0050:C00406------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13890>     SAVE HYD            1.0 01:MH107       126.69    5.432 No_date   28:00   57.03  n/a     .000
13891>       fname :MH107.0050
13892>       remark:Total Flows at MH107
13893> R0050:C00407------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13894>     ROUTE PIPE      ->    1.0 02:MH107       126.69    5.432 No_date   28:00   57.03  n/a     .000
13895> *   [RDT= 1.00] out<-     1.0 01:107-119     126.69    5.345 No_date   28:00   57.03  n/a     .000
13896>       [L/S/n=  114./ .120/.013]
13897>       {Vmax= 1.927:Dmax= 1.660}
13898>       [Din= 1.80:Dused= 2.02]
13899> R0050:C00408------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13900>     ROUTE PIPE      ->    1.0 02:107-119     126.69    5.345 No_date   28:00   57.03  n/a     .000
13901> *   [RDT= 1.00] out<-     1.0 01:119-108     126.69    5.334 No_date   28:01   57.03  n/a     .000
13902>       [L/S/n=   66./ .120/.013]
13903>       {Vmax= 1.919:Dmax= 1.650}
13904>       [Din= 1.80:Dused= 2.01]
13905> R0050:C00409------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13906>     CONTINUOUS STANDHYD   1.0 01:A12         12.29    1.938 No_date   28:01   56.26 .690     .000
13907>       [XIMP=.41:TIMP=.54]
13908>       [LOSS= 2 :CN= 75.0]
13909>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13910>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 183.:MNI=.013:SCI=   .0]
13911>       [IaRECimp=   4.00: IaRECper=    4.00]
13912>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13913> R0050:C00410------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13914>     COMPUTE DUALHYD     1.0 01:A12         12.29    1.938 No_date   28:01   56.26  n/a     .000
13915>       Major System   /     1.0 02:A12-MJ       .00     .000 No_date   0:00    .00  n/a     .000
13916>       Minor System   \     1.0 03:A12-MN      12.29    1.029 No_date   27:50   56.44  n/a     .000
13917>       {MjSysSto=.5545E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
13918> R0050:C00411------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13919>     CONTINUOUS STANDHYD   1.0 01:A13          2.59     .487 No_date   28:01   66.69 .818     .000
13920>       [XIMP=.71:TIMP=.71]
13921>       [LOSS= 2 :CN= 75.0]
13922>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13923>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 379.:MNI=.013:SCI=   .0]
13924>       [IaRECimp=   4.00: IaRECper=    4.00]
13925>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13926> R0050:C00412------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13927>     COMPUTE DUALHYD     1.0 01:A13          2.59     .487 No_date   28:01   66.69  n/a     .000
13928>       Major System   /     1.0 02:A13-MJ       .00     .000 No_date   0:00    .00  n/a     .000
13929>       Minor System   \     1.0 03:A13-MN       2.59     .487 No_date   28:01   66.69  n/a     .000
13930> R0050:C00413------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13931>     CONTINUOUS STANDHYD   1.0 01:Pond-Block    2.94     .430 No_date   28:00   53.21 .653     .000
13932>       [XIMP=.41:TIMP=.41]
13933>       [LOSS= 2 :CN= 75.0]
13934>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
13935>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 183.:MNI=.013:SCI=   .0]
13936>       [IaRECimp=   4.00: IaRECper=    4.00]
13937>       [SMIN= 33.81: SMAX=225.43: SK= .010]
13938> R0050:C00414------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13939>     ADD HYD             1.0 02:119-108     126.69    5.334 No_date   28:01   57.03  n/a     .000
13940>                   +     1.0 02:A13-MN        2.59     .487 No_date   28:01   66.69  n/a     .000
13941>                   +     1.0 02:A12-MN       12.29    1.029 No_date   27:50   56.44  n/a     .000
13942>                 SUM=    1.0 01:MH108       141.57    6.850 No_date   28:01   57.16  n/a     .000
13943> R0050:C00415------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13944>     SAVE HYD            1.0 01:MH108       141.57    6.850 No_date   28:01   57.16  n/a     .000
13945>       fname :MH108.0050
13946>       remark:Total Flows at MH108
13947> R0050:C00416------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13948>     ROUTE PIPE      ->    1.0 02:MH108       141.57    6.850 No_date   28:01   57.16  n/a     .000
13949> *   [RDT= 1.00] out<-     1.0 01:108-116     141.57    6.810 No_date   28:02   57.16  n/a     .000
13950>       [L/S/n=   77./ .130/.013]
13951>       {Vmax= 2.104:Dmax= 1.784}
13952>       [Din= 1.80:Dused= 2.17}
13953> R0050:C00417------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13954>     ROUTE PIPE      ->    1.0 02:108-116     141.57    6.810 No_date   28:02   57.16  n/a     .000
13955> *   [RDT= 1.00] out<-     1.0 01:116-corrig  141.57    6.771 No_date   28:02   57.16  n/a     .000
13956>       [L/S/n=   80./ .130/.013]
13957>       {Vmax= 2.101:Dmax= 1.780}
13958>       [Din= 1.80:Dused= 2.17}
13959> R0050:C00418------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13960>     ADD HYD             1.0 02:116-corrig  141.57    6.771 No_date   28:02   57.16  n/a     .000
13961>                   +     1.0 02:Pond-Block    2.94     .430 No_date   28:00   53.21  n/a     .000
13962>                 SUM=    1.0 01:Corrigan    144.51    7.185 No_date   28:02   57.08  n/a     .000
13963> R0050:C00419------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13964>     SAVE HYD            1.0 01:Corrigan    144.51    7.185 No_date   28:02   57.08  n/a     .000
13965>       fname :Corrigan.0050
13966>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
13967> R0050:C00420------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13968>     ROUTE RESERVOIR ->    1.0 02:Corrigan    144.51    7.185 No_date   28:02   57.08  n/a     .000
13969>               out <=    1.0 01:Co-P        144.51    6.335 No_date   28:26   57.08  n/a     .000
13970>          overflow <=    1.0 03:Co-P-OVF      .00     .000 No_date   0:00    .00  n/a     .000
13971>       {MxStoUsed=.1027E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
13972> R0050:C00421------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13973>     ADD HYD             1.0 02:Co-P-OVF      .00     .000 No_date   0:00    .00  n/a     .000
13974>                   +     1.0 02:Co-P        144.51    6.335 No_date   28:26   57.08  n/a     .000
13975>                   +     1.0 02:N_TO      54839.66  126.544 No_date   3:50    34.15  n/a     .000
13976>                   +     1.0 02:MH105-JR    35.42    8.432 No_date   28:10   56.62  n/a     .000
13977>                   +     1.0 02:A8-MJ-JR      .00     .000 No_date   0:00    .00  n/a     .000
13978>                   +     1.0 02:A9-MJ         .00     .000 No_date   0:00    .00  n/a     .000
13979>                   +     1.0 02:A10-MJ        .00     .000 No_date   0:00    .00  n/a     .000
13980>                   +     1.0 02:A11-MJ        .00     .000 No_date   0:00    .00  n/a     .000
13981>                   +     1.0 02:A12-MJ        .00     .000 No_date   0:00    .00  n/a     .000
13982>                   +     1.0 02:A13-MJ        .00     .000 No_date   0:00    .00  n/a     .000
13983>                 SUM=    1.0 01:corrig    55019.59  127.077 No_date   36:49   34.22  n/a     .000
13984> R0050:C00422------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13985>     SAVE HYD            1.0 01:corrig    55019.59  127.077 No_date   36:49   34.22  n/a     .000
13986>       fname :corrig.0050
13987>       remark:Total Flows at Corrigan Pond
13988> #*************************************************************************
13989> #    Corrigan Pond 1
13990> #    - Rating curve obtained from Barrhaven South MSS modelling
13991> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
13992> #*************************************************************************
13993> #
13994> # Hydrograph from Corrigan Drain routed to Jockvale Road
13995> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
13996> #
13997> R0050:C00423------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
13998>     ROUTE CHANNEL   ->    1.0 02:corrig    55019.59  127.077 No_date   36:49   34.22  n/a     .000
13999>       [RDT= 1.00] out<-     1.0 01:N_MI      55019.59  127.062 No_date   36:52   34.22  n/a     .000
14000>       [L/S/n=  580./ .445/.045]
14001>       {Vmax= 2.066:Dmax= 1.982}
14002> #*************************************************************************
14003> #    Catchment MILLS
14004> #    - To SWM Facility north of the Jock
14005> #    - Primarily residental development
14006> #*************************************************************************
14007> R0050:C00424------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14008>     CONTINUOUS STANDHYD   1.0 01:MILLS       175.99   17.756 No_date   28:06   50.66 .622     .000
14009>       [XIMP=.38:TIMP=.38]
14010>       [LOSS= 2 :CN= 74.0]
14011>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14012>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI=1118.:MNI=.013:SCI=   .0]
14013>       [IaRECimp=   4.00: IaRECper=    4.00]
14014>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14015> #*************************************************************************
14016> #    Chapman Mills SWM Pond
14017> #    - Rating curve obtained from CCL hydraulic modeling
14018> #*************************************************************************
14019> R0050:C00425------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14020>     ROUTE RESERVOIR ->    1.0 02:MILLS       175.99   17.756 No_date   28:06   50.66  n/a     .000
14021>               out <=    1.0 01:MILL_P      153.87    4.050 No_date   28:11   50.66  n/a     .000
14022>          overflow <=    1.0 03:MIL-OV       22.12   12.440 No_date   28:11   50.66  n/a     .000
14023>       {MxStoUsed=.2310E+01  m3, TotOvfVol=.1121E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
14024> R0050:C00426------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14025>     ADD HYD             1.0 02:N_MI      55019.59  127.062 No_date   36:52   34.22  n/a     .000
14026>                   +     1.0 02:MIL-OV       22.12   12.440 No_date   28:11   50.66  n/a     .000
14027>                   +     1.0 02:MILL_P      153.87    4.050 No_date   28:11   50.66  n/a     .000
14028>                 SUM=    1.0 01:SN_MI     55195.58  127.649 No_date   36:50   34.28  n/a     .000
14029> R0050:C00427------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14030>     SAVE HYD            1.0 01:SN_MI     55195.58  127.649 No_date   36:50   34.28  n/a     .000
14031>       fname :SN_MI.0050
14032>       remark:Total Flows at Jockvale Road
14033> #
14034> # Hydrograph from Jockvale Road routed to Heart's Desire
14035> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
14036> #
14037> R0050:C00428------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14038>     ROUTE CHANNEL   ->    1.0 02:SN_MI     55195.58  127.649 No_date   36:50   34.28  n/a     .000
14039>       [RDT= 1.00] out<-     1.0 01:N_DE      55195.58  127.340 No_date   37:05   34.28  n/a     .000
14040>       [L/S/n=  1962./ .223/.045]
14041>       {Vmax= 1.577:Dmax= 2.491}
14042> #*************************************************************************
14043> #    Catchment DESIRE
14044> #    - To Jock River (north of the Jock)
14045> #    - Rural-estate subdivision (Heart's Desire Community)
14046> #*************************************************************************
14047> R0050:C00429------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14048>     CONTINUOUS STANDHYD   1.0 01:DESIRE       23.78    2.563 No_date   28:03   46.85 .575     .000
14049>       [XIMP=.25:TIMP=.25]
14050>       [LOSS= 2 :CN= 77.0]
14051>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14052>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI= 400.:MNI=.013:SCI=   .0]
14053>       [IaRECimp=   4.00: IaRECper=    4.00]
14054>       [SMIN= 31.15: SMAX=207.66: SK= .010]
14055> #*************************************************************************
14056> #    Catchment JOCKVA
14057> #    - To Jockvale SWM Facility
14058> #    - Residential development & golf course
14059> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
14060> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
14061> #*************************************************************************
14062> R0050:C00430------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14063>     CONTINUOUS STANDHYD   1.0 01:JOCKVA      225.13   25.253 No_date   28:07   56.33 .691     .000
14064>       [XIMP=.58:TIMP=.58]
14065>       [LOSS= 2 :CN= 74.0]
14066>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
14067>       [Impervious   area: IAimp= 1.57:SIP1=1.00:LGI=1311.:MNI=.013:SCI=   .0]
14068>       [IaRECimp=   4.00: IaRECper=    4.00]
14069>       [SMIN= 36.67: SMAX=244.49: SK= .010]
14070> R0050:C00431------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14071>     ADD HYD             1.0 02:EX-LAND-MN    31.74    2.275 No_date   27:49   56.55  n/a     .000
14072>                   +     1.0 02:JOCKVA       225.13   25.253 No_date   28:07   56.33  n/a     .000
14073>                   +     1.0 02:B2-MJ          .00     .000 No_date   0:00    .00  n/a     .000
14074>                   +     1.0 02:B3-MJ          .02     .083 No_date   28:09   56.26  n/a     .000
14075>                 SUM=    1.0 01:JOCKVA-TO    256.89   27.528 No_date   28:07   56.36  n/a     .000
14076> R0050:C00432------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14077>     SAVE HYD            1.0 01:JOCKVA-TO    256.89   27.528 No_date   28:07   56.36  n/a     .000
14078>       fname :JOCKVA-TO.0050
14079>       remark:Total Flows at KB first pond
14080> #*************************************************************************
14081> #    Jockvale SWM Facility
14082> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
14083> #*************************************************************************
14084> R0050:C00433------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14085>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO   256.89   27.528 No_date   28:07   56.36  n/a     .000
14086>               out <=    1.0 01:JOCK_P      256.89   10.991 No_date   28:38   56.36  n/a     .000
14087>          overflow <=    1.0 03:JO-OVF         .00     .000 No_date   0:00    .00  n/a     .000
14088>       {MxStoUsed=.5928E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14089> R0050:C00434------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14090>     ADD HYD             1.0 02:N_DE      55195.58  127.340 No_date   37:05   34.28  n/a     .000
14091>                   +     1.0 02:DESIRE       23.78    2.563 No_date   28:03   46.85  n/a     .000
14092>                   +     1.0 02:JO-OVF         .00     .000 No_date   0:00    .00  n/a     .000
14093>                   +     1.0 02:JOCK_P       256.89   10.991 No_date   28:38   56.36  n/a     .000
14094>                 SUM=    1.0 01:SN_DE     55476.26  128.229 No_date   37:04   34.38  n/a     .000
14095> R0050:C00435------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14096>     SAVE HYD            1.0 01:SN_DE     55476.26  128.229 No_date   37:04   34.38  n/a     .000
14097>       fname :SN_DE.0050
14098>       remark:Total Flows at Heart's Desire
14099> #
14100> # Hydrograph from Heart's Desire routed to Rideau River
14101> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
14102> #
14103> R0050:C00436------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14104>     ROUTE CHANNEL   ->    1.0 02:SN_DE     55476.26  128.229 No_date   37:04   34.38  n/a     .000
14105>       [RDT= 1.00] out<-     1.0 01:N1        55476.26  128.215 No_date   37:08   34.38  n/a     .000
14106>       [L/S/n=  563./ .967/.045]
14107>       {Vmax= 2.123:Dmax= 1.249}
14108> #*************************************************************************
14109> #    Catchment S-2
14110> #    - To Jock River (north and south)
14111> #    - Undeveloped floodplain and river
14112> #*************************************************************************
14113> R0050:C00437------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14114>     CONTINUOUS NASHYD   1.0 01:S-2         102.94    4.795 No_date   28:20   35.39 .434     .000
14115>       [CN= 72.0: N= 3.00: Tp=  .40]
14116>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
14117>       [InterEventTime=  12.00]
14118> R0050:C00438------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14119>     ADD HYD             1.0 02:N1        55476.26  128.215 No_date   37:08   34.38  n/a     .000
14120>                   +     1.0 02:S-2         102.94    4.795 No_date   28:20   35.39  n/a     .000
14121>                 SUM=    1.0 01:SN_N1     55579.20  128.451 No_date   37:07   34.38  n/a     .000
14122> R0050:C00439------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14123>     SAVE HYD            1.0 01:SN_N1     55579.20  128.451 No_date   37:07   34.38  n/a     .000
14124>       fname :SN_N1.0050
14125>       remark:Total Flows at Rideau River
14126> ############################################################################
14127>   ** END OF RUN :  99
14128>
14129> ****************************************************************************************************
14130>
14131>
14132>
14133>
14134>
14135>  RUN#:COMMAND#
14136> R0100:C00001------------------------------------------------------------------------------------------
14137>       START
14138>         [TZERO =    .00 hrs on        0]
14139>         [METOUT=   2   (1=imperial, 2=metric output)]
14140>         [NSTORM=   1 ]
14141>         [NRUN  = 0100 ]
14142> #*************************************************************************
14143> #  SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
14144> #*************************************************************************
14145> #  Project Name: [Jock River]    Project Number: [1474-16]
14146> #  Date        : 04-03-2021
14147> #  Modeller    : [M.M.]
14148> #  Company     : JFSAinc.
14149> #  License #   : 2549237
14150> #*************************************************************************
14151> # CALIBRATION OF SUMMER MODEL PARAMETERS
14152> # USING CONTINUOUS SIMULATIONS
14153> # Rainfall data from JFSA rain gauge installed at site + other gauges by the City
14154> # Use data collected from May 1st to July 14, 2003
14155> # 2020-11-30 change TMJSTO in COMPUTE DUALHYD (TMJSTO = 0.1 instead of 0.0001)
14156> # 2020-12-01 correct pond curve values
14157> # 2020-12-01 change W_CLAR_BRAZ XIMP to 0.55, SLPI=[0.5](%) (impervious slope), and LGI up to 700m
14158> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 2462 (NHYDout=["N_TO" , NHYDin=["SN_TO"]) from 0.033 % (as per S
14159> # 2021-02-19 Change the slope for ROUTE CHANNEL Station 5002 (NHYDout=["N_WC"] ,NHYDin=["SN_CE"]) from 0.01 % (as per St
14160> # ------------------------------------------------------------------------------------------
14161> R0100:C00002------------------------------------------------------------------------------------------
14162>       READ STORM
14163>         Filename = storm.001
14164>         Comment  = Pluie SCS de 24 hres 1:100 ans pour Ottawa CDA
14165>         [SDT=10.00:SDUR=  24.00:PTOT=  88.57]
14166> R0100:C00003------------------------------------------------------------------------------------------
14167>       MODIFY STORM
14168>         [RFACT=  1.00:TSHIFT= 960.00 min]
14169>         [SDT=10.00:SDUR=  40.00:PTOT=  88.57]
14170> R0100:C00004------------------------------------------------------------------------------------------
14171>       DEFAULT VALUES
14172>         Filename = T:\PROJ\1474-16\Design\20201026-QuantityControlAnlaysis\SWMHYMO\SMR-Model\updated3\CitiGate.DEF
14173>         ICASE@v  = 1 (read and print data)
14174>         FileTitle= File comment: [Based onvarious calibration exercises in Onta
14175>                    THE FOLLOWING PARAMETERS ARE USED IN THE DESIGN STANDHYD COM
14176>         Horton's infiltration equation parameters:
14177>         [Fo= 76.20 mm/hr] [Fc=13.20 mm/hr] [DCAY= 4.14 /hr] [F=  .00 mm]
14178>         Parameters for PERVIOUS surfaces in STANDHYD:
14179>         [IAper=   4.67 mm] [LGP=50.00 m] [MNP=  .250]
14180>         Parameters for IMPERVIOUS surfaces in STANDHYD:
14181>         [IAimp=  1.57 mm] [CLI= 1.50]   [MNI= .013]
14182>         Parameters used in NASHYD:
14183>         [Ia=   4.67 mm] [N= 3.00]
14184>         Average monthly Pan Evaporation data in    (mm)
14185>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
14186>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
14187>         Average monthly Potential Evapotranspiration in    (mm)
14188>    JAN   FEB   MAR   APR   MAY   JUN   JUL   AUG   SEP   OCT   NOV   DEC
14189>    .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00   .00
14190> R0100:C00005------------------------------------------------------------------------------------------
14191>       COMPUTE API
14192>         [APIini= 50.00: APIkdy= .8500: APIkdt= .9989]
14193>         [APImax=119.84: APIavg= 69.19: APImin= 44.87]
14194> #
14195> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14196> # of 1.32
14197> R0100:C00006------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14198>     CONTINUOUS NASHYD   1.0 01:JR_HW      3680.00   21.616 No_date   36:52   35.18 .397     .000
14199>       [CN= 64.0: N= 3.00: Tp= 7.13]
14200>       [IaREC= 4.00: SMIN= 97.05: SMAX=380.32: SK= .010]
14201>       [InterEventTime=  12.00]
14202> #
14203> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14204> # of 1.32
14205> R0100:C00007------------DTmin-ID:NHYD---------AREAha-QPEAKCms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14206>     CONTINUOUS NASHYD   1.0 01:SW_13        971.00    8.203 No_date   32:33   32.84 .371     .000
14207>       [CN= 61.0: N= 3.00: Tp= 3.76]
14208>       [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
14209>       [InterEventTime=  12.00]
14210> #
14211> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14212> # of 1.80
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14213> R0100:C00008------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14214>     CONTINUOUS NASHYD     1.0 01:JR_GWM      3074.00   10.428 No_date   39:59   28.29 .319     .000
14215>       [CN= 55.0: N= 3.00: Tp=11.33]
14216>       [IaREC= 4.00: SMIN= 83.24: SMAX=554.96: SK= .010]
14217>       [InterEventTime=  12.00]
14218> R0100:C00009------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14219>     CONTINUOUS NASHYD     1.0 01:JR_ASH      1781.00   19.695 No_date   32:38   42.49 .480     .000
14220>       [CN= 72.0: N= 3.00: Tp= 3.91]
14221>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
14222>       [InterEventTime=  12.00]
14223> R0100:C00010------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14224>     CONTINUOUS NASHYD     1.0 01:SW_11        500.00   10.735 No_date   29:21   36.76 .415     .000
14225>       [CN= 66.0: N= 3.00: Tp= 1.24]
14226>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
14227>       [InterEventTime=  12.00]
14228> #
14229> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14230> # of 1.80
14231> R0100:C00011------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14232>     CONTINUOUS NASHYD     1.0 01:NN_CK       1917.00   14.496 No_date   34:24   36.76 .415     .000
14233>       [CN= 66.0: N= 3.00: Tp= 5.29]
14234>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
14235>       [InterEventTime=  12.00]
14236> #
14237> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14238> # of 1.52
14239> R0100:C00012------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14240>     CONTINUOUS NASHYD     1.0 01:SW_10       5666.00   37.663 No_date   37:48   42.49 .480     .000
14241>       [CN= 72.0: N= 3.00: Tp= 8.00]
14242>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
14243>       [InterEventTime=  12.00]
14244> #
14245> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14246> # of 1.75
14247> R0100:C00013------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14248>     CONTINUOUS NASHYD     1.0 01:KG_CK       8376.00   36.118 No_date   39:59   36.76 .415     .000
14249>       [CN= 66.0: N= 3.00: Tp=11.66]
14250>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
14251>       [InterEventTime=  12.00]
14252> #
14253> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14254> # of 1.68
14255> R0100:C00014------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14256>     CONTINUOUS NASHYD     1.0 01:SW_9        1132.00   16.501 No_date   30:52   40.82 .461     .000
14257>       [CN= 70.0: N= 3.00: Tp= 2.51]
14258>       [IaREC= 4.00: SMIN= 43.07: SMAX=287.10: SK= .010]
14259>       [InterEventTime=  12.00]
14260> #
14261> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14262> # of 1.82
14263> R0100:C00015------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14264>     CONTINUOUS NASHYD     1.0 01:NC_CK       4464.00   18.060 No_date   39:59   33.61 .380     .000
14265>       [CN= 62.0: N= 3.00: Tp=11.32]
14266>       [IaREC= 4.00: SMIN= 61.90: SMAX=412.66: SK= .010]
14267>       [InterEventTime=  12.00]
14268> #
14269> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14270> # of 1.80
14271> R0100:C00016------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14272>     CONTINUOUS NASHYD     1.0 01:SW_8         131.00    3.259 No_date   28:57   34.39 .388     .000
14273>       [CN= 63.0: N= 3.00: Tp=  .90]
14274>       [IaREC= 4.00: SMIN= 59.42: SMAX=396.11: SK= .010]
14275>       [InterEventTime=  12.00]
14276> #
14277> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14278> # of 1.65
14279> R0100:C00017------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14280>     CONTINUOUS NASHYD     1.0 01:HB_DR       3854.00   21.238 No_date   38:28   36.76 .415     .000
14281>       [CN= 66.0: N= 3.00: Tp= 8.42]
14282>       [IaREC= 4.00: SMIN= 52.62: SMAX=350.79: SK= .010]
14283>       [InterEventTime=  12.00]
14284> #
14285> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14286> # of 1.82
14287> R0100:C00018------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14288>     CONTINUOUS NASHYD     1.0 01:SW_7        3197.00   16.421 No_date   36:21   29.79 .336     .000
14289>       [CN= 57.0: N= 3.00: Tp= 6.65]
14290>       [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
14291>       [InterEventTime=  12.00]
14292> #
14293> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14294> # of 1.75
14295> R0100:C00019------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14296>     CONTINUOUS NASHYD     1.0 01:SW_6         165.00    1.511 No_date   33:01   37.57 .424     .000
14297>       [CN= 67.0: N= 3.00: Tp= 4.18]
14298>       [IaREC= 4.00: SMIN= 59.55: SMAX=336.97: SK= .010]
14299>       [InterEventTime=  12.00]
14300> #
14301> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14302> # of 1.67
14303> R0100:C00020------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14304>     CONTINUOUS NASHYD     1.0 01:VG_DR       1332.00   10.882 No_date   35:10   42.49 .480     .000
14305>       [CN= 72.0: N= 3.00: Tp= 5.95]
14306>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
14307>       [InterEventTime=  12.00]
14308> R0100:C00021------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14309>     CONTINUOUS NASHYD     1.0 01:SW_5         224.00    9.576 No_date   28:44   47.62 .538     .000
14310>       [CN= 77.0: N= 3.00: Tp=  .75]
14311>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14312>       [InterEventTime=  12.00]
14313> #
14314> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14315> # of 1.20
14316> R0100:C00022------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14317>     CONTINUOUS NASHYD     1.0 01:FL_CK       4945.00   52.056 No_date   33:16   44.17 .499     .000
14318>       [CN= 74.0: N= 3.00: Tp= 4.45]
14319>       [IaREC= 4.00: SMIN= 36.67: SMAX=244.49: SK= .010]
14320>       [InterEventTime=  12.00]
14321> R0100:C00023------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14322>     CONTINUOUS NASHYD     1.0 01:SW_SA2        20.00    1.097 No_date   28:35   52.06 .588     .000
14323>       [CN= 81.0: N= 3.00: Tp=  .62]
14324>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
14325>       [InterEventTime=  12.00]
14326> #
14327> # The Tp was modified according to a Peak Reduction factor (MTO-Chart B2-4)
14328> # of 1.61
14329> R0100:C00024------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14330>     CONTINUOUS NASHYD     1.0 01:SW_SA1      1412.00   10.184 No_date   37:44   45.88 .518     .000
14331>       [CN= 75.0: N= 3.00: Tp= 8.00]
14332>       [IaREC= 4.00: SMIN= 33.81: SMAX=225.43: SK= .010]
14333>       [InterEventTime=  12.00]
14334> R0100:C00025------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14335>     CONTINUOUS NASHYD     1.0 01:SW_4         585.00   14.953 No_date   29:55   52.06 .588     .000
14336>       [CN= 81.0: N= 3.00: Tp= 1.75]
14337>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
14338>       [InterEventTime=  12.00]
14339> R0100:C00026------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14340>     CONTINUOUS NASHYD     1.0 01:LM_CK       1021.00   19.782 No_date   30:45   51.16 .578     .000
14341>       [CN= 80.0: N= 3.00: Tp= 2.46]
14342>       [IaREC= 4.00: SMIN= 26.32: SMAX=175.50: SK= .010]
14343>       [InterEventTime=  12.00]
14344> R0100:C00027------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14345>     CONTINUOUS NASHYD     1.0 01:SW_2         177.00    7.567 No_date   28:44   47.62 .538     .000
14346>       [CN= 77.0: N= 3.00: Tp=  .75]
14347>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
14348>       [InterEventTime=  12.00]
14349> R0100:C00028------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14350>     CONTINUOUS NASHYD     1.0 01:SM_DR       1122.00   17.981 No_date   31:42   52.06 .588     .000
14351>       [CN= 81.0: N= 3.00: Tp= 3.25]
14352>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
14353>       [InterEventTime=  12.00]
14354> R0100:C00029------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14355>     CONTINUOUS NASHYD     1.0 01:MO_DR       2737.00   40.730 No_date   31:28   46.75 .528     .000
14356>       [CN= 76.0: N= 3.00: Tp= 3.03]
14357>       [IaREC= 4.00: SMIN= 32.46: SMAX=216.39: SK= .010]
14358>       [InterEventTime=  12.00]
14359> #
14360> # Routing hydrographs
14361> #
14362> # Starting with the addition of Jock River Headwater and Subwatershed 13
14363> #
14364> R0100:C00030------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14365>     ADD HYD               1.0 02:JR_HW       3680.00   21.616 No_date   36:52   35.18 n/a      .000
14366>                       +     1.0 02:SW_13       971.00    8.203 No_date   32:33   32.84 n/a      .000
14367>                   SUM=      1.0 01:S_N13      4651.00   27.660 No_date   35:21   34.69 n/a      .000
14368> #
14369> # Sum of hydrographs from Node 13 routed to Node 13A
14370> # (Approximated cross-section - see cross-section 258)
14371> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
14372> #
14373> R0100:C00031------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14374>     ROUTE CHANNEL   ->    1.0 02:S_N13       4651.00   27.660 No_date   35:21   34.69 n/a      .000
14375>       [RDT= 1.00] out<-   1.0 01:N13A       4651.00   22.598 No_date   38:56   34.69 n/a      .000
14376>       [L/S/n= 9074./ .022/.040]
14377>       {Vmax=  .598:Dmax= 4.178}
14378> #
14379> # Addition of Subwatershed Jock River at Goodwood Marsh to Node 13A
14380> #
14381> R0100:C00032------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14382>     ADD HYD               1.0 02:N13A        4651.00   22.598 No_date   38:56   34.69 n/a      .000
14383>                       +     1.0 02:JR_GWM      3074.00   10.428 No_date   39:59   28.29 n/a      .000
14384>                   SUM=      1.0 01:SN13A       7725.00   32.845 No_date   39:44   32.14 n/a      .000
14385> #
14386> # Insertion of a reservoir to simulate the effects of the Goodwood Marsh
14387> #
14388> R0100:C00033------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14389>     ROUTE RESERVOIR ->    1.0 02:SN13A       7725.00   32.845 No_date   39:44   32.14 n/a      .000
14390>                         out <=    1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14 n/a      .000
14391>       {MxStoUsed=.1796E+03  m3}
14392> #
14393> R0100:C00034------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14394>     SAVE HYD              1.0 01:RES_GM      7725.00    3.950 No_date   62:26   32.14 n/a      .000
14395>       fname :H_RESGM
14396>       remark:Outflow from Res GM
14397> # Output of Reservoir Goodwood Marsh routed from Node 13A to Node 12
14398> # (Approximated cross-section - see cross-section 258)
14399> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
14400> R0100:C00035------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14401>     ROUTE CHANNEL   ->    1.0 02:RES_GM      7725.00    3.950 No_date   62:26   32.14 n/a      .000
14402>       [RDT= 1.00] out<-   1.0 01:N12        7725.00    3.947 No_date   64:43   32.14 n/a      .000
14403>       [L/S/n= 5926./ .076/.040]
14404>       {Vmax=  .560:Dmax= 1.560}
14405> #
14406> # Addition of Subwatershed Jock River at Ashton to Node 12
14407> #
14408> R0100:C00036------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14409>     ADD HYD               1.0 02:N12         7725.00    3.947 No_date   64:43   32.14 n/a      .000
14410>                       +     1.0 02:JR_ASH      1781.00   19.695 No_date   32:38   42.49 n/a      .000
14411>                   SUM=      1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08 n/a      .000
14412> R0100:C00037------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14413>     SAVE HYD              1.0 01:S_N12       9506.00   21.745 No_date   32:41   34.08 n/a      .000
14414>       fname :H_SN12
14415>       remark:flow at S_N12 near Ashton
14416> #
14417> # Sum of hydrographs from Node 12 routed to Node 11
14418> # (Approximated cross-section - see cross-section 258)
14419> # Use n=0.04 for summer conditions and n=0.025 for spring conditions
14420> #
14421> # Sum of hydrographs from Node 12 routed to Node 11 with Dummy section 248
14422> #
14423> R0100:C00038------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14424>     ROUTE CHANNEL   ->    1.0 02:S_N12       9506.00   21.745 No_date   32:41   34.08 n/a      .000
14425>       [RDT= 1.00] out<-   1.0 01:Dum11       9506.00   21.522 No_date   32:57   34.08 n/a      .000
14426>         [L/S/n=  972./ .054/.040]
14427>         {Vmax=  .777:Dmax= 3.194}
14428> #
14429> # Addition of Subwatershed 11 and No Name Creek to Node 11
14430> #
14431> R0100:C00039------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14432>     ADD HYD               1.0 02:Dum11       9506.00   21.522 No_date   32:57   34.08 n/a      .000
14433>                       +     1.0 02:SW_11        500.00   10.735 No_date   29:21   36.76 n/a      .000
14434>                       +     1.0 02:NN_CK       1917.00   14.496 No_date   34:24   36.76 n/a      .000
14435>                   SUM=      1.0 01:S_N11      11923.00   38.138 No_date   32:59   34.62 n/a      .000
14436> #
14437> # Sum of hydrographs from Node 11 routed to Node 10
14438> # Section 1
14439> #
14440> R0100:C00040------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14441>     ROUTE CHANNEL   ->    1.0 02:S_N11      11923.00   38.138 No_date   32:59   34.62 n/a      .000
14442>       [RDT= 1.00] out<-   1.0 01:N10        11923.00   23.609 No_date   39:19   34.62 n/a      .000
14443>       [L/S/n=14028./ .157/.040]
14444>       {Vmax=  .486:Dmax= 1.492}
14445> #
14446> # Addition of Subwatershed 10 to Node 10
14447> #
14448> R0100:C00041------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14449>     ADD HYD               1.0 02:N10         11923.00   23.609 No_date   39:19   34.62 n/a      .000
14450>                       +     1.0 02:SW_10       5666.00   37.663 No_date   37:48   42.49 n/a      .000
14451>                   SUM=      1.0 01:S_N10      17589.00   61.058 No_date   38:16   37.16 n/a      .000
14452> R0100:C00042------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14453>     SAVE HYD              1.0 01:S_N10       17589.00   61.058 No_date   38:16   37.16 n/a      .000
14454>       fname :H_SN10
14455>       remark:flow at S_N10: N10 + SW_10
14456> # Addition of Kings Creek to S_N10
14457> #
14458> R0100:C00043------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14459>     ADD HYD               1.0 02:S_N10       17589.00   61.058 No_date   38:16   37.16 n/a      .000
14460>                       +     1.0 02:KG_CK       8376.00   36.118 No_date   39:59   36.76 n/a      .000
14461>                   SUM=      1.0 01:S_N10A      25965.00   96.054 No_date   39:40   37.03 n/a      .000
14462> #
14463> # Sum of hydrographs from Node 10 routed to Node 9
14464> # Section 2
14465> #
14466> R0100:C00044------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14467>     ROUTE CHANNEL   ->    1.0 02:S_N10A      25965.00   96.054 No_date   39:40   37.03 n/a      .000
14468>       [RDT= 1.00] out<-   1.0 01:N9         25965.00   94.262 No_date   39:59   37.03 n/a      .000
14469>       [L/S/n= 3982./ .075/.040]
14470>       {Vmax=  .775:Dmax= 2.151}
14471> #
14472> # Addition of Subwatershed 9 and Nichols Creek to Node 9
14473> #
14474> R0100:C00045------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14475>     ADD HYD               1.0 02:N9          25965.00   94.262 No_date   39:59   37.03 n/a      .000
14476>                       +     1.0 02:SW_9       1132.00   16.501 No_date   30:52   40.83 n/a      .000
14477>                       +     1.0 02:NC_CK       4464.00   18.060 No_date   39:59   33.61 n/a      .000
14478>                   SUM=      1.0 01:S_N9       31561.00  115.681 No_date   39:59   36.68 n/a      .000
14479> #
14480> # Sum of hydrographs from Node 9 routed to Node 8
14481> # Section 3
14482> #
14483> R0100:C00046------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14484>     ROUTE CHANNEL   ->    1.0 02:S_N9        31561.00  115.681 No_date   39:59   36.68 n/a      .000
14485>       [RDT= 1.00] out<-   1.0 01:N8         31561.00  109.395 No_date   39:59   36.68 n/a      .000
14486>       [L/S/n= 2269./ .088/.045]
14487>       {Vmax=  .374:Dmax= 1.924}
14488> #
14489> # Addition of Subwatershed 8 and Hobb's Drain to Node 8
14490> #
14491> R0100:C00047------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14492>     ADD HYD               1.0 02:N8          31561.00  109.395 No_date   39:59   36.68 n/a      .000
14493>                       +     1.0 02:SW_8        131.00    3.259 No_date   28:57   34.39 n/a      .000
14494>                       +     1.0 02:HB_DR       3854.00   21.238 No_date   38:28   36.76 n/a      .000
14495>                   SUM=      1.0 01:S_N8       35546.00  130.593 No_date   39:59   36.68 n/a      .000
14496> #
14497> # Sum of hydrographs from Node 8 routed to Node 7
14498> # Section 4
14499> #
14500> R0100:C00048------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14501>     ROUTE CHANNEL   ->    1.0 02:S_N8        35546.00  130.593 No_date   39:59   36.68 n/a      .000
14502>       [RDT= 1.00] out<-   1.0 01:N7         35546.00  111.942 No_date   44:52   36.68 n/a      .000
14503>       [L/S/n= 3750./ .053/.070]
14504>       {Vmax=  .237:Dmax= 2.412}
14505> #
14506> # Addition of Subwatershed 7 to Node 7
14507> #
14508> R0100:C00049------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14509>     ADD HYD               1.0 02:N7          35546.00  111.942 No_date   44:52   36.68 n/a      .000
14510>                       +     1.0 02:SW_7        3197.00   16.421 No_date   36:21   29.79 n/a      .000
14511>                   SUM=      1.0 01:S_N7       38743.00  120.740 No_date   43:36   36.11 n/a      .000
14512> R0100:C00050------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14513>     SAVE HYD              1.0 01:S_N7        38743.00  120.740 No_date   43:36   36.11 n/a      .000
14514>       fname :H_SN7
14515>       remark:flow at S_N7: N7 + SW_7
14516> # Insertion of a reservoir to simulate the effects of the Richmond Fen.
14517> # Storage area and volumes were estimated from available topo maps.
14518> # Release rate from fen was assumed to be controlled by the downstream
14519> # river cross-section for summer conditions.  It is was assumed that for up to
14520> # 0.75 m of water, the main channel of the river provided the storage.  Above
14521> # this depth, the wetland starts to signigicantly store water.
14522> #
14523> R0100:C00051------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14524>     ROUTE RESERVOIR ->    1.0 02:S_N7        38743.00  120.740 No_date   43:36   36.11 n/a      .000
14525>                         out <=    1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11 n/a      .000
14526>       {MxStoUsed=.5140E+03  m3}
14527> R0100:C00052------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14528>     SAVE HYD              1.0 01:RES_RF      38743.00   62.351 No_date   58:25   36.11 n/a      .000
14529>       fname :H_ResRF
14530>       remark:outflow of Richmond Fen
14531> #
14532> # Sum of hydrographs from Node 7 routed to Node 6
14533> # Section 5
14534> #
14535> R0100:C00053------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14536>     ROUTE CHANNEL   ->    1.0 02:RES_RF      38743.00   62.351 No_date   58:25   36.11 n/a      .000
14537>       [RDT= 1.00] out<-   1.0 01:N6         38743.00   62.067 No_date   59:46   36.11 n/a      .000
14538>       [L/S/n= 3056./ .082/.025]
14539>       {Vmax=  .556:Dmax= 1.373}
14540> #
14541> # Addition of Subwatershed 6 and Van Gaal Drain to Node 6
14542> #
14543> R0100:C00054------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14544>     ADD HYD               1.0 02:N6          38743.00   62.067 No_date   59:46   36.11 n/a      .000
14545>                       +     1.0 02:SW_6        165.00    1.511 No_date   33:01   37.57 n/a      .000
14546>                       +     1.0 02:VG_DR       1332.00   10.882 No_date   35:10   42.49 n/a      .000
14547>                   SUM=      1.0 01:S_N6       40240.01   62.114 No_date   59:39   36.33 n/a      .000
14548> #
14549> # Sum of hydrographs from Node 6 routed to Node 5
14550> # Section 6
14551> #
14552> R0100:C00055------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14553>     ROUTE CHANNEL   ->    1.0 02:S_N6        40240.01   62.114 No_date   59:39   36.33 n/a      .000
14554>       [RDT= 1.00] out<-   1.0 01:N5         40240.01   61.991 No_date   60:21   36.33 n/a      .000
14555>       [L/S/n= 1852./ .054/.035]
14556>       {Vmax=  .494:Dmax= 1.468}
14557> #
14558> # Addition of Subwatershed 5 and Flowing Creek to Node 5
14559> #
14560> R0100:C00056------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14561>     ADD HYD               1.0 02:N5          40240.01   61.991 No_date   60:21   36.33 n/a      .000
14562>                       +     1.0 02:SW_5        224.00    9.576 No_date   28:44   47.62 n/a      .000
14563>                       +     1.0 02:FL_CK       4945.00   52.056 No_date   33:16   44.17 n/a      .000
14564>                   SUM=      1.0 01:S_N5       45409.01   80.898 No_date   34:11   37.24 n/a      .000
14565> #
14566> # Sum of hydrographs from Node 5 routed to Node 5A
14567> # Section 7
14568> #
14569> R0100:C00057------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14570>     ROUTE CHANNEL   ->    1.0 02:S_N5        45409.01   80.898 No_date   34:11   37.24 n/a      .000
14571>       [RDT= 1.00] out<-   1.0 01:N5A        45409.01   80.666 No_date   34:28   37.24 n/a      .000
14572>       [L/S/n=  556./ .090/.040]
14573>       {Vmax=  .546:Dmax= 1.353}
14574> #
14575> # Addition of Subwatershed 5A1 and Subwatershed 5A2 to Node 5A
14576> #
14577> R0100:C00058------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14578>     ADD HYD               1.0 02:N5A         45409.01   80.666 No_date   34:28   37.24 n/a      .000
14579>                       +     1.0 02:SW_SA2       20.00    1.097 No_date   28:35   52.06 n/a      .000
14580>                       +     1.0 02:SW_SA1      1412.00   10.184 No_date   37:44   45.88 n/a      .000
14581>                   SUM=      1.0 01:S_N5A      46841.01   89.756 No_date   34:38   37.51 n/a      .000
14582> #
14583> # Sum of hydrographs from Node 5A routed to Node 4
14584> # Section 8
14585> #
14586> R0100:C00059------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
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14587>     ROUTE CHANNEL   ->    1.0 02:S_N5A      46841.01   89.756 No_date   34:38   37.51  n/a     .000
14588>       [RDT= 1.00] out<-     1.0 01:N4         46841.01   85.943 No_date   36:10   37.51  n/a     .000
14589>         [L/S/n= 4630./ .043/.035]
14590>         {Vmax=  .904:Dmax= 3.866}
14591> #
14592> # Addition of Subwatershed 4 and Leamy Creek to Node 4
14593> #
14594> R0100:C00060-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14595>     ADD HYD                1.0 02:N4         46841.01   85.943 No_date   36:10   37.51  n/a     .000
14596>                    +     1.0 02:SW_4         585.00   14.953 No_date   29:55   52.06  n/a     .000
14597>                    +     1.0 02:LM_CK       1021.00   19.782 No_date   30:45   51.16  n/a     .000
14598>                  SUM=    1.0 01:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
14599> R0100:C00061-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14600>     SAVE HYD               1.0 01:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
14601>         fname :S_N4.0100
14602>         remark:flow at S_N4
14603> #
14604> # Sum of hydrographs from Node 4 routed to Node 2
14605> # Section 9
14606> #
14607> R0100:C00062-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14608>     ROUTE CHANNEL   ->    1.0 02:S_N4       48447.00   96.618 No_date   35:12   37.97  n/a     .000
14609>       [RDT= 1.00] out<-     1.0 01:N2         48447.00   96.322 No_date   35:13   37.97  n/a     .000
14610>         [L/S/n= 1667./ .060/.040]
14611>         {Vmax=  .944:Dmax= 3.929}
14612> #
14613> # Addition of Subwatershed 2 with Monohan Drain and Smith Drain to Node 2
14614> #
14615> R0100:C00063-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14616>     ADD HYD                1.0 02:N2         48447.00   96.322 No_date   35:13   37.97  n/a     .000
14617>                    +     1.0 02:SW_2         177.00    7.567 No_date   28:44   47.62  n/a     .000
14618>                    +     1.0 02:SM_DR       1122.00   17.981 No_date   31:42   52.06  n/a     .000
14619>                    +     1.0 02:MO_DR       2737.00   40.730 No_date   31:28   46.75  n/a     .000
14620>                  SUM=    1.0 01:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
14621> R0100:C00064-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14622>     SAVE HYD               1.0 01:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
14623>         fname :H_SN2
14624>         remark:flow at S_N2 Jock River Gauge at Moodie Dr.
14625> #
14626> # Sum of hydrographs from Node 2 routed to Node 1
14627> # Section 10
14628> #
14629> #*******************************************************************************
14630> #
14631> # Hydrograph from Node 2 routed to Node 416
14632> # Channel X-Section obtained from RVCA Hydraulic Model - Station 9025
14633> #
14634> R0100:C00065-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14635>     ROUTE CHANNEL   ->    1.0 02:S_N2       52483.00  143.580 No_date   32:59   38.76  n/a     .000
14636>       [RDT= 1.00] out<-     1.0 01:N_416      52483.00  139.298 No_date   33:45   38.76  n/a     .000
14637>         [L/S/n= 2327./ .050/.055]
14638>         {Vmax=  .801:Dmax= 3.814}
14639> #*******************************************************************************
14640> #     Catchment SW-1a
14641> #   - Portion of RVCA catchment SW_1 outside of Reach 1 subwatershed
14642> #   - Undeveloped agricultural land
14643> #*******************************************************************************
14644> R0100:C00066-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14645>     CONTINUOUS NASHYD      1.0 01:SW_1a      536.42     7.274 No_date   31:14   40.95 .462     .000
14646>         [CN= 72.0: N= 3.00: Tp= 2.79]
14647>         [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
14648>         [InterEventTime=  12.00]
14649> R0100:C00067-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14650>     CONTINUOUS STANDHYD    1.0 01:S-1-Okeefe    44.93     7.977 No_date   28:02   70.58 .797     .000
14651>       [XIMP=.65:TIMP=.65]
14652>       [LOSS= 2 :CN= 75.0]
14653>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
14654>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 547.:MNI=.013:SCI=   .0]
14655>       [IaRECimp=   4.00: IaRECper=   4.00]
14656>       [SMIN= 33.81: SMAX=225.43: SK= .010]
14657> R0100:C00068-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14658>     COMPUTE DUALHYD        1.0 01:S-1-Okeefe    44.93     7.977 No_date   28:02   70.58  n/a     .000
14659>       Major System   /     1.0 02:S-1-OkMJ       .00      .000 No_date   0:00     .00  n/a     .000
14660>       Minor System   \     1.0 03:S-1-OkMN     44.93     4.591 No_date   27:52   70.65  n/a     .000
14661>         {MjSysStor=.254E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
14662> R0100:C00069-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14663>     ADD HYD                1.0 02:S-1-OkMJ       .00      .000 No_date   0:00     .00  n/a     .000
14664>                    +     1.0 02:S-1-OkMN     44.93     4.591 No_date   27:52   70.65  n/a     .000
14665>                  SUM=    1.0 01:S-1-OkS      44.93     4.591 No_date   27:52   70.65  n/a     .000
14666> R0100:C00070-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14667>     ROUTE RESERVOIR ->     1.0 02:S-1-OkS      44.93     4.591 No_date   27:52   70.65  n/a     .000
14668>                out <=     1.0 01:S-1-OkSR     43.17      .537 No_date   28:35   70.65  n/a     .000
14669>              overflow <=  1.0 03:S-1-OkSovf     1.76     1.172 No_date   28:35   70.65  n/a     .000
14670>       {MxStoUsed=.1792E+01  m3, TotOvfVol=.1240E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
14671> R0100:C00071-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14672>     ADD HYD                1.0 02:N_416      52483.00  139.298 No_date   33:45   38.76  n/a     .000
14673>                    +     1.0 02:SW_1a        536.42     7.274 No_date   31:14   40.95  n/a     .000
14674>                    +     1.0 02:S-1-OkSR     43.17      .537 No_date   28:35   70.65  n/a     .000
14675>                    +     1.0 02:S-1-OkSovf    1.76     1.172 No_date   28:35   70.65  n/a     .000
14676>                  SUM=    1.0 01:SN_416     53064.36  145.245 No_date   33:31   38.81  n/a     .000
14677> R0100:C00072-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14678>     SAVE HYD               1.0 01:SN_416     53064.36  145.245 No_date   33:31   38.81  n/a     .000
14679>         fname :SN_416.0100
14680>         remark:Total Flows at Highway 416 before Station 7245
14681> #
14682> # Hydrograph from Node 416 routed to Node at Okeefe drain
14683> # Channel X-Section obtained from RVCA Hydraulic Model - Station 7245
14684> #
14685> R0100:C00073-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14686>     ROUTE CHANNEL   ->    1.0 02:SN_416     53064.36  145.245 No_date   33:31   38.81  n/a     .000
14687>       [RDT= 1.00] out<-     1.0 01:N_OK       53064.36  145.101 No_date   33:45   38.81  n/a     .000
14688>         [L/S/n=  497./ .302/.055]
14689>         {Vmax= 1.729:Dmax= 3.269}
14690> #*******************************************************************************
14691> #     Catchment OKEEFE
14692> #   - To O'Keefe drain (north of the Jock)
14693> #   - Developed with assumed 40% imp.
14694> #   - 2020-12-01 add Okeefe model (Area 513.02 HA) instead of current Okeefe (Area 513.02 HA)
14695> #   - 2020-11-20 Okeefe detailed model was added as per the NOVATECH SWMHYMO model (Citi-Gate 2014).
14696> #*******************************************************************************
14697> R0100:C00074-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14698>     CONTINUOUS NASHYD      1.0 01:O-1         63.72     1.380 No_date   28:58   30.74 .347     .000
14699>         [CN= 61.0: N= 3.00: Tp= .90]
14700>         [IaREC= 4.00: SMIN= 64.50: SMAX=430.01: SK= .010]
14701>         [InterEventTime=  12.00]
14702> R0100:C00075-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14703>     ROUTE CHANNEL   ->    1.0 02:O-1         63.72     1.380 No_date   28:58   30.74  n/a     .000
14704>       [RDT= 1.00] out<-     1.0 01:O-1R       63.72     1.307 No_date   29:13   30.74  n/a     .000
14705>         [L/S/n=  960./ .630/.043]
14706>         {Vmax=  .926:Dmax=  .493}
14707> R0100:C00076-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14708>     CONTINUOUS NASHYD      1.0 01:O-2         28.61      .485 No_date   29:13   28.38 .320     .000
14709>         [CN= 57.0: N= 3.00: Tp= 1.10]
14710>         [IaREC= 4.00: SMIN= 76.32: SMAX=508.81: SK= .010]
14711>         [InterEventTime=  12.00]
14712> R0100:C00077-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14713>     CONTINUOUS NASHYD      1.0 01:O-4         46.94      .650 No_date   28:59   21.79 .246     .000
14714>         [CN= 49.0: N= 3.00: Tp= .90]
14715>         [IaREC= 4.00: SMIN=104.59: SMAX=697.25: SK= .010]
14716>         [InterEventTime=  12.00]
14717> R0100:C00078-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14718>     ADD HYD                1.0 02:O-1R        63.72     1.307 No_date   29:13   30.74  n/a     .000
14719>                    +     1.0 02:O-2         28.61      .485 No_date   29:13   28.38  n/a     .000
14720>                    +     1.0 02:O-4         46.94      .650 No_date   28:59   21.79  n/a     .000
14721>                  SUM=    1.0 01:OKF-N      139.27     2.427 No_date   29:10   27.24  n/a     .000
14722> R0100:C00079-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14723>     ROUTE CHANNEL   ->    1.0 02:OKF-N      139.27     2.427 No_date   29:10   27.24  n/a     .000
14724>       [RDT= 1.00] out<-     1.0 01:OKF-NR     139.27     2.423 No_date   29:12   27.24  n/a     .000
14725>         [L/S/n=  210./ .810/.043]
14726>         {Vmax= 1.130:Dmax=  .796}
14727> R0100:C00080-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14728>     CONTINUOUS NASHYD      1.0 01:O-6         16.46      .220 No_date   28:45   18.67 .211     .000
14729>         [CN= 43.0: N= 3.00: Tp=  .70]
14730>         [IaREC= 4.00: SMIN=134.47: SMAX=896.47: SK= .010]
14731>         [InterEventTime=  12.00]
14732> R0100:C00081-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14733>     CONTINUOUS STANDHYD    1.0 01:O-3         39.67     1.454 No_date   28:21   32.90 .371     .000
14734>       [XIMP=.15:TIMP=.30]
14735>       [LOSS= 2 :CN= 50.0]
14736>       [Pervious    area: IAper= 4.67:SLPP= .32:LGP= 440.:MNP=.035:SCP=   .0]
14737>       [Impervious  area: IAimp= 1.57:SLPI= .32:LGI=1880.:MNI=.013:SCI=   .0]
14738>       [IaRECimp=   4.00: IaRECper=   4.00]
14739>       [SMIN= 99.77: SMAX=665.12: SK= .010]
14740> R0100:C00082-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14741>     CONTINUOUS STANDHYD    1.0 01:O-5         60.63     3.669 No_date   28:10   38.00 .429     .000
14742>       [XIMP=.13:TIMP=.26]
14743>       [LOSS= 2 :CN= 61.0]
14744>       [Pervious    area: IAper= 4.67:SLPP=1.38:LGP= 550.:MNP=.035:SCP=   .0]
14745>       [Impervious  area: IAimp= 1.57:SLPI=1.38:LGI=1450.:MNI=.013:SCI=   .0]
14746>       [IaRECimp=   4.00: IaRECper=   4.00]
14747>       [SMIN= 64.50: SMAX=430.01: SK= .010]
14748> R0100:C00083-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14749>     ADD HYD                1.0 02:OKF-NR     139.27     2.423 No_date   29:12   27.24  n/a     .000
14750>                    +     1.0 02:O-3         39.67     1.454 No_date   28:21   32.90  n/a     .000
14751>                    +     1.0 02:O-5         60.63     3.669 No_date   28:10   38.00  n/a     .000
14752>                    +     1.0 02:O-6         16.46      .220 No_date   28:45   18.67  n/a     .000
14753>                  SUM=    1.0 01:PT1        256.03     5.938 No_date   28:19   30.11  n/a     .000
14754> R0100:C00084-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14755>     CONTINUOUS NASHYD      1.0 01:O-7          5.28      .117 No_date   28:37   25.16 .284     .000
14756>         [CN= 54.0: N= 3.00: Tp=  .60]
14757>         [IaREC= 4.00: SMIN= 87.01: SMAX=580.07: SK= .010]
14758>         [InterEventTime=  12.00]
14759> R0100:C00085-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14760>     ADD HYD                1.0 02:PT1        256.03     5.938 No_date   28:19   30.11  n/a     .000
14761>                    +     1.0 02:O-7          5.28      .117 No_date   28:37   25.16  n/a     .000
14762>                  SUM=    1.0 01:FF         261.31     6.036 No_date   28:19   30.01  n/a     .000
14763> R0100:C00086-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14764>     ROUTE CHANNEL   ->    1.0 02:FF         261.31     6.036 No_date   28:19   30.01  n/a     .000
14765>       [RDT= 1.00] out<-     1.0 01:DRAIN1     261.31     5.843 No_date   28:23   30.01  n/a     .000
14766>         [L/S/n=  302./1.000/.043]
14767>         {Vmax=  .853:Dmax=  .797}
14768> R0100:C00087-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14769>     CONTINUOUS NASHYD      1.0 01:D1           1.17      .110 No_date   28:12   50.22 .567     .000
14770>         [CN= 84.0: N= 3.00: Tp=  .28]
14771>         [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
14772>         [InterEventTime=  12.00]
14773> R0100:C00088-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14774>     CONTINUOUS STANDHYD    1.0 01:A1          2.50      .572 No_date   28:01   70.42 .795     .000
14775>       [XIMP=.68:TIMP=.85]
14776>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14777>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14778>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 224.:MNI=.013:SCI=   .0]
14779>       [IaRECimp=   4.00: IaRECper=   4.00]
14780> R0100:C00089-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14781>     ROUTE RESERVOIR ->     1.0 02:A1          2.50      .572 No_date   28:01   70.42  n/a     .000
14782>                out <=     1.0 01:A1-STR      2.50      .173 No_date   28:17   70.42  n/a     .000
14783>              overflow <=  1.0 03:A1-OVF       .00      .000 No_date   0:00     .00  n/a     .000
14784>       {MxStoUsed=.7765E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14785> R0100:C00090-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14786>     CONTINUOUS STANDHYD    1.0 01:ST-2         .59      .115 No_date   28:00   55.78 .630     .000
14787>       [XIMP=.46:TIMP=.57]
14788>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14789>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14790>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 109.:MNI=.013:SCI=   .0]
14791>       [IaRECimp=   4.00: IaRECper=   4.00]
14792> R0100:C00091-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14793>     ROUTE RESERVOIR ->     1.0 02:ST-2         .59      .115 No_date   28:00   55.78  n/a     .000
14794>                out <=     1.0 01:ST2STR       .59      .053 No_date   28:13   55.78  n/a     .000
14795>              overflow <=  1.0 03:ST2OVF       .00      .000 No_date   0:00     .00  n/a     .000
14796>       {MxStoUsed=.5215E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14797> R0100:C00092-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14798>     CONTINUOUS NASHYD      1.0 01:O-8         60.55     1.639 No_date   29:04   38.99 .440     .000
14799>         [CN= 69.0: N= 3.00: Tp= 1.00]
14800>         [IaREC= 4.00: SMIN= 44.82: SMAX=298.82: SK= .010]
14801>         [InterEventTime=  12.00]
14802> R0100:C00093-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14803>     ROUTE PIPE      ->     1.0 02:O-8         60.55     1.639 No_date   29:04   38.99  n/a     .000
14804>       [RDT= 1.00] out<-     1.0 01:O8PIPE     60.55     1.631 No_date   29:07   38.99  n/a     .000
14805>         [L/S/n=  335./ .100/.013]
14806>         {Vmax= 1.305:Dmax=  .697}
14807>         {HGTH= 1.20:WDTH= 1.80}
14808> R0100:C00094-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14809>     ADD HYD                1.0 02:DRAIN1     261.31     5.843 No_date   28:23   30.01  n/a     .000
14810>                    +     1.0 02:D1           1.17      .110 No_date   28:12   50.22  n/a     .000
14811>                    +     1.0 02:A1-STR       2.50      .173 No_date   28:17   70.42  n/a     .000
14812>                    +     1.0 02:A1-OVF        .00      .000 No_date   0:00     .00  n/a     .000
14813>                    +     1.0 02:ST2STR        .59      .053 No_date   28:13   55.78  n/a     .000
14814>                    +     1.0 02:ST2OVF        .00      .000 No_date   0:00     .00  n/a     .000
14815>                    +     1.0 02:O8PIPE      60.55     1.631 No_date   29:07   38.99  n/a     .000
14816>                  SUM=    1.0 01:ST2-IN      326.12     7.203 No_date   28:33   32.11  n/a     .000
14817> R0100:C00095-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14818>     CONTINUOUS STANDHYD    1.0 01:A7          3.51      .784 No_date   28:01   70.42 .795     .000
14819>       [XIMP=.68:TIMP=.85]
14820>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14821>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14822>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 265.:MNI=.013:SCI=   .0]
14823>       [IaRECimp=   4.00: IaRECper=   4.00]
14824> R0100:C00096-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14825>     ROUTE RESERVOIR ->     1.0 02:A7          3.51      .784 No_date   28:01   70.42  n/a     .000
14826>                out <=     1.0 01:A7-STR      3.51      .240 No_date   28:18   70.42  n/a     .000
14827>              overflow <=  1.0 03:A7-OVF       .00      .000 No_date   0:00     .00  n/a     .000
14828>       {MxStoUsed=.108BE+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14829> R0100:C00097-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14830>     CONTINUOUS STANDHYD    1.0 01:ST-3         .71      .138 No_date   28:00   55.78 .630     .000
14831>       [XIMP=.46:TIMP=.57]
14832>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14833>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14834>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 119.:MNI=.013:SCI=   .0]
14835>       [IaRECimp=   4.00: IaRECper=   4.00]
14836> R0100:C00098-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14837>     ROUTE RESERVOIR ->     1.0 02:ST-3         .71      .138 No_date   28:00   55.78  n/a     .000
14838>                out <=     1.0 01:ST3STR       .71      .064 No_date   28:13   55.78  n/a     .000
14839>              overflow <=  1.0 03:ST3OVF       .00      .000 No_date   0:00     .00  n/a     .000
14840>       {MxStoUsed=.6043E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14841> R0100:C00099-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14842>     ADD HYD                1.0 02:ST2-IN      326.12     7.203 No_date   28:33   32.11  n/a     .000
14843>                    +     1.0 02:A7-STR       3.51      .240 No_date   28:18   70.42  n/a     .000
14844>                    +     1.0 02:A7-OVF        .00      .000 No_date   0:00     .00  n/a     .000
14845>                    +     1.0 02:ST3STR        .71      .064 No_date   28:13   55.78  n/a     .000
14846>                    +     1.0 02:ST3OVF        .00      .000 No_date   0:00     .00  n/a     .000
14847>                  SUM=    1.0 01:PT2ST3      330.34     7.487 No_date   28:31   32.57  n/a     .000
14848> R0100:C00100-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14849>     ROUTE CHANNEL   ->    1.0 02:PT2ST3      330.34     7.487 No_date   28:31   32.57  n/a     .000
14850>       [RDT= 1.00] out<-     1.0 01:DRAIN2     330.34     6.868 No_date   28:55   32.57  n/a     .000
14851>         [L/S/n=  592./ .230/.043]
14852>         {Vmax=  .611:Dmax= 1.215}
14853> R0100:C00101-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14854>     CONTINUOUS NASHYD      1.0 01:D2          2.28      .087 No_date   29:02   50.22 .567     .000
14855>         [CN= 84.0: N= 3.00: Tp=  .99]
14856>         [IaREC= 4.00: SMIN= 21.09: SMAX=140.62: SK= .010]
14857>         [InterEventTime=  12.00]
14858> R0100:C00102-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14859>     CONTINUOUS STANDHYD    1.0 01:A17         12.04     2.382 No_date   28:03   70.42 .795     .000
14860>       [XIMP=.68:TIMP=.85]
14861>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14862>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14863>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 491.:MNI=.013:SCI=   .0]
14864>       [IaRECimp=   4.00: IaRECper=   4.00]
14865> R0100:C00103-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14866>     ROUTE RESERVOIR ->     1.0 02:A17         12.04     2.382 No_date   28:03   70.42  n/a     .000
14867>                out <=     1.0 01:A17STR      12.04      .801 No_date   28:24   70.42  n/a     .000
14868>              overflow <=  1.0 03:A17OVF       .00      .000 No_date   0:00     .00  n/a     .000
14869>       {MxStoUsed=.3671E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14870> R0100:C00104-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14871>     CONTINUOUS STANDHYD    1.0 01:ST-4         .35      .069 No_date   28:00   55.78 .630     .000
14872>       [XIMP=.46:TIMP=.57]
14873>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14874>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14875>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  84.:MNI=.013:SCI=   .0]
14876>       [IaRECimp=   4.00: IaRECper=   4.00]
14877> R0100:C00105-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14878>     ROUTE RESERVOIR ->     1.0 02:ST-4         .35      .069 No_date   28:00   55.78  n/a     .000
14879>                out <=     1.0 01:ST4STR       .35      .032 No_date   28:13   55.78  n/a     .000
14880>              overflow <=  1.0 03:ST4OVF       .00      .000 No_date   0:00     .00  n/a     .000
14881>       {MxStoUsed=.3372E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14882> R0100:C00106-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14883>     CONTINUOUS STANDHYD    1.0 01:A18          5.30     1.139 No_date   28:01   70.42 .795     .000
14884>       [XIMP=.68:TIMP=.85]
14885>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14886>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14887>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 326.:MNI=.013:SCI=   .0]
14888>       [IaRECimp=   4.00: IaRECper=   4.00]
14889> R0100:C00107-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14890>     ROUTE RESERVOIR ->     1.0 02:A18          5.30     1.139 No_date   28:01   70.42  n/a     .000
14891>                out <=     1.0 01:A18STR       5.30      .360 No_date   28:20   70.42  n/a     .000
14892>              overflow <=  1.0 03:A18OVF       .00      .000 No_date   0:00     .00  n/a     .000
14893>       {MxStoUsed=.1636E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14894> R0100:C00108-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14895>     ADD HYD                1.0 02:DRAIN2      330.34     6.868 No_date   28:55   32.57  n/a     .000
14896>                    +     1.0 02:D2           2.28      .087 No_date   29:02   50.22  n/a     .000
14897>                    +     1.0 02:A17STR      12.04      .801 No_date   28:24   70.42  n/a     .000
14898>                    +     1.0 02:A17OVF       .00      .000 No_date   0:00     .00  n/a     .000
14899>                    +     1.0 02:ST4STR       .35      .032 No_date   28:13   55.78  n/a     .000
14900>                    +     1.0 02:ST4OVF       .00      .000 No_date   0:00     .00  n/a     .000
14901>                    +     1.0 02:A18STR      5.30      .360 No_date   28:20   70.42  n/a     .000
14902>                    +     1.0 02:A18OVF       .00      .000 No_date   0:00     .00  n/a     .000
14903>                  SUM=    1.0 01:PT3ST4      350.31     7.785 No_date   28:52   34.58  n/a     .000
14904> R0100:C00109-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14905>     ROUTE CHANNEL   ->    1.0 02:PT3ST4      350.31     7.785 No_date   28:52   34.58  n/a     .000
14906>       [RDT= 1.00] out<-     1.0 01:DRAIN3     350.31     7.474 No_date   29:08   34.58  n/a     .000
14907>         [L/S/n=  525./ .230/.043]
14908>         {Vmax=  .628:Dmax= 1.257}
14909> R0100:C00110-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14910>     CONTINUOUS NASHYD      1.0 01:D3          2.51      .132 No_date   28:43   54.04 .610     .000
14911>         [CN= 86.0: N= 3.00: Tp=  .73]
14912>         [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
14913>         [InterEventTime=  12.00]
14914> R0100:C00111-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14915>     CONTINUOUS STANDHYD    1.0 01:C1          3.41      .763 No_date   28:01   70.42 .795     .000
14916>       [XIMP=.68:TIMP=.85]
14917>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14918>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14919>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI= 261.:MNI=.013:SCI=   .0]
14920>       [IaRECimp=   4.00: IaRECper=   4.00]
14921> R0100:C00112-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14922>     ROUTE RESERVOIR ->     1.0 02:C1          3.41      .763 No_date   28:01   70.42  n/a     .000
14923>                out <=     1.0 01:C1-STR      3.41      .232 No_date   28:18   70.42  n/a     .000
14924>              overflow <=  1.0 03:C1-OVF       .00      .000 No_date   0:00     .00  n/a     .000
14925>       {MxStoUsed=.1056E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14926> R0100:C00113-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14927>     CONTINUOUS STANDHYD    1.0 01:ST-5         .45      .088 No_date   28:00   55.78 .630     .000
14928>       [XIMP=.46:TIMP=.57]
14929>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14930>       [Pervious    area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14931>       [Impervious  area: IAimp= 1.57:SLPI= .50:LGI=  95.:MNI=.013:SCI=   .0]
14932>       [IaRECimp=   4.00: IaRECper=   4.00]
14933> R0100:C00114-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14934>     ROUTE RESERVOIR ->     1.0 02:ST-5         .45      .088 No_date   28:00   55.78  n/a     .000
14935>                out <=     1.0 01:ST5STR       .45      .041 No_date   28:13   55.78  n/a     .000
14936>              overflow <=  1.0 03:ST5OVF       .00      .000 No_date   0:00     .00  n/a     .000
14937>       {MxStoUsed=.4111E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14938> R0100:C00115-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14939>     ADD HYD                1.0 02:DRAIN3      350.31     7.474 No_date   29:08   34.58  n/a     .000
14940>                    +     1.0 02:D3           2.51      .132 No_date   28:43   54.04  n/a     .000
14941>                    +     1.0 02:C1-STR       3.41      .232 No_date   28:18   70.42  n/a     .000
14942>                    +     1.0 02:C1-OVF        .00      .000 No_date   0:00     .00  n/a     .000
14943>                    +     1.0 02:ST5STR        .45      .041 No_date   28:13   55.78  n/
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14961>                    +     1.0 02:S-OVF          .00     .000 No_date   0:00     .00  n/a     .000
14962>                SUM=      1.0 01:SSAOUT       364.27    7.924 No_date   29:06   35.79  n/a     .000
14963> R0100:C00119------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14964>     SAVE HYD              1.0 01:SSAOUT       364.27    7.924 No_date   29:06   35.79  n/a     .000
14965>       fname :SSAOUT.0100
14966>       remark:SSAOUT
14967> R0100:C00120------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14968>     CONTINUOUS STANDHYD   1.0 01:Area-A        66.75    9.945 No_date   28:08   67.64 .764     .000
14969>       [XIMP=.64:TIMP=.80]
14970>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14971>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14972>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1155.:MNI=.013:SCI=   .0]
14973>       [IaRECimp=   4.00: IaRECper=   4.00]
14974> R0100:C00121------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14975>     SAVE HYD              1.0 01:Area-A        66.75    9.945 No_date   28:08   67.64 n/a      .000
14976>       fname :Area-A.0100
14977>       remark:SMWF-A Inflow
14978> R0100:C00122------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14979>     ROUTE RESERVOIR ->    1.0 02:Area-A        66.75    9.945 No_date   28:08   67.64 n/a      .000
14980>                   out <=    1.0 01:SWMF-A      66.75    1.357 No_date   29:10   67.64 n/a      .000
14981>              overflow <=    1.0 03:SWMAOV       .00     .000 No_date   0:00     .00  n/a      .000
14982>     {MxStoUsed=.3051E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
14983> R0100:C00123------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14984>     SAVE HYD              1.0 01:SWMF-A        66.75    1.357 No_date   29:10   67.64 n/a      .000
14985>       fname :SWMF-A.0100
14986>       remark:SMWF-A Outflow
14987> R0100:C00124------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14988>     ADD HYD               1.0 02:SSAOUT       364.27    7.924 No_date   29:06   35.79  n/a     .000
14989>                       +     1.0 02:SWMF-A      66.75    1.357 No_date   29:10   67.64  n/a     .000
14990>                       +     1.0 02:SWMAOV       .00     .000 No_date   0:00     .00  n/a     .000
14991>                   SUM=      1.0 01:PT4ST5       431.02    9.279 No_date   29:07   40.72  n/a     .000
14992> R0100:C00125------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
14993>     CONTINUOUS STANDHYD   1.0 01:C6            1.87     .433 No_date   28:01   70.42 .795     .000
14994>       [XIMP=.68:TIMP=.85]
14995>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
14996>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
14997>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 193.:MNI=.013:SCI=   .0]
14998>       [IaRECimp=   4.00: IaRECper=   4.00]
14999> R0100:C00126------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15000>     ROUTE RESERVOIR ->    1.0 02:C6            1.87     .433 No_date   28:01   70.42  n/a     .000
15001>                   out <=    1.0 01:C6-STR        1.87     .129 No_date   28:16   70.42  n/a     .000
15002>              overflow <=    1.0 03:C6-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15003>     {MxStoUsed=.5845E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15004> R0100:C00127------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15005>     CONTINUOUS STANDHYD   1.0 01:C7            1.62     .381 No_date   28:00   70.42 .795     .000
15006>       [XIMP=.68:TIMP=.85]
15007>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
15008>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
15009>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 180.:MNI=.013:SCI=   .0]
15010>       [IaRECimp=   4.00: IaRECper=   4.00]
15011> R0100:C00128------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15012>     ROUTE RESERVOIR ->    1.0 02:C7            1.62     .381 No_date   28:00   70.42  n/a     .000
15013>                   out <=    1.0 01:C7-STR        1.62     .112 No_date   28:16   70.42  n/a     .000
15014>              overflow <=    1.0 03:C7-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15015>     {MxStoUsed=.5036E-01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15016> R0100:C00129------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15017>     CONTINUOUS STANDHYD   1.0 01:ST-6           .41     .081 No_date   28:00   55.78 .630     .000
15018>       [XIMP=.46:TIMP=.57]
15019>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
15020>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  50.:MNP=.250:SCP=   .0]
15021>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=  91.:MNI=.013:SCI=   .0]
15022>       [IaRECimp=   4.00: IaRECper=   4.00]
15023> R0100:C00130------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15024>     ROUTE RESERVOIR ->    1.0 02:ST-6           .41     .081 No_date   28:00   55.78  n/a     .000
15025>                   out <=    1.0 01:ST6STR        .41     .037 No_date   28:13   55.78  n/a     .000
15026>              overflow <=    1.0 03:ST6OVF         .00     .000 No_date   0:00     .00  n/a     .000
15027>     {MxStoUsed=.3877E-02  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15028> R0100:C00131------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15029>     ADD HYD               1.0 02:PT4ST5       431.02    9.279 No_date   29:07   40.72  n/a     .000
15030>                       +     1.0 02:C6-STR        1.87     .129 No_date   28:16   70.42  n/a     .000
15031>                       +     1.0 02:C6-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15032>                       +     1.0 02:C7-STR        1.62     .112 No_date   28:16   70.42  n/a     .000
15033>                       +     1.0 02:C7-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15034>                       +     1.0 02:ST6STR         .41     .037 No_date   28:13   55.78  n/a     .000
15035>                       +     1.0 02:ST6OVF         .00     .000 No_date   0:00     .00  n/a     .000
15036>                   SUM=      1.0 01:PTSST6       434.92    9.426 No_date   29:06   40.97  n/a     .000
15037> R0100:C00132------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15038>     ROUTE CHANNEL   ->    1.0 02:PTSST6       434.92    9.426 No_date   29:06   40.97  n/a     .000
15039>       [RD= 1.00] out<-    1.0 01:DRAIN4       434.92    9.061 No_date   29:16   40.97  n/a     .000
15040>       [L/S/n=  324./ .100/.043]
15041>       [Vmax=  .507:Dmax= 1.619]
15042> R0100:C00133------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15043>     CONTINUOUS NASHYD     1.0 01:D4            1.73     .112 No_date   28:33   57.07 .644     .000
15044>       [CN= 88.0: N= 3.00: Tp=  .60]
15045>       [IaREC= 4.00: SMIN= 14.94: SMAX= 99.61: SK= .010]
15046>       [InterEventTime=  12.00]
15047> R0100:C00134------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15048>     CONTINUOUS STANDHYD   1.0 01:Area-B        24.04    4.871 No_date   28:02   66.17 .747     .000
15049>       [XIMP=.62:TIMP=.77]
15050>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
15051>       [Pervious     area: IAper= 4.67:SLPP=1.40:LGP=  50.:MNP=.250:SCP=   .0]
15052>       [Impervious   area: IAimp= 1.57:SLPI=1.40:LGI= 693.:MNI=.013:SCI=   .0]
15053>       [IaRECimp=   4.00: IaRECper=   4.00]
15054> R0100:C00135------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15055>     ROUTE RESERVOIR ->    1.0 02:Area-B        24.04    4.871 No_date   28:02   66.17  n/a     .000
15056>                   out <=    1.0 01:SWMF-B        24.04     .641 No_date   28:41   66.17  n/a     .000
15057>              overflow <=    1.0 03:SWMBOVF        .00     .000 No_date   0:00     .00  n/a     .000
15058>     {MxStoUsed=.1916E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15059> R0100:C00136------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15060>     ADD HYD               1.0 02:DRAIN4       434.92    9.061 No_date   29:16   40.97  n/a     .000
15061>                       +     1.0 02:D4            1.73     .112 No_date   28:33   57.07  n/a     .000
15062>                       +     1.0 02:SWMF-B        24.04     .641 No_date   28:41   66.17  n/a     .000
15063>                       +     1.0 02:SWMBOVF        .00     .000 No_date   0:00     .00  n/a     .000
15064>                   SUM=      1.0 02:D4-EX        460.69    9.722 No_date   29:15   42.35  n/a     .000
15065> R0100:C00137------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15066>     ROUTE CHANNEL   ->    1.0 02:D4-EX        460.69    9.722 No_date   29:15   42.35  n/a     .000
15067>       [RD= 1.00] out<-    1.0 01:DRAIN5       460.69    9.564 No_date   29:26   42.35  n/a     .000
15068>       [L/S/n=  413./ .160/.033]
15069>       [Vmax=  .703:Dmax= 1.106]
15070> R0100:C00138------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15071>     CONTINUOUS NASHYD     1.0 01:D5            1.90     .104 No_date   28:40   54.04 .610     .000
15072>       [CN= 86.0: N= 3.00: Tp=  .69]
15073>       [IaREC= 4.00: SMIN= 17.43: SMAX=116.21: SK= .010]
15074>       [InterEventTime=  12.00]
15075> R0100:C00139------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15076>     CONTINUOUS NASHYD     1.0 01:O-13SDF       9.74     .675 No_date   28:21   50.83 .574     .000
15077>       [CN= 81.0: N= 3.00: Tp=  .43]
15078>       [IaREC= 4.00: SMIN= 25.21: SMAX=168.09: SK= .010]
15079>       [InterEventTime=  12.00]
15080> R0100:C00140------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15081>     ROUTE RESERVOIR ->    1.0 02:O-13SDF       9.74     .675 No_date   28:21   50.83  n/a     .000
15082>                   out <=    1.0 01:SDF           9.74     .070 No_date   30:50   50.83  n/a     .000
15083>              overflow <=    1.0 03:OVFSDF         .00     .000 No_date   0:00     .00  n/a     .000
15084>     {MxStoUsed=.2813E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15085> R0100:C00141------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15086>     ADD HYD               1.0 02:DRAIN5       460.69    9.564 No_date   29:26   42.35  n/a     .000
15087>                       +     1.0 02:D5            1.90     .104 No_date   28:40   54.04  n/a     .000
15088>                       +     1.0 02:SDF           9.74     .070 No_date   30:50   50.83  n/a     .000
15089>                   SUM=      1.0 01:PT6MC        472.33    9.694 No_date   29:26   42.57  n/a     .000
15090> R0100:C00142------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15091>     CONTINUOUS NASHYD     1.0 01:O-15          10.67     .940 No_date   28:13   49.72 .561     .000
15092>       [CN= 82.0: N= 3.00: Tp=  .30]
15093>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
15094>       [InterEventTime=  12.00]
15095> R0100:C00143------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15096>     ADD HYD               1.0 02:PT6MC        472.33    9.694 No_date   29:26   42.57  n/a     .000
15097>                       +     1.0 02:O-15          10.67     .940 No_date   28:13   49.72  n/a     .000
15098>                   SUM=      1.0 01:M-C          483.00    9.844 No_date   29:26   42.73  n/a     .000
15099> R0100:C00144------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15100>     ROUTE CHANNEL   ->    1.0 02:M-C          483.00    9.844 No_date   29:26   42.73  n/a     .000
15101>       [RD= 1.00] out<-    1.0 01:O-14Ch       483.00    8.880 No_date   29:52   42.73  n/a     .000
15102>       [L/S/n=  845./ .100/.033]
15103>       [Vmax=  .556:Dmax= 1.861]
15104> R0100:C00145------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15105>     CONTINUOUS NASHYD     1.0 01:O-14          5.00     .722 No_date   28:04   49.72 .561     .000
15106>       [CN= 82.0: N= 3.00: Tp=  .13]
15107>       [IaREC= 4.00: SMIN= 23.09: SMAX=153.94: SK= .010]
15108>       [InterEventTime=  12.00]
15109> R0100:C00146------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15110>     ADD HYD               1.0 02:O-14Ch       483.00    8.880 No_date   29:52   42.73  n/a     .000
15111>                       +     1.0 02:O-14          5.00     .722 No_date   28:04   49.72  n/a     .000
15112>                   SUM=      1.0 01:OKEEFE       488.00    8.925 No_date   29:52   42.80  n/a     .000
15113> #*************************************************************************
15114> #    Okeefe Pond
15115> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
15116> #      and a ratio of the catchment area to the West Clarke pond rating curve
15117> #      from the MSS for the next coordinates
15118> #*************************************************************************
15119> R0100:C00147------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15120>     CONTINUOUS STANDHYD   1.0 01:S-1-D2        18.67    3.580 No_date   28:01   70.58 .797     .000
15121>       [XIMP=.65:TIMP=.65]
15122>       [LOSS= 2 :CN= 75.0]
15123>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15124>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 353.:MNI=.013:SCI=   .0]
15125>       [IaRECimp=   4.00: IaRECper=   4.00]
15126>       [SMIN= 33.81: SMAX=225.43: SK= .010]
15127> R0100:C00148------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15128>     COMPUTE DUALHYD       1.0 01:S-1-D2        18.67    3.580 No_date   28:01   70.58  n/a     .000
15129>       Major System    /     1.0 02:S-1-D2J       .00     .000 No_date   0:00     .00  n/a     .000
15130>       Minor System    \     1.0 03:S-1-D2N      18.67    2.097 No_date   27:52   70.87  n/a     .000
15131>       {MjSysSto=.8794E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15132> R0100:C00149------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15133>     ADD HYD               1.0 02:S-1-D2J       .00     .000 No_date   0:00     .00  n/a     .000
15134>                       +     1.0 02:S-1-D2N      18.67    2.097 No_date   27:52   70.87  n/a     .000
15135>                   SUM=      1.0 01:S-1-D2S      18.67    2.097 No_date   27:52   70.87  n/a     .000
15136> R0100:C00150------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15137>     ROUTE RESERVOIR ->    1.0 02:S-1-D2S      18.67    2.097 No_date   27:52   70.87  n/a     .000
15138>                   out <=    1.0 01:S-1-D2R      17.89     .223 No_date   28:30   70.87  n/a     .000
15139>              overflow <=    1.0 03:S-1-D2Rovf     .78     .526 No_date   28:30   70.87  n/a     .000
15140>     {MxStoUsed=.7445E+00  m3, TotOvfVol=.5562E-01  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
15141> R0100:C00151------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15142>     CONTINUOUS STANDHYD   1.0 01:S-1-D3        6.79    1.405 No_date   28:00   70.58 .797     .000
15143>       [XIMP=.65:TIMP=.65]
15144>       [LOSS= 2 :CN= 75.0]
15145>       [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15146>       [Impervious   area: IAimp= 1.57:SLPI= .75:LGI= 213.:MNI=.013:SCI=   .0]
15147>       [IaRECimp=   4.00: IaRECper=   4.00]
15148>       [SMIN= 33.81: SMAX=225.43: SK= .010]
15149> R0100:C00152------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15150>     COMPUTE DUALHYD       1.0 01:S-1-D3        6.79    1.405 No_date   28:00   70.58  n/a     .000
15151>       Major System    /     1.0 02:S-1-D3J       .00     .000 No_date   0:00     .00  n/a     .000
15152>       Minor System    \     1.0 03:S-1-D3N       6.79     .831 No_date   27:51   70.87  n/a     .000
15153>       {MjSysSto=.3005E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15154> R0100:C00153------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15155>     ADD HYD               1.0 02:S-1-D3J       .00     .000 No_date   0:00     .00  n/a     .000
15156>                       +     1.0 02:S-1-D3N       6.79     .831 No_date   27:51   70.87  n/a     .000
15157>                   SUM=      1.0 01:S-1-D3S       6.79     .831 No_date   27:51   70.87  n/a     .000
15158> R0100:C00154------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15159>     ROUTE RESERVOIR ->    1.0 02:S-1-D3S       6.79     .831 No_date   27:51   70.87  n/a     .000
15160>                   out <=    1.0 01:S-1-D3R       6.51     .081 No_date   28:27   70.87  n/a     .000
15161>              overflow <=    1.0 03:S-1-D3Rovf     .28     .186 No_date   28:27   70.87  n/a     .000
15162>     {MxStoUsed=.2708E+00  m3, TotOvfVol=.2018E-01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
15163> R0100:C00155------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15164>     ADD HYD               1.0 02:N_OK         53064.36  145.101 No_date   33:45   38.81  n/a     .000
15165>                       +     1.0 02:OKEEFE       488.00    8.925 No_date   29:52   42.80  n/a     .000
15166>                       +     1.0 02:S-1-D2R       17.89     .223 No_date   28:30   70.87  n/a     .000
15167>                       +     1.0 02:S-1-D3R        6.51     .081 No_date   28:27   70.87  n/a     .000
15168>                       +     1.0 02:S-1-D3Rovf     .78     .526 No_date   28:30   70.87  n/a     .000
15169>                       +     1.0 02:S-1-D3Rovf     .28     .186 No_date   28:27   70.87  n/a     .000
15170>                   SUM=      1.0 01:SN_OK        53577.81  148.295 No_date   33:05   38.86  n/a     .000
15171> R0100:C00156------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15172>     SAVE HYD              1.0 01:SN_OK        53577.81  148.295 No_date   33:05   38.86  n/a     .000
15173>       fname :SN_OK.0100
15174>       remark:Total Flows at Okeefe Drain
15175> #
15176> # Hydrograph from Node Okeefe routed to Node at Foster Drain
15177> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6215
15178> #
15179> R0100:C00157------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15180>     ROUTE CHANNEL   ->    1.0 02:SN_OK        53577.81  148.295 No_date   33:05   38.86  n/a     .000
15181>       [RD= 1.00] out<-    1.0 01:N_FO         53577.81  147.939 No_date   33:45   38.86  n/a     .000
15182>       [L/S/n= 1183./ .076/.035]
15183>       [Vmax= 1.295:Dmax= 3.590]
15184> #*************************************************************************
15185> #    Catchment FOSTER
15186> #    - To Foster ditch (north of the Jock)
15187> #    - Partially developed (medium density); remaining agricultural
15188> #    - 2020-12-01 JFSA Foster area is 332 as per Foster SWMF Environmental Study Report, CH2MHILL, Aug 2013.
15189> #    - 2020-12-01 decrease Foster drainage area from (373 HA) to (307.98 HA) after increasing Okeefe drainage area to (5
15190> #    - 2021-02-12  update Foster area to 325.44 ha as measured from QGIS
15191> #*************************************************************************
15192> R0100:C00158------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15193>     CONTINUOUS STANDHYD   1.0 01:FOSTER       325.44   36.526 No_date   28:10   65.13 .735     .000
15194>       [XIMP=.55:TIMP=.55]
15195>       [LOSS= 2 :CN= 74.0]
15196>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
15197>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI=1473.:MNI=.013:SCI=   .0]
15198>       [IaRECimp=   4.00: IaRECper=   4.00]
15199>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15200> #*************************************************************************
15201> #    Foster Pond
15202> #    - Rating curve obtained assuming 40m3/ha in 24 hours for quality control
15203> #      and a ratio of the catchment area to the West Clarke pond rating curve
15204> #      from the MSS for the next coordinates
15205> #*************************************************************************
15206> R0100:C00159------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15207>     ROUTE RESERVOIR ->    1.0 02:FOSTER       325.44   36.526 No_date   28:10   65.13  n/a     .000
15208>                   out <=    1.0 01:P_FOS        325.44    9.091 No_date   29:01   65.13  n/a     .000
15209>              overflow <=    1.0 03:FO-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15210>     {MxStoUsed=.8792E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15211> R0100:C00160------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15212>     ADD HYD               1.0 02:P_FOS        325.44    9.091 No_date   29:01   65.13  n/a     .000
15213>                       +     1.0 02:FO-OVF         .00     .000 No_date   0:00     .00  n/a     .000
15214>                   SUM=      1.0 01:FOSTER-OUT   325.44    9.091 No_date   29:01   65.13  n/a     .000
15215> #*************************************************************************
15216> R0100:C00161------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15217>     CONTINUOUS STANDHYD   1.0 01:W_CLAR_BRA     73.29   11.683 No_date   28:05   70.23 .793     .000
15218>       [XIMP=.60:TIMP=.65]
15219>       [LOSS= 2 :CN= 77.0]
15220>       [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15221>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 699.:MNI=.013:SCI=   .0]
15222>       [IaRECimp=   4.00: IaRECper=   4.00]
15223>       [SMIN= 31.15: SMAX=207.66: SK= .010]
15224> R0100:C00162------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15225>     ROUTE RESERVOIR ->    1.0 02:W_CLAR_BRA     73.29   11.683 No_date   28:05   70.23  n/a     .000
15226>                   out <=    1.0 01:MS_P10        73.29    1.240 No_date   29:12   70.23  n/a     .000
15227>              overflow <=    1.0 03:P10-OVF        .00     .000 No_date   0:00     .00  n/a     .000
15228>     {MxStoUsed=.2223E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15229> R0100:C00163------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15230>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D2      4.94     .896 No_date   28:00   65.13 .735     .000
15231>       [XIMP=.55:TIMP=.55]
15232>       [LOSS= 2 :CN= 74.0]
15233>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
15234>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 181.:MNI=.013:SCI=   .0]
15235>       [IaRECimp=   4.00: IaRECper=   4.00]
15236>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15237> R0100:C00164------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15238>     COMPUTE DUALHYD       1.0 01:S-1-FO-D2      4.94     .896 No_date   28:00   65.13  n/a     .000
15239>       Major System    /     1.0 02:S-1-FO-D2J     .00     .000 No_date   0:00     .00  n/a     .000
15240>       Minor System    \     1.0 03:S-1-FO-D2N     4.94     .508 No_date   27:51   65.14  n/a     .000
15241>       {MjSysSto=.2151E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15242> R0100:C00165------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15243>     ADD HYD               1.0 02:S-1-FO-D2J     .00     .000 No_date   0:00     .00  n/a     .000
15244>                       +     1.0 02:S-1-FO-D2N     4.94     .508 No_date   27:51   65.14  n/a     .000
15245>                   SUM=      1.0 01:S-1FOD2OF      4.94     .508 No_date   27:51   65.14  n/a     .000
15246> R0100:C00166------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15247>     ROUTE RESERVOIR ->    1.0 02:S-1-FO-D2N     4.94     .508 No_date   27:51   65.14  n/a     .000
15248>                   out <=    1.0 01:S-1-FO-D2R     4.94     .057 No_date   29:33   65.14  n/a     .000
15249>              overflow <=    1.0 03:S-1FOD2ovf     .00     .000 No_date   0:00     .00  n/a     .000
15250>     {MxStoUsed=.1916E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15251> R0100:C00167------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15252>     ADD HYD               1.0 02:FOSTER-OUT   325.44    9.091 No_date   29:01   65.13  n/a     .000
15253>                       +     1.0 02:S-1-FO-D2R     4.94     .057 No_date   29:33   65.14  n/a     .000
15254>                       +     1.0 02:S-1FOD2ovf     .00     .000 No_date   0:00     .00  n/a     .000
15255>                   SUM=      1.0 01:980          330.38    9.147 No_date   29:01   65.13  n/a     .000
15256> R0100:C00168------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15257>     SAVE HYD              1.0 01:980          330.38    9.147 No_date   29:01   65.13  n/a     .000
15258>       fname :980.0100
15259>       remark:Total Flows at Station 980 on Foster Drain
15260> #
15261> # Hydrograph from Node Foster SWM (Station 980)to Node at station 520
15262> # Channel X-Section obtained from RVCA Hydraulic Model - Station 980
15263> #
15264> R0100:C00169------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15265>     ROUTE CHANNEL   ->    1.0 02:980          330.38    9.147 No_date   29:01   65.13  n/a     .000
15266> *     [RD= 1.00] out<-    1.0 01:980-out      330.38    8.668 No_date   29:39   65.13  n/a     .000
15267>       [L/S/n=  460./ .043/.035]
15268>       [Vmax=  .540:Dmax= 1.669]
15269> R0100:C00170------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15270>     CONTINUOUS STANDHYD   1.0 01:S-1-FO-D1      5.11    1.040 No_date   28:00   69.99 .790     .000
15271>       [XIMP=.65:TIMP=.65]
15272>       [LOSS= 2 :CN= 74.0]
15273>       [Pervious     area: IAper= 4.67:SLPP= .50:LGP=  40.:MNP=.250:SCP=   .0]
15274>       [Impervious   area: IAimp= 1.57:SLPI= .50:LGI= 185.:MNI=.013:SCI=   .0]
15275>       [IaRECimp=   4.00: IaRECper=   4.00]
15276>       [SMIN= 36.67: SMAX=244.49: SK= .010]
15277> R0100:C00171------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15278>     COMPUTE DUALHYD       1.0 01:S-1-FO-D1      5.11    1.040 No_date   28:00   69.99  n/a     .000
15279>       Major System    /     1.0 02:S-1-FO-D1J     .00     .000 No_date   0:00     .00  n/a     .000
15280>       Minor System    \     1.0 03:S-1-FO-D1N     5.11     .605 No_date   27:51   70.27  n/a     .000
15281>       {MjSysSto=.2316E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15282> R0100:C00172------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15283>     ADD HYD               1.0 02:S-1-FO-D1N     5.11     .605 No_date   27:51   70.27  n/a     .000
15284>                       +     1.0 02:S-1-FO-D1J     .00     .000 No_date   0:00     .00  n/a     .000
15285>                   SUM=      1.0 01:S-1-FO-D1S     5.11     .605 No_date   27:51   70.27  n/a     .000
15286> R0100:C00173------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15287>     ROUTE RESERVOIR ->    1.0 02:S-1-FO-D1S     5.11     .605 No_date   27:51   70.27  n/a     .000
15288>                   out <=    1.0 01:S-1-FO-D1R     4.93     .061 No_date   28:29   70.27  n/a     .000
15289>              overflow <=    1.0 03:S-1FOD1ovf     .18     .133 No_date   28:29   70.27  n/a     .000
15290>     {MxStoUsed=.2038E+00  m3, TotOvfVol=.1295E-01  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
15291> R0100:C00174------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15292>     ADD HYD               1.0 02:980-out      330.38    8.660 No_date   29:39   65.13  n/a     .000
15293>                       +     1.0 02:S-1-FO-D1R     4.93     .061 No_date   28:29   70.27  n/a     .000
15294>                       +     1.0 02:S-1FOD1ovf     .18     .133 No_date   28:29   70.27  n/a     .000
15295>                   SUM=      1.0 01:520          335.49    8.721 No_date   29:39   65.21  n/a     .000
15296> R0100:C00175------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15297>     SAVE HYD              1.0 01:520          335.49    8.721 No_date   29:39   65.21  n/a     .000
15298>       fname :520.0100
15299>       remark:Total Flows at Sation 520 on Foster Drain
15300> # Hydrograph from Node at Station 520 (Foster Drain) to Node at station 6016 (Jock River)
15301> # Channel X-Section obtained from RVCA Hydraulic Model - Station 520
15302> #
15303> R0100:C00176------------DTmin-ID:NHYD---------ARE
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15335>       [Impervious   area: IAimp=  .79:SLPI=  .75:LGI= 187.:MNI=.013:SCI=   .0]
15336>       [IaREClmp=   4.00: IaRECper=     4.00]
15337> R0100:C00182------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15338>     COMPUTE DUALHYD      1.0 01:S-1-D8          5.27    1.181 No_date   28:01   51.48  n/a     .000
15339>       Major System   /     1.0 02:S-1-D8J         .00     .000 No_date    0:00     .00  n/a     .000
15340>       Minor System   \     1.0 03:S-1-D8N        5.27     .672 No_date   27:52   51.52  n/a     .000
15341>       {MjSysSto=.3055E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15342> R0100:C00183------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15343>       ADD HYD              1.0 02:S-1-D8J          .00     .000 No_date    0:00     .00  n/a     .000
15344>                          +     1.0 02:S-1-D8N        5.27     .672 No_date   27:52   51.52  n/a     .000
15345>                      SUM=      1.0 01:S-1-D8S        5.27     .672 No_date   27:52   51.52  n/a     .000
15346> R0100:C00184------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15347>     ROUTE RESERVOIR ->     1.0 02:S-1-D8S        5.27     .672 No_date   27:52   51.52  n/a     .000
15348>                  out <=    1.0 01:S-1-D8R        5.27     .061 No_date   28:45   51.52  n/a     .000
15349>               overflow <=  1.0 03:S-1-D8Rovf       .00     .000 No_date    0:00     .00  n/a     .000
15350>       {MxStoUsed=.2034E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15351> R0100:C00185------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15352>     CONTINUOUS NASHYD    1.0 01:S-1-A          75.88    3.578 No_date   28:36   45.95  .519     .000
15353>       [CN= 77.0: N= 3.00: Tp=  .62]
15354>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
15355>       [InterEventTime=  12.00]
15356> R0100:C00186------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15357>     CONTINUOUS NASHYD    1.0 01:W_CLAR_UND     35.65    1.108 No_date   29:10   45.95  .519     .000
15358>       [CN= 77.0: N= 3.00: Tp= 1.10]
15359>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
15360>       [InterEventTime=  12.00]
15361> R0100:C00187------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15362>       ADD HYD              1.0 02:N_FO        53577.81  147.939 No_date   33:45   38.86  n/a     .000
15363>                          +     1.0 02:S20-out      335.49    8.685 No_date   29:42   65.21  n/a     .000
15364>                          +     1.0 02:MS_P10        73.29    1.240 No_date   29:12   70.23  n/a     .000
15365>                          +     1.0 02:P10-OVF         .00     .000 No_date    0:00     .00  n/a     .000
15366>                          +     1.0 02:W_CLAR_UND     35.65    1.108 No_date   29:10   45.95  n/a     .000
15367>                          +     1.0 02:S-1-FoFOvf      .56     .392 No_date   28:32   70.35  n/a     .000
15368>                          +     1.0 02:S-1FO-F-DR    14.40     .179 No_date   28:32   70.35  n/a     .000
15369>                          +     1.0 02:S-1-D8Rovf      .00     .000 No_date    0:00     .00  n/a     .000
15370>                          +     1.0 02:S-1-D8R        5.27     .061 No_date   28:45   51.52  n/a     .000
15371>                          +     1.0 02:S-1-A          75.88    3.578 No_date   28:36   45.95  n/a     .000
15372>                      SUM=      1.0 01:SN_FO       54118.35  153.648 No_date   33:27   39.09  n/a     .000
15373> R0100:C00188------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15374>       SAVE HYD             1.0 01:SN_FO       54118.35  153.648 No_date   33:27   39.09  n/a     .000
15375>         fname :SN_FO.0100
15376>         remark:Total Flows at Foster Drain
15377> # Hydrograph from Node Foster routed to Node at Cedarview Road
15378> # Channel X-Section obtained from RVCA Hydraulic Model - Station 6016
15379> #
15380> R0100:C00189------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15381>       ROUTE CHANNEL    ->     1.0 02:SN_FO       54118.35  153.648 No_date   33:27   39.09  n/a     .000
15382> *   [RDT= 1.00] out<-        1.0 01:N_CE        54118.35  153.522 No_date   33:28   39.09  n/a     .000
15383>       [L/S/n=  159./ .082/.035]
15384>       {Vmax= 1.456:Dmax= 4.475}
15385> #*************************************************************************
15386> #     Catchment S-1
15387> #     - To Jock River (north and south of Jock)
15388> #     - Primarily agricultural fields; portion of sand quarry
15389> #*************************************************************************
15390> R0100:C00190------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15391>     CONTINUOUS NASHYD    1.0 01:S-1          55.36    3.260 No_date   28:23   45.95  .519     .000
15392>       [CN= 77.0: N= 3.00: Tp=  .45]
15393>       [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
15394>       [InterEventTime=  12.00]
15395> #   -  JFSA 2021-02-24 change the name from S-1-BCDC to S-1-A and S-1-B. Change their TP values based on the new areas
15396> #   -  JFSA 2021-02-24 "S-1-BCDC-1" and "S-1-BCDC-2" are not existing anymore. "S-1-BCDC-1" is part of "S-1-FO-D2" and
15397> #   -  JFSA 2021-01-19, after adding Greenbank pond, "S-1-BCDC-3" is not existing anymore
15398> R0100:C00191------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15399>     CONTINUOUS STANDHYD    1.0 01:S-1-D1         21.67    4.117 No_date   28:01   70.58 .797     .000
15400>       [XIMP=.65:TIMP=.65]
15401>       [LOSS= 2 :CN= 75.0]
15402>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15403>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 380.:MNI=.013:SCI=   .0]
15404>       [IaRECimp=   4.00: IaRECper=   4.00]
15405>       {SMIN= 33.81: SMAX=225.43: SK= .010}
15406> R0100:C00192------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15407>     COMPUTE DUALHYD      1.0 01:S-1-D1         21.67    4.117 No_date   28:01   70.58  n/a     .000
15408>       Major System   /     1.0 02:S-1-D1J         .00     .000 No_date    0:00     .00  n/a     .000
15409>       Minor System   \     1.0 03:S-1-D1N        21.67    2.409 No_date   27:52   70.60  n/a     .000
15410>       {MjSysSto=.1024E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15411> R0100:C00193------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15412>       ADD HYD              1.0 02:S-1-D1J         .00     .000 No_date    0:00     .00  n/a     .000
15413>                          +     1.0 02:S-1-D1N       21.67    2.409 No_date   27:52   70.60  n/a     .000
15414>                      SUM=      1.0 01:S-1-D1S       21.67    2.409 No_date   27:52   70.60  n/a     .000
15415> R0100:C00194------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15416>     ROUTE RESERVOIR ->     1.0 02:S-1-D1S       21.67    2.409 No_date   27:52   70.60  n/a     .000
15417>                  out <=    1.0 01:S-1-D1R       20.84     .259 No_date   28:32   70.60  n/a     .000
15418>               overflow <=  1.0 03:S-1-D1Rovf       .83     .580 No_date   28:32   70.60  n/a     .000
15419>       {MxStoUsed=.8642E+00  m3, TotOvfVol=.5868E-01  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
15420> R0100:C00195------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15421>     CONTINUOUS STANDHYD    1.0 01:S-1-D4         3.28     .705 No_date   28:00   70.58 .797     .000
15422>       [XIMP=.65:TIMP=.65]
15423>       [LOSS= 2 :CN= 75.0]
15424>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15425>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 148.:MNI=.013:SCI=   .0]
15426>       [IaRECimp=   4.00: IaRECper=   4.00]
15427>       {SMIN= 33.81: SMAX=225.43: SK= .010}
15428> R0100:C00196------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15429>     COMPUTE DUALHYD      1.0 01:S-1-D4         3.28     .705 No_date   28:00   70.58  n/a     .000
15430>       Major System   /     1.0 02:S-1-D4J         .00     .000 No_date    0:00     .00  n/a     .000
15431>       Minor System   \     1.0 03:S-1-D4N        3.28     .421 No_date   27:51   70.91  n/a     .000
15432>       {MjSysSto=.1397E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15433> R0100:C00197------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15434>       ADD HYD              1.0 02:S-1-D4J         .00     .000 No_date    0:00     .00  n/a     .000
15435>                          +     1.0 02:S-1-D4N        3.28     .421 No_date   27:51   70.91  n/a     .000
15436>                      SUM=      1.0 01:S-1-D4S        3.28     .421 No_date   27:51   70.91  n/a     .000
15437> R0100:C00198------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15438>     ROUTE RESERVOIR ->     1.0 02:S-1-D4S        3.28     .421 No_date   27:51   70.91  n/a     .000
15439>                  out <=    1.0 01:S-1-D4R        3.14     .039 No_date   28:25   70.91  n/a     .000
15440>               overflow <=  1.0 03:S-1-D4Rovf       .14     .090 No_date   28:25   70.91  n/a     .000
15441>       {MxStoUsed=.1048E+00  m3, TotOvfVol=.9840E-02  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
15442> R0100:C00199------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15443>     CONTINUOUS STANDHYD    1.0 01:S-1-D5         12.84    2.544 No_date   28:01   70.58 .797     .000
15444>       [XIMP=.65:TIMP=.65]
15445>       [LOSS= 2 :CN= 75.0]
15446>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15447>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 293.:MNI=.013:SCI=   .0]
15448>       [IaRECimp=   4.00: IaRECper=   4.00]
15449>       {SMIN= 33.81: SMAX=225.43: SK= .010}
15450> R0100:C00200------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15451>     COMPUTE DUALHYD      1.0 01:S-1-D5         12.84    2.544 No_date   28:01   70.58  n/a     .000
15452>       Major System   /     1.0 02:S-1-D5J         .00     .000 No_date    0:00     .00  n/a     .000
15453>       Minor System   \     1.0 03:S-1-D5N        12.84    1.500 No_date   27:51   70.80  n/a     .000
15454>       {MjSysSto=.5837E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15455> R0100:C00201------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15456>       ADD HYD              1.0 02:S-1-D5J         .00     .000 No_date    0:00     .00  n/a     .000
15457>                          +     1.0 02:S-1-D5N       12.84    1.500 No_date   27:51   70.80  n/a     .000
15458>                      SUM=      1.0 01:S-1-D5S       12.84    1.500 No_date   27:51   70.80  n/a     .000
15459> R0100:C00202------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15460>     ROUTE RESERVOIR ->     1.0 02:S-1-D5S       12.84    1.500 No_date   27:51   70.80  n/a     .000
15461>                  out <=    1.0 01:S-1-D5R       12.31     .154 No_date   28:29   70.80  n/a     .000
15462>               overflow <=  1.0 03:S-1-D5Rovf       .53     .353 No_date   28:29   70.80  n/a     .000
15463>       {MxStoUsed=.5120E+00  m3, TotOvfVol=.3721E-01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
15464> R0100:C00203------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15465>     CONTINUOUS STANDHYD    1.0 01:S-1-D6          1.75     .382 No_date   28:00   70.58 .797     .000
15466>       [XIMP=.65:TIMP=.65]
15467>       [LOSS= 2 :CN= 75.0]
15468>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15469>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 108.:MNI=.013:SCI=   .0]
15470>       [IaRECimp=   4.00: IaRECper=   4.00]
15471>       {SMIN= 33.81: SMAX=225.43: SK= .010}
15472> R0100:C00204------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15473>     COMPUTE DUALHYD      1.0 01:S-1-D6          1.75     .382 No_date   28:00   70.58  n/a     .000
15474>       Major System   /     1.0 02:S-1-D6J         .00     .000 No_date    0:00     .00  n/a     .000
15475>       Minor System   \     1.0 03:S-1-D6N         1.75     .232 No_date   27:51   70.75  n/a     .000
15476>       {MjSysSto=.7255E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15477> R0100:C00205------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15478>       ADD HYD              1.0 02:S-1-D6J         .00     .000 No_date    0:00     .00  n/a     .000
15479>                          +     1.0 02:S-1-D6N        1.75     .232 No_date   27:51   70.75  n/a     .000
15480>                      SUM=      1.0 01:S-1-D6S        1.75     .232 No_date   27:51   70.75  n/a     .000
15481> R0100:C00206------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15482>     ROUTE RESERVOIR ->     1.0 02:S-1-D6S        1.75     .232 No_date   27:51   70.75  n/a     .000
15483>                  out <=    1.0 01:S-1-D6R        1.68     .021 No_date   28:25   70.75  n/a     .000
15484>               overflow <=  1.0 03:S-1-D6Rovf       .07     .047 No_date   28:25   70.75  n/a     .000
15485>       {MxStoUsed=.6980E-01  m3, TotOvfVol=.4972E-02  m3, N-Ovf=    3, TotDurOvf=    1.hrs}
15486> R0100:C00207------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15487>     CONTINUOUS STANDHYD    1.0 01:S-1-D7          2.03     .442 No_date   28:00   70.58 .797     .000
15488>       [XIMP=.65:TIMP=.65]
15489>       [LOSS= 2 :CN= 75.0]
15490>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15491>       [Impervious  area: IAimp= 1.57:SLPI= .75:LGI= 116.:MNI=.013:SCI=   .0]
15492>       [IaRECimp=   4.00: IaRECper=   4.00]
15493>       {SMIN= 33.81: SMAX=225.43: SK= .010}
15494> R0100:C00208------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15495>     COMPUTE DUALHYD      1.0 01:S-1-D7          2.03     .442 No_date   28:00   70.58  n/a     .000
15496>       Major System   /     1.0 02:S-1-D7J         .00     .000 No_date    0:00     .00  n/a     .000
15497>       Minor System   \     1.0 03:S-1-D7N         2.03     .265 No_date   27:51   70.90  n/a     .000
15498>       {MjSysSto=.8643E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15499> R0100:C00209------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15500>       ADD HYD              1.0 02:S-1-D7J         .00     .000 No_date    0:00     .00  n/a     .000
15501>                          +     1.0 02:S-1-D7N        2.03     .265 No_date   27:51   70.90  n/a     .000
15502>                      SUM=      1.0 01:S-1-D7S        2.03     .265 No_date   27:51   70.90  n/a     .000
15503> R0100:C00210------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15504>     ROUTE RESERVOIR ->     1.0 02:S-1-D7S        2.03     .265 No_date   27:51   70.90  n/a     .000
15505>                  out <=    1.0 01:S-1-D7R        1.95     .024 No_date   28:25   70.90  n/a     .000
15506>               overflow <=  1.0 03:S-1-D7Rovf       .08     .055 No_date   28:25   70.90  n/a     .000
15507>       {MxStoUsed=.8100E-01  m3, TotOvfVol=.6001E-02  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
15508> #     Catchment W_CLAR
15509> #     - To West Clarke Drain (south of the Jock)
15510> #     - Subdivision with 43% imp. as per Barrhaven South MSS
15511> #     - 2020-11-30 update CLARKE Tributary Drainage Area to  = 121 ha based on P598(04)-11
15512> #     - 2020-11-30 split CLARKE Drainage Area to MAJOR and ALL
15513> #*************************************************************************
15514> R0100:C00211------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15515>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_MJ      1.77    .332 No_date   28:00   66.20 .747     .000
15516>       [XIMP=.46:TIMP=.59]
15517>       [LOSS= 2 :CN= 77.0]
15518>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15519>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 109.:MNI=.013:SCI=   .0]
15520>       [IaRECimp=   4.00: IaRECper=   4.00]
15521>       {SMIN= 31.15: SMAX=207.66: SK= .010}
15522> # 5-Year + 12% Capture
15523> R0100:C00212------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15524>       ROUTE RESERVOIR ->     1.0 02:W_CLAR_MJ      1.77    .332 No_date   28:00   66.20  n/a     .000
15525>                      out <=    1.0 01:W_CLAR_MJn     1.69    .213 No_date   27:52   66.22  n/a     .000
15526>                   overflow <=  1.0 03:W_CLAR_MJj        .08    .115 No_date   28:01   66.20  n/a     .000
15527>       {MxStoUsed=.1530E-03  m3, TotOvfVol=.5337E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
15528> R0100:C00213------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15529>     CONTINUOUS STANDHYD    1.0 01:W_CLAR_ALL   119.40   19.638 No_date   28:04   70.23 .793     .000
15530>       [XIMP=.60:TIMP=.65]
15531>       [LOSS= 2 :CN= 77.0]
15532>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
15533>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 892.:MNI=.013:SCI=   .0]
15534>       [IaRECimp=   4.00: IaRECper=   4.00]
15535>       {SMIN= 31.15: SMAX=207.66: SK= .010}
15536> R0100:C00214------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15537>       ADD HYD              1.0 02:W_CLAR_ALL   119.40   19.638 No_date   28:04   70.23  n/a     .000
15538>                          +     1.0 02:W_CLAR_MJj        .08    .115 No_date   28:01   66.20  n/a     .000
15539>                      SUM=      1.0 01:W_CLAR        119.48   19.657 No_date   28:04   70.22  n/a     .000
15540> R0100:C00215------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15541>       SAVE HYD             1.0 01:W_CLAR        119.48   19.657 No_date   28:04   70.22  n/a     .000
15542>         fname :W_CLAR.0100
15543>         remark:Total Flows to West Clarke
15544> #*************************************************************************
15545> #    West Clarke Pond 2
15546> #    - Rating curve obtained from Barrhaven South MSS modeling
15547> #    - Tributary Drainage Area to MSS Pond 2 = 241 ha
15548> #*************************************************************************
15549> R0100:C00216------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15550>     ROUTE RESERVOIR ->     1.0 02:W_CLAR       119.48   19.657 No_date   28:04   70.22  n/a     .000
15551>                  out <=    1.0 01:MS_P2        119.48   13.064 No_date   28:13   70.22  n/a     .000
15552>               overflow <=  1.0 03:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
15553>       {MxStoUsed=.3189E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
15554> #*************************************************************************
15555> R0100:C00217------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15556>       ADD HYD              1.0 02:N_CE        54118.35  153.522 No_date   33:28   39.09  n/a     .000
15557>                          +     1.0 02:S-1-SAR        3.14     .039 No_date   28:25   70.91  n/a     .000
15558>                          +     1.0 02:S-1-D5R       12.31     .154 No_date   28:29   70.80  n/a     .000
15559>                          +     1.0 02:S-1-D4Rovf      .14     .090 No_date   28:25   70.91  n/a     .000
15560>                          +     1.0 02:S-1-D5Rovf      .53     .353 No_date   28:29   70.80  n/a     .000
15561>                          +     1.0 02:MS_P2        119.48   13.064 No_date   28:13   70.22  n/a     .000
15562>                          +     1.0 02:P2-OVF          .00     .000 No_date    0:00     .00  n/a     .000
15563>                      SUM=      1.0 01:SN_CE       54253.95  154.583 No_date   33:28   39.17  n/a     .000
15564> R0100:C00218------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15565>       SAVE HYD             1.0 01:SN_CE       54253.95  154.583 No_date   33:28   39.17  n/a     .000
15566>         fname :SN_CE.0100
15567>         remark:Total Flows before Station 5737 on Jock River
15568> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5737
15569> # 2021-02-25 add station 5737 before station 5002. Station 5737 was extracted from the HEC-RAS model T:\PROJ\1474-16\Des
15570> # JFSA 2021-03-02  change the slope to 0.0175% instead of 0.02593 to stabilize the model
15571> R0100:C00219------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15572>       ROUTE CHANNEL    ->     1.0 02:SN_CE       54253.95  154.583 No_date   33:28   39.17  n/a     .000
15573> *   [RDT= 1.00] out<-        1.0 01:5737        54253.95  144.603 No_date   35:50   39.17  n/a     .000
15574>       [L/S/n=  270./ .018/.035]
15575>       {Vmax=  .873:Dmax= 5.177}
15576> R0100:C00220------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15577>       ADD HYD              1.0 02:5737        54253.95  144.603 No_date   35:50   39.17  n/a     .000
15578>                          +     1.0 02:S-1-D1R        20.84     .259 No_date   28:32   70.60  n/a     .000
15579>                          +     1.0 02:S-1-D6R         1.68     .021 No_date   28:25   70.75  n/a     .000
15580>                          +     1.0 02:S-1-D7R         1.95     .024 No_date   28:25   70.90  n/a     .000
15581>                          +     1.0 02:S-1-D1Rovf       .83     .580 No_date   28:32   70.60  n/a     .000
15582>                          +     1.0 02:S-1-D6Rovf       .07     .047 No_date   28:25   70.75  n/a     .000
15583>                          +     1.0 02:S-1-D7Rovf       .08     .055 No_date   28:25   70.90  n/a     .000
15584>                      SUM=      1.0 01:5002        54279.40  144.823 No_date   35:50   39.19  n/a     .000
15585> R0100:C00221------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15586>       SAVE HYD             1.0 01:5002        54279.40  144.823 No_date   35:50   39.19  n/a     .000
15587>         fname :5002.0100
15588>         remark:Total Flows before Station 5002 on Jock River
15589> # Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain
15590> # Channel X-Section obtained from RVCA Hydraulic Model - Station 5002
15591> # JFSA 2021-02-19 Change the slope from 0.01 % (as per Stantec Report 2007) to 0.0255 % so the model will be more stable
15592> # JFSA 2021-02-19 Change to three ROUTE CHANNEL with length 275 m each instead of one with 825 m length so the model wil
15593> # JFSA 2021-02-26 change the length of 5002 route channel from 825 m to 736 m. That is because of adding station 5737 be
15594> R0100:C00222------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15595>       ROUTE CHANNEL    ->     1.0 02:5002        54279.40  144.823 No_date   35:50   39.19  n/a     .000
15596> *   [RDT= 1.00] out<-        1.0 01:N_WCa       54279.40  144.811 No_date   35:54   39.19  n/a     .000
15597>       [L/S/n=  245./ .095/.035]
15598>       {Vmax= 1.319:Dmax= 3.149}
15599> R0100:C00223------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15600>       ROUTE CHANNEL    ->     1.0 02:N_WCa       54279.40  144.811 No_date   35:54   39.19  n/a     .000
15601> *   [RDT= 1.00] out<-        1.0 01:N_WCb       54279.40  144.784 No_date   36:02   39.19  n/a     .000
15602>       [L/S/n=  245./ .095/.035]
15603>       {Vmax= 1.319:Dmax= 3.149}
15604> R0100:C00224------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15605>       ROUTE CHANNEL    ->     1.0 02:N_WCb       54279.40  144.784 No_date   36:02   39.19  n/a     .000
15606> *   [RDT= 1.00] out<-        1.0 01:N_WC        54279.40  144.566 No_date   36:23   39.19  n/a     .000
15607>       [L/S/n=  245./ .095/.035]
15608>       {Vmax= 1.319:Dmax= 3.149}
15609> #*************************************************************************
15610> # Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain
15611> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4534
15612> #
15613> R0100:C00225------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15614>       ROUTE CHANNEL    ->     1.0 02:N_WC        54279.40  144.566 No_date   36:23   39.19  n/a     .000
15615> *   [RDT= 1.00] out<-        1.0 01:N_KB        54279.40  144.071 No_date   36:49   39.18  n/a     .000
15616>       [L/S/n= 1020./ .050/.035]
15617>       {Vmax= 1.004:Dmax= 3.867}
15618> #*************************************************************************
15619> #    Catchment KEN_BU
15620> #    - To Kennedy-Burnett SWM Facility
15621> #    - Outlets to Fraser-Clarke drain (north of the Jock)
15622> #    - Medium density residential subdivision
15623> #*************************************************************************
15624> #*************************************************************************
15625> #    Existing Kennedy-Burnett SWM Facility
15626> #    - Rating curve obtained from URTKBP
15627> #    - Tributary Drainage Area to Pond = 160 ha
15628> #*************************************************************************
15629> R0100:C00226------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15630>     CONTINUOUS STANDHYD    1.0 01:KB-01A         40.82    5.490 No_date   28:09   36.71 .415     .000
15631>       [XIMP=.19:TIMP=.40]
15632>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
15633>       [Pervious    area: IAper= 4.67:SLPP=1.50:LGP=  40.:MNP=.250:SCP=   .0]
15634>       [Impervious  area: IAimp=  .79:SLPI=.50:LGI= 522.:MNI=.013:SCI=   .0]
15635>       [IaRECimp=   4.00: IaRECper=   4.00]
15636> R0100:C00227------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15637>       COMPUTE DUALHYD      1.0 01:KB-01A         40.82    5.490 No_date   28:09   36.71  n/a     .000
15638>         Major System   /     1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
15639>         Minor System   \     1.0 03:KB-01A-MN      40.82    3.600 No_date   28:44   36.91  n/a     .000
15640>         {MjSysSto=.177E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15641> R0100:C00228------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15642>         ADD HYD              1.0 02:KB-01A-MJ       .00     .000 No_date    0:00     .00  n/a     .000
15643>                            +     1.0 02:KB-01A-MN      40.82    3.600 No_date   28:44   36.91  n/a     .000
15644>                        SUM=      1.0 01:KB-01A-S       40.82    3.600 No_date   28:44   36.91  n/a     .000
15645> R0100:C00229------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15646>       CONTINUOUS STANDHYD    1.0 01:KB-01B         31.10    4.072 No_date   28:06   40.61 .458     .000
15647>       [XIMP=.19:TIMP=.38]
15648>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
15649>       [Pervious    area: IAper= 4.67:SLPP=1.50:LGP=  40.:MNP=.250:SCP=   .0]
15650>       [Impervious  area: IAimp=  .79:SLPI=.42:LGI= 455.:MNI=.013:SCI=   .0]
15651>       [IaRECimp=   4.00: IaRECper=   4.00]
15652> R0100:C00230------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15653>       COMPUTE DUALHYD      1.0 01:KB-01B         31.10    4.072 No_date   28:06   40.61  n/a     .000
15654>         Major System   /     1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
15655>         Minor System   \     1.0 03:KB-01B-MN      31.10    1.585 No_date   27:51   40.77  n/a     .000
15656>         {MjSysSto=.3465E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15657> R0100:C00231------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15658>         ADD HYD              1.0 02:KB-01B-MJ       .00     .000 No_date    0:00     .00  n/a     .000
15659>                            +     1.0 02:KB-01B-MN      31.10    1.585 No_date   27:51   40.77  n/a     .000
15660>                        SUM=      1.0 01:KB-01B-S       31.10    1.585 No_date   27:51   40.77  n/a     .000
15661> R0100:C00232------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15662>       CONTINUOUS STANDHYD    1.0 01:KB-01C         13.78    2.471 No_date   28:03   41.89 .473     .000
15663>       [XIMP=.20:TIMP=.41]
15664>       [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F= .00]
15665>       [Pervious    area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15666>       [Impervious  area: IAimp=  .79:SLPI=.50:LGI= 303.:MNI=.013:SCI=   .0]
15667>       [IaRECimp=   4.00: IaRECper=   4.00]
15668> R0100:C00233------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15669>       COMPUTE DUALHYD      1.0 01:KB-01C         13.78    2.471 No_date   28:03   41.89  n/a     .000
15670>         Major System   /     1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
15671>         Minor System   \     1.0 03:KB-01C-MN      13.78    1.350 No_date   28:37   42.09  n/a     .000
15672>         {MjSysSto=.865E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
15673> R0100:C00234------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15674>         ADD HYD              1.0 02:KB-01C-MJ       .00     .000 No_date    0:00     .00  n/a     .000
15675>                            +     1.0 02:KB-01C-MN      13.78    1.350 No_date   28:37   42.09  n/a     .000
15676>                
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15709> R0100:C00241-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15710>      CONTINUOUS STANDHYD     1.0 01:KB-05          5.19    1.406 No_date   28:00   82.69 .934     .000
15711>        [XIMP=.93:TIMP=.93]
15712>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15713>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15714>        [Impervious   area: IAimp= 1.57:SLPI=  .50:LGI= 186.:MNI=.013:SCI=   .0]
15715>        [IaRECimp=  4.00: IaRECper=   4.00]
15716> R0100:C00242-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15717>      CONTINUOUS STANDHYD     1.0 01:KB-06         12.93    3.585 No_date   28:00   79.73 .900     .000
15718>        [XIMP=.87:TIMP=.87]
15719>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15720>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15721>        [Impervious   area: IAimp=  .94:SLPI=4.75:LGI= 294.:MNI=.013:SCI=   .0]
15722>        [IaRECimp=  4.00: IaRECper=   4.00]
15723> R0100:C00243-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15724>      COMPUTE DUALHYD         1.0 01:KB-06         12.93    3.585 No_date   28:00   79.73 n/a      .000
15725>        Major System   /      1.0 02:KB-06-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15726>        Minor System   \      1.0 03:KB-06-MN      12.93    2.262 No_date   27:51   79.89 n/a      .000
15727>        {MjSysSto=.6247E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15728> R0100:C00244-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15729>      ADD HYD                 1.0 02:KB-MJ           .00     .000 No_date   0:00     .00 n/a      .000
15730>                            + 1.0 02:KB-06-MN      12.93    2.262 No_date   27:51   79.89 n/a      .000
15731>                       SUM=   1.0 01:KB-06-S       12.93    2.262 No_date   27:51   79.89 n/a      .000
15732> R0100:C00245-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15733>      CONTINUOUS STANDHYD     1.0 01:KB-11           4.03    1.012 No_date   28:00   67.54 .763     .000
15734>        [XIMP=.68:TIMP=.68]
15735>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15736>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15737>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 164.:MNI=.013:SCI=   .0]
15738>        [IaRECimp=  4.00: IaRECper=   4.00]
15739> R0100:C00246-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15740>      COMPUTE DUALHYD         1.0 01:KB-11           4.03    1.012 No_date   28:00   67.54 n/a      .000
15741>        Major System   /      1.0 02:KB-11-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15742>        Minor System   \      1.0 03:KB-11-MN        4.03     .577 No_date   27:51   67.60 n/a      .000
15743>        {MjSysSto=.2184E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15744> R0100:C00247-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15745>      ADD HYD                 1.0 02:KB-11-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15746>                            + 1.0 02:KB-11-MN        4.03     .577 No_date   27:51   67.60 n/a      .000
15747>                       SUM=   1.0 01:KB-11-S         4.03     .577 No_date   27:51   67.60 n/a      .000
15748> R0100:C00248-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15749>      CONTINUOUS STANDHYD     1.0 01:S1              4.99    1.426 No_date   28:00   82.69 .934     .000
15750>        [XIMP=.93:TIMP=.93]
15751>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15752>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15753>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 182.:MNI=.013:SCI=   .0]
15754>        [IaRECimp=  4.00: IaRECper=   4.00]
15755> R0100:C00249-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15756>      CONTINUOUS STANDHYD     1.0 01:KB-15           2.15     .548 No_date   28:00   75.20 .849     .000
15757>        [XIMP=.79:TIMP=.79]
15758>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15759>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15760>        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 120.:MNI=.013:SCI=   .0]
15761>        [IaRECimp=  4.00: IaRECper=   4.00]
15762> R0100:C00250-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15763>      ADD HYD                 1.0 02:KB-01A-S        40.82    3.600 No_date   28:44   36.91 n/a      .000
15764>                            + 1.0 02:KB-01B-S        31.10    1.585 No_date   27:51   40.77 n/a      .000
15765>                            + 1.0 02:KB-01C-S        13.78    1.350 No_date   28:37   42.09 n/a      .000
15766>                            + 1.0 02:KB-03-S         84.78    5.270 No_date   29:11   41.33 n/a      .000
15767>                            + 1.0 02:KB-04-S          6.95     .503 No_date   27:43   78.64 n/a      .000
15768>                            + 1.0 02:KB-08-S          5.19    1.406 No_date   28:00   82.69 n/a      .000
15769>                            + 1.0 02:KB-06-S         12.93    2.262 No_date   27:51   79.89 n/a      .000
15770>                            + 1.0 02:KB-11-S          4.03     .577 No_date   27:51   67.60 n/a      .000
15771>                            + 1.0 02:KB-15-S          2.15     .548 No_date   28:00   75.20 n/a      .000
15772>                            + 1.0 02:S1               4.99    1.426 No_date   28:00   82.69 n/a      .000
15773>                       SUM=   1.0 01:KB-P1          206.72   18.527 No_date   28:00   46.99 n/a      .000
15774> R0100:C00251-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15775>      ROUTE RESERVOIR ->      1.0 02:KB-P1          206.72   18.527 No_date   28:00   46.99 n/a      .000
15776>                     out <=   1.0 01:KB-P1R         196.58   12.438 No_date   28:00   46.99 n/a      .000
15777>                overflow <=   1.0 03:KB-P1ovf        10.14    6.062 No_date   28:00   46.99 n/a      .000
15778>        {MxStoUsed=.7330E+00  m3, TotOvfVol=.4763E+00  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
15779> R0100:C00252-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15780>      ADD HYD                 1.0 02:KB-P1R         196.58   12.438 No_date   28:00   46.99 n/a      .000
15781>                            + 1.0 02:KB-P1ovf        10.14    6.062 No_date   28:00   46.99 n/a      .000
15782>                       SUM=   1.0 01:KB-Pond1       206.72   18.500 No_date   28:00   46.99 n/a      .000
15783> R0100:C00253-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15784>      SAVE HYD                1.0 01:KB-Pond1       206.72   18.500 No_date   28:00   46.99 n/a      .000
15785>        fname :KB-Pond1.0100
15786>        remark:Total Flows at KB first pond
15787> R0100:C00254-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15788>      CONTINUOUS STANDHYD     1.0 01:KB-07          10.86    2.908 No_date   28:00   79.06 .893     .000
15789>        [XIMP=.86:TIMP=.86]
15790>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15791>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15792>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 269.:MNI=.013:SCI=   .0]
15793>        [IaRECimp=  4.00: IaRECper=   4.00]
15794> R0100:C00255-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15795>      COMPUTE DUALHYD         1.0 01:KB-07          10.86    2.908 No_date   28:00   79.06 n/a      .000
15796>        Major System   /      1.0 02:KB-07-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15797>        Minor System   \      1.0 03:KB-07-MN       10.86    2.094 No_date   27:53   79.26 n/a      .000
15798>        {MjSysSto=.3334E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15799> R0100:C00256-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15800>      ADD HYD                 1.0 02:KB-07-MN       10.86    2.094 No_date   27:53   79.26 n/a      .000
15801>                            + 1.0 02:KB-07-MN       10.86    2.094 No_date   27:53   79.26 n/a      .000
15802>                       SUM=   1.0 01:KB-07-S        10.86    2.094 No_date   27:53   79.26 n/a      .000
15803> R0100:C00257-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15804>      CONTINUOUS STANDHYD     1.0 01:KB-08           6.61    1.609 No_date   28:00   65.36 .738     .000
15805>        [XIMP=.64:TIMP=.64]
15806>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15807>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15808>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 210.:MNI=.013:SCI=   .0]
15809>        [IaRECimp=  4.00: IaRECper=   4.00]
15810> R0100:C00258-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15811>      COMPUTE DUALHYD         1.0 01:KB-08           6.61    1.609 No_date   28:00   65.36 n/a      .000
15812>        Major System   /      1.0 02:KB-08-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15813>        Minor System   \      1.0 03:KB-08-MN        6.61    1.058 No_date   27:52   65.50 n/a      .000
15814>        {MjSysSto=.2397E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15815> R0100:C00259-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15816>      ADD HYD                 1.0 02:KB-08-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15817>                            + 1.0 02:KB-08-MN        6.61    1.058 No_date   27:52   65.50 n/a      .000
15818>                       SUM=   1.0 01:KB-08-S         6.61    1.058 No_date   27:52   65.50 n/a      .000
15819> R0100:C00260-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15820>      CONTINUOUS STANDHYD     1.0 01:KB-09           2.60     .727 No_date   28:00   78.38 .885     .000
15821>        [XIMP=.86:TIMP=.86]
15822>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15823>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15824>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 132.:MNI=.013:SCI=   .0]
15825>        [IaRECimp=  4.00: IaRECper=   4.00]
15826> R0100:C00261-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15827>      CONTINUOUS STANDHYD     1.0 01:KB-10_1         2.37     .663 No_date   28:00   78.39 .885     .000
15828>        [XIMP=.86:TIMP=.86]
15829>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15830>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15831>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI= 126.:MNI=.013:SCI=   .0]
15832>        [IaRECimp=  4.00: IaRECper=   4.00]
15833> R0100:C00262-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15834>      CONTINUOUS STANDHYD     1.0 01:KB-10_2         1.14     .322 No_date   28:00   78.39 .885     .000
15835>        [XIMP=.86:TIMP=.86]
15836>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15837>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15838>        [Impervious   area: IAimp= 1.57:SLPI=2.00:LGI=  87.:MNI=.013:SCI=   .0]
15839>        [IaRECimp=  4.00: IaRECper=   4.00]
15840> R0100:C00263-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15841>      CONTINUOUS STANDHYD     1.0 01:KB-12           4.86    1.294 No_date   28:00   74.45 .841     .000
15842>        [XIMP=.79:TIMP=.79]
15843>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15844>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15845>        [Impervious   area: IAimp= 1.10:SLPI=2.00:LGI= 180.:MNI=.013:SCI=   .0]
15846>        [IaRECimp=  4.00: IaRECper=   4.00]
15847> R0100:C00264-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15848>      COMPUTE DUALHYD         1.0 01:KB-12           4.86    1.294 No_date   28:00   74.45 n/a      .000
15849>        Major System   /      1.0 02:KB-12-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15850>        Minor System   \      1.0 03:KB-12-MN        4.86     .867 No_date   28:11   74.79 n/a      .000
15851>        {MjSysSto=.1873E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15852> R0100:C00265-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15853>      ADD HYD                 1.0 02:KB-12-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15854>                            + 1.0 02:KB-12-MN        4.86     .867 No_date   28:11   74.79 n/a      .000
15855>                       SUM=   1.0 01:KB-12-S         4.86     .867 No_date   28:11   74.79 n/a      .000
15856> R0100:C00266-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15857>      CONTINUOUS STANDHYD     1.0 01:KB-13          10.19    2.407 No_date   28:00   65.36 .738     .000
15858>        [XIMP=.64:TIMP=.64]
15859>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15860>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15861>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 261.:MNI=.013:SCI=   .0]
15862>        [IaRECimp=  4.00: IaRECper=   4.00]
15863> R0100:C00267-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15864>      COMPUTE DUALHYD         1.0 01:KB-13          10.19    2.407 No_date   28:00   65.36 n/a      .000
15865>        Major System   /      1.0 02:KB-13-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15866>        Minor System   \      1.0 03:KB-13-MN       10.19    1.722 No_date   27:54   65.63 n/a      .000
15867>        {MjSysSto=.2806E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15868> R0100:C00268-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15869>      ADD HYD                 1.0 02:KB-13-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15870>                            + 1.0 02:KB-13-MN       10.19    1.722 No_date   27:54   65.63 n/a      .000
15871>                       SUM=   1.0 01:KB-13-S        10.19    1.722 No_date   27:54   65.63 n/a      .000
15872> R0100:C00269-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15873>      CONTINUOUS STANDHYD     1.0 01:KB-14           5.47    1.338 No_date   28:00   65.36 .738     .000
15874>        [XIMP=.64:TIMP=.64]
15875>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15876>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15877>        [Impervious   area: IAimp=  .79:SLPI=2.00:LGI= 191.:MNI=.013:SCI=   .0]
15878>        [IaRECimp=  4.00: IaRECper=   4.00]
15879> R0100:C00270-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15880>      COMPUTE DUALHYD         1.0 01:KB-14           5.47    1.338 No_date   28:00   65.36 n/a      .000
15881>        Major System   /      1.0 02:KB-14-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15882>        Minor System   \      1.0 03:KB-14-MN        5.47     .873 No_date   27:52   65.48 n/a      .000
15883>        {MjSysSto=.2041E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15884> R0100:C00271-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15885>      ADD HYD                 1.0 02:KB-14-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15886>                            + 1.0 02:KB-14-MN        5.47     .873 No_date   27:52   65.48 n/a      .000
15887>                       SUM=   1.0 01:KB-14-S         5.47     .873 No_date   27:52   65.48 n/a      .000
15888> R0100:C00272-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15889>      CONTINUOUS STANDHYD     1.0 01:KB-16_2         3.42     .803 No_date   28:01   70.16 .792     .000
15890>        [XIMP=.71:TIMP=.71]
15891>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15892>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15893>        [Impervious   area: IAimp=  .16:SLPI= .30:LGI= 151.:MNI=.013:SCI=   .0]
15894>        [IaRECimp=  4.00: IaRECper=   4.00]
15895> R0100:C00273-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15896>      ADD HYD                 1.0 02:KB-Pond1       206.72   18.500 No_date   28:00   46.99 n/a      .000
15897>                            + 1.0 02:KB-07-S         10.86    2.094 No_date   27:53   79.26 n/a      .000
15898>                            + 1.0 02:KB-08-S          6.61    1.058 No_date   27:52   65.50 n/a      .000
15899>                            + 1.0 02:KB-09            2.60     .727 No_date   28:00   78.38 n/a      .000
15900>                            + 1.0 02:KB-10_1          2.37     .663 No_date   28:00   78.38 n/a      .000
15901>                            + 1.0 02:KB-10_2          1.14     .322 No_date   28:00   78.39 n/a      .000
15902>                            + 1.0 02:KB-12-S          4.86     .867 No_date   28:11   74.79 n/a      .000
15903>                            + 1.0 02:KB-13-S         10.19    1.722 No_date   27:54   65.63 n/a      .000
15904>                            + 1.0 02:KB-14-S          5.47     .873 No_date   27:52   65.48 n/a      .000
15905>                            + 1.0 02:KB-16_2          3.42     .803 No_date   28:01   70.16 n/a      .000
15906>                       SUM=   1.0 01:KB-P2          254.24   27.626 No_date   28:00   51.59 n/a      .000
15907> R0100:C00274-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15908>      ROUTE RESERVOIR ->      1.0 02:KB-P2          254.24   27.626 No_date   28:00   51.59 n/a      .000
15909>                     out <=   1.0 01:KB-P2R         249.74   17.634 No_date   28:06   51.59 n/a      .000
15910>                overflow <=   1.0 03:KB-P2ovf         4.50    6.910 No_date   28:06   51.59 n/a      .000
15911>        {MxStoUsed=.1110E+01  m3, TotOvfVol=.2320E+00  m3, N-Ovf=    2, TotDurOvf=    0.hrs}
15912> R0100:C00275-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15913>      ADD HYD                 1.0 02:KB-P2R         249.74   17.634 No_date   28:06   51.59 n/a      .000
15914>                            + 1.0 02:KB-P2ovf         4.50    6.910 No_date   28:06   51.59 n/a      .000
15915>                       SUM=   1.0 01:KB-Pond2       254.24   24.544 No_date   28:06   51.59 n/a      .000
15916> R0100:C00276-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15917>      SAVE HYD                1.0 01:KB-Pond2       254.24   24.544 No_date   28:06   51.59 n/a      .000
15918>        fname :KB-Pond2.0100
15919>        remark:Total Flows at KB second pond
15920> R0100:C00277-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15921>      CONTINUOUS STANDHYD     1.0 01:KB-16_1         2.80     .686 No_date   28:00   72.68 .821     .000
15922>        [XIMP=.75:TIMP=.75]
15923>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15924>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15925>        [Impervious   area: IAimp= 1.57:SLPI=  .30:LGI= 137.:MNI=.013:SCI=   .0]
15926>        [IaRECimp=  4.00: IaRECper=   4.00]
15927> R0100:C00278-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15928>      ADD HYD                 1.0 02:KB-Pond2       254.24   24.544 No_date   28:06   51.59 n/a      .000
15929>                            + 1.0 02:KB-16_1         2.80     .686 No_date   28:00   72.68 n/a      .000
15930>                       SUM=   1.0 01:KB-P3          257.04   24.930 No_date   28:06   51.82 n/a      .000
15931> R0100:C00279-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15932>      ROUTE RESERVOIR ->      1.0 02:KB-P3          257.04   24.930 No_date   28:06   51.82 n/a      .000
15933>                     out <=   1.0 01:KB-P3R          8.56     .051 No_date   17:08   51.81 n/a      .000
15934>                overflow <=   1.0 03:KB-P3ovf       248.48   24.659 No_date   28:07   51.82 n/a      .000
15935>        {MxStoUsed=.1991E-02  m3, TotOvfVol=.1288E+02  m3, N-Ovf=    1, TotDurOvf=   23.hrs}
15936> R0100:C00280-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15937>      ADD HYD                 1.0 02:KB-P3R           8.56     .051 No_date   17:08   51.81 n/a      .000
15938>                            + 1.0 02:KB-P3ovf       248.48   24.659 No_date   28:07   51.82 n/a      .000
15939>                       SUM=   1.0 01:KB-Pond3       257.04   24.710 No_date   28:07   51.82 n/a      .000
15940> R0100:C00281-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15941>      SAVE HYD                1.0 01:KB-Pond3       257.04   24.710 No_date   28:07   51.82 n/a      .000
15942>        fname :KB-Pond3.0100
15943>        remark:Total Flows at KB third pond
15944> *************************************************************************
15945> #    EXISTING / PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report Ju
15946> #    - TO FRASER-CLARKE DRAIN
15947> *************************************************************************
15948> R0100:C00282-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15949>      CONTINUOUS STANDHYD     1.0 01:FRASER-D        8.03    1.646 No_date   28:01   54.40 .614     .000
15950>        [XIMP=.47:TIMP=.47]
15951>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15952>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15953>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  231.:MNI=.013:SCI=   .0]
15954>        [IaRECimp=  4.00: IaRECper=   4.00]
15955> R0100:C00283-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15956>      COMPUTE DUALHYD         1.0 01:FC-01           8.03    1.646 No_date   28:01   54.40 n/a      .000
15957>        Major System   /      1.0 02:FC-01-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15958>        Minor System   \      1.0 03:FC-01-MN        8.03     .756 No_date   27:49   54.46 n/a      .000
15959>        {MjSysSto=.6274E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=   0.hrs}
15960> R0100:C00284-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15961>      ADD HYD                 1.0 02:FC-01-MJ        .00     .000 No_date   0:00     .00 n/a      .000
15962>                            + 1.0 02:FC-01-MN        8.03     .756 No_date   27:49   54.46 n/a      .000
15963>                       SUM=   1.0 01:FC-01-S         8.03     .756 No_date   27:49   54.46 n/a      .000
15964> R0100:C00285-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15965>      CONTINUOUS STANDHYD     1.0 01:FC-02          16.05    4.197 No_date   28:00   82.69 .934     .000
15966>        [XIMP=.93:TIMP=.93]
15967>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15968>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15969>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 327.:MNI=.013:SCI=   .0]
15970>        [IaRECimp=  4.00: IaRECper=   4.00]
15971> R0100:C00286-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15972>      COMPUTE DUALHYD         1.0 01:FC-02          16.05    4.197 No_date   28:00   82.69 n/a      .000
15973>        Major System   /      1.0 02:FC-02-MJ        .45    1.768 No_date   28:05   82.69 n/a      .000
15974>        Minor System   \      1.0 03:FC-02-MN       15.60    1.159 No_date   27:43   82.88 n/a      .000
15975>        {MjSysSto=.2385E+04, TotOvfVol=.3716E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15976> R0100:C00287-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15977>      ADD HYD                 1.0 02:FC-02-MJ        .45    1.768 No_date   28:05   82.69 n/a      .000
15978>                            + 1.0 02:FC-02-MN       15.60    1.159 No_date   27:43   82.88 n/a      .000
15979>                       SUM=   1.0 01:FC-02-S        16.05    2.927 No_date   28:05   82.87 n/a      .000
15980> R0100:C00288-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15981>      CONTINUOUS STANDHYD     1.0 01:FC-03           7.37    1.717 No_date   28:00   64.86 .732     .000
15982>        [XIMP=.64:TIMP=.64]
15983>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
15984>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
15985>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 222.:MNI=.013:SCI=   .0]
15986>        [IaRECimp=  4.00: IaRECper=   4.00]
15987> R0100:C00289-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15988>      COMPUTE DUALHYD         1.0 01:FC-03           7.37    1.717 No_date   28:00   64.86 n/a      .000
15989>        Major System   /      1.0 02:FC-03-MJ        .34     .661 No_date   28:06   64.86 n/a      .000
15990>        Minor System   \      1.0 03:FC-03-MN        7.03     .358 No_date   27:41   64.90 n/a      .000
15991>        {MjSysSto=.1131E+04, TotOvfVol=.2188E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
15992> R0100:C00290-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15993>      ADD HYD                 1.0 02:FC-03-MJ        .34     .661 No_date   28:06   64.86 n/a      .000
15994>                            + 1.0 02:FC-03-MN        7.03     .358 No_date   27:41   64.90 n/a      .000
15995>                       SUM=   1.0 01:FC-03-S         7.37    1.019 No_date   28:06   64.90 n/a      .000
15996> R0100:C00291-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
15997>      CONTINUOUS STANDHYD     1.0 01:FC-04          12.87    2.884 No_date   28:01   64.86 .732     .000
15998>        [XIMP=.64:TIMP=.64]
15999>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
16000>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
16001>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 293.:MNI=.013:SCI=   .0]
16002>        [IaRECimp=  4.00: IaRECper=   4.00]
16003> R0100:C00292-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16004>      COMPUTE DUALHYD         1.0 01:FC-04          12.87    2.884 No_date   28:01   64.86 n/a      .000
16005>        Major System   /      1.0 02:FC-04-MJ        .44     .978 No_date   28:07   64.86 n/a      .000
16006>        Minor System   \      1.0 03:FC-04-MN       12.43    1.741 No_date   27:43   65.10 n/a      .000
16007>        {MjSysSto=.1794E+04, TotOvfVol=.2828E+03, N-Ovf=    1, TotDurOvf=   0.hrs}
16008> R0100:C00293-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16009>      ADD HYD                 1.0 02:FC-04-MJ        .44     .978 No_date   28:07   64.86 n/a      .000
16010>                            + 1.0 02:FC-04-MN       12.43    1.741 No_date   27:43   65.10 n/a      .000
16011>                       SUM=   1.0 01:FC-04-S        12.87    1.719 No_date   28:07   65.09 n/a      .000
16012> *************************************************************************
16013> #    PROPOSED Subcatchments (Kennedy-Burnett SWM Facility (118080), SWM Modeling Approach, NOVATECH Report June, 2020)
16014> #    - TO JOCK RIVER
16015> *************************************************************************
16016> R0100:C00294-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16017>      CONTINUOUS STANDHYD     1.0 01:JR-01           8.24    1.891 No_date   28:00   64.86 .732     .000
16018>        [XIMP=.64:TIMP=.64]
16019>        [Horton parameters: Fo= 76.20:Fc= 13.20:DCAY=4.14:  F=.00]
16020>        [Pervious     area: IAper= 4.67:SLPP=2.00:LGP=  40.:MNP=.250:SCP=   .0]
16021>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 234.:MNI=.013:SCI=   .0]
16022>        [IaRECimp=  4.00: IaRECper=   4.00]
16023> R0100:C00295-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16024>      COMPUTE DUALHYD         1.0 01:JR-01           8.24    1.891 No_date   28:00   64.86 n/a      .000
16025>        Major System   /      1.0 02:JR-01-MJ        .20     .471 No_date   28:06   64.86 n/a      .000
16026>        Minor System   \      
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16083>                    +     1.0 02:FC-01-S       8.03     .756 No_date   27:49   54.46  n/a     .000
16084>                    +     1.0 02:FC-02-S      16.05    2.927 No_date   28:05   82.87  n/a     .000
16085>                    +     1.0 02:FC-03-S       7.37    1.019 No_date   28:06   64.90  n/a     .000
16086>                  SUM=    1.0 01:4241      54658.51  144.701 No_date   36:48   39.28  n/a     .000
16087> R0100:C00305------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16088>      SAVE HYD            1.0 01:4241      54658.51  144.701 No_date   36:48   39.28  n/a     .000
16089>        fname :4241.0100
16090>        remark:Total Flows at Ken-Burnett Outlet
16091> # Hydrograph from Node Ken-Burnett to station 3633
16092> # Channel X-Section obtained from RVCA Hydraulic Model - Station 4241
16093> #
16094> R0100:C00306------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16095>      ROUTE CHANNEL   ->    1.0 02:4241      54658.51  144.701 No_date   36:48   39.28  n/a     .000
16096> *   [RDT= 1.00] out<-     1.0 01:4241-out  54658.51  144.744 No_date   36:44   39.28  n/a     .000
16097>        [L/S/n=  294.  .109/.035]
16098>        {Vmax= 1.396:Dmax= 2.598}
16099> R0100:C00307------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16100>      ADD HYD             1.0 02:4241-out  54658.51  144.744 No_date   36:44   39.28  n/a     .000
16101>                    +     1.0 02:FC-04-S      12.87    1.719 No_date   28:07   65.09  n/a     .000
16102>                    +     1.0 02:JR-01-S       8.24    1.034 No_date   28:06   64.95  n/a     .000
16103>                    +     1.0 02:JR-02-S       1.59     .240 No_date   28:03   65.23  n/a     .000
16104>                  SUM=    1.0 01:SN_KB     54681.20  144.787 No_date   36:44   39.29  n/a     .000
16105> R0100:C00308------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16106>      SAVE HYD            1.0 01:SN_KB     54681.20  144.787 No_date   36:44   39.29  n/a     .000
16107>        fname :SN_KB.0100
16108>        remark:Total Flows before Station 3633
16109> # Hydrograph from Station 3633 to Node Todd
16110> # Channel X-Section obtained from RVCA Hydraulic Model - Station 3633
16111> # JFSA 2021-02-26 change the channel length (at station 3633) from 650m to 608m and change the slope from 0.0498% to 0.2
16112> #
16113> R0100:C00309------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16114>      ROUTE CHANNEL   ->    1.0 02:SN_KB     54681.20  144.787 No_date   36:44   39.29  n/a     .000
16115>        [RDT= 1.00] out<-     1.0 01:SN_TO     54681.20  144.732 No_date   36:50   39.29  n/a     .000
16116>        [L/S/n=  608./ .247/.035]
16117>        {Vmax= 1.906:Dmax= 1.945}
16118> #*************************************************************************
16119> #    Catchment Greenbank
16120> #    - To Greenbank Drain (south of the Jock)
16121> #    - JFSA 2021-01-18 add Greenbank pond as per JFSA, PS98(06)-15, June 2016
16122> #    - JFSA 2021-01-19 update area from 37.479 ha to 36.6 ha based on GIS measurements
16123> #*************************************************************************
16124> R0100:C00310------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16125>      CONTINUOUS STANDHYD   1.0 01:Greenbank     36.60    7.069 No_date   28:01   71.80  n/a     .000
16126>        [XIMP=.64:TIMP=.68]
16127>        [LOSS= 2 :CN= 77.0]
16128>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16129>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 494.:MNI=.013:SCI=   .0]
16130>        [IaRECimp=   4.00: IaRECper=   4.00]
16131>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16132> R0100:C00311------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16133>      ROUTE RESERVOIR ->    1.0 02:Greenbank     36.60    7.069 No_date   28:01   71.80  n/a     .000
16134>                  out <=    1.0 01:GreenB_MN     36.60    5.350 No_date   28:07   71.80  n/a     .000
16135>              overflow <=   1.0 03:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a     .000
16136>        {MxStoUsed=.9351E+00  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
16137> R0100:C00312------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16138>      ADD HYD             1.0 02:N_TO      54681.20  144.732 No_date   36:50   39.29  n/a     .000
16139>                    +     1.0 02:GreenB_MJ       .00     .000 No_date    0:00     .00  n/a     .000
16140>                    +     1.0 02:GreenB_MN     36.60    5.350 No_date   28:07   71.80  n/a     .000
16141>                  SUM=    1.0 01:GreenB    54717.80  144.894 No_date   36:50   39.32  n/a     .000
16142> R0100:C00313------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16143>      SAVE HYD            1.0 01:GreenB    54717.80  144.894 No_date   36:50   39.32  n/a     .000
16144>        fname :GreenB.0100
16145>        remark:Total Flows at Greenbank Drain
16146> #*************************************************************************
16147> #    Catchment TODD
16148> #    - To Todd Drain (south of the Jock)
16149> #    - Subdivision with 43% imp. as per Barrhaven South MSS
16150> #    - 2020-11-30 increase imp. based on PS98(04)-11
16151> #    - 2020-11-30 update TODD Tributary Drainage Area to  = 146.015 ha based on PS98(04)-11
16152> #    - 2020-11-30 split TODD Drainage Area to MAJOR, MINOR, POND and ALL
16153> #*************************************************************************
16154> #    - JFSA 2021-01-19 add "TODD_MN1" as part of Clarke("W_CLAR_MJ") and remove it from Todd
16155> R0100:C00314------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16156>      CONTINUOUS STANDHYD   1.0 01:TODD_MN2       2.10     .428 No_date   28:00   66.78 .754     .000
16157>        [XIMP=.53:TIMP=.57]
16158>        [LOSS= 2 :CN= 77.0]
16159>        [Pervious     area: IAper= 4.67:SLPS=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16160>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 118.:MNI=.013:SCI=   .0]
16161>        [IaRECimp=   4.00: IaRECper=   4.00]
16162>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16163> R0100:C00315------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16164>      CONTINUOUS STANDHYD   1.0 01:TODD_MN3       .12     .025 No_date   28:00   66.78 .754     .000
16165>        [XIMP=.53:TIMP=.57]
16166>        [LOSS= 2 :CN= 77.0]
16167>        [Pervious     area: IAper= 4.67:SLPS=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16168>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI=  28.:MNI=.013:SCI=   .0]
16169>        [IaRECimp=   4.00: IaRECper=   4.00]
16170>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16171> R0100:C00316------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16172>      CONTINUOUS STANDHYD   1.0 01:TODD_MJ       30.23    5.210 No_date   28:02   68.65 .775     .000
16173>        [XIMP=.52:TIMP=.64]
16174>        [LOSS= 2 :CN= 77.0]
16175>        [Pervious     area: IAper= 4.67:SLPS=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16176>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 449.:MNI=.013:SCI=   .0]
16177>        [IaRECimp=   4.00: IaRECper=   4.00]
16178>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16179> R0100:C00317------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16180>      CONTINUOUS STANDHYD   1.0 01:TODD_ALL     112.91   17.286 No_date   28:04   66.60 .752     .000
16181>        [XIMP=.52:TIMP=.57]
16182>        [LOSS= 2 :CN= 77.0]
16183>        [Pervious     area: IAper= 4.67:SLPS=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16184>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 868.:MNI=.013:SCI=   .0]
16185>        [IaRECimp=   4.00: IaRECper=   4.00]
16186>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16187> R0100:C00318------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16188>      CONTINUOUS STANDHYD   1.0 01:TODD_P        3.06     .669 No_date   28:00   70.28 .794     .000
16189>        [XIMP=.63:TIMP=.63]
16190>        [LOSS= 2 :CN= 77.0]
16191>        [Pervious     area: IAper= 4.67:SLPS=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16192>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 143.:MNI=.013:SCI=   .0]
16193>        [IaRECimp=   4.00: IaRECper=   4.00]
16194>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16195> # 5-Year + 12% Capture
16196> R0100:C00319------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16197>      ROUTE RESERVOIR ->    1.0 02:TODD_MJ       30.23    5.210 No_date   28:02   68.65  n/a     .000
16198>                  out <=    1.0 01:TODD_MJn      28.64    3.314 No_date   27:54   68.65  n/a     .000
16199>              overflow <=   1.0 03:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a     .000
16200>        {MxStoUsed=.1512E-03  m3, TotOvfVol=.1094E+00  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
16201> # 5-Year + 12% Capture
16202> R0100:C00320------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16203>      ROUTE RESERVOIR ->    1.0 02:TODD_MN2       2.10     .428 No_date   28:00   66.78  n/a     .000
16204>                  out <=    1.0 01:TODD_MN2n      1.99     .268 No_date   27:52   66.78  n/a     .000
16205>              overflow <=   1.0 03:TODD_MN2j       .11     .155 No_date   28:00   66.78  n/a     .000
16206>        {MxStoUsed=.1204E-03  m3, TotOvfVol=.728E-02  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
16207> R0100:C00321------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16208>      ROUTE RESERVOIR ->    1.0 02:TODD_MN3       .12     .025 No_date   28:00   66.78  n/a     .000
16209>                  out <=    1.0 01:TODD_MN3n      .11     .016 No_date   27:52   66.78  n/a     .000
16210>              overflow <=   1.0 03:TODD_MN3j       .01     .009 No_date   28:00   66.78  n/a     .000
16211>        {MxStoUsed=.9808E-04  m3, TotOvfVol=.3933E-03  m3, N-Ovf=    1, TotDurOvf=    0.hrs}
16212> R0100:C00322------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16213>      CONTINUOUS STANDHYD   1.0 01:A2           25.50    3.884 No_date   28:03   62.46 .705     .000
16214>        [XIMP=.42:TIMP=.52]
16215>        [LOSS= 2 :CN= 75.0]
16216>        [Pervious     area: IAper= 4.67:SLPS=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16217>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 566.:MNI=.013:SCI=   .0]
16218>        [IaRECimp=   4.00: IaRECper=   4.00]
16219>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16220> R0100:C00323------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16221>      COMPUTE DUALHYD       1.0 01:A2           25.50    3.884 No_date   28:03   62.46  n/a     .000
16222>        Major System   /     1.0 02:A2-MJ        1.43    2.026 No_date   28:04   62.46  n/a     .000
16223>        Minor System   \     1.0 03:A2-MN       24.07    1.818 No_date   27:50   62.71  n/a     .000
16224>          {MjSysSto=.9240E+03, TotOvfVol=.8908E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
16225> R0100:C00324------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16226>      ADD HYD             1.0 02:TODD_MN2n      1.99     .268 No_date   27:52   66.78  n/a     .000
16227>                    +     1.0 02:TODD_MN3n       .11     .016 No_date   27:52   66.78  n/a     .000
16228>                    +     1.0 02:TODD_MJj       1.59    1.889 No_date   28:02   68.65  n/a     .000
16229>                    +     1.0 02:TODD_P         3.06     .669 No_date   28:00   70.28  n/a     .000
16230>                    +     1.0 02:TODD_ALL     112.91   17.286 No_date   28:04   66.60  n/a     .000
16231>                    +     1.0 02:W_CLAR_MJn     1.69     .213 No_date   27:52   66.22  n/a     .000
16232>                  SUM=    1.0 01:TODD      121.35   20.000 No_date   28:03   66.72  n/a     .000
16233> R0100:C00325------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16234>      SAVE HYD            1.0 01:TODD      121.35   20.000 No_date   28:03   66.72  n/a     .000
16235>        fname :TODD.0100
16236>        remark:Total Flows at Todd Drain
16237> #*************************************************************************
16238> #    Todd Pond 3
16239> #    - Rating curve obtained from Barrhaven South MSS modeling
16240> #    - stantec 2007, Tributary Drainage Area to MSS Pond 3 = 193 ha
16241> #*************************************************************************
16242> R0100:C00326------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16243>      ROUTE RESERVOIR ->    1.0 02:TODD      121.35   20.000 No_date   28:03   66.72  n/a     .000
16244>                  out <=    1.0 01:MS_P3     121.35   15.844 No_date   28:09   66.71  n/a     .000
16245>              overflow <=   1.0 03:P3-OVF        .00     .000 No_date    0:00     .00  n/a     .000
16246>        {MxStoUsed=.2834E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
16247> R0100:C00327------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16248>      ADD HYD             1.0 02:GreenB    54717.80  144.894 No_date   36:50   39.32  n/a     .000
16249>                    +     1.0 02:MS_P3     121.35   15.844 No_date   28:09   66.71  n/a     .000
16250>                    +     1.0 02:P3-OVF        .00     .000 No_date    0:00     .00  n/a     .000
16251>                    +     1.0 02:TODD_MN2j       .11     .155 No_date   28:00   66.78  n/a     .000
16252>                    +     1.0 02:A2-MJ        1.43    2.026 No_date   28:04   62.46  n/a     .000
16253>                  SUM=    1.0 01:SN_TO     54840.69  145.243 No_date   36:49   39.38  n/a     .000
16254> R0100:C00328------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16255>      SAVE HYD            1.0 01:SN_TO     54840.69  145.243 No_date   36:49   39.38  n/a     .000
16256>        fname :SN_TO.0100
16257>        remark:Total Flows at Todd Drain
16258> #
16259> # Hydrograph from Todd Drain routed to Corrigan Drain
16260> # Channel X-Section obtained from RVCA Hydraulic Model - Station 2462
16261> # 2021-02-19 Change the slope from 0.033 % (as per Stantec Report 2007) to 0.05 % so the model will be more stable and g
16262> R0100:C00329------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16263>      ROUTE CHANNEL   ->    1.0 02:SN_TO     54840.69  145.243 No_date   36:49   39.38  n/a     .000
16264> *   [RDT= 1.00] out<-     1.0 01:N_TO      54840.69  145.165 No_date   36:58   39.38  n/a     .000
16265>        [L/S/n=  280./ .050/.045]
16266>        {Vmax=  .881:Dmax= 3.684}
16267> R0100:C00330------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16268>      SAVE HYD            1.0 01:N_TO      54840.69  145.165 No_date   36:58   39.38  n/a     .000
16269>        fname :N_TO.0100
16270>        remark:Total inflows at Station 2462
16271> #*************************************************************************
16272> #    Catchment CORRIG
16273> #    - To Corrigan Drain (south of the Jock)
16274> #    - Primarily Developed (medium density)
16275> #    - JFSA JAN 2021, add Corrigan subcatchments as per IBI, July 2008
16276> #*************************************************************************
16277> R0100:C00331------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16278>      CONTINUOUS STANDHYD   1.0 01:corr1        15.87    3.185 No_date   28:01   70.28 .794     .000
16279>        [XIMP=.63:TIMP=.63]
16280>        [LOSS= 2 :CN= 77.0]
16281>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16282>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 325.:MNI=.013:SCI=   .0]
16283>        [IaRECimp=   4.00: IaRECper=   4.00]
16284>        [SMIN= 31.15: SMAX=207.66: SK= .010]
16285> R0100:C00332------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16286>      COMPUTE DUALHYD       1.0 01:corr1        15.87    3.185 No_date   28:01   70.28  n/a     .000
16287>        Major System   /     1.0 02:corr1-MJ       .00     .000 No_date    0:00     .00  n/a     .000
16288>        Minor System   \     1.0 03:corr1-MN     15.87    1.818 No_date   28:25   70.70  n/a     .000
16289>          {MjSysSto=.7879E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16290> R0100:C00333------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16291>      CONTINUOUS NASHYD     1.0 01:corr2        12.47     .388 No_date   29:10   45.95 .519     .000
16292>        [CN= 77.0: N= 3.00: Tp= 1.10]
16293>        [IaREC= 4.00: SMIN= 31.15: SMAX=207.66: SK= .010]
16294>        [InterEventTime=  12.00]
16295> R0100:C00334------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16296>      CONTINUOUS STANDHYD   1.0 01:A1-Corrig     15.75    2.624 No_date   28:01   62.46 .705     .000
16297>        [XIMP=.42:TIMP=.52]
16298>        [LOSS= 2 :CN= 75.0]
16299>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16300>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 324.:MNI=.013:SCI=   .0]
16301>        [IaRECimp=   4.00: IaRECper=   4.00]
16302>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16303> R0100:C00335------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16304>      COMPUTE DUALHYD       1.0 01:A1-Corrig     15.75    2.624 No_date   28:01   62.46  n/a     .000
16305>        Major System   /     1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16306>        Minor System   \     1.0 03:A1-MN        15.75    1.818 No_date   27:55   62.48  n/a     .000
16307>          {MjSysSto=.3859E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16308> R0100:C00336------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16309>      CONTINUOUS NASHYD     1.0 01:B1           2.77     .143 No_date   28:09   29.03 .328     .000
16310>        [CN= 56.0: N= 3.00: Tp=  .23]
16311>        [IaREC= 4.00: SMIN= 79.69: SMAX=531.24: SK= .010]
16312>        [InterEventTime=  12.00]
16313> R0100:C00337------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16314>      CONTINUOUS STANDHYD   1.0 01:A4           1.27     .266 No_date   28:00   70.58 .797     .000
16315>        [XIMP=.65:TIMP=.65]
16316>        [LOSS= 2 :CN= 75.0]
16317>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16318>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 253.:MNI=.013:SCI=   .0]
16319>        [IaRECimp=   4.00: IaRECper=   4.00]
16320>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16321> R0100:C00338------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16322>      COMPUTE DUALHYD       1.0 01:A4           1.27     .266 No_date   28:00   70.58  n/a     .000
16323>        Major System   /     1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16324>        Minor System   \     1.0 03:A4-MN        1.27     .266 No_date   28:00   70.58  n/a     .000
16325>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16326> R0100:C00339------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16327>      ADD HYD             1.0 02:A1-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16328>                    +     1.0 02:A1-MN        15.75    1.818 No_date   27:55   62.48  n/a     .000
16329>                    +     1.0 02:A2-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16330>                    +     1.0 02:corr1-MN     15.87    1.818 No_date   28:25   70.70  n/a     .000
16331>                    +     1.0 02:corr2        12.47     .388 No_date   29:10   45.95  n/a     .000
16332>                    +     1.0 02:B1            2.77     .143 No_date   28:09   29.03  n/a     .000
16333>                    +     1.0 02:A4-MN        1.27     .266 No_date   28:00   70.58  n/a     .000
16334>                  SUM=    1.0 01:MH101        48.13    4.085 No_date   28:02   59.20  n/a     .000
16335> R0100:C00340------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16336>      SAVE HYD            1.0 01:MH101        48.13    4.085 No_date   28:02   59.20  n/a     .000
16337>        fname :MH101.0100
16338>        remark:Total Flows at MH101
16339> R0100:C00341------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16340>      ROUTE PIPE      ->    1.0 02:MH101        48.13    4.085 No_date   28:02   59.20  n/a     .000
16341> *   [RDT= 1.00] out<-     1.0 01:101-102      48.13    4.065 No_date   28:03   59.20  n/a     .000
16342>        [L/S/n=  360./ .540/.013]
16343>        {Vmax= 3.154:Dmax= 1.125}
16344>        [Din= 1.05:Dused= 1.37}
16345> R0100:C00342------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16346>      ADD HYD             1.0 02:A2-MN        24.07    1.818 No_date   27:50   62.71  n/a     .000
16347>                    +     1.0 02:101-102      48.13    4.065 No_date   28:03   59.20  n/a     .000
16348>                  SUM=    1.0 01:MH102        72.20    5.883 No_date   28:03   60.37  n/a     .000
16349> R0100:C00343------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16350>      SAVE HYD            1.0 01:MH102        72.20    5.883 No_date   28:03   60.37  n/a     .000
16351>        fname :MH102.0100
16352>        remark:Total Flows at MH102
16353> R0100:C00344------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16354>      CONTINUOUS STANDHYD   1.0 01:A5           1.60     .346 No_date   28:01   73.40 .829     .000
16355>        [XIMP=.71:TIMP=.71]
16356>        [LOSS= 2 :CN= 75.0]
16357>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16358>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 300.:MNI=.013:SCI=   .0]
16359>        [IaRECimp=   4.00: IaRECper=   4.00]
16360>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16361> R0100:C00345------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16362>      ADD HYD             1.0 02:A4-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16363>                    +     1.0 02:A5           1.60     .346 No_date   28:01   73.40  n/a     .000
16364>                  SUM=    1.0 01:AST          1.60     .346 No_date   28:01   73.40  n/a     .000
16365> R0100:C00346------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16366>      COMPUTE DUALHYD       1.0 01:AST          1.60     .346 No_date   28:01   73.40  n/a     .000
16367>        Major System   /     1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16368>        Minor System   \     1.0 03:A5-MN        1.60     .346 No_date   28:01   73.40  n/a     .000
16369>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16370> R0100:C00347------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16371>      ROUTE PIPE      ->    1.0 02:MH102        72.20    5.883 No_date   28:03   60.37  n/a     .000
16372> *   [RDT= 1.00] out<-     1.0 01:102-103      72.20    5.831 No_date   28:12   60.37  n/a     .000
16373>        [L/S/n=  504./ .280/.013]
16374>        {Vmax= 2.701:Dmax= 1.459}
16375>        [Din= 1.50:Dused= 1.78}
16376> R0100:C00348------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16377>      ADD HYD             1.0 02:102-103      72.20    5.831 No_date   28:12   60.37  n/a     .000
16378>                    +     1.0 02:A5-MN        1.60     .346 No_date   28:01   73.40  n/a     .000
16379>                  SUM=    1.0 01:MH103        73.80    6.079 No_date   28:04   60.65  n/a     .000
16380> R0100:C00349------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16381>      SAVE HYD            1.0 01:MH103        73.80    6.079 No_date   28:04   60.65  n/a     .000
16382>        fname :MH103.0100
16383>        remark:Total Flows at MH103
16384> R0100:C00350------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16385>      ROUTE PIPE      ->    1.0 02:MH103        73.80    6.079 No_date   28:04   60.65  n/a     .000
16386>    [RDT= 1.00] out<-     1.0 01:103-104      73.80    6.014 No_date   28:05   60.65  n/a     .000
16387>        [L/S/n=  438./ .460/.013]
16388>        {Vmax= 3.295:Dmax= 1.339}
16389>        [Din= 1.65:Dused= 1.65}
16390> R0100:C00351------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16391>      CONTINUOUS STANDHYD   1.0 01:A6           1.56     .339 No_date   28:00   73.40 .829     .000
16392>        [XIMP=.71:TIMP=.71]
16393>        [LOSS= 2 :CN= 75.0]
16394>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16395>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 280.:MNI=.013:SCI=   .0]
16396>        [IaRECimp=   4.00: IaRECper=   4.00]
16397>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16398> R0100:C00352------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16399>      ADD HYD             1.0 02:A5-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16400>                    +     1.0 02:A6           1.56     .339 No_date   28:00   73.40  n/a     .000
16401>                  SUM=    1.0 01:A6T          1.56     .339 No_date   28:00   73.40  n/a     .000
16402> R0100:C00353------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16403>      COMPUTE DUALHYD       1.0 01:A6T          1.56     .339 No_date   28:00   73.40  n/a     .000
16404>        Major System   /     1.0 02:A6-MJ          .00     .000 No_date    0:00     .00  n/a     .000
16405>        Minor System   \     1.0 03:A6-MN        1.56     .339 No_date   28:00   73.40  n/a     .000
16406>          {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16407> R0100:C00354------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16408>      ADD HYD             1.0 02:A6-MN        1.56     .339 No_date   28:00   73.40  n/a     .000
16409>                    +     1.0 02:103-104      73.80    6.014 No_date   28:05   60.65  n/a     .000
16410>                    +     1.0 02:TODD_MJn     28.64    3.314 No_date   27:54   68.65  n/a     .000
16411>                  SUM=    1.0 01:MH104       104.00    9.601 No_date   28:03   63.04  n/a     .000
16412> R0100:C00355------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16413>      SAVE HYD            1.0 01:MH104       104.00    9.601 No_date   28:03   63.04  n/a     .000
16414>        fname :MH104.0100
16415>        remark:Total Flows at MH104
16416> R0100:C00356------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16417>      CONTINUOUS STANDHYD   1.0 01:B2           12.31    2.012 No_date   28:02   62.88 .710     .000
16418>        [XIMP=.41:TIMP=.54]
16419>        [LOSS= 2 :CN= 75.0]
16420>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16421>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 417.:MNI=.013:SCI=   .0]
16422>        [IaRECimp=   4.00: IaRECper=   4.00]
16423>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16424> R0100:C00357------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16425>      COMPUTE DUALHYD       1.0 01:B2           12.31    2.012 No_date   28:02   62.88  n/a     .000
16426>        Major System   /     1.0 02:B2-MJ          .36     .020 No_date   28:05   62.88  n/a     .000
16427>        Minor System   \     1.0 03:B2-MN        11.95    1.029 No_date   27:51   62.91  n/a     .000
16428>          {MjSysSto=.5080E+03, TotOvfVol=.2245E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
16429> R0100:C00358------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16430>      ROUTE PIPE      ->    1.0 02:B2-MN        11.95    1.029 No_date   27:51   62.91  n/a     .000
16431> *   [RDT= 1.00] out<-     1.0 01:315-333      11.95    1.029 No_date   28:35   62.91  n/a     .000
16432>        [L/S/n=  254./ .100/.013]
16433>        {Vmax= 1.220:Dmax=  .838}
16434>        [Din= 1.20:Dused= 1.20}
16435> R0100:C00359------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16436>      CONTINUOUS STANDHYD   1.0 01:B3            5.59     .930 No_date   28:01   62.88 .710     .000
16437>        [XIMP=.41:TIMP=.54]
16438>        [LOSS= 2 :CN= 75.0]
16439>        [Pervious     area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16440>        [Impervious   area: IAimp= 1.57:SLPI=1.00:LGI= 345.:MNI=.013:SCI=   .0]
16441>        [IaRECimp=   4.00: IaRECper=   4.00]
16442>        [SMIN= 33.81: SMAX=225.43: SK= .010]
16443> R0100:C00360------------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16444>      COMPUTE DUALHYD       1.0 01:B3            5.59     .930 No_date   28:01   62.88  n/a     .000
16445>        Major System   /     1.0 02:B3-MJ          .19     .402 No_date   28:04   62.88  n/a     .000
16446>        
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16457>     ROUTE PIPE      ->     1.0 02:MH333          17.35     1.488 No_date   28:35   62.96  n/a     .000
16458> *   [RDT= 1.00] out<-      1.0 01:333-335        17.35     1.489 No_date   28:27   62.96  n/a     .000
16459>       [L/S/n=  251./ .100/.013]
16460>       {Vmax= 1.302:Dmax= 1.057}
16461>       [Din= 1.20:Dused= 1.29}
16462> R0100:C00364-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16463>     ROUTE PIPE      ->     1.0 02:333-335        17.35     1.489 No_date   28:27   62.96  n/a     .000
16464> *   [RDT= 1.00] out<-      1.0 01:335-338        17.35     1.481 No_date   28:35   62.96  n/a     .000
16465>       [L/S/n=  185./ .100/.013]
16466>       {Vmax= 1.302:Dmax= 1.057}
16467>       [Din= 1.20:Dused= 1.29}
16468> R0100:C00365-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16469>     ROUTE PIPE      ->     1.0 02:335-338        17.35     1.481 No_date   28:35   62.96  n/a     .000
16470>       [RDT= 1.00] out<-      1.0 01:338-340        17.35     1.480 No_date   28:35   62.96  n/a     .000
16471>       [L/S/n=  233./ .100/.013]
16472>       {Vmax= 1.330:Dmax=  .981}
16473>       [Din= 1.35:Dused= 1.35}
16474> R0100:C00366-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16475>     CONTINUOUS STANDHYD    1.0 01:B4             7.60     1.252 No_date   28:02   62.88  .710    .000
16476>       [XIMP=.41:TIMP=.54]
16477>       [LOSS= 2 :CN= 75.0]
16478>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16479>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 388.:MNI=.013:SCI=   .0}
16480>       [IaRECimp=  4.00: IaRECper=   4.00]
16481>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16482> R0100:C00367-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16483>     COMPUTE DUALHYD    1.0 01:B4             7.60     1.252 No_date   28:02   62.88  n/a     .000
16484>       Major System   /     1.0 02:B4-MJ          .17      .411 No_date   28:06   62.88  n/a     .000
16485>       Minor System   \     1.0 03:B4-MN         7.43      .655 No_date   27:51   62.90  n/a     .000
16486>       {MjSysSto=.3236E+03, TotOvfVol=.1079E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
16487> R0100:C00368-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16488>     ADD HYD            1.0 02:338-340        17.35     1.480 No_date   28:35   62.96  n/a     .000
16489>                    +     1.0 02:B4-MN          7.43      .655 No_date   27:51   62.90  n/a     .000
16490>                  SUM=    1.0 01:MH340          24.78     2.126 No_date   28:34   62.94  n/a     .000
16491> R0100:C00369-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16492>     SAVE HYD           1.0 01:MH340          24.78     2.126 No_date   28:34   62.94  n/a     .000
16493>       fname :MH340.0100
16494>       remark:Total Flows at MH340
16495> R0100:C00370-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16496>     ROUTE PIPE      ->     1.0 02:MH340          24.78     2.126 No_date   28:34   62.94  n/a     .000
16497>       [RDT= 1.00] out<-      1.0 01:340-104        24.78     2.116 No_date   28:21   62.94  n/a     .000
16498>       [L/S/n=  240./ .150/.013]
16499>       {Vmax= 1.726:Dmax=  .923}
16500>       [Din= 1.65:Dused= 1.65}
16501> R0100:C00371-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16502>     ADD HYD            1.0 02:340-104        24.78     2.116 No_date   28:21   62.94  n/a     .000
16503>                    +     1.0 02:MH104         104.00     9.601 No_date   28:03   63.04  n/a     .000
16504>                  SUM=    1.0 01:MH104T         128.78    11.560 No_date   28:04   63.02  n/a     .000
16505> R0100:C00372-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16506>     ROUTE PIPE      ->     1.0 02:MH104T         128.78    11.560 No_date   28:04   63.02  n/a     .000
16507> *   [RDT= 1.00] out<-      1.0 01:104-105        128.78    11.359 No_date   28:10   63.02  n/a     .000
16508>       [L/S/n=  380./ .100/.013]
16509>       {Vmax= 2.115:Dmax= 2.014}
16510>       {HGT= 2.73:WDTH= 2.73}
16511> R0100:C00373-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16512>     CONTINUOUS STANDHYD    1.0 01:B5             2.20      .437 No_date   28:00   66.83  .755    .000
16513>       [XIMP=.57:TIMP=.57]
16514>       [LOSS= 2 :CN= 75.0]
16515>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16516>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 187.:MNI=.013:SCI=   .0}
16517>       [IaRECimp=  4.00: IaRECper=   4.00]
16518>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16519> R0100:C00374-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16520>     COMPUTE DUALHYD    1.0 01:B5             2.20      .437 No_date   28:00   66.83  n/a     .000
16521>       Major System   /     1.0 02:B5-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16522>       Minor System   \     1.0 03:B5-MN         2.20      .260 No_date   27:51   66.87  n/a     .000
16523>       {MjSysSto=.9053E+02, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16524> R0100:C00375-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16525>     CONTINUOUS STANDHYD    1.0 01:A8             .96      .219 No_date   28:00   73.40  .829    .000
16526>       [XIMP=.71:TIMP=.71]
16527>       [LOSS= 2 :CN= 75.0]
16528>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16529>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 186.:MNI=.013:SCI=   .0}
16530>       [IaRECimp=  4.00: IaRECper=   4.00]
16531>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16532> R0100:C00376-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16533>     ADD HYD            1.0 02:A8-MJ           .00      .000 No_date   0:00     .00  n/a     .000
16534>                    +     1.0 02:A8             .96      .219 No_date   28:00   73.40  n/a     .000
16535>                  SUM=    1.0 01:A8T            .96      .219 No_date   28:00   73.40  n/a     .000
16536> R0100:C00377-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16537>     COMPUTE DUALHYD    1.0 01:A8T            .96      .219 No_date   28:00   73.40  n/a     .000
16538>       Major System   /     1.0 02:A8-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16539>       Minor System   \     1.0 03:A8-MN          .96      .219 No_date   28:00   73.40  n/a     .000
16540>       {MjSysSto=.0000E+00, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16541> R0100:C00378-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16542>     ADD HYD            1.0 02:104-105        128.78    11.359 No_date   28:10   63.02  n/a     .000
16543>                    +     1.0 02:B5-MN          2.20      .260 No_date   27:51   66.87  n/a     .000
16544>                    +     1.0 02:A8-MN          .96      .219 No_date   28:00   73.40  n/a     .000
16545>                    +     1.0 02:TODD_MNJ       .01      .009 No_date   27:00   66.78  n/a     .000
16546>                  SUM=    1.0 01:MH105          131.94    11.688 No_date   28:10   63.16  n/a     .000
16547> R0100:C00379-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16548>     SAVE HYD           1.0 01:MH105          131.94    11.688 No_date   28:10   63.16  n/a     .000
16549>       fname :MH105.0100
16550>       remark:Total Flows at MH105
16551> R0100:C00380-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16552> *   DIVERT HYD         ->     1.0 01:A8-MJ           .00      .000 No_date   0:00     .00  n/a     .000
16553>                  diverted <=    1.0 02:A8-MJ-JR       .00      .000 No_date   0:00     .00  n/a     .000
16554>                  diverted <=    1.0 02:A8-MJ-B6       .00      .000 No_date   0:00     .00  n/a     .000
16555> R0100:C00381-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16556>     DIVERT HYD         ->     1.0 01:MH105          131.94    11.688 No_date   28:10   63.16  n/a     .000
16557>                  diverted <=    1.0 02:MH105-JR       36.57     8.679 No_date   28:10   63.16  n/a     .000
16558>                  diverted <=    1.0 03:MH105-B6       95.37     3.009 No_date   28:10   63.16  n/a     .000
16559> R0100:C00382-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16560>     CONTINUOUS STANDHYD    1.0 01:B7             7.19     1.283 No_date   28:01   62.88  .710    .000
16561>       [XIMP=.41:TIMP=.54]
16562>       [LOSS= 2 :CN= 75.0]
16563>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16564>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 211.:MNI=.013:SCI=   .0}
16565>       [IaRECimp=  4.00: IaRECper=   4.00]
16566>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16567> R0100:C00383-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16568>     ADD HYD            1.0 02:B4-MJ          .17      .411 No_date   28:06   62.88  n/a     .000
16569>                    +     1.0 02:B7             7.19     1.283 No_date   28:01   62.88  n/a     .000
16570>                  SUM=    1.0 01:B7-B4MJ        7.36     1.300 No_date   28:06   62.88  n/a     .000
16571> R0100:C00384-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16572>     COMPUTE DUALHYD    1.0 01:B7-B4MJ        7.36     1.300 No_date   28:06   62.88  n/a     .000
16573>       Major System   /     1.0 02:B7R-MJ         .36      .671 No_date   28:06   62.88  n/a     .000
16574>       Minor System   \     1.0 03:B7R-MN         7.00      .629 No_date   28:31   62.97  n/a     .000
16575>       {MjSysSto=.3118E+03, TotOvfVol=.2288E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
16576> R0100:C00385-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16577>     ROUTE PIPE      ->     1.0 02:B7R-MN         7.00      .629 No_date   28:31   62.97  n/a     .000
16578> *   [RDT= 1.00] out<-      1.0 01:360-106A       7.00      .629 No_date   28:31   62.97  n/a     .000
16579>       [L/S/n=  167./ .100/.013]
16580>       {Vmax= 1.089:Dmax=  .665}
16581>       [Din= 1.05:Dused= 1.05}
16582> R0100:C00386-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16583>     CONTINUOUS STANDHYD    1.0 01:B6             3.29      .602 No_date   28:00   62.88  .710    .000
16584>       [XIMP=.41:TIMP=.54]
16585>       [LOSS= 2 :CN= 75.0]
16586>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16587>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 148.:MNI=.013:SCI=   .0}
16588>       [IaRECimp=  4.00: IaRECper=   4.00]
16589>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16590> R0100:C00387-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16591>     COMPUTE DUALHYD    1.0 01:B6             3.29      .602 No_date   28:00   62.88  n/a     .000
16592>       Major System   /     1.0 02:B6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16593>       Minor System   \     1.0 03:B6-MN          3.29      .064 No_date   27:33   62.92  n/a     .000
16594>       {MjSysSto=.7353E+03, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16595> R0100:C00388-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16596>     CONTINUOUS STANDHYD    1.0 01:EX-LAND        32.50     5.231 No_date   28:02   62.70  .708    .000
16597>       [XIMP=.50:TIMP=.50]
16598>       [LOSS= 2 :CN= 74.0]
16599>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16600>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 465.:MNI=.013:SCI=   .0}
16601>       [IaRECimp=  4.00: IaRECper=   4.00]
16602>       {SMIN= 36.67: SMAX=244.49: SK= .010}
16603> R0100:C00389-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16604>     COMPUTE DUALHYD    1.0 01:EX-LAND        32.50     5.231 No_date   28:02   62.70  n/a     .000
16605>       Major System   /     1.0 02:EX-LAND-MJ     1.77     .874 No_date   27:33   62.70  n/a     .000
16606>       Minor System   \     1.0 03:EX-LAND-MN    30.73    2.275 No_date   27:48   62.82  n/a     .000
16607>       {MjSysSto=.1365E+04, TotOvfVol=.1111E+04, N-Ovf=    1, TotDurOvf=    0.hrs}
16608> R0100:C00390-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16609>     ADD HYD            1.0 02:B7R-MJ          .36      .671 No_date   28:06   62.88  n/a     .000
16610>                    +     1.0 02:EX-LAND-MJ     1.77     .874 No_date   28:03   62.70  n/a     .000
16611>                    +     1.0 02:B5-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16612>                    +     1.0 02:B6-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16613>                    +     1.0 02:B6-MN          3.29      .064 No_date   27:33   62.92  n/a     .000
16614>                    +     1.0 02:A8-MJ-B6       .00      .000 No_date   0:00     .00  n/a     .000
16615>                  SUM=    1.0 01:B6-B7EXMJ      5.42     3.483 No_date   28:03   62.85  n/a     .000
16616> R0100:C00391-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16617>     COMPUTE DUALHYD    1.0 01:B6-B7EXMJ      5.42     3.483 No_date   28:03   62.85  n/a     .000
16618>       Major System   /     1.0 02:B6R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
16619>       Minor System   \     1.0 03:B6R-MN         5.42      .064 No_date   27:33   62.85  n/a     .000
16620>       {MjSysSto=.1339E+04, TotOvfVol=.0000E+00, N-Ovf=    0, TotDurOvf=    0.hrs}
16621> R0100:C00392-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16622>     ROUTE PIPE      ->     1.0 02:MH105-B6       95.37     3.009 No_date   28:10   63.16  n/a     .000
16623>       [RDT= 1.00] out<-      1.0 01:105-106A       95.37     3.009 No_date   28:04   63.16  n/a     .000
16624>       [L/S/n=  208./ .100/.013]
16625>       {Vmax= 1.597:Dmax= 1.249}
16626>       [Din= 1.80:Dused= 1.80}
16627> R0100:C00393-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16628>     ADD HYD            1.0 02:360-106A       7.00      .629 No_date   28:31   62.97  n/a     .000
16629>                    +     1.0 02:105-106A       95.37     3.009 No_date   28:04   63.16  n/a     .000
16630>                    +     1.0 02:B6R-MN         5.42      .064 No_date   27:33   62.85  n/a     .000
16631>                    +     1.0 02:B6R-MJ         .00      .000 No_date   0:00     .00  n/a     .000
16632>                  SUM=    1.0 01:MH106A         107.80    3.702 No_date   28:10   63.13  n/a     .000
16633> R0100:C00394-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16634>     SAVE HYD           1.0 01:MH106A         107.80    3.702 No_date   28:10   63.13  n/a     .000
16635>       fname :MH106A.0100
16636>       remark:Total Flows at MH106A
16637> R0100:C00395-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16638>     ROUTE PIPE      ->     1.0 02:MH106A         107.80    3.702 No_date   28:10   63.13  n/a     .000
16639> *   [RDT= 1.00] out<-      1.0 01:106A-106       107.80    3.757 No_date   28:13   63.13  n/a     .000
16640>       [L/S/n=  190./ .100/.013]
16641>       {Vmax= 1.635:Dmax= 1.487}
16642>       [Din= 1.80:Dused= 1.81}
16643> R0100:C00396-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16644>     CONTINUOUS STANDHYD    1.0 01:A9             2.44      .539 No_date   28:00   73.40  .829    .000
16645>       [XIMP=.71:TIMP=.71]
16646>       [LOSS= 2 :CN= 75.0]
16647>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16648>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 262.:MNI=.013:SCI=   .0}
16649>       [IaRECimp=  4.00: IaRECper=   4.00]
16650>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16651> R0100:C00397-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16652>     COMPUTE DUALHYD    1.0 01:A9             2.44      .539 No_date   28:00   73.40  n/a     .000
16653>       Major System   /     1.0 02:A9-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16654>       Minor System   \     1.0 03:A9-MN          2.44      .539 No_date   28:00   73.40  n/a     .000
16655> R0100:C00398-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16656>     ADD HYD            1.0 02:106A-106       107.80    3.757 No_date   28:13   63.13  n/a     .000
16657>                    +     1.0 02:A9-MN          2.44      .539 No_date   28:00   73.40  n/a     .000
16658>                  SUM=    1.0 01:MH106          110.24    4.227 No_date   28:00   63.36  n/a     .000
16659> R0100:C00399-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16660>     SAVE HYD           1.0 01:MH106          110.24    4.227 No_date   28:00   63.36  n/a     .000
16661>       fname :MH106.0100
16662>       remark:Total Flows at MH106
16663> R0100:C00400-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16664>     ROUTE PIPE      ->     1.0 02:MH106          110.24    4.227 No_date   28:00   63.36  n/a     .000
16665> *   [RDT= 1.00] out<-      1.0 01:106-107        110.24    4.179 No_date   28:02   63.36  n/a     .000
16666>       [L/S/n=  123./ .100/.013]
16667>       {Vmax= 1.690:Dmax= 1.563}
16668>       [Din= 1.80:Dused= 1.90}
16669> R0100:C00401-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16670>     CONTINUOUS STANDHYD    1.0 01:A10            4.14      .693 No_date   28:01   59.73  .674    .000
16671>       [XIMP=.35:TIMP=.47]
16672>       [LOSS= 2 :CN= 75.0]
16673>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16674>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0}
16675>       [IaRECimp=  4.00: IaRECper=   4.00]
16676>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16677> R0100:C00402-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16678>     COMPUTE DUALHYD    1.0 01:A10            4.14      .693 No_date   28:01   59.73  n/a     .000
16679>       Major System   /     1.0 02:A10-MJ         .09      .218 No_date   28:05   59.73  n/a     .000
16680>       Minor System   \     1.0 03:A10-MN         4.05      .310 No_date   27:48   60.02  n/a     .000
16681>       {MjSysSto=.2280E+03, TotOvfVol=.5334E+02, N-Ovf=    1, TotDurOvf=    0.hrs}
16682> R0100:C00403-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16683>     CONTINUOUS STANDHYD    1.0 01:A11           10.61     1.941 No_date   28:01   67.38  .761    .000
16684>       [XIMP=.53:TIMP=.62]
16685>       [LOSS= 2 :CN= 75.0]
16686>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16687>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0}
16688>       [IaRECimp=  4.00: IaRECper=   4.00]
16689>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16690> R0100:C00404-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16691>     COMPUTE DUALHYD    1.0 01:A11           10.61     1.941 No_date   28:01   67.38  n/a     .000
16692>       Major System   /     1.0 02:A11-MJ         .16      .564 No_date   28:06   67.38  n/a     .000
16693>       Minor System   \     1.0 03:A11-MN        10.45      .993 No_date   28:34   67.69  n/a     .000
16694>       {MjSysSto=.5560E+03, TotOvfVol=.1090E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
16695> R0100:C00405-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16696>     ADD HYD            1.0 02:106-107        110.24    4.179 No_date   28:02   63.36  n/a     .000
16697>                    +     1.0 02:A10-MN         4.05      .310 No_date   27:48   60.02  n/a     .000
16698>                    +     1.0 02:A11-MN        10.45      .993 No_date   28:34   67.69  n/a     .000
16699>                  SUM=    1.0 01:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
16700> R0100:C00406-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16701>     SAVE HYD           1.0 01:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
16702>       fname :MH107.0100
16703>       remark:Total Flows at MH107
16704> R0100:C00407-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16705>     ROUTE PIPE      ->     1.0 02:MH107          124.74    5.482 No_date   28:02   63.62  n/a     .000
16706> *   [RDT= 1.00] out<-      1.0 01:107-119        124.74    5.468 No_date   28:04   63.62  n/a     .000
16707>       [L/S/n=  114./ .120/.013]
16708>       {Vmax= 1.932:Dmax= 1.665}
16709>       [Din= 1.80:Dused= 2.03}
16710> R0100:C00408-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16711>     ROUTE PIPE      ->     1.0 02:MH119          124.74    5.468 No_date   28:04   63.62  n/a     .000
16712> *   [RDT= 1.00] out<-      1.0 01:119-108        124.74    5.480 No_date   28:05   63.62  n/a     .000
16713>       [L/S/n=   66./ .120/.013]
16714>       {Vmax= 1.930:Dmax= 1.664}
16715>       [Din= 1.80:Dused= 2.03}
16716> R0100:C00409-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16717>     CONTINUOUS STANDHYD    1.0 01:A12            12.29     2.213 No_date   28:01   62.88  .710    .000
16718>       [XIMP=.41:TIMP=.54]
16719>       [LOSS= 2 :CN= 75.0]
16720>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16721>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0}
16722>       [IaRECimp=  4.00: IaRECper=   4.00]
16723>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16724> R0100:C00410-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16725>     COMPUTE DUALHYD    1.0 01:A12            12.29     2.213 No_date   28:01   62.88  n/a     .000
16726>       Major System   /     1.0 02:A12-MJ         .23      .599 No_date   28:05   62.88  n/a     .000
16727>       Minor System   \     1.0 03:A12-MN        12.06     1.029 No_date   27:48   63.11  n/a     .000
16728>       {MjSysSto=.6720E+03, TotOvfVol=.1477E+03, N-Ovf=    1, TotDurOvf=    0.hrs}
16729> R0100:C00411-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16730>     CONTINUOUS STANDHYD    1.0 01:A13            2.59      .540 No_date   28:01   73.40  .829    .000
16731>       [XIMP=.71:TIMP=.71]
16732>       [LOSS= 2 :CN= 75.0]
16733>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16734>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 379.:MNI=.013:SCI=   .0}
16735>       [IaRECimp=  4.00: IaRECper=   4.00]
16736>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16737> R0100:C00412-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16738>     COMPUTE DUALHYD    1.0 01:A13            2.59      .540 No_date   28:01   73.40  n/a     .000
16739>       Major System   /     1.0 02:A13-MJ         .00      .000 No_date   0:00     .00  n/a     .000
16740>       Minor System   \     1.0 03:A13-MN         2.59      .540 No_date   28:01   73.40  n/a     .000
16741> R0100:C00413-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16742>     CONTINUOUS STANDHYD    1.0 01:Pond-Block     2.94      .490 No_date   28:00   59.56  .673    .000
16743>       [XIMP=.41:TIMP=.41]
16744>       [LOSS= 2 :CN= 75.0]
16745>       {Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0}
16746>       {Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 183.:MNI=.013:SCI=   .0}
16747>       [IaRECimp=  4.00: IaRECper=   4.00]
16748>       {SMIN= 33.81: SMAX=225.43: SK= .010}
16749> R0100:C00414-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16750>     ADD HYD            1.0 02:13-108         124.74    5.480 No_date   28:05   63.62  n/a     .000
16751>                    +     1.0 02:A13-MN         2.59      .540 No_date   28:01   73.40  n/a     .000
16752>                    +     1.0 02:A12-MN        12.06     1.029 No_date   27:48   63.11  n/a     .000
16753>                  SUM=    1.0 01:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
16754> R0100:C00415-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16755>     SAVE HYD           1.0 01:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
16756>       fname :MH108.0100
16757>       remark:Total Flows at MH108
16758> R0100:C00416-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16759>     ROUTE PIPE      ->     1.0 02:MH108          139.38    6.996 No_date   28:03   63.75  n/a     .000
16760> *   [RDT= 1.00] out<-      1.0 01:108-116        139.38    6.987 No_date   28:04   63.75  n/a     .000
16761>       [L/S/n=   77./ .130/.013]
16762>       {Vmax= 2.116:Dmax= 1.798}
16763>       [Din= 1.80:Dused= 2.19}
16764> R0100:C00417-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16765>     ROUTE PIPE      ->     1.0 02:108-116        139.38    6.987 No_date   28:04   63.75  n/a     .000
16766> *   [RDT= 1.00] out<-      1.0 01:116-corrig     139.38    6.949 No_date   28:06   63.75  n/a     .000
16767>       [L/S/n=   80./ .130/.013]
16768>       {Vmax= 2.115:Dmax= 1.797}
16769>       [Din= 1.80:Dused= 2.19}
16770> R0100:C00418-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16771>     ADD HYD            1.0 02:116-corrig     139.38    6.949 No_date   28:06   63.75  n/a     .000
16772>                    +     1.0 02:Pond-Block     2.94      .490 No_date   28:00   59.56  n/a     .000
16773>                  SUM=    1.0 01:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
16774> R0100:C00419-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16775>     SAVE HYD           1.0 01:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
16776>       fname :Corrigan.0100
16777>       remark:HYD_COMMENT=["Total Flows at Corrigan Pond]
16778> R0100:C00420-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16779>     ROUTE RESERVOIR ->     1.0 02:Corrigan       142.32    7.300 No_date   28:04   63.67  n/a     .000
16780>                    out <=    1.0 01:Co-P           142.32    6.658 No_date   28:15   63.67  n/a     .000
16781>                  overflow <=    1.0 03:Co-P-OVF       .00      .000 No_date   0:00     .00  n/a     .000
16782>       {MxStoUsed=.1044E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
16783> R0100:C00421-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16784>     ADD HYD            1.0 02:Co-P-OVF        .00      .000 No_date   0:00     .00  n/a     .000
16785>                    +     1.0 02:Co-P           142.32    6.658 No_date   28:15   63.67  n/a     .000
16786>                    +     1.0 02:N_TO         54840.69  145.165 No_date   36:58   39.38  n/a     .000
16787>                    +     1.0 02:MH105-JR       36.57     8.679 No_date   28:10   63.16  n/a     .000
16788>                    +     1.0 02:A8-MJ-JR        .00      .000 No_date   0:00     .00  n/a     .000
16789>                    +     1.0 02:A8-MJ           .00      .000 No_date   0:00     .00  n/a     .000
16790>                    +     1.0 02:A10-MJ          .09      .218 No_date   28:05   59.73  n/a     .000
16791>                    +     1.0 02:A11-MJ          .16      .564 No_date   28:06   67.38  n/a     .000
16792>                    +     1.0 02:A12-MJ          .23      .599 No_date   28:05   62.88  n/a     .000
16793>                    +     1.0 02:A13-MJ          .00      .000 No_date   0:00     .00  n/a     .000
16794>                  SUM=    1.0 01:corrig       55020.07  145.784 No_date   36:56   39.46  n/a     .000
16795> R0100:C00422-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16796>     SAVE HYD           1.0 01:corrig       55020.07  145.784 No_date   36:56   39.46  n/a     .000
16797>       fname :corrig.0100
16798>       remark:Total Flows at Corrigan Pond
16799> #*************************************************************************
16800> #    Corrigan Pond 1
16801> #    - Rating curve obtained from Barrhaven South MSS modeling
16802> #    - Tributary Drainage Area to MSS Pond 1 = 145 ha
16803> #*************************************************************************
16804> #
16805> # Hydrograph from Corrigan Drain routed to Jockvale Road
16806> # Channel X-Section obtained from RVCA
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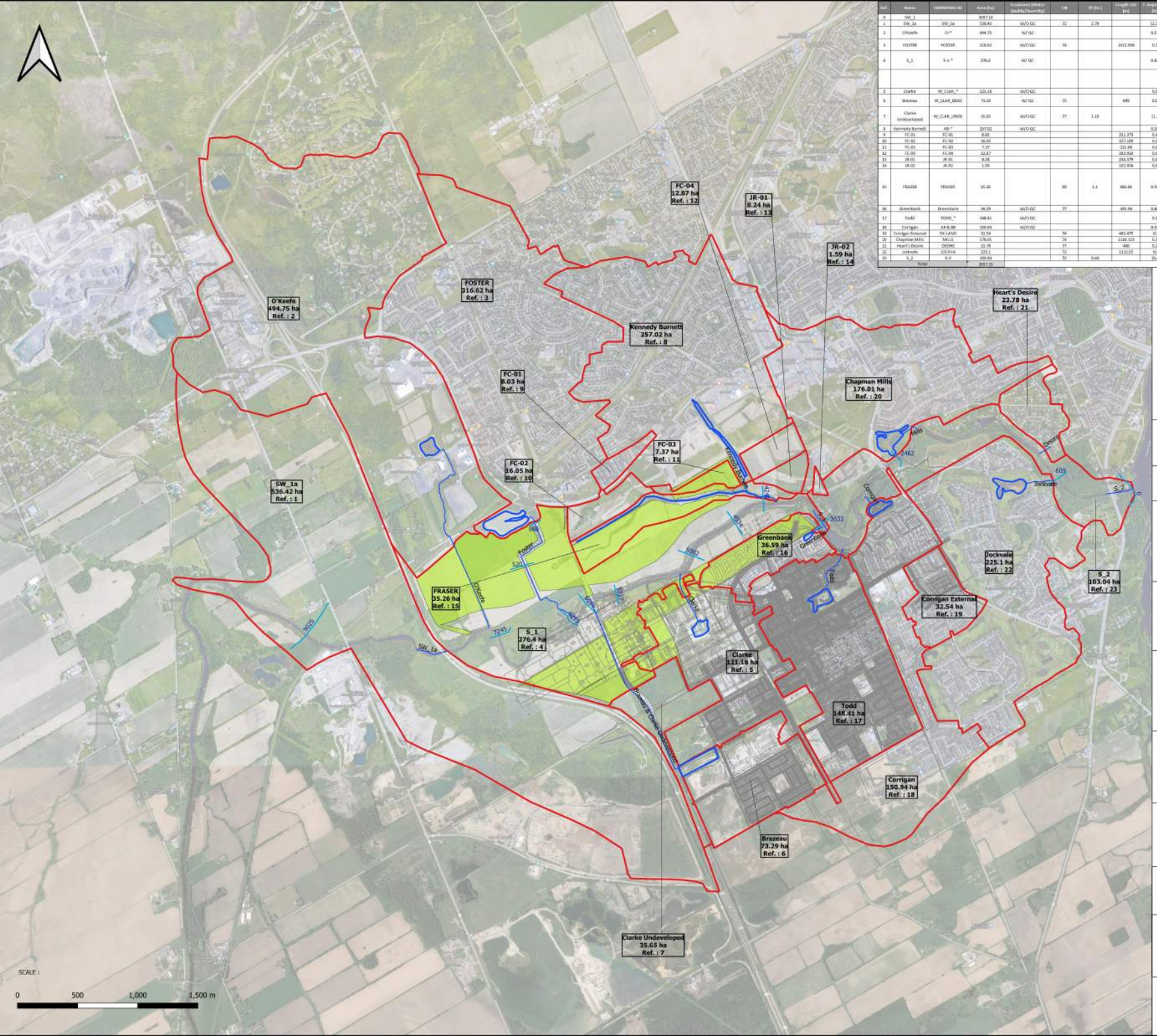
16831>     ROUTE RESERVOIR ->    1.0 02:MILLS        175.99   20.390 No_date   28:06   56.87  n/a     .000
16832>               out <=     1.0 01:MILL_P       146.22    4.050 No_date   28:08   56.87  n/a     .000
16833>          overflow <=     1.0 03:MIL-OV        29.77   16.228 No_date   28:08   56.87  n/a     .000
16834>      {MxStoUsed=.2310E+01  m3, TotOvfVol=.1693E+01  m3, N-Ovf=    2, TotDurOvf=    1.hrs}
16835> R0100:C00426-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16836>     ADD HYD                 1.0 02:N_MI      55020.07  145.768 No_date   36:59   39.46  n/a     .000
16837>                       +     1.0 02:MIL-OV        29.77   16.228 No_date   28:08   56.87  n/a     .000
16838>                       +     1.0 02:MILL_P       146.22    4.050 No_date   28:08   56.87  n/a     .000
16839>                     SUM=    1.0 01:SN_MI      55196.05  146.399 No_date   36:58   39.51  n/a     .000
16840> R0100:C00427-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16841>     SAVE HYD                1.0 01:SN_MI      55196.05  146.399 No_date   36:58   39.51  n/a     .000
16842>       fname :SN_MI.0100
16843>       remark:Total Flows at Jockvale Road
16844> #
16845> # Hydrograph from Jockvale Road routed to Heart's Desire
16846> # Channel X-Section obtained from RVCA Hydraulic Model - Station 689
16847> #
16848> R0100:C00428-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16849>     ROUTE CHANNEL   ->    1.0 02:SN_MI      55196.05  146.399 No_date   36:58   39.51  n/a     .000
16850>      [RDT= 1.00] out<-    1.0 01:N_DE       55196.05  146.071 No_date   37:13   39.51  n/a     .000
16851>       [L/S/n= 1962./ .223/.045]
16852>       {Vmax= 1.642:Dmax= 2.661}
16853> #*************************************************************************
16854> #    Catchment DESIRE
16855> #    - To Jock River (north of the Jock)
16856> #    - Rural-estate subdivision (Heart's Desire Community)
16857> #*************************************************************************
16858> R0100:C00429-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16859>     CONTINUOUS STANDHYD     1.0 01:DESIRE        23.78    3.004 No_date   28:03   53.11 .600     .000
16860>       [XIMP=.25:TIMP=.25]
16861>       [LOSS= 2 :CN= 77.0]
16862>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16863>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI= 400.:MNI=.013:SCI=   .0]
16864>       [IaRECimp=   4.00: IaRECper=   4.00]
16865>       [SMIN= 31.15: SMAX=207.66: SK= .010]
16866> #*************************************************************************
16867> #    Catchment JOCKVA
16868> #    - To Jockvale SWM Facility
16869> #    - Residential development & golf course
16870> #    - JFSA 2021-01-11 update JOCKVA after updating CORRIG as per IBI GROUP, July 2008.
16871> #      JOCKVA area became 225.13 ha instead of 257.63 ha. JOCKVA separated into two areas JOCKVA and EX-LAND 32.5 ha as
16872> #*************************************************************************
16873> R0100:C00430-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16874>     CONTINUOUS STANDHYD     1.0 01:JOCKVA       225.13   28.623 No_date   28:07   62.70 .708     .000
16875>       [XIMP=.50:TIMP=.50]
16876>       [LOSS= 2 :CN= 74.0]
16877>       [Pervious    area: IAper= 4.67:SLPP=1.00:LGP=  40.:MNP=.250:SCP=   .0]
16878>       [Impervious  area: IAimp= 1.57:SLPI=1.00:LGI=1311.:MNI=.013:SCI=   .0]
16879>       [IaRECimp=   4.00: IaRECper=   4.00]
16880>       [SMIN= 36.67: SMAX=244.49: SK= .010]
16881> R0100:C00431-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16882>     ADD HYD                 1.0 02:EX-LAND-MN    30.73    2.275 No_date   27:48   62.82  n/a     .000
16883>                       +     1.0 02:JOCKVA       225.13   28.623 No_date   28:07   62.70  n/a     .000
16884>                       +     1.0 02:B2-MJ            .36      .020 No_date   28:05   62.88  n/a     .000
16885>                       +     1.0 02:B3-MJ            .19      .402 No_date   28:04   62.88  n/a     .000
16886>                     SUM=    1.0 01:JOCKVA-TO    256.41   31.850 No_date   28:06   62.71  n/a     .000
16887> R0100:C00432-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16888>     SAVE HYD                1.0 01:JOCKVA-TO    256.41   31.850 No_date   28:06   62.71  n/a     .000
16889>       fname :JOCKVA-TO.0100
16890>       remark:Total Flows at KB first pond
16891> #*************************************************************************
16892> #    Jockvale SWM Facility
16893> #    - Rating curve obtained from Jockvale Servicing Study (CCL 1999)
16894> #*************************************************************************
16895> R0100:C00433-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16896>     ROUTE RESERVOIR ->    1.0 02:JOCKVA-TO    256.41   31.850 No_date   28:06   62.71  n/a     .000
16897>                     out <=  1.0 01:JOCK_P     256.41   12.850 No_date   28:35   62.71  n/a     .000
16898>               overflow <=   1.0 03:JO-OVF         .00      .000 No_date   0:00     .00  n/a     .000
16899>      {MxStoUsed=.6430E+01  m3, TotOvfVol=.0000E+00  m3, N-Ovf=    0, TotDurOvf=    0.hrs}
16900> R0100:C00434-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16901>     ADD HYD                 1.0 02:N_DE       55196.05  146.071 No_date   37:13   39.51  n/a     .000
16902>                       +     1.0 02:DESIRE        23.78    3.004 No_date   28:03   53.11  n/a     .000
16903>                       +     1.0 02:JO-OVF         .00      .000 No_date   0:00     .00  n/a     .000
16904>                       +     1.0 02:JOCK_P       256.41   12.850 No_date   28:35   62.71  n/a     .000
16905>                     SUM=    1.0 01:SN_DE      55476.25  147.027 No_date   37:12   39.63  n/a     .000
16906> R0100:C00435-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16907>     SAVE HYD                1.0 01:SN_DE      55476.25  147.027 No_date   37:12   39.63  n/a     .000
16908>       fname :SN_DE.0100
16909>       remark:Total Flows at Heart's Desire
16910> #
16911> # Hydrograph from Heart's Desire routed to Rideau River
16912> # Channel X-Section obtained from RVCA Hydraulic Model - Station 0
16913> #
16914> R0100:C00436-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16915>     ROUTE CHANNEL   ->    1.0 02:SN_DE      55476.25  147.027 No_date   37:12   39.63  n/a     .000
16916>      [RDT= 1.00] out<-    1.0 01:N1         55476.25  147.014 No_date   37:15   39.63  n/a     .000
16917>       [L/S/n=  563./ .967/.045]
16918>       {Vmax= 2.219:Dmax= 1.328}
16919> #*************************************************************************
16920> #    Catchment S-2
16921> #    - To Jock River (north and south)
16922> #    - Undeveloped floodplain and river
16923> #*************************************************************************
16924> R0100:C00437-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16925>     CONTINUOUS NASHYD       1.0 01:S-2          102.94    5.685 No_date   28:20   40.95 .462     .000
16926>       [CN= 72.0: N= 3.00: Tp=  .40]
16927>       [IaREC= 4.00: SMIN= 39.75: SMAX=264.99: SK= .010]
16928>       [InterEventTime=  12.00]
16929> R0100:C00438-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16930>     ADD HYD                 1.0 02:N1         55476.25  147.014 No_date   37:15   39.63  n/a     .000
16931>                       +     1.0 02:S-2          102.94    5.685 No_date   28:20   40.95  n/a     .000
16932>                     SUM=    1.0 01:SN_N1      55579.19  147.276 No_date   37:15   39.63  n/a     .000
16933> R0100:C00439-----------DTmin-ID:NHYD---------AREAha-QPEAKcms-TpeakDate_hh:mm----RVmm-R.C.---DWFcms
16934>     SAVE HYD                1.0 01:SN_N1      55579.19  147.276 No_date   37:15   39.63  n/a     .000
16935>       fname :SN_N1.0100
16936>       remark:Total Flows at Rideau River
16937> ###########################################################################
16938> R0100:C00002-------------------------------------------------------------------------------------------
16939>     FINISH
16940> -------------------------------------------------------------------------------------------------------
16941> *******************************************************************************************************
16942>      WARNINGS / ERRORS / NOTES
16943>      -------------------------
16944> R0002:C00319  ROUTE RESERVOIR
16945> *** WARNING: Inflow peak was not reduced! Check OUTFLOW/STORAGE table or reduce DT.
16946> R0002:C00341  ROUTE PIPE      ->
16947> *** WARNING: New pipe size used for routing.
16948> R0002:C00347  ROUTE PIPE      ->
16949> *** WARNING: New pipe size used for routing.
16950> R0002:C00380  DIVERT HYD      ->
16951> *** NOTE: Inflow hyd. is dry and cannot be diverted.
16952> R0002:C00400  ROUTE PIPE      ->
16953> *** WARNING: New pipe size used for routing.
16954> R0002:C00407  ROUTE PIPE      ->
16955> *** WARNING: New pipe size used for routing.
16956> R0002:C00408  ROUTE PIPE      ->
16957> *** WARNING: New pipe size used for routing.
16958> R0002:C00416  ROUTE PIPE      ->
16959> *** WARNING: New pipe size used for routing.
16960> R0002:C00417  ROUTE PIPE      ->
16961> *** WARNING: New pipe size used for routing.
16962> R0005:C00319  ROUTE RESERVOIR
16963> *** WARNING: Inflow peak was not reduced! Check OUTFLOW/STORAGE table or reduce DT.
16964> R0005:C00341  ROUTE PIPE      ->
16965> *** WARNING: New pipe size used for routing.
16966> R0005:C00347  ROUTE PIPE      ->
16967> *** WARNING: New pipe size used for routing.
16968> R0005:C00363  ROUTE PIPE      ->
16969> *** WARNING: New pipe size used for routing.
16970> R0005:C00364  ROUTE PIPE      ->
16971> *** WARNING: New pipe size used for routing.
16972> R0005:C00372  ROUTE PIPE      ->
16973> *** WARNING: New pipe size used for routing.
16974> R0005:C00380  DIVERT HYD      ->
16975> *** NOTE: Inflow hyd. is dry and cannot be diverted.
16976> R0005:C00395  ROUTE PIPE      ->
16977> *** WARNING: New pipe size used for routing.
16978> R0005:C00400  ROUTE PIPE      ->
16979> *** WARNING: New pipe size used for routing.
16980> R0005:C00407  ROUTE PIPE      ->
16981> *** WARNING: New pipe size used for routing.
16982> R0005:C00408  ROUTE PIPE      ->
16983> *** WARNING: New pipe size used for routing.
16984> R0005:C00416  ROUTE PIPE      ->
16985> *** WARNING: New pipe size used for routing.
16986> R0005:C00417  ROUTE PIPE      ->
16987> *** WARNING: New pipe size used for routing.
16988> R0010:C00341  ROUTE PIPE      ->
16989> *** WARNING: New pipe size used for routing.
16990> R0010:C00347  ROUTE PIPE      ->
16991> *** WARNING: New pipe size used for routing.
16992> R0010:C00363  ROUTE PIPE      ->
16993> *** WARNING: New pipe size used for routing.
16994> R0010:C00364  ROUTE PIPE      ->
16995> *** WARNING: New pipe size used for routing.
16996> R0010:C00372  ROUTE PIPE      ->
16997> *** WARNING: New pipe size used for routing.
16998> R0010:C00380  DIVERT HYD      ->
16999> *** NOTE: Inflow hyd. is dry and cannot be diverted.
17000> R0010:C00395  ROUTE PIPE      ->
17001> *** WARNING: New pipe size used for routing.
17002> R0010:C00400  ROUTE PIPE      ->
17003> *** WARNING: New pipe size used for routing.
17004> R0010:C00407  ROUTE PIPE      ->
17005> *** WARNING: New pipe size used for routing.
17006> R0010:C00408  ROUTE PIPE      ->
17007> *** WARNING: New pipe size used for routing.
17008> R0010:C00416  ROUTE PIPE      ->
17009> *** WARNING: New pipe size used for routing.
17010> R0010:C00417  ROUTE PIPE      ->
17011> *** WARNING: New pipe size used for routing.
17012> R0025:C00341  ROUTE PIPE      ->
17013> *** WARNING: New pipe size used for routing.
17014> R0025:C00347  ROUTE PIPE      ->
17015> *** WARNING: New pipe size used for routing.
17016> R0025:C00363  ROUTE PIPE      ->
17017> *** WARNING: New pipe size used for routing.
17018> R0025:C00364  ROUTE PIPE      ->
17019> *** WARNING: New pipe size used for routing.
17020> R0025:C00372  ROUTE PIPE      ->
17021> *** WARNING: New pipe size used for routing.
17022> R0025:C00380  DIVERT HYD      ->
17023> *** NOTE: Inflow hyd. is dry and cannot be diverted.
17024> R0025:C00395  ROUTE PIPE      ->
17025> *** WARNING: New pipe size used for routing.
17026> R0025:C00400  ROUTE PIPE      ->
17027> *** WARNING: New pipe size used for routing.
17028> R0025:C00407  ROUTE PIPE      ->
17029> *** WARNING: New pipe size used for routing.
17030> R0025:C00408  ROUTE PIPE      ->
17031> *** WARNING: New pipe size used for routing.
17032> R0025:C00416  ROUTE PIPE      ->
17033> *** WARNING: New pipe size used for routing.
17034> R0025:C00417  ROUTE PIPE      ->
17035> *** WARNING: New pipe size used for routing.
17036> R0050:C00341  ROUTE PIPE      ->
17037> *** WARNING: New pipe size used for routing.
17038> R0050:C00347  ROUTE PIPE      ->
17039> *** WARNING: New pipe size used for routing.
17040> R0050:C00363  ROUTE PIPE      ->
17041> *** WARNING: New pipe size used for routing.
17042> R0050:C00364  ROUTE PIPE      ->
17043> *** WARNING: New pipe size used for routing.
17044> R0050:C00372  ROUTE PIPE      ->
17045> *** WARNING: New pipe size used for routing.
17046> R0050:C00380  DIVERT HYD      ->
17047> *** NOTE: Inflow hyd. is dry and cannot be diverted.
17048> R0050:C00395  ROUTE PIPE      ->
17049> *** WARNING: New pipe size used for routing.
17050> R0050:C00400  ROUTE PIPE      ->
17051> *** WARNING: New pipe size used for routing.
17052> R0050:C00407  ROUTE PIPE      ->
17053> *** WARNING: New pipe size used for routing.
17054> R0050:C00408  ROUTE PIPE      ->
17055> *** WARNING: New pipe size used for routing.
17056> R0050:C00416  ROUTE PIPE      ->
17057> *** WARNING: New pipe size used for routing.
17058> R0050:C00417  ROUTE PIPE      ->
17059> *** WARNING: New pipe size used for routing.
17060> R0100:C00341  ROUTE PIPE      ->
17061> *** WARNING: New pipe size used for routing.
17062> R0100:C00347  ROUTE PIPE      ->
17063> *** WARNING: New pipe size used for routing.
17064> R0100:C00363  ROUTE PIPE      ->
17065> *** WARNING: New pipe size used for routing.
17066> R0100:C00364  ROUTE PIPE      ->
17067> *** WARNING: New pipe size used for routing.
17068> R0100:C00372  ROUTE PIPE      ->
17069> *** WARNING: New pipe size used for routing.
17070> R0100:C00380  DIVERT HYD      ->
17071> *** NOTE: Inflow hyd. is dry and cannot be diverted.
17072> R0100:C00395  ROUTE PIPE      ->
17073> *** WARNING: New pipe size used for routing.
17074> R0100:C00400  ROUTE PIPE      ->
17075> *** WARNING: New pipe size used for routing.
17076> R0100:C00407  ROUTE PIPE      ->
17077> *** WARNING: New pipe size used for routing.
17078> R0100:C00408  ROUTE PIPE      ->
17079> *** WARNING: New pipe size used for routing.
17080> R0100:C00416  ROUTE PIPE      ->
17081> *** WARNING: New pipe size used for routing.
17082> R0100:C00417  ROUTE PIPE      ->
17083> *** WARNING: New pipe size used for routing.
17084>    Simulation ended on 2021-03-04     at 12:01:23
17085> ===============================================================================================
17086>
17087>
```

Ottawa. ON
Paris. ON
Gatineau. QC
Montréal. QC
Québec. QC

Attachment F

Updated Subcatchment Schematics & Tables



Ref	Name	SWMHYMO ID	Area (ha)	Treatment (Water Quality/Quantity)	I/A	TP (hr.)	Length (m)	T. Expos. (TP/2) (hr)	KSWF	Type	Major System To	Minor System To	Figure	Table	Schematic
0	SW_1		3057.14												
1	SW_1a	SW_1a	536.42	W/O QC	72	2.79		(2.79)		NASHYD	Jock River at Station 7045				
2	O'Keefe	O-*	494.75	W/ QC				6.575		STANDHYD	Jock River at Station 8255		Figure F1 - O'Keefe Sub-catchments	Table F1 - O'Keefe Sub-catchments	Schematic F1 - O'Keefe Sub-catchments
3	FOSTER	FOSTER	316.62	W/O QC	74		1472.936	0.55	0.55	STANDHYD	Jock River at Station 8036		Figure F2 - Foster Sub-catchment	Table F2 - Foster Sub-catchment	
4	S_1	S-1-*	276.4	W/ QC				0.846		STANDHYD	Jock River at Station 5803		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
5	Clarke	W_CLAR_*	121.18	W/O QC				0.61		STANDHYD	Jock River at Station 3002				
6	Brazeau	W_CLAR_BRAZ	73.29	W/ QC	75		889	0.65	0.6	STANDHYD	Jock River at Station 8016		Figure F3 - Clarke & Brazeau Sub-catchments	Table F3-1 - Clarke Sub-catchments Figure F3-2 - Brazeau Sub-catchment	
7	Clarke Undeveloped	W_CLAR_UNDE	35.65	W/O QC	77	1.18		(1.1)		NASHYD	Jock River at Station 9002				
8	Kennedy Burnett	KB-*	257.02	W/O QC				0.357		STANDHYD	Jock River at Station 3033				
9	FC-01	FC-01	8.03				201.373	0.47	0.47	STANDHYD	Jock River at Station 3035				
10	FC-02	FC-02	16.05				327.109	0.93	0.93	STANDHYD	Jock River at Station 3023		Figure F4 - Kennedy Burnett Sub-catchments	Table F4 - Kennedy Burnett Sub-catchments	
11	FC-03	FC-03	7.37				221.88	0.64	0.64	STANDHYD	Jock River at Station 3033				
12	FC-04	FC-04	12.87				282.918	0.64	0.64	STANDHYD	Jock River at Station 3035				
13	JR-01	JR-01	8.24				254.579	0.64	0.64	STANDHYD	Jock River at Station 3033				
14	JR-02	JR-02	1.59				102.958	0.64	0.64	STANDHYD	Jock River at Station 3033				
15	FRASER	FRASER	35.26		80	1.1	986.84	0.505	0.505	STANDHYD	Jock River at Station 3033		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
16	Greenbank	Greenbank	36.59	W/O QC	77		499.94	0.402	0.409	STANDHYD	Jock River at Station 2462				
17	Todd	TODD_*	148.41	W/O QC				0.59		STANDHYD	Jock River at Station 2462		Figure F5 - Todd Sub-catchments	Table F5 -Todd Sub-catchments	
18	Corrigan	AR & RR	150.94	W/O QC				0.541		STANDHYD	Jock River at Station 2462		Figure F6 -Corrigan Sub-catchments	Table F6 -Corrigan Sub-catchments	
19	Corrigan External	EX-LAND	32.54		74		485.475	0.5	0.5	STANDHYD	Jock River at Station 2462				
20	Chapman Mills	MILLS	176.01		74		1118.125	0.38	0.38	STANDHYD	Jock River at Station 909				
21	Heart's Desire	DESIRE	23.78		77		400	0.25	0.25	STANDHYD	Jock River at Station 0				
22	Jockvale	JOCKVA	225.1		70		1310.55	0.5	0.5	STANDHYD	Jock River at Station 0				
24	S_2	S-2	103.04		70	0.68		(0.6)		NASHYD	Rideau River				
	Total		3057.14												

Legend

Sub-catchments
- SW_1
- Channel Cross Section
- SWMF Drains
- SWMF ponds
- Approved Developments
- Additional Future Developments

Google Hybrid

File name:

Figure 3 - Overall Jock River Lower Reach one Sub-catchments.pdf

XS 4534 — Cross Section at station 4534

SW_1a
536.42 ha
Ref. 1

- Area ID
- Area (ha)
- Reference Number

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure 3 - Overall Jock River Lower Reach one Sub-catchments

Table 3 - Overall Jock River Lower Reach one Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name	SWMHYMO ID	Area (ha)	Treatment (Water Quality/Quantity)	CN	TP (hr.)	Length-LGI (m)	T. Imperv. [TP (hr)]	XIMP	Type	Major System To	Minor System To	Figure	Table	Schematic
0	SW_1		3097.14												
1	SW_1a	SW_1a	536.42	W/O QC	72	2.79		[2.79]		NASHYD	Jock River at Station 7245				
2	O'Keefe	O-*	494.75	W/ QC				0.575		STANDHYD	Jock River at Station 6215		Figure F1 - O'Keefe Sub-catchments	Table F1 - O'Keefe Sub-catchments	Schematic F1 - O'Keefe Sub-catchments
3	FOSTER	FOSTER	316.62	W/O QC	74		1472.956	0.55	0.55	STANDHYD	Jock River at Station 6016		Figure F2 - Foster Sub-catchment	Table F2 - Foster Sub-catchment	
4	S_1	S-1-*	276.4	W/ QC				0.646		STANDHYD	Jock River at Station 5002		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
5	Clarke	W_CLAR_*	121.18	W/O QC				0.61		STANDHYD	Jock River at Station 5002		Figure F3 - Clarke & Brazeau Sub-catchments	Table F3-1 - Clarke Sub-catchments Figure F3-2 - Brazeau Sub-catchment	
6	Brazeau	W_CLAR_BRAZ	73.29	W/ QC	75		699	0.65	0.6	STANDHYD	Jock River at Station 6016				
7	Clarke Undeveloped	W_CLAR_UNDE	35.65	W/O QC	77	1.10		[1.1]		NASHYD	Jock River at Station 5002				
8	Kennedy Burnett	KB-*	257.02	W/O QC				0.557		STANDHYD	Jock River at Station 3633		Figure F4 - Kennedy Burnett Sub-catchments	Table F4 - Kennedy Burnett Sub-catchments	
9	FC-01	FC-01	8.03				231.373	0.47	0.47	STANDHYD	Jock River at Station 3633				
10	FC-02	FC-02	16.05				327.109	0.93	0.93	STANDHYD	Jock River at Station 3633				
11	FC-03	FC-03	7.37				221.66	0.64	0.64	STANDHYD	Jock River at Station 3633				
12	FC-04	FC-04	12.87				292.916	0.64	0.64	STANDHYD	Jock River at Station 3633				
13	JR-01	JR-01	8.24				234.379	0.64	0.64	STANDHYD	Jock River at Station 3633				
14	JR-02	JR-02	1.59				102.956	0.64	0.64	STANDHYD	Jock River at Station 3633				
15	FRASER	FRASER	35.26		80	1.1	484.84	0.585	0.585	STANDHYD	Jock River at Station 3633		Figure 4A - S-1 & Fraser Sub-catchments Figure 4B - S-1 & Fraser Sub-catchments	Table 4A - S-1 & Fraser Sub-catchments Table 4B - S-1 & Fraser Sub-catchments	
16	Greenbank	Greenbank	36.59	W/O QC	77		493.96	0.682	0.639	STANDHYD	Jock River at Station 2462				
17	Todd	TODD_*	148.41	W/O QC				0.55		STANDHYD	Jock River at Station 2462		Figure F5 -Todd Sub-catchments	Table F5 -Todd Sub-catchments	
18	Corrigan	A# & B#	150.94	W/O QC				0.541		STANDHYD	Jock River at Station 2462		Figure F6 -Corrigan Sub-catchments	Table F6 -Corrigan Sub-catchments	
19	Corrigan External	EX-LAND	32.54		74		465.475	0.5	0.5	STANDHYD	Jock River at Station 2462				
20	Chapman Mills	MILLS	176.01		74		1118.123	0.38	0.38	STANDHYD	Jock River at Station 689				
21	Heart's Desire	DESIRE	23.78		77		400	0.25	0.25	STANDHYD	Jock River at Station 0				
22	Jockvale	JOCKVA	225.1		72		1310.55	0.5	0.5	STANDHYD	Jock River at Station 0				
23	S_2	S-2	103.04		72	0.40		[0.4]		NASHYD	Rideau River				
Total			3097.15												



Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1 Sub-catchments
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

Figure 4A - S-1 & Fraser Clarke Sub-catchments.pdf

XS 3633 Cross Section at station 3633

S-1-A
90.84 ha
Ref. 1

- Area ID
- Area (ha)
- Reference Number

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure 4A - S-1 & Fraser Clarke Sub-catchments

Table 4A - S-1 & Fraser Clarke Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (S-1 is developed and Fraser is developed with DUALHYD)	Description	Area (ha)	Major System To	Minor System To	TP (hr) [TIMP]	Slope (%)		LGI (m)	CN	DUALHYD parameters		ROUTE CHANNEL (Station 5002)					
							SLPP (Pervious)	SLPI (Impervious)			Max Flow Rate(cms)-5-year inlet capture rate (24-hour SCS)	Major System storage (cu-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	S-1-A	will remain undeveloped	75.88	SN_FO (Total Flows at Foster Drain)		0.619				77			SN_CE = ["N_CE"(1) +"S-1-D4" +"S-1-D5" +"MS_P2"(2) +"P2-OVF"(2)]	"5737" (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5737)	270	0.02593	-1060.52	94
2	S-1-B	will remain undeveloped	55.36	4241 (Total Flows before Station 4241		0.451				77							-268.6	91.5
3	S-1-D1	will be Developed	21.67	5002 (Total Flows before Station 5002		[0.65]	2	0.75	380.088	75							-259.43	91.5
4	S-1-D2	will be Developed	18.67	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	352.798	75							-179.48	91.5
5	S-1-D3	will be Developed	6.79	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	212.760	75							-67.9	91.5
6	S-1-D4	will be Developed	3.28	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	147.874	75							-59.21	91.5
7	S-1-D5	will be Developed	12.84	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	292.575	75							-33.19	91
8	S-1-D6	will be Developed	1.75	5002 (Total Flows before Station 5002		[0.65]	2	0.75	108.012	75							-26.08	90.5
9	S-1-D7	will be Developed	2.03	5002 (Total Flows before Station 5002		[0.65]	2	0.75	116.333	75							-24.04	90
10	S-1-D8	will be Developed	5.27	SN_FO (Total Flows at Foster Drain)		[0.65]	2	0.75	187.439								-13.14	86.77
11	S-1-FO-D1	was part of Foster (Developed)	5.11	520 (Total Flows at Sation 520 on Foster Drain)		[0.65]	0.5	0.5	184.572	74							0	85
12	S-1-FO-D2	was part of Foster (Developed)	4.94	980 (Total Flows at Station 980 on Foster Drain)		[0.55]	0.5	0.5	181.475	74							14.68	86.74
13	S-1-FO-F-D	was part of Foster (will be Developed in the Future)	14.96	SN_FO (Total Flows at Foster Drain)		[0.65]	0.5	0.5	315.806	74							23.92	90
																	25.78	90.5
																	31.91	91
																	91.95	91.5
																	772.15	92
																	961.49	92.5
																	1044.69	93
																	1130.8	95
14	S-1-Okeefe	was part of O'Keefe	44.93	SN_416 (Total Flows after Highway 416 and before XS Station 7245)		[0.65]	2	0.75	547.296	75			5002= ["5737" +"S-1-D1" +"S-1-D6" +"S-1-D7"]	N_WC (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002)	736	0.09511	-601.81	91.5
																	-37.5	90
																	-19.61	87.04
																	0	85.7
																	14.87	86.93
																	37.5	90
																	38.54	90.5
																	42.23	91
																	157.05	91.5
													N_WC	N_KB (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4534 (Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain))	1020	0.0498	-1082.01	94
																	-1028.17	92.5
																	-992.3	93.5
																	-279.34	90
																	-23.63	90
																	-13.45	87.13
																	-0.07	86.24
																	10.54	87.15
																	23.63	90
																	24.86	90.5
																	26.72	91
																	45.07	91.5
																	128.17	91.5
																	270.7	92.5
																	728.3	95
15	FRASER-D	Fraser Clarke Drain (will remain undeveloped)	21.61	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		[0.585]	1	1	379.561	80	2.281	9999999 (an imaginary number so all water is kept Inside)						
													4241= ["KB-Pond3"(3) +"S-1-B" +"FRASER-DRN" +"FRASER-S" +"N_KB" +"FC-01-S"(4) +"FC-02-S"(5) +"FC-03-S"(6)]	4241-out (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4241)	294	0.1088	-909.72	95
																	-907.09	94.5
																	-904.65	94
																	-902.26	93.5
																	-44.51	91.5
																	-25.1	91.5
																	-20.98	91
																	-20.61	90.5
																	-20.12	90
																	-6.13	87.26
																	17.51	86.56
																	31.37	87.2
																	45.26	90
																	50.41	90.5
																	63.06	91
																	134.5	91.5
																	190.63	92
																	251.98	92.5
																	321.32	93.5
																	403.84	95
16	FRASER-DRN	Fraser Clarke Developed Area	13.65	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		0.4258				77			SN_KB= ["4241-out" +"FC-04-S"(7) +"JR-01-S"(8) +"JR-02-S"(9)]	N_TO (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 3633 (Hydrograph from Node Ken-Burnett to Node Todd))	608	0.24671	-29.24	91
																	-27.41	90.5
																	-25.64	90
																	-23.74	89.5
																	-22	89.26
																	-20	88.51
																	-19	88.32
																	-15	88.1
																	-10	88.11
																	-5	88.17
																	0	88.27
																	5	88.19
																	10	88.06
																	15	88.48
																	16	88.7
																	23.74	89.5
																	24.68	90
																	25.57	90.5
																	26.5	91

S-1 Total Area (ha)	197.6
FRASER Total Area (ha)	35.26

(1) N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6016 (Hydrograph from Node Foster routed to Node at Cedarview Road)

(2) "MS_P2" and "P2-OVF" are the outflow and the overflow from ROUTE RESERVOIR of the Clarke sub-catchment

(3) "KB-Pond3" =Total Flows at KB third pond

(4 & 5 & 6 & 7) "FC-01-S" & "FC-02-S" & "FC-03-S" & "FC-04-S" = Existing / Proposed Subcatchments To Fraser Clarke Drain as per NOVATECH Report June, 2020

(8 & 9) "JR-01-S" & "JR-02-S" = Proposed Subcatchments To Jock River as per NOVATECH Report June, 2020



Legend

Channel Cross Sections

S-1 Sub-catchments and Fraser Sub-catchments

- S-1 Sub-catchments
- FRASER-DRN
- FRASER-D

Google Hybrid

File name:

Figure 4B - S-1 & Fraser Clarke Sub-catchments.pdf

XS 3633 Cross Section at station 3633

S-1-A
90.84 ha
Ref. 1

- Area ID
- Area (ha)
- Reference Number

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure 4B - S-1 & Fraser Clarke Sub-catchments

Table 4B - S-1 & Fraser Clarke Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (S-1 is developed with DUALHYD & ROUTE RESERVOIR and Fraser is developed with DUALHYD)	Description	Area (ha)	Major System To	Minor System To	TP (hr) [TIMP]	Slope (%)		LGI (m)	CN	DUALHYD parameters		ROUTE RESERVOIR					ROUTE CHANNEL (Station 5002)					
							SLPP (Pervious)	SLPI (Impervious)			Max Flow Rate(cms)- 5-year inlet capture rate (24-hour SCS)	Major System storage (cu-m)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	S-1-A	will remain undeveloped	75.88	SN_FO (Total Flows at Foster Drain)		0.619				77								SN_CE = ["N_CE"(1) +"S-1-D4R" +"S-1-D5R" +"S-1-D4Rovf" +"S-1-D5Rovf" +"MS_P2"(2)+" P2-OVF"(2)]	"5737" (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5737)	270	0.02593	-1060.52	94
2	S-1-B	will remain undeveloped	55.36	4241 (Total Flows before Station 4241		0.451				77												-268.6	91.5
3	S-1-D1	will be Developed	21.67	5002 (Total Flows before Station 5002		[0.65]	2	0.75	380.088	75	2.409	9999999	S-1-D1S	S-1-D1R	S-1-D1Rovf	0.3033	1.0125					-259.43	91.5
4	S-1-D2	will be Developed	18.67	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	352.798	75	2.097	9999999	S-1-D2S	S-1-D2R	S-1-D2Rovf	0.2485	0.8297					-179.48	91.5
5	S-1-D3	will be Developed	6.79	SN_OK (Total Flows at Okeefe Drain)		[0.65]	2	0.75	212.760	75	0.831	9999999	S-1-D3S	S-1-D3R	S-1-D3Rovf	0.079	0.2639					-67.9	91.5
6	S-1-D4	will be Developed	3.28	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	147.874	75	0.421	9999999	S-1-D4S	S-1-D4R	S-1-D4Rovf	0.0392	0.1308					-59.21	91.5
7	S-1-D5	will be Developed	12.84	SN_CE (Total Flows before Station 5737		[0.65]	2	0.75	292.575	75	1.5	9999999	S-1-D5S	S-1-D5R	S-1-D5Rovf	0.1611	0.5377					-33.19	91
8	S-1-D6	will be Developed	1.75	5002 (Total Flows before Station 5002		[0.65]	2	0.75	108.012	75	0.232	9999999	S-1-D6S	S-1-D6R	S-1-D6Rovf	0.0222	0.0742					-26.08	90.5
9	S-1-D7	will be Developed	2.03	5002 (Total Flows before Station 5002		[0.65]	2	0.75	116.333	75	0.265	9999999	S-1-D7S	S-1-D7R	S-1-D7Rovf	0.2767	0.9238					-24.04	90
10	S-1-D8	will be Developed	5.27	SN_FO (Total Flows at Foster Drain)		[0.65]	2	0.75	187.439		0.672	9999999	S-1-D8S	S-1-D8R	S-1-D8Rovf	0.0630	0.2102					-13.14	86.77
11	S-1-FO-D1	was part of Foster (Developed)	5.11	520 (Total Flows at Sation 520 on Foster Drain)		[0.65]	0.5	0.5	184.572	74	0.605	9999999	S-1-FO-D1S	S-1-FO-D1R	S-1FOD1ovf	0.0693	0.2313					0	85
12	S-1-FO-D2	was part of Foster (Developed)	4.94	980 (Total Flows at Station 980 on Foster Drain)		[0.55]	0.5	0.5	181.475	74	0.508	9999999	S-1-FO-D2S	S-1-FO-D2R	S-1FOD2ovf	0.067	0.2236					14.68	86.74
13	S-1-FO-F-D	was part of Foster (will be Developed in the Future)	14.96	SN_FO (Total Flows at Foster Drain)		[0.65]	0.5	0.5	315.806	74	1.615	9999999	S-1FO-F-DS	S-1FO-F-DR	S-1FO-F-DR	0.2215	0.7396					23.92	90
14	S-1-Okeefe	was part of O'Keefe	44.93	SN_416 (Total Flows after Highway 416 and before XS Station 7245)		[0.65]	2	0.75	547.296	75	4.591	9999999	S-1-OkS	S-1-OkSR	S-1-OkSovf	0.639	2.1333					25.78 31.91 91.95 772.15 961.49 1044.69 1130.8	90.5 91 91.5 92 92.5 93 95
																		5002= ["5737" +"S-1-D1R" +"S-1-D6R" +"S-1-D7R" +"S-1-D1Rovf" +"S-1-D6Rovf" +"S-1-D7Rovf"]	N_WC (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002)	736	0.09511	-601.81 -37.5 -19.61 0 14.87 37.5 38.54 42.23 157.05	91.5 90 87.04 85.7 86.93 90 90.5 91 91.5
																		N_WC	N_KB (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4534 (Hydrograph from Node West Clarke routed to Node at Kennedy - Burnett Drain))	1020	0.0498	-1082.01 -1028.17 -992.3 -279.34 -23.63 -13.45 -0.07 10.54 23.63 24.86 26.72 45.07 128.17 270.7 728.3	94 92.5 93.5 90 90 87.13 86.24 87.15 90 90.5 91 91.5 91.5 92.5 95
15	FRASER-D	Fraser Clarke Drain (will remain undeveloped)	21.61	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		[0.585]	1	1	379.561	80	2.281	9999999 (an imaginary number so all water is kept Inside)											
																		4241= ["KB-Pond3"(3) +"S-1-B" +"FRASER-DRN" +"FRASER-S" +"N_KB" +"FC-01-S"(4) +"FC-02-S"(5) +"FC-03-S"(6)]	4241-out (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 4241)	294	0.1088	-909.72 -907.09 -904.65 -902.26 -44.51 -25.1 -20.98 -20.61 -20.12 -6.13 17.51 31.37 45.26 50.41 63.06 134.5 190.63 251.98 321.32 403.84	95 94.5 94 93.5 91.5 91.5 91 90.5 90 87.26 86.56 87.2 90 90.5 91 91.5 92 92.5 93.5 95
16	FRASER-DRN	Fraser Clarke Developed Area	13.65	4241 (Total Flows at Ken-Burnett Outlet and before XS Station 4241)		0.4258				77								SN_KB= ["4241-out" +"FC-04-S"(7) +"JR-01-S"(8) +"JR-02-S"(9)]	N_TO (NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 3633 (Hydrograph from Node Ken-Burnett to Node Todd))	608	0.24671	-29.24 -27.41 -25.64 -23.74 -22 -20 -19 -15 -10 -5 0 5 10 15 16 23.74 24.68 25.57 26.5	91 90.5 90 89.5 89.26 88.51 88.32 88.1 88.11 88.17 88.27 88.19 88.06 88.48 88.7 89.5 90 90.5 91
S-1 Total Area (ha)			273.48																				
FRASER Total Area (ha)			35.26																				

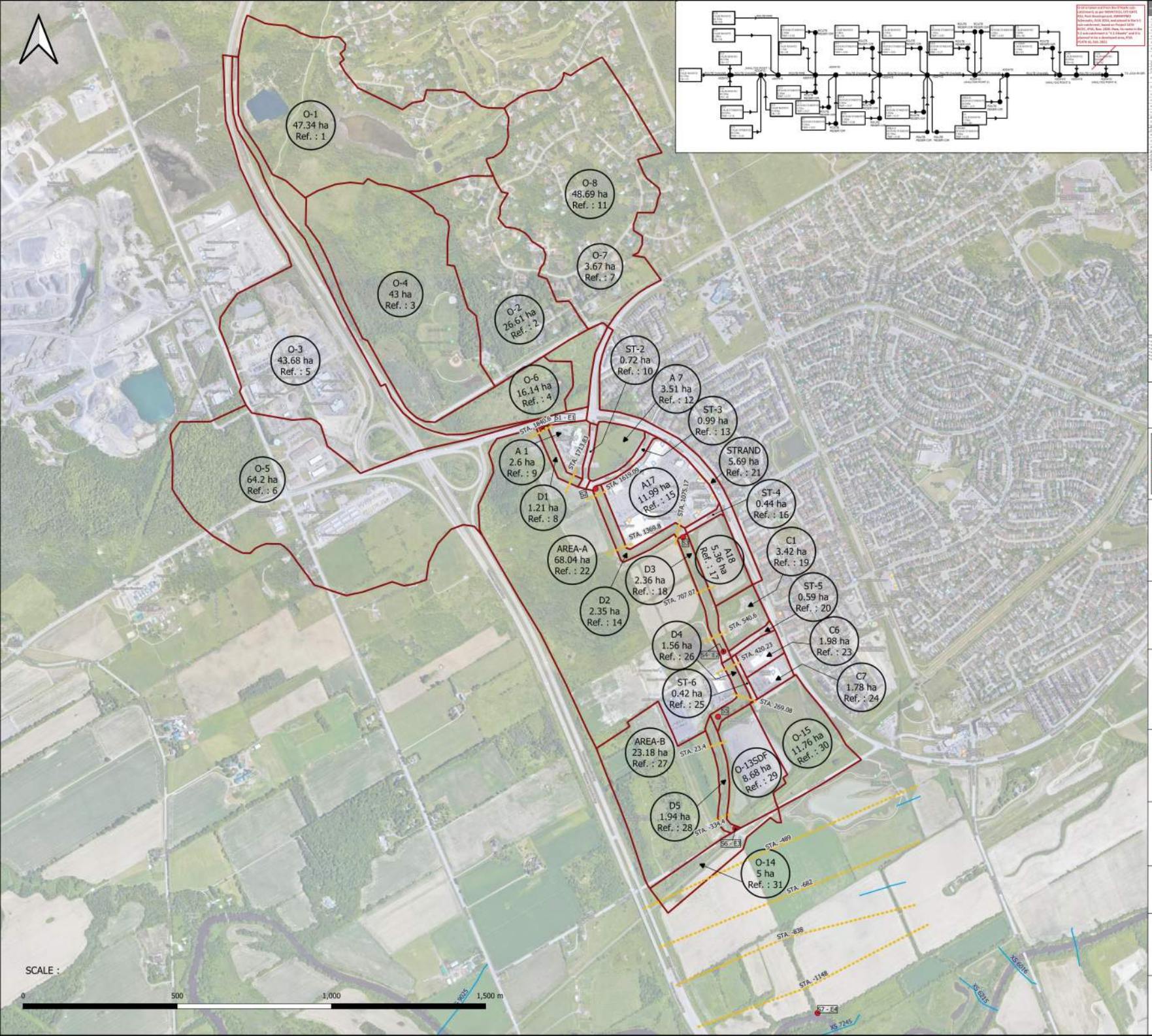
(1) N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6016 (Hydrograph from Node Foster routed to Node at Cedarview Road)

(2) "MS_P2" and "P2-OVF" are the outflow and the overflow from ROUTE RESERVOIR of the Clarke sub-catchment

(3) "KB-Pond3" =Total Flows at KB third pond

(4 & 5 & 6 & 7) "FC-01-S" & "FC-02-S" & "FC-03-S" & "FC-04-S" = Existing / Proposed Subcatchments To Fraser Clarke Drain as per NOVATECH Report June, 2020

(8 & 9) "JR-01-S" & "JR-02-S" = Proposed Subcatchments To Jock River as per NOVATECH Report June, 2020



File name:

Figure F1 - O'Keefe Sub-catchments.pdf

Legend

20210129-O'Keefe Sub-catchment Boundaries
O'Keefe Sub-catchment Boundaries
Google Hybrid

XS 7245 — Cross Section at station 7245

S1 - E1 — HYDROLOGIC MODELING (SWMHYMO) ANALYSIS POINT - ENVIRONMENTAL MANAGEMENET (EMP) ANALYSIS POINT

O-1
47.34 ha
Ref. : 1

Area ID
Area (ha)
Reference Number

STA. 1840.6 — CROSS SECTION AND STATION

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE : Figure F1 - O'Keefe Sub-catchments

Table F1 - O'Keefe Sub-catchments

Schematic F1 - O'Keefe Sub-catchments

PROJECT NO.	1474
DRAWN:	MM
DATE:	Mar. 2021

Ref.	ID O'Keefe	Area (ha) (from Novatech Report AUG2014)	Area (ha) (from GIS- JFSA P1474-16-QC,JAN2021)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	Slope (%)	ROUTE RESERVOIR					ROUTE CHANNEL [ROUTE PIPE]					
										NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	O-1	63.72	47.34	OKF-N (NORTH OF		[0.9]		61		A1	A1-STR	A1-OVF	0.035	0.038	O-1	O-1R	960	0.63	0	2
2	O-2	28.61	26.61	OKF-N (NORTH OF		[1.1]		57					0.072	0.051					4	0
3	O-4	46.94	43	OKF-N (NORTH OF		[0.9]		49					0.1	0.059					6	0
4	O-6	16.46	16.14	PT1[1](WEST OF THE		[0.7]		43					0.125	0.07					10	2
5	O-3	39.67	43.68	PT1[1](WEST OF THE		0.3	0.15	50	0.32				0.16	0.074	OKF-N = ["O-1R" + "O-2"+"O-4"]	OKF-NR	210	0.81	14.62	1.56
6	O-5	60.63	64.2	PT1[1](WEST OF THE		0.26	0.13	61	1.38				0.185	0.081					18.41	1.44
7	O-7	5.28	3.67	FF(TOTAL FLOW		[0.6]		54		ST-2	ST2STR	ST2OVF	0.052	0.001					22.43	0
8	D1	1.17	1.21	ST2-IN [2]		[0.28]		84					0.053	0.008					25.07	0.7
9	A1	2.5	2.6	ST2-IN [2]		0.85	0.68	Horton	0.5	A7	A7-STR	A7-OVF	0.049	0.054					29.1	1.79
10	ST-2	0.59	0.72	ST2-IN [2]		0.57	0.46	Horton	0.5				0.102	0.072					33.73	2.71
11	O-8	60.55	48.69	ST2-IN [2]		[1]		69					0.14	0.082					45.54	3.58
12	A7	3.51	3.51	PT2ST3(TOTAL FLOW		0.85	0.68	Horton	0.5				0.175	0.099					3.45	0.6
13	ST-3	0.71	0.99	PT2ST3(TOTAL FLOW		0.57	0.46	Horton	0.5				0.225	0.105					13.45	0.5
14	D2	2.28	2.35	PT3ST4 (TOTAL FLOW		[0.99]		84					0.26	0.114					14.45	0
15	A17	12.04	11.99	PT3ST4 (TOTAL FLOW		0.85	0.68	Horton	0.5	ST-3	ST3STR	ST3OVF	0.063	0.001	FF=["PT1[1]"+" O-7"]	DRAIN1	302	1	15.55	0
16	ST-4	0.35	0.44	PT3ST4 (TOTAL FLOW		0.57	0.46	Horton	0.5				0.064	0.0094					16.55	0.5
17	A18	5.3	5.36	PT3ST4 (TOTAL FLOW		0.85	0.68	Horton	0.5	A17	A17STR	A17OVF	0.169	0.185					26.55	0.6
18	D3	2.51	2.36	ST5-E [5]		[0.73]		86					0.349	0.248					30	1.7
19	C1	3.41	3.42	ST5-E [5]		0.85	0.68	Horton	0.5				0.482	0.283	[O-8]	[O8PIPE]	[335.1]	[0.1]	[Width= 1800 mm]	[Hight= 1200 mm]
20	ST-5	0.45	0.59	ST5-E [5]		0.57	0.46	Horton	0.5				0.602	0.338	PT2ST3= ["ST2-IN[2]" +"A7-STR" +"A7-OVF" +"ST3STR" +"ST3OVF"]	DRAIN2	592	0.23	2.6	0.95
21	STRAND	7.59	5.69	SSAOUT [4]		0.85	0.64	Horton	0.5				0.771	0.359					12.6	0.75
22	AREA-A	68.04	68.04	PT4ST5[3](TOTAL		0.8	0.64	Horton	0.5				0.891	0.391					14.1	0
23	C6	1.87	1.98	PT5ST6(TOTAL FLOW		0.85	0.68	Horton	0.5	ST-4	ST4STR	ST4OVF	0.031	0.001					15.9	0
24	C7	1.62	1.78	PT5ST6(TOTAL FLOW		0.85	0.68	Horton	0.5				0.032	0.005					17.4	0.75
25	ST-6	0.41	0.42	PT5ST6(TOTAL FLOW		0.57	0.46	Horton	0.5	A18	A18STR	A18OVF	0.074	0.082					27.4	0.95
26	D4	1.73	1.56	D4-EX		[0.60]		88					0.154	0.109					30	1.7
27	AREA-B	24.04	23.08	D4-EX		0.77	0.62	Horton	1.4				0.212	0.125	PT3ST4= ["DRAIN2"+"D 2"+ "A17STR"+ "A17OVF"+ "ST4STR"+ "ST4OVF"+ "A18STR"+ "A18OVF"]	DRAIN3	525	0.23	2.5	1
28	D5	1.9	1.93	PT6MC [6] (McKenna		[0.69]		86					0.265	0.149					12.5	0.8
29	O-13SDF	9.74	8.8	PT6MC [6] (McKenna		[0.43]		81					0.339	0.158					14.1	0
30	O-15	10.67	11.76	M-C		[0.30]		82					0.392	0.172					15.9	0
31	O-14	30.02	5	OKEEFE		[0.133]		82		C1	C1-STR	C1-OVF	0.048	0.052					17.5	0.8
													0.099	0.07					27.5	1
													0.136	0.08					30	1.7
													0.17	0.096						
													0.218	0.102						
													0.252	0.111	PT5ST6= ["PT4ST5[3]"+ "C6-STR"+ "C6-OVF"+ "C7-STR"+ "C7-OVF"+ "ST6STR"+ "ST6OVF"]	DRAIN4	324	0.1	2	1.2
										ST-5	ST5STR	ST5OVF	0.04	0.001					12	1
													0.041	0.0062					14	0
										STRAND	S-POND	S-OVF	0.033	0.188					16	0
													0.057	0.253					18	1
													0.104	0.287					28	1.2
													0.16	0.336					30	2
													0.34	0.346						
													0.471	0.36						
													0.824	0.39						
										Area-A	SWMF-A	SWMAOV	0.103	1.077	D4-EX= ["DRAIN4"+ "D4" + "SWMF-B"+ "SWMBOVF"]	DRAIN5	413	0.16	0	1.41
													0.128	1.749					6.13	0.97
													0.382	2.282					12.29	0.89
													0.703	2.582					15.71	0
													1.256	2.978					17.97	0.39
													1.567	3.202					23.04	0.35
													1.955	3.493					32.83	0.96
													2.1	3.6					32.84	2.5
										C6	C6-STR	C6-OVF	0.026	0.029	M-C= ["PT6MC[6]"+ "O-15"]	O-14Ch	845.3	0.1	0	1.53
													0.054	0.038					5.56	1.47
													0.075	0.044					9.21	1.45
													0.093	0.052					12.45	1.53
													0.12	0.056					13.7	1.5
													0.138	0.061					15	0.69
										C7	C7-STR	C7-OVF	0.023	0.025					15.34	0
													0.047	0.033					16.51	0.05
													0.065	0.038					17.3	0.17
													0.081	0.045					18.04	0.74
													0.104	0.048					19.29	1.32
													0.12	0.053					22.73	1.47
																			31.84	1.41
																			31.85	2.5
										ST-6	ST6STR	ST6OVF	0.036	0.001	**SN_OK** (Total Flows at Okeefe Drain)	**N_FO** is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6215 (Hydrograph from Node Okeefe routed to Node at Foster Drain)	1183	0.0761	-794.18	91
													0.037	0.0058					-775.41	91.5
										Area-B	SWMF-B	SWMBOVF	0.025	0.09					-702.63	91.5
													0.175	0.51					-546.19	91.5
													0.35	0.71					-529.54	91.5
													0.495	0.82					-323.44	91
													0.648	0.98					-320.71	91
													0.965	1.045					-183.59	91
													1.072	1.14					-182.54	90.5
										O-13SDF	SDF	OVFSDF	0.15	0.6					-181.36	90
													0.2	1.5					-177.37	90
																			-87.7	90
																			-33.89	90
																			-18.52	86.88
																			0	85.2
																			16.2	86.83
																			31.59	90
																			33.03	90.5
																			34.41	91
Total		514.31	458.91																	

[1] PT1=["OKF-NR"+"O-3"+"O-5"+"O-6"]

[2] ST2-IN=["DRAIN1"+"D1"+"A1-STR"+"A1-OVF"+"ST2STR"+"ST2OVF"+"O8PIPE"]

[3] PT4ST5=["SSAOUT[4]"+"SWMF-A"+"SWMAOV"]

[4] SSAOUT=["ST5-E[5]"+"S-POND"+"S-OVF"]

[5] ST5-E["DRAIN3"+"D3"+"C1-STR"+"C1-OVF"+"ST5STR"+"ST5OVF"]

[6] PT6MC=["DRAIN5"+"D5"+"SDF"]



Ref.	Name ID	Area (ha)	Major System To	Minor System To	T. Imperv.	IDMP	CN	EQE Length (m) =SQR((Area*10000)/1.5)	Slope (%) SLPP (Pervious)	Slope (%) SLPI (Impervious)	ROUTE RESERVOIR NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	ROUTE CHANNEL (Station 6016) NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	FOSTER	325.44	FOSTER-OUT = ["P_FOS"+"FO-OVF"]		0.55	0.55	74	5472.958211	0.5	0.5	FOSTER	P_FOS	FO-OVF	10.34	10	SN_FO (Total Flows at Foster Drain)	N_CE	159	0.0818	-645.23 -391.2 -91 -85.52 -15.46 -9.79 -3.22 3.22 10.96 16.44 26.55 29.03 35.76 36.67 108.08 109.82 112.04 114.62 116.76	91.5 91.5 91.5 91.5 89.4 89.31 88.34 85.07 85.79 88.49 89.45 90.27 90.67 91 91 90.5 90.5 91 91.5

File name:

Figure F2 - Foster Sub-catchment.pdf

Legend

- Channel Cross Sections
- SWMF Drains
  - Foster Drain
- SWMF ponds
  - Foster Pond
- Foster Sub-catchment
  - FOSTER
- Google Hybrid

XS 6016 — Cross Section at station 6016

FOSTER
325.44 ha
Ref. 1

- Area ID
- Area (ha)
- Reference Number

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PROJECT :

BCDC - Quantity Control Study

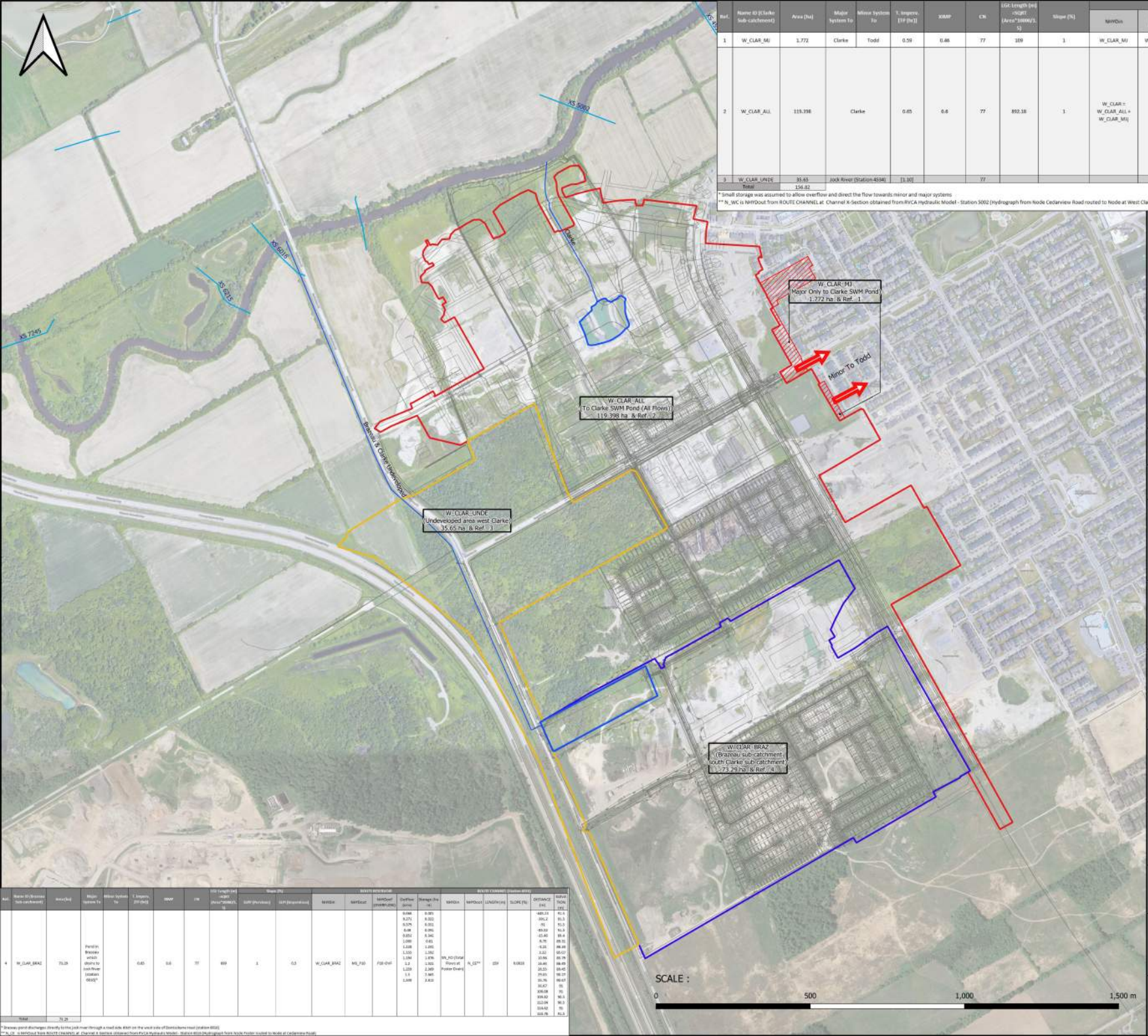
TITLE :

Figure F2 - Foster Sub-catchment

Table F2 - Foster Sub-catchment

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID	Area (ha)	Major System To	Minor System To	T. Imperv.	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)		ROUTE RESERVOIR					ROUTE CHANNEL (Station 6016)					
									SLPP (Pervious)	SLPI (Impervious)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	FOSTER	325.44	FOSTER-OUT = ["P_FOS"+"FO-OVF"]		0.55	0.55	74	1472.956211	0.5	0.5	FOSTER	P_FOS	FO-OVF	10.34	10	SN_FO (Total Flows at Foster Drain)	N_CE	159	0.0818	-645.23	91.5
																				-391.2	91.5
																				-91	91.5
																				-85.52	91.5
																				-15.46	89.4
																				-9.79	89.31
																				-3.22	86.24
																				3.22	85.07
																				10.96	85.79
																				16.44	86.49
																				26.55	89.45
																				29.03	90.27
																				35.76	90.67
																				36.67	91
																				108.08	91
																				109.82	90.5
																				112.04	90.5
																				114.62	91
																				116.76	91.5



Ref.	Name ID (Clarke Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Impere. [TP (hr)]	10MP	CN	LGI: Length (m) =SQRT (Area*10000)/1.5)	Slope (%)	ROUTE RESERVOIR NHYDin	NHYDout	NHYDout (OVERFLOW)	Outflow (cms)	Storage (ha m)	ROUTE CHANNEL (Station 4534) NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	W_CLAR_MJ	1.772	Clarke	Todd	0.59	0.46	77	109	1	W_CLAR_MJ	W_CLAR_Min	W_CLAR_MJ)	0.213	0.0001*						
2	W_CLAR_ALL	119.398	Clarke		0.65	0.6	77	892.18	1	W_CLAR = W_CLAR_ALL + W_CLAR_MJ)	MS_P2	P2-OVF	0.128 0.138 0.148 0.227 0.934 0.505 0.666 0.831 0.995 1.069 1.31 4.904 13.048 23.745 36.474 45.958 61.652	0.161 0.409 0.68 0.951 1.223 1.52 1.821 2.123 2.434 2.583 2.647 2.861 3.188 3.523 3.871 4.127 4.399	N_WC**	N_KB	1020	0.0458	-1062.01 -1028.17 -992.1 -279.34 -23.63 -13.45 -0.07 10.54 23.63 24.06 26.72 45.07 128.17 270.7 728.3	94 92.5 93.5 90 90 87.13 86.24 87.13 90 90.5 91 91.5 91.5 92.5 93
3	W_CLAR_UNDE	35.65	Jock River (Station 4534)		[1.10]		77													
	Total	156.82																		

* Small storage was assumed to allow overflow and direct the flow towards minor and major systems
** N_WC is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002 (Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain)

Ref.	Name ID (Brazeau sub-catchment)	Area (ha)	Major System To	Minor System To	T. Impere. [TP (hr)]	10MP	CN	LGI: Length (m) =SQRT (Area*10000)/1.5)	Slope (%)	ROUTE RESERVOIR NHYDin	NHYDout	NHYDout (OVERFLOW)	Outflow (cms)	Storage (ha m)	ROUTE CHANNEL (Station 4534) NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	SUPRATION (m)
4	W_CLAR_BRAZ	73.29	Pond in Brazeau which drains to Jock River (station 6010)*		0.65	0.6	77	669	1 0.5	W_CLAR_BRAZ	MS_P10	P10-OVF	0.000 0.271 0.579 0.88 1.051 1.088 1.118 1.155 1.194 1.2 1.209 1.5 1.698	0.001 0.322 0.551 0.091 0.341 0.81 1.241 1.392 1.876 1.921 2.369 3.985 3.813	MS_P2 (Total Flows at Foster Drain)	N_QC**	159	0.0016	-685.23 -395.2 -91 -83.02 -15.46 -6.79 -4.23 1.22 10.96 16.46 25.55 29.65 31.76 35.67 106.08 109.92 112.04 114.42 116.78	91.5 91.5 91.5 91.3 89.4 89.91 88.88 90.07 89.79 88.89 89.45 90.27 90.67 91 91 90.5 90.3 91 91.3
Total		73.29																		

* Brazeau pond discharges directly to the Jock river through a road side ditch on the west side of Dominiontame road (station 6010).
** N_QC is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6010 (Hydrograph from Node Foster routed to Node at CedarView Road)

Legend

- Channel Cross Sections
- SWMF Drains
  - Brazeau & Clarke Undeveloped
  - Clarke
- SWMF ponds
  - West Clarke
  - Brazeau
- Clarke Sub-catchment & Brazeau Sub-catchment
  - W_CLAR_MJ
  - W_CLAR_MJ (Major Only to Clarke SWM Pond)
  - W_CLAR_ALL
  - W_CLAR_BRAZ
  - W_CLAR_UNDE
- Clarke-Brazeau-CAD
- Google Hybrid

File name:

Figure F3 - Clarke & Brazeau Sub-catchments.pdf

XS 4534 Cross Section at station 4534

Minor System

W_CLAR_MJ
(Major Only to Clarke SWM Pond)
1.772 ha & Ref. 1

- Area ID
- Reference Number
- Area (ha)

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PROJECT :

BCDC - Quantity Control Study

TITLE : Figure F3 - Clarke & Brazeau Sub-catchments

Table F3-1 - Clarke Sub-catchments

Figure F3-2 - Brazeau Sub-catchment

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (Clarke Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)	ROUTE RESERVOIR					ROUTE CHANNEL (Station 4534)					
										NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	W_CLAR_MJ	1.772	Clarke	Todd	0.59	0.46	77	109	1	W_CLAR_MJ	W_CLAR_MJn	W_CLAR_MJj	0.213	0.0001*						
2	W_CLAR_ALL	119.398	Clarke		0.65	0.6	77	892.18	1	W_CLAR = W_CLAR_ALL + W_CLAR_MJj	MS_P2	P2-OVF	0.128	0.161						
													0.138	0.409	N_WC**	N_KB	1020	0.0498	-1082.01	94
													0.148	0.68					-1028.17	92.5
													0.227	0.931					-992.3	93.5
													0.354	1.223					-279.34	90
													0.505	1.52					-23.63	90
													0.666	1.821					-13.45	87.13
													0.831	2.123					-0.07	86.24
													0.995	2.434					10.54	87.15
													1.069	2.583					23.63	90
													1.51	2.647					24.86	90.5
													4.904	2.861					26.72	91
													13.048	3.188					45.07	91.5
													23.745	3.523					128.17	91.5
													36.474	3.871					270.7	92.5
													45.938	4.127					728.3	95
													61.652	4.539						
3	W_CLAR_UNDE	35.65	Jock River (Station		[1.10]		77													
Total		156.82																		

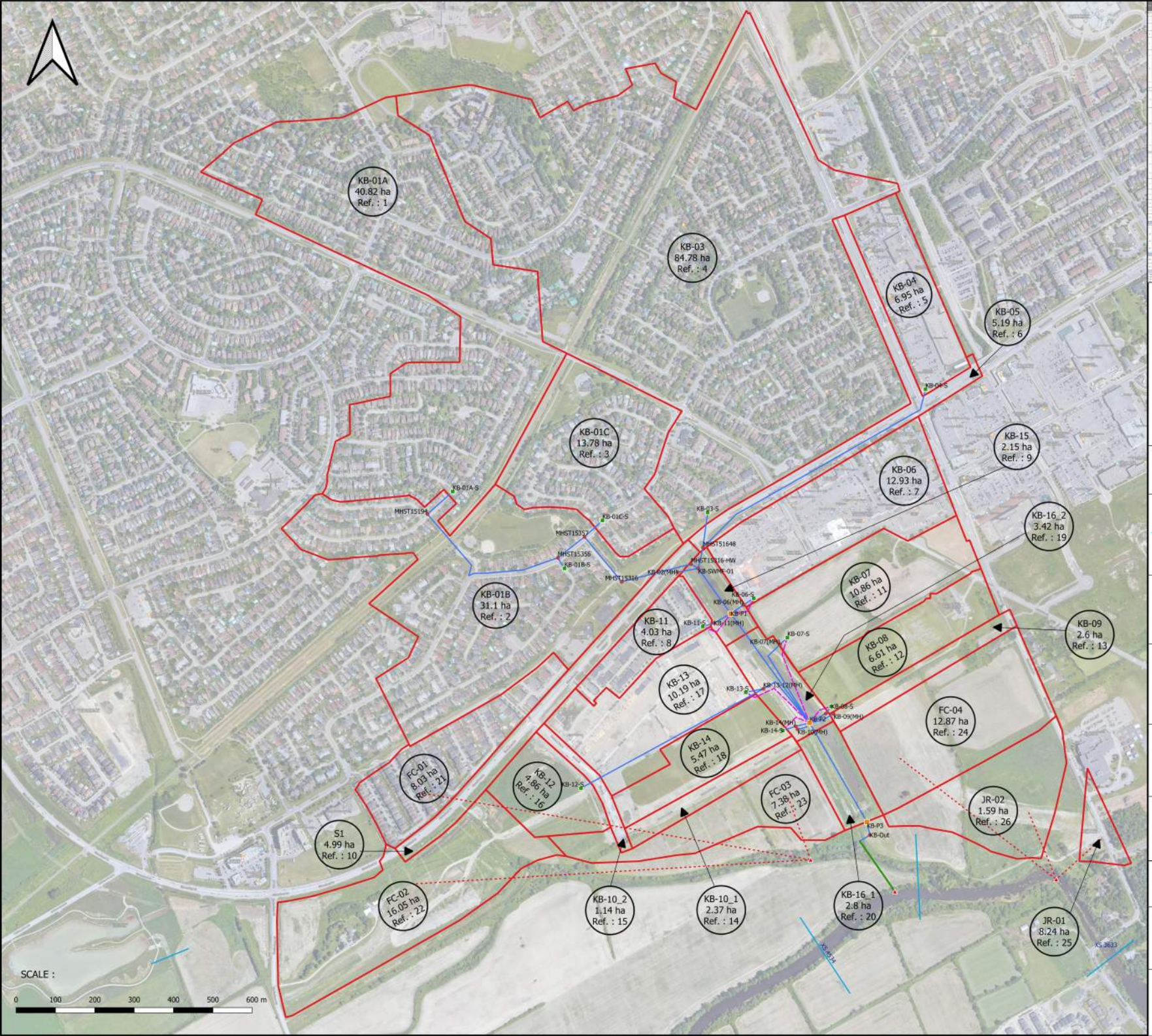
* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** N_WC is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 5002 (Hydrograph from Node Cedarview Road routed to Node at West Clarke Drain)

Ref.	ID (Brazeau Sub-catchment)	Area (ha)	Major System To	Minor System To	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/ 1.5)	Slope (%)		ROUTE RESERVOIR					ROUTE CHANNEL (Station 6016)					
									SLPP (Pervious)	SLPI (Impervious)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
4	W_CLAR_BRAZ	73.29	Pond in Brazeau which drains to Jock River (station 6016)*		0.65	0.6	77	699	1	0.5	W_CLAR_BRAZ	MS_P10	P10-OVF	0.068 0.271 0.379 0.48 0.853 1.005 1.128 1.155 1.194 1.2 1.259 1.3 1.349	0.001 0.022 0.051 0.091 0.341 0.61 1.231 1.592 1.876 1.921 2.369 2.665 2.813	SN_FO (Total Flows at Foster Drain)	N_CE**	159	0.0818	-645.23 -391.2 -91 -85.52 -15.46 -9.79 -3.22 3.22 10.96 16.44 26.55 29.03 35.76 36.67 108.08 109.82 112.04 114.62 116.76	91.5 91.5 91.5 91.5 89.4 89.31 86.24 85.07 85.79 86.49 89.45 90.27 90.67 91 91 90.5 90.5 91 91.5
Total		73.29																			

* Brazeau pond discharges directly to the jock river through a road side ditch on the west side of Borrisokane road (station 6016)

** N_CE is NHYDout from ROUTE CHANNEL at Channel X-Section obtained from RVCA Hydraulic Model - Station 6016 (Hydrograph from Node Foster routed to Node at Cedarview Road)



Legend

- Ken-BU storage
- Ken-BU MH
- Ken-BU Pond
- Ken-BU Outfalls
- Ken-BU Pipe
- Ken-BU Major System
- Ken-BU Channel
- Ken-BU to FC (Fraser Clarke) and JR(Jock River)

Kennedy Burnett Sub-catchment

- Kennedy Burnett (Ken-BU)

Google Hybrid

File name:

Figure F4 - Kennedy Burnett Sub-catchments.pdf

XS 3633 Cross Section at station 3633

KB-01A
40.82 ha
Ref. : 1

Area ID
Area (ha)
Reference Number

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PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure F4 - Kennedy Burnett Sub-catchments

Table F4 - Kennedy Burnett Sub-catchments

PROJECT NO.	1474
DRAWN:	MM
DATE:	Mar. 2021

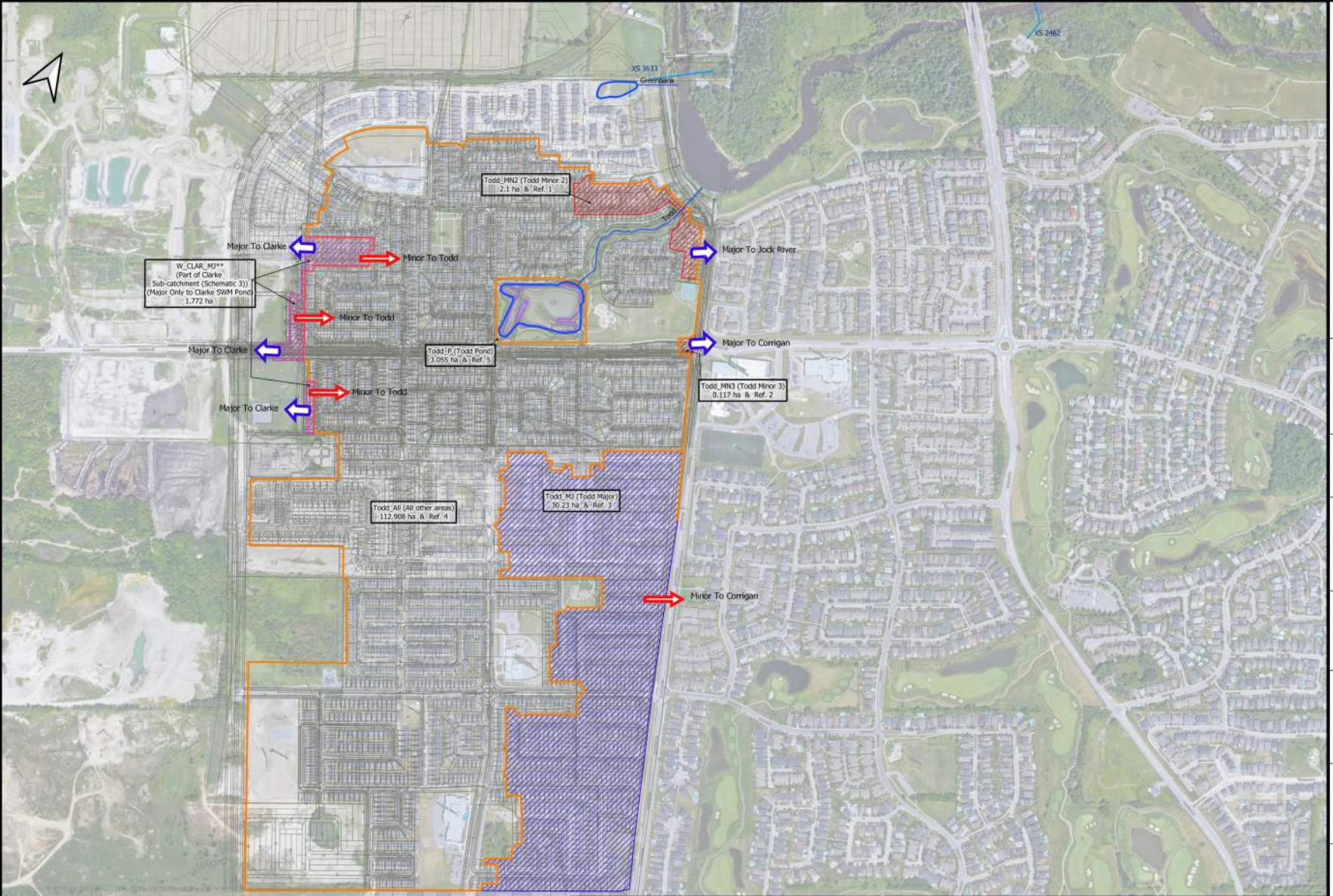
Ref.	ID KENNEDY-BURNETT	Area (ha)	Runoff Coef. [1]	Zero Imperv [1] (%)	Slope [1] (%)	Equivalent Width [1] (m)	Flow Length [1] (m)	Percent Routed [1] (%) (Pervious)	TIMP [2]	XIMP [2]	LGI: Length (m) =SQRT (Area*10000/1.5)	SLPP (%)	SLPI [2] (%)	Minor System Criteria [1]	Major System Criteria [1]	Major and Minor System To	DUALHYD parameters				ROUTE RESERVOIR					ROUTE CHANNEL (Station 3633)					
																	Major System	Minor System	Max. Release Rate [2] (cms)	Storage [2] (m^3)	NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
Existing Subcatchments to KB-SWMF																					KB-P1 = ["KB-01A-S" + "KB-01B-S" + "KB-01C-S" + "KB-03-S" + "KB-04-S" + "KB-05" + "KB-06-S" + "KB-11-S" + "KB-15" +"S1"]	KB-P1R	KB-P1ovf	0.076	0.003	SN_KB (Total Flows before Station 3633)	N_TO	650	0.0498	-29.24	91
1	KB-01A	40.82	0.49	50%	0.97%	1879	220	76%	0.408	0.09792	521.664	0.5	0.5	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-01A-S	KB-01A-MJ	KB-01A-MN	3.6	4995				0.088	0.006					-27.41	90.5
2	KB-01B	31.1	0.46	50%	0.42%	312	1000	50%	0.375	0.1875	455.339	0.42	0.42	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-01B-S	KB-01B-MJ	KB-01B-MN	1.585	6075				0.136	0.011					-25.64	90
3	KB-01C	13.78	0.49	50%	0.50%	403	335	50%	0.409	0.2045	303.095	2.0	0.5	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-01C-S	KB-01C-MJ	KB-01C-MN	1.35	1880				0.301	0.017					-23.74	89.5
4	KB-03	84.78	0.48	50%	0.63%	647	1300	50%	0.394	0.197	751.798	2.0	0.63	10 L/s/inlet & 15 L/s/inlet ICDs	No MS flows to KB-SWMF	KB-03-S	KB-03-MJ	KB-03-MN	5.27	15500				0.454	0.027					-22	89.26
5	KB-04	6.95	0.80	40%	0.50%	55	1265	100%	0.85	0.85	215.252	2.0	0.5	Controlled to 503 L/s (approx. 5-year inlet capture rate)	MS flows stored on-site	KB-04-S	KB-04-MJ	KB-04-MN	0.503	1972				0.631	0.041					-20	88.51
6	KB-05	5.19	0.65	0%	2.00%	51	1000	100%	0.93	0.93	186.011	2.0	0.50	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P1								1.173	0.068					-19	88.32
7	KB-06	12.93	0.81	40%	4.75%	217	600	100%	0.873	0.873	293.598	2.0	4.75	Controlled to Qcap (1350mm) 1,760 L/s (approx. 5-year inlet capture rate)	MS flows stored on-site	KB-06-S	KB-06-MJ	KB-06-MN	2.262	1950				1.91	0.111					-15	88.1
8	KB-11	4.03	0.67	50%	2.00%	116	350	100%	0.675	0.675	163.911	2.0	2.0	Controlled to 577 L/s (approx. 5-year inlet capture rate)	MS flows to KB-SWMF	KB-11-S	KB-11-MJ	KB-11-MN	0.577	597				4.847	0.231					-10	88.11
9	KB-15	2.15	0.90	90%	0.30%	476	45	100%	0.79	0.79	119.722	2.0	0.3	Uncontrolled		KB-P1								9.813	0.436					-5	88.17
10	S1	4.99	0.65	0	0.02	50	1000	1	0.93	0.93	182.3915203	2	2	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P1								12.134 12.438 12.424 12.425	0.617 0.732 0.811 0.894					0 5 10 15	88.27 88.19 88.06 88.48
20	KB-16_1	2.800	0.900	0.900	0.003	550.000	50.000	1.000	0.750	0.750	136.626	2.000	0.300	Uncontrolled		KB-P3					KB-P3 = [KB-Pond2[4]+ KB-16_1]	KB-P3R	KB-P3ovf	0.051 0.048 0.057 0.089 0.133 0.199 0.321 1.029 4.036 8.332 11.727 14.125 15.675 16.555 16.911	0.002 0.003 0.029 0.045 0.069 0.106 0.172 0.306 0.527 0.761 0.941 1.067 1.149 1.196 1.214					16 23.74 24.68 25.57 26.5	88.7 89.5 90 90.5 91
19	KB-16_2	3.42	0.9	0.9	0.003	672	50	1	0.71	0.71	150.9966887	2	0.3	Uncontrolled		KB-P2								0.053 0.132 0.269 0.455 0.699 0.947 1.853	0.005 0.009 0.014 0.023 0.037 0.056 0.09						
Proposed Subcatchments to KB-SWMF																														
11	KB-07	10.86	0.8	0.5	0.02	209	525	1	0.86	0.86	269.072	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-07-S	KB-07-MJ	KB-07-MN	2.094	1378				2.712	0.146						
12	KB-08	6.61	0.65	0.5	0.02	133	500	1	0.64	0.64	209.921	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-08-S	KB-08-MJ	KB-08-MN	1.058	787	KB-P2=["KB-Pond1[3]in + "KB-07-S"+ "KB-08-S"+ "KB-09"+ "KB-10_1"+ "KB-10_2"+ "KB-12-S"+ "KB-13-S"+ "KB-14-S" + "KB-16_2"]	KB-P2R	KB-P2ovf	6.626	0.287						
13	KB-09	2.6	0.8	0	0.02	70	500	1	0.86	0.86	131.656	2.0	2.0	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P2								11.228	0.515						
14	KB-10_1	2.37	0.8	0	0.02	64	500	1	0.86	0.86	125.698	2.0	2.0	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P3								14.885	0.738						
15	KB-10_2	1.14	0.8	0	0.02	57	200	1	0.86	0.86	87.178	2.0	2.0	10-year inlet capture rate for storm sewers	MS flows to KB-SWMF	KB-P4								16.473	0.893						
16	KB-12	4.86	0.75	0.3	0.02	227	215	1	0.79	0.79	180.000	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	KB-12-S	KB-12-MJ	KB-12-MN	0.8665	632				17.311	0.998						
17	KB-13	10.19	0.65	50%	2.00%	227	450	100%	0.64	0.64	260.640	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-13-S	KB-13-MJ	KB-13-MN	1.722	1077				17.633	1.063						
18	KB-14	5.47	0.65	50%	2.00%	121	450	100%	0.64	0.64	190.962	2.0	2.0	5-year inlet capture rate (3-hour Chicago)	MS flows to KB-SWMF	KB-14-S	KB-14-MJ	KB-14-MN	0.8734	631				17.634	1.112						
Existing and Proposed Subcatchments Total Area to KB-SWMF (ha)										257.04																				
EXISTING / PROPOSED SUBCATCHMENTS TO FRASER-CLARKE DRAIN																														
21	FC-01	8.03	0.53						0.47	0.47	231.373	2.0	1.0	Controlled to 756 L/s	No MS flows to KB-SWMF	FC-01-S	FC-01-MJ	FC-01-MN	0.756	714											
22	FC-02	16.05	0.85						0.93	0.93	327.109	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	FC-02-S	FC-02-MJ	FC-02-MN	1.159	2385											
23	FC-03	7.37	0.65						0.64	0.64	221.660	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	FC-03-S	FC-03-MJ	FC-03-MN	0.358	1131											
24	FC-04	12.87	0.65						0.64	0.64	292.916	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to FC-Drain	FC-04-S	FC-04-MJ	FC-04-MN	0.741	1794											
Existing / Proposed Subcatchments Total Area to Fraser-Clarke Drain (ha)										44.32																				
PROPOSED SUBCATCHMENTS TO JOCK RIVER																														
25	JR-01	8.24	0.65						0.64	0.64	234.379	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to JR River	JR-01-S	JR-01-MJ	JR-01-MN	0.563	1040											
26	JR-02	1.59	0.65						0.64	0.64	102.956	2.0	1.0	5-year inlet capture rate (3-hour Chicago)	MS flows to JR River	JR-02-S	JR-02-MJ	JR-02-MN	0.153	153											
Proposed Subcatchments Total Area to Jock River (ha)										9.83																				

[1] PCSWMM parameters as per KENNEDY-BURNETT STORMWATER MANAGEMENT FACILITY RETROFIT, DETAILED DESIGN REPORT, NOVATECH June, 2020

[2] SWMHYMO parameters as per JFSA P1474-16, Dec.,2020, the parameters are based on PCSWMM parameters as per KENNEDY-BURNETT STORMWATER MANAGEMENT FACILITY RETROFIT, DETAILED DESIGN REPORT, NOVATECH June, 2020

[3] KB-Pond1 = ["KB-P1R"+"KB-P1ovf"]

[4] KB-Pond2 = ["KB-P2R"+"KB-P2ovf"]



Ref.	Name ID (Todd)	Area (ha)	Major System To	Minor System To	T. Imperv.	XIMP	CN	UDL Length (m) =SQRT (Area*10000/ 1.5)	Slope (%)	ROUTE RESERVOIR					ROUTE CHANNEL (Station 2462)					
										NHYDm	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha m)	NHYDm	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	TODD_MN2	2.1	Jock River (Station 2462)	Todd	0.57	0.53	77	118.322	1	TODD_MN2	TODD_MN2n	TODD_MN2j	0.268	0.0001*						
2	TODD_MN3	0.117	Corrigan	Todd	0.57	0.53	77	27.928	1	TODD_MN3	TODD_MN3n	TODD_MN3j	0.016	0.0001*						
3	TODD_MJ	30.23	Todd	Corrigan	0.64	0.52	77	448.925	1	TODD_MJ	TODD_MJn	TODD_MJj	3.314	0.0001*						
4	TODD_ALL	112.908	Todd	Todd	0.57	0.52	77	867.594	1											
5	TODD_P	3.055	Todd	Todd	0.63	0.63	77	142.712	1	"TODD" = ("TODD_MN2n"+ "TODD_MN3n"+ "TODD_MJ"+ "TODD_P"+ "TODD_ALL"+ "W_CLAR_MJn"**)	MS_P3	P3-OVF	0.014 0.048 0.061 0.08 0.088 0.109 0.118 0.122 1.972 9.135 15.608 19.256 27.282 40.957 56.372 73.349 85.469 104.771	0.155 0.394 0.56 0.909 1.089 1.652 1.952 2.099 2.289 2.598 2.826 2.942 3.181 3.55 3.929 4.317 4.579 4.977	SN_TO = ["Greenb"(Greenbank Pond)+ "MS_P3"+"P3-OVF"+ "TODD_MN2j"+ "A2-MJ"***]	N_TO	280	0.033	-83.32 -81.36 -79.12 -76.13 -20.46 -19.36 -18.51 -17.72 -11.95 -0.11 11.49 17.72 19.74 21.22 22.68 24.28 26.79 71.98 80.62	90 89.5 89 88.5 88 87.5 87 86.5 85.24 85.12 85.2 86.5 87 87.5 88 88.5 89 90 90.5
	Total	148.41																		

* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** "W_CLAR_MJn" is the minor system from the major system area(Area = 1.772 ha & TIMP = 0.59 & XIMP = 0.46 & CN = 75 & Slope = 1% &Outflow = 0.213 cms)in Clarke sub-catchment (Schematic 3) to Jock River (Station 2462)

*** "A2-MJ" is the major system from A2 area (Area = 25.5 ha & TIMP = 0.52 & XIMP = 0.42 & CN = 75 & Slope = 1% & Storage = 924 cu-m & Flow rate = 1.818 cms) in Corrigan sub-catchment (Schematic 1) to Todd sub-catchment

Legend

- Channel Cross Sections
- SWMF Drains
- SWMF ponds
- Sub-catchments
  - Todd
  - Todd Minor
  - Todd Major
  - Todd Pond Boundary
  - W_CLAR_Major
  - Todd-Greenbank-CAD
- Google Hybrid

File name:

Figure F5 -Todd Sub-catchments.pdf

Major System

Minor System

XS 2462 — Cross Section at station 2462

Todd_P (Todd Pond) 3.055 ha & Ref. — Area ID / Reference Number / Area (ha)

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DSEL
david schaeffer engineering ltd

SCALE :

0 250 500 m

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure F5 -Todd Sub-catchments

Table F5 -Todd Sub-catchments

PROJECT NO.	1474-16
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Name ID (Todd)	Area (ha)	Major System To	Minor System To	T. Imperv.	XIMP	CN	LGI: Length (m) =SQRT (Area*10000/1.5)	Slope (%)	ROUTE RESERVOIR					ROUTE CHANNEL (Station 2462)					
										NHYDin	NHYDout	NHYDovf (OVERFLOW)	Outflow (cms)	Storage (ha-m)	NHYDin	NHYDout	LENGTH (m)	SLOPE (%)	DISTANCE (m)	ELEVATION (m)
1	TODD_MN2	2.1	Jock River (Station 2462)	Todd	0.57	0.53	77	118.322	1	TODD_MN2	TODD_MN2n	TODD_MN2j	0.268	0.0001*						
2	TODD_MN3	0.117	Corrigan	Todd	0.57	0.53	77	27.928	1	TODD_MN3	TODD_MN3n	TODD_MN3j	0.016	0.0001*						
3	TODD_MJ	30.23	Todd	Corrigan	0.64	0.52	77	448.925	1	TODD_MJ	TODD_MJn	TODD_MJj	3.314	0.0001*						
4	TODD_ALL	112.908	Todd	Todd	0.57	0.52	77	867.594	1											
5	TODD_P	3.055	Todd	Todd	0.63	0.63	77	142.712	1	"TODD" = ["TODD_MN2n"+ "TODD_MN3n"+ "TODD_MJj"+ "TODD_P"+ "TODD_ALL"+ "W_CLAR_MJn"**]	MS_P3	P3-OVF	0.014 0.048 0.061 0.08 0.088 0.109 0.118 0.122 1.972 9.135 15.608 19.256 27.282 40.957 56.372 73.349 85.469 104.771	0.155 0.394 0.56 0.909 1.089 1.652 1.952 2.099 2.269 2.598 2.826 2.942 3.181 3.55 3.929 4.317 4.579 4.977	SN_TO = ["GreenB" (Greenbank Pond)+ "MS_P3"+"P3-OVF"+ "TODD_MN2j"+ "A2-MJ"***]	N_TO	280	0.033	-83.32 -81.36 -79.12 -76.13 -20.46 -19.36 -18.51 -17.72 -11.95 -0.11 11.49 17.72 19.74 21.22 22.68 24.28 26.79 71.98 80.62	90 89.5 89 88.5 88 87.5 87 86.5 85.24 85.12 85.2 86.5 87 87.5 88 88.5 89 90 90.5
Total		148.41																		

* Small storage was assumed to allow overflow and direct the flow towards minor and major systems

** "W_CLAR_MJn" is the minor system from the major system area(Area = 1.772 ha & TIMP = 0.59 & XIMP = 0.46 & CN = 75 & Slope = 1% &Outflow = 0.213 cms)in Clarke sub-catchment (Schematic 3) to Jock River (Station 2462)

*** "A2-MJ" is the major system from A2 area (Area = 25.5 ha & TIMP = 0.52 & XIMP = 0.42 & CN = 75 & Slope = 1% & Storage = 924 cu-m & Flow rate = 1.818 cms) in Corrigan sub-catchment (Schematic 1) to Todd sub-catchment



File name:

Figure F6 - Corrigan Sub-catchments.pdf

Major System

Overflow

Legend

Channel Cross Section

Corrigan-Pipe Line

Corrigan-MH

Corrigan Drainage Boundaries

Corrigan Drainage Boundaries

A1
15.75 ha
Ref. : 1

Area ID

Area (ha)

Reference Number

XS 0

Cross Section at station 0

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david schaeffer engineering ltd

PROJECT :

BCDC - Quantity Control Study

TITLE :

Figure F6 - Corrigan Sub-catchments

Table F6 - Corrigan Sub-catchments

PROJECT NO.	1474
DRAWN:	MM
DATE:	Mar. 2021

Ref.	Area (ha)	ID Corrigan	T. Imperv. [TP (hr)]	XIMP	CN	LGI: Length (m) =SQRT (Area*10000 /1.5)	Slope (%)	Major System To	Minor System To	DUALHYD parameters					DIVERT HYD				ROUTE PIPE						ROUTE CHANNEL (Station) [ROUTE RESERVOIR]						
										NHYDin	MajNHYD	MinNHYD	Max. Release Rate (cms)	Storage (m^3)	NHYDin	outflow hydrographs (NHYDs)	NIDout	QTOTAL (cms)= QIDi + QIDii	NHYDin	NHYDout	Diameter (mm) [Height (mm)]	Width (mm)	LENGTH (m) with 0.013 Manning Coef.	SLOPE (m/m)	NHYDin	NHYDout	[NHYDovf]	LENGTH (m)	SLOPE (%)	DISTANCE (m) [Outflow (cms)]	ELEVATION (m) [Storage (ha-m)]
1	15.75	A1*	0.52*	0.42				MH101*	MH101*	A1-Corrig	A1-MJ	A1-MN	1.818	924					MH101= ["A1-MJ" +"A1-MN" +"corr1-MJ" +"corr1-MN" +"corr2"+"B1" +"A4-MN"]	101-102	1050		368	0.0054	Corrigan= ["116-corrig"+ "Pond-Block"]	Co-P	Co-P-OVF			[0.015]	[0.04118]
2	15.87	corr1	0.63	0.63	77	325.27	1	MH101*	MH101*																					
3	12.47	corr2	[1.10]		77			MH101*	MH101*																					
4	2.77	B1	[0.23]		56			N/A	MH101																				[0.03]	[0.08297]
5	1.27	A4	0.65	0.65	75	253	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH101	A4	A4-MJ	A4-MN	0.405	68															[0.045]	[0.12537]
6	25.5	A2	0.52	0.42	75	566	1	"Todd" sub-catchment	MH102	A2	A2-MJ	A2-MN	1.818	924					MH102= ["A2-MN" +"101-102"]	102-103	1500		504	0.0028						[0.06]	[0.16837]
7	1.6	A5	0.71	0.71	75	300	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH103	A5T=["A4-MJ"+"A5"]	A5-MJ	A5-MN	0.357	60															[0.075]	[0.21199]
8	1.56	A6	0.71	0.71	75	280	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH104										MH103= ["102-103" +"A5-MN"]	103-104	1650		438	0.0046						[0.09]	[0.27545]
9	12.31	B2	0.54	0.41	75	417	1	"JOCKVA-TO" Jockvale sub-catchment	MH315	B2	B2-MJ	B2-MN	1.029	508					B2-MN	315-333	1200		254	0.001						[0.105]	[0.34650]
10	5.59	B3	0.54	0.41	75	345	1	"JOCKVA-TO" Jockvale sub-catchment	MH333	B3	B3-MJ	B3-MN	0.459	227					MH333= ["B3-MN" +"315-333"]	333-335	1200		251	0.001						[0.12]	[0.42049]
11	7.6	B4	0.54	0.41	75	388	1	"B7-B4MJ" B7 in Corrigan sub-catchment	MH340	B4	B5-MJ	B4-MN	0.655	323					333-335	335-338	1200		185	0.001						[0.135]	[0.50188]
12	2.2	B5	0.57	0.57	75	187	1	B6 "B6-B7ExMJ"	MH105	B5	B5-MJ	B4-MN	0.26	250	A8-MJ	A8-MJ-JR	2	100 = 50 + 50	335-338	338-340	1350		233	0.001						[0.186]	[0.60307]
13	0.96	A8	0.71	0.71	75	186	1	Half to Jock River and Half to B6 "B6-B7ExMJ"	MH105	A8T=["A6-MJ"+"A8"]	A8-MJ	A8-MN	0.238	40		A8-MJ-B6			MH340= ["338-340" +"B4-MN"]	340-104	1650		240	0.0015						[2.11]	[0.79083]
14	7.19	B7	0.54	0.41	75	211	1	B6 "B6-B7ExMJ"	MH360	B7-B4MJ=["B4-MJ"+"B7"]	B7R-MJ	B7R-MN	0.629	311					MH104T= ["340-104" +"MH104"****]	104-105	[2100]	2400	380	0.001						[5.874]	[1.00271]
15	3.29	B6	0.54**	0.41	75	148.099	1	MH106A**	MH106A**	B6	B6-MJ	B6-MN	0.064	5484					B7R-MN	360-106A	1050		167	0.001						[11.395]	[1.29643]
16	32.54	Corrig-External ("EX-LAND" in SWMHYMO model)	0.5	0.5	74	465.475	1	B6 "B6-B7ExMJ"	"JOCKVA-TO" Jockvale sub-catchment	EX-LAND	EX-LAND-MJ	X-LAND-MI	2.275	1365					MH105-B6	105-106A	1800		208	0.001						[18.77]	[1.62054]
17	2.44	A9	0.71	0.71	75	262	1	"corrig" to Jock River at Station 2462	MH106	B6-B7ExMJ=["B7R-MJ"+"EX-LAND-MJ"+"B5-MJ"+"B6-MJ"+"B6-MN"+"A8-MJ-B6"]	B6R-MJ	B6R-MN	0.064	5484	MH105= ["104-105"+ "B5-MN"+ "A8-MN"+ "TODD_MN3j"]	MH105-JR	2	3 = 0 + 3	MH106A= ["360-106A" +"105-106A" +"B6R-MN" +"B6R-MJ"]	106A-106	1800		190	0.001						[28.143]	[1.97516]
18	4.14	A10	0.47	0.35	75	183	1	"corrig" to Jock River at Station 2463	MH107	A9	A9-MJ	A9-MN	0.547	0		MH105-B6		100 = 96.9 + 3.1(This value is obtained from Corrigan Report, IBI Group, 2008)	MH106= ["106A-106" +"A9-MN"]	106-107	1800		122.5	0.001	corrig= ["Co-P-OVF"+ "Co-P"+ "N_TO"+ "MH105-JR"+ "A8-MJ-JR"+ "A9-MJ"+ "A10-MJ"+ "A11-MJ"+ "A12-MJ"+ "A13-MJ"]	N_MI		580	0.4448	-83.32	90
19	10.61	A11	0.62	0.53	75	379	1	"corrig" to Jock River at Station 2464	MH107	A10	A10-MJ	A10-MN	0.31	228					MH107= ["106-107" +"A10-MN" +"A11-MN"]	107-119	1800		114	0.0012						-81.36	89.5
20	12.29	A12	0.54	0.41	75	183	1	"corrig" to Jock River at Station 2465	MH108	A11	A11-MJ	A11-MN	0.993	556					107-119	119-108	1800		65.8	0.0012						-79.12	89
21	2.59	A13	0.71	0.71	75	379	1	"corrig" to Jock River at Station 2466	MH108	A12	A12-MJ	A12-MN	1.029	672					MH108= ["119-108" +"A13-MN" +"A12-MN"]	108-116	1800		76.6	0.0013						-76.13	88.5
22	2.94	Corr Pond Block ("Pond-Block" in SWMHYMO model)	0.415***	0.41	75	183	1	N/A	"Corrigan" just before ROUTE RESERVOIR ***	A13	A13-MJ	A13-MN	0.571	0					108-116	116-corrig	1800		79.5	0.0013						-20.46	88
																													-19.36	87.5
																													-18.51	87
																													-17.72	86.5
																													-11.95	85.24
																													-0.11	85.12
																													11.49	85.2
																													17.72	86.5
																													19.74	87
																													21.22	87.5
																													22.68	88
																													24.28	88.5
																													26.79	89
																													71.98	90
																													80.62	90.5
Total	183.48																													

*A1 is named as A1-Corrig in SWMHYMO Model to avoid name duplication. A1 was not developed in 2008 so it was NASHYD in Corrigan Report, IBI Group, 2008. After checking A1 from geoOttawa (https://maps.ottawa.ca/geoottawa/)in Jan. 2021, A1 is developed. Because of the lack of information, A1 parameters were taken as A2 parameters because A2 is the nearest sub-catchment to A1. Major and Minor systems go to MH101 because lacking information about where the major system should go.

**B6 was not developed in 2008 so it was NASHYD in Corrigan Report, IBI Group, 2008. After checking B6 from geoOttawa (https://maps.ottawa.ca/geoottawa/)in Jan. 2021, B6 is developed. Because of the lack of information, B6 parameters were taken as B7 parameters because B7 is the nearest sub-catchment to B6. Major and Minor systems go to MH106A because lacking information about where the major system should go.

*** 'Corr Pond Block' is added, Jan. 2021, because it was not included in Corrigan Report, IBI Group, 2008. TIMP calculation was based on the impervious area in 'Corr Pond Block'. TIMP = XIMP = 0.415. 'Corr Pond Block' drains to "Corrigan" just before Corrigan ROUTE RESERVOIR which is just before draining Corrigan sub-catchment to Jock River.

**** MH104=["A6-MN"+"103-104"+"TODD_MJn"(Minor of the Todd Major System goes to Corrigan)], TODD_MJ=30.230 ha, ROUTE RESERVOIR(OUTFLOW = 3.314 cms, STORAGE = 0.0001 ha-m, NHYDout=["TODD_MJn"] ,NHYDin=["TODD_MJ"], NHYDovf=["TODD_MJ"])