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36 Years

WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD

SERVICING AND STORMWATER MANAGEMENT REPORT

Engineering excellence. Planning precision. Inspired landscapes.

SERVICING AND STORMWATER MANAGEMENT REPORT

WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD
OTTAWA, ONTARIO

Prepared by:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Kanata, Ontario
K2M 1P6

March 5, 2021
Revised: September 14, 2021

Novatech File: 119067
Ref No. R-2021-029

NOVATECH
Engineers, Planners & Landscape Architects

September 14, 2021

Planning and Infrastructure Approvals
City of Ottawa
110 Laurier Avenue West
Ottawa, Ontario, K1P 1J1

Attention: Wendy Tse, Planner

Dear Ms. Tse:

Reference: 2020 Walkley Road, Ottawa
Servicing and Stormwater Management Report
Our File No.: 119067

Please find enclosed the 'Servicing and Stormwater Management Report' for the above noted project. This report has been revised as per City of Ottawa Comments and is being resubmitted for final approval in support of a Zoning By-law Amendment and Site Plan Control Applications.

Should you have any questions or require additional information, please contact the undersigned.

Yours truly,

NOVATECH

Matt Hrehoriak, P.Eng.
Project Engineer | Land Development Engineering

cc: Eric Cordon, Canderel

Suite 200, 240 Michael Cowpland Drive, Ottawa ON K2M 1P6 Tel: 613.254.9643 Fax: 613.254.5867 www.novatech-eng.com

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Existing Stormwater Drainage Area Plan	(119067-XSWM)
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LIST OF ENGINEERING DRAWINGS (SEPARATE FROM REPORT)

See Appendix F for Drawing Listing

1.0 INTRODUCTION

Novatech has been retained to prepare a Servicing and Stormwater Management Report for the proposed development located at 2020 Walkley Road, Ottawa, Ontario. This report will support the Zoning By-Law Amendment and Site Plan Application for the subject development. **Figure 1** Key Plan shows the site location.

2.0 EXISTING CONDITIONS

The total site area is approximately 5.7 hectares and is currently developed with two buildings, which include an office component, warehouse space and associated parking. There are existing entrances to the site from Conroy Rd. and Walkley Rd.

The site is bounded by Walkley Rd. to the north, developed light industrial buildings to the east, St Laurent Blvd to the south, and Conroy Rd. to the west. The topography of the site is generally flat with localized sloping around existing catchbasins on site. **Figure 2** shows the existing site conditions.

3.0 PROPOSED DEVELOPMENT

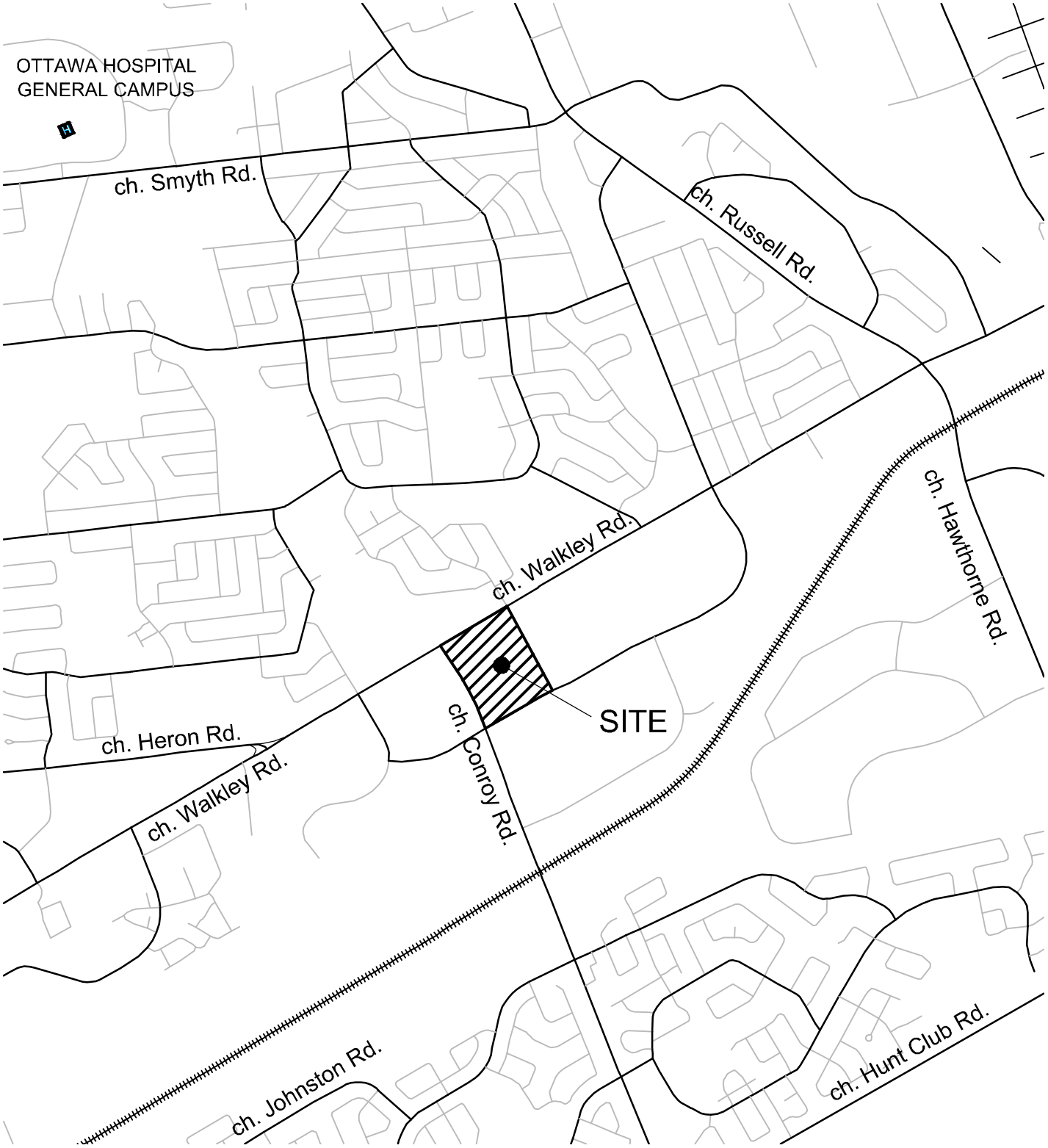
It is proposed to re-develop the site with three new single-story warehouse buildings with associated loading docks and surface parking lots. The proposed re-development of the site will be completed in three phases. The phased development approach allows for the existing buildings to remain in operation while construction of the new warehouse buildings is completed. In phase one it is proposed to construct a new warehouse fronting onto St Laurent Blvd. with 8,547m² of floor space. In phase one a small portion of the existing building fronting onto Conroy Rd. will be demolished to allow for the proposed loading dock. In phase two it is proposed to demolish the remainder of the existing building fronting onto Conroy Rd. and construct a new warehouse with 8,286m² of floor space. Finally, in phase 3 it is proposed to demolish the existing building fronting onto Walkley Rd. and construct a new warehouse with 7,570 m² of floor space. **Figure 3 - 5** shows the proposed re-development and phasing.

The proposed access to the site will remain from Conroy Rd. and Walkley Rd. with an additional new entrance proposed on St Laurent Blvd. In addition to the site plan works there are also road modifications proposed on Walkley Rd. It should be noted that this report should be read in conjunction with the engineering drawing set. The relevant engineering drawings are referenced throughout the report and the full drawing set is listed in **Appendix F**.

4.0 SITE CONSTRAINTS

A geotechnical investigation was also completed for the subject development and a report provided entitled 'Geotechnical Investigation Commercial Development – 2020 Walkley Road Ottawa, Ontario' prepared by Gemtec dated February 23, 2021). The following is a summary of the findings of this report:

- The proposed grading design does not exceed the bearing capacity of the native material. Therefore, there are no grade raise concerns with the proposed design.
- Grey shale bedrock was encountered at 17.8m-22.1m below ground surface.
- Groundwater levels are 2.1m-2.4m below ground surface. Groundwater entering the excavation is anticipated to be less than 50,000 L/day therefore, an Environmental Activity and Sector Registry (EASR) will likely not be required.



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WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD

KEY PLAN

SCALE		
N.T.S		
DATE	JOB	FIGURE
MARCH 2021	119067	1

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WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD

EXISTING CONDITIONS PLAN

SCALE		
N.T.S		
DATE	JOB	FIGURE
MARCH 2021	119067	2

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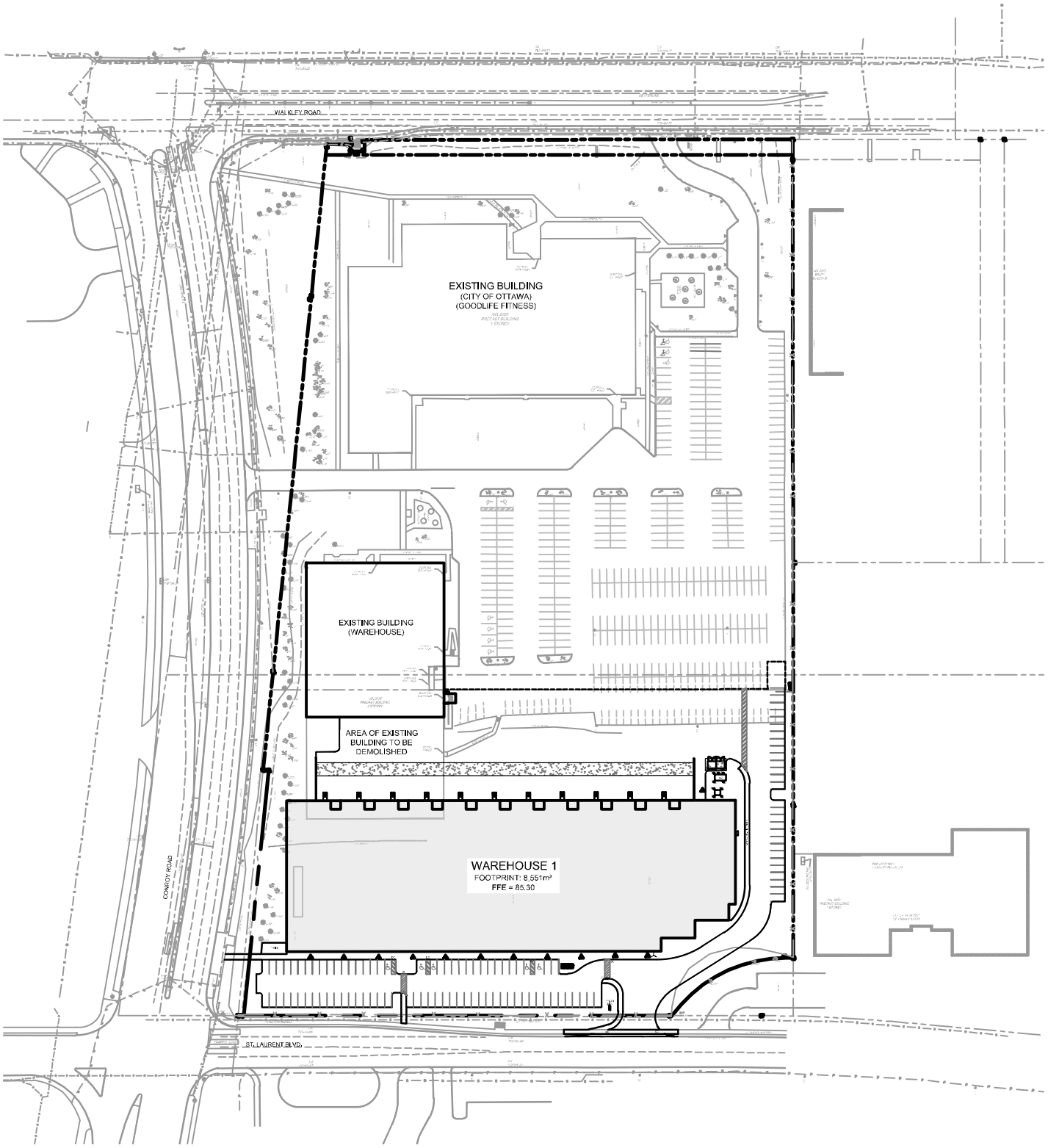

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WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD

SITE PLAN - PHASE 1

SCALE		
N.T.S		
DATE	JOB	FIGURE
AUGUST 2021	119067	3

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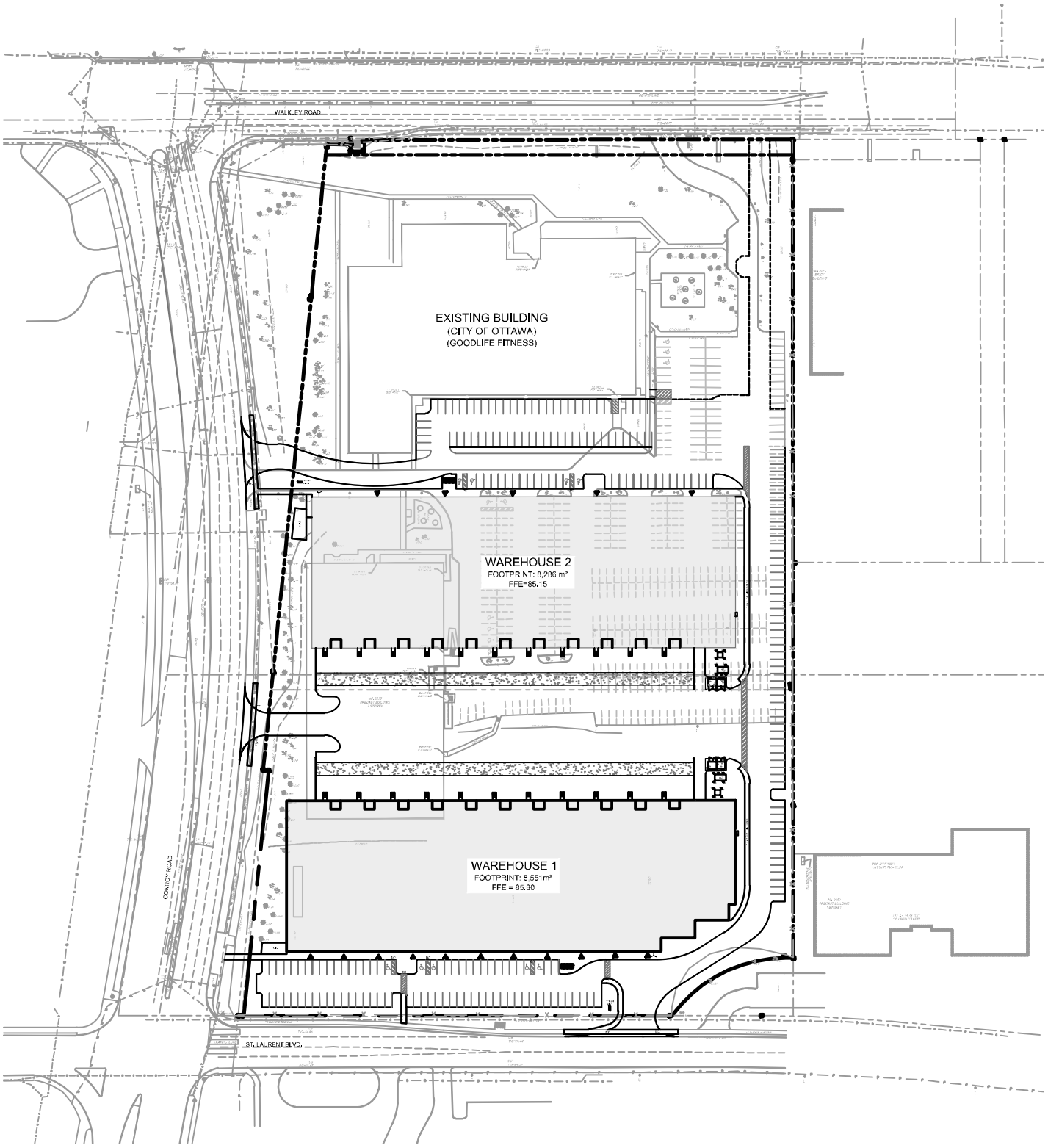

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WALKLEY CONROY WAREHOUSES
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SITE PLAN - PHASE 2

SCALE		
N.T.S		
DATE	JOB	FIGURE
AUGUST 2021	119067	4

M:\2019\119067\CAD\Design\Figures\Report Figures\FIGURE 4 - SP2.dwg, PHASE 2, Aug 27, 2021 - 9:39am, amestwarp

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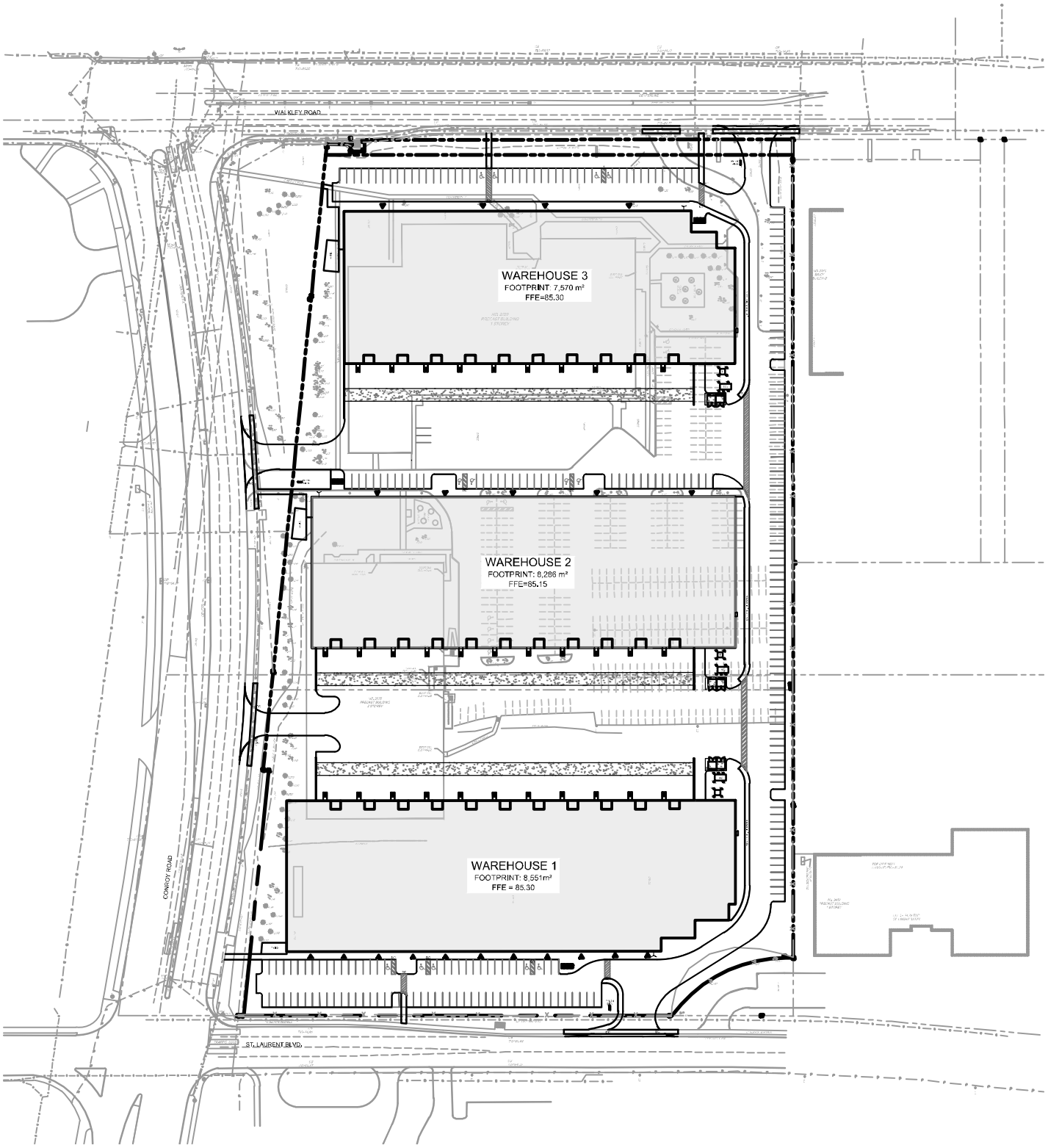

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WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD

SITE PLAN - PHASE 3

SCALE		
N.T.S		
DATE	JOB	FIGURE
AUGUST 2021	119067	5

M:\2019\119067\CAD\Design\Figures\Report Figures\FIGURE 5 - SP3.dwg, PHASE 3, Aug 27, 2021 - 9:57am, amestwarp

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- Catchbasins are to be equipped with 3m long sub drains extending in two directions at the subgrade level to provide adequate drainage of parking areas.

5.0 WATER SERVICING

The existing development is currently serviced from the 400mm diameter watermain in Walkley Rd. There are currently two 200mm dia. and one 150mm dia. diameter private watermains on site that service the existing 2 buildings. The 200mm diameter watermain that services the building fronting on Conroy Rd. also provides fire protection for the site by servicing a hydrant between the two existing buildings. This watermain will be abandoned during phase 2 construction as it will conflict with the footing of the proposed phase three building.

It is proposed to service the development from the existing 400mm dia. watermain in Walkley Rd. and the existing 300mm dia. watermain in St Laurent Blvd. The phase one building will be serviced from St Laurent Blvd. with a proposed 200mm dia. service. The phase two and three buildings will be serviced from Walkley Rd. with a new 200mm dia. service on the west of the phase three building. Refer to the General Plan of Services (119067-GP) for further details.

Design Criteria from the City of Ottawa Water Distribution Guidelines and section 8 of the Ontario Building Code were used to calculate the theoretical water demands for the proposed development. The demand calculations were based on flow requirements from the different uses on the site which include, commercial office space and light industrial warehouse space.

The water demand calculations for the proposed development are calculated based on the following criteria:

- Industrial Water Demand
  - per each water closet = 950L/day
  - per each loading bay = 150L/day (each)
- Commercial Office Water Demand
  - per each 9.3m² floor space = 75L/day
- Peaking Factor
  - Max Day = 1.5
  - Peak Hour = 1.8

The domestic water demands for the proposed development are summarized in **Table 5.1** below.

Table 5.1: Domestic Water Demand Summary

Use	Ave. Daily Demand (L/s)	Max. Daily Demand (L/s)	Peak Hour Demand (L/s)
Industrial Flows	0.41	0.61	1.10
Commercial Flows	0.23	0.35	0.62
Total Domestic Demands	**0.64**	**0.96**	**1.72**

The proposed warehouse buildings are to be sprinklered with the Siamese connections located at the front of each building within 45m of a fire hydrant. The Existing hydrants in the Walkley Rd. and St Laurent Blvd. rights-of-way along with two proposed private hydrants will provide fire protection for the proposed development. The required fire demand was calculated using the Fire Underwriters Survey (FUS) Guidelines. The required fire demand for the site was based on the

worst-case scenario. The FUS calculations indicate that warehouse 1 at 167 L/s is governing fire flow for the proposed development.

This water demand information was submitted to the City for boundary conditions from the City's water model. The proposed boundary conditions from the City assumes that the site will connect to the 400mm dia. watermain in Walkley Rd. and 300mm dia. Watermain in St Laurent Boulevard which is in the 2W2C pressure zone of the City of Ottawa water distribution network. Refer to **Table 5.2** for a summary of the proposed boundary conditions and hydraulic analysis.

Table 5.2 Water Boundary Conditions and Hydraulic Analysis Summary

Criteria	Head (m)	Pressure[1] (psi)	Pressure Requirements (psi)
Connection 1 (400mm dia. Walkley Rd)			
Max HGL	124.3	55.5	< 80psi
Min HGL	130.1	63.7	> 40psi
Max Day + Fire Flow	125.9	57.7	> 20psi
Connection 2 (300mm dia. St Laurent Blvd)			
Max HGL	124.7	56.0	< 80psi
Min HGL	130.0	63.6	> 40psi
Max Day + Fire Flow	124.8	56.2	> 20psi

[1]Pressures based on proposed finished floor elevation of 85.30

These boundary conditions were used for analyzing the performance of the proposed and existing watermain systems for three theoretical conditions:

1) High Pressure check under Average Day conditions
2) Peak Hour demand
3) Maximum Day + Fire Flow demand.

The hydraulic analysis indicates that the system can provide adequate pressures and flow to meet the domestic and fire flow requirements for the site. Refer to **Appendix A** for detailed water demand calculations, watermain schematics and City of Ottawa boundary conditions.

6.0 SANITARY SERVICING

The existing development is currently serviced by a private 125mm dia. sanitary service which connects to the existing 525mm dia. sanitary sewer within Walkley Rd. There is also an existing 300mm dia. sanitary sewer in St Laurent Blvd. which is proposed to service the phase one warehouse by extending a 200mm service onto the site. It is proposed to service the phase two and three warehouses by extending a 200mm dia. sewer from the existing 525mm dia. sewer in Walkley Rd. Refer to the General Plan of Services (119067-GP) for more details.

The total theoretical peak sanitary flow for the existing and proposed development was calculated based on criteria from the City of Ottawa Sewer Design Guidelines and Ontario Building Code. A comparison of the existing and proposed peak sanitary flows are provided below in **Table 6.1**.

Table 6.1 Peak Sanitary Flows Comparison Summary

	Pre-Development (L/s)	Post-Development (L/s)	Increase / (Decrease) (L/s)
Peak Flows	0.00	0.78	0.78
Extraneous Flows	0.58	0.62	0.04
Total Peak Flows St Laurent Blvd Sewer	0.58	**1.40**	**0.82**
Peak Flows	1.76	1.48	(0.28)
Extraneous Flows	1.31	1.26	(0.05)
Total Peak Flows Walkley Road Sewer	**3.07**	**2.75**	(0.32)

Based on the results of the sanitary flow comparison the existing sewers will have adequate capacity to service the proposed developments. The marginal increase to the St Laurent Blvd. sanitary sewer is marginal however, a downstream capacity verification was requested from the City of Ottawa. The City has indicated that the existing municipal infrastructure in St Laurent Blvd. has capacity for the proposed development. The proposed 200mm diameter sanitary sewers on site have a theoretical capacity ranging from of 23.2 – 56.8 L/s at the proposed slope of 0.5 - 3.0%. Therefore, there is adequate capacity in the proposed infrastructure to convey the required peak flows of 1.4 L/s and 2.75 L/s from the site. Refer to **Appendix B** for detailed sanitary flow calculations, Drainage Area Plans and City of Ottawa correspondence.

7.0 STORM SERVICING

The existing site is currently serviced by a private storm sewer system which outlets via a 525mm dia. pipe to the existing 1500mm dia. trunk storm sewer in Walkley Rd. There is also an existing 375/450mm dia. local storm sewer in Conroy Rd. and a 600/750mm dia. local storm sewer in St Laurent Blvd. fronting the site. The existing private storm sewer currently services the developed portion of the site. The remainder of the site drains to existing catchbasins on the south side of the property which outlet to the Conroy Rd. and St Laurent Blvd. sewers.

It is proposed to service the phase one warehouse from the existing 750mm diameter storm sewer in St Laurent Blvd. The phase one storm sewer system will service the rear loading dock and front parking lot with pipes ranging in size from 200mm-450mm in diameter. It is proposed to service the phase two and three warehouses from the existing 1500mm dia. trunk storm sewer in Walkley Rd. The phase two and three storm sewer system will service the rear loading docks and front parking lots for warehouse 2 and 3 with pipes ranging in size from 200mm-600mm in diameter. The large boulevard area to the west of the proposed warehouse buildings will continue to be serviced to the existing 375/450mm dia. sewer in Conroy Rd. Refer to the General Plan of Services (119067-GP) for more details.

The proposed storm sewers have been sized to convey the uncontrolled 2-year storm event using the Rational Method; as per the *City of Ottawa Sewer Design Guidelines (OSDG)* (October 2012). The proposed 450mm and 600mm dia. outlet pipes at a slope of 1.0% and 0.8 have a full-flow capacity of 297.2 L/s and 572.6 L/s respectively. The design criteria used in sizing the storm sewers are summarized in Table 7.1.

Table 7.1: Storm Sewer Design Parameters

Parameter	Design Criteria
Private Roads	2 Year Return Period
Storm Sewer Design	Rational Method
IDF Rainfall Data	Ottawa Sewer Design Guidelines
Initial Time of Concentration (Tc)	10 min
Minimum Velocity	0.8 m/s
Maximum Velocity	3.0 m/s
Minimum Diameter	250 mm

A storm sewer drainage area plan and design sheet for the proposed storm sewer system is provided in **Appendix C** for reference.

8.0 STORM DRAINAGE AND STORMWATER MANAGEMENT

The proposed storm drainage and stormwater management design for the site is discussed in the following sections of the report.

8.1 Stormwater Management Criteria and Objectives

The stormwater management criteria and objectives for the site are as follows, per the City of Ottawa's requirements:

For storm flows being directed to municipal storm sewers in Walkley Rd:

- Control post-development storm flows, up to and including the 100-year design event, to the maximum allowable release rate, using a runoff coefficient equivalent to existing conditions, but in no case greater than C=0.5, a time of concentration no less than 10 minutes and a 2-year rainfall intensity from City of Ottawa IDF curves.

For storm flows being directed to municipal storm sewers in Conroy Rd and St Laurent Blvd:

- Control post-development storm flows, up to an including the 100-year design event, to the maximum allowable release rate, using a runoff coefficient equivalent to existing conditions, but in no case greater than C=0.5, a time of concentration no less than 10 minutes and a 5-year rainfall intensity from City of Ottawa IDF curves.

- Provide a dual drainage system (i.e. minor and major system flows);
- Maximize the use of on-site storage on the building roofs, within the paved parking areas and underground in pipes and structures,
- Ensure that no surface ponding will occur on the paved surfaces (with the exception of depressed loading dock areas) during the 2-year storm event;
- Provide on-site water quality control equivalent to an 'Enhanced' Level of Protection (i.e., minimum 80% long-term TSS removal), as required by the Conservation Authority; and,
- Provide guidelines to ensure that site preparation and construction is in accordance with the current Best Management Practices for Erosion and Sediment Control.

8.2 Existing Conditions and Allowable Release Rates

As indicated previously there is an existing private storm sewer system servicing the existing development. This system currently outlets to the existing 1500mm dia. Trunk storm sewer in Walkley Rd. The remainder of the undeveloped portion of the site drains to existing catchbasins on the south side of the property which outlet to the Conroy Road and St Laurent Boulevard sewers. The majority of the existing storm infrastructure will be removed or abounded in the proposed condition however, the general outlet locations will be maintained. Refer to the existing stormwater management drainage area plan **119067-EXSWM,** in **Appendix D**, which shows the existing drainage areas.

During the early stages of the detailed design process a Technical Memorandum was prepared by Novatech and reviewed by the City of Ottawa to confirm the allowable release rates and outlet locations for the site. The City of Ottawa confirmed the stormwater control requirements as listed above and approved the proposed storm sewer outlet locations. This memo along with City correspondence is provided in **Appendix F** for Reference.

The allowable release rate to each storm sewer outlet was determined using rational method calculations. The allowable release rate to each storm sewer connection was calculated to be 38.4 L/s to Conroy Road, 117.2 L/s to St Laurent Boulevard and 313.4 L/s to Walkley Road. A summary of the allowable release rates is provided in **Table 8.1.** Refer to **Appendix D** for detailed rational method calculations, time of concertation calculations and the **Existing SWM Drainage Area Plan (119067-EXSWM).**

Table 8.1: Allowable Release Rates

Drainage Area ID	Drainage Area (ha)	Run off Coefficient C	Outlet Location	Time of Concentration (min)	Allowable Flow (L/s)
EX 1A	0.79	0.20	St Laurent Blvd	10	45.8
EX 1B	0.63	0.41	St Laurent Blvd	11	71.4
EX 1	1.42	0.29	St Laurent Blvd	11	**117.2**
EX 2	0.73	0.20	Conroy Road	12	**38.4**
EX 3	3.65	0.50	Walkley Road	15	**313.4**

8.3 Stormwater Management Modeling

The City of Ottawa Sewer Design Guidelines (October 2012) requires hydrologic / hydraulic modeling for all dual drainage systems. The performance of the proposed storm drainage system for the site was evaluated using the PCSWMM hydrologic / hydraulic model.

The PCSWMM model schematics and the model output data are provided in Appendix D. Digital copies of the modeling files and model output for all storm events are provided on the enclosed CD.

8.3.1 Design Storms

The hydrologic analysis was completed using the following synthetic design storms:

- 3-hour Chicago storm distribution
- 12-hour SCS Type II storm distribution

The return periods analyzed include the 2,5 & 100-year storm events. The IDF parameters used to generate the design storms were taken from the *City of Ottawa Sewer Design Guidelines*

(October 2012). The 3-hour Chicago distribution generated the highest peak flows for both the minor and major systems and was determined to be the critical storm distribution for the design of the storm drainage system.

The proposed drainage system was also 'stress tested' using a 100-year (+20%) 3-hour Chicago design storm. This design storm has a 20% higher intensity and total volume compared to the 100-year event.

8.3.2 Model Development

The PCSWMM model includes drainage areas tributary to St Laurent Blvd, Conroy Rd and Walkley Rd. The purpose of the model is to ensure that the proposed storm drainage and stormwater management system adheres to the allowable release rates specified and that there is no surface ponding during the 2-year storm event.

Infiltration

Infiltration losses for all catchment areas were modeled using Horton's infiltration equation, which defines the infiltration capacity of soil over the duration of a precipitation event using a decay function that ranges from an initial maximum infiltration rate to a minimum rate as the storm progresses. The default values as specified in the City of Ottawa Sewer Design Guidelines were used for all catchments.

Horton's Equation:
$f(t) = f_c + (f_o - f_c)e^{-k(t)}$

Initial infiltration rate: f_o = 76.2 mm/hr
Final infiltration rate: f_c = 13.2 mm/hr
Decay Coefficient: k = 4.14/hr

Depression Storage

The default values for depression storage in the City of Ottawa were used for all subcatchments.

- Depression Storage (pervious areas): 4.67 mm
- Depression Storage (impervious areas): 1.57 mm

The rooftops assumed to provide no depression storage (zero-impervious parameter).

Equivalent Width

'Equivalent Width' refers to the width of the sub-catchment flow path. This parameter (Table 5.1) is calculated as described in Section 5.4.5.6 of the City of Ottawa Sewer Design Guidelines.

Impervious Values

Runoff coefficients for each subcatchment area were determined based on the proposed site plan. Refer to the Storm Drainage Area Plan (119067-STM) for details. Percent impervious values were calculated using:

$$\%imp = (C - 0.20) / 0.70$$

Storm Drainage Areas

For modeling purposes, the site has been divided into subcatchments based on the drainage areas tributary to each inlet of the proposed storm sewer system. The subcatchment areas are shown on the Storm Drainage Area Plan (119067-STM).

The hydrologic modeling parameters for each subcatchment were developed based on the Site Plan (**Figure 3**) and Storm Drainage Area Plan specified above. Subcatchment parameters are provided in **Table 4.2**.

Table 4.2: Subcatchment Parameters

Area ID	Catchment Area (ha)	Runoff Coefficient (C)	Percent Impervious (%)	Zero-Imperv. (%)	Equiv. Width / Flow Length (m)		Average Slope (%)
Controlled Surface Areas							
A-01	0.029	0.78	83%	0	19.1	15.2	2
A-02a	0.05	0.89	99%	0	36.2	13.8	2
A-02b	0.042	0.90	100%	0	30.4	13.8	2
A-02c	0.052	0.90	100%	0	34.4	15.1	2
A-02d	0.065	0.84	91%	0	36.9	17.6	2
A-02e	0.061	0.73	76%	0	39.1	15.6	2
A-03	0.052	0.78	83%	0	33.1	15.7	2
A-04	0.044	0.74	77%	0	29.3	15.0	2
A-05a	0.112	0.78	83%	0	25.1	44.7	2
A-05b	0.03	0.67	67%	0	19.7	15.2	2
A-05c	0.343	0.84	91%	0	159.5	21.5	2
A-06a	0.089	0.76	80%	0	34.9	25.5	2
A-06b	0.04	0.73	76%	0	26.1	15.3	2
A-06c	0.442	0.89	99%	0	149.8	29.5	2
A-06d	0.096	0.26	9%	0	17.2	55.8	1.5
A-07	0.076	0.73	76%	0	33.3	22.8	2
A-08	0.052	0.85	93%	0	28.1	18.5	2
A-09a	0.053	0.77	81%	0	17.0	31.1	2
A-09b	0.638	0.89	99%	0	138.4	46.1	2
A-10	0.059	0.81	87%	0	37.1	15.9	2
A-11	0.071	0.76	80%	0	27.4	25.9	2
A-12a	0.085	0.63	61%	0	52.1	16.3	2
A-12b	0.086	0.62	60%	0	52.8	16.3	2
A-12c	0.077	0.62	60%	0	47.2	16.3	2
A-12d	0.085	0.63	61%	0	47.8	17.8	2
A-13	0.124	0.60	57%	0	50.0	24.8	2
TOTAL (Controlled)	**2.953**	**0.79**	**84%**	**-**	**-**		**-**
Controlled Roof Areas							
R-01	0.062	0.90	100%	100	46.3	13.4	1
R-02	0.061	0.90	100%	100	45.5	13.4	1
R-03	0.061	0.90	100%	100	45.5	13.4	1
R-04	0.061	0.90	100%	100	45.5	13.4	1
R-05	0.061	0.90	100%	100	45.5	13.4	1
R-06	0.046	0.90	100%	100	34.6	13.3	1
R-07	0.052	0.90	100%	100	32.1	16.2	1
R-08	0.073	0.90	100%	100	42.0	17.4	1
R-09	0.072	0.90	100%	100	41.4	17.4	1
R-10	0.072	0.90	100%	100	41.4	17.4	1
R-11	0.072	0.90	100%	100	41.4	17.4	1
R-12	0.072	0.90	100%	100	41.4	17.4	1

Area ID	Catchment Area (ha)	Runoff Coefficient (C)	Percent Impervious (%)	Zero-Imperv. (%)	Equiv. Width / Flow Length (m)		Average Slope (%)
R-13	0.051	0.90	100%	100	29.3	17.4	1
R-14	0.042	0.90	100%	100	25.9	16.2	1
R-15	0.059	0.90	100%	100	43.7	13.5	1
R-16	0.059	0.90	100%	100	43.7	13.5	1
R-17	0.059	0.90	100%	100	43.7	13.5	1
R-18	0.059	0.90	100%	100	43.7	13.5	1
R-19	0.059	0.90	100%	100	43.7	13.5	1
R-20	0.059	0.90	100%	100	43.7	13.5	1
R-21	0.059	0.90	100%	100	43.7	13.5	1
R-22	0.059	0.90	100%	100	43.7	13.5	1
R-23	0.059	0.90	100%	100	43.7	13.5	1
R-24	0.059	0.90	100%	100	43.7	13.5	1
R-25	0.059	0.90	100%	100	43.7	13.5	1
R-26	0.059	0.90	100%	100	43.7	13.5	1
R-27	0.059	0.90	100%	100	43.7	13.5	1
R-28	0.059	0.90	100%	100	43.7	13.5	1
R-29	0.078	0.90	100%	100	44.8	17.4	1
R-30	0.074	0.90	100%	100	42.5	17.4	1
R-31	0.074	0.90	100%	100	42.5	17.4	1
R-32	0.074	0.90	100%	100	42.5	17.4	1
R-33	0.051	0.90	100%	100	29.3	17.4	1
R-34	0.059	0.90	100%	100	33.9	17.4	1
R-35	0.064	0.90	100%	100	47.8	13.4	1
R-36	0.06	0.90	100%	100	44.8	13.4	1
R-37	0.06	0.90	100%	100	44.8	13.4	1
R-38	0.06	0.90	100%	100	44.8	13.4	1
R-39	0.041	0.90	100%	100	30.6	13.4	1
R-40	0.061	0.90	100%	100	45.5	13.4	1
TOTAL (Controlled)	**2.441**	**0.90**	**100%**	**-**	**-**		**-**
Uncontrolled / Direct Runoff Areas							
D-01	0.076	0.25	7%	0	18.0		42.3
D-02	0.114	0.26	9%	0	80.3		14.2
D-03	0.004	0.20	0%	0	13.3		3.0
D-04a	0.039	0.24	5%	0	2.7		145.0
D-04b	0.002	0.24	5%	0	1.4		14.0
D-04c	0.054	0.24	5%	0	4.7		115.0
D-04d	0.025	0.24	5%	0	83.3		3.0
D-04e	0.003	0.24	5%	0	10.0		3.0
TOTAL (Uncontrolled)	**0.317**	**0.25**	**7%**	**-**	**-**		**-**

8.3.3 Model Results

The on-site storage and conveyance system requirements were refined using the PCSWMM model. The model was used to ensure that peak flows are controlled to the allowable release rates and ensure that the 2-year hydraulic grade line is contained on-site within the storm sewer system.

Storage Requirements

The PCSWMM model provided the storage volume requirements for the system. The storage required and storage provided in the storm sewers and stormwater management system is shown in **Table 4.3** and **Table 4.4** below.

Table 4.3: Phase 1 Storage Volume Summary (St Laurent Blvd. Storm Outlet)

Drainage Area	Drainage Area (ha)	Inlet Control Device	Required 100-yr Storage Volume* (m^3)	Provided Storage Volume (m^3)
A-01	0.029	LMF 75	2.2	6.5
A-02(a-e)	0.270	83mm dia. Plate ICD	52.6	157.2
A-03	0.052	LMF 75	9.0	18.8
A-04	0.044	LMF 75	6.6	16.9
A-05(a-c)	0.485	83mm dia. Plate ICD	175.4	466.1
R-01(1-14)	0.855	RD-100-A-ADJ-OPEN	436.17	453.1
TOTAL	**1.735**	**-**	**682.0**	**1118.6**

**Based on PCSWMM Model Results for a 100-year, 3-hour Chicago Storm.*

Table 4.4: Phase 2/3 Storage Volume Summary (Walkley Rd. Storm Outlet)

Drainage Area	Drainage Area (ha)	Inlet Control Device	Required 100-yr Storage Volume* (m^3)	Provided Storage Volume (m^3)
A-06(a-d)	0.667	132mm dia. Plate ICD	175.2	539.1
A-07	0.076	83mm dia. Plate ICD	7.0	43.6
A-08	0.052	83mm dia. Plate ICD	2.1	17.5
A-09(a-b)	0.691	160mm dia. Plate ICD	172.1	420.9
A-10	0.059	83mm dia. Plate ICD	3.5	26.6
A-11	0.071	83mm dia. Plate ICD	4.8	25.3
A-12(a-d)	0.333	94mm dia. Plate ICD	55.4	142.0
A-13	0.124	94mm dia. Plate ICD	9.3	40.3
R-02(15-28)	0.829	RD-100-A-ADJ-OPEN	415.4	437.2
R-03(29-40)	0.757	RD-100-A-ADJ-OPEN	387.2	402.3
TOTAL	**3.659**	**-**	**1232.0**	**2094.8**

**Based on PCSWMM Model Results for a 100-year, 3-hour Chicago Storm.*

Peak Flows

As shown in **Table 4.**, the overall release rates from the site will adhere to the allowable release rates specified in **Section 8.2**. Peak flows from the site are released at a controlled rate to St Laurent Boulevard, Conroy Road, and Walkley Road.

Table 4.5: Summary of Peak Flows

Outfall	Allowable Release Rate (L/s)	Peak Flow (L/s)		
		5 Year	100 Year	100 Year +20%
St Laurent Blvd.	117.2	92.0	115.8	123.6
Conroy Rd.	38.4	12.3	31.1	45.7
Walkley Rd.	313.4	265.3	311.5	318.5

**Based on PCSWMM Model Results for a 3-hour Chicago Storm; outfall results account for hydrograph timing.*

Hydraulic Grade Line (HGL)

The PCSWMM model was used to estimate the hydraulic grade line (HGL) elevation of the of the storm sewer system during the 100-year storm event. **Table 4.** provides a summary of the 100-year HGL elevation at each storm structure within the proposed development. The model results indicate that the 100-year HGL elevations will be confined within the storm sewer system.

Table 4.6: Estimated Hydraulic Grade Line (HGL) Elevations

MH ID	Obvert Elevation (m)	Spill Elevation (m)	100-yr HGL Elevation (m)	Surcharge (m)	Clearance from Spill (m)	HGL in Stress Test (m)
MH103	82.03	84.90	84.82	2.79	0.08	84.85
MH104	82.15	84.90	84.82	2.67	0.08	84.86
MH105	82.26	84.95	84.83	2.57	0.12	84.86
MH106	82.44	84.95	84.83	2.39	0.12	84.86
CB2	82.70	84.95	84.83	2.13	0.12	84.86
MH108	81.64	84.40	84.22	2.58	0.18	84.25
MH109	81.71	84.40	84.22	2.51	0.18	84.25
MH110	82.06	84.40	84.23	2.17	0.17	84.26
CB3	82.40	84.88	84.82	2.42	0.06	84.85
CB4	82.70	84.89	84.82	2.12	0.07	84.85
CB5	82.25	84.35	84.24	1.99	0.11	84.28
TD1	83.56	84.40	84.23	0.67	0.17	84.26
CB1	82.50	84.90	84.83	2.33	0.07	84.87
MH214	83.08	84.22	84.10	1.02	0.12	84.14
MH213	82.76	84.26	84.07	1.31	0.19	84.11
TD2	83.41	84.27	84.11	0.70	0.16	84.15
CB22	82.75	84.25	84.10	1.35	0.15	84.13
MH212	82.68	84.25	84.06	1.38	0.19	84.10
CB21	82.50	84.30	84.14	1.64	0.16	84.18
CB18	82.50	84.38	84.25	1.75	0.13	84.28
CB20	82.50	84.37	84.23	1.73	0.14	84.27
TD3	83.63	84.40	84.27	0.64	0.13	84.31
MH210	82.90	84.36	84.25	1.35	0.11	84.29
MH209	82.52	84.39	84.22	1.70	0.17	84.26
CB13	82.40	84.55	84.43	2.03	0.12	84.46
CB12	82.40	84.70	84.57	2.17	0.13	84.62
MH203	82.37	84.92	84.83	2.47	0.09	84.87

MH ID	Obvert Elevation (m)	Spill Elevation (m)	100-yr HGL Elevation (m)	Surcharge (m)	Clearance from Spill (m)	HGL in Stress Test (m)
MH204	82.48	84.93	84.84	2.37	0.09	84.88
MH205	82.59	84.94	84.84	2.25	0.10	84.88
CB11	82.90	84.95	84.84	1.94	0.11	84.89
CB28	83.36	84.41	84.11	0.75	0.30	84.16
LCB122	83.45	84.75	83.60	0.15	1.15	83.94

**Based on PCSWMM Model Results for a 3-hour Chicago Storm.*

Stress Test

Table 4. also provides the estimated HGL elevations for the 'stress test' event. The stress test event represents a 20% increase (rainfall intensity and total precipitation) in the 100-year design event. The 'stress test' event will not be confined within the storm sewer system. Ponding will occur within the parking lot sags and may cascade off-site. The major system overland flow will be diverted through overland pathways and spill off-site to St Laurent Blvd. and Walkley Road.

Foundation Drains

The proposed building will be slab-on-grade, as such, there are no concerns with the surcharged HGL elevations. The general grade of the site will allow water to pond in the parking lot and overflow downstream before impacting the building. Refer to the Grading Plan (drawing 119067-GR).

Refer to **Appendix D** for drainage area plans, rational method calculations, PCSWMM model results and schematics. Refer to the Grading Plans (119067-GR) and the Stormwater Management Plan (119067-SWM) for more details.

8.4 Proposed Conditions – Quality Control

Quality control of stormwater shall be provided to an *Enhanced* level of treatment or 80% removal of total suspended solids. Quality control for stormwater from parking and paved surfaces will be provided through the installation of two oil grit separator units. The proposed OGS units are CDS PMSU2025_5 and PMSU3030_6 which will be located at the outlet to the municipal sewer in St Laurent Blvd. and Walkley Rd. respectively. The OGS units will provide enhanced levels of water quality prior to discharging into the municipal storm sewer system. The target level of protection for long term removal of TSS is 80% with an overall treatment of 100% of the total runoff.

Refer to **Appendix D** for the CDS unit operation, design, performance, and maintenance summary parameters as well as the annual TSS removal efficiency data.

8.5 Major Overland Flow Route

A major overland flow route will be provided for storms greater than the 100-year storm event. For the areas directly fronting onto St Laurent Blvd and Walkley Rd (front of warehouse 1 and 3) stormwater will spill directly to the rights-of-way. Stormwater from the remainder of the site will spill as per existing conditions through the rear and side yard of the neighbouring property at 2400 St Laurent Blvd to reach the right-of-way. This is an existing condition that cannot easily be rectified as the existing pavement elevations of Walkley Rd, Conroy Rd and St Laurent Blvd directly fronting the site are approximately 0.6-2m above the existing spill elevation for the site. The major overland system is shown on the Grading Plan (119067-GR).

9.0 EROSION AND SEDIMENT CONTROL

Temporary erosion and sediment control measures will be implemented on-site during construction in accordance with the Best Management Practices for Erosion and Sediment Control. This includes the following temporary measures:

- Filter socks (catchbasin inserts) will be placed in existing and proposed catchbasins and catchbasin manholes, and will remain in place until vegetation has been established and construction is completed;
- Silt fencing will be placed along the surrounding construction limits;
- Mud mats will be installed at the site entrances;
- Strawbale or rock check dams will be installed in swales and ditches;
- The contractor will be required to perform regular street sweeping and cleaning as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site;

Erosion and sediment control measures should be inspected daily and after every rain event to determine maintenance, repair or replacement requirements. Sediments or granulars that enter site sewers shall be removed immediately by the contractor. These measures will be implemented prior to the commencement of construction and maintained in good order until vegetation has been established. Refer to the Erosion and Sediment Control Plan (119067-ESC) for additional information.

10.0 CONCLUSIONS AND RECOMMENDATIONS

Watermain

The analysis of the existing and proposed watermain network confirms the following:

- The proposed 200mm dia. watermain that connects to the existing 300mm dia. watermain in St Laurent Blvd and the 400mm dia. watermain in Walkley Rd can service the proposed development.
- It is anticipated that there are adequate pressures in the existing watermain infrastructure to meet the required domestic demands for the development.
- It is anticipated that there is adequate flow to service the proposed fire protections system.

Sanitary Servicing

The analysis of the existing and proposed sanitary system confirms the following:

- It is anticipated there is adequate capacity within the existing sanitary infrastructure to service the proposed development. The increase in post development flows from pre-development are considered negligible .
- The proposed sanitary system on site has been designed accordingly to convey the post-development flows.

Stormwater Management

The following provides a summary of the storm sewer and stormwater management system:

- The proposed storm sewer system for phase one is to connect to the existing 750mm dia. storm sewer system in St Laurent Blvd.
- The proposed storm sewer system for phase two and three is to connect to the existing 1500mm dia. storm trunk sewer system in Walkley Rd.

- Storm sewers (minor system) have been designed to convey the uncontrolled 2-year peak flow using the Rational Method.
- Underground storage is be provided within the storm sewers and structures.
- There will be no surface ponding during the 2-year storm event.

- Parking lots have been graded to ensure that static ponding depths do not exceed 0.30m.
  - As per existing condition a major overland flow route is provided to St Laurent Blvd through the rear and side yard of the neighbouring property at 2400 St Laurent Blvd.
- Quality control of stormwater will be provided through implementation of OGS units at each storm sewer outlet.

Erosion and Sediment control

- Erosion and sediment control measures (i.e. filter fabric, catchbasin inserts, silt fences, etc.) will be implemented prior to construction and are to remain in place until vegetation is established.

11.0 CLOSURE

The preceding report is respectfully submitted for review and approval. Please contact the undersigned should you have questions or require additional information.

NOVATECH

Prepared by:

Matt Hrehoriak, P.Eng.
Project Engineer
Land Development Engineering

Reviewed by:

J. Lee Sheets, C.E.T.
Director
Land Development Engineering

APPENDIX A
Water Servicing Information

Project No. 119067
Project Name: 2020 Walkley Road
Project Location: Ottawa

NOVATECH
Engineers, Planners & Landscape Architects

Date: February 2021

Domestic Water Demands

Daily Demands from OBC Table 8.2.1.3

Establishment	Daily Demand Volume	
Industrial :	150	L/day/loading bay
	950	L/day/washroom
Commercial	75	L/day/parking space

Industrial Peaking Factors City of Ottawa Water Distrubution Guidelines

Conditions	Peaking Factor	
Maximum Day	1.5	x avg day
Peak Hour	1.8	x max day

Proposed Development Conditions

	Warehouse 1	Warehouse 2	Warehouse 3	Totals
Office Floor Area (sqm)	855	850	765	2470
No. Loading Bays	11	11	10	32
No. Wasrooms	11	11	10	32
Total Daily Volume (Liters)	18995	18955	17169	55119
Avg Day Demand (L/s)	0.220	0.219	0.199	**0.64**
Max Day Demand (L/s)	0.330	0.329	0.298	**0.96**
Peak Hour Demand (L/s)	0.594	0.592	0.537	**1.72**

FUS - Fire Flow Calculations

As per 1999 Fire Underwriter's Survey Guidelines

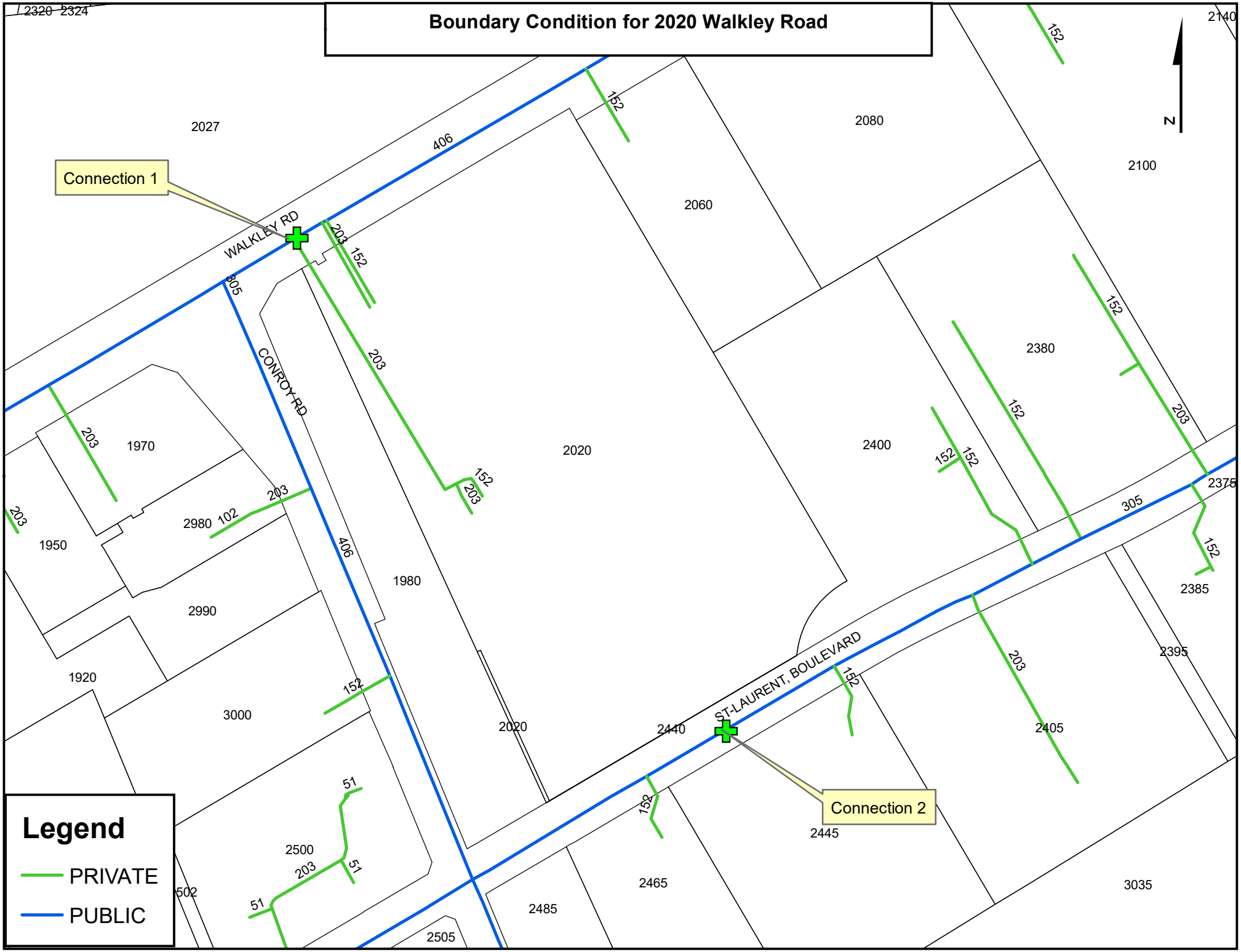
NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 119067
Project Name: 2020 Walkley Road
Date: 12/23/2020
Input By: Matt Hrehoriak
Reviewed By: Lee Sheets

Legend: Input by User; No Information or Input Required

Building Description: 1 Storey Warehouse
Non-combustible construction

Step			Input		Value Used	Total Fire Flow (L/min)
Base Fire Flow						
1	**Construction Material**			**Multiplier**		
	Coefficient related to type of construction **C**	Wood frame		1.5	0.8	
		Ordinary construction		1		
		Non-combustible construction	Yes	0.8		
		Modified Fire resistive construction (2 hrs)		0.6		
		Fire resistive construction (> 3 hrs)		0.6		
2	**Floor Area**					
	A	Building Footprint (m^2)	8590			
		Number of Floors/Storeys	1			
		Area of structure considered (m^2)			**8,590**	
	F	**Base fire flow without reductions**				**16,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**			**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	0%	**16,000**
		Limited combustible		-15%		
		Combustible	Yes	0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**			**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	Yes	-30%	-30%	**-8,000**
		Standard Water Supply	Yes	-10%	-10%	
		Fully Supervised System	Yes	-10%	-10%	
				Cumulative Total	**-50%**	
5	**Exposure Surcharge (cumulative %)**				**Surcharge**	
	(3)	North Side	> 45.1m		0%	**1,600**
		East Side	20.1 - 30 m		10%	
		South Side	> 45.1m		0%	
		West Side	> 45.1m		0%	
				Cumulative Total	**10%**	
Results						
6	**(1) + (2) + (3)**	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**10,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**167**
				or	USGPM	2,642
7	**Storage Volume**	Required Duration of Fire Flow (hours)			Hours	2
		Required Volume of Fire Flow (m^3)			m^3	1200


Boundary Condition for 2020 Walkley Road
N
Connection 1
Connection 2
WALKLEY RD
CONROY RD
ST-LAURENT, BOULEVARD
2320 2324
2140
2027
2080
2100
2060
2380
2020
2400
1970
1950
2980
2990
1980
1920
3000
2020
2440
2375
2385
2395
2405
2445
2465
2485
2505
3035
2500
406
805
305
203
152
102
51
Legend
PRIVATE
PUBLIC

Matthew Hrehoriak

From: Baker, Adam <adam.baker@ottawa.ca>
Sent: Wednesday, January 13, 2021 11:20 AM
To: Matthew Hrehoriak
Subject: RE: 2020 Walkley Boundary Condition Request
Attachments: 2020 Walkley Road January 2021.pdf

Hi Matt,

Please find below and attached the water boundary conditions for 2020 Walkley -

The following are boundary conditions, HGL, for hydraulic analysis 2020 Walkley (zone 2W2C) assumed to be connected to the 406mm on Walkley Road and 305mm on St Laurent Boulevard (see attached PDF for location).

Connection 1:

Minimum HGL = 124.3m

Maximum HGL = 130.1m

Max Day + Fire Flow (167 L/s) = 125.9m

Connection 2:

Minimum HGL = 124.7m

Maximum HGL = 130.0m

Max Day + Fire Flow (167 L/s) = 124.8m

These are for current conditions and are based on computer model simulation.

Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.

Thanks,
Adam

Adam Baker, EIT
Project Manager
Planning, Infrastructure and Economic Development Department - Services de la planification, de l'infrastructure et du développement économique
Development Review - South Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 26552, Adam.Baker@ottawa.ca

From: Matthew Hrehoriak <m.hrehoriak@novatech-eng.com>
Sent: January 05, 2021 2:40 PM

To: Baker, Adam <adam.baker@ottawa.ca>
Subject: RE: 2020 Walkley Boundary Condition Request

See attached water connection locations sketch. We are planning to reuse the existing water connection on Walkley Road to service the site and provide a second connection separated by an isolation valve for redundancy. On a side note will you be able to review the SWM memo this week, we would like buy in before we begin any detailed SWM calculations.

Let me know if you have any questions.

Thanks,

Matthew Hrehoriak, P.Eng., Project Engineer | Land Development Engineering
NOVATECH Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 273 | Fax: 613.254.5867

From: Baker, Adam <adam.baker@ottawa.ca>
Sent: Tuesday, January 5, 2021 11:23
To: Matthew Hrehoriak <m.hrehoriak@novatech-eng.com>
Subject: RE: 2020 Walkley Boundary Condition Request

Hi Matthew,

For this request could you please provide a sketch showing the proposed watermain connection points in Walkley, Conroy, and St-Laurent.

Thank you,
Adam

Adam Baker, EIT
Project Manager
Planning, Infrastructure and Economic Development Department - Services de la planification, de l'infrastructure et du développement économique
Development Review - South Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 26552, Adam.Baker@ottawa.ca

From: Matthew Hrehoriak <m.hrehoriak@novatech-eng.com>
Sent: January 04, 2021 9:21 AM
To: Baker, Adam <adam.baker@ottawa.ca>
Subject: 2020 Walkley Boundary Condition Request

I have calculated the proposed water demands for the development at 2020 Walkley Road. I am sending you this e-mail to request watermain boundary conditions for the 400mm dia. municipal WM fronting the subject property in Walkley Road, Conroy Road and St Laurent Blvd. The anticipated water demands for the proposed development are as follows:

- Average Day Demand = 0.54 L/s
- Maximum Day Demand = 0.81 L/s
- Peak Hour Demand = 1.46 L/s
- Maximum Fire Flow Demand = 167 L/s (see attached FUS calculations for details)

Regards,

Matthew Hrehoriak, P.Eng., Project Engineer | Land Development Engineering
NOVATECH Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 273 | Fax: 613.254.5867

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APPENDIX B
Sanitary Servicing Information

Project No. 119067
Project Name: 2020 Walkley Road
Project Location: Ottawa

Date: FEBRUARY 2021

Existing Peak Sanitary Flows

Daily Demands from OBC Table 8.2.1.3

Establishment	Daily Demand Volume	
Commercial	75	L/ day/ 9.3 m of Office Space

Industrial & Commercial Sanitary Peaking Factors

Conditions	**Peaking Factor**
Commercial	1.5

Proposed Development Conditions

	Undeveloped Area	Conroy Building	Walkley Building	**Total**
Commercial Floor Area sqm	0	6383	6191	12574
Peak Commercial Flows (L/s)	0.00	0.89	0.87	1.76
Site Area (ha)	1.755	2.065	1.890	5.71
Extraneuos Flows (L/s/ha)	0.33	0.33	0.33	0.33
Infiltration (L/s)	0.58	0.68	0.62	1.88
Total Peak Sanitary Flows (L/s)	0.58	1.58	1.49	3.64

Total Peak Sanitary Flow to St Laurent Blvd **0.58 L/s**
Total Peak Sanitary Flow to Walkley Rd **3.07 L/s**

Project No. 119067
Project Name: 2020 Walkley Road
Project Location: Ottawa

NOVATECH
Engineers, Planners & Landscape Architects

Date: FEBRUARY 2021

Proposed Peak Sanitary Flows

Daily Demands from OBC Table 8.2.1.3

Establishment	Daily Demand Volume	
Industrial :	150	L/day/loading bay
	950	L/day/washroom
Commercial	75	L/ day/ 9.3 m of Office Space

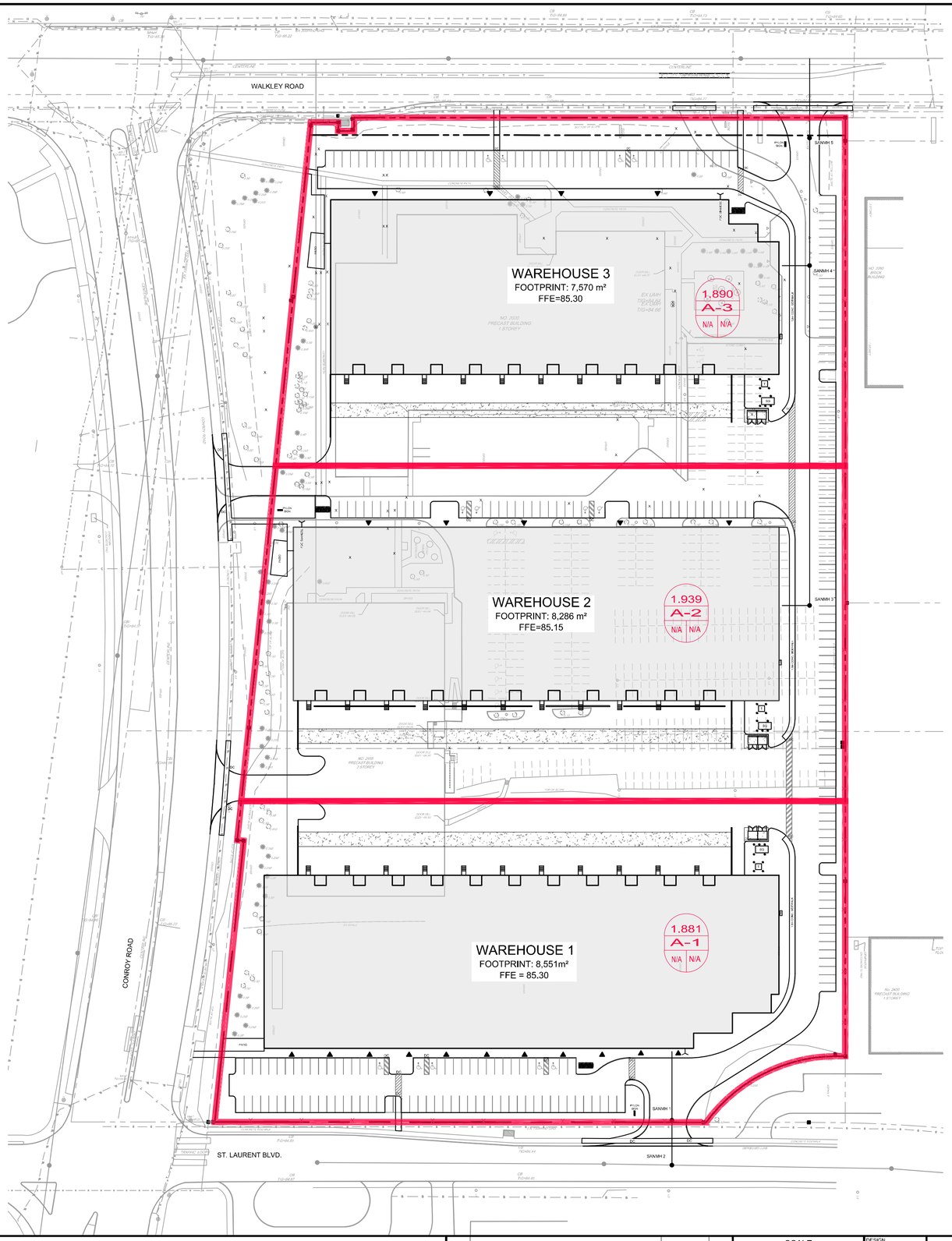
Industrial & Commercial Sanitary Peaking Factors

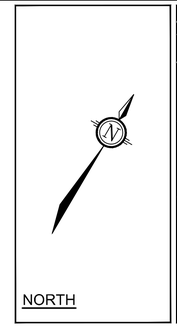
Conditions	**Peaking Factor**
Commercial	1.5
Light Industrial	4.7

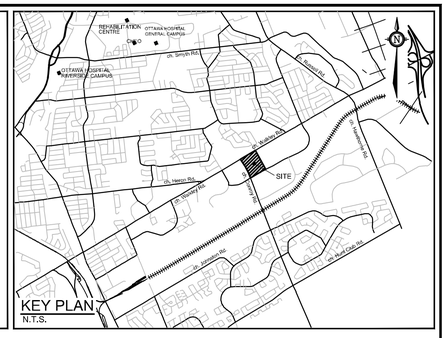
Proposed Development Conditions

	Warehouse 1	Warehouse 2	Warehouse 3	**Total**
Office Floor Area sqm	855	850	765	2470
No. Loading Bays	11	11	10	32
No. Washrooms	11	11	10	32
Peak Commercial Flows (L/s)	0.12	0.12	0.11	0.35
Peak Industrial Flows (L/s)	0.66	0.66	0.60	1.91
Site Area (ha)	1.881	1.939	1.890	5.71
Extraneuos Flows (L/s/ha)	0.33	0.33	0.33	0.33
Infiltration (L/s)	0.62	0.64	0.62	1.88
Total Peak Sanitary Flows (L/s)	1.40	1.42	1.33	4.14

Total Peak Sanitary Flow to St Laurent Blvd **1.40 L/s**
Total Peak Sanitary Flow to Walkley Rd **2.75 L/s**







LEGEND

- PROPERTY LINE
- PROPOSED SANITARY SEWER AND MANHOLE
- SAN MH — EXISTING SANITARY MANHOLE & SEWER
- SANITARY SEWER DRAINAGE AREA BOUNDARY
- 6.388 / A-01 / N/A N/A — DRAINAGE AREA (ha) / SAN SEWER PIPE RUN / POPULATION / NO. UNITS

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.

Owner:
Manulife Ontario Property Portfolio Inc.
55 Metcalfe Street - Suite 1490
Ottawa, ON
M5G 2L5

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
3.	REVISED PER CITY COMMENTS	SEPT 14/21	MJH
2.	ISSUED FOR SITE PLAN APPLICATION	MAR 5/21	MJH
1.	ISSUED FOR COORDINATION	MAR 01/21	MJH

SCALE
1:750
1:750
0 10 20 30

DESIGN MJH/ARM
CHECKED JLS
DRAWN MJH/ARM
CHECKED JLS
APPROVED MJH

FOR REVIEW ONLY

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

LOCATION
WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA

DRAWING NAME
SANITARY DRAINAGE AREA PLAN

PROJECT No. 119067
REV REV #3
DRAWING No. 119067-SAN

D02-02-21-0021

PLAN # 18444

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Project No. 119067
Project Name: Walkley Conroy Warehouses
Project Location: 2020 Walkley Road, Ottawa

Engineers, Planners & Landscape Architects

Date: February 2021

Sanitary Sewer Design Sheet

LOCATION			COMMERCIAL / INDUTRIAL FLOW							PIPE					
AREA ID	FROM	TO	AREA (ha)	ACCUM AREA (ha)	PEAK FACTOR	PEAK FLOW (l/s)	ACCUM PEAK FLOW (l/s)	INFIL. FLOW (l/s)	TOTAL PEAK FLOW (l/s)	PIPE SIZE (mm)	PIPE SLOPE (%)	LENGTH (m)	CAPACITY (l/s)	VELOCITY (m/s)	Q/Qfull
St Laurent Blvd 300mm dia San Sewer Outlet															
A-01	WAREHOUSE 1	SAN MH 1	1.881	1.881	4.7	0.78	0.78	0.62	1.40	200	2.00	21.6	46.3	1.5	3.0%
	SAN MH 1	SAN MH 2	0.000	1.881		0.00	0.78	0.62	1.40	200	3.00	14.1	56.8	1.8	2.5%
Walkley Road 525mm dia San Sewer Outlet															
A-02	WAREHOUSE 2	SAN MH 3	1.939	1.939	4.7	0.78	0.78	0.64	1.42	200	2.00	5.7	46.3	1.5	3.1%
	SAN MH 3	SANMH 4	0.000	1.939		0.00	0.78	0.64	1.42	200	0.50	106.7	23.2	0.7	6.1%
A-03	WAREHOUSE 3	SANMH 4	1.890	1.890	4.7	0.71	0.71	0.62	1.33	200	2.00	6.9	46.3	1.5	2.9%
	SANMH 4	SAN MH 5	0.000	3.829		0.00	1.49	1.26	2.75	200	0.50	40.1	23.2	0.7	11.9%
	SAN MH 5	EX SEWER	0.000	3.829		0.00	1.49	1.26	2.75	200	2.00	25.0	46.3	1.5	5.9%

Notes: Refer to Peak Sanitary Flow Calculation sheet for detailed peak flows calculations.

Design Parameters:

City of Ottawa Sewer Design Guidelines (Appendix 4-A)
- Extraneous Flows 0.33 l/s/ha
- Commercial Peaking Factor 1.5

City of Ottawa Sewer Design Guidelines (Appendix 4-B)
Industrial Peaking factor 4.7

Matthew Hrehoriak

From: Sharif, Golam <sharif.sharif@ottawa.ca>
Sent: Tuesday, August 31, 2021 4:32 PM
To: Matthew Hrehoriak
Cc: Anthony Mestwarp
Subject: RE: 2020 Walkley Sanitary Capacity Verification

Hi Matthew,

No concern with the proposed sanitary capacity. Thanks.

Sharif

From: Baker, Adam <adam.baker@ottawa.ca>
Sent: August 27, 2021 3:34 PM
To: Sharif, Golam <sharif.sharif@ottawa.ca>
Subject: Fw: 2020 Walkley Sanitary Capacity Verification

Hi Sharif,

I sent you a message on Teams regarding this. Please see below email regarding the site plan for 2020 Walkley.

Thanks and have a good weekend,
Adam

From: Matthew Hrehoriak <m.hrehoriak@novatech-eng.com>
Sent: Friday, August 27, 2021 3:19 PM
To: Baker, Adam <adam.baker@ottawa.ca>
Cc: Anthony Mestwarp <a.mestwarp@novatech-eng.com>
Subject: 2020 Walkley Sanitary Capacity Verification

Hi Adam,

In response to comments 1.15 can you please confirm the downstream sanitary sewer in St Laurent Blvd has capacity for the proposed development.

The proposed site flows are as follows:

Connection #1 (St Laurent Blvd): Peak flow 0.78 L/s, Infiltration 0.62 L/s, **Total Flow = 1.40 L/s**
Connection #2 (Walkley Rd): Peak flow 1.49 L/s, Infiltration 1.26 L/s, **Total Flow = 2.75 L/s**

A figure is attached depicted the proposed connection locations.

Please let me know if you require any further information.

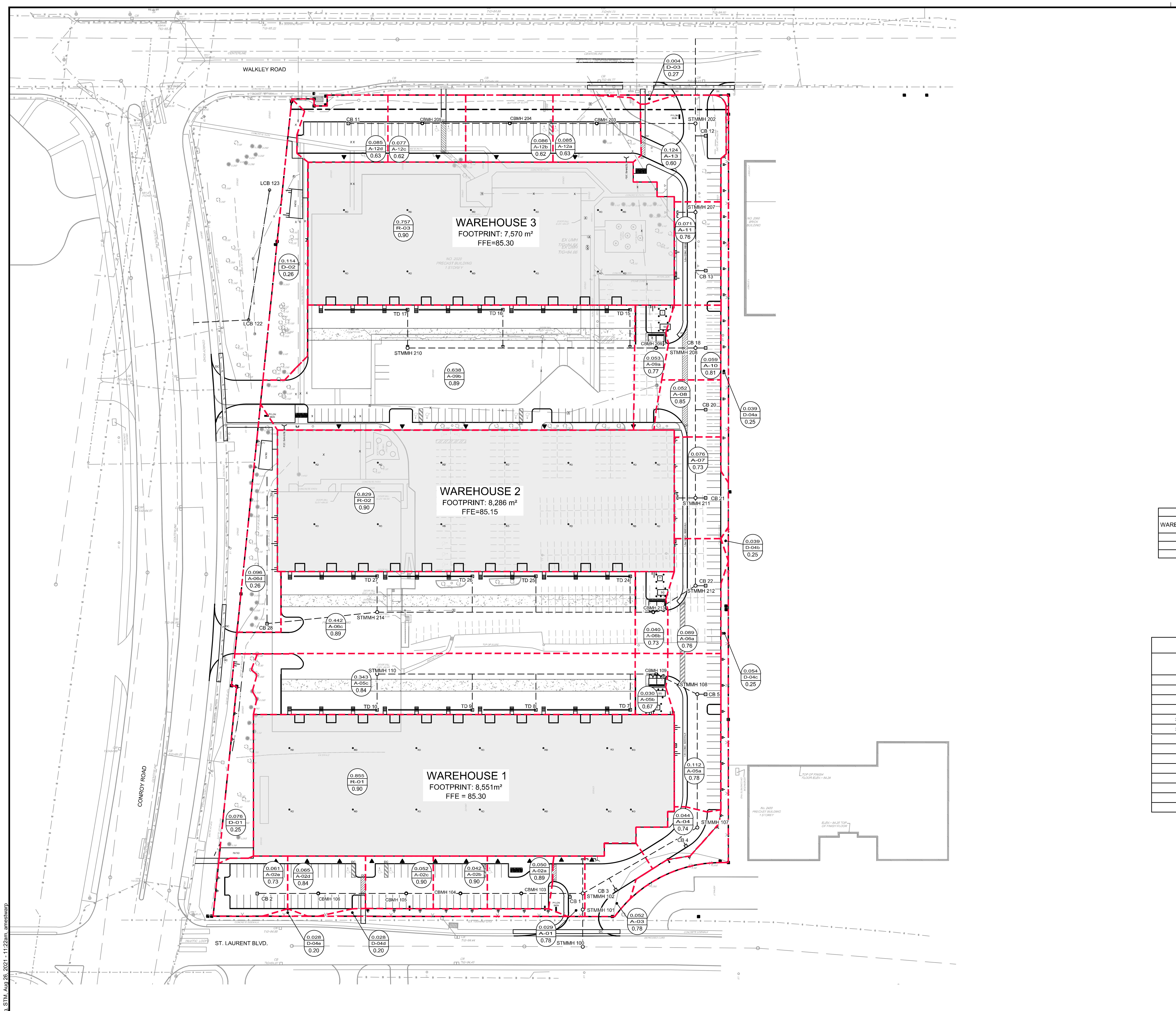
Regards,

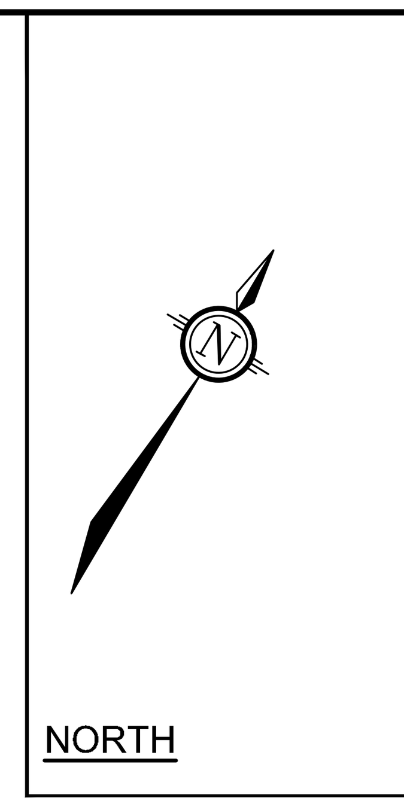
Matthew Hrehoriak, P.Eng., Project Engineer | Land Development Engineering
NOVATECH Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 273 | Fax: 613.254.5867

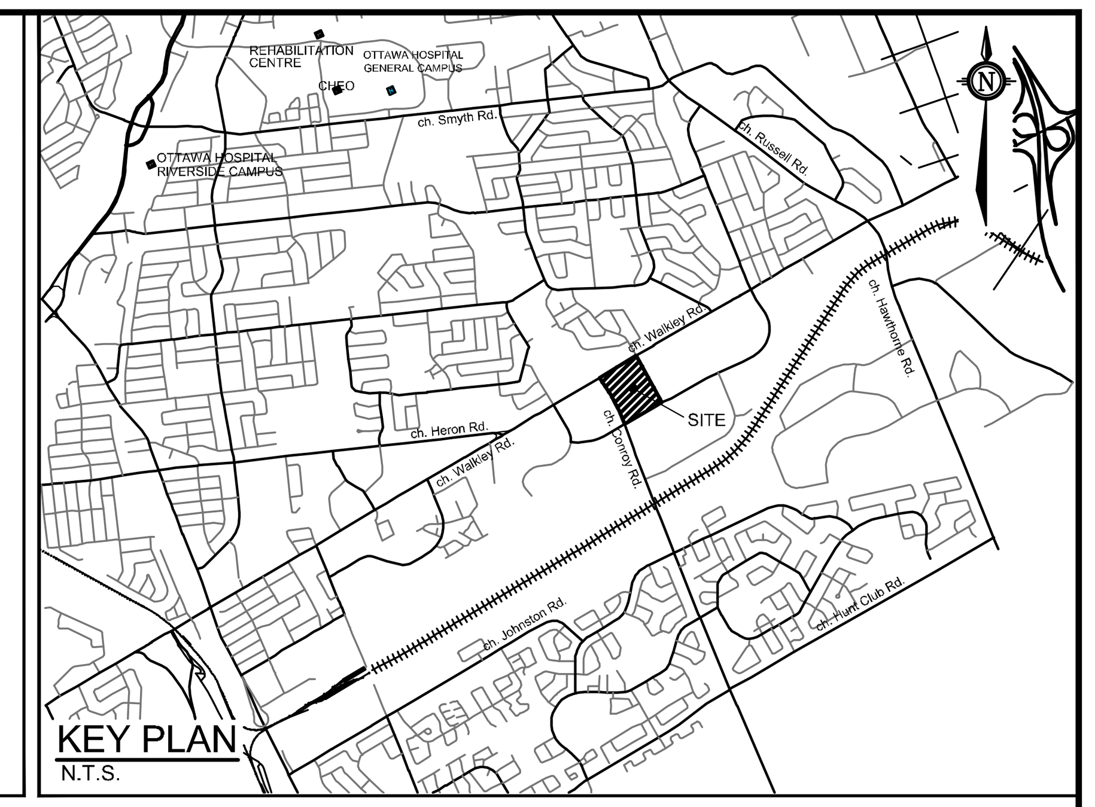
'

'

APPENDIX C
Storm Servicing Information







LEGEND

0.64	DRAINAGE AREA (ha)
A-11	DRAINAGE AREA ID
0.90	RUNOFF COEFFICIENT
	STORM SEWER DRAINAGE AREA BOUNDARY
	PROPOSED STORM SEWER C/W MANHOLE
	PROPOSED CATCHBASIN MANHOLE
	PROPOSED CATCHBASIN
	PROPOSED TRENCH DRAIN
	PROPOSED LANDSCAPE CATCHBASIN
RD	PROPOSED ROOF DRAIN
STM MH	*EXISTING STORM MANHOLE & SEWER*
CB 1	*EXISTING CATCHBASIN*
	EXISTING CATCHBASIN MANHOLE

WATTS ACCUTROL RD-100-A-ADJ ROOF DRAIN TABLE

WAREHOUSE	NUMBER OF DRAINS	WEIR SETTING	5-YEAR EVENT		100-YEAR EVENT	
			HEAD	FLOW RATE	HEAD	FLOW RATE
1	14	OPEN	0.12m	20.64 L/s	0.15m	25.59 L/s
2	14	OPEN	0.12m	20.66 L/s	0.15m	25.60 L/s
3	12	OPEN	0.12m	17.74 L/s	0.15m	21.98 L/s

TEMPEST LMF/MHF ICDs

LOCATION	MODEL NO. / ORFICE DIAMETER	5-YEAR FLOW (L/S)	5-YEAR HEAD (m)	100-YEAR FLOW (L/S)	100-YEAR HEAD (m)
CB 1	LMF 75	5.72	1.29	7.75	2.43
CB 3	LMF 75	7.74	2.43	7.89	2.52
CB 4	LMF 75	7.21	2.10	7.41	2.22
CBMH 103	83mm PLATE	21.62	2.23	25.86	3.17
STMMH 108	83mm PLATE	24.53	2.86	24.97	2.96
STMMH 212	132mm PLATE	47.70	1.52	48.86	1.62
CB 20	83mmPLATE	14.04	0.86	20.09	1.83
CB 21	83mm PLATE	15.52	1.21	20.88	1.74
CBMH 212	132mm PLATE	47.70	1.52	48.86	1.62
CB 12	94mm PLATE	22.73	1.42	28.59	2.27
CB 13	83mm PLATE	16.81	1.26	21.61	2.13
CB 18	83mm PLATE	15.20	1.02	20.18	1.85
CBMH 203	94mm PLATE	25.40	1.69	31.35	2.65
CBMH 209	160mm PLATE	75.40	1.83	77.30	1.94

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NOTE:
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1.	ISSUED FOR COORDINATION	MAR 01/21	MJH

SCALE 1:750

1:750 (scale bar 0 10 20 30)

DESIGN MJH/ARM
CHECKED JLS
DRAWN MJH/ARM
CHECKED JLS
APPROVED MJH

FOR REVIEW ONLY

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

LOCATION
WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA

DRAWING NAME
STORM DRAINAGE AREA PLAN

PROJECT No. 119067
REV REV #3
DRAWING No. 119067-STM

D02-02-21-0021

PLANA1.DWG - 841mmx594mm
PLAN # 18444

WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA
Project No.: 119067

STORM SEWER DESIGN SHEET
(2020 WALKLEY)
FLOW RATES BASED ON RATIONAL METHOD

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			AREA (ha)					FLOW							TOTAL FLOW	SEWER DATA							
AREA ID	From Manhole	To Manhole	Total Area (ha)	C = 0.20	C = 0.90	C	AC (ha)	Indiv 2.78 AC	Accum 2.78 AC	Time of Concentration	Rainfall Intensity 2 Year (mm/hr)	Rainfall Intensity 5 Year (mm/hr)	Rainfall Intensity 10 Year (mm/hr)	Peak Flow (L/s)	Total Peak Flow, Q (L/s)	Dia. (m) Actual	Dia. (mm)	Type	Slope (%)	Length (m)	Capacity (L/s)	Velocity (m/s)	Flow Time (min)	Ratio Q/Q full
PHASE 1 ST LAURENT BLVD (1:2 YEAR STORM EVENT)																							
A-05c	STMMH 110	CBMH 109	0.343	0.028	0.315	0.84	0.29	0.804	0.804	10.00	76.81			61.8	61.8	0.381	375	PVC	0.30	107.2	100.1	0.88	2.03	62%
							0.00	0.000	0.000	10.00													
							0.00	0.000	0.000	10.00													
A-05b	CBMH 109	STMMH 108	0.030	0.010	0.020	0.67	0.02	0.056	0.861	12.03	69.79			60.1	60.1	0.381	375	PVC	0.30	17.6	100.1	0.88	0.33	60%
							0.00	0.000	0.000	12.03													
							0.00	0.000	0.000	12.03													
A-05a	STMMH 108	STMMH 107	0.112	0.020	0.092	0.78	0.09	0.241	1.102	12.37	68.77			75.8	75.8	0.381	375	PVC	0.30	51.2	100.1	0.88	0.97	76%
							0.00	0.000	0.000	12.37													
							0.00	0.000	0.000	12.37													
A-03,A-A04	STMMH 107	STMMH 102	0.096	0.019	0.077	0.76	0.07	0.203	1.305	13.34	65.98			86.1	86.1	0.457	450	Conc	0.30	50.7	162.8	0.99	0.85	53%
							0.00	0.000	0.000	13.34													
							0.00	0.000	0.000	13.34													
A-02e	CB 2	CBMH 106	0.061	0.014	0.047	0.73	0.04	0.125	0.125	10.00	76.81			9.6	9.6	0.254	250	PVC	1.00	23.4	62.0	1.22	0.32	15%
							0.00	0.000	0.000	10.00													
							0.00	0.000	0.000	10.00													
A-02d	CBMH 106	CBMH 105	0.065	0.006	0.059	0.84	0.05	0.151	0.276	10.32	75.60			20.9	20.9	0.381	375	PVC	0.50	33.8	129.2	1.13	0.50	16%
							0.00	0.000	0.000	10.32													
							0.00	0.000	0.000	10.32													
A-02c	CBMH 105	CBMH 104	0.052		0.052	0.90	0.05	0.130	0.406	10.82	73.81			30.0	30.0	0.381	375	PVC	0.50	20.8	129.2	1.13	0.31	23%
							0.00	0.000	0.000	10.82													
							0.00	0.000	0.000	10.82													
A-02b	CBMH 104	CBMH 103	0.042		0.042	0.90	0.04	0.105	0.511	11.12	72.75			37.2	37.2	0.381	375	PVC	0.50	23.4	129.2	1.13	0.34	29%
							0.00	0.000	0.000	11.12													
							0.00	0.000	0.000	11.12													
A-01, A-02a	CBMH 103	STMMH 102	0.079	0.005	0.074	0.85	0.07	0.187	0.698	11.47	71.60			50.0	50.0	0.381	375	PVC	0.50	23.6	129.2	1.13	0.35	39%
							0.00	0.000	0.000	11.47													
							0.00	0.000	0.000	11.47													
R-01	Building Service	STMMH 102	0.855		0.855	0.90	0.77	Controlled 100-year flow from roof drains = 25.59 L/s							25.6	0.203	200	PVC	2.00	13.4	48.3	1.49	0.15	53%
							0.00																
							0.00							25.6									
	STMMH 102	STMMH 101					0.00	0.000	2.004	14.19	63.74			127.7	153.3	0.457	450	Conc	1.00	6.2	297.2	1.81	0.06	52%
							0.00	0.000	0.000	14.19													
							0.00	0.000	0.000	14.19				25.6									
	STMMH 101	STMMH 100					0.00	0.000	2.004	14.25	63.60			127.4	153.0	0.457	450	Conc	1.00	14.3	297.2	1.81	0.13	51%
							0.00	0.000	0.000	14.25													
							0.00	0.000	0.000	14.25				25.6									

WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA
Project No.: 119067

STORM SEWER DESIGN SHEET
(2020 WALKLEY)
FLOW RATES BASED ON RATIONAL METHOD

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			AREA (ha)					FLOW							TOTAL FLOW	SEWER DATA							
AREA ID	From Manhole	To Manhole	Total Area (ha)	C = 0.20	C = 0.90	C	AC (ha)	Indiv 2.78 AC	Accum 2.78 AC	Time of Concentration	Rainfall Intensity 2 Year (mm/hr)	Rainfall Intensity 5 Year (mm/hr)	Rainfall Intensity 10 Year (mm/hr)	Peak Flow (L/s)	Total Peak Flow, Q (L/s)	Dia. (m) Actual	Dia. (mm)	Type	Slope (%)	Length (m)	Capacity (L/s)	Velocity (m/s)	Flow Time (min)	Ratio Q/Q full
PHASE 2/3 WALKLEY ROAD (1:2 YEAR STORM EVENT)																							
			0.096	0.088	0.008	0.26	0.02	0.068	0.068	10.00	76.81			5.2									
A-06d	CB 28	STMMH 214					0.00	0.000	0.000	10.00					5.2	0.254	250	PVC	0.60	42.5	48.0	0.95	0.75	11%
							0.00	0.000	0.000	10.00													
			0.442	0.004	0.438	0.89	0.39	1.097	1.166	10.75	74.05			86.3									
A-06c	STMMH 214	CBMH 213					0.00	0.000	0.000	10.75					86.3	0.381	375	PVC	0.30	106.1	100.1	0.88	2.01	86%
							0.00	0.000	0.000	10.75													
			0.040	0.010	0.030	0.73	0.03	0.082	1.247	12.76	67.61			84.3									
A-06b	CBMH 213	STMMH 212					0.00	0.000	0.000	12.76					84.3	0.457	450	Conc	0.25	19.1	148.6	0.91	0.35	57%
							0.00	0.000	0.000	12.76													
			0.089	0.017	0.071	0.76	0.07	0.188	1.436	13.11	66.61			95.6									
A-06a	STMMH 212	STMMH 211					0.00	0.000	0.000	13.11					95.6	0.457	450	Conc	0.25	33.7	148.6	0.91	0.62	64%
							0.00	0.000	0.000	13.11													
			0.829	0.000	0.829	0.90	0.75																
R-02	BUILDING SERVICE	STMMH 211					0.00	Controlled 100-year flow from roof drains = 25.60 L/s							25.6	0.203	200	PVC	2.00	7.1	48.3	1.49	0.08	53%
							0.00							25.6									
			0.128	0.024	0.104	0.77	0.10	0.274	1.710	13.73	64.93			111.0									
A-07, A-08	STMMH 211	STMMH 208					0.00	0.000	0.000	13.73					136.6	0.533	525	Conc	0.20	57.6	200.5	0.90	1.07	68%
							0.00	0.000	0.000	13.73				25.6									
			0.638	0.010	0.628	0.89	0.57	1.577	1.577	10.00	76.81			121.1									
A-09B	STMMH 210	STMMH 209					0.00	0.000	0.000	10.00					121.1	0.533	525	Conc	0.30	95.5	245.6	1.10	1.45	49%
							0.00	0.000	0.000	10.00													
			0.053	0.010	0.043	0.77	0.04	0.114	1.691	11.45	71.66			121.2									
A-9a	STMMH 209	STMMH 208					0.00	0.000	0.000	11.45					121.2	0.457	450	Conc	0.30	15.1	162.8	0.99	0.25	74%
							0.00	0.000	0.000	11.45													
			0.130	0.022	0.108	0.78	0.10	0.283	3.684	14.80	62.24			229.3									
A-10, A-11	STMMH 208	STMMH 207					0.00	0.000	0.000	14.80					254.9	0.610	600	Conc	0.20	52.1	286.3	0.98	0.89	89%
							0.00	0.000	0.000	14.80				25.6									
			0.757	0.000	0.757	0.90	0.68																
R-03	BUILDING SERVICE	STMMH 207					0.00	Controlled 100-year flow from roof drains = 21.98 L/s							22.0	0.203	200	PVC	2.00	7.1	48.3	1.49	0.08	45%
							0.00							22.0									
			0.124	0.053	0.071	0.60	0.07	0.207	3.891	15.69	60.19			234.2									
A-13	STMMH 207	STMMH 202					0.00	0.000	0.000	15.69					281.8	0.610	600	Conc	0.30	34.1	350.6	1.20	0.47	80%
							0.00	0.000	0.000	15.69				47.6									

WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA
Project No.: 119067

STORM SEWER DESIGN SHEET
(2020 WALKLEY)
FLOW RATES BASED ON RATIONAL METHOD

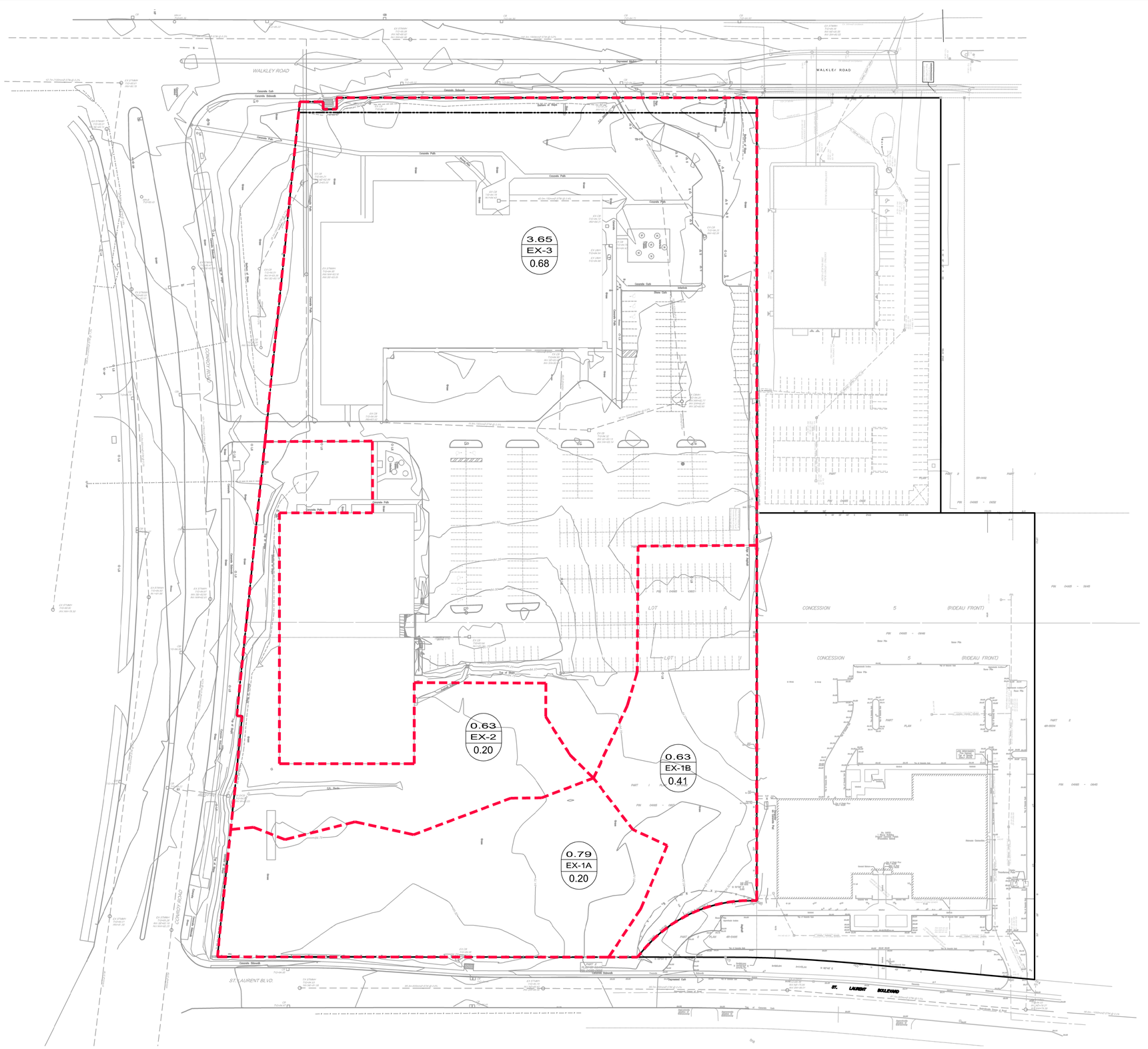
NOVATECH
Engineers, Planners & Landscape Architects

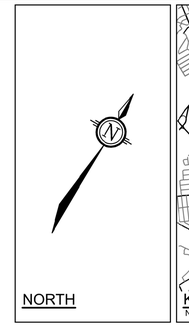
LOCATION			AREA (ha)					FLOW							TOTAL FLOW	SEWER DATA							
AREA ID	From Manhole	To Manhole	Total Area (ha)	C = 0.20	C = 0.90	C	AC (ha)	Indiv 2.78 AC	Accum 2.78 AC	Time of Concentration	Rainfall Intensity 2 Year (mm/hr)	Rainfall Intensity 5 Year (mm/hr)	Rainfall Intensity 10 Year (mm/hr)	Peak Flow (L/s)	Total Peak Flow, Q (L/s)	Dia. (m) Actual	Dia. (mm)	Type	Slope (%)	Length (m)	Capacity (L/s)	Velocity (m/s)	Flow Time (min)	Ratio Q/Q full
A-12d	CB 11	CBMH 205	0.085	0.032	0.053	0.63	0.05	0.150	0.150	10.00	76.81			11.5	11.5	0.254	250	PVC	1.00	28.3	62.0	1.22	0.39	19%
							0.00	0.000	0.000	10.00														
							0.00	0.000	0.000	10.00														
A-12c	CBMH 205	CBMH 204	0.077	0.030	0.047	0.62	0.05	0.133	0.283	10.39	75.36			21.3	21.3	0.381	375	PVC	0.30	33.6	100.1	0.88	0.64	21%
							0.00	0.000	0.000	10.39														
							0.00	0.000	0.000	10.39														
A-12b	CBMH 204	CBMH 203	0.086	0.034	0.052	0.62	0.05	0.149	0.432	11.02	73.09			31.6	31.6	0.381	375	PVC	0.30	33.4	100.1	0.88	0.63	32%
							0.00	0.000	0.000	11.02														
							0.00	0.000	0.000	11.02														
A-12a	CBMH 203	STMMH202	0.085	0.033	0.052	0.63	0.05	0.149	0.432	11.66	70.98			30.7	30.7	0.381	375	PVC	0.30	37.9	100.1	0.88	0.72	31%
							0.00	0.000	0.000	11.66														
							0.00	0.000	0.000	11.66														
	STMMH 202	STMMH 201					0.00	0.000	4.323	16.16	59.16			255.7	303.3	0.610	600	Conc	0.80	32.6	572.6	1.96	0.28	53%
							0.00	0.000	0.000	16.16														
							0.00	0.000	0.000	16.16				47.6										

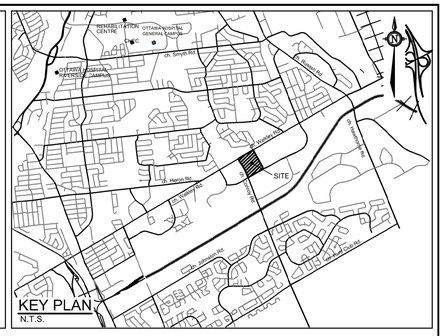
Q = 2.78 AIC, where
Q = Peak Flow in Litres per Second (L/s)
A = Area in hectares (ha)
I = Rainfall Intensity (mm/hr), 2 year storm
C = Runoff Coefficient

Consultant:	Novatech	
Date:	August 26, 2021	
Design By:	ARM	
	Dwg. Reference:	Checked By:
	119067-STM	LS

APPENDIX D
Stormwater Management Calculations







LEGEND

0.64 / A-11 / 0.90	DRAINAGE AREA (ha) / DRAINAGE AREA ID / RUNOFF COEFFICIENT
	STORM SEWER DRAINAGE AREA BOUNDARY
STM MH	EXISTING STORM MANHOLE & SEWER
CB 1	EXISTING CATCHBASIN

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.

Owner:
Manulife Ontario Property Portfolio Inc.
55 Metcalfe Street - Suite 1490
Ottawa, ON
M5G 2L5

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
2.	ISSUED FOR SITE PLAN APPLICATION	MAR 5/21	MJH
1.	ISSUED FOR COORDINATION	MAR 01/21	MJH

SCALE
1:750
1:750
0 10 20 30

DESIGN MJH/ARM
CHECKED JLS
DRAWN MJH/ARM
CHECKED JLS
APPROVED MJH

FOR REVIEW ONLY

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

LOCATION
WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA

DRAWING NAME
EXISTING STORMWATER MANAGEMENT PLAN

PROJECT No. 119067
REV REV #2
DRAWING No. 119067-EX SWM

M:\2019\119067\CAD\Design\119067- EX SWM.DWG, EX SWM, Mar 01, 2021 - 3:31pm, amestwarp

PLAN1.DWG - 841mmx594mm

Time of Concentration - Existing Conditions

Uplands Overland Flow Method

Area ID	Overland Flow						Mannings Pipe Flow							Overall
	Length (m)	Elevation U/S (m)	Elevation D/S (m)	Slope (%)	Velocity (m/s)	Travel Time (min)	Pipe Size (mm)	Length (m)	Elevation U/S (m)	Elevation D/S (m)	Slope (%)	Velocity (m/s)	Travel Time (min)	Time of Concentration (min)
EX 1 A	95	85.00	84.10	0.9%	0.30	5.28								5
EX 1B	10						250	96	82.77	81.16	1.68	1.57	1.02	
							450	28	81.16	81.00	0.57	1.36	0.34	11
EX 2	125	84.9	84.5	0.3%	0.18	11.57								12
EX 3 A	10						150.00	76	83.5	83.1	0.50	0.61	2.08	
							300.00	36	83.1	82.8	0.92	1.31	0.46	
							525.00	110	83.1	82.8	0.20	0.89	2.06	15

Uplands Velocity Chart

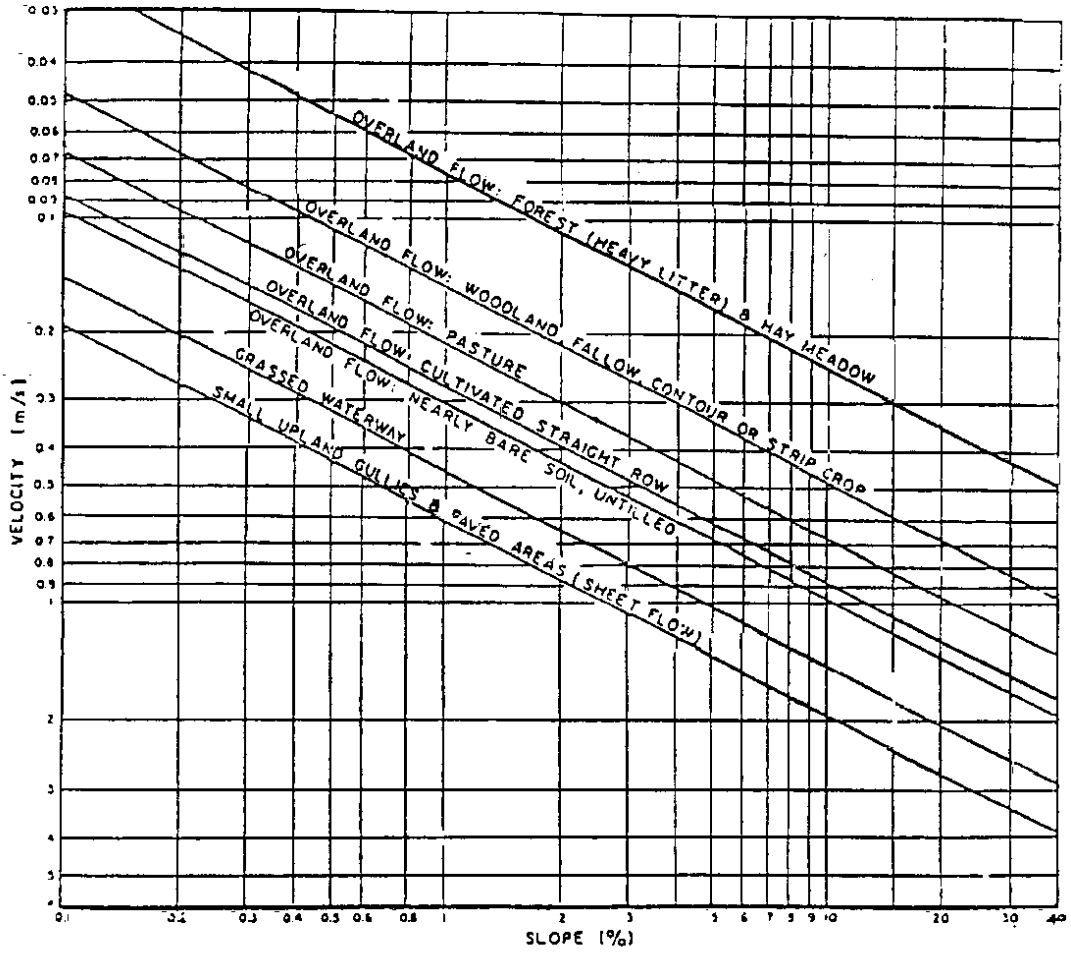


Figure A.5.2: Upland Method for Estimating Time of Concentration
(SCS National Engineering Handbook, 1971)

PROJECT #: 119067 **DATE PREPARED: FEBRUARY 2021**
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

TABLE 1A: Pre-Development Runoff Coefficient "C" - EX-1A

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.00	0.90	0.20	0.25
0.79	Soft	0.79	0.20		

Runoff Coefficient Equation

$C = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

* Runoff Coefficient increases by 25% up to a maximum value of 1.00 for the 100-Year event

TABLE 1B: Pre-Development / Allowable EX-1A Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
St Laurent Blvd (600mm)	0.79	0.20	10	**33.7**	**45.8**	**98.0**

TABLE 1C: Pre-Development Runoff Coefficient "C" - EX-1B

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.19	0.90	0.41	0.48
0.63	Soft	0.44	0.20		

Runoff Coefficient Equation

$C = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

* Runoff Coefficient increases by 25% up to a maximum value of 1.00 for the 100-Year event

TABLE 1D: Pre-Development / Allowable EX-1B Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
St Laurent Blvd (1050mm)	0.630	0.41	11	**52.7**	**71.4**	**141.7**

Time of Concentration	Tc=	10	min	Flow Equation
Intensity (2 Year Event)	I_2=	76.81	mm/hr	Q = 2.78 x C x I x A
Intensity (5 Year Event)	I_5=	104.19	mm/hr	Where:
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr	C is the runoff coefficient
Time of Concentration	Tc=	11	min	I is the rainfall intensity, City of Ottawa IDF
Intensity (2 Year Event)	I_2=	73.17	mm/hr	A is the total drainage area
Intensity (5 Year Event)	I_5=	99.19	mm/hr	
Intensity (100 Year Event)	I_{100}=	169.91	mm/hr	100 year Intensity = 1735.688 / (Time in min + 6.014) $^{0.820}$

5 year Intensity = 998.071 / (Time in min + 6.053) $^{0.814}$

2 year Intensity = 732.951 / (Time in min + 6.199) $^{0.810}$

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: DECEMBER 2020

TABLE 1A: Pre-Development Runoff Coefficient "C" - EX-2

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.00	0.90	0.20	0.25
0.73	Soft	0.73	0.20		

TABLE 1B: Pre-Development / Allowable EX-2 Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Conroy Rd	0.730	0.20	12	**28.4**	**38.4**	**82.3**

Time of Concentration	Tc=	12	min	Flow Equation
Intensity (2 Year Event)	I_2=	69.89	mm/hr	Q = 2.78 x C x I x A
Intensity (5 Year Event)	I_5=	94.70	mm/hr	Where:
Intensity (100 Year Event)	I_{100}=	162.13	mm/hr	C is the runoff coefficient

I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

100 year Intensity = $1735.688 / (\text{Time in min} + 6.014)^{0.820}$
5 year Intensity = $998.071 / (\text{Time in min} + 6.053)^{0.814}$
2 year Intensity = $732.951 / (\text{Time in min} + 6.199)^{0.810}$

PROJECT #: 119067
PROJECT NAME: 2020 WALLEY ROAD
LOCATION: OTTAWA

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: FEBRUARY 2021

TABLE 1A: Pre-Development Runoff Coefficient "C" - EX-3

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	2.48	0.90	0.68	0.76
3.65	Soft	1.17	0.20		

TABLE 1B: Allowable EX-3 Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)
Walkley Rd	3.65	0.50	15	**313.4**

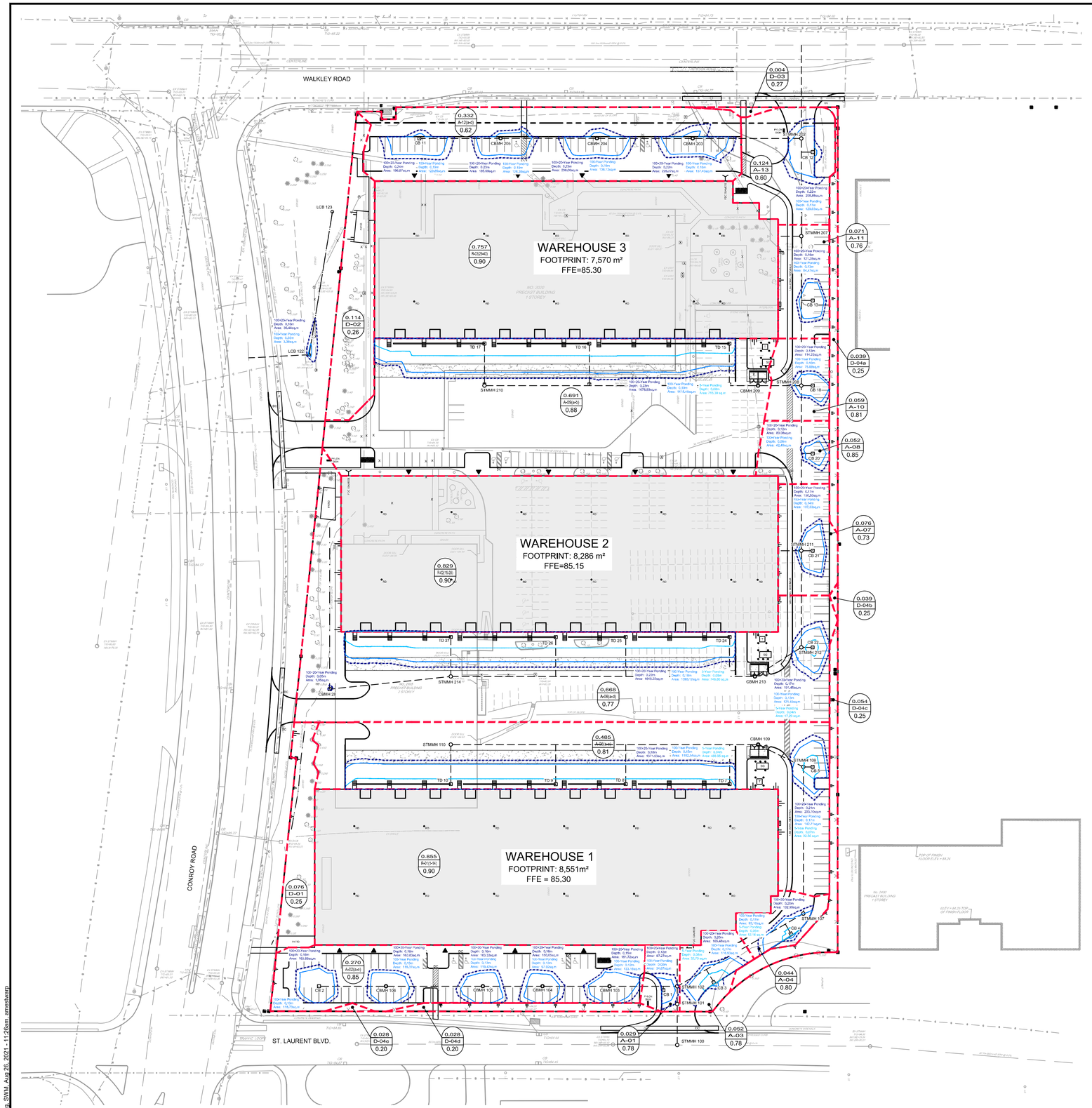
TABLE 1C: Pre-Development EX-3 Flows

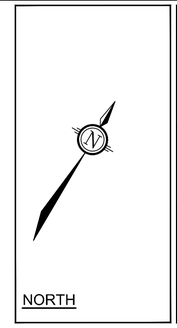
Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Walkley Rd	3.65	0.68	15	**423.4**	**572.8**	**1101.4**

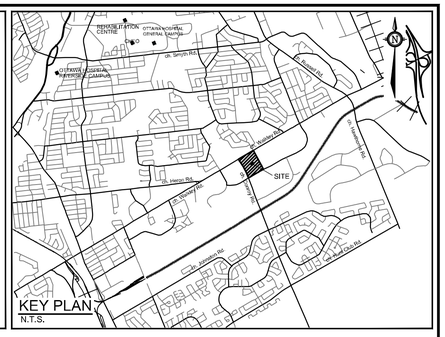
Time of Concentration	Tc=	15	min	Flow Equation
Intensity (2 Year Event)	I_2=	61.77	mm/hr	Q = 2.78 x C x I x A
Intensity (5 Year Event)	I_5=	83.56	mm/hr	Where:
Intensity (100 Year Event)	I_{100}=	142.89	mm/hr	C is the runoff coefficient

I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

100 year Intensity = 1735.688 / (Time in min + 6.014) $^{0.820}$
5 year Intensity = 998.071 / (Time in min + 6.053) $^{0.814}$
2 year Intensity = 732.951 / (Time in min + 6.199) $^{0.810}$







LEGEND

- 0.64 / A-11 / 0.90 — DRAINAGE AREA (ha) / DRAINAGE AREA ID / RUNOFF COEFFICIENT
- STORM SEWER DRAINAGE AREA BOUNDARY
- PROPOSED STORM SEWER C/W MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED TRENCH DRAIN
- PROPOSED LANDSCAPE CATCHBASIN
- RD PROPOSED ROOF DRAIN
- STM MH — EXISTING STORM MANHOLE & SEWER
- CB 1 — EXISTING CATCHBASIN
- EXISTING CATCHBASIN MANHOLE

WATTS ACCUTROL RD-100-A-ADJ ROOF DRAIN TABLE						
WAREHOUSE	NUMBER OF DRAINS	WEIR SETTING	5-YEAR EVENT		100-YEAR EVENT	
			HEAD	FLOW RATE	HEAD	FLOW RATE
1	14	OPEN	0.12m	20.64 L/s	0.15m	25.59 L/s
2	14	OPEN	0.12m	20.66 L/s	0.15m	25.60 L/s
3	12	OPEN	0.12m	17.74 L/s	0.15m	21.98 L/s

TEMPEST LMF/MHF ICDs					
LOCATION	MODEL NO. / ORFICE DIAMETER	5-YEAR FLOW (L/S)	5-YEAR HEAD (m)	100-YEAR FLOW (L/S)	100-YEAR HEAD (m)
CB 1	LMF 75	5.72	1.29	7.75	2.43
CB 3	LMF 75	7.74	2.43	7.89	2.52
CB 4	LMF 75	7.21	2.10	7.41	2.22
CBMH 103	83mm PLATE	21.62	2.23	25.86	3.17
STMMH 108	83mm PLATE	24.53	2.86	24.97	2.96
STMMH 212	132mm PLATE	47.70	1.52	48.86	1.62
CB 20	83mmPLATE	14.04	0.86	20.09	1.83
CB 21	83mm PLATE	15.52	1.21	20.88	1.74
CBMH 212	132mm PLATE	47.70	1.52	48.86	1.62
CB 12	94mm PLATE	22.73	1.42	28.59	2.27
CB 13	83mm PLATE	16.81	1.26	21.61	2.13
CB 18	83mm PLATE	15.20	1.02	20.18	1.85
CBMH 203	94mm PLATE	25.40	1.69	31.35	2.65
CBMH 209	160mm PLATE	75.40	1.83	77.30	1.94

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M5G 2L5

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
3.	REVISED PER CITY COMMENTS	SEPT 14/21	MJH
2.	ISSUED FOR SITE PLAN APPLICATION	MAR 5/21	MJH
1.	ISSUED FOR COORDINATION	MAR 01/21	MJH

SCALE: 1:750
1:750
0 10 20 30

DESIGN: MJH/ARM
CHECKED: JLS
DRAWN: MJH/ARM
CHECKED: JLS
APPROVED: MJH

FOR REVIEW ONLY

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

LOCATION
WALKLEY CONROY WAREHOUSES
2020 WALKLEY ROAD, CITY OF OTTAWA

DRAWING NAME
STORMWATER MANAGEMENT PLAN

PROJECT No. 119067
REV REV #3
DRAWING No. 119067-SWM

D02-02-21-0021

PLAN # 18444

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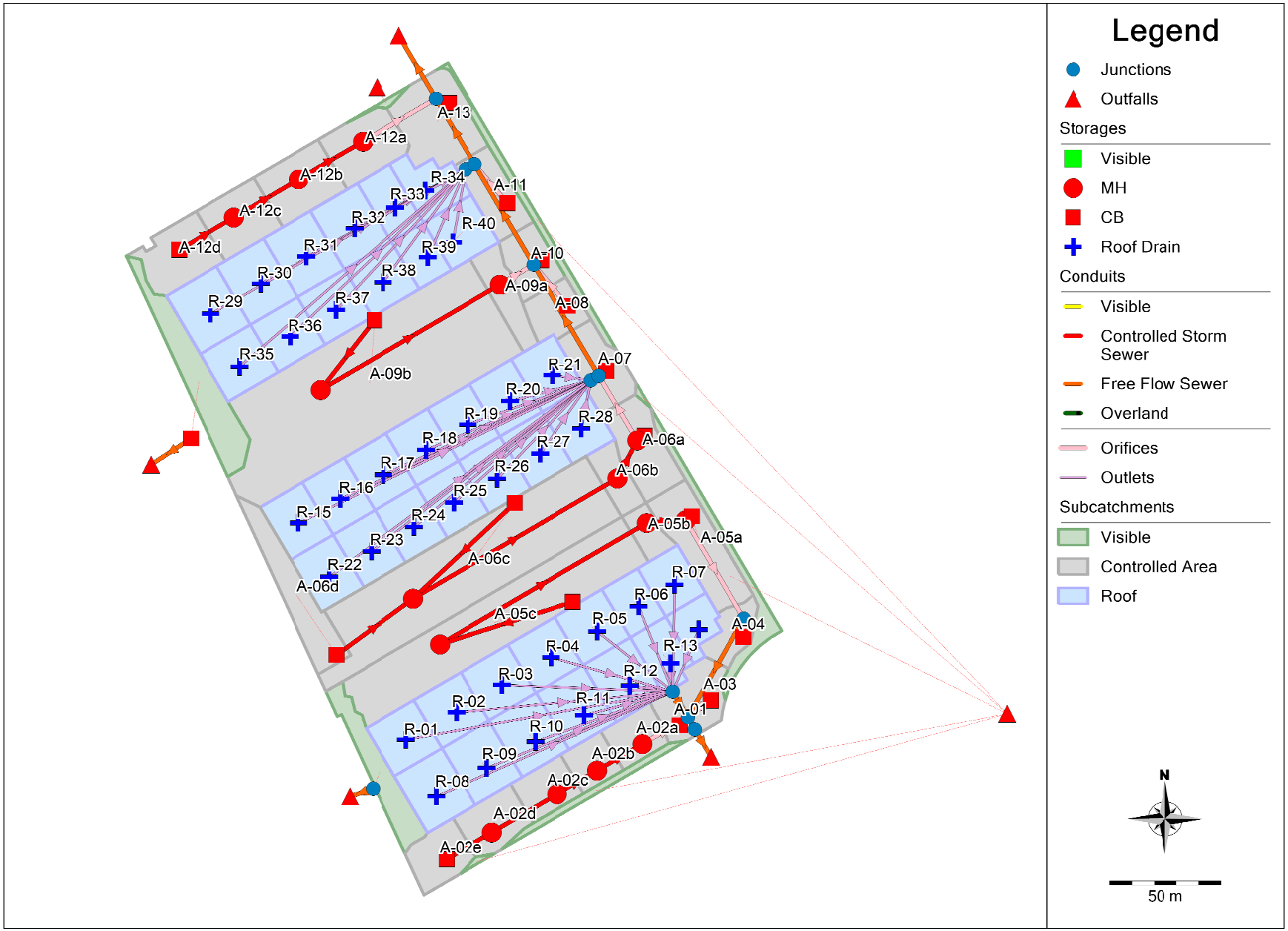
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Junctions
Outfalls
Storages
Visible
MH
CB
Roof Drain
Conduits
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Free Flow Sewer
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Orifices
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Controlled Area
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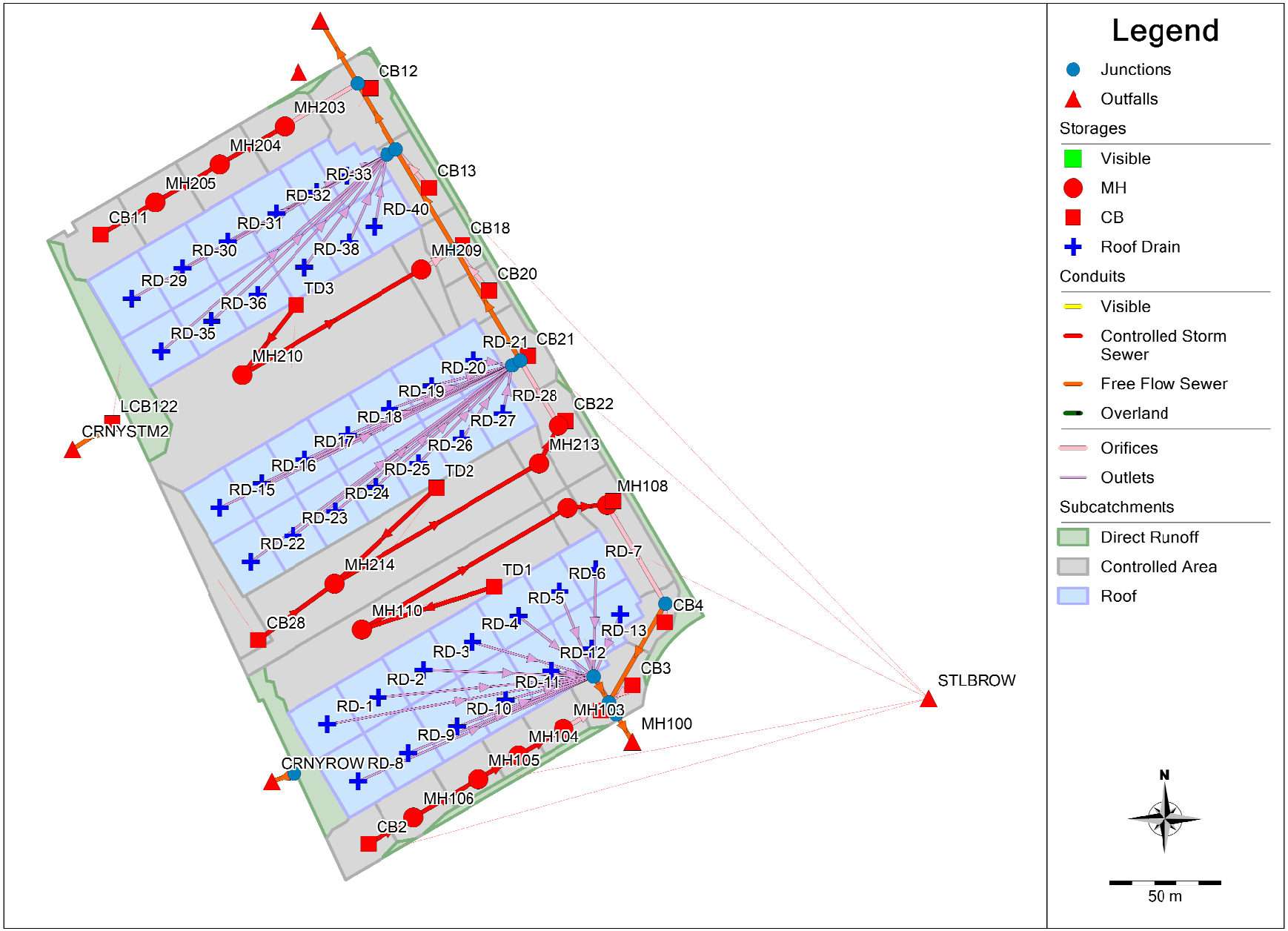
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CRNYROW
STLBROW
Legend
Junctions
Outfalls
Storages
Visible
MH
CB
Roof Drain
Conduits
Visible
Controlled Storm Sewer
Free Flow Sewer
Overland
Orifices
Outlets
Subcatchments
Direct Runoff
Controlled Area
Roof
N
50 m

Chicago 3hr-2year Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	CH3-2yr	INTENSITY	10 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

****
Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

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TD3-210          CIRCULAR            0.45     0.16     0.11     0.45       1   297.45


***********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------
```

```
Total Precipitation ......         0.182        31.857
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.024         4.254
Surface Runoff ...........         0.155        27.086
Final Storage ............         0.004         0.689
Continuity Error (%) .....        -0.541

*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.155         1.547
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.154         1.541
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.337

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (45.25%)
Link CAP3-207 (7.45%)
Link 5-108 (2.13%)


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


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Routing Time Step Summary
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  *************************
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     3.22 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :     0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.00
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    47.26 %
      3.155 -  1.991 sec      :     7.98 %
      1.991 -  1.256 sec      :    43.86 %
      1.256 -  0.792 sec      :     0.82 %
      0.792 -  0.500 sec      :     0.09 %


  ****************************
  Subcatchment Runoff Summary
  ****************************

  ---------------------------------------------------------------------------------------------------------------
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                          Total      Total      Total      Total     Imperv       Perv      Total      Total
Peak  Runoff
                         Precip      Runon       Evap      Infil     Runoff     Runoff     Runoff     Runoff
Runoff   Coeff
  Subcatchment             mm         mm         mm         mm         mm         mm         mm    10^6 ltr
LPS
  ---------------------------------------------------------------------------------------------------------------
-------------
  A-01                    31.86       0.00       0.00       5.39      25.26       0.07      25.32       0.01
5.20   0.795
  A-02a                   31.86       0.00       0.00       0.31      30.13       0.03      30.16       0.02
10.61   0.947
  A-02b                   31.86       0.00       0.00       0.00      30.44       0.00      30.44       0.01
8.96   0.955
  A-02c                   31.86       0.00       0.00       0.00      30.45       0.00      30.45       0.02
11.09   0.956
  A-02d                   31.86       0.00       0.00       2.85      27.71       0.05      27.77       0.02
12.74   0.872
  A-02e                   31.86       0.00       0.00       7.62      23.12       0.07      23.19       0.01
10.03   0.728
  A-03                    31.86       0.00       0.00       5.39      25.26       0.06      25.32       0.01
9.32   0.795
```

```
  A-04                    31.86       0.00       0.00       7.30      23.43       0.07      23.49       0.01
7.33   0.738
  A-05a                   31.86       0.00       0.00       5.40      25.35       0.02      25.38       0.03
19.89   0.797
  A-05b                   31.86       0.00       0.00      10.48      20.38       0.07      20.45       0.01
4.36   0.642
  A-05c                   31.86       0.00       0.00       2.85      27.73       0.05      27.78       0.10
67.11   0.872
  A-06a                   31.86       0.00       0.00       6.35      24.38       0.04      24.42       0.02
15.31   0.767
  A-06b                   31.86       0.00       0.00       7.62      23.12       0.07      23.19       0.01
6.58   0.728
  A-06c                   31.86       0.00       0.00       0.32      30.21       0.02      30.24       0.13
93.60   0.949
  A-06d                   31.86       0.00       0.00      28.98       2.74       0.02       2.75       0.00
1.90   0.086
  A-07                    31.86       0.00       0.00       7.62      23.15       0.05      23.20       0.02
12.44   0.728
  A-08                    31.86       0.00       0.00       2.21      28.33       0.05      28.38       0.01
10.41   0.891
  A-09a                   31.86       0.00       0.00       6.04      24.71       0.03      24.74       0.01
9.22   0.777
  A-09b                   31.86       0.00       0.00       0.32      30.25       0.02      30.27       0.19
134.56   0.950
  A-10                    31.86       0.00       0.00       4.12      26.48       0.06      26.54       0.02
11.07   0.833
  A-11                    31.86       0.00       0.00       6.35      24.38       0.04      24.43       0.02
12.21   0.767
  A-12a                   31.86       0.00       0.00      12.39      18.55       0.07      18.62       0.02
11.25   0.584
  A-12b                   31.86       0.00       0.00      12.71      18.25       0.07      18.31       0.02
11.20   0.575
  A-12c                   31.86       0.00       0.00      12.71      18.25       0.07      18.31       0.01
10.02   0.575
  A-12d                   31.86       0.00       0.00      12.39      18.56       0.06      18.62       0.02
11.23   0.584
  A-13                    31.86       0.00       0.00      13.68      17.35       0.05      17.40       0.02
15.26   0.546
  D-01                    31.86       0.00       0.00      29.61       2.13       0.02       2.15       0.00
1.19   0.068
  D-02                    31.86       0.00       0.00      28.98       2.74       0.02       2.76       0.00
2.26   0.087
  D-03                    31.86       0.00       0.00      30.12       1.52       0.34       1.86       0.00
0.09   0.058
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D-04a	31.86	0.00	0.00	30.26	1.52	0.00	1.53	0.00
0.42 0.048								
D-04b	31.86	0.00	0.00	30.24	1.52	0.04	1.56	0.00
0.02 0.049								
D-04c	31.86	0.00	0.00	30.26	1.52	0.01	1.53	0.00
0.58 0.048								
D-04d	31.86	0.00	0.00	30.12	1.52	0.34	1.86	0.00
0.55 0.058								
D-04e	31.86	0.00	0.00	30.12	1.52	0.34	1.86	0.00
0.07 0.058								
R-01	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
13.23 1.005								
R-02	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
13.01 1.005								
R-03	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
13.01 1.005								
R-04	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
13.01 1.005								
R-05	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
13.01 1.005								
R-06	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.01
9.81 1.005								
R-07	31.86	0.00	0.00	0.00	32.03	0.00	32.03	0.02
11.09 1.005								
R-08	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.57 1.006								
R-09	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.36 1.006								
R-10	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.36 1.006								
R-11	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.36 1.006								
R-12	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.36 1.006								
R-13	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
10.88 1.006								
R-14	31.86	0.00	0.00	0.00	32.03	0.00	32.03	0.01
8.96 1.005								
R-15	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-16	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-17	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-18	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-19	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-20	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-21	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-22	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-23	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-24	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-25	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-26	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-27	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-28	31.86	0.00	0.00	0.00	32.01	0.00	32.01	0.02
12.59 1.005								
R-29	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
16.64 1.006								
R-30	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.78 1.006								
R-31	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.78 1.006								
R-32	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
15.78 1.006								
R-33	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
10.88 1.006								
R-34	31.86	0.00	0.00	0.00	32.04	0.00	32.04	0.02
12.58 1.006								
R-35	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
13.65 1.005								
R-36	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
12.80 1.005								
R-37	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
12.80 1.005								
R-38	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.02
12.80 1.005								
R-39	31.86	0.00	0.00	0.00	32.00	0.00	32.00	0.01
8.75 1.005								

R-40 31.86 0.00 0.00 0.00 32.00 0.00 32.00 0.02
13.01 1.005

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days	hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.02	2.09	82.58	0	01:41	2.09
Cap2	JUNCTION	2.02	2.09	82.85	0	01:41	2.09
CAP3	JUNCTION	2.01	2.08	82.53	0	01:41	2.08
MH101	JUNCTION	0.04	0.15	80.90	0	01:13	0.15
MH102	JUNCTION	0.04	0.15	80.97	0	01:13	0.15
MH107	JUNCTION	0.03	0.13	81.15	0	01:14	0.13
MH202	JUNCTION	0.05	0.22	81.87	0	01:12	0.22
MH207	JUNCTION	0.07	0.31	82.07	0	01:12	0.31
MH208	JUNCTION	0.06	0.33	82.20	0	01:12	0.33
MH211	JUNCTION	0.06	0.22	82.30	0	01:12	0.22
XDICB1	JUNCTION	0.00	0.02	83.05	0	01:10	0.02
CRNYROW	OUTFALL	0.45	0.47	82.87	0	01:10	0.47
CRNYSTM2	OUTFALL	83.30	83.30	83.30	0	00:00	83.30
MH100	OUTFALL	0.40	0.45	80.75	0	01:13	0.45
STLBROW	OUTFALL	0.00	0.00	0.00	0	00:00	0.00
STMTRNK	OUTFALL	81.44	81.61	81.61	0	01:12	81.61
WKLYROW	OUTFALL	0.00	0.00	84.60	0	00:00	0.00
CB1	STORAGE	0.02	0.80	83.10	0	01:11	0.80
CB11	STORAGE	0.01	0.44	83.09	0	01:13	0.43
CB12	STORAGE	0.02	0.69	82.89	0	01:10	0.69
CB13	STORAGE	0.02	0.71	82.91	0	01:10	0.71
CB18	STORAGE	0.02	0.60	82.90	0	01:10	0.59
CB2	STORAGE	0.03	0.70	83.15	0	01:15	0.70
CB20	STORAGE	0.02	0.53	82.83	0	01:10	0.53
CB21	STORAGE	0.02	0.73	83.03	0	01:10	0.73
CB22	STORAGE	0.07	1.34	83.89	0	01:14	1.34
CB28	STORAGE	0.13	0.94	83.94	0	01:13	0.94
CB3	STORAGE	0.06	1.94	84.14	0	01:12	1.94
CB4	STORAGE	0.04	1.35	83.85	0	01:11	1.35
CB5	STORAGE	0.12	1.56	83.61	0	01:22	1.56
LCB122	STORAGE	0.01	0.05	83.34	0	01:10	0.05
MH103	STORAGE	0.12	1.50	83.15	0	01:15	1.50
MH104	STORAGE	0.10	1.37	83.15	0	01:15	1.37
MH105	STORAGE	0.09	1.26	83.15	0	01:14	1.26
MH106	STORAGE	0.06	1.09	83.15	0	01:15	1.08
MH108	STORAGE	0.27	2.35	83.61	0	01:22	2.35
MH109	STORAGE	0.25	2.28	83.61	0	01:22	2.28
MH110	STORAGE	0.18	1.94	83.62	0	01:22	1.94
MH203	STORAGE	0.07	1.09	83.08	0	01:14	1.09
MH204	STORAGE	0.05	0.98	83.08	0	01:14	0.98
MH205	STORAGE	0.04	0.87	83.08	0	01:13	0.87
MH209	STORAGE	0.10	1.97	84.04	0	01:14	1.97
MH210	STORAGE	0.08	1.69	84.06	0	01:13	1.69
MH212	STORAGE	0.12	1.66	83.89	0	01:14	1.66
MH213	STORAGE	0.11	1.59	83.89	0	01:14	1.59
MH214	STORAGE	0.07	1.24	83.94	0	01:15	1.24
RD-1	STORAGE	0.04	0.11	90.11	0	01:42	0.11
RD-10	STORAGE	0.04	0.11	90.11	0	01:45	0.11
RD-11	STORAGE	0.04	0.11	90.11	0	01:45	0.11
RD-12	STORAGE	0.04	0.11	90.11	0	01:45	0.11
RD-13	STORAGE	0.03	0.11	90.11	0	01:34	0.11
RD-14	STORAGE	0.03	0.10	90.10	0	01:32	0.10
RD-15	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-16	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD17	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-18	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-19	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-2	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-20	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-21	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-22	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-23	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-24	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-25	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-26	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-27	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-28	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-29	STORAGE	0.05	0.11	90.11	0	01:51	0.11
Rd-3	STORAGE	0.04	0.11	90.11	0	01:41	0.11

RD-30	STORAGE	0.04	0.11	90.11	0	01:48	0.11
RD-31	STORAGE	0.04	0.11	90.11	0	01:48	0.11
RD-32	STORAGE	0.04	0.11	90.11	0	01:48	0.11
RD-33	STORAGE	0.03	0.10	90.10	0	01:34	0.10
RD-34	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-35	STORAGE	0.04	0.11	90.11	0	01:42	0.11
RD-36	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-37	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-38	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-39	STORAGE	0.03	0.10	90.10	0	01:32	0.10
RD-4	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-40	STORAGE	0.04	0.11	90.11	0	01:41	0.11
RD-5	STORAGE	0.04	0.11	90.11	0	01:41	0.11
Rd-6	STORAGE	0.03	0.10	90.10	0	01:33	0.10
RD-7	STORAGE	0.03	0.11	90.11	0	01:34	0.11
RD-8	STORAGE	0.04	0.11	90.11	0	01:46	0.11
RD-9	STORAGE	0.04	0.11	90.11	0	01:45	0.11
TD1	STORAGE	0.02	0.44	83.62	0	01:22	0.44
TD2	STORAGE	0.05	0.91	83.94	0	01:14	0.91
TD3	STORAGE	0.03	0.89	84.07	0	01:13	0.89

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	18.38	0	01:41	0	0.275	0.859
Cap2	JUNCTION	0.00	18.32	0	01:41	0	0.264	0.893
CAP3	JUNCTION	0.00	15.74	0	01:41	0	0.242	0.976
MH101	JUNCTION	0.00	71.93	0	01:14	0	0.509	0.002
MH102	JUNCTION	0.00	71.92	0	01:13	0	0.509	-0.002
MH107	JUNCTION	0.00	26.85	0	01:14	0	0.14	0.019
MH202	JUNCTION	0.00	220.50	0	01:12	0	1.03	0.003
MH207	JUNCTION	0.00	189.04	0	01:12	0	0.941	-0.073
MH208	JUNCTION	0.00	164.46	0	01:12	0	0.685	0.043
MH211	JUNCTION	0.00	73.35	0	01:12	0	0.447	-0.114
XDICB1	JUNCTION	1.19	1.19	0	01:10	0.00164	0.00164	0.044
CRNYROW	OUTFALL	0.00	1.19	0	01:10	0	0.00164	0.000
CRNYSTM2	OUTFALL	0.00	2.26	0	01:10	0	0.00353	0.000
MH100	OUTFALL	0.00	71.93	0	01:13	0	0.509	0.000
STLBROW	OUTFALL	1.64	1.64	0	01:10	0.00197	0.00197	0.000
STMTRNK	OUTFALL	0.00	220.55	0	01:12	0	1.03	0.000
WKLYROW	OUTFALL	0.09	0.09	0	01:10	7.44e-05	7.44e-05	0.000
CB1	STORAGE	5.20	5.20	0	01:10	0.00734	0.00734	-0.000
CB11	STORAGE	11.23	11.23	0	01:10	0.0158	0.0158	0.749
CB12	STORAGE	15.26	15.26	0	01:10	0.0216	0.0216	0.000
CB13	STORAGE	12.21	12.21	0	01:10	0.0173	0.0173	0.000
CB18	STORAGE	11.07	11.07	0	01:10	0.0157	0.0157	0.000
CB2	STORAGE	10.03	13.67	0	01:08	0.0141	0.0142	0.646
CB20	STORAGE	10.41	10.41	0	01:10	0.0148	0.0148	0.000
CB21	STORAGE	12.44	12.44	0	01:10	0.0176	0.0176	0.000
CB22	STORAGE	15.31	15.31	0	01:10	0.0217	0.0217	-0.005
CB28	STORAGE	1.90	17.63	0	01:06	0.00264	0.00436	0.683
CB3	STORAGE	9.32	9.32	0	01:10	0.0132	0.0132	-0.000
CB4	STORAGE	7.33	7.33	0	01:10	0.0103	0.0103	-0.000
CB5	STORAGE	19.89	19.89	0	01:10	0.0284	0.0284	0.056
LCB122	STORAGE	2.26	2.26	0	01:10	0.00314	0.00334	0.114
MH103	STORAGE	10.61	27.12	0	01:08	0.0151	0.0759	0.009
MH104	STORAGE	8.96	29.43	0	01:08	0.0128	0.0608	-0.088
MH105	STORAGE	11.09	31.19	0	01:08	0.0158	0.0482	0.174
MH106	STORAGE	12.74	25.31	0	01:08	0.018	0.0322	-0.370
MH108	STORAGE	0.00	32.25	0	01:05	0	0.13	-0.022
MH109	STORAGE	4.36	46.86	0	01:05	0.00613	0.101	-0.370
MH110	STORAGE	0.00	67.10	0	01:10	0	0.0951	0.089
MH203	STORAGE	11.25	26.13	0	01:09	0.0158	0.0616	0.008
MH204	STORAGE	11.20	26.14	0	01:09	0.0158	0.0457	-0.109
MH205	STORAGE	10.02	21.11	0	01:08	0.0141	0.0298	-0.572
MH209	STORAGE	9.22	102.02	0	01:09	0.0131	0.206	-0.153
MH210	STORAGE	0.00	131.61	0	01:07	0	0.193	-0.224
MH212	STORAGE	0.00	48.84	0	01:11	0	0.167	0.004
MH213	STORAGE	6.58	67.04	0	01:03	0.00928	0.145	-0.742
MH214	STORAGE	0.00	92.98	0	01:05	0	0.138	0.380
RD-1	STORAGE	13.23	13.23	0	01:10	0.0198	0.0198	-0.001
RD-10	STORAGE	15.36	15.36	0	01:10	0.0231	0.0231	-0.001
RD-11	STORAGE	15.36	15.36	0	01:10	0.0231	0.0231	-0.001
RD-12	STORAGE	15.36	15.36	0	01:10	0.0231	0.0231	-0.001

RD-13	STORAGE	10.88	10.88	0	01:10	0.0163	0.0163	-0.002
RD-14	STORAGE	8.96	8.96	0	01:10	0.0135	0.0135	-0.002
RD-15	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-16	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD17	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-18	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-19	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-2	STORAGE	13.01	13.01	0	01:10	0.0195	0.0195	-0.001
RD-20	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-21	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-22	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-23	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-24	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-25	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-26	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-27	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-28	STORAGE	12.59	12.59	0	01:10	0.0189	0.0189	-0.001
RD-29	STORAGE	16.64	16.64	0	01:10	0.025	0.025	-0.000
Rd-3	STORAGE	13.01	13.01	0	01:10	0.0195	0.0195	-0.001
RD-30	STORAGE	15.78	15.78	0	01:10	0.0237	0.0237	-0.001
RD-31	STORAGE	15.78	15.78	0	01:10	0.0237	0.0237	-0.001
RD-32	STORAGE	15.78	15.78	0	01:10	0.0237	0.0237	-0.001
RD-33	STORAGE	10.88	10.88	0	01:10	0.0163	0.0163	-0.002
RD-34	STORAGE	12.58	12.58	0	01:10	0.0189	0.0189	-0.001
RD-35	STORAGE	13.65	13.65	0	01:10	0.0205	0.0205	-0.001
RD-36	STORAGE	12.80	12.80	0	01:10	0.0192	0.0192	-0.001
RD-37	STORAGE	12.80	12.80	0	01:10	0.0192	0.0192	-0.001
RD-38	STORAGE	12.80	12.80	0	01:10	0.0192	0.0192	-0.001
RD-39	STORAGE	8.75	8.75	0	01:10	0.0131	0.0131	-0.002
RD-4	STORAGE	13.01	13.01	0	01:10	0.0195	0.0195	-0.001
RD-40	STORAGE	13.01	13.01	0	01:10	0.0195	0.0195	-0.001
RD-5	STORAGE	13.01	13.01	0	01:10	0.0195	0.0195	-0.001
Rd-6	STORAGE	9.81	9.81	0	01:10	0.0147	0.0147	-0.002
RD-7	STORAGE	11.09	11.09	0	01:10	0.0167	0.0167	-0.002
RD-8	STORAGE	15.57	15.57	0	01:10	0.0234	0.0234	-0.001
RD-9	STORAGE	15.36	15.36	0	01:10	0.0231	0.0231	-0.001
TD1	STORAGE	67.11	67.11	0	01:10	0.0953	0.0953	0.191
TD2	STORAGE	93.60	93.60	0	01:10	0.134	0.134	0.226
TD3	STORAGE	134.56	134.56	0	01:10	0.193	0.193	0.168

****
Node Surcharge Summary
****

No nodes were surcharged.

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Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	0	0	0	0.000	4	0 01:11	4.31
CB11	0.000	0	0	0	0.000	0	0 01:13	11.15
CB12	0.000	0	0	0	0.000	1	0 01:10	15.08
CB13	0.000	0	0	0	0.000	1	0 01:10	11.93
CB18	0.000	0	0	0	0.000	1	0 01:10	10.88
CB2	0.000	0	0	0	0.000	1	0 01:15	12.63
CB20	0.000	0	0	0	0.000	1	0 01:10	10.25
CB21	0.000	0	0	0	0.000	1	0 01:10	12.15
CB22	0.000	0	0	0	0.000	1	0 01:14	13.20
CB28	0.000	1	0	0	0.000	5	0 01:13	3.44
CB3	0.000	0	0	0	0.001	4	0 01:12	6.77
CB4	0.000	0	0	0	0.000	3	0 01:11	5.64
CB5	0.000	0	0	0	0.002	5	0 01:22	18.92
LCB122	0.000	0	0	0	0.000	0	0 01:10	2.26
MH103	0.000	1	0	0	0.002	7	0 01:15	17.66
MH104	0.000	1	0	0	0.002	8	0 01:15	16.53
MH105	0.000	0	0	0	0.002	4	0 01:14	20.47
MH106	0.000	0	0	0	0.001	4	0 01:15	20.11

MH108	0.000	8	0	0	0.003	75	0	01:22	22.21
MH109	0.000	5	0	0	0.003	42	0	01:22	17.51
MH110	0.000	7	0	0	0.002	71	0	01:22	42.57
MH203	0.000	0	0	0	0.001	4	0	01:14	19.14
MH204	0.000	0	0	0	0.001	4	0	01:14	15.20
MH205	0.000	0	0	0	0.001	3	0	01:13	14.94
MH209	0.000	3	0	0	0.002	52	0	01:14	73.74
MH210	0.000	4	0	0	0.002	85	0	01:13	92.82
MH212	0.000	6	0	0	0.002	82	0	01:14	46.71
MH213	0.000	2	0	0	0.002	31	0	01:14	41.52
MH214	0.000	5	0	0	0.001	82	0	01:15	65.12
RD-1	0.003	10	0	0	0.012	37	0	01:42	1.32
RD-10	0.004	11	0	0	0.015	38	0	01:45	1.33
RD-11	0.004	11	0	0	0.015	38	0	01:45	1.33
RD-12	0.004	11	0	0	0.015	38	0	01:45	1.33
RD-13	0.002	8	0	0	0.009	36	0	01:34	1.31
RD-14	0.001	6	0	0	0.007	34	0	01:32	1.29
RD-15	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-16	0.003	9	0	0	0.011	36	0	01:41	1.31
RD17	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-18	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-19	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-2	0.003	9	0	0	0.012	36	0	01:41	1.31
RD-20	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-21	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-22	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-23	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-24	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-25	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-26	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-27	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-28	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-29	0.005	12	0	0	0.016	39	0	01:51	1.33
Rd-3	0.003	9	0	0	0.012	36	0	01:41	1.31
RD-30	0.005	12	0	0	0.015	39	0	01:48	1.34
RD-31	0.005	12	0	0	0.015	39	0	01:48	1.34
RD-32	0.005	12	0	0	0.015	39	0	01:48	1.34
RD-33	0.002	8	0	0	0.009	35	0	01:34	1.29
RD-34	0.003	9	0	0	0.011	36	0	01:41	1.31
RD-35	0.003	10	0	0	0.013	37	0	01:42	1.32
RD-36	0.003	9	0	0	0.012	36	0	01:41	1.31
RD-37	0.003	9	0	0	0.012	36	0	01:41	1.31
RD-38	0.003	9	0	0	0.012	36	0	01:41	1.31
RD-39	0.001	6	0	0	0.007	32	0	01:32	1.25
RD-4	0.003	9	0	0	0.012	36	0	01:41	1.31
RD-40	0.003	10	0	0	0.012	37	0	01:41	1.32
RD-5	0.003	9	0	0	0.012	36	0	01:41	1.31
Rd-6	0.002	7	0	0	0.008	33	0	01:33	1.27
RD-7	0.002	8	0	0	0.010	36	0	01:34	1.31
RD-8	0.004	12	0	0	0.015	39	0	01:46	1.34
RD-9	0.004	11	0	0	0.015	38	0	01:45	1.33
TD1	0.000	0	0	0	0.000	0	0	01:22	67.10
TD2	0.000	0	0	0	0.005	1	0	01:14	92.35
TD3	0.000	0	0	0	0.003	1	0	01:13	131.61

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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
CRNYROW	23.39	0.18	1.19	0.002
CRNYSTM2	24.18	0.34	2.26	0.004
MH100	54.77	23.34	71.93	0.509
STLBROW	23.53	0.22	1.64	0.002
STMTRNK	56.47	45.87	220.55	1.025
WKLYROW	1.84	0.06	0.09	0.000
System	30.70	70.01	294.90	1.542

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Link Flow Summary
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	Maximum |Flow|	Time of Max Occurrence	Maximum |Veloc|	Max/ Full	Max/ Full

Link	Type	LPS	days	hr:min	m/sec	Flow	Depth
101-100	CONDUIT	71.93	0	01:13	1.49	0.25	0.34
102-101	CONDUIT	71.93	0	01:14	1.49	0.25	0.34
104-103	CONDUIT	16.53	0	01:08	0.28	0.13	1.00
105-104	CONDUIT	20.47	0	01:08	0.57	0.17	1.00
106-105	CONDUIT	20.11	0	01:08	0.52	0.16	1.00
107-102	CONDUIT	26.82	0	01:14	0.79	0.17	0.27
109-108	CONDUIT	17.51	0	01:25	0.30	0.18	1.00
110-109	CONDUIT	42.57	0	01:05	0.50	0.44	1.00
111-106	CONDUIT	12.63	0	01:08	0.88	0.21	1.00
11-205	CONDUIT	11.15	0	01:08	0.92	0.19	1.00
122-CSTM2	CONDUIT	2.26	0	01:10	0.24	0.21	0.52
202-TRNK	CONDUIT	220.55	0	01:12	1.76	0.10	0.22
204-203	CONDUIT	15.20	0	01:12	0.27	0.16	1.00
205-204	CONDUIT	14.94	0	01:09	0.45	0.16	1.00
207-202	CONDUIT	189.05	0	01:12	1.37	0.56	0.49
208-207	CONDUIT	164.31	0	01:12	1.10	0.60	0.52
210-209	CONDUIT	92.82	0	01:09	0.53	0.39	1.00
211-208	CONDUIT	73.28	0	01:12	0.86	0.38	0.45
213-212	CONDUIT	41.52	0	01:17	0.40	0.29	1.00
214-213	CONDUIT	61.60	0	01:03	0.70	0.64	1.00
22-212	CONDUIT	13.20	0	01:10	0.76	0.40	1.00
28-214	CONDUIT	15.76	0	01:06	0.37	0.34	1.00
5-108	CONDUIT	18.92	0	01:05	1.40	0.41	1.00
CAP1-102	CONDUIT	18.38	0	01:41	1.39	0.40	0.44
CAP2-211	CONDUIT	18.32	0	01:41	1.39	0.39	0.44
CAP3-207	CONDUIT	15.74	0	01:42	1.33	0.34	0.40
DICB1-CSTM	CONDUIT	1.19	0	01:10	0.51	0.01	0.07
TD1-110	CONDUIT	67.10	0	01:10	1.91	0.27	1.00
TD2-214	CONDUIT	92.35	0	01:06	1.60	0.53	1.00
TD3-210	CONDUIT	131.61	0	01:07	1.80	0.44	1.00
12-202	ORIFICE	15.08	0	01:10			1.00
13-207	ORIFICE	11.93	0	01:10			1.00
18-208	ORIFICE	10.88	0	01:10			1.00
20-208	ORIFICE	10.25	0	01:10			1.00
203-202	ORIFICE	19.14	0	01:14			1.00
209-208	ORIFICE	73.74	0	01:14			1.00
21-211	ORIFICE	12.15	0	01:10			1.00
212-211	ORIFICE	46.71	0	01:14			1.00
OR1	ORIFICE	4.31	0	01:11			1.00
OR2	ORIFICE	6.77	0	01:12			1.00
OR3	ORIFICE	5.64	0	01:11			1.00
OR4	ORIFICE	17.66	0	01:15			1.00
OR5	ORIFICE	22.21	0	01:22			1.00
OL1	DUMMY	1.34	0	01:46			
OL10	DUMMY	1.31	0	01:41			
OL11	DUMMY	1.31	0	01:41			
OL12	DUMMY	1.31	0	01:41			
OL13	DUMMY	1.31	0	01:41			
OL14	DUMMY	1.32	0	01:42			
OL15	DUMMY	1.31	0	01:41			
OL16	DUMMY	1.31	0	01:41			
OL17	DUMMY	1.31	0	01:41			
OL18	DUMMY	1.31	0	01:41			
OL19	DUMMY	1.31	0	01:41			
OL2	DUMMY	1.33	0	01:45			
OL20	DUMMY	1.31	0	01:41			
OL21	DUMMY	1.31	0	01:41			
OL22	DUMMY	1.31	0	01:41			
OL23	DUMMY	1.31	0	01:41			
OL24	DUMMY	1.31	0	01:41			
OL25	DUMMY	1.31	0	01:41			
OL26	DUMMY	1.31	0	01:41			
OL27	DUMMY	1.31	0	01:41			
OL28	DUMMY	1.31	0	01:41			
OL29	DUMMY	1.31	0	01:41			
OL3	DUMMY	1.33	0	01:45			
OL30	DUMMY	1.29	0	01:34			
OL31	DUMMY	1.34	0	01:48			
OL32	DUMMY	1.34	0	01:48			
OL33	DUMMY	1.34	0	01:48			
OL34	DUMMY	1.33	0	01:51			
OL35	DUMMY	1.32	0	01:42			
OL36	DUMMY	1.31	0	01:41			
OL37	DUMMY	1.31	0	01:41			
OL38	DUMMY	1.31	0	01:41			
OL39	DUMMY	1.25	0	01:32			
OL4	DUMMY	1.33	0	01:45			
OL40	DUMMY	1.32	0	01:41			
OL5	DUMMY	1.33	0	01:45			
OL6	DUMMY	1.31	0	01:34			

OL7	DUMMY	1.29	0	01:32
OL8	DUMMY	1.31	0	01:34
OL9	DUMMY	1.27	0	01:33

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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
101-100	1.00	0.00	0.08	0.00	0.67	0.25	0.00	0.00	0.95	0.00
102-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
104-103	1.00	0.02	0.00	0.00	0.26	0.01	0.00	0.71	0.05	0.00
105-104	1.00	0.02	0.00	0.00	0.15	0.00	0.00	0.83	0.01	0.00
106-105	1.00	0.02	0.00	0.00	0.26	0.01	0.00	0.71	0.02	0.00
107-102	1.00	0.02	0.00	0.00	0.07	0.00	0.00	0.91	0.00	0.00
109-108	1.00	0.02	0.00	0.00	0.25	0.00	0.00	0.73	0.01	0.00
110-109	1.00	0.02	0.00	0.00	0.24	0.00	0.00	0.74	0.03	0.00
111-106	1.00	0.02	0.00	0.00	0.08	0.00	0.00	0.90	0.01	0.00
11-205	1.00	0.02	0.00	0.00	0.06	0.00	0.00	0.92	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.12	0.00
202-TRNK	1.00	0.00	0.07	0.00	0.39	0.55	0.00	0.00	0.80	0.00
204-203	1.00	0.02	0.00	0.00	0.25	0.00	0.00	0.73	0.06	0.00
205-204	1.00	0.02	0.00	0.00	0.23	0.00	0.00	0.75	0.01	0.00
207-202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
208-207	1.00	0.01	0.00	0.00	0.56	0.00	0.00	0.42	0.26	0.00
210-209	1.00	0.02	0.00	0.00	0.28	0.01	0.00	0.69	0.08	0.00
211-208	1.00	0.01	0.00	0.00	0.07	0.00	0.00	0.92	0.01	0.00
213-212	1.00	0.02	0.00	0.00	0.23	0.00	0.00	0.75	0.03	0.00
214-213	1.00	0.02	0.00	0.00	0.11	0.00	0.00	0.87	0.01	0.00
22-212	1.00	0.02	0.00	0.00	0.10	0.00	0.00	0.88	0.00	0.00
28-214	1.00	0.04	0.00	0.00	0.08	0.00	0.00	0.88	0.01	0.00
5-108	1.00	0.02	0.00	0.00	0.13	0.00	0.00	0.85	0.00	0.00
CAP1-102	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP2-211	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP3-207	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
DICB1-CSTM	1.00	0.02	0.00	0.00	0.73	0.25	0.00	0.00	0.02	0.00
TD1-110	1.00	0.02	0.00	0.00	0.07	0.00	0.00	0.91	0.01	0.00
TD2-214	1.00	0.02	0.00	0.00	0.06	0.00	0.00	0.92	0.00	0.00
TD3-210	1.00	0.02	0.00	0.00	0.04	0.00	0.00	0.94	0.00	0.00

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Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
104-103	0.99	0.99	1.14	0.01	0.01
105-104	0.86	0.86	0.98	0.01	0.01
106-105	0.70	0.70	0.86	0.01	0.01
109-108	1.84	1.84	1.91	0.01	0.01
110-109	1.36	1.36	1.81	0.01	0.01
111-106	0.50	0.50	0.68	0.01	0.01
11-205	0.22	0.22	0.43	0.01	0.01
204-203	0.54	0.54	0.65	0.01	0.01
205-204	0.45	0.45	0.53	0.01	0.01
210-209	0.46	0.46	0.61	0.01	0.01
213-212	0.83	0.83	0.86	0.01	0.01
214-213	0.62	0.62	0.83	0.01	0.01
22-212	0.83	0.83	0.86	0.01	0.01
28-214	0.47	0.47	0.61	0.01	0.01
5-108	1.20	1.20	1.25	0.01	0.01
TD1-110	0.18	0.18	0.49	0.01	0.01
TD2-214	0.45	0.45	0.52	0.01	0.01
TD3-210	0.25	0.25	0.29	0.01	0.01

Analysis begun on: Wed Aug 25 11:04:11 2021
Analysis ended on: Wed Aug 25 11:04:14 2021
Total elapsed time: 00:00:03

Chicago 3hr-5year Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	CH3-5yr	INTENSITY	10 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

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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
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

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TD3-210          CIRCULAR            0.45     0.16     0.11     0.45       1   297.45


*********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------
```

```
Total Precipitation ......         0.243        42.512
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.029         5.108
Surface Runoff ...........         0.211        36.946
Final Storage ............         0.004         0.689
Continuity Error (%) .....        -0.546

*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.211         2.110
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.210         2.105
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.243

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (51.60%)
Link CAP3-207 (8.48%)
Link 5-108 (1.87%)

*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.

************************
Routing Time Step Summary
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  *************************
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     2.96 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :     0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.01
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    40.08 %
      3.155 -  1.991 sec      :     8.31 %
      1.991 -  1.256 sec      :    50.98 %
      1.256 -  0.792 sec      :     0.57 %
      0.792 -  0.500 sec      :     0.07 %


  ***************************
  Subcatchment Runoff Summary
  ***************************

  ---------------------------------------------------------------------------------------------------------------
                          Total      Total      Total      Total     Imperv       Perv      Total      Total
Peak  Runoff
                         Precip      Runon       Evap      Infil     Runoff     Runoff     Runoff     Runoff
Runoff   Coeff
  Subcatchment             mm         mm         mm         mm         mm         mm         mm    10^6 ltr
LPS
  ---------------------------------------------------------------------------------------------------------------
  A-01                    42.51       0.00       0.00       6.16      34.12       1.17      35.29       0.01
7.76   0.830
  A-02a                   42.51       0.00       0.00       0.36      40.70       0.08      40.79       0.02
14.42   0.959
  A-02b                   42.51       0.00       0.00       0.00      41.12       0.00      41.12       0.02
12.16   0.967
  A-02c                   42.51       0.00       0.00       0.00      41.13       0.00      41.13       0.02
15.05   0.967
  A-02d                   42.51       0.00       0.00       3.24      37.43       0.64      38.07       0.02
18.17   0.895
  A-02e                   42.51       0.00       0.00       8.74      31.24       1.60      32.84       0.02
15.50   0.773
  A-03                    42.51       0.00       0.00       6.16      34.12       1.17      35.29       0.02
13.91   0.830
```

```
  A-04                    42.51       0.00       0.00       8.37      31.65       1.55      33.20       0.01
11.29   0.781
  A-05a                   42.51       0.00       0.00       6.28      34.24       1.01      35.26       0.04
28.75   0.829
  A-05b                   42.51       0.00       0.00      12.09      27.54       2.12      29.65       0.01
7.05   0.698
  A-05c                   42.51       0.00       0.00       3.25      37.53       0.63      38.17       0.13
95.68   0.898
  A-06a                   42.51       0.00       0.00       7.32      32.93       1.28      34.21       0.03
22.80   0.805
  A-06b                   42.51       0.00       0.00       8.74      31.24       1.61      32.84       0.01
10.17   0.773
  A-06c                   42.51       0.00       0.00       0.36      40.81       0.07      40.88       0.18
127.46   0.962
  A-06d                   42.51       0.00       0.00      36.09       3.70       2.66       6.36       0.01
4.10   0.149
  A-07                    42.51       0.00       0.00       8.80      31.27       1.52      32.79       0.02
18.88   0.771
  A-08                    42.51       0.00       0.00       2.52      38.26       0.50      38.76       0.02
14.67   0.912
  A-09a                   42.51       0.00       0.00       6.98      33.37       1.19      34.56       0.02
13.57   0.813
  A-09b                   42.51       0.00       0.00       0.36      40.87       0.07      40.94       0.26
183.67   0.963
  A-10                    42.51       0.00       0.00       4.70      35.77       0.91      36.68       0.02
16.17   0.863
  A-11                    42.51       0.00       0.00       7.32      32.93       1.28      34.21       0.02
18.17   0.805
  A-12a                   42.51       0.00       0.00      14.35      25.07       2.41      27.48       0.02
18.63   0.646
  A-12b                   42.51       0.00       0.00      14.72      24.66       2.46      27.12       0.02
18.64   0.638
  A-12c                   42.51       0.00       0.00      14.72      24.66       2.46      27.12       0.02
16.69   0.638
  A-12d                   42.51       0.00       0.00      14.38      25.07       2.37      27.44       0.02
18.45   0.645
  A-13                    42.51       0.00       0.00      16.03      23.44       2.38      25.82       0.03
24.62   0.607
  D-01                    42.51       0.00       0.00      36.53       2.88       3.09       5.97       0.00
3.18   0.140
  D-02                    42.51       0.00       0.00      35.94       3.70       2.81       6.51       0.01
5.07   0.153
  D-03                    42.51       0.00       0.00      34.45       2.06       6.51       8.56       0.00
0.65   0.201
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D-04a	42.51	0.00	0.00	39.45	2.06	0.95	3.01	0.00
0.72 0.071								
D-04b	42.51	0.00	0.00	36.55	2.06	3.98	6.04	0.00
0.10 0.142								
D-04c	42.51	0.00	0.00	39.26	2.06	1.15	3.20	0.00
1.05 0.075								
D-04d	42.51	0.00	0.00	34.45	2.06	6.51	8.56	0.00
4.09 0.201								
D-04e	42.51	0.00	0.00	34.45	2.06	6.51	8.56	0.00
0.49 0.201								
R-01	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.94 1.004								
R-02	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.65 1.004								
R-03	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.65 1.004								
R-04	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.65 1.004								
R-05	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.65 1.004								
R-06	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.02
13.31 1.004								
R-07	42.51	0.00	0.00	0.00	42.71	0.00	42.71	0.02
15.05 1.005								
R-08	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
21.13 1.005								
R-09	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
20.84 1.005								
R-10	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
20.84 1.005								
R-11	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
20.84 1.005								
R-12	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
20.84 1.005								
R-13	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.02
14.76 1.005								
R-14	42.51	0.00	0.00	0.00	42.71	0.00	42.71	0.02
12.15 1.005								
R-15	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-16	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-17	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-18	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-19	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-20	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-21	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-22	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-23	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-24	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-25	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-26	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-27	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-28	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.08 1.004								
R-29	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
22.57 1.005								
R-30	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
21.41 1.005								
R-31	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
21.41 1.005								
R-32	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
21.41 1.005								
R-33	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.02
14.76 1.005								
R-34	42.51	0.00	0.00	0.00	42.73	0.00	42.73	0.03
17.07 1.005								
R-35	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
18.52 1.004								
R-36	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.36 1.004								
R-37	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.36 1.004								
R-38	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03
17.36 1.004								
R-39	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.02
11.87 1.004								

R-40	42.51	0.00	0.00	0.00	42.68	0.00	42.68	0.03	17.65	1.004

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.03	2.09	82.58	0 01:44	2.09
Cap2	JUNCTION	2.03	2.09	82.86	0 01:44	2.09
CAP3	JUNCTION	2.02	2.09	82.54	0 01:44	2.09
MH101	JUNCTION	0.05	0.17	80.91	0 01:14	0.17
MH102	JUNCTION	0.05	0.17	80.98	0 01:14	0.17
MH107	JUNCTION	0.03	0.14	81.17	0 01:14	0.14
MH202	JUNCTION	0.06	0.24	81.89	0 01:11	0.24
MH207	JUNCTION	0.09	0.34	82.10	0 01:11	0.34
MH208	JUNCTION	0.08	0.35	82.23	0 01:11	0.35
MH211	JUNCTION	0.07	0.24	82.31	0 01:11	0.24
XDICB1	JUNCTION	0.00	0.04	83.07	0 01:10	0.04
CRNYROW	OUTFALL	0.45	0.49	82.89	0 01:10	0.48
CRNYSTM2	OUTFALL	83.30	83.30	83.30	0 00:00	83.30
MH100	OUTFALL	0.41	0.47	80.77	0 01:14	0.47
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.45	81.63	81.63	0 01:11	81.63
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.04	1.39	83.69	0 01:11	1.39
CB11	STORAGE	0.05	1.22	83.87	0 01:15	1.22
CB12	STORAGE	0.03	1.52	83.72	0 01:10	1.50
CB13	STORAGE	0.03	1.36	83.56	0 01:10	1.35
CB18	STORAGE	0.03	1.12	83.42	0 01:10	1.11
CB2	STORAGE	0.08	1.43	83.88	0 01:20	1.43
CB20	STORAGE	0.02	0.96	83.26	0 01:10	0.96
CB21	STORAGE	0.03	1.44	83.74	0 01:10	1.43
CB22	STORAGE	0.12	1.44	83.99	0 01:10	1.44
CB28	STORAGE	0.17	1.00	84.00	0 01:11	1.00
CB3	STORAGE	0.09	2.53	84.73	0 01:13	2.53
CB4	STORAGE	0.07	2.20	84.70	0 01:12	2.20
CB5	STORAGE	0.24	2.07	84.12	0 01:14	2.07
LCB122	STORAGE	0.01	0.07	83.37	0 01:10	0.07
MH103	STORAGE	0.19	2.23	83.88	0 01:20	2.23
MH104	STORAGE	0.17	2.11	83.88	0 01:20	2.11
MH105	STORAGE	0.15	1.99	83.88	0 01:20	1.99
MH106	STORAGE	0.12	1.82	83.88	0 01:20	1.82
MH108	STORAGE	0.41	2.86	84.11	0 01:13	2.85
MH109	STORAGE	0.39	2.78	84.12	0 01:13	2.78
MH110	STORAGE	0.31	2.44	84.12	0 01:24	2.44
MH203	STORAGE	0.12	1.88	83.87	0 01:14	1.88
MH204	STORAGE	0.10	1.77	83.87	0 01:14	1.77
MH205	STORAGE	0.09	1.66	83.87	0 01:14	1.66
MH209	STORAGE	0.15	2.05	84.13	0 01:08	2.05
MH210	STORAGE	0.11	1.78	84.15	0 01:14	1.78
MH212	STORAGE	0.17	1.74	83.97	0 01:10	1.74
MH213	STORAGE	0.16	1.67	83.98	0 01:10	1.67
MH214	STORAGE	0.11	1.30	84.00	0 01:20	1.30
RD-1	STORAGE	0.05	0.12	90.12	0 01:45	0.12
RD-10	STORAGE	0.05	0.12	90.12	0 01:53	0.12
RD-11	STORAGE	0.05	0.12	90.12	0 01:53	0.12
RD-12	STORAGE	0.05	0.12	90.12	0 01:53	0.12
RD-13	STORAGE	0.04	0.12	90.12	0 01:41	0.12
RD-14	STORAGE	0.03	0.12	90.12	0 01:34	0.12
RD-15	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-16	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD17	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-18	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-19	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-2	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-20	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-21	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-22	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-23	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-24	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-25	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-26	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-27	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-28	STORAGE	0.05	0.12	90.12	0 01:44	0.12
RD-29	STORAGE	0.06	0.12	90.12	0 01:56	0.12
Rd-3	STORAGE	0.05	0.12	90.12	0 01:44	0.12

RD-30	STORAGE	0.06	0.12	90.12	0	01:53	0.12
RD-31	STORAGE	0.06	0.12	90.12	0	01:53	0.12
RD-32	STORAGE	0.06	0.12	90.12	0	01:53	0.12
RD-33	STORAGE	0.04	0.12	90.12	0	01:41	0.12
RD-34	STORAGE	0.05	0.12	90.12	0	01:44	0.12
RD-35	STORAGE	0.05	0.12	90.12	0	01:49	0.12
RD-36	STORAGE	0.05	0.12	90.12	0	01:44	0.12
RD-37	STORAGE	0.05	0.12	90.12	0	01:44	0.12
RD-38	STORAGE	0.05	0.12	90.12	0	01:44	0.12
RD-39	STORAGE	0.03	0.11	90.11	0	01:34	0.11
RD-4	STORAGE	0.05	0.12	90.12	0	01:44	0.12
RD-40	STORAGE	0.05	0.12	90.12	0	01:44	0.12
RD-5	STORAGE	0.05	0.12	90.12	0	01:44	0.12
Rd-6	STORAGE	0.04	0.12	90.12	0	01:37	0.12
RD-7	STORAGE	0.04	0.12	90.12	0	01:41	0.12
RD-8	STORAGE	0.06	0.12	90.12	0	01:53	0.12
RD-9	STORAGE	0.05	0.12	90.12	0	01:53	0.12
TD1	STORAGE	0.09	0.94	84.12	0	01:24	0.94
TD2	STORAGE	0.08	0.98	84.01	0	01:21	0.98
TD3	STORAGE	0.06	0.98	84.16	0	01:14	0.98

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	20.72	0	01:44	0	0.366	0.643
Cap2	JUNCTION	0.00	20.66	0	01:44	0	0.352	0.668
CAP3	JUNCTION	0.00	17.74	0	01:44	0	0.323	0.730
MH101	JUNCTION	0.00	85.57	0	01:14	0	0.691	0.002
MH102	JUNCTION	0.00	85.57	0	01:14	0	0.691	-0.004
MH107	JUNCTION	0.00	31.73	0	01:13	0	0.194	0.024
MH202	JUNCTION	0.00	264.62	0	01:11	0	1.4	0.003
MH207	JUNCTION	0.00	218.55	0	01:11	0	1.27	-0.058
MH208	JUNCTION	0.00	186.56	0	01:11	0	0.928	0.042
MH211	JUNCTION	0.00	83.12	0	01:11	0	0.606	-0.119
XDICB1	JUNCTION	3.18	3.18	0	01:10	0.00454	0.00454	0.018
CRNYROW	OUTFALL	0.00	3.17	0	01:10	0	0.00454	0.000
CRNYSTM2	OUTFALL	0.00	5.00	0	01:10	0	0.00788	0.000
MH100	OUTFALL	0.00	85.57	0	01:14	0	0.691	0.000
STLBROW	OUTFALL	6.44	6.44	0	01:10	0.00542	0.00542	0.000
STMTRNK	OUTFALL	0.00	264.69	0	01:11	0	1.4	0.000
WKLYROW	OUTFALL	0.65	0.65	0	01:10	0.000343	0.000343	0.000
CB1	STORAGE	7.76	7.76	0	01:10	0.0102	0.0102	-0.000
CB11	STORAGE	18.45	18.45	0	01:10	0.0233	0.0233	0.536
CB12	STORAGE	24.62	24.62	0	01:10	0.032	0.032	-0.000
CB13	STORAGE	18.17	18.17	0	01:10	0.0243	0.0243	-0.000
CB18	STORAGE	16.17	16.17	0	01:10	0.0216	0.0216	-0.000
CB2	STORAGE	15.50	15.50	0	01:10	0.02	0.02	0.457
CB20	STORAGE	14.67	14.67	0	01:10	0.0202	0.0202	-0.000
CB21	STORAGE	18.88	18.88	0	01:10	0.0249	0.0249	-0.000
CB22	STORAGE	22.80	22.80	0	01:10	0.0304	0.0304	-0.001
CB28	STORAGE	4.10	25.29	0	01:05	0.0061	0.00779	0.223
CB3	STORAGE	13.91	13.91	0	01:10	0.0184	0.0184	0.013
CB4	STORAGE	11.29	11.29	0	01:10	0.0146	0.0146	0.002
CB5	STORAGE	28.75	28.75	0	01:10	0.0395	0.0395	0.040
LCB122	STORAGE	5.07	5.07	0	01:10	0.00742	0.00766	0.053
MH103	STORAGE	14.42	29.73	0	01:06	0.0204	0.104	0.006
MH104	STORAGE	12.16	35.13	0	01:06	0.0173	0.0834	-0.044
MH105	STORAGE	15.05	39.96	0	01:06	0.0214	0.0663	0.088
MH106	STORAGE	18.17	30.68	0	01:09	0.0247	0.0447	-0.248
MH108	STORAGE	0.00	34.04	0	01:09	0	0.179	-0.018
MH109	STORAGE	7.05	56.65	0	01:06	0.0089	0.14	-0.337
MH110	STORAGE	0.00	95.90	0	01:07	0	0.131	-0.002
MH203	STORAGE	18.63	36.61	0	01:07	0.0234	0.091	0.005
MH204	STORAGE	18.64	37.43	0	01:07	0.0233	0.0676	-0.085
MH205	STORAGE	16.69	31.31	0	01:08	0.0209	0.0441	-0.369
MH209	STORAGE	13.57	122.27	0	01:06	0.0183	0.28	-0.078
MH210	STORAGE	0.00	175.84	0	01:05	0	0.261	-0.229
MH212	STORAGE	0.00	53.95	0	01:08	0	0.231	0.002
MH213	STORAGE	10.17	74.02	0	01:06	0.0131	0.199	-0.534
MH214	STORAGE	0.00	123.03	0	01:05	0	0.188	0.261
RD-1	STORAGE	17.94	17.94	0	01:10	0.0265	0.0265	-0.000
RD-10	STORAGE	20.84	20.84	0	01:10	0.0308	0.0308	0.000
RD-11	STORAGE	20.84	20.84	0	01:10	0.0308	0.0308	0.000
RD-12	STORAGE	20.84	20.84	0	01:10	0.0308	0.0308	0.000

RD-13	STORAGE	14.76	14.76	0	01:10	0.0218	0.0218	-0.001
RD-14	STORAGE	12.15	12.15	0	01:10	0.0179	0.0179	-0.001
RD-15	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-16	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD17	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-18	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-19	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-2	STORAGE	17.65	17.65	0	01:10	0.026	0.026	-0.000
RD-20	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-21	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-22	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-23	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-24	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-25	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-26	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-27	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-28	STORAGE	17.08	17.08	0	01:10	0.0252	0.0252	-0.000
RD-29	STORAGE	22.57	22.57	0	01:10	0.0333	0.0333	0.000
Rd-3	STORAGE	17.65	17.65	0	01:10	0.026	0.026	-0.000
RD-30	STORAGE	21.41	21.41	0	01:10	0.0316	0.0316	0.000
RD-31	STORAGE	21.41	21.41	0	01:10	0.0316	0.0316	0.000
RD-32	STORAGE	21.41	21.41	0	01:10	0.0316	0.0316	0.000
RD-33	STORAGE	14.76	14.76	0	01:10	0.0218	0.0218	-0.001
RD-34	STORAGE	17.07	17.07	0	01:10	0.0252	0.0252	-0.001
RD-35	STORAGE	18.52	18.52	0	01:10	0.0273	0.0273	-0.000
RD-36	STORAGE	17.36	17.36	0	01:10	0.0256	0.0256	-0.000
RD-37	STORAGE	17.36	17.36	0	01:10	0.0256	0.0256	-0.000
RD-38	STORAGE	17.36	17.36	0	01:10	0.0256	0.0256	-0.000
RD-39	STORAGE	11.87	11.87	0	01:10	0.0175	0.0175	-0.001
RD-4	STORAGE	17.65	17.65	0	01:10	0.026	0.026	-0.000
RD-40	STORAGE	17.65	17.65	0	01:10	0.026	0.026	-0.000
RD-5	STORAGE	17.65	17.65	0	01:10	0.026	0.026	-0.000
Rd-6	STORAGE	13.31	13.31	0	01:10	0.0196	0.0196	-0.001
RD-7	STORAGE	15.05	15.05	0	01:10	0.0222	0.0222	-0.001
RD-8	STORAGE	21.13	21.13	0	01:10	0.0312	0.0312	0.000
RD-9	STORAGE	20.84	20.84	0	01:10	0.0308	0.0308	0.000
TD1	STORAGE	95.68	95.68	0	01:10	0.131	0.131	0.192
TD2	STORAGE	127.46	127.46	0	01:10	0.181	0.181	0.204
TD3	STORAGE	183.67	183.67	0	01:10	0.261	0.261	0.197

****
Node Surcharge Summary
****

No nodes were surcharged.

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Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
****

Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	0	0	0	0.001	8	0 01:11	5.72
CB11	0.000	0	0	0	0.000	1	0 01:15	15.42
CB12	0.000	0	0	0	0.001	1	0 01:10	22.73
CB13	0.000	0	0	0	0.000	2	0 01:10	16.81
CB18	0.000	0	0	0	0.000	2	0 01:10	15.20
CB2	0.000	0	0	0	0.001	2	0 01:20	13.05
CB20	0.000	0	0	0	0.000	2	0 01:10	14.04
CB21	0.000	0	0	0	0.001	1	0 01:10	17.31
CB22	0.000	0	0	0	0.001	2	0 01:10	21.87
CB28	0.000	1	0	0	0.000	5	0 01:11	8.07
CB3	0.000	0	0	0	0.002	11	0 01:13	7.74
CB4	0.000	0	0	0	0.001	6	0 01:12	7.21
CB5	0.000	1	0	0	0.003	8	0 01:14	23.31
LCB122	0.000	0	0	0	0.000	0	0 01:10	5.00
MH103	0.000	1	0	0	0.003	10	0 01:20	21.62
MH104	0.000	1	0	0	0.003	13	0 01:20	17.58
MH105	0.000	1	0	0	0.002	7	0 01:20	22.98
MH106	0.000	0	0	0	0.002	7	0 01:20	24.93

MH108	0.000	13	0	0	0.003	91	0	01:13	24.53
MH109	0.000	7	0	0	0.003	52	0	01:13	21.59
MH110	0.000	12	0	0	0.003	90	0	01:24	50.42
MH203	0.000	0	0	0	0.002	6	0	01:14	25.39
MH204	0.000	0	0	0	0.002	6	0	01:14	19.81
MH205	0.000	0	0	0	0.002	6	0	01:14	20.72
MH209	0.000	4	0	0	0.002	54	0	01:08	75.39
MH210	0.000	6	0	0	0.002	89	0	01:14	109.54
MH212	0.000	8	0	0	0.002	86	0	01:10	47.70
MH213	0.000	3	0	0	0.002	33	0	01:10	44.47
MH214	0.000	7	0	0	0.002	86	0	01:20	78.89
RD-1	0.005	15	0	0	0.017	52	0	01:45	1.48
RD-10	0.007	18	0	0	0.021	54	0	01:53	1.50
RD-11	0.007	18	0	0	0.021	54	0	01:53	1.50
RD-12	0.007	18	0	0	0.021	54	0	01:53	1.50
RD-13	0.003	13	0	0	0.013	51	0	01:41	1.48
RD-14	0.002	10	0	0	0.010	49	0	01:34	1.46
RD-15	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-16	0.005	15	0	0	0.016	51	0	01:44	1.48
RD17	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-18	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-19	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-2	0.005	15	0	0	0.017	51	0	01:44	1.47
RD-20	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-21	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-22	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-23	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-24	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-25	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-26	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-27	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-28	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-29	0.008	19	0	0	0.023	55	0	01:56	1.50
Rd-3	0.005	15	0	0	0.017	51	0	01:44	1.47
RD-30	0.007	18	0	0	0.021	54	0	01:53	1.50
RD-31	0.007	18	0	0	0.021	54	0	01:53	1.50
RD-32	0.007	18	0	0	0.021	54	0	01:53	1.50
RD-33	0.003	12	0	0	0.013	50	0	01:41	1.46
RD-34	0.005	15	0	0	0.016	51	0	01:44	1.47
RD-35	0.005	16	0	0	0.018	53	0	01:49	1.49
RD-36	0.005	15	0	0	0.016	51	0	01:44	1.48

RD-37	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-38	0.005	15	0	0	0.016	51	0	01:44	1.48
RD-39	0.002	10	0	0	0.010	46	0	01:34	1.42
RD-4	0.005	15	0	0	0.017	51	0	01:44	1.47
RD-40	0.005	15	0	0	0.017	52	0	01:44	1.49
RD-5	0.005	15	0	0	0.017	51	0	01:44	1.47
Rd-6	0.003	11	0	0	0.012	48	0	01:37	1.44
RD-7	0.003	13	0	0	0.014	51	0	01:41	1.48
RD-8	0.007	18	0	0	0.021	55	0	01:53	1.51
RD-9	0.007	18	0	0	0.021	54	0	01:53	1.50
TD1	0.001	0	0	0	0.018	4	0	01:24	95.90
TD2	0.001	0	0	0	0.035	8	0	01:21	123.03
TD3	0.001	0	0	0	0.033	9	0	01:14	175.84

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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
CRNYROW	23.07	0.48	3.17	0.005
CRNYSTM2	23.82	0.76	5.00	0.008
MH100	61.65	26.66	85.57	0.691
STLBROW	23.16	0.57	6.44	0.005
STMTRNK	63.47	52.59	264.69	1.396
WKLYROW	3.52	0.21	0.65	0.000
System	33.12	81.27	360.49	2.105

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Link Flow Summary
****

	Maximum |Flow|	Time of Max Occurrence	Maximum |Veloc|	Max/ Full	Max/ Full

Link	Type	LPS	days	hr:min	m/sec	Flow	Depth
101-100	CONDUIT	85.57	0	01:14	1.57	0.30	0.38
102-101	CONDUIT	85.57	0	01:14	1.57	0.30	0.38
104-103	CONDUIT	17.58	0	01:23	0.28	0.14	1.00
105-104	CONDUIT	22.98	0	01:06	0.53	0.19	1.00
106-105	CONDUIT	24.93	0	01:06	0.56	0.20	1.00
107-102	CONDUIT	31.71	0	01:14	0.83	0.20	0.29
109-108	CONDUIT	21.59	0	01:46	0.31	0.22	1.00
110-109	CONDUIT	50.42	0	01:06	0.51	0.52	1.00
111-106	CONDUIT	13.05	0	01:05	0.88	0.22	1.00
11-205	CONDUIT	15.42	0	01:05	0.92	0.26	1.00
122-CSTM2	CONDUIT	5.00	0	01:10	0.45	0.46	0.61
202-TRNK	CONDUIT	264.69	0	01:11	1.86	0.12	0.24
204-203	CONDUIT	19.81	0	01:07	0.27	0.21	1.00
205-204	CONDUIT	20.72	0	01:07	0.46	0.22	1.00
207-202	CONDUIT	218.54	0	01:11	1.43	0.65	0.53
208-207	CONDUIT	186.31	0	01:11	1.12	0.68	0.57
210-209	CONDUIT	109.54	0	01:06	0.51	0.46	1.00
211-208	CONDUIT	83.07	0	01:11	0.91	0.43	0.49
213-212	CONDUIT	44.47	0	01:35	0.40	0.31	1.00
214-213	CONDUIT	64.86	0	01:06	0.72	0.68	1.00
22-212	CONDUIT	21.87	0	01:11	0.74	0.66	1.00
28-214	CONDUIT	22.72	0	01:05	0.48	0.49	1.00
5-108	CONDUIT	23.31	0	01:08	1.38	0.50	1.00
CAP1-102	CONDUIT	20.72	0	01:44	1.44	0.45	0.47
CAP2-211	CONDUIT	20.66	0	01:44	1.44	0.44	0.47
CAP3-207	CONDUIT	17.74	0	01:44	1.38	0.38	0.43
DICB1-CSTM	CONDUIT	3.17	0	01:10	0.68	0.03	0.12
TD1-110	CONDUIT	95.90	0	01:07	2.08	0.39	1.00
TD2-214	CONDUIT	123.03	0	01:05	1.63	0.70	1.00
TD3-210	CONDUIT	175.84	0	01:05	1.92	0.59	1.00
12-202	ORIFICE	22.73	0	01:10			1.00
13-207	ORIFICE	16.81	0	01:10			1.00
18-208	ORIFICE	15.20	0	01:10			1.00
20-208	ORIFICE	14.04	0	01:10			1.00
203-202	ORIFICE	25.39	0	01:14			1.00
209-208	ORIFICE	75.39	0	01:19			1.00
21-211	ORIFICE	17.31	0	01:10			1.00
212-211	ORIFICE	47.70	0	01:09			1.00
OR1	ORIFICE	5.72	0	01:11			1.00
OR2	ORIFICE	7.74	0	01:13			1.00
OR3	ORIFICE	7.21	0	01:12			1.00
OR4	ORIFICE	21.62	0	01:20			1.00
OR5	ORIFICE	24.53	0	01:13			1.00
OL1	DUMMY	1.51	0	01:53			
OL10	DUMMY	1.47	0	01:44			
OL11	DUMMY	1.47	0	01:44			
OL12	DUMMY	1.47	0	01:44			
OL13	DUMMY	1.47	0	01:44			
OL14	DUMMY	1.48	0	01:45			
OL15	DUMMY	1.48	0	01:44			
OL16	DUMMY	1.48	0	01:44			
OL17	DUMMY	1.48	0	01:44			
OL18	DUMMY	1.48	0	01:44			
OL19	DUMMY	1.48	0	01:44			
OL2	DUMMY	1.50	0	01:53			
OL20	DUMMY	1.48	0	01:44			
OL21	DUMMY	1.48	0	01:44			
OL22	DUMMY	1.48	0	01:44			
OL23	DUMMY	1.48	0	01:44			
OL24	DUMMY	1.48	0	01:44			
OL25	DUMMY	1.48	0	01:44			
OL26	DUMMY	1.48	0	01:44			
OL27	DUMMY	1.48	0	01:44			
OL28	DUMMY	1.48	0	01:44			
OL29	DUMMY	1.47	0	01:44			
OL3	DUMMY	1.50	0	01:53			
OL30	DUMMY	1.46	0	01:41			
OL31	DUMMY	1.50	0	01:53			
OL32	DUMMY	1.50	0	01:53			
OL33	DUMMY	1.50	0	01:53			
OL34	DUMMY	1.50	0	01:56			
OL35	DUMMY	1.49	0	01:49			
OL36	DUMMY	1.48	0	01:44			
OL37	DUMMY	1.48	0	01:44			
OL38	DUMMY	1.48	0	01:44			
OL39	DUMMY	1.42	0	01:34			
OL4	DUMMY	1.50	0	01:53			
OL40	DUMMY	1.49	0	01:44			
OL5	DUMMY	1.50	0	01:53			
OL6	DUMMY	1.48	0	01:41			

OL7	DUMMY	1.46	0	01:34
OL8	DUMMY	1.48	0	01:41
OL9	DUMMY	1.44	0	01:37

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
		---------- Fraction of Time in Flow Class ----------								
101-100	1.00	0.00	0.08	0.00	0.62	0.30	0.00	0.00	0.95	0.00
102-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
104-103	1.00	0.01	0.00	0.00	0.25	0.01	0.00	0.72	0.04	0.00
105-104	1.00	0.01	0.00	0.00	0.17	0.00	0.00	0.81	0.01	0.00
106-105	1.00	0.01	0.00	0.00	0.26	0.01	0.00	0.72	0.02	0.00
107-102	1.00	0.01	0.00	0.00	0.13	0.00	0.00	0.86	0.05	0.00
109-108	1.00	0.01	0.00	0.00	0.28	0.00	0.00	0.71	0.01	0.00
110-109	1.00	0.02	0.00	0.00	0.26	0.00	0.00	0.72	0.03	0.00
111-106	1.00	0.01	0.00	0.00	0.11	0.00	0.00	0.88	0.01	0.00
11-205	1.00	0.01	0.00	0.00	0.08	0.00	0.00	0.90	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.13	0.00
202-TRNK	1.00	0.00	0.06	0.00	0.32	0.62	0.00	0.00	0.77	0.00
204-203	1.00	0.01	0.00	0.00	0.24	0.00	0.00	0.74	0.06	0.00
205-204	1.00	0.01	0.00	0.00	0.24	0.00	0.00	0.74	0.01	0.00
207-202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
208-207	1.00	0.01	0.00	0.00	0.63	0.00	0.00	0.36	0.31	0.00
210-209	1.00	0.01	0.00	0.00	0.28	0.01	0.00	0.70	0.08	0.00
211-208	1.00	0.01	0.00	0.00	0.09	0.00	0.00	0.90	0.01	0.00
213-212	1.00	0.01	0.00	0.00	0.23	0.00	0.00	0.76	0.03	0.00
214-213	1.00	0.01	0.00	0.00	0.14	0.00	0.00	0.85	0.01	0.00
22-212	1.00	0.01	0.00	0.00	0.13	0.00	0.00	0.86	0.00	0.00
28-214	1.00	0.03	0.00	0.00	0.10	0.00	0.00	0.87	0.01	0.00
5-108	1.00	0.01	0.00	0.00	0.18	0.00	0.00	0.81	0.00	0.00
CAP1-102	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP2-211	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP3-207	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
DICB1-CSTM	1.00	0.01	0.00	0.00	0.74	0.25	0.00	0.00	0.02	0.00
TD1-110	1.00	0.01	0.00	0.00	0.12	0.00	0.00	0.86	0.01	0.00
TD2-214	1.00	0.01	0.00	0.00	0.09	0.00	0.00	0.89	0.00	0.00
TD3-210	1.00	0.01	0.00	0.00	0.06	0.00	0.00	0.93	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
104-103	1.32	1.32	1.50	0.01	0.01
105-104	1.19	1.19	1.31	0.01	0.01
106-105	1.04	1.04	1.19	0.01	0.01
109-108	2.40	2.40	2.46	0.01	0.01
110-109	1.92	1.92	2.36	0.01	0.01
111-106	0.86	0.86	1.02	0.01	0.01
11-205	0.59	0.59	0.74	0.01	0.01
204-203	0.84	0.84	0.94	0.01	0.01
205-204	0.76	0.76	0.83	0.01	0.01
210-209	0.70	0.70	0.84	0.01	0.01
213-212	1.18	1.18	1.21	0.01	0.01
214-213	0.98	0.98	1.18	0.01	0.01
22-212	1.19	1.19	1.21	0.01	0.01
28-214	0.85	0.85	0.97	0.01	0.01
5-108	1.77	1.77	1.82	0.01	0.01
TD1-110	1.00	1.00	1.16	0.01	0.01
TD2-214	0.84	0.84	0.89	0.01	0.01
TD3-210	0.53	0.53	0.56	0.01	0.01

Analysis begun on: Wed Aug 25 11:05:29 2021
Analysis ended on: Wed Aug 25 11:05:32 2021
Total elapsed time: 00:00:03

Chicago 3hr-100year Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	CH3-100yr	INTENSITY	10 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

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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
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

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TD3-210          CIRCULAR            0.45     0.16     0.11     0.45       1   297.45


*********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------
```

```
Total Precipitation ......         0.409        71.667
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.036         6.270
Surface Runoff ...........         0.372        65.126
Final Storage ............         0.004         0.689
Continuity Error (%) .....        -0.584

*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.372         3.718
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.371         3.713
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.136

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (63.64%)
Link CAP3-207 (10.44%)
Link 5-108 (1.06%)


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


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Routing Time Step Summary
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  *************************
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     2.46 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :    -0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.00
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    26.76 %
      3.155 -  1.991 sec      :     9.24 %
      1.991 -  1.256 sec      :    63.84 %
      1.256 -  0.792 sec      :     0.13 %
      0.792 -  0.500 sec      :     0.02 %


  ***************************
  Subcatchment Runoff Summary
  ***************************
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Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff LPS	Runoff Coeff
A-01	71.67	0.00	0.00	7.47	58.28	5.31	63.60	0.02	14.00	0.887
A-02a	71.67	0.00	0.00	0.44	69.53	0.33	69.86	0.03	24.76	0.975
A-02b	71.67	0.00	0.00	0.00	70.24	0.00	70.24	0.03	20.83	0.980
A-02c	71.67	0.00	0.00	0.00	70.25	0.00	70.25	0.04	25.79	0.980
A-02d	71.67	0.00	0.00	3.95	63.94	2.88	66.82	0.04	31.81	0.932
A-02e	71.67	0.00	0.00	10.58	53.36	7.32	60.69	0.04	29.02	0.847
A-03	71.67	0.00	0.00	7.47	58.29	5.30	63.59	0.03	25.11	0.887
A-04	71.67	0.00	0.00	10.13	54.06	7.06	61.12	0.03	20.99	0.853
A-05a	71.67	0.00	0.00	7.56	58.51	4.95	63.46	0.07	53.16	0.885
A-05b	71.67	0.00	0.00	14.59	47.03	9.87	56.91	0.02	13.93	0.794
A-05c	71.67	0.00	0.00	3.95	63.98	2.86	66.83	0.23	167.83	0.933
A-06a	71.67	0.00	0.00	8.84	56.25	5.98	62.23	0.06	42.41	0.868
A-06b	71.67	0.00	0.00	10.58	53.36	7.33	60.69	0.02	19.03	0.847
A-06c	71.67	0.00	0.00	0.44	69.71	0.33	70.04	0.31	218.90	0.977
A-06d	71.67	0.00	0.00	44.07	6.31	21.50	27.81	0.03	14.75	0.388
A-07	71.67	0.00	0.00	10.62	53.41	7.14	60.55	0.05	35.85	0.845
A-08	71.67	0.00	0.00	3.07	65.36	2.26	67.62	0.04	25.52	0.943
A-09a	71.67	0.00	0.00	8.42	57.00	5.62	62.62	0.03	25.22	0.874
A-09b	71.67	0.00	0.00	0.44	69.85	0.33	70.18	0.45	315.86	0.979
A-10	71.67	0.00	0.00	5.71	61.11	4.11	65.22	0.04	28.69	0.910
A-11	71.67	0.00	0.00	8.84	56.25	5.97	62.22	0.04	33.82	0.868
A-12a	71.67	0.00	0.00	17.29	42.82	11.48	54.30	0.05	38.48	0.758
A-12b	71.67	0.00	0.00	17.74	42.12	11.76	53.88	0.05	38.77	0.752
A-12c	71.67	0.00	0.00	17.74	42.12	11.76	53.88	0.04	34.71	0.752
A-12d	71.67	0.00	0.00	17.31	42.83	11.42	54.24	0.05	38.25	0.757
A-13	71.67	0.00	0.00	19.24	40.04	12.22	52.25	0.06	52.95	0.729
D-01	71.67	0.00	0.00	44.23	4.91	22.86	27.78	0.02	12.99	0.388
D-02	71.67	0.00	0.00	43.71	6.32	21.89	28.20	0.03	18.65	0.393
D-03	71.67	0.00	0.00	41.78	3.53	29.50	33.03	0.00	1.69	0.461

D-04a	71.67	0.00	0.00	53.61	3.51	14.56	18.08	0.01
2.07 0.252								
D-04b	71.67	0.00	0.00	43.84	3.51	24.96	28.47	0.00
0.45 0.397								
D-04c	71.67	0.00	0.00	52.23	3.51	15.97	19.48	0.01
3.25 0.272								
D-04d	71.67	0.00	0.00	41.78	3.53	29.50	33.03	0.01
10.54 0.461								
D-04e	71.67	0.00	0.00	41.78	3.53	29.50	33.03	0.00
1.26 0.461								
R-01	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
30.75 1.003								
R-02	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
30.26 1.003								
R-03	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
30.26 1.003								
R-04	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
30.26 1.003								
R-05	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
30.26 1.003								
R-06	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.03
22.82 1.003								
R-07	71.67	0.00	0.00	0.00	71.91	0.00	71.91	0.04
25.79 1.003								
R-08	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
36.21 1.004								
R-09	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
35.71 1.004								
R-10	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
35.71 1.004								
R-11	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
35.71 1.004								
R-12	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
35.71 1.004								
R-13	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.04
25.30 1.004								
R-14	71.67	0.00	0.00	0.00	71.91	0.00	71.91	0.03
20.83 1.003								
R-15	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-16	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-17	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-18	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-19	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-20	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-21	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-22	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-23	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-24	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-25	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-26	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-27	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-28	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.26 1.003								
R-29	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.06
38.69 1.004								
R-30	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
36.70 1.004								
R-31	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
36.70 1.004								
R-32	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.05
36.70 1.004								
R-33	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.04
25.30 1.004								
R-34	71.67	0.00	0.00	0.00	71.93	0.00	71.93	0.04
29.26 1.004								
R-35	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.05
31.74 1.003								
R-36	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.76 1.003								
R-37	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.76 1.003								
R-38	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04
29.76 1.003								
R-39	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.03
20.34 1.003								

R-40	71.67	0.00	0.00	0.00	71.86	0.00	71.86	0.04	30.26	1.003

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.05	2.11	82.60	0 01:57	2.11
Cap2	JUNCTION	2.04	2.11	82.87	0 01:58	2.11
CAP3	JUNCTION	2.04	2.10	82.55	0 02:00	2.10
MH101	JUNCTION	0.07	0.18	80.93	0 01:20	0.18
MH102	JUNCTION	0.07	0.18	80.99	0 01:20	0.18
MH107	JUNCTION	0.04	0.14	81.17	0 01:23	0.14
MH202	JUNCTION	0.08	0.26	81.91	0 01:15	0.26
MH207	JUNCTION	0.12	0.36	82.12	0 01:15	0.36
MH208	JUNCTION	0.10	0.38	82.25	0 01:15	0.38
MH211	JUNCTION	0.09	0.26	82.33	0 01:16	0.26
XDICB1	JUNCTION	0.01	0.07	83.10	0 01:10	0.07
CRNYROW	OUTFALL	0.45	0.52	82.92	0 01:10	0.52
CRNYSTM2	OUTFALL	83.30	83.31	83.31	0 01:10	83.31
MH100	OUTFALL	0.41	0.48	80.78	0 01:20	0.48
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.47	81.65	81.65	0 01:15	81.65
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.08	2.53	84.83	0 01:13	2.53
CB11	STORAGE	0.19	2.19	84.84	0 01:22	2.19
CB12	STORAGE	0.09	2.37	84.57	0 01:13	2.37
CB13	STORAGE	0.07	2.23	84.43	0 01:12	2.23
CB18	STORAGE	0.05	1.95	84.25	0 01:12	1.95
CB2	STORAGE	0.24	2.38	84.83	0 01:23	2.38
CB20	STORAGE	0.05	1.93	84.23	0 01:11	1.93
CB21	STORAGE	0.07	1.84	84.14	0 01:13	1.84
CB22	STORAGE	0.24	1.53	84.08	0 01:13	1.53
CB28	STORAGE	0.25	1.11	84.11	0 01:22	1.11
CB3	STORAGE	0.19	2.62	84.82	0 01:14	2.62
CB4	STORAGE	0.14	2.32	84.82	0 01:14	2.32
CB5	STORAGE	0.49	2.17	84.22	0 01:13	2.17
LCB122	STORAGE	0.01	0.31	83.60	0 01:10	0.30
MH103	STORAGE	0.39	3.17	84.82	0 01:23	3.17
MH104	STORAGE	0.36	3.05	84.82	0 01:23	3.05
MH105	STORAGE	0.34	2.94	84.83	0 01:23	2.94
MH106	STORAGE	0.31	2.76	84.83	0 01:23	2.76
MH108	STORAGE	0.73	2.96	84.22	0 01:31	2.96
MH109	STORAGE	0.71	2.89	84.22	0 01:31	2.88
MH110	STORAGE	0.60	2.55	84.23	0 01:34	2.55
MH203	STORAGE	0.29	2.84	84.83	0 01:23	2.84
MH204	STORAGE	0.27	2.74	84.84	0 01:23	2.74
MH205	STORAGE	0.25	2.63	84.84	0 01:23	2.63
MH209	STORAGE	0.26	2.16	84.23	0 01:20	2.16
MH210	STORAGE	0.21	1.89	84.26	0 01:22	1.89
MH212	STORAGE	0.31	1.84	84.07	0 01:14	1.84
MH213	STORAGE	0.29	1.76	84.07	0 01:14	1.76
MH214	STORAGE	0.22	1.40	84.10	0 01:28	1.40
RD-1	STORAGE	0.07	0.15	90.15	0 02:01	0.15
RD-10	STORAGE	0.08	0.15	90.15	0 02:10	0.15
RD-11	STORAGE	0.08	0.15	90.15	0 02:10	0.15
RD-12	STORAGE	0.08	0.15	90.15	0 02:10	0.15
RD-13	STORAGE	0.06	0.15	90.15	0 01:51	0.15
RD-14	STORAGE	0.05	0.15	90.15	0 01:43	0.15
RD-15	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-16	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD17	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-18	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-19	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-2	STORAGE	0.07	0.15	90.15	0 02:01	0.15
RD-20	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-21	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-22	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-23	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-24	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-25	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-26	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-27	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-28	STORAGE	0.07	0.15	90.15	0 01:58	0.15
RD-29	STORAGE	0.09	0.15	90.15	0 02:13	0.15
Rd-3	STORAGE	0.07	0.15	90.15	0 02:01	0.15

RD-30	STORAGE	0.08	0.15	90.15	0	02:11	0.15
RD-31	STORAGE	0.08	0.15	90.15	0	02:11	0.15
RD-32	STORAGE	0.08	0.15	90.15	0	02:11	0.15
RD-33	STORAGE	0.06	0.15	90.15	0	01:52	0.15
RD-34	STORAGE	0.07	0.15	90.15	0	01:59	0.15
RD-35	STORAGE	0.07	0.15	90.15	0	02:02	0.15
RD-36	STORAGE	0.07	0.15	90.15	0	02:00	0.15
RD-37	STORAGE	0.07	0.15	90.15	0	02:00	0.15
RD-38	STORAGE	0.07	0.15	90.15	0	02:00	0.15
RD-39	STORAGE	0.05	0.14	90.14	0	01:43	0.14
RD-4	STORAGE	0.07	0.15	90.15	0	02:01	0.15
RD-40	STORAGE	0.07	0.15	90.15	0	02:00	0.15
RD-5	STORAGE	0.07	0.15	90.15	0	02:01	0.15
Rd-6	STORAGE	0.06	0.14	90.14	0	01:46	0.14
RD-7	STORAGE	0.06	0.15	90.15	0	01:52	0.15
RD-8	STORAGE	0.08	0.15	90.15	0	01:57	0.15
RD-9	STORAGE	0.08	0.15	90.15	0	02:10	0.15
TD1	STORAGE	0.22	1.05	84.23	0	01:34	1.05
TD2	STORAGE	0.16	1.08	84.11	0	01:31	1.08
TD3	STORAGE	0.11	1.09	84.27	0	01:22	1.09

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	25.65	0	01:57	0	0.617	0.381
Cap2	JUNCTION	0.00	25.60	0	01:58	0	0.593	0.396
CAP3	JUNCTION	0.00	21.98	0	02:00	0	0.543	0.432
MH101	JUNCTION	0.00	98.19	0	01:20	0	1.19	0.001
MH102	JUNCTION	0.00	98.19	0	01:20	0	1.19	-0.004
MH107	JUNCTION	0.00	32.36	0	01:22	0	0.344	0.022
MH202	JUNCTION	0.00	309.84	0	01:15	0	2.44	0.002
MH207	JUNCTION	0.00	250.00	0	01:15	0	2.19	-0.046
MH208	JUNCTION	0.00	208.19	0	01:14	0	1.61	0.029
MH211	JUNCTION	0.00	92.73	0	01:22	0	1.05	-0.100
XDICB1	JUNCTION	12.99	12.99	0	01:10	0.0211	0.0211	0.009
CRNYROW	OUTFALL	0.00	12.99	0	01:10	0	0.0211	0.000
CRNYSTM2	OUTFALL	0.00	18.05	0	01:10	0	0.0325	0.000
MH100	OUTFALL	0.00	98.19	0	01:20	0	1.19	0.000
STLBROW	OUTFALL	17.58	17.58	0	01:10	0.0274	0.0274	0.000
STMTRNK	OUTFALL	0.00	309.85	0	01:15	0	2.44	0.000
WKLYROW	OUTFALL	1.69	1.69	0	01:10	0.00132	0.00132	0.000
CB1	STORAGE	14.00	14.00	0	01:10	0.0184	0.0184	0.018
CB11	STORAGE	38.25	38.25	0	01:10	0.0461	0.0461	0.136
CB12	STORAGE	52.95	52.95	0	01:10	0.0648	0.0648	0.035
CB13	STORAGE	33.82	33.82	0	01:10	0.0442	0.0442	0.020
CB18	STORAGE	28.69	28.69	0	01:10	0.0385	0.0385	0.018
CB2	STORAGE	29.02	29.02	0	01:10	0.037	0.037	0.140
CB20	STORAGE	25.52	25.52	0	01:10	0.0352	0.0352	0.024
CB21	STORAGE	35.85	35.85	0	01:10	0.046	0.046	0.018
CB22	STORAGE	42.41	42.41	0	01:10	0.0554	0.0554	0.008
CB28	STORAGE	14.75	22.32	0	01:02	0.0267	0.0283	0.166
CB3	STORAGE	25.11	25.11	0	01:10	0.0331	0.0331	0.039
CB4	STORAGE	20.99	20.99	0	01:10	0.0269	0.0269	0.026
CB5	STORAGE	53.16	62.07	0	01:06	0.0711	0.0714	0.020
LCB122	STORAGE	18.65	18.65	0	01:10	0.0321	0.0323	0.011
MH103	STORAGE	24.76	50.17	0	01:10	0.0349	0.181	0.010
MH104	STORAGE	20.83	42.98	0	01:10	0.0295	0.146	-0.050
MH105	STORAGE	25.79	50.31	0	01:08	0.0365	0.117	0.055
MH106	STORAGE	31.81	51.62	0	01:08	0.0434	0.0804	-0.090
MH108	STORAGE	0.00	41.84	0	01:05	0	0.32	-0.008
MH109	STORAGE	13.93	77.63	0	01:05	0.0171	0.255	-0.154
MH110	STORAGE	0.00	147.19	0	01:04	0	0.242	-0.049
MH203	STORAGE	38.48	61.94	0	01:09	0.0462	0.18	0.005
MH204	STORAGE	38.77	59.57	0	01:08	0.0463	0.134	-0.030
MH205	STORAGE	34.71	56.43	0	01:08	0.0415	0.0875	-0.063
MH209	STORAGE	25.22	143.19	0	01:03	0.0332	0.481	-0.036
MH210	STORAGE	0.00	217.83	0	01:03	0	0.447	-0.138
MH212	STORAGE	0.00	59.70	0	01:04	0	0.416	-0.009
MH213	STORAGE	19.03	79.10	0	01:03	0.0243	0.359	-0.303
MH214	STORAGE	0.00	133.44	0	01:02	0	0.339	0.247
RD-1	STORAGE	30.75	30.75	0	01:10	0.0445	0.0445	0.001
RD-10	STORAGE	35.71	35.71	0	01:10	0.0518	0.0518	0.001
RD-11	STORAGE	35.71	35.71	0	01:10	0.0518	0.0518	0.001
RD-12	STORAGE	35.71	35.71	0	01:10	0.0518	0.0518	0.001

RD-13	STORAGE	25.30	25.30	0	01:10	0.0367	0.0367	0.001
RD-14	STORAGE	20.83	20.83	0	01:10	0.0302	0.0302	0.000
RD-15	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-16	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD17	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-18	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-19	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-2	STORAGE	30.26	30.26	0	01:10	0.0438	0.0438	0.001
RD-20	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-21	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-22	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-23	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-24	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-25	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-26	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-27	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-28	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-29	STORAGE	38.69	38.69	0	01:10	0.0561	0.0561	0.002
Rd-3	STORAGE	30.26	30.26	0	01:10	0.0438	0.0438	0.001
RD-30	STORAGE	36.70	36.70	0	01:10	0.0532	0.0532	0.001
RD-31	STORAGE	36.70	36.70	0	01:10	0.0532	0.0532	0.001
RD-32	STORAGE	36.70	36.70	0	01:10	0.0532	0.0532	0.001
RD-33	STORAGE	25.30	25.30	0	01:10	0.0367	0.0367	0.001
RD-34	STORAGE	29.26	29.26	0	01:10	0.0424	0.0424	0.001
RD-35	STORAGE	31.74	31.74	0	01:10	0.046	0.046	0.001
RD-36	STORAGE	29.76	29.76	0	01:10	0.0431	0.0431	0.001
RD-37	STORAGE	29.76	29.76	0	01:10	0.0431	0.0431	0.001
RD-38	STORAGE	29.76	29.76	0	01:10	0.0431	0.0431	0.001
RD-39	STORAGE	20.34	20.34	0	01:10	0.0295	0.0295	0.000
RD-4	STORAGE	30.26	30.26	0	01:10	0.0438	0.0438	0.001
RD-40	STORAGE	30.26	30.26	0	01:10	0.0438	0.0438	0.001
RD-5	STORAGE	30.26	30.26	0	01:10	0.0438	0.0438	0.001
Rd-6	STORAGE	22.82	22.82	0	01:10	0.033	0.033	0.001
RD-7	STORAGE	25.79	25.79	0	01:10	0.0374	0.0374	0.001
RD-8	STORAGE	36.21	36.21	0	01:10	0.0525	0.0525	0.001
RD-9	STORAGE	35.71	35.71	0	01:10	0.0518	0.0518	0.001
TD1	STORAGE	167.83	190.53	0	01:09	0.229	0.236	0.153
TD2	STORAGE	218.90	225.44	0	01:08	0.31	0.311	0.066
TD3	STORAGE	315.86	315.86	0	01:10	0.448	0.448	0.133

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Node Surcharge Summary
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No nodes were surcharged.

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Node Flooding Summary
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Flooding refers to all water that overflows a node, whether it ponds or not.

Node	Hours Flooded	Maximum Rate LPS	Time of Max Occurrence days hr:min	Total Flood Volume 10^6 ltr	Maximum Ponded Depth Meters
RD-8	0.22	0.42	0 01:57	0.000	0.000

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	1	0	0	0.002	34	0 01:13	7.75
CB11	0.000	1	0	0	0.010	31	0 01:22	24.09
CB12	0.000	0	0	0	0.009	23	0 01:13	28.59
CB13	0.000	0	0	0	0.005	19	0 01:12	21.61
CB18	0.000	0	0	0	0.003	13	0 01:12	20.18
CB2	0.000	1	0	0	0.007	20	0 01:23	19.90
CB20	0.000	0	0	0	0.002	12	0 01:11	20.09
CB21	0.000	0	0	0	0.007	16	0 01:13	19.63
CB22	0.000	1	0	0	0.007	13	0 01:13	32.30
CB28	0.000	1	0	0	0.000	5	0 01:22	14.65
CB3	0.000	2	0	0	0.009	48	0 01:14	7.89

CB4	0.000	1	0	0	0.007	39	0	01:14	7.41
CB5	0.002	4	0	0	0.012	29	0	01:13	41.50
LCB122	0.000	0	0	0	0.000	0	0	01:10	18.05
MH103	0.001	3	0	0	0.010	39	0	01:23	25.86
MH104	0.001	3	0	0	0.008	42	0	01:23	25.41
MH105	0.001	2	0	0	0.009	26	0	01:23	22.76
MH106	0.001	2	0	0	0.008	26	0	01:23	24.53
MH108	0.001	23	0	0	0.004	94	0	01:31	36.44
MH109	0.001	13	0	0	0.003	54	0	01:31	39.13
MH110	0.001	22	0	0	0.003	94	0	01:34	65.52
MH203	0.001	2	0	0	0.013	36	0	01:23	31.36
MH204	0.001	2	0	0	0.012	37	0	01:23	24.89
MH205	0.001	2	0	0	0.011	36	0	01:23	25.03
MH209	0.000	7	0	0	0.003	57	0	01:20	77.26
MH210	0.000	11	0	0	0.002	95	0	01:22	125.44
MH212	0.000	15	0	0	0.002	91	0	01:14	48.83
MH213	0.000	6	0	0	0.002	35	0	01:14	45.97
MH214	0.000	15	0	0	0.002	93	0	01:28	72.58
RD-1	0.011	34	0	0	0.032	96	0	02:01	1.84
RD-10	0.015	39	0	0	0.038	99	0	02:10	1.86
RD-11	0.015	39	0	0	0.038	99	0	02:10	1.86
RD-12	0.015	39	0	0	0.038	99	0	02:10	1.86
RD-13	0.007	28	0	0	0.025	94	0	01:51	1.83
RD-14	0.005	23	0	0	0.019	92	0	01:43	1.81
RD-15	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-16	0.010	32	0	0	0.030	95	0	01:58	1.83
RD17	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-18	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-19	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-2	0.011	33	0	0	0.031	95	0	02:01	1.83
RD-20	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-21	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-22	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-23	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-24	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-25	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-26	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-27	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-28	0.010	32	0	0	0.030	95	0	01:58	1.83
RD-29	0.017	42	0	0	0.042	100	0	02:13	1.86
Rd-3	0.011	33	0	0	0.031	95	0	02:01	1.83

RD-30	0.016	40	0	0	0.039	99	0	02:11	1.86
RD-31	0.016	40	0	0	0.039	99	0	02:11	1.86
RD-32	0.016	40	0	0	0.039	99	0	02:11	1.86
RD-33	0.007	27	0	0	0.025	92	0	01:52	1.81
RD-34	0.010	32	0	0	0.030	94	0	01:59	1.83
RD-35	0.012	35	0	0	0.033	97	0	02:02	1.84
RD-36	0.010	32	0	0	0.030	95	0	02:00	1.83
RD-37	0.010	32	0	0	0.030	95	0	02:00	1.83
RD-38	0.010	32	0	0	0.030	95	0	02:00	1.83
RD-39	0.005	21	0	0	0.019	86	0	01:43	1.76
RD-4	0.011	33	0	0	0.031	95	0	02:01	1.83
RD-40	0.011	33	0	0	0.031	97	0	02:00	1.84
RD-5	0.011	33	0	0	0.031	95	0	02:01	1.83
Rd-6	0.006	24	0	0	0.022	89	0	01:46	1.78
RD-7	0.008	28	0	0	0.025	94	0	01:52	1.83
RD-8	0.015	39	0	0	0.038	100	0	01:57	1.86
RD-9	0.015	39	0	0	0.038	99	0	02:10	1.86
TD1	0.014	3	0	0	0.107	27	0	01:34	147.19
TD2	0.013	3	0	0	0.143	32	0	01:31	133.44
TD3	0.009	2	0	0	0.145	37	0	01:22	217.83

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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
CRNYROW	21.16	2.16	12.99	0.021
CRNYSTM2	21.68	3.21	18.05	0.033
MH100	74.38	33.60	98.19	1.191
STLBROW	22.53	2.62	17.58	0.027
STMTRNK	76.64	67.11	309.85	2.439
WKLYROW	5.82	0.46	1.69	0.001
System	37.04	109.17	448.46	3.713

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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
101-100	CONDUIT	98.19	0	01:20	1.63	0.34	0.40
102-101	CONDUIT	98.19	0	01:20	1.63	0.34	0.41
104-103	CONDUIT	25.41	0	01:10	0.29	0.20	1.00
105-104	CONDUIT	22.76	0	01:03	0.54	0.18	1.00
106-105	CONDUIT	24.53	0	01:08	0.50	0.20	1.00
107-102	CONDUIT	32.36	0	01:23	0.84	0.21	0.29
109-108	CONDUIT	39.13	0	01:06	0.35	0.41	1.00
110-109	CONDUIT	65.52	0	01:05	0.59	0.68	1.00
111-106	CONDUIT	19.90	0	01:08	0.74	0.34	1.00
11-205	CONDUIT	24.09	0	01:08	0.77	0.41	1.00
122-CSTM2	CONDUIT	18.05	0	01:10	1.07	1.67	0.91
202-TRNK	CONDUIT	309.85	0	01:15	1.94	0.14	0.26
204-203	CONDUIT	24.89	0	01:59	0.28	0.26	1.00
205-204	CONDUIT	25.03	0	01:04	0.43	0.26	1.00
207-202	CONDUIT	249.99	0	01:15	1.49	0.74	0.57
208-207	CONDUIT	208.14	0	01:15	1.15	0.76	0.61
210-209	CONDUIT	125.44	0	01:03	0.58	0.52	1.00
211-208	CONDUIT	92.80	0	01:22	0.97	0.48	0.53
213-212	CONDUIT	45.97	0	02:27	0.40	0.32	1.00
214-213	CONDUIT	66.46	0	01:03	0.68	0.69	1.00
22-212	CONDUIT	32.30	0	01:04	1.03	0.98	1.00
28-214	CONDUIT	18.90	0	01:02	0.40	0.41	1.00
5-108	CONDUIT	41.50	0	01:05	1.32	0.89	1.00
CAP1-102	CONDUIT	25.65	0	01:57	1.51	0.55	0.53
CAP2-211	CONDUIT	25.60	0	01:58	1.51	0.55	0.53
CAP3-207	CONDUIT	21.98	0	02:01	1.46	0.47	0.48
DICB1-CSTM	CONDUIT	12.99	0	01:10	1.03	0.12	0.23
TD1-110	CONDUIT	147.19	0	01:04	2.19	0.59	1.00
TD2-214	CONDUIT	133.44	0	01:02	1.36	0.76	1.00
TD3-210	CONDUIT	217.83	0	01:03	1.89	0.73	1.00
12-202	ORIFICE	28.59	0	01:13			1.00
13-207	ORIFICE	21.61	0	01:12			1.00
18-208	ORIFICE	20.18	0	01:12			1.00
20-208	ORIFICE	20.09	0	01:11			1.00
203-202	ORIFICE	31.36	0	01:23			1.00
209-208	ORIFICE	77.26	0	01:30			1.00
21-211	ORIFICE	19.63	0	01:13			1.00
212-211	ORIFICE	48.83	0	01:30			1.00
OR1	ORIFICE	7.75	0	01:13			1.00
OR2	ORIFICE	7.89	0	01:14			1.00
OR3	ORIFICE	7.41	0	01:14			1.00
OR4	ORIFICE	25.86	0	01:23			1.00
OR5	ORIFICE	24.97	0	01:31			1.00
OL1	DUMMY	1.86	0	01:57			
OL10	DUMMY	1.83	0	02:01			
OL11	DUMMY	1.83	0	02:01			
OL12	DUMMY	1.83	0	02:01			
OL13	DUMMY	1.83	0	02:01			
OL14	DUMMY	1.84	0	02:01			
OL15	DUMMY	1.83	0	01:58			
OL16	DUMMY	1.83	0	01:58			
OL17	DUMMY	1.83	0	01:58			
OL18	DUMMY	1.83	0	01:58			
OL19	DUMMY	1.83	0	01:58			
OL2	DUMMY	1.86	0	02:10			
OL20	DUMMY	1.83	0	01:58			
OL21	DUMMY	1.83	0	01:58			
OL22	DUMMY	1.83	0	01:58			
OL23	DUMMY	1.83	0	01:58			
OL24	DUMMY	1.83	0	01:58			
OL25	DUMMY	1.83	0	01:58			
OL26	DUMMY	1.83	0	01:58			
OL27	DUMMY	1.83	0	01:58			
OL28	DUMMY	1.83	0	01:58			
OL29	DUMMY	1.83	0	01:59			
OL3	DUMMY	1.86	0	02:10			
OL30	DUMMY	1.81	0	01:52			
OL31	DUMMY	1.86	0	02:11			
OL32	DUMMY	1.86	0	02:11			
OL33	DUMMY	1.86	0	02:11			
OL34	DUMMY	1.86	0	02:13			
OL35	DUMMY	1.84	0	02:02			
OL36	DUMMY	1.83	0	02:00			

OL37	DUMMY	1.83	0	02:00
OL38	DUMMY	1.83	0	02:00
OL39	DUMMY	1.76	0	01:43
OL4	DUMMY	1.86	0	02:10
OL40	DUMMY	1.84	0	02:00
OL5	DUMMY	1.86	0	02:10
OL6	DUMMY	1.83	0	01:51
OL7	DUMMY	1.81	0	01:43
OL8	DUMMY	1.83	0	01:52
OL9	DUMMY	1.78	0	01:46

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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
101-100	1.00	0.00	0.06	0.00	0.48	0.46	0.00	0.00	0.91	0.00
102-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
104-103	1.00	0.01	0.00	0.00	0.24	0.00	0.00	0.75	0.01	0.00
105-104	1.00	0.01	0.00	0.00	0.22	0.00	0.00	0.77	0.01	0.00
106-105	1.00	0.01	0.00	0.00	0.23	0.01	0.00	0.75	0.02	0.00
107-102	1.00	0.01	0.00	0.00	0.19	0.00	0.00	0.80	0.11	0.00
109-108	1.00	0.01	0.00	0.00	0.35	0.00	0.00	0.64	0.00	0.00
110-109	1.00	0.01	0.00	0.00	0.34	0.00	0.00	0.65	0.03	0.00
111-106	1.00	0.01	0.00	0.00	0.16	0.00	0.00	0.83	0.01	0.00
11-205	1.00	0.01	0.00	0.00	0.13	0.00	0.00	0.86	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.12	0.00
202-TRNK	1.00	0.00	0.05	0.00	0.21	0.75	0.00	0.00	0.64	0.00
204-203	1.00	0.01	0.00	0.00	0.22	0.00	0.00	0.77	0.03	0.00
205-204	1.00	0.01	0.00	0.00	0.23	0.00	0.00	0.76	0.01	0.00
207-202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
208-207	1.00	0.01	0.00	0.00	0.76	0.00	0.00	0.23	0.40	0.00
210-209	1.00	0.01	0.00	0.00	0.26	0.01	0.00	0.73	0.05	0.00
211-208	1.00	0.01	0.00	0.00	0.14	0.00	0.00	0.85	0.04	0.00
213-212	1.00	0.01	0.00	0.00	0.23	0.00	0.00	0.77	0.00	0.00
214-213	1.00	0.01	0.00	0.00	0.21	0.00	0.00	0.78	0.01	0.00
22-212	1.00	0.01	0.00	0.00	0.20	0.00	0.00	0.79	0.00	0.00
28-214	1.00	0.02	0.00	0.00	0.18	0.00	0.00	0.80	0.01	0.00
5-108	1.00	0.01	0.00	0.00	0.27	0.00	0.00	0.72	0.00	0.00
CAP1-102	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP2-211	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP3-207	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
DICB1-CSTM	1.00	0.01	0.00	0.00	0.76	0.23	0.00	0.00	0.04	0.00
TD1-110	1.00	0.01	0.00	0.00	0.23	0.00	0.00	0.76	0.00	0.00
TD2-214	1.00	0.01	0.00	0.00	0.17	0.00	0.00	0.82	0.00	0.00
TD3-210	1.00	0.01	0.00	0.00	0.11	0.00	0.00	0.88	0.00	0.00

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Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
104-103	2.20	2.20	2.36	0.01	0.01
105-104	2.05	2.05	2.19	0.01	0.01
106-105	1.87	1.87	2.04	0.01	0.01
109-108	3.82	3.82	3.89	0.01	0.01
110-109	3.42	3.42	3.79	0.01	0.01
111-106	1.70	1.70	1.85	0.01	0.01
11-205	1.36	1.36	1.50	0.01	0.01
122-CSTM2	0.01	0.23	0.01	0.29	0.01
204-203	1.60	1.60	1.72	0.01	0.01
205-204	1.52	1.52	1.59	0.01	0.01
210-209	1.45	1.45	1.62	0.01	0.01
213-212	2.35	2.35	2.38	0.01	0.01
214-213	2.13	2.13	2.35	0.01	0.01
22-212	2.36	2.36	2.38	0.01	0.01
28-214	2.00	2.00	2.12	0.01	0.01
5-108	3.29	3.29	3.33	0.01	0.01
TD1-110	2.71	2.71	2.82	0.01	0.01
TD2-214	1.99	1.99	2.04	0.01	0.01
TD3-210	1.29	1.29	1.32	0.01	0.01

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Analysis begun on:  Wed Aug 25 11:08:18 2021
Analysis ended on:  Wed Aug 25 11:08:21 2021
Total elapsed time: 00:00:03
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Chicago 3hr-100year+20% Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	CH3-100yr+20%	INTENSITY	10 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

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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
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

TD3-210	CIRCULAR	0.45	0.16	0.11	0.45	1	297.45	

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**********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------

Total Precipitation ......         0.491        86.000
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.038         6.610
Surface Runoff ...........         0.452        79.192
Final Storage ............         0.004         0.689
Continuity Error (%) .....        -0.571

*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.452         4.521
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.427         4.274
Flooding Loss ............         0.024         0.242
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.109

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (65.20%)
Link CAP3-207 (9.25%)
Link 5-108 (1.54%)

*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.

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Routing Time Step Summary
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****
Minimum Time Step : 0.50 sec
Average Time Step : 2.41 sec
Maximum Time Step : 5.00 sec
Percent in Steady State : -0.00
Average Iterations per Step : 2.00
Percent Not Converging : 0.01
Time Step Frequencies :
5.000 - 3.155 sec : 25.85 %
3.155 - 1.991 sec : 8.18 %
1.991 - 1.256 sec : 65.79 %
1.256 - 0.792 sec : 0.15 %
0.792 - 0.500 sec : 0.02 %

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Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff LPS	Runoff Coeff
A-01	86.00	0.00	0.00	7.90	70.26	7.35	77.61	0.02	16.92	0.902
A-02a	86.00	0.00	0.00	0.46	83.81	0.43	84.24	0.04	29.73	0.980
A-02b	86.00	0.00	0.00	0.00	84.65	0.00	84.65	0.04	25.00	0.984
A-02c	86.00	0.00	0.00	0.00	84.74	0.00	84.74	0.04	30.95	0.985
A-02d	86.00	0.00	0.00	4.17	77.05	3.91	80.96	0.05	38.29	0.941
A-02e	86.00	0.00	0.00	11.18	64.33	10.27	74.60	0.05	35.23	0.867
A-03	86.00	0.00	0.00	7.90	70.26	7.34	77.60	0.04	30.34	0.902
A-04	86.00	0.00	0.00	10.71	65.18	9.86	75.05	0.03	25.46	0.873
A-05a	86.00	0.00	0.00	7.98	70.45	7.06	77.51	0.09	64.68	0.901
A-05b	86.00	0.00	0.00	15.41	56.76	13.96	70.72	0.02	17.05	0.822
A-05c	86.00	0.00	0.00	4.18	77.07	3.91	80.98	0.28	202.05	0.942
A-06a	86.00	0.00	0.00	9.34	67.76	8.46	76.22	0.07	51.52	0.886
A-06b	86.00	0.00	0.00	11.18	64.33	10.27	74.61	0.03	23.11	0.868
A-06c	86.00	0.00	0.00	0.46	83.95	0.43	84.38	0.37	262.77	0.981
A-06d	86.00	0.00	0.00	46.16	7.62	32.61	40.23	0.04	21.82	0.468
A-07	86.00	0.00	0.00	11.21	64.35	10.12	74.47	0.06	43.69	0.866
A-08	86.00	0.00	0.00	3.24	78.75	3.04	81.79	0.04	30.70	0.951
A-09a	86.00	0.00	0.00	8.89	68.65	7.98	76.63	0.04	30.66	0.891
A-09b	86.00	0.00	0.00	0.46	84.11	0.43	84.54	0.54	379.22	0.983
A-10	86.00	0.00	0.00	6.03	73.65	5.64	79.29	0.05	34.59	0.922
A-11	86.00	0.00	0.00	9.34	67.77	8.45	76.22	0.05	41.09	0.886
A-12a	86.00	0.00	0.00	18.25	51.64	16.33	67.97	0.06	47.54	0.790
A-12b	86.00	0.00	0.00	18.73	50.79	16.73	67.52	0.06	47.97	0.785
A-12c	86.00	0.00	0.00	18.73	50.79	16.73	67.52	0.05	42.95	0.785
A-12d	86.00	0.00	0.00	18.28	51.64	16.27	67.90	0.06	47.36	0.790
A-13	86.00	0.00	0.00	20.29	48.25	17.56	65.81	0.08	66.57	0.765
D-01	86.00	0.00	0.00	46.35	5.93	34.27	40.21	0.03	19.39	0.468
D-02	86.00	0.00	0.00	45.80	7.62	33.02	40.65	0.05	27.59	0.473
D-03	86.00	0.00	0.00	44.17	4.24	40.96	45.20	0.00	2.12	0.526

D-04a	86.00	0.00	0.00	57.20	4.23	24.63	28.86	0.01
3.02 0.336								
D-04b	86.00	0.00	0.00	46.04	4.24	36.67	40.91	0.00
0.67 0.476								
D-04c	86.00	0.00	0.00	55.40	4.23	26.47	30.70	0.02
4.80 0.357								
D-04d	86.00	0.00	0.00	44.17	4.24	40.96	45.20	0.01
13.22 0.526								
D-04e	86.00	0.00	0.00	44.17	4.24	40.96	45.20	0.00
1.59 0.526								
R-01	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
36.90 1.002								
R-02	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
36.31 1.002								
R-03	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
36.31 1.002								
R-04	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
36.31 1.002								
R-05	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
36.31 1.002								
R-06	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.04
27.38 1.002								
R-07	86.00	0.00	0.00	0.00	86.25	0.00	86.25	0.04
30.95 1.003								
R-08	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
43.45 1.003								
R-09	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
42.85 1.003								
R-10	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
42.85 1.003								
R-11	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
42.85 1.003								
R-12	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
42.85 1.003								
R-13	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.04
30.35 1.003								
R-14	86.00	0.00	0.00	0.00	86.25	0.00	86.25	0.04
25.00 1.003								
R-15	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-16	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-17	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								

R-18	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-19	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-20	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-21	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-22	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-23	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-24	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-25	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-26	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-27	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-28	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.12 1.002								
R-29	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.07
46.43 1.003								
R-30	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
44.04 1.003								
R-31	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
44.04 1.003								
R-32	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.06
44.04 1.003								
R-33	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.04
30.35 1.003								
R-34	86.00	0.00	0.00	0.00	86.27	0.00	86.27	0.05
35.12 1.003								
R-35	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.06
38.09 1.002								
R-36	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.71 1.002								
R-37	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.71 1.002								
R-38	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
35.71 1.002								
R-39	86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.04
24.40 1.002								

R-40		86.00	0.00	0.00	0.00	86.20	0.00	86.20	0.05
36.31	1.002								

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.05	2.11	82.60	0 01:22	2.11
Cap2	JUNCTION	2.05	2.11	82.87	0 01:19	2.11
CAP3	JUNCTION	2.04	2.10	82.55	0 01:24	2.10
MH101	JUNCTION	0.08	0.18	80.93	0 01:22	0.18
MH102	JUNCTION	0.08	0.18	81.00	0 01:22	0.18
MH107	JUNCTION	0.05	0.14	81.17	0 01:24	0.14
MH202	JUNCTION	0.09	0.26	81.91	0 01:19	0.26
MH207	JUNCTION	0.12	0.37	82.13	0 01:19	0.37
MH208	JUNCTION	0.11	0.39	82.26	0 01:19	0.39
MH211	JUNCTION	0.10	0.26	82.34	0 01:20	0.26
XDICB1	JUNCTION	0.01	0.09	83.12	0 01:10	0.09
CRNYROW	OUTFALL	0.46	0.54	82.94	0 01:10	0.54
CRNYSTM2	OUTFALL	83.30	83.33	83.33	0 01:10	83.33
MH100	OUTFALL	0.42	0.48	80.78	0 01:22	0.48
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.48	81.65	81.65	0 01:19	81.65
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.11	2.57	84.87	0 01:13	2.57
CB11	STORAGE	0.27	2.24	84.89	0 01:24	2.24
CB12	STORAGE	0.12	2.42	84.62	0 01:14	2.42
CB13	STORAGE	0.09	2.26	84.46	0 01:13	2.26
CB18	STORAGE	0.07	1.98	84.28	0 01:12	1.98
CB2	STORAGE	0.33	2.41	84.86	0 01:24	2.41
CB20	STORAGE	0.06	1.97	84.27	0 01:12	1.97
CB21	STORAGE	0.09	1.88	84.18	0 01:14	1.88
CB22	STORAGE	0.30	1.57	84.12	0 01:14	1.57
CB28	STORAGE	0.30	1.16	84.16	0 01:20	1.16
CB3	STORAGE	0.24	2.65	84.85	0 01:21	2.65
CB4	STORAGE	0.18	2.35	84.85	0 01:19	2.35
CB5	STORAGE	0.61	2.21	84.26	0 01:13	2.21
LCB122	STORAGE	0.02	0.64	83.94	0 01:10	0.64
MH103	STORAGE	0.50	3.20	84.85	0 01:24	3.20
MH104	STORAGE	0.47	3.08	84.86	0 01:24	3.08
MH105	STORAGE	0.44	2.97	84.86	0 01:24	2.97
MH106	STORAGE	0.40	2.80	84.86	0 01:24	2.80
MH108	STORAGE	0.90	2.99	84.25	0 01:32	2.99
MH109	STORAGE	0.87	2.92	84.25	0 01:33	2.92
MH110	STORAGE	0.74	2.58	84.26	0 01:41	2.58
MH203	STORAGE	0.38	2.89	84.87	0 01:24	2.89
MH204	STORAGE	0.36	2.78	84.88	0 01:24	2.78
MH205	STORAGE	0.34	2.67	84.88	0 01:24	2.67
MH209	STORAGE	0.32	2.20	84.27	0 01:22	2.20
MH210	STORAGE	0.27	1.93	84.30	0 01:23	1.93
MH212	STORAGE	0.38	1.87	84.10	0 01:20	1.87
MH213	STORAGE	0.36	1.80	84.11	0 01:21	1.80
MH214	STORAGE	0.28	1.44	84.14	0 01:32	1.44
RD-1	STORAGE	0.08	0.15	90.15	0 01:18	0.15
RD-10	STORAGE	0.08	0.15	90.15	0 01:18	0.15
RD-11	STORAGE	0.08	0.15	90.15	0 01:18	0.15
RD-12	STORAGE	0.08	0.15	90.15	0 01:18	0.15
RD-13	STORAGE	0.07	0.15	90.15	0 01:18	0.15
RD-14	STORAGE	0.06	0.15	90.15	0 01:18	0.15
RD-15	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-16	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD17	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-18	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-19	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-2	STORAGE	0.08	0.15	90.15	0 01:19	0.15
RD-20	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-21	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-22	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-23	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-24	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-25	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-26	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-27	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-28	STORAGE	0.07	0.15	90.15	0 01:19	0.15
RD-29	STORAGE	0.09	0.15	90.15	0 01:18	0.15
Rd-3	STORAGE	0.08	0.15	90.15	0 01:19	0.15

RD-30	STORAGE	0.09	0.15	90.15	0	01:18	0.15
RD-31	STORAGE	0.09	0.15	90.15	0	01:18	0.15
RD-32	STORAGE	0.09	0.15	90.15	0	01:18	0.15
RD-33	STORAGE	0.07	0.15	90.15	0	01:20	0.15
RD-34	STORAGE	0.07	0.15	90.15	0	01:19	0.15
RD-35	STORAGE	0.08	0.15	90.15	0	01:18	0.15
RD-36	STORAGE	0.08	0.15	90.15	0	01:19	0.15
RD-37	STORAGE	0.08	0.15	90.15	0	01:19	0.15
RD-38	STORAGE	0.08	0.15	90.15	0	01:19	0.15
RD-39	STORAGE	0.06	0.15	90.15	0	01:24	0.15
RD-4	STORAGE	0.08	0.15	90.15	0	01:19	0.15
RD-40	STORAGE	0.08	0.15	90.15	0	01:18	0.15
RD-5	STORAGE	0.08	0.15	90.15	0	01:19	0.15
Rd-6	STORAGE	0.06	0.15	90.15	0	01:22	0.15
RD-7	STORAGE	0.07	0.15	90.15	0	01:18	0.15
RD-8	STORAGE	0.08	0.15	90.15	0	01:17	0.15
RD-9	STORAGE	0.08	0.15	90.15	0	01:18	0.15
TD1	STORAGE	0.28	1.08	84.26	0	01:42	1.08
TD2	STORAGE	0.21	1.12	84.15	0	01:34	1.12
TD3	STORAGE	0.15	1.13	84.31	0	01:24	1.13

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	26.08	0	01:22	0	0.652	0.360
Cap2	JUNCTION	0.00	26.08	0	01:19	0	0.635	0.370
CAP3	JUNCTION	0.00	22.36	0	01:24	0	0.574	0.409
MH101	JUNCTION	0.00	100.33	0	01:22	0	1.35	0.001
MH102	JUNCTION	0.00	100.33	0	01:22	0	1.35	-0.003
MH107	JUNCTION	0.00	32.56	0	01:24	0	0.419	0.014
MH202	JUNCTION	0.00	316.37	0	01:19	0	2.8	0.002
MH207	JUNCTION	0.00	255.99	0	01:19	0	2.49	-0.040
MH208	JUNCTION	0.00	212.04	0	01:18	0	1.87	0.024
MH211	JUNCTION	0.00	95.01	0	01:19	0	1.2	-0.088
XDICB1	JUNCTION	19.39	19.39	0	01:10	0.0306	0.0306	0.009
CRNYROW	OUTFALL	0.00	19.40	0	01:10	0	0.0306	0.000
CRNYSTM2	OUTFALL	0.00	26.27	0	01:10	0	0.0467	0.000
MH100	OUTFALL	0.00	100.33	0	01:22	0	1.35	0.000
STLBROW	OUTFALL	23.29	23.29	0	01:10	0.0413	0.0413	0.000
STMTRNK	OUTFALL	0.00	316.38	0	01:19	0	2.8	0.000
WKLYROW	OUTFALL	2.12	2.12	0	01:10	0.00181	0.00181	0.000
CB1	STORAGE	16.92	16.92	0	01:10	0.0225	0.0225	0.022
CB11	STORAGE	47.36	47.36	0	01:10	0.0577	0.0577	0.147
CB12	STORAGE	66.57	66.57	0	01:10	0.0816	0.0816	0.033
CB13	STORAGE	41.09	41.09	0	01:10	0.0541	0.0541	0.022
CB18	STORAGE	34.59	34.59	0	01:10	0.0468	0.0468	0.023
CB2	STORAGE	35.23	35.23	0	01:10	0.0455	0.0455	0.155
CB20	STORAGE	30.70	30.70	0	01:10	0.0425	0.0425	0.026
CB21	STORAGE	43.69	43.69	0	01:10	0.0566	0.0566	0.027
CB22	STORAGE	51.52	51.52	0	01:10	0.0678	0.0678	0.011
CB28	STORAGE	21.82	21.82	0	01:10	0.0386	0.0402	0.178
CB3	STORAGE	30.34	30.34	0	01:10	0.0403	0.0403	0.030
CB4	STORAGE	25.46	25.46	0	01:10	0.033	0.033	0.030
CB5	STORAGE	64.68	75.63	0	01:05	0.0868	0.0872	0.022
LCB122	STORAGE	27.59	27.59	0	01:10	0.0463	0.0465	0.008
MH103	STORAGE	29.73	56.11	0	01:08	0.0421	0.22	0.009
MH104	STORAGE	25.00	48.33	0	01:08	0.0355	0.178	-0.043
MH105	STORAGE	30.95	58.73	0	01:07	0.0441	0.142	0.063
MH106	STORAGE	38.29	61.82	0	01:07	0.0526	0.098	-0.097
MH108	STORAGE	0.00	47.65	0	01:04	0	0.39	-0.007
MH109	STORAGE	17.05	76.47	0	01:03	0.0212	0.313	-0.122
MH110	STORAGE	0.00	144.72	0	01:03	0	0.298	-0.020
MH203	STORAGE	47.54	70.17	0	01:07	0.0578	0.226	0.007
MH204	STORAGE	47.97	68.22	0	01:05	0.0581	0.168	-0.025
MH205	STORAGE	42.95	66.78	0	01:06	0.052	0.11	-0.076
MH209	STORAGE	30.66	139.19	0	01:02	0.0406	0.58	-0.033
MH210	STORAGE	0.00	201.19	0	01:02	0	0.539	-0.095
MH212	STORAGE	0.00	59.69	0	01:03	0	0.509	-0.009
MH213	STORAGE	23.11	75.52	0	01:02	0.0298	0.441	-0.241
MH214	STORAGE	0.00	119.81	0	01:01	0	0.419	0.161
RD-1	STORAGE	36.90	36.90	0	01:10	0.0534	0.0534	0.001
RD-10	STORAGE	42.85	42.85	0	01:10	0.0621	0.0621	-0.020
RD-11	STORAGE	42.85	42.85	0	01:10	0.0621	0.0621	-0.020
RD-12	STORAGE	42.85	42.85	0	01:10	0.0621	0.0621	-0.020

RD-13	STORAGE	30.35	30.35	0	01:10	0.044	0.044	-0.011
RD-14	STORAGE	25.00	25.00	0	01:10	0.0362	0.0362	-0.001
RD-15	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-16	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD17	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-18	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-19	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-2	STORAGE	36.31	36.31	0	01:10	0.0526	0.0526	-0.003
RD-20	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-21	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-22	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-23	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-24	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-25	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-26	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-27	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-28	STORAGE	35.12	35.12	0	01:10	0.0508	0.0508	-0.018
RD-29	STORAGE	46.43	46.43	0	01:10	0.0673	0.0673	-0.010
Rd-3	STORAGE	36.31	36.31	0	01:10	0.0526	0.0526	-0.003
RD-30	STORAGE	44.04	44.04	0	01:10	0.0638	0.0638	-0.004
RD-31	STORAGE	44.04	44.04	0	01:10	0.0638	0.0638	-0.004
RD-32	STORAGE	44.04	44.04	0	01:10	0.0638	0.0638	-0.004
RD-33	STORAGE	30.35	30.35	0	01:10	0.044	0.044	-0.004
RD-34	STORAGE	35.12	35.12	0	01:10	0.0509	0.0509	-0.016
RD-35	STORAGE	38.09	38.09	0	01:10	0.0552	0.0552	-0.019
RD-36	STORAGE	35.71	35.71	0	01:10	0.0517	0.0517	-0.006
RD-37	STORAGE	35.71	35.71	0	01:10	0.0517	0.0517	-0.006
RD-38	STORAGE	35.71	35.71	0	01:10	0.0517	0.0517	-0.006
RD-39	STORAGE	24.40	24.40	0	01:10	0.0353	0.0353	-0.006
RD-4	STORAGE	36.31	36.31	0	01:10	0.0526	0.0526	-0.003
RD-40	STORAGE	36.31	36.31	0	01:10	0.0526	0.0526	-0.009
RD-5	STORAGE	36.31	36.31	0	01:10	0.0526	0.0526	-0.003
Rd-6	STORAGE	27.38	27.38	0	01:10	0.0396	0.0396	-0.013
RD-7	STORAGE	30.95	30.95	0	01:10	0.0448	0.0448	-0.013
RD-8	STORAGE	43.45	43.45	0	01:10	0.063	0.063	-0.006
RD-9	STORAGE	42.85	42.85	0	01:10	0.0621	0.0621	-0.020
TD1	STORAGE	202.05	228.01	0	01:07	0.278	0.288	0.138
TD2	STORAGE	262.77	277.30	0	01:07	0.373	0.379	0.077
TD3	STORAGE	379.22	379.22	0	01:10	0.539	0.539	0.095

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Node Surcharge Summary
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No nodes were surcharged.

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Node Flooding Summary
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Flooding refers to all water that overflows a node, whether it ponds or not.

Node	Hours Flooded	Maximum Rate LPS	Time of Max Occurrence days	hr:min	Total Flood Volume 10^6 ltr	Maximum Ponded Depth Meters
RD-1	0.87	9.34	0	01:18	0.006	0.000
RD-10	1.05	11.20	0	01:18	0.009	0.000
RD-11	1.05	11.20	0	01:18	0.009	0.000
RD-12	1.05	11.20	0	01:18	0.009	0.000
RD-13	0.70	7.40	0	01:18	0.005	0.000
RD-14	0.54	5.75	0	01:18	0.003	0.000
RD-15	0.76	8.78	0	01:19	0.005	0.000
RD-16	0.76	8.78	0	01:19	0.005	0.000
RD17	0.76	8.78	0	01:19	0.005	0.000
RD-18	0.76	8.78	0	01:19	0.005	0.000
RD-19	0.76	8.78	0	01:19	0.005	0.000
RD-2	0.84	9.13	0	01:19	0.006	0.000
RD-20	0.76	8.78	0	01:19	0.005	0.000
RD-21	0.76	8.78	0	01:19	0.005	0.000
RD-22	0.76	8.78	0	01:19	0.005	0.000
RD-23	0.76	8.78	0	01:19	0.005	0.000
RD-24	0.76	8.78	0	01:19	0.005	0.000
RD-25	0.76	8.78	0	01:19	0.005	0.000
RD-26	0.76	8.78	0	01:19	0.005	0.000
RD-27	0.76	8.78	0	01:19	0.005	0.000
RD-28	0.76	8.78	0	01:19	0.005	0.000
RD-29	1.15	12.28	0	01:18	0.010	0.000
Rd-3	0.84	9.13	0	01:19	0.006	0.000

RD-30	1.07	11.56	0	01:18	0.009	0.000
RD-31	1.07	11.56	0	01:18	0.009	0.000
RD-32	1.07	11.56	0	01:18	0.009	0.000
RD-33	0.67	7.18	0	01:20	0.004	0.000
RD-34	0.77	8.78	0	01:19	0.005	0.000
RD-35	0.89	9.70	0	01:18	0.007	0.000
RD-36	0.83	8.96	0	01:19	0.006	0.000
RD-37	0.83	8.96	0	01:19	0.006	0.000
RD-38	0.83	8.96	0	01:19	0.006	0.000
RD-39	0.44	2.61	0	01:24	0.001	0.000
RD-4	0.84	9.13	0	01:19	0.006	0.000
RD-40	0.87	9.17	0	01:18	0.006	0.000
RD-5	0.84	9.13	0	01:19	0.006	0.000
Rd-6	0.52	4.80	0	01:22	0.002	0.000
RD-7	0.70	7.56	0	01:18	0.005	0.000
RD-8	1.07	11.44	0	01:17	0.009	0.000
RD-9	1.05	11.20	0	01:18	0.009	0.000

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	1	0	0	0.004	61	0 01:13	7.80
CB11	0.001	4	0	0	0.017	53	0 01:24	28.12
CB12	0.000	1	0	0	0.017	41	0 01:14	28.87
CB13	0.000	1	0	0	0.009	35	0 01:13	21.80
CB18	0.000	0	0	0	0.007	25	0 01:12	20.36
CB2	0.001	3	0	0	0.012	36	0 01:24	23.66
CB20	0.000	0	0	0	0.005	25	0 01:12	20.30
CB21	0.000	1	0	0	0.012	26	0 01:14	19.81
CB22	0.001	1	0	0	0.012	23	0 01:14	33.21
CB28	0.000	1	0	0	0.000	6	0 01:20	21.11
CB3	0.001	4	0	0	0.013	70	0 01:21	7.93
CB4	0.000	3	0	0	0.010	58	0 01:19	7.45
CB5	0.003	7	0	0	0.018	44	0 01:13	47.65
LCB122	0.000	0	0	0	0.000	0	0 01:10	26.27
MH103	0.001	5	0	0	0.016	61	0 01:24	26.01
MH104	0.001	6	0	0	0.012	63	0 01:24	26.39
MH105	0.001	4	0	0	0.014	40	0 01:24	23.33
MH106	0.001	3	0	0	0.013	39	0 01:24	27.78
MH108	0.001	28	0	0	0.004	95	0 01:32	39.37
MH109	0.001	16	0	0	0.004	54	0 01:33	41.86
MH110	0.001	27	0	0	0.003	95	0 01:41	63.71
MH203	0.002	4	0	0	0.021	60	0 01:24	31.60
MH204	0.001	4	0	0	0.020	60	0 01:24	25.48
MH205	0.001	4	0	0	0.018	57	0 01:24	25.42
MH209	0.000	8	0	0	0.003	58	0 01:22	77.92
MH210	0.000	13	0	0	0.002	97	0 01:23	121.55
MH212	0.000	19	0	0	0.002	93	0 01:20	49.33
MH213	0.000	7	0	0	0.002	35	0 01:21	46.41
MH214	0.000	19	0	0	0.002	95	0 01:32	68.78
RD-1	0.012	36	0	0	0.033	100	0 01:18	1.86
RD-10	0.016	41	0	0	0.038	100	0 01:18	1.86
RD-11	0.016	41	0	0	0.038	100	0 01:18	1.86
RD-12	0.016	41	0	0	0.038	100	0 01:18	1.86
RD-13	0.008	31	0	0	0.026	100	0 01:18	1.86
RD-14	0.006	27	0	0	0.021	100	0 01:18	1.86
RD-15	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-16	0.011	35	0	0	0.031	100	0 01:19	1.86
RD17	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-18	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-19	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-2	0.012	36	0	0	0.033	100	0 01:19	1.86
RD-20	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-21	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-22	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-23	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-24	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-25	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-26	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-27	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-28	0.011	35	0	0	0.031	100	0 01:19	1.86
RD-29	0.018	43	0	0	0.042	100	0 01:18	1.86
Rd-3	0.012	36	0	0	0.033	100	0 01:19	1.86
RD-30	0.016	41	0	0	0.040	100	0 01:18	1.86
RD-31	0.016	41	0	0	0.040	100	0 01:18	1.86

RD-32	0.016	41	0	0	0.040	100	0	01:18	1.86
RD-33	0.009	32	0	0	0.027	100	0	01:20	1.86
RD-34	0.011	35	0	0	0.031	100	0	01:19	1.86
RD-35	0.013	37	0	0	0.034	100	0	01:18	1.86
RD-36	0.011	36	0	0	0.032	100	0	01:19	1.86
RD-37	0.011	36	0	0	0.032	100	0	01:19	1.86
RD-38	0.011	36	0	0	0.032	100	0	01:19	1.86
RD-39	0.006	27	0	0	0.022	100	0	01:24	1.86
RD-4	0.012	36	0	0	0.033	100	0	01:19	1.86
RD-40	0.011	36	0	0	0.032	100	0	01:18	1.86
RD-5	0.012	36	0	0	0.033	100	0	01:19	1.86
Rd-6	0.007	29	0	0	0.025	100	0	01:22	1.86
RD-7	0.009	32	0	0	0.027	100	0	01:18	1.86
RD-8	0.016	41	0	0	0.038	100	0	01:17	1.86
RD-9	0.016	41	0	0	0.038	100	0	01:18	1.86
TD1	0.025	6	0	0	0.153	38	0	01:42	144.72
TD2	0.024	5	0	0	0.201	45	0	01:34	119.81
TD3	0.016	4	0	0	0.205	53	0	01:24	201.19

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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
CRNYROW	21.36	3.08	19.40	0.031
CRNYSTM2	21.84	4.57	26.27	0.047
MH100	75.28	37.30	100.33	1.351
STLBROW	24.27	3.66	23.29	0.041
STMTRNK	77.47	75.65	316.38	2.803
WKLYROW	7.01	0.53	2.12	0.002
System	37.87	124.79	475.61	4.274

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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
101-100	CONDUIT	100.33	0	01:22	1.64	0.35	0.41
102-101	CONDUIT	100.33	0	01:22	1.63	0.35	0.41
104-103	CONDUIT	26.39	0	01:08	0.28	0.21	1.00
105-104	CONDUIT	23.33	0	01:08	0.55	0.19	1.00
106-105	CONDUIT	27.78	0	01:07	0.52	0.22	1.00
107-102	CONDUIT	32.56	0	01:24	0.84	0.21	0.29
109-108	CONDUIT	41.86	0	01:05	0.38	0.43	1.00
110-109	CONDUIT	63.71	0	01:03	0.58	0.66	1.00
111-106	CONDUIT	23.66	0	01:07	0.78	0.40	1.00
11-205	CONDUIT	28.12	0	01:06	0.81	0.47	1.00
122-CSTM2	CONDUIT	26.27	0	01:10	1.50	2.43	0.97
202-TRNK	CONDUIT	316.38	0	01:19	1.96	0.15	0.26
204-203	CONDUIT	25.48	0	01:07	0.28	0.27	1.00
205-204	CONDUIT	25.42	0	01:05	0.41	0.26	1.00
207-202	CONDUIT	255.99	0	01:19	1.51	0.76	0.58
208-207	CONDUIT	212.01	0	01:19	1.15	0.77	0.62
210-209	CONDUIT	121.55	0	01:02	0.56	0.51	1.00
211-208	CONDUIT	95.11	0	01:21	0.97	0.49	0.54
213-212	CONDUIT	46.41	0	03:15	0.40	0.33	1.00
214-213	CONDUIT	63.69	0	01:02	0.66	0.66	1.00
22-212	CONDUIT	33.21	0	01:03	1.06	1.00	1.00
28-214	CONDUIT	21.11	0	01:10	0.43	0.45	1.00
5-108	CONDUIT	47.65	0	01:04	1.52	1.03	1.00
CAP1-102	CONDUIT	26.08	0	01:22	1.52	0.56	0.54
CAP2-211	CONDUIT	26.09	0	01:19	1.52	0.56	0.54
CAP3-207	CONDUIT	22.36	0	01:24	1.46	0.48	0.49
DICB1-CSTM	CONDUIT	19.40	0	01:10	1.16	0.18	0.29
TD1-110	CONDUIT	144.72	0	01:03	2.11	0.58	1.00
TD2-214	CONDUIT	119.81	0	01:01	1.42	0.68	1.00
TD3-210	CONDUIT	201.19	0	01:02	1.71	0.68	1.00
12-202	ORIFICE	28.87	0	01:14			1.00
13-207	ORIFICE	21.80	0	01:13			1.00
18-208	ORIFICE	20.36	0	01:12			1.00
20-208	ORIFICE	20.30	0	01:12			1.00

203-202	ORIFICE	31.60	0	01:24	1.00
209-208	ORIFICE	77.92	0	01:38	1.00
21-211	ORIFICE	19.81	0	01:14	1.00
212-211	ORIFICE	49.33	0	01:38	1.00
OR1	ORIFICE	7.80	0	01:13	1.00
OR2	ORIFICE	7.93	0	01:21	1.00
OR3	ORIFICE	7.45	0	01:19	1.00
OR4	ORIFICE	26.01	0	01:25	1.00
OR5	ORIFICE	25.12	0	01:32	1.00
OL1	DUMMY	1.86	0	01:18	
OL10	DUMMY	1.86	0	01:20	
OL11	DUMMY	1.86	0	01:20	
OL12	DUMMY	1.86	0	01:20	
OL13	DUMMY	1.86	0	01:20	
OL14	DUMMY	1.86	0	01:19	
OL15	DUMMY	1.86	0	01:19	
OL16	DUMMY	1.86	0	01:19	
OL17	DUMMY	1.86	0	01:19	
OL18	DUMMY	1.86	0	01:19	
OL19	DUMMY	1.86	0	01:19	
OL2	DUMMY	1.86	0	01:18	
OL20	DUMMY	1.86	0	01:19	
OL21	DUMMY	1.86	0	01:19	
OL22	DUMMY	1.86	0	01:19	
OL23	DUMMY	1.86	0	01:19	
OL24	DUMMY	1.86	0	01:19	
OL25	DUMMY	1.86	0	01:19	
OL26	DUMMY	1.86	0	01:19	
OL27	DUMMY	1.86	0	01:19	
OL28	DUMMY	1.86	0	01:19	
OL29	DUMMY	1.86	0	01:19	
OL3	DUMMY	1.86	0	01:18	
OL30	DUMMY	1.86	0	01:20	
OL31	DUMMY	1.86	0	01:18	
OL32	DUMMY	1.86	0	01:18	
OL33	DUMMY	1.86	0	01:18	
OL34	DUMMY	1.86	0	01:18	
OL35	DUMMY	1.86	0	01:18	
OL36	DUMMY	1.86	0	01:19	
OL37	DUMMY	1.86	0	01:19	
OL38	DUMMY	1.86	0	01:19	
OL39	DUMMY	1.86	0	01:24	
OL4	DUMMY	1.86	0	01:18	
OL40	DUMMY	1.86	0	01:18	
OL5	DUMMY	1.86	0	01:18	
OL6	DUMMY	1.86	0	01:18	
OL7	DUMMY	1.86	0	01:18	
OL8	DUMMY	1.86	0	01:18	
OL9	DUMMY	1.86	0	01:22	

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Flow Classification Summary
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	Adjusted	Fraction of Time in Flow Class								
	/Actual		Up	Down	Sub	Sup	Up	Down	Norm	Inlet
Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
101-100	1.00	0.00	0.06	0.00	0.46	0.48	0.00	0.00	0.91	0.00
102-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
104-103	1.00	0.01	0.00	0.00	0.26	0.00	0.00	0.73	0.01	0.00
105-104	1.00	0.01	0.00	0.00	0.24	0.00	0.00	0.75	0.01	0.00
106-105	1.00	0.01	0.00	0.00	0.25	0.00	0.00	0.74	0.02	0.00
107-102	1.00	0.01	0.00	0.00	0.16	0.00	0.00	0.83	0.10	0.00
109-108	1.00	0.01	0.00	0.00	0.41	0.00	0.00	0.59	0.00	0.00
110-109	1.00	0.01	0.00	0.00	0.40	0.00	0.00	0.60	0.03	0.00
111-106	1.00	0.01	0.00	0.00	0.19	0.00	0.00	0.80	0.01	0.00
11-205	1.00	0.01	0.00	0.00	0.17	0.00	0.00	0.83	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.11	0.00
202-TRNK	1.00	0.00	0.04	0.00	0.20	0.76	0.00	0.00	0.63	0.00
204-203	1.00	0.01	0.00	0.00	0.23	0.00	0.00	0.76	0.02	0.00
205-204	1.00	0.01	0.00	0.00	0.23	0.00	0.00	0.77	0.02	0.00
207-202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
208-207	1.00	0.01	0.00	0.00	0.77	0.00	0.00	0.22	0.39	0.00
210-209	1.00	0.01	0.00	0.00	0.26	0.01	0.00	0.73	0.04	0.00
211-208	1.00	0.01	0.00	0.00	0.17	0.00	0.00	0.82	0.05	0.00
213-212	1.00	0.01	0.00	0.00	0.26	0.00	0.00	0.73	0.00	0.00
214-213	1.00	0.01	0.00	0.00	0.25	0.00	0.00	0.74	0.02	0.00
22-212	1.00	0.01	0.00	0.00	0.24	0.00	0.00	0.75	0.00	0.00
28-214	1.00	0.02	0.00	0.00	0.22	0.00	0.00	0.76	0.01	0.00

5-108	1.00	0.01	0.00	0.00	0.33	0.00	0.00	0.67	0.00	0.00
CAP1-102	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP2-211	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP3-207	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
DICB1-CSTM	1.00	0.01	0.00	0.00	0.77	0.23	0.00	0.00	0.04	0.00
TD1-110	1.00	0.01	0.00	0.00	0.29	0.00	0.00	0.70	0.00	0.00
TD2-214	1.00	0.01	0.00	0.00	0.21	0.00	0.00	0.78	0.00	0.00
TD3-210	1.00	0.01	0.00	0.00	0.14	0.00	0.00	0.85	0.00	0.00

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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
104-103	2.56	2.56	2.71	0.01	0.01
105-104	2.45	2.45	2.55	0.01	0.01
106-105	2.31	2.31	2.45	0.01	0.01
109-108	4.60	4.60	4.67	0.01	0.01
110-109	4.17	4.17	4.56	0.01	0.01
111-106	2.14	2.14	2.29	0.01	0.01
11-205	1.78	1.78	1.92	0.01	0.01
122-CSTM2	0.01	0.38	0.01	0.45	0.01
204-203	2.03	2.03	2.15	0.01	0.01
205-204	1.94	1.94	2.02	0.01	0.01
210-209	1.85	1.85	2.00	0.01	0.01
213-212	2.85	2.85	2.88	0.01	0.01
214-213	2.67	2.67	2.85	0.01	0.01
22-212	2.86	2.86	2.88	0.01	0.01
28-214	2.53	2.53	2.66	0.01	0.01
5-108	4.04	4.04	4.08	0.01	0.01
TD1-110	3.44	3.44	3.55	0.01	0.01
TD2-214	2.52	2.52	2.57	0.01	0.01
TD3-210	1.66	1.66	1.69	0.01	0.01

Analysis begun on: Wed Aug 25 11:09:33 2021

Analysis ended on: Wed Aug 25 11:09:36 2021
Total elapsed time: 00:00:03

SCS 12hr-2year Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	SCS12-2yr	INTENSITY	30 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

****
Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

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TD3-210          CIRCULAR            0.45     0.16     0.11     0.45       1   297.45


*********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
```

```
Total Precipitation ......         0.242        42.335
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.032         5.663
Surface Runoff ...........         0.206        36.108
Final Storage ............         0.004         0.690
Continuity Error (%) .....        -0.297

**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.206         2.062
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.206         2.056
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.267

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (67.00%)
Link CAP3-207 (6.19%)
Link 5-108 (1.82%)


*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.


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Routing Time Step Summary
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  *************************
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     2.69 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :     0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.00
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    26.78 %
      3.155 -  1.991 sec      :    28.20 %
      1.991 -  1.256 sec      :    44.71 %
      1.256 -  0.792 sec      :     0.21 %
      0.792 -  0.500 sec      :     0.10 %


  ***************************
  Subcatchment Runoff Summary
  ***************************

  ---------------------------------------------------------------------------------------------------------------
-------------
                          Total      Total      Total      Total     Imperv       Perv      Total      Total
Peak  Runoff
                         Precip      Runon       Evap      Infil     Runoff     Runoff     Runoff     Runoff
Runoff   Coeff
  Subcatchment             mm         mm         mm         mm         mm         mm         mm    10^6 ltr
LPS
  ---------------------------------------------------------------------------------------------------------------
-------------
  A-01                    42.33       0.00       0.00       7.19      33.91       0.02      33.94       0.01
2.44   0.802
  A-02a                   42.34       0.00       0.00       0.42      40.46       0.01      40.47       0.02
5.00   0.956
  A-02b                   42.34       0.00       0.00       0.00      40.87       0.00      40.87       0.02
4.23   0.965
  A-02c                   42.34       0.00       0.00       0.00      40.88       0.00      40.88       0.02
5.23   0.966
  A-02d                   42.34       0.00       0.00       3.81      37.20       0.02      37.22       0.02
5.99   0.879
  A-02e                   42.33       0.00       0.00      10.16      31.05       0.02      31.07       0.02
4.71   0.734
  A-03                    42.34       0.00       0.00       7.19      33.92       0.02      33.94       0.02
4.38   0.802
```

```
  A-04                    42.34       0.00       0.00       9.73      31.46       0.02      31.48       0.01
3.45   0.744
  A-05a                   42.33       0.00       0.00       7.20      33.97       0.01      33.97       0.04
9.39   0.803
  A-05b                   42.33       0.00       0.00      13.97      27.37       0.02      27.39       0.01
2.05   0.647
  A-05c                   42.33       0.00       0.00       3.81      37.22       0.02      37.24       0.13
31.61   0.880
  A-06a                   42.34       0.00       0.00       8.47      32.72       0.01      32.74       0.03
7.21   0.773
  A-06b                   42.34       0.00       0.00      10.16      31.05       0.02      31.07       0.01
3.09   0.734
  A-06c                   42.34       0.00       0.00       0.42      40.51       0.01      40.52       0.18
44.17   0.957
  A-06d                   42.34       0.00       0.00      38.52       3.67       0.01       3.68       0.00
0.89   0.087
  A-07                    42.33       0.00       0.00      10.16      31.08       0.02      31.09       0.02
5.86   0.734
  A-08                    42.34       0.00       0.00       2.96      38.03       0.02      38.05       0.02
4.90   0.899
  A-09a                   42.33       0.00       0.00       8.04      33.14       0.01      33.15       0.02
4.34   0.783
  A-09b                   42.33       0.00       0.00       0.42      40.51       0.01      40.52       0.26
63.71   0.957
  A-10                    42.33       0.00       0.00       5.50      35.56       0.02      35.58       0.02
5.21   0.840
  A-11                    42.34       0.00       0.00       8.47      32.72       0.01      32.74       0.02
5.75   0.773
  A-12a                   42.33       0.00       0.00      16.51      24.91       0.02      24.94       0.02
5.28   0.589
  A-12b                   42.33       0.00       0.00      16.93      24.50       0.02      24.53       0.02
5.26   0.579
  A-12c                   42.34       0.00       0.00      16.93      24.50       0.02      24.53       0.02
4.71   0.579
  A-12d                   42.33       0.00       0.00      16.51      24.92       0.02      24.94       0.02
5.28   0.589
  A-13                    42.34       0.00       0.00      18.20      23.30       0.02      23.31       0.03
7.18   0.551
  D-01                    42.33       0.00       0.00      39.37       2.86       0.01       2.86       0.00
0.56   0.068
  D-02                    42.33       0.00       0.00      38.52       3.67       0.01       3.68       0.00
1.06   0.087
  D-03                    42.34       0.00       0.00      40.21       2.04       0.12       2.16       0.00
0.04   0.051
```

D-04a	42.34	0.00	0.00	40.22	2.04	0.00	2.05	0.00
0.20 0.048								
D-04b	42.34	0.00	0.00	40.22	2.04	0.01	2.05	0.00
0.01 0.048								
D-04c	42.33	0.00	0.00	40.22	2.04	0.00	2.04	0.00
0.27 0.048								
D-04d	42.34	0.00	0.00	40.21	2.04	0.12	2.16	0.00
0.23 0.051								
D-04e	42.34	0.00	0.00	40.21	2.04	0.12	2.16	0.00
0.03 0.051								
R-01	42.34	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.24 1.003								
R-02	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.14 1.003								
R-03	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.14 1.003								
R-04	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.14 1.003								
R-05	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.14 1.003								
R-06	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.02
4.63 1.003								
R-07	42.34	0.00	0.00	0.00	42.48	0.00	42.48	0.02
5.23 1.003								
R-08	42.34	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.35 1.004								
R-09	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.25 1.004								
R-10	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.25 1.004								
R-11	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.25 1.004								
R-12	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.25 1.004								
R-13	42.34	0.00	0.00	0.00	42.48	0.00	42.48	0.02
5.13 1.004								
R-14	42.34	0.00	0.00	0.00	42.48	0.00	42.48	0.02
4.23 1.003								
R-15	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-16	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-17	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-18	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-19	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-20	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-21	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-22	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-23	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-24	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-25	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-26	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-27	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-28	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
5.94 1.003								
R-29	42.34	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.85 1.004								
R-30	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.45 1.004								
R-31	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.45 1.004								
R-32	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
7.45 1.004								
R-33	42.34	0.00	0.00	0.00	42.48	0.00	42.48	0.02
5.13 1.004								
R-34	42.33	0.00	0.00	0.00	42.48	0.00	42.48	0.03
5.94 1.004								
R-35	42.34	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.44 1.003								
R-36	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.04 1.003								
R-37	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.04 1.003								
R-38	42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.04 1.003								
R-39	42.34	0.00	0.00	0.00	42.47	0.00	42.47	0.02
4.13 1.003								

R-40		42.33	0.00	0.00	0.00	42.47	0.00	42.47	0.03
6.14	1.003								

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.01	2.09	82.58	0 07:01	2.09
Cap2	JUNCTION	2.01	2.09	82.85	0 07:01	2.09
CAP3	JUNCTION	2.00	2.08	82.53	0 07:02	2.08
MH101	JUNCTION	0.05	0.14	80.89	0 06:32	0.14
MH102	JUNCTION	0.05	0.14	80.96	0 06:31	0.14
MH107	JUNCTION	0.04	0.12	81.15	0 06:32	0.12
MH202	JUNCTION	0.06	0.19	81.84	0 06:30	0.19
MH207	JUNCTION	0.09	0.28	82.04	0 06:31	0.28
MH208	JUNCTION	0.08	0.29	82.17	0 06:31	0.29
MH211	JUNCTION	0.07	0.21	82.28	0 06:31	0.21
XDICB1	JUNCTION	0.00	0.02	83.05	0 06:30	0.02
CRNYROW	OUTFALL	0.45	0.47	82.87	0 06:30	0.47
CRNYSTM2	OUTFALL	83.30	83.30	83.30	0 00:00	83.30
MH100	OUTFALL	0.40	0.44	80.74	0 06:32	0.44
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.45	81.58	81.58	0 06:31	81.58
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.02	0.27	82.57	0 06:30	0.27
CB11	STORAGE	0.01	0.12	82.77	0 06:31	0.12
CB12	STORAGE	0.02	0.19	82.39	0 06:30	0.19
CB13	STORAGE	0.02	0.20	82.40	0 06:30	0.20
CB18	STORAGE	0.02	0.17	82.47	0 06:30	0.17
CB2	STORAGE	0.02	0.43	82.88	0 06:32	0.43
CB20	STORAGE	0.02	0.15	82.45	0 06:30	0.15
CB21	STORAGE	0.02	0.20	82.50	0 06:30	0.20
CB22	STORAGE	0.05	1.02	83.57	0 06:32	1.02
CB28	STORAGE	0.11	0.61	83.61	0 06:31	0.60
CB3	STORAGE	0.04	0.80	83.00	0 06:30	0.80
CB4	STORAGE	0.03	0.51	83.01	0 06:30	0.51
CB5	STORAGE	0.08	1.25	83.30	0 06:34	1.25
LCB122	STORAGE	0.01	0.03	83.33	0 06:30	0.03
MH103	STORAGE	0.11	1.23	82.88	0 06:32	1.23
MH104	STORAGE	0.08	1.11	82.88	0 06:32	1.11
MH105	STORAGE	0.07	0.99	82.88	0 06:32	0.99
MH106	STORAGE	0.05	0.82	82.88	0 06:32	0.82
MH108	STORAGE	0.22	2.04	83.30	0 06:34	2.04
MH109	STORAGE	0.19	1.97	83.30	0 06:33	1.97
MH110	STORAGE	0.14	1.63	83.31	0 06:33	1.63
MH203	STORAGE	0.06	0.78	82.77	0 06:31	0.78
MH204	STORAGE	0.04	0.67	82.77	0 06:31	0.67
MH205	STORAGE	0.03	0.56	82.77	0 06:31	0.56
MH209	STORAGE	0.09	1.31	83.38	0 06:30	1.31
MH210	STORAGE	0.06	1.02	83.39	0 06:31	1.02
MH212	STORAGE	0.11	1.34	83.57	0 06:32	1.34
MH213	STORAGE	0.09	1.26	83.57	0 06:32	1.26
MH214	STORAGE	0.06	0.90	83.61	0 06:31	0.90
RD-1	STORAGE	0.04	0.10	90.10	0 07:02	0.10
RD-10	STORAGE	0.05	0.10	90.10	0 07:03	0.10
RD-11	STORAGE	0.05	0.10	90.10	0 07:03	0.10
RD-12	STORAGE	0.05	0.10	90.10	0 07:03	0.10
RD-13	STORAGE	0.03	0.10	90.10	0 07:00	0.10
RD-14	STORAGE	0.03	0.10	90.10	0 06:37	0.10
RD-15	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-16	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD17	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-18	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-19	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-2	STORAGE	0.04	0.10	90.10	0 07:02	0.10
RD-20	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-21	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-22	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-23	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-24	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-25	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-26	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-27	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-28	STORAGE	0.04	0.10	90.10	0 07:01	0.10
RD-29	STORAGE	0.05	0.11	90.11	0 07:03	0.11
Rd-3	STORAGE	0.04	0.10	90.10	0 07:02	0.10

RD-30	STORAGE	0.05	0.10	90.10	0	07:03	0.10
RD-31	STORAGE	0.05	0.10	90.10	0	07:03	0.10
RD-32	STORAGE	0.05	0.10	90.10	0	07:03	0.10
RD-33	STORAGE	0.03	0.10	90.10	0	07:00	0.10
RD-34	STORAGE	0.04	0.10	90.10	0	07:01	0.10
RD-35	STORAGE	0.04	0.10	90.10	0	07:02	0.10
RD-36	STORAGE	0.04	0.10	90.10	0	07:01	0.10
RD-37	STORAGE	0.04	0.10	90.10	0	07:01	0.10
RD-38	STORAGE	0.04	0.10	90.10	0	07:01	0.10
RD-39	STORAGE	0.03	0.10	90.10	0	06:37	0.10
RD-4	STORAGE	0.04	0.10	90.10	0	07:02	0.10
RD-40	STORAGE	0.04	0.10	90.10	0	07:02	0.10
RD-5	STORAGE	0.04	0.10	90.10	0	07:02	0.10
Rd-6	STORAGE	0.03	0.10	90.10	0	06:39	0.10
RD-7	STORAGE	0.03	0.10	90.10	0	07:00	0.10
RD-8	STORAGE	0.05	0.11	90.11	0	07:03	0.11
RD-9	STORAGE	0.05	0.10	90.10	0	07:03	0.10
TD1	STORAGE	0.02	0.14	83.32	0	06:33	0.14
TD2	STORAGE	0.04	0.58	83.61	0	06:31	0.58
TD3	STORAGE	0.03	0.21	83.39	0	06:31	0.20

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	17.78	0	07:01	0	0.364	0.646
Cap2	JUNCTION	0.00	17.71	0	07:01	0	0.351	0.671
CAP3	JUNCTION	0.00	15.24	0	07:02	0	0.321	0.734
MH101	JUNCTION	0.00	63.45	0	06:32	0	0.679	0.001
MH102	JUNCTION	0.00	63.44	0	06:32	0	0.679	0.000
MH107	JUNCTION	0.00	23.86	0	06:31	0	0.188	-0.001
MH202	JUNCTION	0.00	176.21	0	06:31	0	1.37	0.001
MH207	JUNCTION	0.00	153.62	0	06:31	0	1.26	-0.065
MH208	JUNCTION	0.00	133.66	0	06:30	0	0.914	0.032
MH211	JUNCTION	0.00	64.16	0	06:30	0	0.596	-0.087
XDICB1	JUNCTION	0.56	0.56	0	06:30	0.00218	0.00218	0.028
CRNYROW	OUTFALL	0.00	0.55	0	06:30	0	0.00218	0.000
CRNYSTM2	OUTFALL	0.00	1.06	0	06:30	0	0.00447	0.000
MH100	OUTFALL	0.00	63.45	0	06:32	0	0.679	0.000
STLBROW	OUTFALL	0.74	0.74	0	06:30	0.00255	0.00255	0.000
STMTRNK	OUTFALL	0.00	176.24	0	06:31	0	1.37	0.000
WKLYROW	OUTFALL	0.04	0.04	0	06:30	8.64e-05	8.64e-05	0.000
CB1	STORAGE	2.44	2.44	0	06:30	0.00984	0.00984	-0.000
CB11	STORAGE	5.28	5.28	0	06:30	0.0212	0.0212	0.234
CB12	STORAGE	7.18	7.18	0	06:30	0.0289	0.0289	-0.001
CB13	STORAGE	5.75	5.75	0	06:30	0.0232	0.0232	-0.001
CB18	STORAGE	5.21	5.21	0	06:30	0.021	0.021	-0.001
CB2	STORAGE	4.71	4.71	0	06:30	0.019	0.019	0.243
CB20	STORAGE	4.90	4.90	0	06:30	0.0198	0.0198	-0.001
CB21	STORAGE	5.86	5.86	0	06:30	0.0236	0.0236	-0.001
CB22	STORAGE	7.21	7.77	0	06:08	0.0291	0.0291	0.000
CB28	STORAGE	0.89	4.50	0	06:17	0.00353	0.00443	2.009
CB3	STORAGE	4.38	4.38	0	06:30	0.0176	0.0176	-0.000
CB4	STORAGE	3.45	3.45	0	06:30	0.0139	0.0139	-0.000
CB5	STORAGE	9.39	9.39	0	06:30	0.038	0.038	0.021
LCB122	STORAGE	1.06	1.06	0	06:30	0.00419	0.00433	0.085
MH103	STORAGE	5.00	20.48	0	06:08	0.0202	0.102	0.007
MH104	STORAGE	4.23	19.32	0	06:08	0.0172	0.0817	-0.103
MH105	STORAGE	5.23	19.24	0	06:09	0.0213	0.0646	0.108
MH106	STORAGE	5.99	10.62	0	06:19	0.0242	0.0431	-0.207
MH108	STORAGE	0.00	24.75	0	06:14	0	0.174	-0.006
MH109	STORAGE	2.05	32.38	0	06:08	0.00822	0.136	-0.094
MH110	STORAGE	0.00	31.61	0	06:30	0	0.128	-0.026
MH203	STORAGE	5.28	17.03	0	06:29	0.0212	0.0825	0.013
MH204	STORAGE	5.26	14.97	0	06:07	0.0211	0.0612	-0.091
MH205	STORAGE	4.71	9.88	0	06:25	0.0189	0.04	-0.197
MH209	STORAGE	4.34	62.92	0	06:29	0.0176	0.276	0.012
MH210	STORAGE	0.00	63.95	0	06:24	0	0.258	-0.098
MH212	STORAGE	0.00	42.60	0	06:30	0	0.224	-0.003
MH213	STORAGE	3.09	46.41	0	06:09	0.0124	0.194	-0.649
MH214	STORAGE	0.00	45.51	0	06:15	0	0.183	0.518
RD-1	STORAGE	6.24	6.24	0	06:30	0.0263	0.0263	-0.001
RD-10	STORAGE	7.25	7.25	0	06:30	0.0306	0.0306	-0.001
RD-11	STORAGE	7.25	7.25	0	06:30	0.0306	0.0306	-0.001
RD-12	STORAGE	7.25	7.25	0	06:30	0.0306	0.0306	-0.001

RD-13	STORAGE	5.13	5.13	0	06:30	0.0217	0.0217	-0.001
RD-14	STORAGE	4.23	4.23	0	06:30	0.0178	0.0178	-0.001
RD-15	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-16	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD17	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-18	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-19	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-2	STORAGE	6.14	6.14	0	06:30	0.0259	0.0259	-0.001
RD-20	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-21	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-22	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-23	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-24	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-25	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-26	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-27	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-28	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-29	STORAGE	7.85	7.85	0	06:30	0.0331	0.0331	-0.000
Rd-3	STORAGE	6.14	6.14	0	06:30	0.0259	0.0259	-0.001
RD-30	STORAGE	7.45	7.45	0	06:30	0.0314	0.0314	-0.000
RD-31	STORAGE	7.45	7.45	0	06:30	0.0314	0.0314	-0.000
RD-32	STORAGE	7.45	7.45	0	06:30	0.0314	0.0314	-0.000
RD-33	STORAGE	5.13	5.13	0	06:30	0.0217	0.0217	-0.001
RD-34	STORAGE	5.94	5.94	0	06:30	0.0251	0.0251	-0.001
RD-35	STORAGE	6.44	6.44	0	06:30	0.0272	0.0272	-0.001
RD-36	STORAGE	6.04	6.04	0	06:30	0.0255	0.0255	-0.001
RD-37	STORAGE	6.04	6.04	0	06:30	0.0255	0.0255	-0.001
RD-38	STORAGE	6.04	6.04	0	06:30	0.0255	0.0255	-0.001
RD-39	STORAGE	4.13	4.13	0	06:30	0.0174	0.0174	-0.001
RD-4	STORAGE	6.14	6.14	0	06:30	0.0259	0.0259	-0.001
RD-40	STORAGE	6.14	6.14	0	06:30	0.0259	0.0259	-0.001
RD-5	STORAGE	6.14	6.14	0	06:30	0.0259	0.0259	-0.001
Rd-6	STORAGE	4.63	4.63	0	06:30	0.0195	0.0195	-0.001
RD-7	STORAGE	5.23	5.23	0	06:30	0.0221	0.0221	-0.001
RD-8	STORAGE	7.35	7.35	0	06:30	0.031	0.031	-0.000
RD-9	STORAGE	7.25	7.25	0	06:30	0.0306	0.0306	-0.001
TD1	STORAGE	31.61	31.61	0	06:30	0.128	0.128	0.059
TD2	STORAGE	44.17	44.17	0	06:30	0.179	0.179	0.070
TD3	STORAGE	63.71	63.71	0	06:30	0.258	0.258	0.055

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Node Surcharge Summary
****

No nodes were surcharged.

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Node Flooding Summary
****

No nodes were flooded.

****
Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	0	0	0	0.000	2	0 06:30	2.43
CB11	0.000	0	0	0	0.000	0	0 06:31	5.22
CB12	0.000	0	0	0	0.000	0	0 06:30	7.17
CB13	0.000	0	0	0	0.000	0	0 06:30	5.75
CB18	0.000	0	0	0	0.000	0	0 06:30	5.20
CB2	0.000	0	0	0	0.000	0	0 06:32	4.67
CB20	0.000	0	0	0	0.000	0	0 06:30	4.89
CB21	0.000	0	0	0	0.000	0	0 06:30	5.85
CB22	0.000	0	0	0	0.000	1	0 06:32	10.42
CB28	0.000	1	0	0	0.000	3	0 06:31	3.29
CB3	0.000	0	0	0	0.000	2	0 06:30	4.32
CB4	0.000	0	0	0	0.000	1	0 06:30	3.41
CB5	0.000	0	0	0	0.002	4	0 06:34	13.03
LCB122	0.000	0	0	0	0.000	0	0 06:30	1.06
MH103	0.000	0	0	0	0.001	6	0 06:32	15.95
MH104	0.000	0	0	0	0.001	7	0 06:32	15.52
MH105	0.000	0	0	0	0.001	3	0 06:32	15.11
MH106	0.000	0	0	0	0.001	3	0 06:32	10.93

MH108	0.000	7	0	0	0.002	65	0	06:34	20.70
MH109	0.000	4	0	0	0.002	37	0	06:33	16.86
MH110	0.000	5	0	0	0.002	60	0	06:33	30.36
MH203	0.000	0	0	0	0.001	3	0	06:31	16.07
MH204	0.000	0	0	0	0.001	2	0	06:31	12.26
MH205	0.000	0	0	0	0.001	2	0	06:31	9.80
MH209	0.000	2	0	0	0.002	35	0	06:30	59.88
MH210	0.000	3	0	0	0.001	51	0	06:31	58.57
MH212	0.000	5	0	0	0.002	66	0	06:32	41.68
MH213	0.000	2	0	0	0.002	25	0	06:32	36.61
MH214	0.000	4	0	0	0.001	60	0	06:31	43.35
RD-1	0.003	8	0	0	0.011	34	0	07:02	1.28
RD-10	0.004	10	0	0	0.014	36	0	07:03	1.30
RD-11	0.004	10	0	0	0.014	36	0	07:03	1.30
RD-12	0.004	10	0	0	0.014	36	0	07:03	1.30
RD-13	0.002	6	0	0	0.008	32	0	07:00	1.25
RD-14	0.001	5	0	0	0.006	30	0	06:37	1.22
RD-15	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-16	0.002	8	0	0	0.010	33	0	07:01	1.26
RD17	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-18	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-19	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-2	0.003	8	0	0	0.011	33	0	07:02	1.27
RD-20	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-21	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-22	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-23	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-24	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-25	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-26	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-27	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-28	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-29	0.005	11	0	0	0.015	37	0	07:03	1.31
Rd-3	0.003	8	0	0	0.011	33	0	07:02	1.27
RD-30	0.004	10	0	0	0.014	36	0	07:03	1.30
RD-31	0.004	10	0	0	0.014	36	0	07:03	1.30
RD-32	0.004	10	0	0	0.014	36	0	07:03	1.30
RD-33	0.002	6	0	0	0.008	31	0	07:00	1.24
RD-34	0.002	8	0	0	0.010	33	0	07:01	1.26
RD-35	0.003	9	0	0	0.012	34	0	07:02	1.28
RD-36	0.003	8	0	0	0.011	33	0	07:01	1.27
RD-37	0.003	8	0	0	0.011	33	0	07:01	1.27
RD-38	0.003	8	0	0	0.011	33	0	07:01	1.27
RD-39	0.001	5	0	0	0.006	28	0	06:37	1.19
RD-4	0.003	8	0	0	0.011	33	0	07:02	1.27
RD-40	0.003	8	0	0	0.011	34	0	07:02	1.28
RD-5	0.003	8	0	0	0.011	33	0	07:02	1.27
Rd-6	0.001	5	0	0	0.007	29	0	06:39	1.21
RD-7	0.002	6	0	0	0.009	32	0	07:00	1.25
RD-8	0.004	10	0	0	0.014	36	0	07:03	1.31
RD-9	0.004	10	0	0	0.014	36	0	07:03	1.30
TD1	0.000	0	0	0	0.000	0	0	06:33	31.61
TD2	0.000	0	0	0	0.000	0	0	06:31	44.64
TD3	0.000	0	0	0	0.000	0	0	06:31	63.95

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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
CRNYROW	31.60	0.12	0.55	0.002
CRNYSTM2	57.24	0.14	1.06	0.004
MH100	77.02	17.15	63.45	0.679
STLBROW	39.76	0.12	0.74	0.003
STMTRNK	79.94	33.40	176.24	1.368
WKLYROW	0.49	0.03	0.04	0.000
System	47.67	50.96	241.57	2.056

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Link Flow Summary
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	Maximum |Flow|	Time of Max Occurrence	Maximum |Veloc|	Max/ Full	Max/ Full

Link	Type	LPS	days	hr:min	m/sec	Flow	Depth
101-100	CONDUIT	63.45	0	06:32	1.44	0.22	0.32
102-101	CONDUIT	63.45	0	06:32	1.44	0.22	0.32
104-103	CONDUIT	15.52	0	06:08	0.29	0.13	1.00
105-104	CONDUIT	15.11	0	06:08	0.63	0.12	1.00
106-105	CONDUIT	10.93	0	06:11	0.63	0.09	1.00
107-102	CONDUIT	23.82	0	06:32	0.77	0.15	0.25
109-108	CONDUIT	16.86	0	06:39	0.30	0.18	1.00
110-109	CONDUIT	30.36	0	06:08	0.57	0.32	1.00
111-106	CONDUIT	4.67	0	06:12	0.72	0.08	1.00
11-205	CONDUIT	5.22	0	06:25	0.75	0.09	0.75
122-CSTM2	CONDUIT	1.06	0	06:30	0.13	0.10	0.47
202-TRNK	CONDUIT	176.24	0	06:31	1.65	0.08	0.19
204-203	CONDUIT	12.26	0	06:33	0.32	0.13	1.00
205-204	CONDUIT	9.80	0	06:07	0.51	0.10	1.00
207-202	CONDUIT	153.60	0	06:31	1.28	0.46	0.44
208-207	CONDUIT	133.52	0	06:31	1.03	0.49	0.47
210-209	CONDUIT	58.57	0	06:29	0.61	0.24	1.00
211-208	CONDUIT	64.11	0	06:31	0.85	0.33	0.40
213-212	CONDUIT	36.61	0	06:31	0.40	0.26	1.00
214-213	CONDUIT	43.35	0	06:09	0.79	0.45	1.00
22-212	CONDUIT	10.42	0	06:07	0.83	0.31	1.00
28-214	CONDUIT	3.63	0	06:17	0.36	0.08	1.00
5-108	CONDUIT	13.03	0	06:14	1.15	0.28	1.00
CAP1-102	CONDUIT	17.78	0	07:01	1.38	0.38	0.43
CAP2-211	CONDUIT	17.71	0	07:01	1.38	0.38	0.43
CAP3-207	CONDUIT	15.24	0	07:02	1.32	0.33	0.39
DICB1-CSTM	CONDUIT	0.55	0	06:30	0.40	0.01	0.05
TD1-110	CONDUIT	31.61	0	06:30	1.54	0.13	0.68
TD2-214	CONDUIT	44.64	0	06:15	1.32	0.25	1.00
TD3-210	CONDUIT	63.95	0	06:24	1.49	0.21	0.63
12-202	ORIFICE	7.17	0	06:30			1.00
13-207	ORIFICE	5.75	0	06:30			1.00
18-208	ORIFICE	5.20	0	06:30			1.00
20-208	ORIFICE	4.89	0	06:30			1.00
203-202	ORIFICE	16.07	0	06:31			1.00
209-208	ORIFICE	59.88	0	06:30			1.00
21-211	ORIFICE	5.85	0	06:30			1.00
212-211	ORIFICE	41.68	0	06:32			1.00
OR1	ORIFICE	2.43	0	06:30			1.00
OR2	ORIFICE	4.32	0	06:30			1.00
OR3	ORIFICE	3.41	0	06:30			1.00
OR4	ORIFICE	15.95	0	06:32			1.00
OR5	ORIFICE	20.70	0	06:34			1.00
OL1	DUMMY	1.31	0	07:03			
OL10	DUMMY	1.27	0	07:02			
OL11	DUMMY	1.27	0	07:02			
OL12	DUMMY	1.27	0	07:02			
OL13	DUMMY	1.27	0	07:02			
OL14	DUMMY	1.28	0	07:02			
OL15	DUMMY	1.26	0	07:01			
OL16	DUMMY	1.26	0	07:01			
OL17	DUMMY	1.26	0	07:01			
OL18	DUMMY	1.26	0	07:01			
OL19	DUMMY	1.26	0	07:01			
OL2	DUMMY	1.30	0	07:03			
OL20	DUMMY	1.26	0	07:01			
OL21	DUMMY	1.26	0	07:01			
OL22	DUMMY	1.26	0	07:01			
OL23	DUMMY	1.26	0	07:01			
OL24	DUMMY	1.26	0	07:01			
OL25	DUMMY	1.26	0	07:01			
OL26	DUMMY	1.26	0	07:01			
OL27	DUMMY	1.26	0	07:01			
OL28	DUMMY	1.26	0	07:01			
OL29	DUMMY	1.26	0	07:01			
OL3	DUMMY	1.30	0	07:03			
OL30	DUMMY	1.24	0	07:00			
OL31	DUMMY	1.30	0	07:03			
OL32	DUMMY	1.30	0	07:03			
OL33	DUMMY	1.30	0	07:03			
OL34	DUMMY	1.31	0	07:03			
OL35	DUMMY	1.28	0	07:02			
OL36	DUMMY	1.27	0	07:01			
OL37	DUMMY	1.27	0	07:01			
OL38	DUMMY	1.27	0	07:01			
OL39	DUMMY	1.19	0	06:37			
OL4	DUMMY	1.30	0	07:03			
OL40	DUMMY	1.28	0	07:02			
OL5	DUMMY	1.30	0	07:03			
OL6	DUMMY	1.25	0	07:00			

OL7	DUMMY	1.22	0	06:37
OL8	DUMMY	1.25	0	07:00
OL9	DUMMY	1.21	0	06:39

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
		---------- Fraction of Time in Flow Class ----------								
101-100	1.00	0.00	0.02	0.00	0.70	0.28	0.00	0.00	0.93	0.00
102-101	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
104-103	1.00	0.07	0.00	0.00	0.66	0.01	0.00	0.27	0.37	0.00
105-104	1.00	0.07	0.00	0.00	0.12	0.00	0.00	0.81	0.01	0.00
106-105	1.00	0.07	0.00	0.00	0.64	0.01	0.00	0.28	0.03	0.00
107-102	1.00	0.07	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.00
109-108	1.00	0.07	0.00	0.00	0.64	0.00	0.00	0.29	0.22	0.00
110-109	1.00	0.07	0.00	0.00	0.21	0.00	0.00	0.71	0.04	0.00
111-106	1.00	0.07	0.00	0.00	0.07	0.00	0.00	0.86	0.01	0.00
11-205	1.00	0.07	0.00	0.00	0.04	0.00	0.00	0.89	0.02	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.44	0.00
202-TRNK	1.00	0.00	0.02	0.00	0.23	0.75	0.00	0.00	0.59	0.00
204-203	1.00	0.07	0.00	0.00	0.65	0.00	0.00	0.28	0.21	0.00
205-204	1.00	0.07	0.00	0.00	0.35	0.00	0.00	0.58	0.01	0.00
207-202	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
208-207	1.00	0.02	0.00	0.00	0.79	0.00	0.00	0.19	0.33	0.00
210-209	1.00	0.07	0.00	0.00	0.66	0.00	0.00	0.27	0.34	0.00
211-208	1.00	0.02	0.00	0.00	0.06	0.00	0.00	0.92	0.00	0.00
213-212	1.00	0.07	0.00	0.00	0.27	0.00	0.00	0.66	0.04	0.00
214-213	1.00	0.07	0.00	0.00	0.09	0.00	0.00	0.84	0.01	0.00
22-212	1.00	0.07	0.00	0.00	0.08	0.00	0.00	0.85	0.00	0.00
28-214	1.00	0.12	0.00	0.00	0.07	0.00	0.00	0.81	0.01	0.00
5-108	1.00	0.07	0.00	0.00	0.10	0.00	0.00	0.82	0.00	0.00
CAP1-102	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
CAP2-211	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
CAP3-207	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
DICB1-CSTM	1.00	0.07	0.00	0.00	0.27	0.66	0.00	0.00	0.02	0.00
TD1-110	1.00	0.07	0.00	0.00	0.03	0.00	0.00	0.90	0.01	0.00
TD2-214	1.00	0.07	0.00	0.00	0.05	0.00	0.00	0.88	0.01	0.00
TD3-210	1.00	0.07	0.00	0.00	0.02	0.00	0.00	0.91	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
104-103	1.00	1.00	1.17	0.01	0.01
105-104	0.85	0.85	0.99	0.01	0.01
106-105	0.59	0.59	0.83	0.01	0.01
109-108	1.81	1.81	1.88	0.01	0.01
110-109	1.30	1.30	1.78	0.01	0.01
111-106	0.26	0.26	0.55	0.01	0.01
11-205	0.01	0.01	0.27	0.01	0.01
204-203	0.46	0.46	0.63	0.01	0.01
205-204	0.31	0.31	0.44	0.01	0.01
210-209	0.40	0.40	0.61	0.01	0.01
213-212	0.86	0.86	0.90	0.01	0.01
214-213	0.53	0.53	0.86	0.01	0.01
22-212	0.86	0.86	0.90	0.01	0.01
28-214	0.27	0.27	0.52	0.01	0.01
5-108	1.11	1.11	1.17	0.01	0.01
TD1-110	0.01	0.01	0.08	0.01	0.01
TD2-214	0.23	0.23	0.35	0.01	0.01

Analysis begun on: Wed Aug 25 11:11:13 2021
Analysis ended on: Wed Aug 25 11:11:16 2021
Total elapsed time: 00:00:03

SCS 12hr-5year Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

****
Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	SCS12-5yr	INTENSITY	30 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

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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
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

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TD3-210          CIRCULAR            0.45     0.16     0.11     0.45       1   297.45


***********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

*************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
*************************     ---------       -------
```

```
Total Precipitation ......         0.321        56.185
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.039         6.797
Surface Runoff ...........         0.279        48.864
Final Storage ............         0.004         0.690
Continuity Error (%) .....        -0.294

*************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
*************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.279         2.790
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.278         2.785
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.184

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (71.58%)
Link CAP3-207 (7.22%)
Link 5-108 (1.31%)

*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.

************************
Routing Time Step Summary
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  *************************
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     2.45 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :    -0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.00
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    21.55 %
      3.155 -  1.991 sec      :    24.20 %
      1.991 -  1.256 sec      :    53.81 %
      1.256 -  0.792 sec      :     0.37 %
      0.792 -  0.500 sec      :     0.07 %


  ***************************
  Subcatchment Runoff Summary
  ***************************

  ------------------------------------------------------------------------------------------------------------
------------
                          Total      Total      Total      Total     Imperv       Perv      Total      Total
Peak  Runoff
                         Precip      Runon       Evap      Infil     Runoff     Runoff     Runoff     Runoff
Runoff   Coeff
  Subcatchment             mm         mm         mm         mm         mm         mm         mm    10^6 ltr
LPS
  ------------------------------------------------------------------------------------------------------------
------------
  A-01                    56.18       0.00       0.00       8.31      45.42       1.30      46.72       0.01
3.64   0.831
  A-02a                   56.19       0.00       0.00       0.48      54.18       0.09      54.28       0.03
6.65   0.966
  A-02b                   56.18       0.00       0.00       0.00      54.73       0.00      54.73       0.02
5.61   0.974
  A-02c                   56.18       0.00       0.00       0.00      54.74       0.00      54.74       0.03
6.94   0.974
  A-02d                   56.19       0.00       0.00       4.38      49.82       0.71      50.53       0.03
8.41   0.899
  A-02e                   56.18       0.00       0.00      11.77      41.58       1.78      43.36       0.03
7.43   0.772
  A-03                    56.18       0.00       0.00       8.31      45.42       1.29      46.72       0.02
6.53   0.831
```

```
  A-04                    56.18       0.00       0.00      11.27      42.13       1.72      43.85       0.02
5.39   0.780
  A-05a                   56.19       0.00       0.00       8.41      45.50       1.18      46.68       0.05
13.88   0.831
  A-05b                   56.18       0.00       0.00      16.23      36.65       2.39      39.04       0.01
3.50   0.695
  A-05c                   56.18       0.00       0.00       4.39      49.84       0.70      50.54       0.17
44.36   0.900
  A-06a                   56.18       0.00       0.00       9.84      43.82       1.44      45.27       0.04
10.97   0.806
  A-06b                   56.19       0.00       0.00      11.77      41.58       1.78      43.37       0.02
4.88   0.772
  A-06c                   56.18       0.00       0.00       0.48      54.26       0.09      54.35       0.24
58.83   0.967
  A-06d                   56.19       0.00       0.00      47.56       4.92       3.61       8.53       0.01
3.38   0.152
  A-07                    56.18       0.00       0.00      11.81      41.62       1.72      43.34       0.03
9.20   0.771
  A-08                    56.18       0.00       0.00       3.40      50.93       0.56      51.48       0.03
6.77   0.916
  A-09a                   56.18       0.00       0.00       9.36      44.39       1.35      45.74       0.02
6.54   0.814
  A-09b                   56.19       0.00       0.00       0.48      54.28       0.09      54.36       0.35
84.92   0.968
  A-10                    56.18       0.00       0.00       6.34      47.62       1.01      48.63       0.03
7.52   0.865
  A-11                    56.18       0.00       0.00       9.84      43.82       1.44      45.27       0.03
8.75   0.806
  A-12a                   56.18       0.00       0.00      19.23      33.36       2.76      36.12       0.03
9.56   0.643
  A-12b                   56.18       0.00       0.00      19.73      32.82       2.82      35.64       0.03
9.62   0.634
  A-12c                   56.18       0.00       0.00      19.73      32.82       2.82      35.64       0.03
8.61   0.634
  A-12d                   56.18       0.00       0.00      19.26      33.37       2.73      36.10       0.03
9.52   0.643
  A-13                    56.19       0.00       0.00      21.39      31.20       2.84      34.04       0.04
13.15   0.606
  D-01                    56.18       0.00       0.00      48.18       3.82       4.13       7.95       0.01
2.91   0.142
  D-02                    56.18       0.00       0.00      47.38       4.92       3.80       8.71       0.01
4.26   0.155
  D-03                    56.19       0.00       0.00      46.46       2.74       7.20       9.94       0.00
0.35   0.177
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D-04a	56.18	0.00	0.00	51.97	2.74	1.42	4.16	0.00
0.50 0.074								
D-04b	56.19	0.00	0.00	48.35	2.73	5.11	7.84	0.00
0.10 0.140								
D-04c	56.19	0.00	0.00	51.69	2.74	1.70	4.43	0.00
0.77 0.079								
D-04d	56.19	0.00	0.00	46.46	2.74	7.20	9.94	0.00
2.21 0.177								
D-04e	56.19	0.00	0.00	46.46	2.74	7.20	9.94	0.00
0.27 0.177								
R-01	56.19	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.28 1.003								
R-02	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.15 1.003								
R-03	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.15 1.003								
R-04	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.15 1.003								
R-05	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.15 1.003								
R-06	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
6.14 1.003								
R-07	56.18	0.00	0.00	0.00	56.36	0.00	56.36	0.03
6.94 1.003								
R-08	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.75 1.003								
R-09	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.62 1.003								
R-10	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.62 1.003								
R-11	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.62 1.003								
R-12	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.62 1.003								
R-13	56.18	0.00	0.00	0.00	56.37	0.00	56.37	0.03
6.81 1.003								
R-14	56.18	0.00	0.00	0.00	56.36	0.00	56.36	0.02
5.61 1.003								
R-15	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-16	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-17	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-18	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-19	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-20	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-21	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-22	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-23	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-24	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-25	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-26	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-27	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-28	56.18	0.00	0.00	0.00	56.35	0.00	56.35	0.03
7.88 1.003								
R-29	56.18	0.00	0.00	0.00	56.37	0.00	56.37	0.04
10.42 1.003								
R-30	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.88 1.003								
R-31	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.88 1.003								
R-32	56.19	0.00	0.00	0.00	56.37	0.00	56.37	0.04
9.88 1.003								
R-33	56.18	0.00	0.00	0.00	56.37	0.00	56.37	0.03
6.81 1.003								
R-34	56.18	0.00	0.00	0.00	56.37	0.00	56.37	0.03
7.88 1.003								
R-35	56.19	0.00	0.00	0.00	56.34	0.00	56.34	0.04
8.55 1.003								
R-36	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.01 1.003								
R-37	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.01 1.003								
R-38	56.18	0.00	0.00	0.00	56.34	0.00	56.34	0.03
8.01 1.003								
R-39	56.19	0.00	0.00	0.00	56.34	0.00	56.34	0.02
5.48 1.003								

R-40 56.18 0.00 0.00 0.00 56.34 0.00 56.34 0.03
8.15 1.003

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.02	2.09	82.58	0 07:03	2.09
Cap2	JUNCTION	2.02	2.09	82.85	0 07:03	2.09
CAP3	JUNCTION	2.01	2.08	82.54	0 07:03	2.08
MH101	JUNCTION	0.06	0.16	80.90	0 06:32	0.16
MH102	JUNCTION	0.06	0.16	80.97	0 06:32	0.16
MH107	JUNCTION	0.04	0.13	81.16	0 06:32	0.13
MH202	JUNCTION	0.07	0.22	81.87	0 06:30	0.22
MH207	JUNCTION	0.10	0.31	82.07	0 06:31	0.31
MH208	JUNCTION	0.09	0.33	82.20	0 06:30	0.33
MH211	JUNCTION	0.08	0.23	82.30	0 06:30	0.23
XDICB1	JUNCTION	0.00	0.03	83.06	0 06:30	0.03
CRNYROW	OUTFALL	0.45	0.48	82.88	0 06:30	0.48
CRNYSTM2	OUTFALL	83.30	83.30	83.30	0 00:00	83.30
MH100	OUTFALL	0.41	0.46	80.76	0 06:32	0.46
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.46	81.61	81.61	0 06:31	81.61
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.03	0.55	82.85	0 06:30	0.55
CB11	STORAGE	0.03	0.87	83.52	0 06:32	0.87
CB12	STORAGE	0.03	0.52	82.72	0 06:30	0.52
CB13	STORAGE	0.03	0.39	82.59	0 06:30	0.39
CB18	STORAGE	0.02	0.31	82.61	0 06:30	0.31
CB2	STORAGE	0.05	1.07	83.52	0 06:32	1.07
CB20	STORAGE	0.02	0.26	82.56	0 06:30	0.26
CB21	STORAGE	0.03	0.43	82.73	0 06:30	0.43
CB22	STORAGE	0.09	1.38	83.93	0 06:30	1.38
CB28	STORAGE	0.14	0.97	83.97	0 06:32	0.97
CB3	STORAGE	0.07	1.60	83.80	0 06:30	1.60
CB4	STORAGE	0.05	1.10	83.60	0 06:30	1.10
CB5	STORAGE	0.17	2.04	84.09	0 06:33	2.04
LCB122	STORAGE	0.01	0.07	83.36	0 06:30	0.06
MH103	STORAGE	0.16	1.86	83.51	0 06:33	1.86
MH104	STORAGE	0.12	1.74	83.51	0 06:33	1.74
MH105	STORAGE	0.11	1.63	83.51	0 06:33	1.63
MH106	STORAGE	0.09	1.45	83.52	0 06:33	1.45
MH108	STORAGE	0.34	2.83	84.09	0 06:33	2.83
MH109	STORAGE	0.30	2.75	84.09	0 06:33	2.75
MH110	STORAGE	0.24	2.41	84.09	0 06:34	2.41
MH203	STORAGE	0.10	1.53	83.52	0 06:32	1.53
MH204	STORAGE	0.08	1.42	83.52	0 06:32	1.42
MH205	STORAGE	0.07	1.31	83.52	0 06:32	1.31
MH209	STORAGE	0.13	1.99	84.06	0 06:30	1.99
MH210	STORAGE	0.10	1.71	84.08	0 06:31	1.71
MH212	STORAGE	0.15	1.70	83.93	0 06:30	1.69
MH213	STORAGE	0.13	1.62	83.93	0 06:30	1.62
MH214	STORAGE	0.10	1.27	83.97	0 06:32	1.27
RD-1	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-10	STORAGE	0.06	0.12	90.12	0 07:04	0.12
RD-11	STORAGE	0.06	0.12	90.12	0 07:04	0.12
RD-12	STORAGE	0.06	0.12	90.12	0 07:04	0.12
RD-13	STORAGE	0.04	0.11	90.11	0 07:01	0.11
RD-14	STORAGE	0.04	0.11	90.11	0 07:00	0.11
RD-15	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-16	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD17	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-18	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-19	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-2	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-20	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-21	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-22	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-23	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-24	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-25	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-26	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-27	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-28	STORAGE	0.05	0.12	90.12	0 07:03	0.12
RD-29	STORAGE	0.06	0.12	90.12	0 07:04	0.12
Rd-3	STORAGE	0.05	0.12	90.12	0 07:03	0.12

RD-30	STORAGE	0.06	0.12	90.12	0	07:04	0.12
RD-31	STORAGE	0.06	0.12	90.12	0	07:04	0.12
RD-32	STORAGE	0.06	0.12	90.12	0	07:04	0.12
RD-33	STORAGE	0.04	0.11	90.11	0	07:02	0.11
RD-34	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-35	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-36	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-37	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-38	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-39	STORAGE	0.03	0.11	90.11	0	07:00	0.11
RD-4	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-40	STORAGE	0.05	0.12	90.12	0	07:03	0.12
RD-5	STORAGE	0.05	0.12	90.12	0	07:03	0.12
Rd-6	STORAGE	0.04	0.11	90.11	0	07:01	0.11
RD-7	STORAGE	0.04	0.11	90.11	0	07:02	0.11
RD-8	STORAGE	0.06	0.12	90.12	0	07:04	0.12
RD-9	STORAGE	0.06	0.12	90.12	0	07:04	0.12
TD1	STORAGE	0.06	0.91	84.09	0	06:34	0.91
TD2	STORAGE	0.06	0.94	83.97	0	06:33	0.94
TD3	STORAGE	0.05	0.91	84.09	0	06:31	0.91

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	20.14	0	07:03	0	0.484	0.486
Cap2	JUNCTION	0.00	20.06	0	07:03	0	0.465	0.505
CAP3	JUNCTION	0.00	17.27	0	07:03	0	0.426	0.552
MH101	JUNCTION	0.00	77.80	0	06:32	0	0.914	0.001
MH102	JUNCTION	0.00	77.79	0	06:32	0	0.914	0.000
MH107	JUNCTION	0.00	29.33	0	06:31	0	0.257	-0.001
MH202	JUNCTION	0.00	223.17	0	06:31	0	1.85	0.002
MH207	JUNCTION	0.00	188.14	0	06:30	0	1.68	-0.056
MH208	JUNCTION	0.00	163.37	0	06:30	0	1.23	0.034
MH211	JUNCTION	0.00	75.32	0	06:30	0	0.802	-0.085
XDICB1	JUNCTION	2.91	2.91	0	06:30	0.00604	0.00604	0.013
CRNYROW	OUTFALL	0.00	2.90	0	06:30	0	0.00604	0.000
CRNYSTM2	OUTFALL	0.00	4.21	0	06:30	0	0.0102	0.000
MH100	OUTFALL	0.00	77.80	0	06:32	0	0.914	0.000
STLBROW	OUTFALL	3.84	3.84	0	06:30	0.00695	0.00695	0.000
STMTRNK	OUTFALL	0.00	223.20	0	06:31	0	1.85	0.000
WKLYROW	OUTFALL	0.35	0.35	0	06:30	0.000397	0.000397	0.000
CB1	STORAGE	3.64	3.64	0	06:30	0.0135	0.0135	-0.000
CB11	STORAGE	9.52	9.52	0	06:30	0.0307	0.0307	0.254
CB12	STORAGE	13.15	13.15	0	06:30	0.0422	0.0422	-0.000
CB13	STORAGE	8.75	8.75	0	06:30	0.0321	0.0321	-0.000
CB18	STORAGE	7.52	7.52	0	06:30	0.0287	0.0287	-0.000
CB2	STORAGE	7.43	7.43	0	06:30	0.0265	0.0265	0.219
CB20	STORAGE	6.77	6.77	0	06:30	0.0268	0.0268	-0.000
CB21	STORAGE	9.20	9.20	0	06:30	0.0329	0.0329	-0.000
CB22	STORAGE	10.97	10.97	0	06:30	0.0403	0.0403	-0.000
CB28	STORAGE	3.38	8.01	0	06:12	0.00819	0.00952	0.733
CB3	STORAGE	6.53	6.53	0	06:30	0.0243	0.0243	-0.000
CB4	STORAGE	5.39	5.39	0	06:30	0.0193	0.0193	-0.000
CB5	STORAGE	13.88	13.88	0	06:30	0.0523	0.0523	0.019
LCB122	STORAGE	4.26	4.26	0	06:30	0.00993	0.0101	0.039
MH103	STORAGE	6.65	23.56	0	06:09	0.0271	0.138	0.006
MH104	STORAGE	5.61	23.98	0	06:06	0.023	0.111	-0.070
MH105	STORAGE	6.94	25.56	0	06:07	0.0285	0.0881	0.084
MH106	STORAGE	8.41	16.01	0	06:10	0.0328	0.0593	-0.176
MH108	STORAGE	0.00	26.90	0	06:26	0	0.237	-0.005
MH109	STORAGE	3.50	40.86	0	06:06	0.0117	0.185	-0.097
MH110	STORAGE	0.00	44.80	0	06:21	0	0.173	-0.036
MH203	STORAGE	9.56	25.55	0	06:30	0.0307	0.12	0.004
MH204	STORAGE	9.62	21.55	0	06:30	0.0306	0.0888	-0.084
MH205	STORAGE	8.61	16.54	0	06:30	0.0274	0.058	-0.190
MH209	STORAGE	6.54	79.22	0	06:30	0.0242	0.371	-0.003
MH210	STORAGE	0.00	85.26	0	06:14	0	0.347	-0.091
MH212	STORAGE	0.00	48.60	0	06:25	0	0.306	-0.004
MH213	STORAGE	4.88	59.57	0	06:07	0.0173	0.265	-0.512
MH214	STORAGE	0.00	60.30	0	06:10	0	0.249	0.355
RD-1	STORAGE	8.28	8.28	0	06:15	0.0349	0.0349	-0.001
RD-10	STORAGE	9.62	9.62	0	06:30	0.0406	0.0406	-0.000
RD-11	STORAGE	9.62	9.62	0	06:30	0.0406	0.0406	-0.000
RD-12	STORAGE	9.62	9.62	0	06:30	0.0406	0.0406	-0.000

RD-13	STORAGE	6.81	6.81	0	06:30	0.0287	0.0287	-0.001
RD-14	STORAGE	5.61	5.61	0	06:30	0.0237	0.0237	-0.001
RD-15	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-16	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD17	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-18	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-19	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-2	STORAGE	8.15	8.15	0	06:15	0.0344	0.0344	-0.001
RD-20	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-21	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-22	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-23	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-24	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-25	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-26	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-27	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-28	STORAGE	7.88	7.88	0	06:15	0.0332	0.0332	-0.001
RD-29	STORAGE	10.42	10.42	0	06:30	0.044	0.044	-0.000
Rd-3	STORAGE	8.15	8.15	0	06:15	0.0344	0.0344	-0.001
RD-30	STORAGE	9.88	9.88	0	06:30	0.0417	0.0417	-0.000
RD-31	STORAGE	9.88	9.88	0	06:30	0.0417	0.0417	-0.000
RD-32	STORAGE	9.88	9.88	0	06:30	0.0417	0.0417	-0.000
RD-33	STORAGE	6.81	6.81	0	06:30	0.0287	0.0287	-0.001
RD-34	STORAGE	7.88	7.88	0	06:30	0.0333	0.0333	-0.001
RD-35	STORAGE	8.55	8.55	0	06:15	0.0361	0.0361	-0.001
RD-36	STORAGE	8.01	8.01	0	06:15	0.0338	0.0338	-0.001
RD-37	STORAGE	8.01	8.01	0	06:15	0.0338	0.0338	-0.001
RD-38	STORAGE	8.01	8.01	0	06:15	0.0338	0.0338	-0.001
RD-39	STORAGE	5.48	5.48	0	06:15	0.0231	0.0231	-0.001
RD-4	STORAGE	8.15	8.15	0	06:15	0.0344	0.0344	-0.001
RD-40	STORAGE	8.15	8.15	0	06:15	0.0344	0.0344	-0.001
RD-5	STORAGE	8.15	8.15	0	06:15	0.0344	0.0344	-0.001
Rd-6	STORAGE	6.14	6.14	0	06:15	0.0259	0.0259	-0.001
RD-7	STORAGE	6.94	6.94	0	06:30	0.0293	0.0293	-0.001
RD-8	STORAGE	9.75	9.75	0	06:30	0.0411	0.0411	-0.000
RD-9	STORAGE	9.62	9.62	0	06:30	0.0406	0.0406	-0.000
TD1	STORAGE	44.36	44.36	0	06:30	0.173	0.173	0.065
TD2	STORAGE	58.83	58.83	0	06:30	0.24	0.24	0.080
TD3	STORAGE	84.92	84.92	0	06:30	0.347	0.347	0.057

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Node Surcharge Summary
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No nodes were surcharged.

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Node Flooding Summary
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No nodes were flooded.

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	0	0	0	0.000	3	0 06:30	3.56
CB11	0.000	0	0	0	0.000	1	0 06:32	7.93
CB12	0.000	0	0	0	0.000	0	0 06:30	12.90
CB13	0.000	0	0	0	0.000	1	0 06:30	8.69
CB18	0.000	0	0	0	0.000	0	0 06:30	7.51
CB2	0.000	0	0	0	0.000	1	0 06:32	6.95
CB20	0.000	0	0	0	0.000	1	0 06:30	6.77
CB21	0.000	0	0	0	0.000	0	0 06:30	9.12
CB22	0.000	0	0	0	0.000	1	0 06:30	13.43
CB28	0.000	1	0	0	0.000	5	0 06:32	5.44
CB3	0.000	0	0	0	0.001	3	0 06:30	6.14
CB4	0.000	0	0	0	0.000	2	0 06:30	5.08
CB5	0.000	0	0	0	0.003	7	0 06:33	14.14
LCB122	0.000	0	0	0	0.000	0	0 06:30	4.21
MH103	0.000	1	0	0	0.002	9	0 06:33	19.73
MH104	0.000	1	0	0	0.002	11	0 06:33	16.95
MH105	0.000	0	0	0	0.002	6	0 06:33	18.42
MH106	0.000	0	0	0	0.002	5	0 06:33	15.81

MH108	0.000	11	0	0	0.003	90	0	06:33	24.41
MH109	0.000	6	0	0	0.003	51	0	06:33	20.43
MH110	0.000	9	0	0	0.003	89	0	06:34	38.18
MH203	0.000	0	0	0	0.002	5	0	06:32	22.81
MH204	0.000	0	0	0	0.002	5	0	06:32	17.18
MH205	0.000	0	0	0	0.002	5	0	06:32	12.83
MH209	0.000	3	0	0	0.002	53	0	06:30	74.11
MH210	0.000	5	0	0	0.002	86	0	06:31	72.73
MH212	0.000	8	0	0	0.002	84	0	06:30	47.17
MH213	0.000	3	0	0	0.002	32	0	06:30	43.63
MH214	0.000	6	0	0	0.002	84	0	06:32	55.53
RD-1	0.004	13	0	0	0.016	48	0	07:03	1.44
RD-10	0.006	16	0	0	0.019	51	0	07:04	1.47
RD-11	0.006	16	0	0	0.019	51	0	07:04	1.47
RD-12	0.006	16	0	0	0.019	51	0	07:04	1.47
RD-13	0.003	10	0	0	0.012	46	0	07:01	1.42
RD-14	0.002	8	0	0	0.009	43	0	07:00	1.39
RD-15	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-16	0.004	12	0	0	0.015	47	0	07:03	1.43
RD17	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-18	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-19	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-2	0.004	13	0	0	0.016	47	0	07:03	1.43
RD-20	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-21	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-22	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-23	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-24	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-25	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-26	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-27	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-28	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-29	0.007	18	0	0	0.022	52	0	07:04	1.48
Rd-3	0.004	13	0	0	0.016	47	0	07:03	1.43
RD-30	0.007	17	0	0	0.020	51	0	07:04	1.47
RD-31	0.007	17	0	0	0.020	51	0	07:04	1.47
RD-32	0.007	17	0	0	0.020	51	0	07:04	1.47
RD-33	0.003	10	0	0	0.012	45	0	07:02	1.41
RD-34	0.004	12	0	0	0.015	47	0	07:03	1.43
RD-35	0.005	14	0	0	0.017	49	0	07:03	1.45
RD-36	0.004	13	0	0	0.015	47	0	07:03	1.43

RD-37	0.004	13	0	0	0.015	47	0	07:03	1.43
RD-38	0.004	13	0	0	0.015	47	0	07:03	1.43
RD-39	0.002	7	0	0	0.009	40	0	07:00	1.35
RD-4	0.004	13	0	0	0.016	47	0	07:03	1.43
RD-40	0.004	13	0	0	0.015	48	0	07:03	1.44
RD-5	0.004	13	0	0	0.016	47	0	07:03	1.43
Rd-6	0.002	9	0	0	0.010	42	0	07:01	1.38
RD-7	0.003	11	0	0	0.012	46	0	07:02	1.42
RD-8	0.006	16	0	0	0.020	52	0	07:04	1.48
RD-9	0.006	16	0	0	0.019	51	0	07:04	1.47
TD1	0.000	0	0	0	0.005	1	0	06:34	44.80
TD2	0.000	0	0	0	0.015	3	0	06:33	59.14
TD3	0.000	0	0	0	0.004	1	0	06:31	85.26

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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
CRNYROW	38.88	0.29	2.90	0.006
CRNYSTM2	65.82	0.30	4.21	0.010
MH100	79.96	21.19	77.80	0.914
STLBROW	49.71	0.27	3.84	0.007
STMTRNK	81.83	42.04	223.20	1.848
WKLYROW	3.52	0.18	0.35	0.000
System	53.29	64.27	311.05	2.785

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Link Flow Summary
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	Maximum |Flow|	Time of Max Occurrence	Maximum |Veloc|	Max/ Full	Max/ Full

Link	Type	LPS	days	hr:min	m/sec	Flow	Depth
101-100	CONDUIT	77.80	0	06:32	1.53	0.27	0.36
102-101	CONDUIT	77.80	0	06:32	1.53	0.27	0.36
104-103	CONDUIT	16.95	0	06:09	0.26	0.14	1.00
105-104	CONDUIT	18.42	0	06:06	0.62	0.15	1.00
106-105	CONDUIT	15.81	0	06:09	0.66	0.13	1.00
107-102	CONDUIT	29.30	0	06:32	0.81	0.19	0.28
109-108	CONDUIT	20.43	0	06:36	0.30	0.21	1.00
110-109	CONDUIT	38.18	0	06:06	0.48	0.40	1.00
111-106	CONDUIT	6.95	0	06:15	0.78	0.12	1.00
11-205	CONDUIT	7.93	0	06:30	0.81	0.13	1.00
122-CSTM2	CONDUIT	4.21	0	06:30	0.39	0.39	0.58
202-TRNK	CONDUIT	223.20	0	06:31	1.77	0.10	0.22
204-203	CONDUIT	17.18	0	06:34	0.32	0.18	1.00
205-204	CONDUIT	12.83	0	06:06	0.53	0.13	1.00
207-202	CONDUIT	188.12	0	06:31	1.37	0.56	0.49
208-207	CONDUIT	163.22	0	06:31	1.09	0.60	0.52
210-209	CONDUIT	72.73	0	06:30	0.63	0.30	1.00
211-208	CONDUIT	75.28	0	06:30	0.89	0.39	0.45
213-212	CONDUIT	43.63	0	06:39	0.40	0.31	1.00
214-213	CONDUIT	55.53	0	06:07	0.82	0.58	1.00
22-212	CONDUIT	13.43	0	06:05	0.91	0.41	1.00
28-214	CONDUIT	6.84	0	06:12	0.35	0.15	1.00
5-108	CONDUIT	14.14	0	06:10	1.24	0.30	1.00
CAP1-102	CONDUIT	20.14	0	07:03	1.42	0.43	0.46
CAP2-211	CONDUIT	20.06	0	07:03	1.43	0.43	0.46
CAP3-207	CONDUIT	17.27	0	07:03	1.37	0.37	0.42
DICB1-CSTM	CONDUIT	2.90	0	06:30	0.66	0.03	0.11
TD1-110	CONDUIT	44.80	0	06:21	1.68	0.18	1.00
TD2-214	CONDUIT	59.14	0	06:10	1.42	0.34	1.00
TD3-210	CONDUIT	85.26	0	06:14	1.61	0.29	1.00
12-202	ORIFICE	12.90	0	06:30			1.00
13-207	ORIFICE	8.69	0	06:30			1.00
18-208	ORIFICE	7.51	0	06:30			1.00
20-208	ORIFICE	6.77	0	06:30			1.00
203-202	ORIFICE	22.81	0	06:32			1.00
209-208	ORIFICE	74.11	0	06:31			1.00
21-211	ORIFICE	9.12	0	06:30			1.00
212-211	ORIFICE	47.17	0	06:30			1.00
OR1	ORIFICE	3.56	0	06:30			1.00
OR2	ORIFICE	6.14	0	06:30			1.00
OR3	ORIFICE	5.08	0	06:30			1.00
OR4	ORIFICE	19.73	0	06:33			1.00
OR5	ORIFICE	24.41	0	06:33			1.00
OL1	DUMMY	1.48	0	07:04			
OL10	DUMMY	1.43	0	07:03			
OL11	DUMMY	1.43	0	07:03			
OL12	DUMMY	1.43	0	07:03			
OL13	DUMMY	1.43	0	07:03			
OL14	DUMMY	1.44	0	07:03			
OL15	DUMMY	1.43	0	07:03			
OL16	DUMMY	1.43	0	07:03			
OL17	DUMMY	1.43	0	07:03			
OL18	DUMMY	1.43	0	07:03			
OL19	DUMMY	1.43	0	07:03			
OL2	DUMMY	1.47	0	07:04			
OL20	DUMMY	1.43	0	07:03			
OL21	DUMMY	1.43	0	07:03			
OL22	DUMMY	1.43	0	07:03			
OL23	DUMMY	1.43	0	07:03			
OL24	DUMMY	1.43	0	07:03			
OL25	DUMMY	1.43	0	07:03			
OL26	DUMMY	1.43	0	07:03			
OL27	DUMMY	1.43	0	07:03			
OL28	DUMMY	1.43	0	07:03			
OL29	DUMMY	1.43	0	07:03			
OL3	DUMMY	1.47	0	07:04			
OL30	DUMMY	1.41	0	07:02			
OL31	DUMMY	1.47	0	07:04			
OL32	DUMMY	1.47	0	07:04			
OL33	DUMMY	1.47	0	07:04			
OL34	DUMMY	1.48	0	07:04			
OL35	DUMMY	1.45	0	07:03			
OL36	DUMMY	1.43	0	07:03			
OL37	DUMMY	1.43	0	07:03			
OL38	DUMMY	1.43	0	07:03			
OL39	DUMMY	1.35	0	07:00			
OL4	DUMMY	1.47	0	07:04			
OL40	DUMMY	1.44	0	07:03			
OL5	DUMMY	1.47	0	07:04			
OL6	DUMMY	1.42	0	07:01			

OL7	DUMMY	1.39	0	07:00
OL8	DUMMY	1.42	0	07:02
OL9	DUMMY	1.38	0	07:01

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
		---------- Fraction of Time in Flow Class ----------								
101-100	1.00	0.00	0.02	0.00	0.60	0.38	0.00	0.00	0.92	0.00
102-101	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
104-103	1.00	0.05	0.00	0.00	0.67	0.01	0.00	0.27	0.37	0.00
105-104	1.00	0.05	0.00	0.00	0.13	0.00	0.00	0.82	0.01	0.00
106-105	1.00	0.05	0.00	0.00	0.66	0.01	0.00	0.28	0.03	0.00
107-102	1.00	0.05	0.00	0.00	0.00	0.00	0.00	0.95	0.00	0.00
109-108	1.00	0.05	0.00	0.00	0.66	0.00	0.00	0.29	0.26	0.00
110-109	1.00	0.05	0.00	0.00	0.25	0.00	0.00	0.70	0.05	0.00
111-106	1.00	0.05	0.00	0.00	0.09	0.00	0.00	0.86	0.01	0.00
11-205	1.00	0.05	0.00	0.00	0.07	0.00	0.00	0.88	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.46	0.00
202-TRNK	1.00	0.00	0.02	0.00	0.18	0.80	0.00	0.00	0.54	0.00
204-203	1.00	0.05	0.00	0.00	0.66	0.00	0.00	0.29	0.29	0.00
205-204	1.00	0.05	0.00	0.00	0.41	0.00	0.00	0.54	0.01	0.00
207-202	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
208-207	1.00	0.02	0.00	0.00	0.82	0.00	0.00	0.17	0.38	0.00
210-209	1.00	0.05	0.00	0.00	0.68	0.00	0.00	0.27	0.40	0.00
211-208	1.00	0.02	0.00	0.00	0.07	0.00	0.00	0.91	0.02	0.00
213-212	1.00	0.05	0.00	0.00	0.38	0.00	0.00	0.57	0.08	0.00
214-213	1.00	0.05	0.00	0.00	0.11	0.00	0.00	0.84	0.01	0.00
22-212	1.00	0.05	0.00	0.00	0.10	0.00	0.00	0.85	0.00	0.00
28-214	1.00	0.10	0.00	0.00	0.08	0.00	0.00	0.82	0.01	0.00
5-108	1.00	0.05	0.00	0.00	0.14	0.00	0.00	0.81	0.00	0.00
CAP1-102	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
CAP2-211	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
CAP3-207	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
DICB1-CSTM	1.00	0.05	0.00	0.00	0.28	0.67	0.00	0.00	0.03	0.00
TD1-110	1.00	0.05	0.00	0.00	0.08	0.00	0.00	0.86	0.01	0.00
TD2-214	1.00	0.05	0.00	0.00	0.07	0.00	0.00	0.88	0.00	0.00
TD3-210	1.00	0.05	0.00	0.00	0.04	0.00	0.00	0.91	0.00	0.00

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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
104-103	1.33	1.33	1.50	0.01	0.01
105-104	1.19	1.19	1.32	0.01	0.01
106-105	1.01	1.01	1.18	0.01	0.01
109-108	2.34	2.34	2.41	0.01	0.01
110-109	1.83	1.83	2.30	0.01	0.01
111-106	0.78	0.78	0.98	0.01	0.01
11-205	0.48	0.48	0.75	0.01	0.01
204-203	0.90	0.90	1.01	0.01	0.01
205-204	0.78	0.78	0.88	0.01	0.01
210-209	0.64	0.64	0.85	0.01	0.01
213-212	1.15	1.15	1.18	0.01	0.01
214-213	0.93	0.93	1.15	0.01	0.01
22-212	1.16	1.16	1.18	0.01	0.01
28-214	0.72	0.72	0.92	0.01	0.01
5-108	1.66	1.66	1.72	0.01	0.01
TD1-110	0.73	0.73	0.93	0.01	0.01
TD2-214	0.70	0.70	0.79	0.01	0.01
TD3-210	0.33	0.33	0.40	0.01	0.01

Analysis begun on: Wed Aug 25 11:14:46 2021
Analysis ended on: Wed Aug 25 11:14:49 2021
Total elapsed time: 00:00:03

SCS 12hr-100year Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

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Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
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Name	Data Source	Data Type	Recording Interval
Raingage1	SCS12-100yr	INTENSITY	30 min.

****
Subcatchment Summary
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Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

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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
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

TD3-210	CIRCULAR	0.45	0.16	0.11	0.45	1	297.45

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**********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------
```

```
Total Precipitation ......         0.536        93.910
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.051         8.866
Surface Runoff ...........         0.483        84.592
Final Storage ............         0.004         0.690
Continuity Error (%) .....        -0.254

**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.483         4.830
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.483         4.826
Flooding Loss ............         0.000         0.000
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.084

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (79.49%)
Link CAP3-207 (9.66%)

*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.

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Routing Time Step Summary
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```
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     2.02 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :    -0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.00
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    11.86 %
      3.155 -  1.991 sec      :    15.69 %
      1.991 -  1.256 sec      :    71.97 %
      1.256 -  0.792 sec      :     0.43 %
      0.792 -  0.500 sec      :     0.05 %

  ***************************
  Subcatchment Runoff Summary
  ***************************
```

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff LPS	Runoff Coeff
A-01	93.91	0.00	0.00	10.75	76.74	5.32	82.06	0.02	6.28	0.874
A-02a	93.91	0.00	0.00	0.63	91.54	0.34	91.88	0.05	11.14	0.978
A-02b	93.91	0.00	0.00	0.00	92.47	0.00	92.47	0.04	9.38	0.985
A-02c	93.91	0.00	0.00	0.00	92.48	0.00	92.48	0.05	11.61	0.985
A-02d	93.91	0.00	0.00	5.67	84.17	2.83	87.00	0.06	14.29	0.926
A-02e	93.91	0.00	0.00	15.20	70.26	7.47	77.73	0.05	13.05	0.828
A-03	93.91	0.00	0.00	10.75	76.74	5.32	82.06	0.04	11.27	0.874
A-04	93.91	0.00	0.00	14.56	71.18	7.17	78.35	0.03	9.43	0.834
A-05a	93.91	0.00	0.00	10.85	76.90	5.20	82.10	0.09	24.25	0.874
A-05b	93.91	0.00	0.00	20.96	61.92	10.21	72.13	0.02	6.31	0.768
A-05c	93.91	0.00	0.00	5.68	84.21	2.83	87.03	0.30	75.38	0.927
A-06a	93.91	0.00	0.00	12.70	74.04	6.18	80.22	0.07	19.17	0.854
A-06b	93.91	0.00	0.00	15.20	70.26	7.47	77.73	0.03	8.56	0.828
A-06c	93.91	0.00	0.00	0.63	91.69	0.33	92.01	0.41	98.51	0.980
A-06d	93.91	0.00	0.00	61.77	8.31	23.82	32.14	0.03	13.00	0.342
A-07	93.91	0.00	0.00	15.26	70.31	7.41	77.71	0.06	16.25	0.828
A-08	93.91	0.00	0.00	4.41	86.03	2.21	88.24	0.05	11.47	0.940
A-09a	93.91	0.00	0.00	12.09	74.99	5.85	80.84	0.04	11.44	0.861
A-09b	93.91	0.00	0.00	0.63	91.75	0.32	92.07	0.59	142.20	0.980
A-10	93.91	0.00	0.00	8.21	80.45	4.08	84.53	0.05	12.88	0.900
A-11	93.91	0.00	0.00	12.71	74.04	6.18	80.22	0.06	15.29	0.854
A-12a	93.91	0.00	0.00	24.83	56.40	11.98	68.39	0.06	17.67	0.728
A-12b	93.91	0.00	0.00	25.47	55.45	12.28	67.73	0.06	17.85	0.721
A-12c	93.91	0.00	0.00	25.47	55.45	12.28	67.73	0.05	15.98	0.721
A-12d	93.91	0.00	0.00	24.85	56.39	11.95	68.34	0.06	17.67	0.728
A-13	93.91	0.00	0.00	27.57	52.71	12.98	65.69	0.08	25.49	0.699
D-01	93.91	0.00	0.00	62.29	6.47	25.21	31.67	0.02	11.16	0.337
D-02	93.91	0.00	0.00	61.40	8.31	24.20	32.51	0.04	16.10	0.346
D-03	93.91	0.00	0.00	60.06	4.62	29.70	34.32	0.00	0.75	0.366

D-04a	93.91	0.00	0.00	72.46	4.62	16.79	21.42	0.01
2.08 0.228								
D-04b	93.91	0.00	0.00	62.25	4.62	27.19	31.81	0.00
0.34 0.339								
D-04c	93.91	0.00	0.00	71.01	4.62	18.25	22.88	0.01
3.36 0.244								
D-04d	93.91	0.00	0.00	60.06	4.62	29.70	34.32	0.01
4.66 0.365								
D-04e	93.91	0.00	0.00	60.06	4.62	29.70	34.32	0.00
0.56 0.365								
R-01	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.84 1.002								
R-02	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.62 1.002								
R-03	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.62 1.002								
R-04	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.62 1.002								
R-05	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.62 1.002								
R-06	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.04
10.27 1.002								
R-07	93.91	0.00	0.00	0.00	94.15	0.00	94.15	0.05
11.61 1.003								
R-08	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.30 1.003								
R-09	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.08 1.003								
R-10	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.08 1.003								
R-11	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.08 1.003								
R-12	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.08 1.003								
R-13	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.05
11.39 1.003								
R-14	93.91	0.00	0.00	0.00	94.15	0.00	94.15	0.04
9.38 1.003								
R-15	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-16	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-17	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								

R-18	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-19	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-20	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-21	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-22	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-23	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-24	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-25	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-26	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-27	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-28	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.17 1.002								
R-29	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
17.42 1.003								
R-30	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.52 1.003								
R-31	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.52 1.003								
R-32	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.07
16.52 1.003								
R-33	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.05
11.39 1.003								
R-34	93.91	0.00	0.00	0.00	94.16	0.00	94.16	0.06
13.17 1.003								
R-35	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
14.29 1.002								
R-36	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.40 1.002								
R-37	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.40 1.002								
R-38	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.40 1.002								
R-39	93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.04
9.15 1.002								

R-40		93.91	0.00	0.00	0.00	94.11	0.00	94.11	0.06
13.62	1.002								

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.04	2.10	82.59	0 07:04	2.10
Cap2	JUNCTION	2.04	2.10	82.87	0 07:04	2.10
CAP3	JUNCTION	2.04	2.10	82.55	0 07:04	2.10
MH101	JUNCTION	0.08	0.18	80.92	0 06:32	0.18
MH102	JUNCTION	0.08	0.18	80.99	0 06:32	0.18
MH107	JUNCTION	0.05	0.14	81.17	0 06:33	0.14
MH202	JUNCTION	0.09	0.24	81.89	0 06:30	0.24
MH207	JUNCTION	0.13	0.34	82.10	0 06:30	0.34
MH208	JUNCTION	0.12	0.36	82.23	0 06:30	0.36
MH211	JUNCTION	0.11	0.25	82.32	0 06:30	0.25
XDICB1	JUNCTION	0.01	0.06	83.09	0 06:30	0.06
CRNYROW	OUTFALL	0.45	0.51	82.91	0 06:30	0.51
CRNYSTM2	OUTFALL	83.30	83.31	83.31	0 06:30	83.31
MH100	OUTFALL	0.41	0.48	80.78	0 06:32	0.48
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.48	81.63	81.63	0 06:30	81.63
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.06	1.57	83.87	0 06:30	1.57
CB11	STORAGE	0.15	2.16	84.81	0 06:33	2.16
CB12	STORAGE	0.07	1.87	84.07	0 06:30	1.87
CB13	STORAGE	0.05	1.13	83.33	0 06:30	1.13
CB18	STORAGE	0.04	0.82	83.12	0 06:30	0.82
CB2	STORAGE	0.17	2.34	84.79	0 06:33	2.34
CB20	STORAGE	0.04	0.66	82.96	0 06:30	0.66
CB21	STORAGE	0.05	1.27	83.57	0 06:30	1.27
CB22	STORAGE	0.18	1.50	84.05	0 06:31	1.50
CB28	STORAGE	0.21	1.08	84.09	0 06:32	1.08
CB3	STORAGE	0.15	2.58	84.78	0 06:32	2.58
CB4	STORAGE	0.11	2.26	84.76	0 06:31	2.26
CB5	STORAGE	0.39	2.15	84.20	0 06:32	2.15
LCB122	STORAGE	0.02	0.24	83.54	0 06:30	0.24
MH103	STORAGE	0.31	3.13	84.78	0 06:34	3.13
MH104	STORAGE	0.27	3.01	84.79	0 06:33	3.01
MH105	STORAGE	0.25	2.90	84.79	0 06:33	2.90
MH106	STORAGE	0.22	2.73	84.79	0 06:33	2.73
MH108	STORAGE	0.63	2.94	84.19	0 06:33	2.94
MH109	STORAGE	0.59	2.86	84.20	0 06:33	2.86
MH110	STORAGE	0.49	2.52	84.20	0 07:00	2.52
MH203	STORAGE	0.24	2.81	84.80	0 06:33	2.81
MH204	STORAGE	0.21	2.70	84.80	0 06:33	2.70
MH205	STORAGE	0.20	2.60	84.81	0 06:33	2.60
MH209	STORAGE	0.22	2.12	84.19	0 06:32	2.12
MH210	STORAGE	0.18	1.85	84.22	0 06:33	1.85
MH212	STORAGE	0.27	1.81	84.04	0 06:31	1.81
MH213	STORAGE	0.24	1.74	84.05	0 06:31	1.74
MH214	STORAGE	0.19	1.37	84.08	0 06:34	1.37
RD-1	STORAGE	0.08	0.14	90.14	0 07:04	0.14
RD-10	STORAGE	0.09	0.15	90.15	0 07:13	0.15
RD-11	STORAGE	0.09	0.15	90.15	0 07:13	0.15
RD-12	STORAGE	0.09	0.15	90.15	0 07:13	0.15
RD-13	STORAGE	0.06	0.14	90.14	0 07:03	0.14
RD-14	STORAGE	0.05	0.14	90.14	0 07:02	0.14
RD-15	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-16	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD17	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-18	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-19	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-2	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-20	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-21	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-22	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-23	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-24	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-25	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-26	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-27	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-28	STORAGE	0.07	0.14	90.14	0 07:04	0.14
RD-29	STORAGE	0.09	0.15	90.15	0 07:31	0.15
Rd-3	STORAGE	0.07	0.14	90.14	0 07:04	0.14

RD-30	STORAGE	0.09	0.15	90.15	0	07:30	0.15
RD-31	STORAGE	0.09	0.15	90.15	0	07:30	0.15
RD-32	STORAGE	0.09	0.15	90.15	0	07:30	0.15
RD-33	STORAGE	0.06	0.14	90.14	0	07:04	0.14
RD-34	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-35	STORAGE	0.08	0.15	90.15	0	07:04	0.15
RD-36	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-37	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-38	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-39	STORAGE	0.05	0.14	90.14	0	07:02	0.14
RD-4	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-40	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-5	STORAGE	0.07	0.14	90.14	0	07:04	0.14
Rd-6	STORAGE	0.06	0.14	90.14	0	07:03	0.14
RD-7	STORAGE	0.07	0.14	90.14	0	07:04	0.14
RD-8	STORAGE	0.09	0.15	90.15	0	07:17	0.15
RD-9	STORAGE	0.09	0.15	90.15	0	07:13	0.15
TD1	STORAGE	0.17	1.02	84.20	0	07:00	1.02
TD2	STORAGE	0.14	1.05	84.08	0	06:37	1.05
TD3	STORAGE	0.10	1.05	84.23	0	06:33	1.05

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	25.09	0	07:04	0	0.808	0.290
Cap2	JUNCTION	0.00	25.01	0	07:04	0	0.777	0.302
CAP3	JUNCTION	0.00	21.51	0	07:04	0	0.712	0.330
MH101	JUNCTION	0.00	95.54	0	06:32	0	1.56	0.001
MH102	JUNCTION	0.00	95.53	0	06:32	0	1.56	-0.001
MH107	JUNCTION	0.00	32.19	0	06:32	0	0.447	0.009
MH202	JUNCTION	0.00	279.88	0	06:30	0	3.18	0.001
MH207	JUNCTION	0.00	223.69	0	06:30	0	2.87	-0.039
MH208	JUNCTION	0.00	188.40	0	06:30	0	2.1	0.022
MH211	JUNCTION	0.00	88.19	0	06:30	0	1.37	-0.074
XDICB1	JUNCTION	11.16	11.16	0	06:30	0.0241	0.0241	0.007
CRNYROW	OUTFALL	0.00	11.15	0	06:30	0	0.0241	0.000
CRNYSTM2	OUTFALL	0.00	15.91	0	06:30	0	0.0373	0.000
MH100	OUTFALL	0.00	95.54	0	06:32	0	1.56	0.000
STLBROW	OUTFALL	11.00	11.00	0	06:30	0.031	0.031	0.000
STMTRNK	OUTFALL	0.00	279.91	0	06:30	0	3.18	0.000
WKLYROW	OUTFALL	0.75	0.75	0	06:30	0.00137	0.00137	0.000
CB1	STORAGE	6.28	6.28	0	06:30	0.0238	0.0238	-0.000
CB11	STORAGE	17.67	17.67	0	06:30	0.0581	0.0581	0.225
CB12	STORAGE	25.49	25.49	0	06:30	0.0815	0.0815	-0.000
CB13	STORAGE	15.29	15.29	0	06:30	0.057	0.057	-0.000
CB18	STORAGE	12.88	12.88	0	06:30	0.0499	0.0499	-0.000
CB2	STORAGE	13.05	13.05	0	06:30	0.0474	0.0474	0.207
CB20	STORAGE	11.47	11.47	0	06:30	0.0459	0.0459	-0.000
CB21	STORAGE	16.25	16.25	0	06:30	0.0591	0.0591	-0.000
CB22	STORAGE	19.17	19.17	0	06:30	0.0714	0.0714	-0.001
CB28	STORAGE	13.00	19.86	0	06:07	0.0308	0.0325	0.087
CB3	STORAGE	11.27	11.27	0	06:30	0.0427	0.0427	-0.002
CB4	STORAGE	9.43	9.43	0	06:30	0.0345	0.0345	-0.000
CB5	STORAGE	24.25	24.25	0	06:30	0.0919	0.0919	0.018
LCB122	STORAGE	16.10	16.10	0	06:30	0.0371	0.0372	0.010
MH103	STORAGE	11.14	33.27	0	06:30	0.0459	0.237	0.001
MH104	STORAGE	9.38	28.70	0	06:09	0.0388	0.191	-0.018
MH105	STORAGE	11.61	31.55	0	06:04	0.0481	0.152	0.056
MH106	STORAGE	14.29	28.16	0	06:09	0.0566	0.104	-0.141
MH108	STORAGE	0.00	31.38	0	06:13	0	0.412	-0.005
MH109	STORAGE	6.31	47.19	0	06:06	0.0216	0.321	-0.052
MH110	STORAGE	0.00	76.18	0	06:09	0	0.299	-0.063
MH203	STORAGE	17.67	40.90	0	06:30	0.0581	0.227	-0.001
MH204	STORAGE	17.85	35.24	0	06:21	0.0582	0.169	-0.037
MH205	STORAGE	15.98	29.23	0	06:21	0.0522	0.11	-0.168
MH209	STORAGE	11.44	108.36	0	06:06	0.0428	0.63	-0.016
MH210	STORAGE	0.00	137.83	0	06:07	0	0.587	-0.079
MH212	STORAGE	0.00	51.98	0	06:11	0	0.541	-0.003
MH213	STORAGE	8.56	78.14	0	06:04	0.0311	0.468	-0.272
MH214	STORAGE	0.00	97.18	0	06:05	0	0.439	0.036
RD-1	STORAGE	13.84	13.84	0	06:25	0.0583	0.0583	-0.000
RD-10	STORAGE	16.08	16.08	0	06:15	0.0678	0.0678	-0.000
RD-11	STORAGE	16.08	16.08	0	06:15	0.0678	0.0678	-0.000
RD-12	STORAGE	16.08	16.08	0	06:15	0.0678	0.0678	-0.000

RD-13	STORAGE	11.39	11.39	0	06:15	0.048	0.048	-0.000
RD-14	STORAGE	9.38	9.38	0	06:30	0.0395	0.0395	-0.001
RD-15	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-16	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD17	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-18	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-19	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-2	STORAGE	13.62	13.62	0	06:25	0.0574	0.0574	-0.000
RD-20	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-21	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-22	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-23	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-24	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-25	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-26	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-27	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-28	STORAGE	13.17	13.17	0	06:25	0.0555	0.0555	-0.000
RD-29	STORAGE	17.42	17.42	0	06:15	0.0734	0.0734	0.000
Rd-3	STORAGE	13.62	13.62	0	06:25	0.0574	0.0574	-0.000
RD-30	STORAGE	16.52	16.52	0	06:15	0.0697	0.0697	0.000
RD-31	STORAGE	16.52	16.52	0	06:15	0.0697	0.0697	0.000
RD-32	STORAGE	16.52	16.52	0	06:15	0.0697	0.0697	0.000
RD-33	STORAGE	11.39	11.39	0	06:15	0.048	0.048	-0.000
RD-34	STORAGE	13.17	13.17	0	06:15	0.0556	0.0556	-0.000
RD-35	STORAGE	14.29	14.29	0	06:25	0.0602	0.0602	-0.000
RD-36	STORAGE	13.40	13.40	0	06:25	0.0565	0.0565	-0.000
RD-37	STORAGE	13.40	13.40	0	06:25	0.0565	0.0565	-0.000
RD-38	STORAGE	13.40	13.40	0	06:25	0.0565	0.0565	-0.000
RD-39	STORAGE	9.15	9.15	0	06:25	0.0386	0.0386	-0.001
RD-4	STORAGE	13.62	13.62	0	06:25	0.0574	0.0574	-0.000
RD-40	STORAGE	13.62	13.62	0	06:25	0.0574	0.0574	-0.000
RD-5	STORAGE	13.62	13.62	0	06:25	0.0574	0.0574	-0.000
Rd-6	STORAGE	10.27	10.27	0	06:25	0.0433	0.0433	-0.000
RD-7	STORAGE	11.61	11.61	0	06:30	0.049	0.049	-0.000
RD-8	STORAGE	16.30	16.30	0	06:15	0.0687	0.0687	-0.000
RD-9	STORAGE	16.08	16.08	0	06:15	0.0678	0.0678	-0.000
TD1	STORAGE	75.38	83.21	0	06:19	0.299	0.299	0.064
TD2	STORAGE	98.51	98.51	0	06:30	0.407	0.407	0.079
TD3	STORAGE	142.20	142.20	0	06:30	0.587	0.587	0.062

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Node Surcharge Summary
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No nodes were surcharged.

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Node Flooding Summary
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No nodes were flooded.

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maximum Outflow LPS
CB1	0.000	0	0	0	0.001	9	0 06:30	6.08
CB11	0.000	1	0	0	0.007	20	0 06:33	13.82
CB12	0.000	0	0	0	0.001	2	0 06:30	25.31
CB13	0.000	0	0	0	0.000	2	0 06:30	15.28
CB18	0.000	0	0	0	0.000	1	0 06:30	12.87
CB2	0.000	0	0	0	0.004	10	0 06:33	14.15
CB20	0.000	0	0	0	0.000	1	0 06:30	11.47
CB21	0.000	0	0	0	0.000	1	0 06:30	16.23
CB22	0.000	0	0	0	0.004	7	0 06:31	19.24
CB28	0.000	1	0	0	0.000	5	0 06:32	12.82
CB3	0.000	1	0	0	0.005	26	0 06:32	7.82
CB4	0.000	0	0	0	0.003	17	0 06:31	7.32
CB5	0.001	2	0	0	0.009	22	0 06:32	23.29
LCB122	0.000	0	0	0	0.000	0	0 06:30	15.91
MH103	0.000	2	0	0	0.006	25	0 06:34	25.72
MH104	0.000	2	0	0	0.006	28	0 06:33	22.13
MH105	0.000	1	0	0	0.006	17	0 06:33	19.33
MH106	0.000	1	0	0	0.005	17	0 06:33	20.49

MH108	0.001	20	0	0	0.004	93	0	06:33	24.88
MH109	0.001	11	0	0	0.003	53	0	06:33	22.85
MH110	0.001	18	0	0	0.003	93	0	07:00	42.44
MH203	0.000	1	0	0	0.009	25	0	06:33	31.17
MH204	0.000	1	0	0	0.009	26	0	06:33	24.32
MH205	0.000	1	0	0	0.008	25	0	06:33	18.69
MH209	0.000	6	0	0	0.003	56	0	06:32	76.56
MH210	0.000	9	0	0	0.002	93	0	06:33	98.65
MH212	0.000	13	0	0	0.002	90	0	06:31	48.55
MH213	0.000	5	0	0	0.002	34	0	06:31	45.63
MH214	0.000	12	0	0	0.002	91	0	06:34	71.75
RD-1	0.010	31	0	0	0.030	91	0	07:04	1.80
RD-10	0.014	37	0	0	0.036	94	0	07:13	1.82
RD-11	0.014	37	0	0	0.036	94	0	07:13	1.82
RD-12	0.014	37	0	0	0.036	94	0	07:13	1.82
RD-13	0.006	24	0	0	0.023	87	0	07:03	1.78
RD-14	0.004	19	0	0	0.017	83	0	07:02	1.74
RD-15	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-16	0.009	29	0	0	0.028	89	0	07:04	1.79
RD17	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-18	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-19	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-2	0.010	30	0	0	0.029	89	0	07:04	1.79
RD-20	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-21	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-22	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-23	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-24	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-25	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-26	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-27	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-28	0.009	29	0	0	0.028	89	0	07:04	1.79
RD-29	0.017	40	0	0	0.040	96	0	07:31	1.84
Rd-3	0.010	30	0	0	0.029	89	0	07:04	1.79
RD-30	0.015	38	0	0	0.037	95	0	07:30	1.83
RD-31	0.015	38	0	0	0.037	95	0	07:30	1.83
RD-32	0.015	38	0	0	0.037	95	0	07:30	1.83
RD-33	0.006	24	0	0	0.023	85	0	07:04	1.76
RD-34	0.009	29	0	0	0.028	88	0	07:04	1.78
RD-35	0.011	32	0	0	0.031	91	0	07:04	1.80
RD-36	0.009	30	0	0	0.028	89	0	07:04	1.79
RD-37	0.009	30	0	0	0.028	89	0	07:04	1.79
RD-38	0.009	30	0	0	0.028	89	0	07:04	1.79
RD-39	0.004	18	0	0	0.017	77	0	07:02	1.70
RD-4	0.010	30	0	0	0.029	89	0	07:04	1.79
RD-40	0.010	30	0	0	0.029	91	0	07:04	1.80
RD-5	0.010	30	0	0	0.029	89	0	07:04	1.79
Rd-6	0.005	21	0	0	0.020	81	0	07:03	1.73
RD-7	0.007	25	0	0	0.023	87	0	07:04	1.78
RD-8	0.014	38	0	0	0.037	96	0	07:17	1.83
RD-9	0.014	37	0	0	0.036	94	0	07:13	1.82
TD1	0.008	2	0	0	0.081	20	0	07:00	76.18
TD2	0.007	2	0	0	0.106	24	0	06:37	96.66
TD3	0.003	1	0	0	0.094	24	0	06:33	137.83

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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
CRNYROW	55.63	0.75	11.15	0.024
CRNYSTM2	62.73	1.03	15.91	0.037
MH100	89.01	28.75	95.54	1.555
STLBROW	61.24	0.88	11.00	0.031
STMTRNK	90.92	57.71	279.91	3.177
WKLYROW	6.66	0.33	0.75	0.001
System	61.03	89.47	413.50	4.826

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Link Flow Summary
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	Maximum |Flow|	Time of Max Occurrence	Maximum |Veloc|	Max/ Full	Max/ Full

Link	Type	LPS	days	hr:min	m/sec	Flow	Depth
101-100	CONDUIT	95.54	0	06:32	1.62	0.33	0.40
102-101	CONDUIT	95.54	0	06:32	1.61	0.34	0.40
104-103	CONDUIT	22.13	0	06:30	0.26	0.18	1.00
105-104	CONDUIT	19.33	0	06:09	0.53	0.16	1.00
106-105	CONDUIT	20.49	0	06:04	0.66	0.17	1.00
107-102	CONDUIT	32.19	0	06:33	0.84	0.21	0.29
109-108	CONDUIT	22.85	0	06:16	0.30	0.24	1.00
110-109	CONDUIT	42.44	0	06:06	0.46	0.44	1.00
111-106	CONDUIT	14.15	0	06:09	0.91	0.24	1.00
11-205	CONDUIT	13.82	0	06:09	0.94	0.23	1.00
122-CSTM2	CONDUIT	15.91	0	06:30	0.96	1.47	0.89
202-TRNK	CONDUIT	279.91	0	06:30	1.89	0.13	0.24
204-203	CONDUIT	24.32	0	07:00	0.27	0.25	1.00
205-204	CONDUIT	18.69	0	06:07	0.53	0.19	1.00
207-202	CONDUIT	223.67	0	06:30	1.44	0.67	0.54
208-207	CONDUIT	188.29	0	06:30	1.12	0.69	0.57
210-209	CONDUIT	98.65	0	06:06	0.64	0.41	1.00
211-208	CONDUIT	88.15	0	06:30	0.96	0.45	0.50
213-212	CONDUIT	45.63	0	07:22	0.40	0.32	1.00
214-213	CONDUIT	71.75	0	06:04	0.83	0.75	1.00
22-212	CONDUIT	19.24	0	06:15	0.91	0.58	1.00
28-214	CONDUIT	17.21	0	06:07	0.39	0.37	1.00
5-108	CONDUIT	23.29	0	06:19	1.39	0.50	1.00
CAP1-102	CONDUIT	25.09	0	07:04	1.51	0.54	0.52
CAP2-211	CONDUIT	25.01	0	07:04	1.51	0.54	0.52
CAP3-207	CONDUIT	21.51	0	07:04	1.45	0.46	0.48
DICB1-CSTM	CONDUIT	11.15	0	06:30	0.99	0.10	0.22
TD1-110	CONDUIT	76.18	0	06:09	1.96	0.31	1.00
TD2-214	CONDUIT	96.66	0	06:06	1.62	0.55	1.00
TD3-210	CONDUIT	137.83	0	06:07	1.82	0.46	1.00
12-202	ORIFICE	25.31	0	06:30			1.00
13-207	ORIFICE	15.28	0	06:30			1.00
18-208	ORIFICE	12.87	0	06:30			1.00
20-208	ORIFICE	11.47	0	06:30			1.00
203-202	ORIFICE	31.17	0	06:33			1.00
209-208	ORIFICE	76.56	0	06:37			1.00
21-211	ORIFICE	16.23	0	06:30			1.00
212-211	ORIFICE	48.55	0	06:33			1.00
OR1	ORIFICE	6.08	0	06:30			1.00
OR2	ORIFICE	7.82	0	06:32			1.00
OR3	ORIFICE	7.32	0	06:31			1.00
OR4	ORIFICE	25.72	0	06:34			1.00
OR5	ORIFICE	24.88	0	06:33			1.00
OL1	DUMMY	1.83	0	07:17			
OL10	DUMMY	1.79	0	07:04			
OL11	DUMMY	1.79	0	07:04			
OL12	DUMMY	1.79	0	07:04			
OL13	DUMMY	1.79	0	07:04			
OL14	DUMMY	1.80	0	07:04			
OL15	DUMMY	1.79	0	07:04			
OL16	DUMMY	1.79	0	07:04			
OL17	DUMMY	1.79	0	07:04			
OL18	DUMMY	1.79	0	07:04			
OL19	DUMMY	1.79	0	07:04			
OL2	DUMMY	1.82	0	07:13			
OL20	DUMMY	1.79	0	07:04			
OL21	DUMMY	1.79	0	07:04			
OL22	DUMMY	1.79	0	07:04			
OL23	DUMMY	1.79	0	07:04			
OL24	DUMMY	1.79	0	07:04			
OL25	DUMMY	1.79	0	07:04			
OL26	DUMMY	1.79	0	07:04			
OL27	DUMMY	1.79	0	07:04			
OL28	DUMMY	1.79	0	07:04			
OL29	DUMMY	1.78	0	07:04			
OL3	DUMMY	1.82	0	07:13			
OL30	DUMMY	1.76	0	07:04			
OL31	DUMMY	1.83	0	07:30			
OL32	DUMMY	1.83	0	07:30			
OL33	DUMMY	1.83	0	07:30			
OL34	DUMMY	1.84	0	07:31			
OL35	DUMMY	1.80	0	07:04			
OL36	DUMMY	1.79	0	07:04			
OL37	DUMMY	1.79	0	07:04			
OL38	DUMMY	1.79	0	07:04			
OL39	DUMMY	1.70	0	07:02			
OL4	DUMMY	1.82	0	07:13			
OL40	DUMMY	1.80	0	07:04			
OL5	DUMMY	1.82	0	07:13			
OL6	DUMMY	1.78	0	07:04			

OL7	DUMMY	1.74	0	07:02
OL8	DUMMY	1.78	0	07:04
OL9	DUMMY	1.73	0	07:03

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
		---------- Fraction of Time in Flow Class ----------								
101-100	1.00	0.00	0.01	0.00	0.48	0.50	0.00	0.00	0.87	0.00
102-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
104-103	1.00	0.02	0.00	0.00	0.64	0.01	0.00	0.33	0.35	0.00
105-104	1.00	0.02	0.00	0.00	0.19	0.00	0.00	0.79	0.02	0.00
106-105	1.00	0.02	0.00	0.00	0.64	0.01	0.00	0.33	0.08	0.00
107-102	1.00	0.03	0.00	0.00	0.06	0.00	0.00	0.91	0.00	0.00
109-108	1.00	0.02	0.00	0.00	0.63	0.00	0.00	0.35	0.17	0.00
110-109	1.00	0.03	0.00	0.00	0.36	0.00	0.00	0.61	0.08	0.00
111-106	1.00	0.02	0.00	0.00	0.12	0.00	0.00	0.85	0.01	0.00
11-205	1.00	0.02	0.00	0.00	0.10	0.00	0.00	0.87	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.47	0.00
202-TRNK	1.00	0.00	0.01	0.00	0.09	0.89	0.00	0.00	0.44	0.00
204-203	1.00	0.02	0.00	0.00	0.63	0.00	0.00	0.35	0.38	0.00
205-204	1.00	0.02	0.00	0.00	0.48	0.00	0.00	0.50	0.01	0.00
207-202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
208-207	1.00	0.01	0.00	0.00	0.91	0.00	0.00	0.08	0.49	0.00
210-209	1.00	0.02	0.00	0.00	0.65	0.00	0.00	0.32	0.40	0.00
211-208	1.00	0.01	0.00	0.00	0.10	0.00	0.00	0.89	0.03	0.00
213-212	1.00	0.02	0.00	0.00	0.53	0.00	0.00	0.45	0.16	0.00
214-213	1.00	0.02	0.00	0.00	0.17	0.00	0.00	0.81	0.01	0.00
22-212	1.00	0.02	0.00	0.00	0.15	0.00	0.00	0.83	0.00	0.00
28-214	1.00	0.06	0.00	0.00	0.14	0.00	0.00	0.80	0.01	0.00
5-108	1.00	0.02	0.00	0.00	0.23	0.00	0.00	0.75	0.00	0.00
CAP1-102	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP2-211	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP3-207	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
DICB1-CSTM	1.00	0.02	0.00	0.00	0.34	0.64	0.00	0.00	0.03	0.00
TD1-110	1.00	0.02	0.00	0.00	0.19	0.00	0.00	0.79	0.01	0.00
TD2-214	1.00	0.02	0.00	0.00	0.13	0.00	0.00	0.84	0.00	0.00
TD3-210	1.00	0.02	0.00	0.00	0.08	0.00	0.00	0.90	0.00	0.00

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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
104-103	2.05	2.05	2.21	0.01	0.01
105-104	1.92	1.92	2.04	0.01	0.01
106-105	1.76	1.76	1.91	0.01	0.01
109-108	4.08	4.08	4.25	0.01	0.01
110-109	3.51	3.51	3.99	0.01	0.01
111-106	1.57	1.57	1.74	0.01	0.01
11-205	1.31	1.31	1.47	0.01	0.01
122-CSTM2	0.01	0.18	0.01	0.26	0.01
204-203	1.56	1.56	1.65	0.01	0.01
205-204	1.49	1.49	1.55	0.01	0.01
210-209	1.31	1.31	1.45	0.01	0.01
213-212	2.16	2.16	2.19	0.01	0.01
214-213	1.98	1.98	2.16	0.01	0.01
22-212	2.16	2.16	2.19	0.01	0.01
28-214	1.84	1.84	1.97	0.01	0.01
5-108	3.34	3.34	3.40	0.01	0.01
TD1-110	2.55	2.55	2.70	0.01	0.01
TD2-214	1.83	1.83	1.89	0.01	0.01
TD3-210	1.13	1.13	1.17	0.01	0.01

Analysis begun on: Wed Aug 25 11:19:18 2021
Analysis ended on: Wed Aug 25 11:19:21 2021
Total elapsed time: 00:00:03

SCS 12hr-100year+20% Storm PCSWMM Results

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.015)

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Element Count
****
Number of rain gages 1
Number of subcatchments ... 74
Number of nodes 89
Number of links 83
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
Raingage1	SCS12-100yr+20%	INTENSITY	10 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
A-01	0.03	19.08	83.00	2.0000	Raingage1	CB1
A-02a	0.05	36.23	99.00	2.0000	Raingage1	MH103
A-02b	0.04	30.43	100.00	2.0000	Raingage1	MH104
A-02c	0.05	34.44	100.00	2.0000	Raingage1	MH105
A-02d	0.07	36.93	91.00	2.0000	Raingage1	MH106
A-02e	0.06	39.10	76.00	2.0000	Raingage1	CB2
A-03	0.05	33.12	83.00	2.0000	Raingage1	CB3
A-04	0.04	29.33	77.00	2.0000	Raingage1	CB4
A-05a	0.11	25.06	83.00	2.0000	Raingage1	CB5
A-05b	0.03	19.74	67.00	2.0000	Raingage1	MH109
A-05c	0.34	159.53	91.00	2.0000	Raingage1	TD1
A-06a	0.09	34.90	80.00	2.0000	Raingage1	CB22
A-06b	0.04	26.14	76.00	2.0000	Raingage1	MH213
A-06c	0.44	149.83	99.00	2.0000	Raingage1	TD2
A-06d	0.10	17.20	9.00	1.5000	Raingage1	CB28
A-07	0.08	33.33	76.00	2.0000	Raingage1	CB21
A-08	0.05	28.11	93.00	2.0000	Raingage1	CB20
A-09a	0.05	17.04	81.00	2.0000	Raingage1	MH209
A-09b	0.64	138.40	99.00	2.0000	Raingage1	TD3
A-10	0.06	37.11	87.00	2.0000	Raingage1	CB18
A-11	0.07	27.41	80.00	2.0000	Raingage1	CB13
A-12a	0.08	52.15	61.00	2.0000	Raingage1	MH203
A-12b	0.09	52.76	60.00	2.0000	Raingage1	MH204
A-12c	0.08	47.24	60.00	2.0000	Raingage1	MH205
A-12d	0.08	47.75	61.00	2.0000	Raingage1	CB11
A-13	0.12	50.00	57.00	2.0000	Raingage1	CB12
D-01	0.08	17.97	7.00	1.5000	Raingage1	XDICB1
D-02	0.11	22.80	9.00	1.5000	Raingage1	LCB122
D-03	0.00	13.33	5.00	2.0000	Raingage1	WKLYROW
D-04a	0.04	2.69	5.00	0.5000	Raingage1	STLBROW
D-04b	0.00	1.43	5.00	0.5000	Raingage1	STLBROW
D-04c	0.05	4.70	5.00	0.5000	Raingage1	STLBROW
D-04d	0.03	83.33	5.00	2.0000	Raingage1	STLBROW
D-04e	0.00	10.00	5.00	2.0000	Raingage1	STLBROW
R-01	0.06	46.27	100.00	1.0000	Raingage1	RD-1
R-02	0.06	45.52	100.00	1.0000	Raingage1	RD-2
R-03	0.06	45.52	100.00	1.0000	Raingage1	Rd-3
R-04	0.06	45.52	100.00	1.0000	Raingage1	RD-4
R-05	0.06	45.52	100.00	1.0000	Raingage1	RD-5
R-06	0.05	34.59	100.00	1.0000	Raingage1	Rd-6
R-07	0.05	32.10	100.00	1.0000	Raingage1	RD-7
R-08	0.07	41.95	100.00	1.0000	Raingage1	RD-8
R-09	0.07	41.38	100.00	1.0000	Raingage1	RD-9
R-10	0.07	41.38	100.00	1.0000	Raingage1	RD-10
R-11	0.07	41.38	100.00	1.0000	Raingage1	RD-11
R-12	0.07	41.38	100.00	1.0000	Raingage1	RD-12
R-13	0.05	29.31	100.00	1.0000	Raingage1	RD-13
R-14	0.04	25.93	100.00	1.0000	Raingage1	RD-14
R-15	0.06	43.70	100.00	1.0000	Raingage1	RD-15
R-16	0.06	43.70	100.00	1.0000	Raingage1	RD-16
R-17	0.06	43.70	100.00	1.0000	Raingage1	RD17
R-18	0.06	43.70	100.00	1.0000	Raingage1	RD-18

R-19	0.06	43.70	100.00	1.0000	Raingage1	RD-19
R-20	0.06	43.70	100.00	1.0000	Raingage1	RD-20
R-21	0.06	43.70	100.00	1.0000	Raingage1	RD-21
R-22	0.06	43.70	100.00	1.0000	Raingage1	RD-22
R-23	0.06	43.70	100.00	1.0000	Raingage1	RD-23
R-24	0.06	43.70	100.00	1.0000	Raingage1	RD-24
R-25	0.06	43.70	100.00	1.0000	Raingage1	RD-25
R-26	0.06	43.70	100.00	1.0000	Raingage1	RD-26
R-27	0.06	43.70	100.00	1.0000	Raingage1	RD-27
R-28	0.06	43.70	100.00	1.0000	Raingage1	RD-28
R-29	0.08	44.83	100.00	1.0000	Raingage1	RD-29
R-30	0.07	42.53	100.00	1.0000	Raingage1	RD-30
R-31	0.07	42.53	100.00	1.0000	Raingage1	RD-31
R-32	0.07	42.53	100.00	1.0000	Raingage1	RD-32
R-33	0.05	29.31	100.00	1.0000	Raingage1	RD-33
R-34	0.06	33.91	100.00	1.0000	Raingage1	RD-34
R-35	0.06	47.76	100.00	1.0000	Raingage1	RD-35
R-36	0.06	44.78	100.00	1.0000	Raingage1	RD-36
R-37	0.06	44.78	100.00	1.0000	Raingage1	RD-37
R-38	0.06	44.78	100.00	1.0000	Raingage1	RD-38
R-39	0.04	30.60	100.00	1.0000	Raingage1	RD-39
R-40	0.06	45.52	100.00	1.0000	Raingage1	RD-40

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
CAP1	JUNCTION	80.49	4.76	0.0	
Cap2	JUNCTION	80.76	3.61	0.0	
CAP3	JUNCTION	80.45	4.56	0.0	
MH101	JUNCTION	80.74	4.15	0.0	
MH102	JUNCTION	80.81	4.05	0.0	
MH107	JUNCTION	81.03	3.79	0.0	
MH202	JUNCTION	81.65	2.87	0.0	
MH207	JUNCTION	81.76	3.04	0.0	
MH208	JUNCTION	81.87	2.33	0.0	
MH211	JUNCTION	82.07	2.23	0.0	
XDICB1	JUNCTION	83.03	1.31	0.0	
CRNYROW	OUTFALL	82.40	0.75	0.0	
CRNYSTM2	OUTFALL	0.00	83.34	0.0	
MH100	OUTFALL	80.30	0.75	0.0	
STLBROW	OUTFALL	0.00	0.00	0.0	
STMTRNK	OUTFALL	0.00	82.39	0.0	
WKLYROW	OUTFALL	84.60	0.00	0.0	
CB1	STORAGE	82.30	2.60	0.0	
CB11	STORAGE	82.65	2.30	0.0	
CB12	STORAGE	82.20	2.50	0.0	
CB13	STORAGE	82.20	2.35	0.0	
CB18	STORAGE	82.30	2.08	0.0	
CB2	STORAGE	82.45	2.50	0.0	
CB20	STORAGE	82.30	2.07	0.0	
CB21	STORAGE	82.30	2.00	0.0	
CB22	STORAGE	82.55	1.70	0.0	
CB28	STORAGE	83.00	1.41	0.0	
CB3	STORAGE	82.20	2.68	0.0	
CB4	STORAGE	82.50	2.39	0.0	
CB5	STORAGE	82.05	2.30	0.0	
LCB122	STORAGE	83.30	1.45	0.0	
MH103	STORAGE	81.65	3.25	0.0	
MH104	STORAGE	81.77	3.13	0.0	
MH105	STORAGE	81.89	3.06	0.0	
MH106	STORAGE	82.06	2.89	0.0	
MH108	STORAGE	81.26	3.14	0.0	
MH109	STORAGE	81.33	3.07	0.0	
MH110	STORAGE	81.68	2.72	0.0	
MH203	STORAGE	81.99	2.93	0.0	
MH204	STORAGE	82.10	2.83	0.0	
MH205	STORAGE	82.21	2.73	0.0	
MH209	STORAGE	82.07	2.32	0.0	
MH210	STORAGE	82.37	1.99	0.0	
MH212	STORAGE	82.23	2.02	0.0	
MH213	STORAGE	82.31	1.95	0.0	
MH214	STORAGE	82.70	1.51	0.0	
RD-1	STORAGE	90.00	0.15	0.0	
RD-10	STORAGE	90.00	0.15	0.0	
RD-11	STORAGE	90.00	0.15	0.0	
RD-12	STORAGE	90.00	0.15	0.0	
RD-13	STORAGE	90.00	0.15	0.0	
RD-14	STORAGE	90.00	0.15	0.0	

RD-15	STORAGE	90.00	0.15	0.0
RD-16	STORAGE	90.00	0.15	0.0
RD17	STORAGE	90.00	0.15	0.0
RD-18	STORAGE	90.00	0.15	0.0
RD-19	STORAGE	90.00	0.15	0.0
RD-2	STORAGE	90.00	0.15	0.0
RD-20	STORAGE	90.00	0.15	0.0
RD-21	STORAGE	90.00	0.15	0.0
RD-22	STORAGE	90.00	0.15	0.0
RD-23	STORAGE	90.00	0.15	0.0
RD-24	STORAGE	90.00	0.15	0.0
RD-25	STORAGE	90.00	0.15	0.0
RD-26	STORAGE	90.00	0.15	0.0
RD-27	STORAGE	90.00	0.15	0.0
RD-28	STORAGE	90.00	0.15	0.0
RD-29	STORAGE	90.00	0.15	0.0
Rd-3	STORAGE	90.00	0.15	0.0
RD-30	STORAGE	90.00	0.15	0.0
RD-31	STORAGE	90.00	0.15	0.0
RD-32	STORAGE	90.00	0.15	0.0
RD-33	STORAGE	90.00	0.15	0.0
RD-34	STORAGE	90.00	0.15	0.0
RD-35	STORAGE	90.00	0.15	0.0
RD-36	STORAGE	90.00	0.15	0.0
RD-37	STORAGE	90.00	0.15	0.0
RD-38	STORAGE	90.00	0.15	0.0
RD-39	STORAGE	90.00	0.15	0.0
RD-4	STORAGE	90.00	0.15	0.0
RD-40	STORAGE	90.00	0.15	0.0
RD-5	STORAGE	90.00	0.15	0.0
Rd-6	STORAGE	90.00	0.15	0.0
RD-7	STORAGE	90.00	0.15	0.0
RD-8	STORAGE	90.00	0.15	0.0
RD-9	STORAGE	90.00	0.15	0.0
TD1	STORAGE	83.18	1.22	0.0
TD2	STORAGE	83.03	1.24	0.0
TD3	STORAGE	83.18	1.22	0.0

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Link Summary

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Name	From Node	To Node	Type	Length	%Slope	Roughness
101-100	MH101	MH100	CONDUIT	14.3	1.0015	0.0130
102-101	MH102	MH101	CONDUIT	6.2	0.9984	0.0130
104-103	MH104	MH103	CONDUIT	23.4	0.5000	0.0130
105-104	MH105	MH104	CONDUIT	20.8	0.5000	0.0130
106-105	MH106	MH105	CONDUIT	33.8	0.5000	0.0130
107-102	MH107	MH102	CONDUIT	50.7	0.2996	0.0130
109-108	MH109	MH108	CONDUIT	17.6	0.3017	0.0130
110-109	MH110	MH109	CONDUIT	107.2	0.3003	0.0130
111-106	CB2	MH106	CONDUIT	23.4	0.9830	0.0130
11-205	CB11	MH205	CONDUIT	28.4	0.9983	0.0130
122-CSTM2	LCB122	CRNYSTM2	CONDUIT	21.1	0.5017	0.0130
202-TRNK	MH202	STMTRNK	CONDUIT	32.6	0.8009	0.0130
204-203	MH204	MH203	CONDUIT	33.4	0.2993	0.0130
205-204	MH205	MH204	CONDUIT	33.6	0.3006	0.0130
207-202	MH207	MH202	CONDUIT	34.1	0.2994	0.0130
208-207	MH208	MH207	CONDUIT	52.1	0.1996	0.0130
210-209	MH210	MH209	CONDUIT	93.0	0.3117	0.0130
211-208	MH211	MH208	CONDUIT	57.6	0.2031	0.0130
213-212	MH213	MH212	CONDUIT	19.1	0.2508	0.0130
214-213	MH214	MH213	CONDUIT	106.1	0.2998	0.0130
22-212	CB22	MH212	CONDUIT	3.9	1.0173	0.0130
28-214	CB28	MH214	CONDUIT	42.5	0.6117	0.0130
5-108	CB5	MH108	CONDUIT	3.2	2.0016	0.0130
CAP1-102	CAP1	MH102	CONDUIT	13.4	2.0026	0.0130
CAP2-211	Cap2	MH211	CONDUIT	4.1	2.0091	0.0130
CAP3-207	CAP3	MH207	CONDUIT	4.6	2.0026	0.0130
DICB1-CSTM	XDICB1	CRNYROW	CONDUIT	14.3	1.2588	0.0130
TD1-110	TD1	MH110	CONDUIT	13.8	1.9984	0.0130
TD2-214	TD2	MH214	CONDUIT	13.8	1.0013	0.0130
TD3-210	TD3	MH210	CONDUIT	13.8	1.0884	0.0130
12-202	CB12	MH202	ORIFICE			
13-207	CB13	MH207	ORIFICE			
18-208	CB18	MH208	ORIFICE			
20-208	CB20	MH208	ORIFICE			
203-202	MH203	MH202	ORIFICE			
209-208	MH209	MH208	ORIFICE			
21-211	CB21	MH211	ORIFICE			
212-211	MH212	MH211	ORIFICE			

OR1	CB1	MH102	ORIFICE
OR2	CB3	MH102	ORIFICE
OR3	CB4	MH107	ORIFICE
OR4	MH103	MH102	ORIFICE
OR5	MH108	MH107	ORIFICE
OL1	RD-8	CAP1	OUTLET
OL10	RD-5	CAP1	OUTLET
OL11	RD-4	CAP1	OUTLET
OL12	Rd-3	CAP1	OUTLET
OL13	RD-2	CAP1	OUTLET
OL14	RD-1	CAP1	OUTLET
OL15	RD-21	Cap2	OUTLET
OL16	RD-20	Cap2	OUTLET
OL17	RD-19	Cap2	OUTLET
OL18	RD-18	Cap2	OUTLET
OL19	RD17	Cap2	OUTLET
OL2	RD-9	CAP1	OUTLET
OL20	RD-16	Cap2	OUTLET
OL21	RD-15	Cap2	OUTLET
OL22	RD-28	Cap2	OUTLET
OL23	RD-27	Cap2	OUTLET
OL24	RD-26	Cap2	OUTLET
OL25	RD-25	Cap2	OUTLET
OL26	RD-24	Cap2	OUTLET
OL27	RD-23	Cap2	OUTLET
OL28	RD-22	Cap2	OUTLET
OL29	RD-34	CAP3	OUTLET
OL3	RD-10	CAP1	OUTLET
OL30	RD-33	CAP3	OUTLET
OL31	RD-32	CAP3	OUTLET
OL32	RD-31	CAP3	OUTLET
OL33	RD-30	CAP3	OUTLET
OL34	RD-29	CAP3	OUTLET
OL35	RD-35	CAP3	OUTLET
OL36	RD-36	CAP3	OUTLET
OL37	RD-37	CAP3	OUTLET
OL38	RD-38	CAP3	OUTLET
OL39	RD-39	CAP3	OUTLET
OL4	RD-11	CAP1	OUTLET
OL40	RD-40	CAP3	OUTLET
OL5	RD-12	CAP1	OUTLET
OL6	RD-13	CAP1	OUTLET
OL7	RD-14	CAP1	OUTLET
OL8	RD-7	CAP1	OUTLET
OL9	Rd-6	CAP1	OUTLET

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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
101-100	CIRCULAR	0.45	0.16	0.11	0.45	1	285.34
102-101	CIRCULAR	0.45	0.16	0.11	0.45	1	284.90
104-103	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
105-104	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
106-105	CIRCULAR	0.38	0.11	0.09	0.38	1	123.99
107-102	CIRCULAR	0.45	0.16	0.11	0.45	1	156.07
109-108	CIRCULAR	0.38	0.11	0.09	0.38	1	96.31
110-109	CIRCULAR	0.38	0.11	0.09	0.38	1	96.09
111-106	CIRCULAR	0.25	0.05	0.06	0.25	1	58.96
11-205	CIRCULAR	0.25	0.05	0.06	0.25	1	59.42
122-CSTM2	CIRCULAR	0.15	0.02	0.04	0.15	1	10.79
202-TRNK	CIRCULAR	1.00	0.79	0.25	1.00	1	2145.78
204-203	CIRCULAR	0.38	0.11	0.09	0.38	1	95.93
205-204	CIRCULAR	0.38	0.11	0.09	0.38	1	96.13
207-202	CIRCULAR	0.60	0.28	0.15	0.60	1	335.99
208-207	CIRCULAR	0.60	0.28	0.15	0.60	1	274.30
210-209	CIRCULAR	0.53	0.22	0.13	0.53	1	240.11
211-208	CIRCULAR	0.53	0.22	0.13	0.53	1	193.82
213-212	CIRCULAR	0.45	0.16	0.11	0.45	1	142.78
214-213	CIRCULAR	0.38	0.11	0.09	0.38	1	96.00
22-212	CIRCULAR	0.20	0.03	0.05	0.20	1	33.08
28-214	CIRCULAR	0.25	0.05	0.06	0.25	1	46.51
5-108	CIRCULAR	0.20	0.03	0.05	0.20	1	46.41
CAP1-102	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
CAP2-211	CIRCULAR	0.20	0.03	0.05	0.20	1	46.49
CAP3-207	CIRCULAR	0.20	0.03	0.05	0.20	1	46.42
DICB1-CSTM	CIRCULAR	0.30	0.07	0.07	0.30	1	108.50
TD1-110	CIRCULAR	0.38	0.11	0.09	0.38	1	247.87
TD2-214	CIRCULAR	0.38	0.11	0.09	0.38	1	175.45

TD3-210	CIRCULAR	0.45	0.16	0.11	0.45	1	297.45

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**********************************************************
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 ........ YES
  RDII ................... NO
  Snowmelt ............... NO
  Groundwater ............ NO
  Flow Routing ........... YES
  Ponding Allowed ........ NO
  Water Quality .......... NO
Infiltration Method ...... HORTON
Flow Routing Method ...... DYNWAVE
Surcharge Method ......... EXTRAN
Starting Date ............ 08/16/2021 00:00:00
Ending Date .............. 08/17/2021 00:00:00
Antecedent Dry Days ...... 0.0
Report Time Step ......... 00:01:00
Wet Time Step ............ 00:05:00
Dry Time Step ............ 00:05:00
Routing Time Step ........ 5.00 sec
Variable Time Step ....... YES
Maximum Trials ........... 8
Number of Threads ........ 4
Head Tolerance ........... 0.001524 m

**************************        Volume         Depth
Runoff Quantity Continuity     hectare-m            mm
**************************     ---------       -------

Total Precipitation ......         0.643       112.688
Evaporation Loss .........         0.000         0.000
Infiltration Loss ........         0.054         9.406
Surface Runoff ...........         0.588       102.930
Final Storage ............         0.004         0.690
Continuity Error (%) .....        -0.299

**************************        Volume        Volume
Flow Routing Continuity        hectare-m      10^6 ltr
**************************     ---------     ---------
Dry Weather Inflow .......         0.000         0.000
Wet Weather Inflow .......         0.588         5.877
Groundwater Inflow .......         0.000         0.000
RDII Inflow ..............         0.000         0.000
External Inflow ..........         0.000         0.000
External Outflow .........         0.559         5.587
Flooding Loss ............         0.028         0.285
Evaporation Loss .........         0.000         0.000
Exfiltration Loss ........         0.000         0.000
Initial Stored Volume ....         0.000         0.000
Final Stored Volume ......         0.000         0.000
Continuity Error (%) .....         0.088

***************************
Time-Step Critical Elements
***************************
Link CAP2-211 (78.74%)
Link CAP3-207 (9.05%)

*******************************
Highest Flow Instability Indexes
*******************************
All links are stable.

************************
Routing Time Step Summary
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```
  Minimum Time Step           :     0.50 sec
  Average Time Step           :     2.02 sec
  Maximum Time Step           :     5.00 sec
  Percent in Steady State     :    -0.00
  Average Iterations per Step :     2.00
  Percent Not Converging      :     0.00
  Time Step Frequencies       :
      5.000 -  3.155 sec      :    13.22 %
      3.155 -  1.991 sec      :    13.12 %
      1.991 -  1.256 sec      :    73.45 %
      1.256 -  0.792 sec      :     0.16 %
      0.792 -  0.500 sec      :     0.05 %

  ***************************
  Subcatchment Runoff Summary
  ***************************
```

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Total Runoff mm	Total Runoff 10^6 ltr	Peak Runoff LPS	Runoff Coeff
A-01	112.69	0.00	0.00	11.44	92.30	8.00	100.30	0.03	17.02	0.890
A-02a	112.69	0.00	0.00	0.67	110.10	0.46	110.56	0.06	29.74	0.981
A-02b	112.69	0.00	0.00	0.00	111.21	0.00	111.21	0.05	25.00	0.987
A-02c	112.69	0.00	0.00	0.00	111.31	0.00	111.31	0.06	30.95	0.988
A-02d	112.69	0.00	0.00	6.05	101.22	4.21	105.43	0.07	38.41	0.936
A-02e	112.69	0.00	0.00	16.18	84.51	11.32	95.82	0.06	35.57	0.850
A-03	112.69	0.00	0.00	11.44	92.30	8.01	100.30	0.05	30.53	0.890
A-04	112.69	0.00	0.00	15.50	85.62	10.85	96.46	0.04	25.69	0.856
A-05a	112.69	0.00	0.00	11.52	92.54	7.94	100.48	0.11	65.32	0.892
A-05b	112.69	0.00	0.00	22.29	74.49	15.53	90.02	0.03	17.31	0.799
A-05c	112.69	0.00	0.00	6.05	101.26	4.22	105.49	0.36	202.69	0.936
A-06a	112.69	0.00	0.00	13.51	89.03	9.41	98.44	0.09	51.99	0.874
A-06b	112.69	0.00	0.00	16.18	84.50	11.32	95.82	0.04	23.33	0.850
A-06c	112.69	0.00	0.00	0.67	110.29	0.46	110.75	0.49	262.86	0.983
A-06d	112.69	0.00	0.00	65.19	10.01	37.84	47.85	0.05	25.28	0.425
A-07	112.69	0.00	0.00	16.22	84.55	11.28	95.84	0.07	44.20	0.850
A-08	112.69	0.00	0.00	4.70	103.46	3.26	106.72	0.06	30.78	0.947
A-09a	112.69	0.00	0.00	12.85	90.20	8.92	99.12	0.05	30.95	0.880
A-09b	112.69	0.00	0.00	0.67	110.46	0.46	110.92	0.71	379.35	0.984
A-10	112.69	0.00	0.00	8.74	96.75	6.10	102.86	0.06	34.75	0.913
A-11	112.69	0.00	0.00	13.51	89.03	9.41	98.45	0.07	41.47	0.874
A-12a	112.69	0.00	0.00	26.39	67.82	18.29	86.11	0.07	48.53	0.764
A-12b	112.69	0.00	0.00	27.07	66.71	18.75	85.46	0.07	49.02	0.758
A-12c	112.69	0.00	0.00	27.07	66.71	18.75	85.46	0.07	43.89	0.758
A-12d	112.69	0.00	0.00	26.40	67.82	18.26	86.08	0.07	48.41	0.764
A-13	112.69	0.00	0.00	29.25	63.39	19.89	83.28	0.10	68.70	0.739
D-01	112.69	0.00	0.00	65.78	7.78	39.63	47.41	0.04	22.52	0.421
D-02	112.69	0.00	0.00	64.82	10.01	38.26	48.27	0.06	31.91	0.428
D-03	112.69	0.00	0.00	63.97	5.57	44.76	50.33	0.00	2.20	0.447

D-04a	112.69	0.00	0.00	77.32	5.56	29.87	35.43	0.01
3.50 0.314								
D-04b	112.69	0.00	0.00	65.85	5.56	42.11	47.67	0.00
0.76 0.423								
D-04c	112.69	0.00	0.00	75.47	5.56	31.75	37.31	0.02
5.61 0.331								
D-04d	112.69	0.00	0.00	63.97	5.57	44.76	50.33	0.01
13.74 0.447								
D-04e	112.69	0.00	0.00	63.97	5.57	44.76	50.33	0.00
1.65 0.447								
R-01	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
36.90 1.001								
R-02	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
36.31 1.001								
R-03	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
36.31 1.001								
R-04	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
36.31 1.001								
R-05	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
36.31 1.001								
R-06	112.69	0.00	0.00	0.00	112.83	0.00	112.83	0.05
27.38 1.001								
R-07	112.69	0.00	0.00	0.00	112.89	0.00	112.89	0.06
30.95 1.002								
R-08	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
43.45 1.002								
R-09	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
42.85 1.002								
R-10	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
42.85 1.002								
R-11	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
42.85 1.002								
R-12	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
42.85 1.002								
R-13	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.06
30.35 1.002								
R-14	112.69	0.00	0.00	0.00	112.89	0.00	112.89	0.05
25.00 1.002								
R-15	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-16	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-17	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-18	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-19	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-20	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-21	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-22	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-23	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-24	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-25	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-26	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-27	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-28	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.12 1.001								
R-29	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.09
46.43 1.002								
R-30	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
44.04 1.002								
R-31	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
44.04 1.002								
R-32	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.08
44.04 1.002								
R-33	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.06
30.35 1.002								
R-34	112.69	0.00	0.00	0.00	112.91	0.00	112.91	0.07
35.12 1.002								
R-35	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
38.09 1.001								
R-36	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.71 1.001								
R-37	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.71 1.001								
R-38	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
35.71 1.001								
R-39	112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.05
24.40 1.001								

R-40		112.69	0.00	0.00	0.00	112.84	0.00	112.84	0.07
36.31	1.001								

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Node Depth Summary
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Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
CAP1	JUNCTION	2.06	2.11	82.60	0 04:20	2.11
Cap2	JUNCTION	2.05	2.11	82.87	0 04:17	2.11
CAP3	JUNCTION	2.05	2.10	82.55	0 04:22	2.10
MH101	JUNCTION	0.09	0.18	80.93	0 04:22	0.18
MH102	JUNCTION	0.09	0.18	81.00	0 04:22	0.18
MH107	JUNCTION	0.06	0.14	81.17	0 04:24	0.14
MH202	JUNCTION	0.10	0.26	81.91	0 04:19	0.26
MH207	JUNCTION	0.14	0.37	82.13	0 04:18	0.37
MH208	JUNCTION	0.13	0.39	82.26	0 04:18	0.39
MH211	JUNCTION	0.12	0.26	82.34	0 04:20	0.26
XDICB1	JUNCTION	0.01	0.09	83.12	0 04:10	0.09
CRNYROW	OUTFALL	0.46	0.54	82.94	0 04:10	0.54
CRNYSTM2	OUTFALL	83.30	83.34	83.34	0 04:10	83.34
MH100	OUTFALL	0.41	0.48	80.78	0 04:22	0.48
STLBROW	OUTFALL	0.00	0.00	0.00	0 00:00	0.00
STMTRNK	OUTFALL	81.49	81.65	81.65	0 04:19	81.65
WKLYROW	OUTFALL	0.00	0.00	84.60	0 00:00	0.00
CB1	STORAGE	0.10	2.57	84.87	0 04:13	2.57
CB11	STORAGE	0.24	2.25	84.90	0 04:24	2.25
CB12	STORAGE	0.11	2.43	84.63	0 04:14	2.42
CB13	STORAGE	0.09	2.27	84.47	0 04:13	2.27
CB18	STORAGE	0.07	1.98	84.28	0 04:13	1.98
CB2	STORAGE	0.28	2.42	84.87	0 04:24	2.42
CB20	STORAGE	0.06	1.97	84.27	0 04:12	1.97
CB21	STORAGE	0.09	1.88	84.18	0 04:14	1.88
CB22	STORAGE	0.27	1.57	84.12	0 04:14	1.57
CB28	STORAGE	0.27	1.17	84.17	0 04:20	1.17
CB3	STORAGE	0.22	2.65	84.85	0 04:21	2.65
CB4	STORAGE	0.17	2.35	84.85	0 04:20	2.35
CB5	STORAGE	0.58	2.22	84.27	0 04:13	2.22
LCB122	STORAGE	0.02	0.86	84.15	0 04:11	0.86
MH103	STORAGE	0.45	3.21	84.86	0 04:25	3.21
MH104	STORAGE	0.41	3.09	84.86	0 04:24	3.09
MH105	STORAGE	0.39	2.97	84.86	0 04:24	2.97
MH106	STORAGE	0.35	2.80	84.86	0 04:24	2.80
MH108	STORAGE	0.87	3.00	84.25	0 04:32	3.00
MH109	STORAGE	0.83	2.92	84.26	0 04:33	2.92
MH110	STORAGE	0.71	2.59	84.27	0 04:41	2.59
MH203	STORAGE	0.36	2.89	84.88	0 04:24	2.89
MH204	STORAGE	0.33	2.79	84.89	0 04:24	2.79
MH205	STORAGE	0.31	2.68	84.89	0 04:24	2.68
MH209	STORAGE	0.30	2.20	84.27	0 04:22	2.20
MH210	STORAGE	0.25	1.93	84.30	0 04:23	1.93
MH212	STORAGE	0.37	1.88	84.11	0 04:21	1.88
MH213	STORAGE	0.34	1.80	84.11	0 04:21	1.80
MH214	STORAGE	0.27	1.44	84.15	0 04:32	1.44
RD-1	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-10	STORAGE	0.09	0.15	90.15	0 04:16	0.15
RD-11	STORAGE	0.09	0.15	90.15	0 04:16	0.15
RD-12	STORAGE	0.09	0.15	90.15	0 04:16	0.15
RD-13	STORAGE	0.07	0.15	90.15	0 04:17	0.15
RD-14	STORAGE	0.06	0.15	90.15	0 04:17	0.15
RD-15	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-16	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD17	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-18	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-19	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-2	STORAGE	0.08	0.15	90.15	0 04:18	0.15
RD-20	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-21	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-22	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-23	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-24	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-25	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-26	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-27	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-28	STORAGE	0.08	0.15	90.15	0 04:17	0.15
RD-29	STORAGE	0.10	0.15	90.15	0 04:16	0.15
Rd-3	STORAGE	0.08	0.15	90.15	0 04:18	0.15

RD-30	STORAGE	0.09	0.15	90.15	0	04:16	0.15
RD-31	STORAGE	0.09	0.15	90.15	0	04:16	0.15
RD-32	STORAGE	0.09	0.15	90.15	0	04:16	0.15
RD-33	STORAGE	0.07	0.15	90.15	0	04:18	0.15
RD-34	STORAGE	0.08	0.15	90.15	0	04:18	0.15
RD-35	STORAGE	0.09	0.15	90.15	0	04:16	0.15
RD-36	STORAGE	0.08	0.15	90.15	0	04:17	0.15
RD-37	STORAGE	0.08	0.15	90.15	0	04:17	0.15
RD-38	STORAGE	0.08	0.15	90.15	0	04:17	0.15
RD-39	STORAGE	0.06	0.15	90.15	0	04:22	0.15
RD-4	STORAGE	0.08	0.15	90.15	0	04:18	0.15
RD-40	STORAGE	0.08	0.15	90.15	0	04:16	0.15
RD-5	STORAGE	0.08	0.15	90.15	0	04:18	0.15
Rd-6	STORAGE	0.07	0.15	90.15	0	04:20	0.15
RD-7	STORAGE	0.07	0.15	90.15	0	04:17	0.15
RD-8	STORAGE	0.09	0.15	90.15	0	04:15	0.15
RD-9	STORAGE	0.09	0.15	90.15	0	04:16	0.15
TD1	STORAGE	0.27	1.09	84.27	0	04:42	1.09
TD2	STORAGE	0.20	1.12	84.15	0	04:34	1.12
TD3	STORAGE	0.14	1.13	84.31	0	04:24	1.13

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow LPS	Maximum Total Inflow LPS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Flow Balance Error Percent
CAP1	JUNCTION	0.00	26.08	0	04:20	0	0.866	0.271
Cap2	JUNCTION	0.00	26.08	0	04:17	0	0.842	0.279
CAP3	JUNCTION	0.00	22.36	0	04:22	0	0.761	0.308
MH101	JUNCTION	0.00	100.35	0	04:22	0	1.78	0.001
MH102	JUNCTION	0.00	100.35	0	04:22	0	1.78	0.000
MH107	JUNCTION	0.00	32.58	0	04:24	0	0.544	-0.000
MH202	JUNCTION	0.00	316.86	0	04:19	0	3.67	0.001
MH207	JUNCTION	0.00	256.38	0	04:18	0	3.28	-0.031
MH208	JUNCTION	0.00	212.35	0	04:18	0	2.45	0.017
MH211	JUNCTION	0.00	95.06	0	04:17	0	1.57	-0.064
XDICB1	JUNCTION	22.52	22.52	0	04:10	0.036	0.036	0.009
CRNYROW	OUTFALL	0.00	22.52	0	04:10	0	0.036	0.000
CRNYSTM2	OUTFALL	0.00	29.90	0	04:11	0	0.0553	0.000
MH100	OUTFALL	0.00	100.35	0	04:22	0	1.78	0.000
STLBROW	OUTFALL	25.26	25.26	0	04:10	0.049	0.049	0.000
STMTRNK	OUTFALL	0.00	316.87	0	04:19	0	3.67	0.000
WKLYROW	OUTFALL	2.20	2.20	0	04:10	0.00201	0.00201	0.000
CB1	STORAGE	17.02	17.02	0	04:10	0.0291	0.0291	0.008
CB11	STORAGE	48.41	48.41	0	04:10	0.0732	0.0732	0.112
CB12	STORAGE	68.70	68.70	0	04:10	0.103	0.103	0.025
CB13	STORAGE	41.47	41.47	0	04:10	0.0699	0.0699	0.011
CB18	STORAGE	34.75	34.75	0	04:10	0.0607	0.0607	0.015
CB2	STORAGE	35.57	35.57	0	04:10	0.0584	0.0584	0.110
CB20	STORAGE	30.78	30.78	0	04:10	0.0555	0.0555	0.017
CB21	STORAGE	44.20	44.20	0	04:10	0.0728	0.0728	0.017
CB22	STORAGE	51.99	51.99	0	04:10	0.0876	0.0876	0.007
CB28	STORAGE	25.28	25.28	0	04:10	0.0459	0.0473	0.149
CB3	STORAGE	30.53	30.53	0	04:10	0.0522	0.0522	0.021
CB4	STORAGE	25.69	25.69	0	04:10	0.0424	0.0424	0.023
CB5	STORAGE	65.32	76.64	0	04:05	0.113	0.113	0.013
LCB122	STORAGE	31.91	31.91	0	04:10	0.055	0.0552	0.006
MH103	STORAGE	29.74	56.23	0	04:08	0.0553	0.287	0.002
MH104	STORAGE	25.00	48.42	0	04:08	0.0467	0.232	-0.010
MH105	STORAGE	30.95	59.45	0	04:07	0.0579	0.185	0.029
MH106	STORAGE	38.41	62.73	0	04:07	0.0685	0.127	-0.058
MH108	STORAGE	0.00	47.57	0	04:04	0	0.506	-0.002
MH109	STORAGE	17.31	74.42	0	04:03	0.027	0.404	-0.029
MH110	STORAGE	0.00	139.29	0	04:03	0	0.383	-0.073
MH203	STORAGE	48.53	71.96	0	04:07	0.0732	0.286	0.004
MH204	STORAGE	49.02	71.86	0	04:05	0.0735	0.212	-0.011
MH205	STORAGE	43.89	70.48	0	04:06	0.0658	0.139	-0.055
MH209	STORAGE	30.95	139.16	0	04:02	0.0525	0.76	-0.015
MH210	STORAGE	0.00	200.61	0	04:02	0	0.707	-0.064
MH212	STORAGE	0.00	59.89	0	04:03	0	0.661	-0.000
MH213	STORAGE	23.33	75.59	0	04:02	0.0383	0.573	-0.123
MH214	STORAGE	0.00	119.14	0	04:01	0	0.544	0.067
RD-1	STORAGE	36.90	36.90	0	04:10	0.07	0.07	-0.000
RD-10	STORAGE	42.85	42.85	0	04:10	0.0813	0.0813	-0.001
RD-11	STORAGE	42.85	42.85	0	04:10	0.0813	0.0813	-0.001
RD-12	STORAGE	42.85	42.85	0	04:10	0.0813	0.0813	-0.001

RD-13	STORAGE	30.35	30.35	0	04:10	0.0576	0.0576	-0.007
RD-14	STORAGE	25.00	25.00	0	04:10	0.0474	0.0474	-0.004
RD-15	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-16	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD17	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-18	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-19	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-2	STORAGE	36.31	36.31	0	04:10	0.0688	0.0688	-0.006
RD-20	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-21	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-22	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-23	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-24	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-25	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-26	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-27	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-28	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.003
RD-29	STORAGE	46.43	46.43	0	04:10	0.0881	0.0881	-0.013
Rd-3	STORAGE	36.31	36.31	0	04:10	0.0688	0.0688	-0.006
RD-30	STORAGE	44.04	44.04	0	04:10	0.0835	0.0835	-0.003
RD-31	STORAGE	44.04	44.04	0	04:10	0.0835	0.0835	-0.003
RD-32	STORAGE	44.04	44.04	0	04:10	0.0835	0.0835	-0.003
RD-33	STORAGE	30.35	30.35	0	04:10	0.0576	0.0576	0.001
RD-34	STORAGE	35.12	35.12	0	04:10	0.0666	0.0666	-0.006
RD-35	STORAGE	38.09	38.09	0	04:10	0.0722	0.0722	0.000
RD-36	STORAGE	35.71	35.71	0	04:10	0.0677	0.0677	-0.006
RD-37	STORAGE	35.71	35.71	0	04:10	0.0677	0.0677	-0.006
RD-38	STORAGE	35.71	35.71	0	04:10	0.0677	0.0677	-0.006
RD-39	STORAGE	24.40	24.40	0	04:10	0.0463	0.0463	-0.007
RD-4	STORAGE	36.31	36.31	0	04:10	0.0688	0.0688	-0.006
RD-40	STORAGE	36.31	36.31	0	04:10	0.0688	0.0688	-0.007
RD-5	STORAGE	36.31	36.31	0	04:10	0.0688	0.0688	-0.006
Rd-6	STORAGE	27.38	27.38	0	04:10	0.0519	0.0519	-0.012
RD-7	STORAGE	30.95	30.95	0	04:10	0.0587	0.0587	-0.005
RD-8	STORAGE	43.45	43.45	0	04:10	0.0824	0.0824	-0.013
RD-9	STORAGE	42.85	42.85	0	04:10	0.0813	0.0813	-0.001
TD1	STORAGE	202.69	230.13	0	04:07	0.362	0.372	0.087
TD2	STORAGE	262.86	280.80	0	04:07	0.489	0.497	0.051
TD3	STORAGE	379.35	379.35	0	04:10	0.708	0.708	0.064

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Node Surcharge Summary
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No nodes were surcharged.

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Node Flooding Summary
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Flooding refers to all water that overflows a node, whether it ponds or not.

Node	Hours Flooded	Maximum Rate LPS	Time of Max Occurrence days hr:min	Total Flood Volume 10^6 ltr	Maximum Ponded Depth Meters
RD-1	0.90	9.40	0 04:17	0.007	0.000
RD-10	1.09	11.37	0 04:16	0.010	0.000
RD-11	1.09	11.37	0 04:16	0.010	0.000
RD-12	1.09	11.37	0 04:16	0.010	0.000
RD-13	0.72	7.46	0 04:17	0.005	0.000
RD-14	0.55	5.78	0 04:17	0.003	0.000
RD-15	0.79	8.84	0 04:17	0.006	0.000
RD-16	0.79	8.84	0 04:17	0.006	0.000
RD17	0.79	8.84	0 04:17	0.006	0.000
RD-18	0.79	8.84	0 04:17	0.006	0.000
RD-19	0.79	8.84	0 04:17	0.006	0.000
RD-2	0.88	9.19	0 04:18	0.007	0.000
RD-20	0.79	8.84	0 04:17	0.006	0.000
RD-21	0.79	8.84	0 04:17	0.006	0.000
RD-22	0.79	8.84	0 04:17	0.006	0.000
RD-23	0.79	8.84	0 04:17	0.006	0.000
RD-24	0.79	8.84	0 04:17	0.006	0.000
RD-25	0.79	8.84	0 04:17	0.006	0.000
RD-26	0.79	8.84	0 04:17	0.006	0.000
RD-27	0.79	8.84	0 04:17	0.006	0.000
RD-28	0.79	8.84	0 04:17	0.006	0.000
RD-29	1.19	12.49	0 04:16	0.012	0.000
Rd-3	0.88	9.19	0 04:18	0.007	0.000

RD-30	1.11	11.74	0	04:16	0.011	0.000
RD-31	1.11	11.74	0	04:16	0.011	0.000
RD-32	1.11	11.74	0	04:16	0.011	0.000
RD-33	0.69	7.39	0	04:18	0.004	0.000
RD-34	0.80	8.88	0	04:18	0.006	0.000
RD-35	0.93	9.77	0	04:16	0.008	0.000
RD-36	0.86	9.01	0	04:17	0.007	0.000
RD-37	0.86	9.01	0	04:17	0.007	0.000
RD-38	0.86	9.01	0	04:17	0.007	0.000
RD-39	0.46	3.76	0	04:22	0.002	0.000
RD-4	0.88	9.19	0	04:18	0.007	0.000
RD-40	0.90	9.23	0	04:16	0.007	0.000
RD-5	0.88	9.19	0	04:18	0.007	0.000
Rd-6	0.54	5.91	0	04:20	0.003	0.000
RD-7	0.73	7.62	0	04:17	0.005	0.000
RD-8	1.11	11.61	0	04:15	0.011	0.000
RD-9	1.09	11.37	0	04:16	0.010	0.000

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days	hr:min	Maximum Outflow LPS
CB1	0.000	1	0	0	0.004	63	0	04:13	7.80
CB11	0.001	3	0	0	0.019	57	0	04:24	29.63
CB12	0.000	1	0	0	0.019	46	0	04:14	28.92
CB13	0.000	1	0	0	0.009	36	0	04:13	21.82
CB18	0.000	0	0	0	0.007	26	0	04:13	20.36
CB2	0.001	2	0	0	0.012	36	0	04:24	24.37
CB20	0.000	0	0	0	0.005	25	0	04:12	20.30
CB21	0.000	1	0	0	0.012	28	0	04:14	19.83
CB22	0.001	1	0	0	0.013	24	0	04:14	33.77
CB28	0.000	1	0	0	0.000	6	0	04:20	24.32
CB3	0.001	3	0	0	0.013	72	0	04:21	7.93
CB4	0.000	2	0	0	0.010	60	0	04:20	7.46
CB5	0.003	6	0	0	0.019	46	0	04:13	47.57
LCB122	0.000	0	0	0	0.000	0	0	04:11	29.90
MH103	0.001	5	0	0	0.016	61	0	04:25	26.01
MH104	0.001	5	0	0	0.013	64	0	04:24	26.50
MH105	0.001	3	0	0	0.014	41	0	04:24	23.42
MH106	0.001	3	0	0	0.013	40	0	04:24	28.51
MH108	0.001	28	0	0	0.004	95	0	04:32	38.97
MH109	0.001	16	0	0	0.004	55	0	04:33	41.33
MH110	0.001	26	0	0	0.003	95	0	04:41	61.51
MH203	0.001	4	0	0	0.023	64	0	04:24	31.63
MH204	0.001	4	0	0	0.021	64	0	04:24	25.60
MH205	0.001	4	0	0	0.020	61	0	04:24	26.46
MH209	0.000	8	0	0	0.003	58	0	04:22	77.91
MH210	0.000	12	0	0	0.002	97	0	04:23	121.12
MH212	0.000	18	0	0	0.002	93	0	04:21	49.36
MH213	0.000	7	0	0	0.002	35	0	04:21	46.22
MH214	0.000	18	0	0	0.002	95	0	04:32	67.74
RD-1	0.013	38	0	0	0.033	100	0	04:17	1.86
RD-10	0.017	44	0	0	0.038	100	0	04:16	1.86
RD-11	0.017	44	0	0	0.038	100	0	04:16	1.86
RD-12	0.017	44	0	0	0.038	100	0	04:16	1.86
RD-13	0.008	32	0	0	0.026	100	0	04:17	1.86
RD-14	0.005	26	0	0	0.021	100	0	04:17	1.86
RD-15	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-16	0.012	37	0	0	0.031	100	0	04:17	1.86
RD17	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-18	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-19	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-2	0.013	38	0	0	0.033	100	0	04:18	1.86
RD-20	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-21	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-22	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-23	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-24	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-25	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-26	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-27	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-28	0.012	37	0	0	0.031	100	0	04:17	1.86
RD-29	0.020	47	0	0	0.042	100	0	04:16	1.86
Rd-3	0.013	38	0	0	0.033	100	0	04:18	1.86
RD-30	0.018	45	0	0	0.040	100	0	04:16	1.86
RD-31	0.018	45	0	0	0.040	100	0	04:16	1.86

RD-32	0.018	45	0	0	0.040	100	0	04:16	1.86
RD-33	0.009	32	0	0	0.027	100	0	04:18	1.86
RD-34	0.012	37	0	0	0.031	100	0	04:18	1.86
RD-35	0.013	40	0	0	0.034	100	0	04:16	1.86
RD-36	0.012	38	0	0	0.032	100	0	04:17	1.86
RD-37	0.012	38	0	0	0.032	100	0	04:17	1.86
RD-38	0.012	38	0	0	0.032	100	0	04:17	1.86
RD-39	0.006	26	0	0	0.022	100	0	04:22	1.86
RD-4	0.013	38	0	0	0.033	100	0	04:18	1.86
RD-40	0.012	38	0	0	0.032	100	0	04:16	1.86
RD-5	0.013	38	0	0	0.033	100	0	04:18	1.86
Rd-6	0.007	29	0	0	0.025	100	0	04:20	1.86
RD-7	0.009	32	0	0	0.027	100	0	04:17	1.86
RD-8	0.017	44	0	0	0.038	100	0	04:15	1.86
RD-9	0.017	44	0	0	0.038	100	0	04:16	1.86
TD1	0.023	6	0	0	0.157	39	0	04:42	139.29
TD2	0.021	5	0	0	0.206	46	0	04:34	119.14
TD3	0.013	3	0	0	0.206	53	0	04:24	200.61

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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
CRNYROW	60.07	1.07	22.52	0.036
CRNYSTM2	65.43	1.51	29.90	0.055
MH100	87.58	34.47	100.35	1.775
STLBROW	64.84	1.35	25.26	0.049
STMTRNK	89.48	70.11	316.87	3.669
WKLYROW	5.96	0.56	2.20	0.002
System	62.23	109.07	485.76	5.587

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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
101-100	CONDUIT	100.35	0	04:22	1.64	0.35	0.41
102-101	CONDUIT	100.35	0	04:22	1.63	0.35	0.41
104-103	CONDUIT	26.50	0	04:08	0.26	0.21	1.00
105-104	CONDUIT	23.42	0	04:08	0.52	0.19	1.00
106-105	CONDUIT	28.51	0	04:07	0.51	0.23	1.00
107-102	CONDUIT	32.58	0	04:24	0.84	0.21	0.29
109-108	CONDUIT	41.33	0	04:05	0.37	0.43	1.00
110-109	CONDUIT	61.51	0	04:03	0.56	0.64	1.00
111-106	CONDUIT	24.37	0	04:07	0.78	0.41	1.00
11-205	CONDUIT	29.63	0	04:06	0.81	0.50	1.00
122-CSTM2	CONDUIT	29.90	0	04:11	1.70	2.77	1.00
202-TRNK	CONDUIT	316.87	0	04:19	1.96	0.15	0.26
204-203	CONDUIT	25.60	0	04:07	0.26	0.27	1.00
205-204	CONDUIT	26.46	0	04:05	0.41	0.28	1.00
207-202	CONDUIT	256.38	0	04:19	1.51	0.76	0.58
208-207	CONDUIT	212.34	0	04:18	1.15	0.77	0.62
210-209	CONDUIT	121.12	0	04:02	0.56	0.50	1.00
211-208	CONDUIT	95.17	0	04:21	0.97	0.49	0.54
213-212	CONDUIT	46.22	0	06:04	0.40	0.32	1.00
214-213	CONDUIT	63.52	0	04:02	0.66	0.66	1.00
22-212	CONDUIT	33.77	0	04:03	1.07	1.02	1.00
28-214	CONDUIT	24.32	0	04:10	0.50	0.52	1.00
5-108	CONDUIT	47.57	0	04:04	1.51	1.03	1.00
CAP1-102	CONDUIT	26.08	0	04:20	1.52	0.56	0.54
CAP2-211	CONDUIT	26.09	0	04:17	1.52	0.56	0.54
CAP3-207	CONDUIT	22.36	0	04:22	1.46	0.48	0.49
DICB1-CSTM	CONDUIT	22.52	0	04:10	1.21	0.21	0.31
TD1-110	CONDUIT	139.29	0	04:03	2.05	0.56	1.00
TD2-214	CONDUIT	119.14	0	04:01	1.42	0.68	1.00
TD3-210	CONDUIT	200.61	0	04:02	1.70	0.67	1.00
12-202	ORIFICE	28.92	0	04:14			1.00
13-207	ORIFICE	21.82	0	04:13			1.00
18-208	ORIFICE	20.36	0	04:13			1.00
20-208	ORIFICE	20.30	0	04:12			1.00

203-202	ORIFICE	31.63	0	04:24	1.00
209-208	ORIFICE	77.91	0	04:38	1.00
21-211	ORIFICE	19.83	0	04:14	1.00
212-211	ORIFICE	49.36	0	04:38	1.00
OR1	ORIFICE	7.80	0	04:13	1.00
OR2	ORIFICE	7.93	0	04:21	1.00
OR3	ORIFICE	7.46	0	04:20	1.00
OR4	ORIFICE	26.01	0	04:25	1.00
OR5	ORIFICE	25.13	0	04:32	1.00
OL1	DUMMY	1.86	0	04:15	
OL10	DUMMY	1.86	0	04:18	
OL11	DUMMY	1.86	0	04:18	
OL12	DUMMY	1.86	0	04:18	
OL13	DUMMY	1.86	0	04:18	
OL14	DUMMY	1.86	0	04:17	
OL15	DUMMY	1.86	0	04:17	
OL16	DUMMY	1.86	0	04:17	
OL17	DUMMY	1.86	0	04:17	
OL18	DUMMY	1.86	0	04:17	
OL19	DUMMY	1.86	0	04:17	
OL2	DUMMY	1.86	0	04:16	
OL20	DUMMY	1.86	0	04:17	
OL21	DUMMY	1.86	0	04:17	
OL22	DUMMY	1.86	0	04:17	
OL23	DUMMY	1.86	0	04:17	
OL24	DUMMY	1.86	0	04:17	
OL25	DUMMY	1.86	0	04:17	
OL26	DUMMY	1.86	0	04:17	
OL27	DUMMY	1.86	0	04:17	
OL28	DUMMY	1.86	0	04:17	
OL29	DUMMY	1.86	0	04:18	
OL3	DUMMY	1.86	0	04:16	
OL30	DUMMY	1.86	0	04:18	
OL31	DUMMY	1.86	0	04:16	
OL32	DUMMY	1.86	0	04:16	
OL33	DUMMY	1.86	0	04:16	
OL34	DUMMY	1.86	0	04:16	
OL35	DUMMY	1.86	0	04:16	
OL36	DUMMY	1.86	0	04:17	
OL37	DUMMY	1.86	0	04:17	
OL38	DUMMY	1.86	0	04:17	

OL39	DUMMY	1.86	0	04:22	
OL4	DUMMY	1.86	0	04:16	
OL40	DUMMY	1.86	0	04:16	
OL5	DUMMY	1.86	0	04:16	
OL6	DUMMY	1.86	0	04:17	
OL7	DUMMY	1.86	0	04:17	
OL8	DUMMY	1.86	0	04:17	
OL9	DUMMY	1.86	0	04:20	

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Flow Classification Summary
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	Adjusted	Fraction of Time in Flow Class								
	/Actual		Up	Down	Sub	Sup	Up	Down	Norm	Inlet
Conduit	Length	Dry	Dry	Dry	Crit	Crit	Crit	Crit	Ltd	Ctrl
101-100	1.00	0.00	0.01	0.00	0.41	0.58	0.00	0.00	0.88	0.00
102-101	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
104-103	1.00	0.02	0.00	0.00	0.66	0.01	0.00	0.31	0.32	0.00
105-104	1.00	0.02	0.00	0.00	0.23	0.00	0.00	0.75	0.02	0.00
106-105	1.00	0.02	0.00	0.00	0.67	0.00	0.00	0.31	0.06	0.00
107-102	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
109-108	1.00	0.02	0.00	0.00	0.66	0.00	0.00	0.32	0.16	0.00
110-109	1.00	0.02	0.00	0.00	0.43	0.00	0.00	0.54	0.07	0.00
111-106	1.00	0.02	0.00	0.00	0.17	0.00	0.00	0.81	0.01	0.00
11-205	1.00	0.02	0.00	0.00	0.14	0.00	0.00	0.83	0.01	0.00
122-CSTM2	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.45	0.00
202-TRNK	1.00	0.00	0.01	0.00	0.11	0.88	0.00	0.00	0.43	0.00
204-203	1.00	0.02	0.00	0.00	0.66	0.00	0.00	0.32	0.35	0.00
205-204	1.00	0.02	0.00	0.00	0.49	0.00	0.00	0.49	0.02	0.00
207-202	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
208-207	1.00	0.01	0.00	0.00	0.89	0.00	0.00	0.10	0.49	0.00
210-209	1.00	0.02	0.00	0.00	0.68	0.00	0.00	0.29	0.38	0.00
211-208	1.00	0.01	0.00	0.00	0.14	0.00	0.00	0.85	0.04	0.00
213-212	1.00	0.02	0.00	0.00	0.53	0.00	0.00	0.45	0.10	0.00
214-213	1.00	0.02	0.00	0.00	0.22	0.00	0.00	0.75	0.02	0.00
22-212	1.00	0.02	0.00	0.00	0.21	0.00	0.00	0.77	0.00	0.00
28-214	1.00	0.05	0.00	0.00	0.19	0.00	0.00	0.76	0.01	0.00

5-108	1.00	0.02	0.00	0.00	0.31	0.00	0.00	0.67	0.00	0.00
CAP1-102	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP2-211	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
CAP3-207	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
DICB1-CSTM	1.00	0.02	0.00	0.00	0.31	0.66	0.00	0.00	0.05	0.00
TD1-110	1.00	0.02	0.00	0.00	0.27	0.00	0.00	0.71	0.01	0.00
TD2-214	1.00	0.02	0.00	0.00	0.19	0.00	0.00	0.79	0.00	0.00
TD3-210	1.00	0.02	0.00	0.00	0.12	0.00	0.00	0.86	0.00	0.00

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Conduit Surcharge Summary
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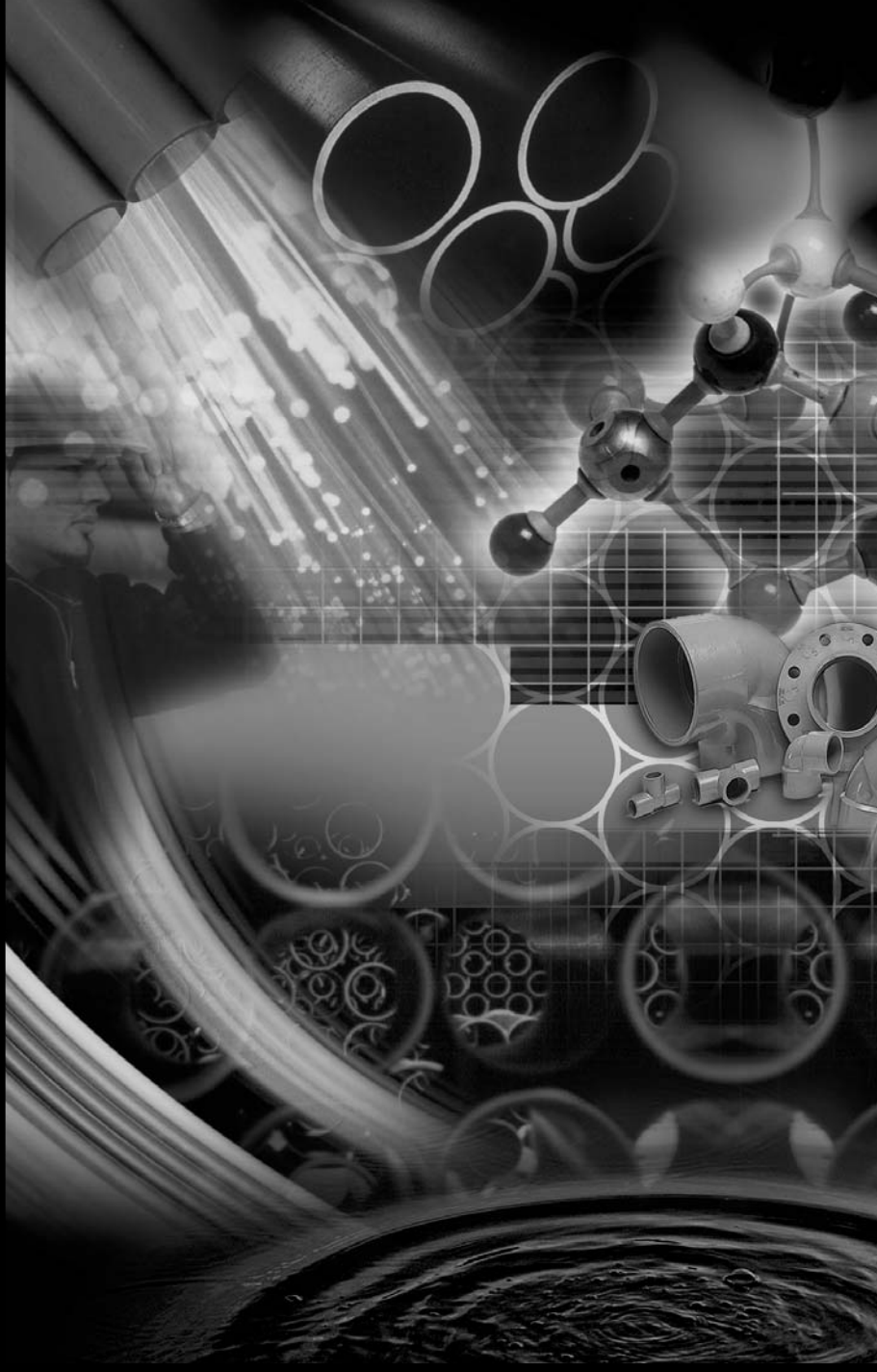
Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
104-103	2.67	2.67	2.87	0.01	0.01
105-104	2.53	2.53	2.66	0.01	0.01
106-105	2.35	2.35	2.52	0.01	0.01
109-108	5.34	5.34	5.45	0.01	0.01
110-109	4.73	4.73	5.29	0.01	0.01
111-106	2.16	2.16	2.32	0.01	0.01
11-205	1.84	1.84	1.98	0.01	0.01
122-CSTM2	0.02	0.44	0.02	0.50	0.02
204-203	2.09	2.09	2.21	0.01	0.01
205-204	2.00	2.00	2.08	0.01	0.01
210-209	1.85	1.85	2.00	0.01	0.01
213-212	3.01	3.01	3.04	0.01	0.01
214-213	2.79	2.79	3.01	0.01	0.01
22-212	3.01	3.01	3.04	0.01	0.01
28-214	2.64	2.64	2.78	0.01	0.01
5-108	4.57	4.57	4.62	0.01	0.01
TD1-110	3.83	3.83	3.96	0.01	0.01
TD2-214	2.63	2.63	2.68	0.01	0.01
TD3-210	1.67	1.67	1.69	0.01	0.01

Analysis begun on: Wed Aug 25 11:22:43 2021

Analysis ended on: Wed Aug 25 11:22:47 2021
Total elapsed time: 00:00:04

Volume III: TEMPEST™ INLET CONTROL DEVICES



Municipal Technical Manual Series

SECOND EDITION

LMF (Low to Medium Flow) ICD

HF (High Flow) ICD

MHF (Medium to High Flow) ICD

IPEX

PRODUCT INFORMATION: TEMPEST LOW, MEDIUM FLOW (LMF) ICD

Purpose

To control the amount of storm water runoff entering a sewer system by allowing a specified flow volume out of a catch basin or manhole at a specified head. This approach conserves pipe capacity so that catch basins downstream do not become uncontrollably surcharged, which can lead to basement floods, flash floods and combined sewer overflows.

Product Description

Our LMF ICD is designed to accommodate catch basins or manholes with sewer outlet pipes 6" in diameter and larger. Any storm sewer larger than 12" may require custom modification. However, IPEX can custom build a TEMPEST device to accommodate virtually any storm sewer size.

Available in 14 preset flow curves, the LMF ICD has the ability to provide flow rates: 2lps – 17lps (31gpm – 270gpm)

Product Function

The LMF ICD vortex flow action allows the LMF ICD to provide a narrower flow curve using a larger orifice than a conventional orifice plate ICD, making it less likely to clog. When comparing flows at the same head level, the LMF ICD has the ability to restrict more flow than a conventional ICD during a rain event, preserving greater sewer capacity.

Product Construction

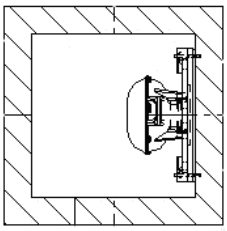
Constructed from durable PVC, the LMF ICD is light weight 8.9 Kg (19.7 lbs).

Product Applications

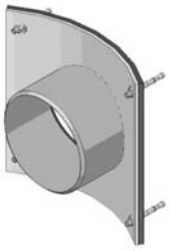
Will accommodate both square and round applications:

Square Application

Universal Mounting Plate



Round Application



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Spigot CB Wall Plate

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Universal Mounting Plate Hub Adapter

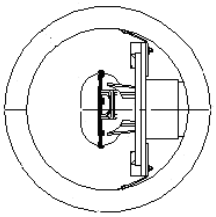


Chart 1: LMF 14 Preset Flow Curves

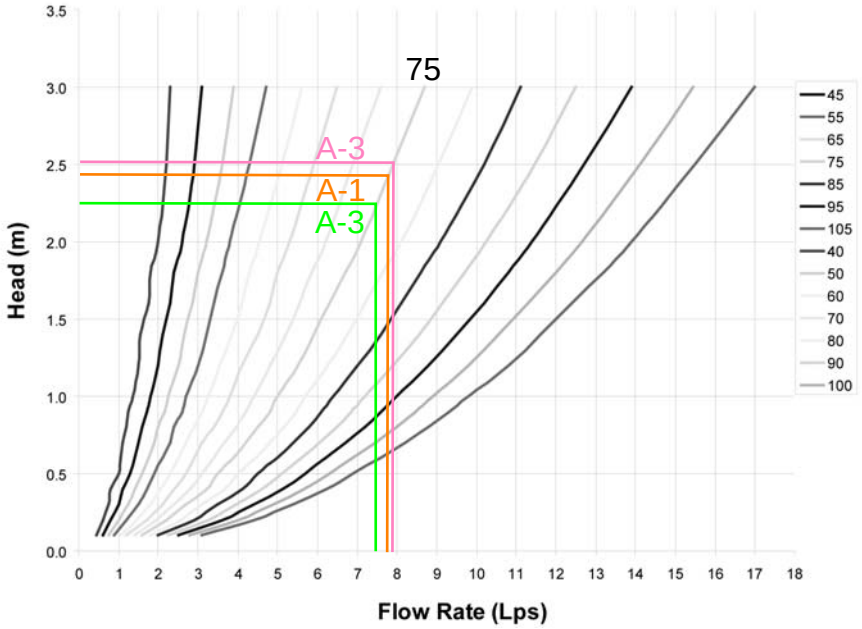
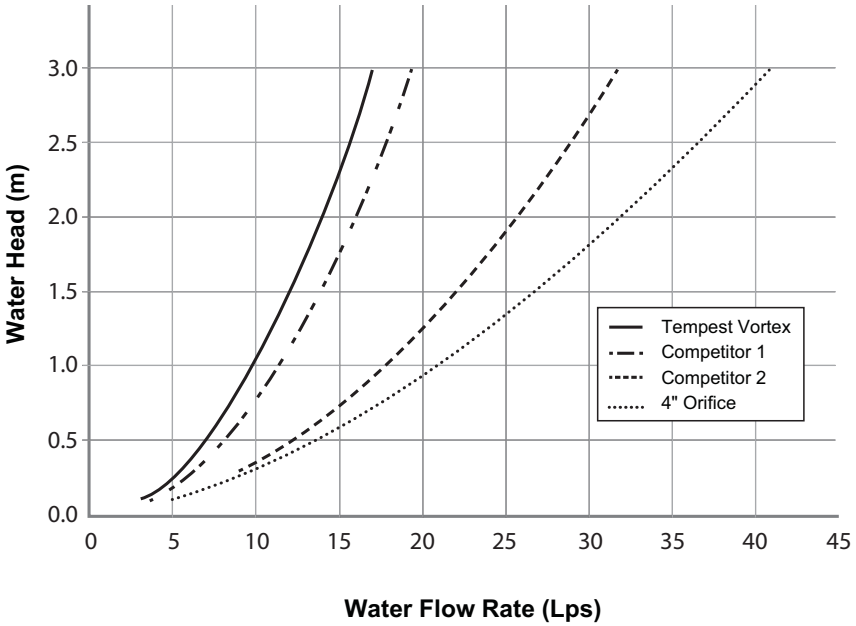


Chart 2: LMF Flow vs. ICD Alternatives



PRODUCT INSTALLATION

Instructions to assemble a TEMPEST LMF ICD into a Square Catch Basin:

STEPS:

1. Materials and tooling verification:
   - Tooling: impact drill, 3/8" concrete bit, torque wrench for 9/16" nut, hand hammer, level, and marker.
   - Material: (4) concrete anchor 3/8 x 3-1/2, (4) washers, (4) nuts, universal mounting plate, ICD device.
2. Use the mounting wall plate to locate and mark the hole (4) pattern on the catch basin wall. You should use a level to ensure that the plate is at the horizontal.
3. Use an impact drill with a 3/8" concrete bit to make the four holes at a minimum of 1-1/2" depth up to 2-1/2". Clean the concrete dust from the holes.
4. Install the anchors (4) in the holes by using a hammer. Thread the nuts on the top of the anchors to protect the threads when you hit the anchors with the hammer. Remove the nuts from the ends of the anchors.
5. Install the universal mounting plate on the anchors and screw the 4 nuts in place with a maximum torque of 40 N.m (30 lbf-ft). There should be no gap between the wall mounting plate and the catch basin wall.
6. From the ground above using a reach bar, lower the ICD device by hooking the end of the reach bar to the handle of the ICD device. Align the triangular plate portion into the mounting wall plate. Push down the device to be sure it has centered in to the universal mounting plate and has created a seal.

⚠ WARNING

- Verify that the outlet pipe doesn't protrude into the catch basin. If it does, cut down the pipe flush to the catch basin wall.
- Call your IPEX representative for more information or if you have any questions about our products.

Instructions to assemble a TEMPEST LMF ICD into a Round Catch Basin:

STEPS:

1. Materials and tooling verification.
   - Tooling: impact drill, 3/8" concrete bit, torque wrench for 9/16" nut, hand hammer, level and marker.
   - Material: (4) concrete anchor 3/8 x 3-1/2, (4) washers and (4) nuts, spigot CB wall plate, universal mounting plate hub adapter, ICD device.
2. Use the spigot catch basin wall plate to locate and mark the hole (4) pattern on the catch basin wall. You should use a level to ensure that the plate is at the horizontal.
3. Use an impact drill with a 3/8" concrete bit to make the four holes at a depth between 1-1/2" to 2-1/2". Clean the concrete dust from the holes.
4. Install the anchors (4) in the holes by using a hammer. Thread the nuts on the top of the anchors to protect the threads when you hit the anchors with the hammer. Remove the nuts from the ends of the anchors.
5. Install the CB spigot wall plate on the anchors and screw the 4 nuts in place with a maximum torque of 40 N.m (30 lbf-ft). There should be no gap between the spigot wall plate and the catch basin wall.
6. Apply solvent cement on the hub of the universal mounting plate, hub adapter and the spigot of the CB wall plate, then slide the hub over the spigot. Make sure the universal mounting plate is at the horizontal and its hub is completely inserted onto the spigot. Normally, the corners of the universal mounting plate hub adapter should touch the catch basin wall.
7. From ground above using a reach bar, lower the ICD device by hooking the end of the reach bar to the handle of the ICD device. Align the triangular plate portion into the mounting wall plate. Push down the device to be sure it has centered in to the mounting plate and has created a seal.

⚠ WARNING

- Verify that the outlet pipe doesn't protrude into the catch basin. If it does, cut back the pipe flush to the catch basin wall.
- The solvent cement which is used in this installation is to be approved for PVC.
- The solvent cement should not be used below 0°C (32°F) or in a high humidity environment. Refer to the IPEX solvent cement guide to confirm the required curing time or visit the IPEX Online Solvent Cement Training Course available at www.ipexinc.com.
- Call your IPEX representative for more information or if you have any questions about our products.

PRODUCT TECHNICAL SPECIFICATION

General

Inlet control devices (ICD's) are designed to provide flow control at a specified rate for a given water head level and also provide odour and floatable control. All ICD's will be IPEX Tempest or approved equal.

All devices shall be removable from a universal mounting plate. An operator from street level using only a T-bar with a hook will be able to retrieve the device while leaving the universal mounting plate secured to the catch basin wall face. The removal of the TEMPEST devices listed above must not require any unbolting or special manipulation or any special tools.

High Flow (HF) Sump devices will consist of a removable threaded cap which can be accessible from street level with out entry into the catchbasin (CB). The removal of the threaded cap shall not require any special tools other than the operator's hand.

ICD's shall have no moving parts.

Materials

ICD's are to be manufactured from Polyvinyl Chloride (PVC) or Polyurethane material, designed to be durable enough to withstand multiple freeze-thaw cycles and exposure to harsh elements.

The inner ring seal will be manufactured using a Buna or Nitrile material with hardness between Duro 50 and Duro 70.

The wall seal is to be comprised of a 3/8" thick Neoprene Closed Cell Sponge gasket which is attached to the back of the wall plate.

All hardware will be made from 304 stainless steel.

Dimensioning

The Low Medium Flow (LMF), High Flow (HF) and the High Flow (HF) Sump shall allow for a minimum outlet pipe diameter of 200mm with a 600mm deep Catch Basin sump.

Installation

Contractor shall be responsible for securing, supporting and connecting the ICD's to the existing influent pipe and catchbasin/manhole structure as specified and designed by the Engineer.

WATTS® DRAINAGE

Adjustable Accutrol Weir

Tag: RD-100-A-ADJ

Adjustable Flow Control for Roof Drains

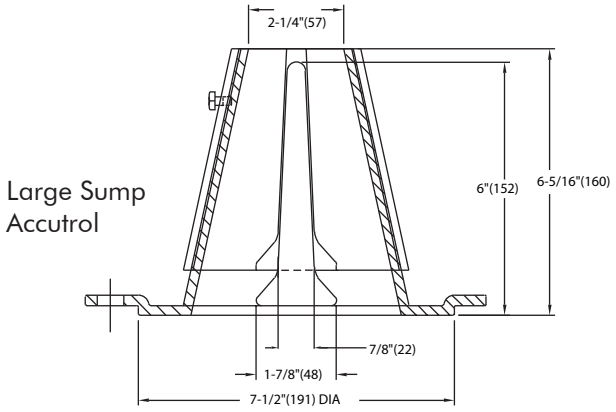
ADJUSTABLE ACCUTROL(for Large Sump Roof Drains only)

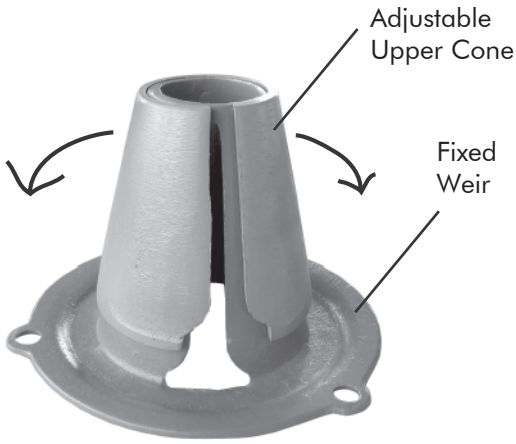
For more flexibility in controlling flow with heads deeper than 2", Watts Drainage offers the Adjustable Accutrol. The Adjustable Accutrol Weir is designed with a single parabolic opening that can be covered to restrict flow above 2" of head to less than 5 gpm per inch, up to 6" of head. To adjust the flow rate for depths over 2" of head, set the slot in the adjustable upper cone according to the flow rate required. Refer to Table 1 below.
Note: Flow rates are directly proportional to the amount of weir opening that is exposed.

EXAMPLE:

For example, if the adjustable upper cone is set to cover 1/2 of the weir opening, flow rates above 2" of head will be restricted to 2-1/2 gpm per inch of head.

Therefore, at 3" of head, the flow rate through the Accutrol Weir that has 1/2 the slot exposed will be:
[5 gpm(per inch of head) x 2 inches of head] + 2-1/2 gpm(for the third inch of head) = 12-1/2 gpm.





1/2 Weir Opening Exposed Shown Above

TABLE 1. Adjustable Accutrol Flow Rate Settings

Weir Opening Exposed	Head of Water 1"	2"	3"	4"	5"	6"
	Flow Rate (gallons per minute)					
Fully Exposed	5	10	15	20	25	30
3/4	5	10	13.75	17.5	21.25	25
1/2	5	10	12.5	15	17.5	20
1/4	5	10	11.25	12.5	13.75	15
Closed	5	10	10	10	10	10

Job Name _____ Contractor _____

Job Location _____ Contractor's P.O. No. _____

Engineer _____ Representative _____

WATTS® DRAINAGE
CANADA: 5435 North Service Road, Burlington, ON, L7L 5H7 TEL: 905-332-6718 TOLL-FREE: 1-888-208-8927 Website: www.wattsdrainage.ca
CANADA

CDS Average Annual Efficiency For TSS Removal & Total Annual Volume Treated

Area = 1.80 ha
Impervious: 90 %
CDS Model: PMSU2025_5
Flowrate: 45 l/s
IDF Data: Ottawa
PSD: FINE

Upstream Storage:
100yr Storage TBC m^3

Engineer: **Novatech**
Contact: Matthew Hrehoriak
Date: 26-Feb-21

Project: 2020 Walkley Rd.
Location: Ottawa, ON
OGS ID: CDS 1

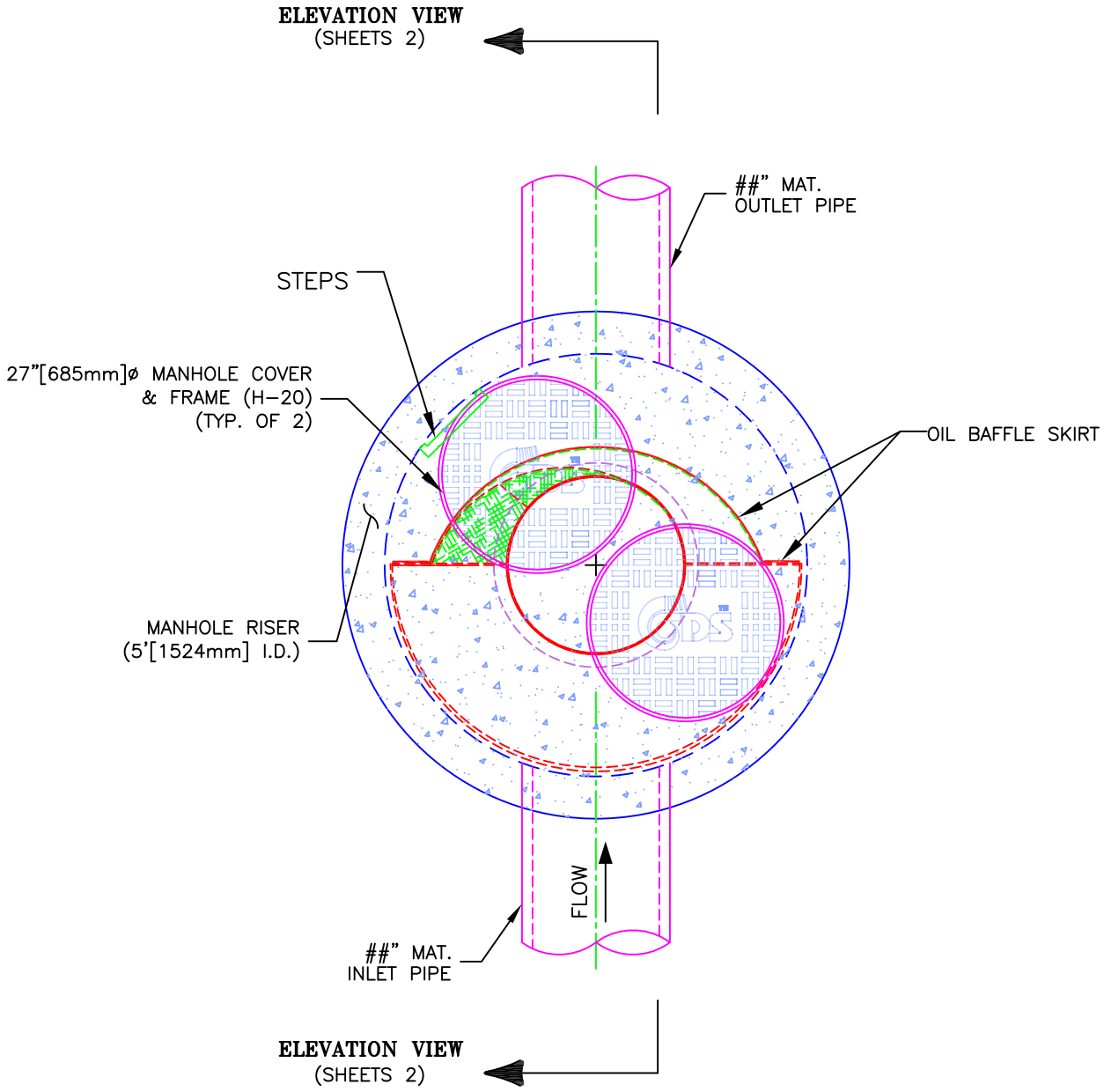
Return	Period	Peak Flow	TSS Percentage Captured	Treated Flow Volume	Total Flow Volume	Annual Exceedance Probability	System Flow	CDS Flow	By-Pass Flow	Volume Percentage Treated
month / yr	Yr	l/s	%	litres	litres	%	l/s	l/s	l/s	%
1-M	0.08	11.63	94.01	54778	54778	**100.00**	11.63	11.63	0.00	100.00
2-M	0.17	17.73	91.41	85475	85475	**99.75**	17.73	17.73	0.00	100.00
3-M	0.25	22.49	89.34	111061	111061	**98.17**	22.49	22.49	0.00	100.00
4-M	0.33	26.58	87.55	134335	134335	**95.04**	26.58	26.58	0.00	100.00
5-M	0.42	32.59	84.81	173431	173431	**90.91**	32.59	32.59	0.00	100.00
6-M	0.50	38.60	82.08	212527	212527	**86.47**	38.60	38.60	0.00	100.00
7-M	0.58	39.95	81.44	222855	222855	**82.01**	39.95	39.95	0.00	100.00
8-M	0.67	41.29	80.79	233183	233183	**77.67**	41.29	41.29	0.00	100.00
9-M	0.75	42.64	80.15	243511	243511	**73.64**	42.64	42.64	0.00	100.00
10-M	0.83	44.79	78.83	260701	262509	**69.90**	44.79	44.79	0.00	99.40
11-M	0.92	46.95	77.51	277892	281508	**66.40**	46.95	45.31	1.64	98.80
1-Yr	1	49.10	76.19	295082	300506	**63.21**	49.10	45.31	3.79	98.20
2-Yr	2	51.96	73.94	317032	329658	**39.35**	51.96	45.31	6.65	96.17
5-Yr	5	56.29	70.47	351676	378872	**18.13**	56.29	45.31	10.98	92.82
10-Yr	10	59.09	68.20	374833	414025	**9.52**	59.09	45.31	13.79	90.53
25-Yr	25	60.35	67.20	385195	430341	**3.92**	60.35	45.31	15.05	89.51
50-Yr	50	61.81	66.06	396901	449397	**1.98**	61.81	45.31	16.51	88.32
100-Yr	100	64.70	63.94	418437	486199	**1.00**	64.70	45.31	19.39	86.06
Average Annual TSS Removal Efficiency [%]:					**84.2**	Ave. Ann. T. Volume [%]:				**99.4**

Notes:
1) CDS Efficiency based on testing conducted at the University of Central Florida
2) CDS design flowrate and scaling based on standard manufacturer model & product specificiations

ECHELON ENVIRONMENTAL

CDS TECHNOLOGIES

PLAN VIEW

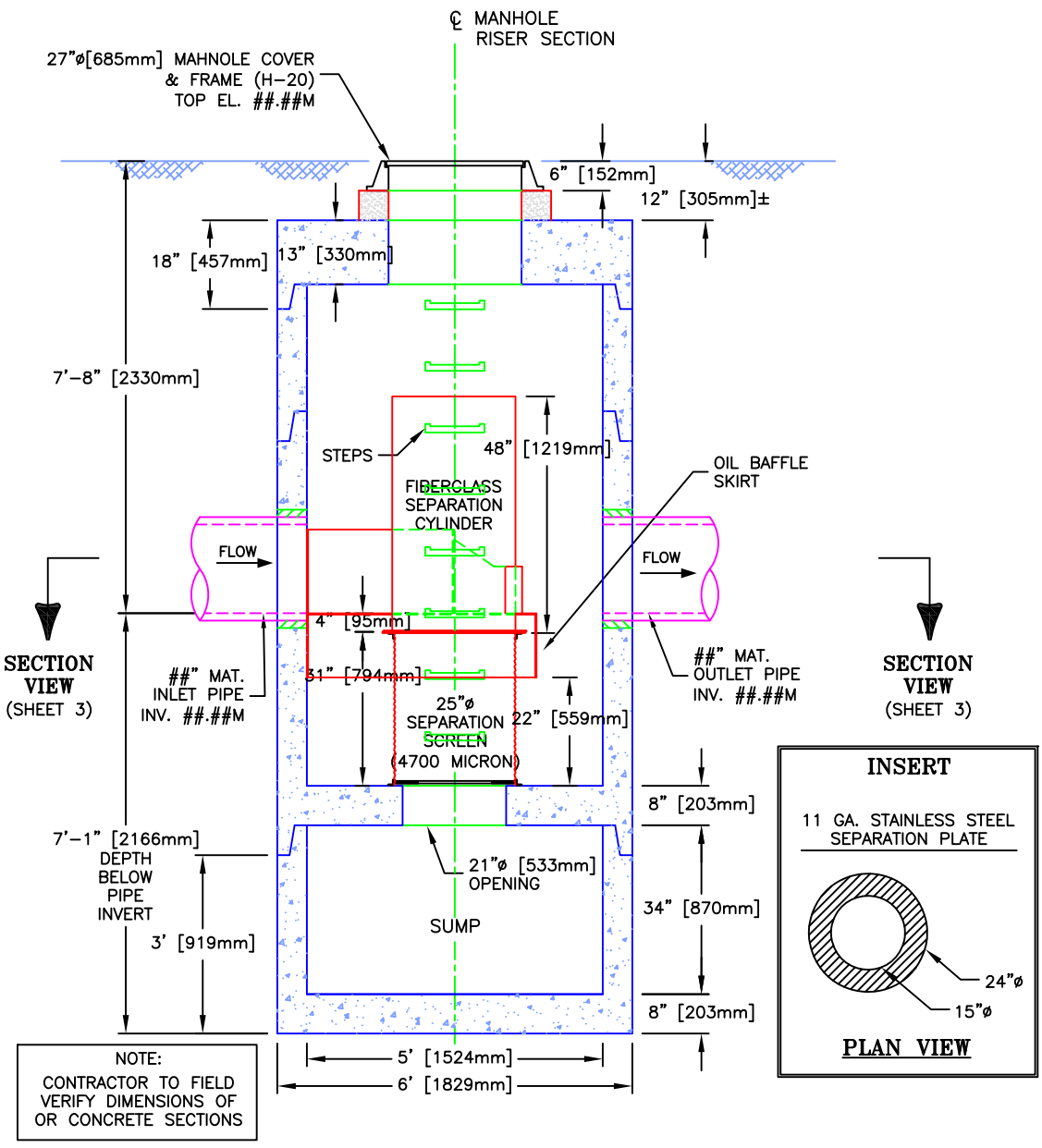


CDS MODEL PMSU20_25m, 45 L/s TREATMENT CAPACITY STORM WATER TREATMENT UNIT

CONTECH STORMWATER SOLUTIONS	PROJECT NAME CITY, STATE	JOB# XX-##-###	SCALE 1" = 2'
		DATE ##/##/##	SHEET 1
		DRAWN INITIALS	
		APPROV.	

Echelon Environmental 505 Hood Road, Unit 26, Markham, Ontario L3R 5V6 Tel: (905) 948-0000 Fax: (905) 948-0577
CONTECH Stormwater Solutions Inc. 930 Woodcock Road, Suite 101, Orlando, Florida 32803 Tel: (800) 848-9955

ELEVATION VIEW



CDS MODEL PMSU20_25m, 45 L/s TREATMENT CAPACITY STORM WATER TREATMENT UNIT

CONTECH STORMWATER SOLUTIONS	PROJECT NAME CITY, STATE	JOB# XX-##-###	SCALE 1" = 3'
		DATE ##/##/##	SHEET 2
		DRAWN INITIALS	
		APPROV.	

Echelon Environmental 505 Hood Road, Unit 26, Markham, Ontario L3R 5V6 Tel: (905) 948-0000 Fax: (905) 948-0577
CONTECH Stormwater Solutions Inc. 930 Woodcock Road, Suite 101, Orlando, Florida 32803 Tel: (800) 848-9955

CDS Average Annual Efficiency For TSS Removal & Total Annual Volume Treated

Area =	3.61	ha	**Upstream Storage:**		**Engineer:**	**Novatech**
Impervious:	90	%	100yr Storage TBC	m^3	**Contact:**	Matthew Hrehoriak
CDS Model:	PMSU3030_6				**Date:**	26-Feb-21
Flowrate:	85	l/s				
IDF Data:	Ottawa				**Project:**	2020 Walkley Rd.
PSD:	FINE				**Location:**	Ottawa, ON
					OGS ID:	CDS 2

Return	Period	Peak Flow	TSS Percentage Captured	Treated Flow Volume	Total Flow Volume	Annual Exceedance Probability	System Flow	CDS Flow	By-Pass Flow	Volume Percentage Treated
month / yr	Yr	l/s	%	litres	litres	%	l/s	l/s	l/s	%
1-M	0.08	26.82	92.65	105085	105085	**100.00**	26.82	26.82	0.00	100.00
2-M	0.17	39.32	89.57	168007	168007	**99.75**	39.32	39.32	0.00	100.00
3-M	0.25	47.52	87.44	219384	219384	**98.17**	47.52	47.52	0.00	100.00
4-M	0.33	53.48	85.82	265332	265332	**95.04**	53.48	53.48	0.00	100.00
5-M	0.42	61.67	83.70	341782	341782	**90.91**	61.67	61.67	0.00	100.00
6-M	0.50	69.86	81.58	418231	418231	**86.47**	69.86	69.86	0.00	100.00
7-M	0.58	72.88	81.00	439232	439232	**82.01**	72.88	72.88	0.00	100.00
8-M	0.67	75.90	80.41	460232	460232	**77.67**	75.90	75.90	0.00	100.00
9-M	0.75	78.92	79.83	481232	481232	**73.64**	78.92	78.92	0.00	100.00
10-M	0.83	88.43	77.74	512654	522862	**69.90**	88.43	84.95	3.48	98.32
11-M	0.92	97.94	75.64	544077	564492	**66.40**	97.94	84.95	12.99	96.63
1-Yr	1	107.45	73.55	575499	606123	**63.21**	107.45	84.95	22.50	94.95
2-Yr	2	129.58	68.96	605073	675456	**39.35**	129.58	84.95	44.63	89.58
5-Yr	5	145.71	66.09	619553	719583	**18.13**	145.71	84.95	60.76	86.10
10-Yr	10	147.35	65.81	620794	723864	**9.52**	147.35	84.95	62.40	85.76
25-Yr	25	149.42	65.47	622325	729223	**3.92**	149.42	84.95	64.47	85.34
50-Yr	50	160.38	63.76	629610	756542	**1.98**	160.38	84.95	75.43	83.22
100-Yr	100	165.87	62.97	632787	769440	**1.00**	165.87	84.95	80.92	82.24
Average Annual TSS Removal Efficiency [%]:					**82.8**	Ave. Ann. T. Volume [%]:				**98.8**

Notes:

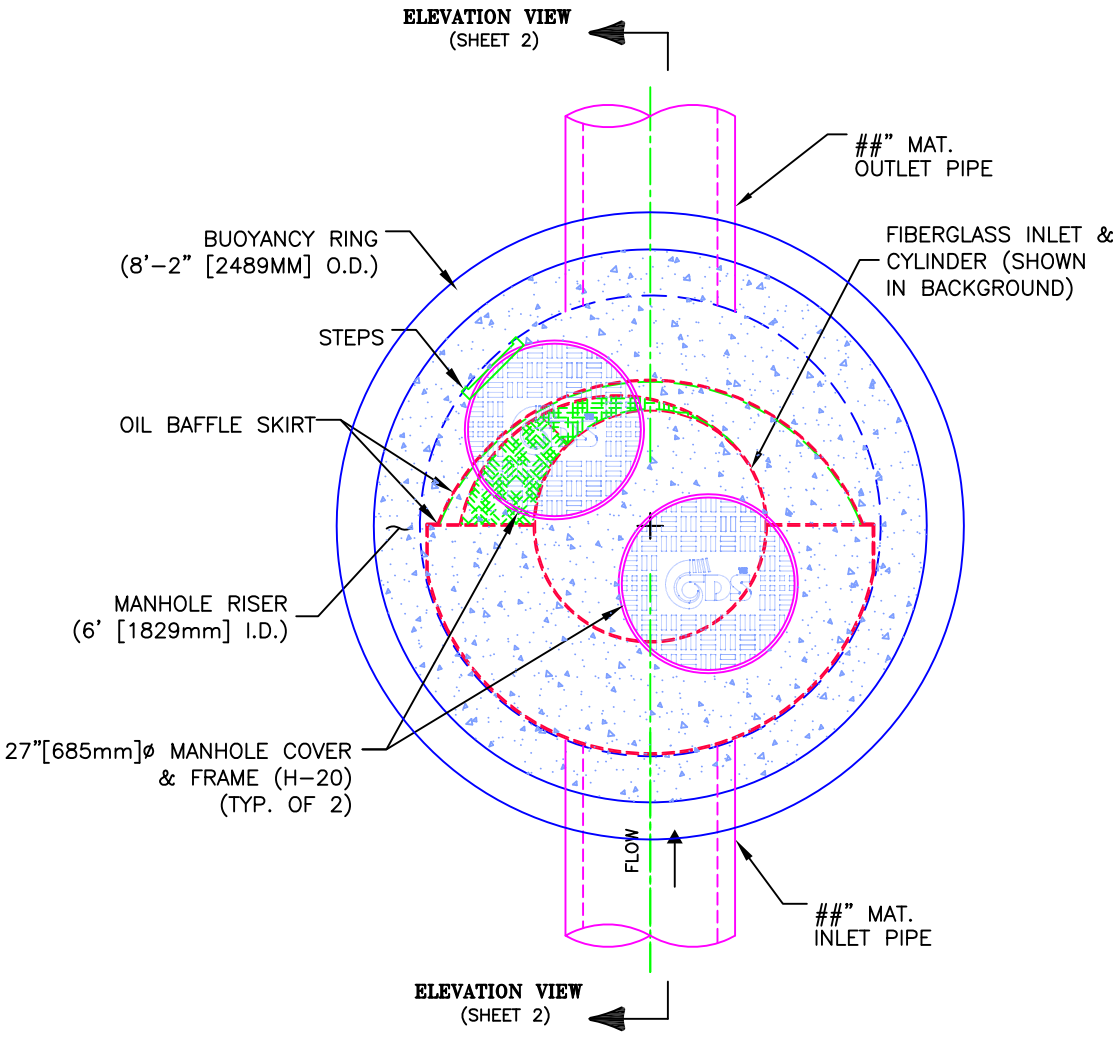
1) CDS Efficiency based on testing conducted at the University of Central Florida

2) CDS design flowrate and scaling based on standard manufacturer model & product specificiations

ECHELON ENVIRONMENTAL

CDS TECHNOLOGIES

PLAN VIEW

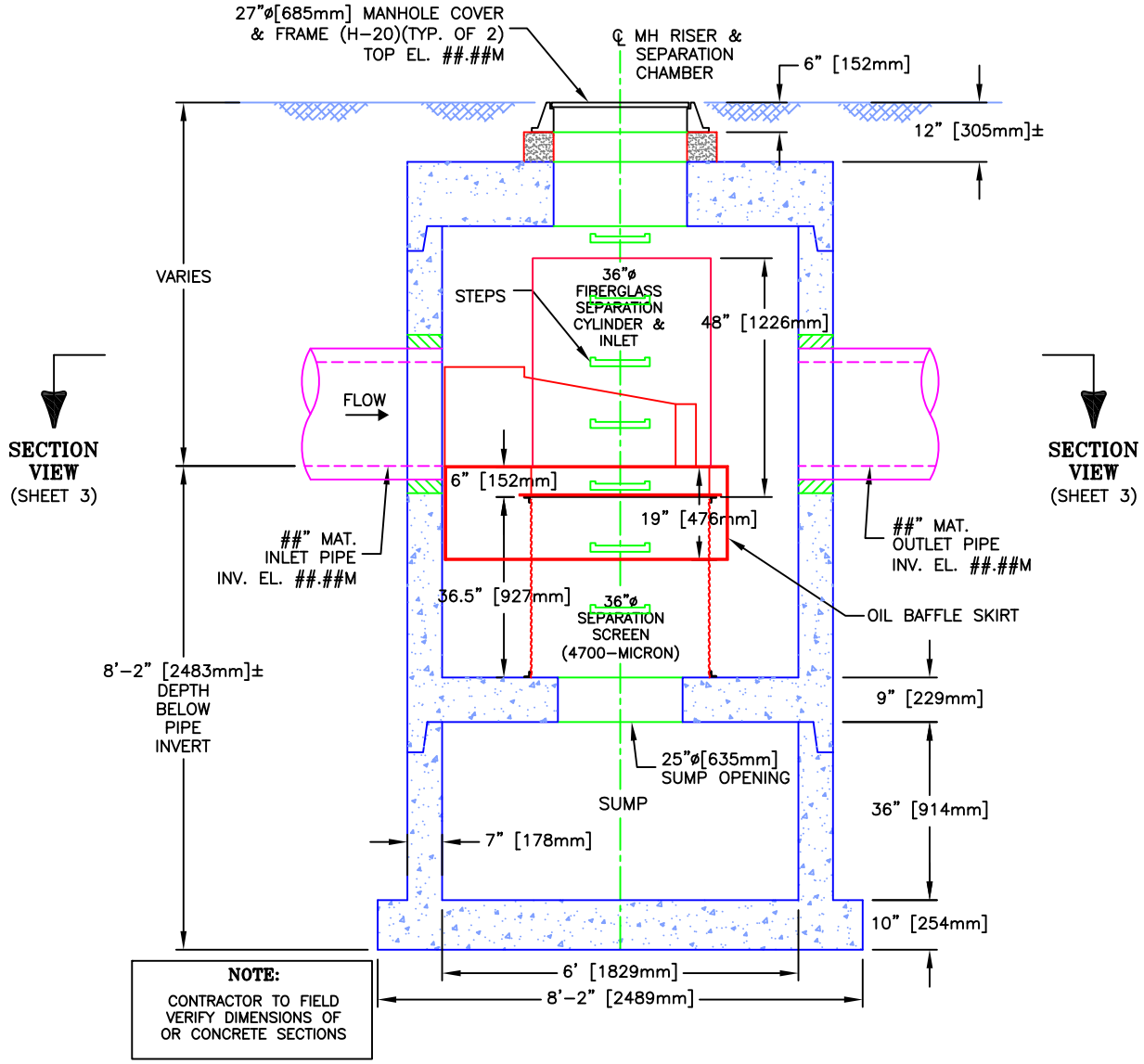


CDS MODEL PMSU30_30m, 85 L/s TREATMENT CAPACITY STORM WATER TREATMENT UNIT

CONTECH STORMWATER SOLUTIONS	PROJECT NAME CITY, STATE	JOB# CAN–##–###	SCALE 1" = 3'
		DATE ##/##/##	SHEET
		DRAWN INITIALS	1
		APPROV.	

Echelon Environmental 505 Hood Road, Unit 26, Markham, Ontario L3R 5V6 Tel: (905) 948–0000 Fax: (905) 948–0577
CONTECH Stormwater Solutions Inc. 930 Woodcock Road, Suite 101, Orlando, Florida 32803 Tel: (800) 848–9955

ELEVATION VIEW



CDS MODEL PMSU30_30m, 85 L/s TREATMENT CAPACITY STORM WATER TREATMENT UNIT

CONTECH STORMWATER SOLUTIONS	PROJECT NAME CITY, STATE	JOB# CAN-##-###	SCALE 1" = 3'
		DATE ##/##/##	SHEET 2
		DRAWN INITIALS	
		APPROV.	

Echelon Environmental 505 Hood Road, Unit 26, Markham, Ontario L3R 5V6 Tel: (905) 948-0000 Fax: (905) 948-0577
CONTECH Stormwater Solutions Inc. 930 Woodcock Road, Suite 101, Orlando, Florida 32803 Tel: (800) 848-9955

APPENDIX E
Development Servicing Study Checklist

Walkley Conroy Warehouses
2020 Walkley Road, Ottawa
DEVELOPMENT SERVICING STUDY CHECKLIST

4.1 General Content	**Addressed (Y/N/NA)**	**Comments**
Executive Summary (for larger reports only).	N/A	
Date and revision number of the report.	Y	
Location map and plan showing municipal address, boundary, and layout of proposed development.	Y	Refer to Report Figures
Plan showing the site and location of all existing services.	Y	Refer to Grading and Servicing Plans
Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	Y	Refer to Site Plan
Summary of Pre-consultation Meetings with City and other approval agencies.	Y	
Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.	N/A	
Statement of objectives and servicing criteria.	Y	Report Sections: 5.0 Water Servicing , 6.0 Sanitary Servicing, 7.0 Storm Servicing
Identification of existing and proposed infrastructure available in the immediate area.	Y	
Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	N/A	
Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighboring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	Y	Refer to Grading Plan and Stormwater Management Plan

Walkley Conroy Warehouses
2020 Walkley Road, Ottawa
DEVELOPMENT SERVICING STUDY CHECKLIST

4.1 General Content	**Addressed (Y/N/NA)**	**Comments**
Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A	
Proposed phasing of the development, if applicable.	N/A	
Reference to geotechnical studies and recommendations concerning servicing.	Y	Report Section 4.0 Site Constraints
All preliminary and formal site plan submissions should have the following information:		
Metric scale	Y	
North arrow (including construction	Y	
Key plan	Y	
Name and contact information of applicant and property owner	Y	
Property limits including bearings and dimensions	Y	
Existing and proposed structures and parking areas	Y	
Easements, road widening and rights-of-	Y	
Adjacent street names	Y	

Walkley Conroy Warehouses
2020 Walkley Road, Ottawa
DEVELOPMENT SERVICING STUDY CHECKLIST

4.2 Water	**Addressed (Y/N/NA)**	**Comments**
Confirm consistency with Master Servicing Study, if available.	N/A	
Availability of public infrastructure to service proposed development.	Y	Report Sections: 5.0 Water Servicing , 6.0 Sanitary Servicing, 7.0 Storm Servicing
Identification of system constraints.	N/A	
Identify boundary conditions.	Y	Provided by City of Ottawa
Confirmation of adequate domestic supply and pressure.	Y	Refer to Appendix A
Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Y	Refer to Appendix A
Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	Y	Refer to Appendix A
Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design.	N/A	
Address reliability requirements such as appropriate location of shut-off valves.	Y	Refer to Appendix A
Check on the necessity of a pressure zone boundary modification.	N/A	
Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range.	Y	Report Section 5.0 Water Servicing
Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Y	Report Section 5.0 Water Servicing
Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A	
Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Y	Report Section 5.0 Water Servicing
Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A	

Walkley Conroy Warehouses
2020 Walkley Road, Ottawa
DEVELOPMENT SERVICING STUDY CHECKLIST

4.3 Wastewater	Addressed (Y/N/NA)	**Comments**
Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed	Y	Report Section 6.0 Sanitary Servicing
Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A	
Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A	
Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Y	Report Section 6.0 Sanitary Servicing
Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	y	Refer to Appendix B
Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	N/A	
Description of proposed sewer network including sewers, pumping stations, and forcemains.	Y	Report Section 6.0 Sanitary Servicing
Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A	
Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A	
Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A	
Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A	
Special considerations such as contamination, corrosive environment etc.	N/A	

Walkley Conroy Warehouses
2020 Walkley Road, Ottawa
DEVELOPMENT SERVICING STUDY CHECKLIST

4.4 Stormwater	**Addressed (Y/N/NA)**	**Comments**
Description of drainage outlets and downstream constraints including legality of outlet (i.e. municipal drain, right-of-way, watercourse, or private property).	Y	Report Sections 7.0 Storm Servicing and 8.0 Stormwater Management
Analysis of the available capacity in existing public infrastructure.	N	Stormwater release rates less than or equl to city allowabale release rate criteria
A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns and proposed drainage patterns.	Y	Refer to Stormwater Management Plan
Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Y	Report Section 8.0 Stormwater Management
Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Y	Report Section 8.0 Stormwater Management
Description of stormwater management concept with facility locations and descriptions with references and supporting information.	Y	Report Section 8.0 Stormwater Management
Set-back from private sewage disposal systems.	N/A	
Watercourse and hazard lands setbacks.	N/A	
Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A	
Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A	
Storage requirements (complete with calcs) and conveyance capacity for 5 yr and 100 yr events.	Y	Refer to Appendix D
Identification of watercourse within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	N/A	
Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Y	Refer to Appendix D
Any proposed diversion of drainage catchment areas from one outlet to another.	N/A	
Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and SWM	N/A	
If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A	

Walkley Conroy Warehouses
2020 Walkley Road, Ottawa
DEVELOPMENT SERVICING STUDY CHECKLIST

4.4 Stormwater	Addressed (Y/N/NA)	Comments
Identification of potential impacts to receiving watercourses.	N/A	
Identification of municipal drains and related approval requirements.	N/A	
Description of how the conveyance and storage capacity will be achieved for the development.	Y	Report Section 8.0 Stormwater Management
100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Y	Refer to Stormwater Management Plan
Inclusion of hydraulic analysis including HGL elevations.	N/A	
Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Y	Report Section 9.0 Erosion and Sediment Control
Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A	
Identification of fill constrains related to floodplain and geotechnical investigation.	N/A	

4.5 Approval and Permit Requirements	Addressed (Y/N/NA)	Comments
Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.	N/A	
Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A	
Changes to Municipal Drains.	N/A	
Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)	N/A	

4.6 Conclusion	Addressed (Y/N/NA)	Comments
Clearly stated conclusions and recommendations.	Y	Report Section 10.0 Conclusions and Recommendations
Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	N/A	T.B.D.
All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario.	Y	

APPENDIX F
Correspondence

Site Plan Pre - Application Consultation Notes

Date: October 1, 2020
Site Location: 2020 Walkley
Type of Development: ☐ **Residential (**☐ **townhomes,** ☐ **stacked,** ☐ **singles,** ☐ **apartments),** ☐ **Office Space,** ☐ **Commercial,** ☐ **Retail,** ☐ **Institutional,** ☒ **Industrial, Other:** N/A
Owner/Agent: Manulife Ontario Property/N45 Architecture Inc.
Project Manager: Adam Baker
Assigned Planner: Wendy Tse

Infrastructure

Due to the age of the existing development on site, sanitary and storm drainage areas were not readily available for the property of 2020 Walkley. The 1985 'Ottawa Business Park – Phase 2' (City Index #1905, Project #84-8460) development includes the southern portion of the 2020 Walkley property within its tributary drainage areas.

Water

Existing nearest public services:

- Walkley Road
  - 406mm ductile iron watermain
- Conroy Road
  - 406mm ductile iron watermain
- St-Laurent Blvd
  - 305mm ductile iron watermain

- Service areas with a basic demand greater than 50 m^3/day shall be connected with a minimum of two water services, separated by an isolation valve, to avoid creation of vulnerable service area.

Boundary conditions:
Civil consultant must request boundary conditions from the City's assigned Project Manager prior to first submission.

- Water boundary condition requests must include the location of the service(s) and the expected loads required by the proposed developments. Please provide all the following information:
  - Location of service(s)
  - Type of development and the amount of fire flow required (as per FUS, 1999).
  - Average daily demand: ___ l/s.
  - Maximum daily demand: ___l/s.
  - Maximum hourly daily demand: ___ l/s.
- Fire protection (Fire demand, Hydrant Locations)
- A water meter sizing questionnaire [water card] will have to be completed prior to receiving a water permit (water card will be provided post approval)

Sanitary Sewer

Existing nearest public services:

- Walkley Road
  - 525mm conc. sanitary sewer
- Conroy Road
  - 750mm conc. sanitary sewer
- St-Laurent Blvd
  - 300mm conc. sanitary sewer

- Any premise in which there is commercial or institutional food preparation shall install a grease and oil inceptor on all fixtures.

Storm Sewer

Existing nearest public services:

- Walkley Road
  - 1500mm conc. storm sewer (trunk)
- Conroy Road
  - 375mm conc. increasing to 450mm conc. storm sewer (East side of Conroy)
  - 300mm conc. increasing to 450mm conc. storm sewer (West side of Conroy)
- St-Laurent Blvd
  - 600mm conc. storm sewer

Storm Sewer Notes:

- Connections to trunk sewers should be avoided. Additional requirements may apply.

- For concrete sewer pipe, maintenance holes shall be installed when the service is greater than 50% of the diameter of the mainline concrete pipe

- The Environmental Site Assessment (ESA) may provide recommendations where site contamination may be present. The recommendations from the ESA need to be coordinated with the servicing report to ensure compliance with the Sewer Use By-Law.

Stormwater Management

Quality Control:

- This property is within the McEwan Creek sub-watershed. Quality requirements are required to be confirmed with the Rideau Valley Conservation Authority.

Quantity Control:

- Stormwater quantity controls will depend upon which outlet is chosen for the site. Once an outlet has been chosen, please confirm with the Project Manager the SWM criteria for the property. For the nearby public services, the criteria is as follows –
  - The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).
  - A calculated time of concentration (Cannot be less than 10 minutes).
  - Flows to the storm sewer in excess of the 5-year storm release rate, up to and including the 100-year storm event, must be detained on site.

Ministry of Environment, Conservation and Parks (MECP)

All development applications should be considered for an Environmental Compliance Approval, under MECP regulations.

a. The consultants determine if an approval for sewage works under Section 53 of OWRA is required and determines what type of application. The City's project manager may help confirm and coordinate with the MECP as required.
b. The project will be either transfer of review (standard), transfer of review (additional), direct submission, or exempt as per O. Reg. 525/98.
c. Pre-consultation is not required if applying for standard or additional works (Schedule A of the Agreement) under Transfer Review.
d. Pre-consultation with local District office of MECP is recommended for direct submission.
e. Consultant completes an MECP request form for a pre-consultation. Sends request to moeccottawasewage@ontario.ca
f. ECA applications are required to be submitted online through the MECP portal. A business account required to submit ECA application. For more information visit https://www.ontario.ca/page/environmental-compliance-approval

g. It is unclear if the proposed development will remain as one property. An ECA will be required where the stormwater management services more than one property parcel.

NOTE: Site Plan Approval, or Draft Approval, is required before any Ministry of the Environment and Climate Change (MOECC) application is sent

General Service Design Comments

- The City of Ottawa requests that all new services be located within the existing service trench to minimize necessary road cuts.
- Monitoring manholes should be located within the property near the property line in an accessible location to City forces and free from obstruction (i.e. not a parking).
- Where service length is greater than 30 m between the building and the first maintenance hole / connection, a cleanout is required.
- The City of Ottawa Standard Detail Drawings should be referenced where possible for all work within the Public Right-of-Way.
- The upstream and downstream manhole top of grate and invert elevations are required for all new sewer connections.
- Services crossing the existing watermain or sewers need to clearly provide the obvert/invert elevations to demonstration minimum separation distances. A watermain crossing table may be provided.

Other

Are there are Capital Works Projects scheduled that will impact the application? ☐ **Yes** ☒ **No**

References and Resources

- As per section 53 of the Professional Engineers Act, O. Reg 941/40, R.S.O. 1990, all documents prepared by engineers must be signed and dated on the seal.
- All required plans are to be submitted on standard A1 size sheets (594mm x 841mm) sheets, utilizing a reasonable and appropriate metric scale as per City of Ottawa Servicing and Grading Plan Requirements: title blocks are to be placed on the right of the sheets and not along the bottom. Engineering plans may be combined, but the Site Plans must be provided separately. Plans shall include the survey monument used to confirm datum. Information shall be provided to enable a non-surveyor to locate the survey monument presented by the consultant.
- All required plans & reports are to be provided in *.pdf format (at application submission and for any, and all, re-submissions)
- Please find relevant City of Ottawa Links to Preparing Studies and Plans below: https://ottawa.ca/en/city-hall/planning-and-development/information-developers/development-application-review-process/development-application-submission/guide-preparing-studies-and-plans#standards-policies-and-guidelines
- To request City of Ottawa plan(s) or report information please contact the City of Ottawa Information Centre: InformationCentre@ottawa.ca<mailto:InformationCentre@ottawa.ca> (613) 580-2424 ext. 44455
- geoOttawa http://maps.ottawa.ca/geoOttawa/

SITE PLAN APPLICATION – Municipal servicing

For information on preparing required studies and plans refer to:
http://ottawa.ca/en/development-application-review-process-0/guide-preparing-studies-and-plans

S/A	Number of copies	ENGINEERING		S/A	Number of copies
S		1. Site Servicing Plan	2. Site Servicing Study	S	
S		3. Grade Control and Drainage Plan	4. Geotechnical Study	S	
		5. Composite Utility Plan	6. Groundwater Impact Study		
		7. Servicing Options Report	8. Wellhead Protection Study		
		9. Community Transportation Study and/or Transportation Impact Study / Brief	10. Erosion and Sediment Control Plan / Brief	S	
S		11. Storm water Management Report	12. Hydro-geological and Terrain Analysis		
		13. Water main Analysis	14. Noise Study		
		15. Roadway Modification Design Plan	16. Confederation Line Proximity Study		

The purpose of the noise study is to examine the effects of noise from the truck traffic/loading area and

Matthew Hrehoriak

From: Baker, Adam <adam.baker@ottawa.ca>
Sent: Wednesday, January 13, 2021 11:21 AM
To: Matthew Hrehoriak
Cc: Lee Sheets
Subject: RE: 2020 Walkley Boundary Condition Request

Hello,

To follow-up regarding the preliminary SWM memo –

- Based upon the comments from the City's Water Resources group, flows tributary to the 1550mm Central Walkley storm will need to be controlled to the 2-year peak rather than the 5-year. This does not include the Conroy and St-Laurent storm sewers which can remain as controlled to the 5-year event.

As well, your water boundary conditions have been prepared. I'll follow-up your original boundary conditions email with those.

Thanks,
Adam

Adam Baker, EIT
Project Manager
Planning, Infrastructure and Economic Development Department - Services de la planification, de l'infrastructure et du développement économique
Development Review - South Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 26552, Adam.Baker@ottawa.ca

From: Matthew Hrehoriak
Sent: Tuesday, January 5, 2021 14:39
To: 'Baker, Adam' <adam.baker@ottawa.ca>
Subject: RE: 2020 Walkley Boundary Condition Request

Hi Adam,

See attached water connection locations sketch. We are planning to reuse the existing water connection on Walkley Road to service the site and provide a second connection separated by an isolation valve for redundancy. On a side note will you be able to review the SWM memo this week, we would like buy in before we begin any detailed SWM calculations.

Let me know if you have any questions.

Thanks,

Matthew Hrehoriak, P.Eng., Project Engineer | Land Development Engineering
NOVATECH Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 273 | Fax: 613.254.5867

From: Baker, Adam <adam.baker@ottawa.ca>
Sent: Tuesday, January 5, 2021 11:23
To: Matthew Hrehoriak <m.hrehoriak@novatech-eng.com>
Subject: RE: 2020 Walkley Boundary Condition Request

Hi Matthew,

For this request could you please provide a sketch showing the proposed watermain connection points in Walkley, Conroy, and St-Laurent.

Thank you,
Adam

Adam Baker, EIT
Project Manager
Planning, Infrastructure and Economic Development Department - Services de la planification, de l'infrastructure et du développement économique
Development Review - South Branch
City of Ottawa | Ville d'Ottawa
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1
613.580.2424 ext./poste 26552, Adam.Baker@ottawa.ca

From: Matthew Hrehoriak <m.hrehoriak@novatech-eng.com>
Sent: January 04, 2021 9:21 AM
To: Baker, Adam <adam.baker@ottawa.ca>
Subject: 2020 Walkley Boundary Condition Request

I have calculated the proposed water demands for the development at 2020 Walkley Road. I am sending you this e-mail to request watermain boundary conditions for the 400mm dia. municipal WM fronting the subject property in Walkley Road, Conroy Road and St Laurent Blvd. The anticipated water demands for the proposed development are as follows:

- Average Day Demand = 0.54 L/s
- Maximum Day Demand = 0.81 L/s
- Peak Hour Demand = 1.46 L/s
- Maximum Fire Flow Demand = 167 L/s (see attached FUS calculations for details)

Regards,

Matthew Hrehoriak, P.Eng., Project Engineer | Land Development Engineering
NOVATECH Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 273 | Fax: 613.254.5867

Time of Concentration - Existing Conditions

Uplands Overland Flow Method

Area ID	Overland Flow						Mannings Pipe Flow							Overall
	Length (m)	Elevation U/S (m)	Elevation D/S (m)	Slope (%)	Velocity (m/s)	Travel Time (min)	Pipe Size (mm)	Length (m)	Elevation U/S (m)	Elevation D/S (m)	Slope (%)	Velocity (m/s)	Travel Time (min)	Time of Concentration (min)
EX 1 A	95	85.00	84.10	0.9%	0.30	5.28								5
EX 1B	10						250	96	82.77	81.16	1.68	1.57	1.02	
							450	28	81.16	81.00	0.57	1.36	0.34	11
EX 2	125	84.9	84.5	0.3%	0.18	11.57								12
EX 3 A	10						150.00	76	83.5	83.1	0.50	0.61	2.08	
							300.00	36	83.1	82.8	0.92	1.31	0.46	
							525.00	110	83.1	82.8	0.20	0.89	2.06	15

Uplands Velocity Chart

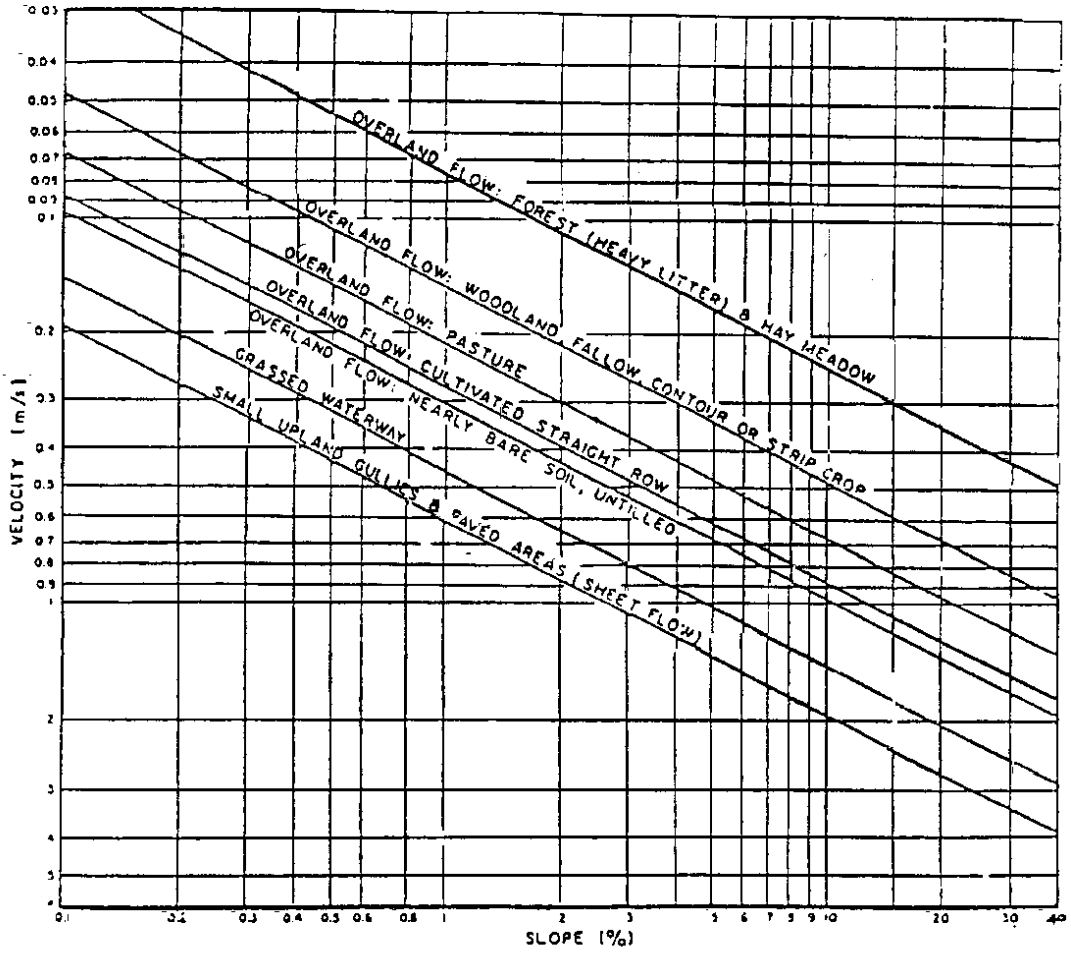


Figure A.5.2: Upland Method for Estimating Time of Concentration
(SCS National Engineering Handbook, 1971)

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: DECEMBER 2020

TABLE 1A: Pre-Development Runoff Coefficient "C" - EX-1A

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.00	0.90	0.20	0.25
0.79	Soft	0.79	0.20		

Runoff Coefficient Equation
$C = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$
* Runoff Coefficient increases by 25% up to a maximum value of 1.00 for the 100-Year event

TABLE 1B: Pre-Development / Allowable EX-1A Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
St Laurent Blvd (600mm)	0.79	0.20	10	**45.8**	**98.0**

TABLE 1C: Pre-Development Runoff Coefficient "C" - EX-1B

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.19	0.90	0.41	0.48
0.63	Soft	0.44	0.20		

Runoff Coefficient Equation
$C = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$
* Runoff Coefficient increases by 25% up to a maximum value of 1.00 for the 100-Year event

TABLE 1D: Pre-Development / Allowable EX-1B Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
St Laurent Blvd (1050mm)	0.630	0.41	11	**43.6**	**177.7**

TABLE 1E: Pre-Development Runoff Coefficient "C" - EX-2

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.00	0.90	0.20	0.25
0.73	Soft	0.73	0.20		

TABLE 1F: Pre-Development / Allowable EX-2 Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Conroy Rd	0.730	0.20	12	**38.4**	**82.3**

TABLE 1G: Pre-Development Runoff Coefficient "C" - EX-3

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	2.48	0.90	0.68	0.76
3.65	Soft	1.17	0.20		

TABLE 1H: Allowable EX-3 Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{5\ Year}$ (L/s)
Walkley Rd	3.65	0.50	15	**423.9**

TABLE 1I: Pre-Development EX-3 Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Conroy Rd	3.65	0.68	15	**649.2**	**1249.6**

Time of Concentration	Tc=	10	min	Equations:
Intensity (5 Year Event)	I_5=	104.19	mm/hr	Flow Equation
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr	Q = 2.78 x C x I x A
				Where:
Time of Concentration	Tc=	11	min	C is the runoff coefficient
Intensity (5 Year Event)	I_5=	99.19	mm/hr	I is the rainfall intensity, City of Ottawa IDF
Intensity (100 Year Event)	I_{100}=	169.91	mm/hr	A is the total drainage area
Time of Concentration	Tc=	12	min	100 year Intensity = 1735.688 / (Time in min + 6.014) $^{0.820}$
Intensity (5 Year Event)	I_5=	94.70	mm/hr	5 year Intensity = 998.071 / (Time in min + 6.053) $^{0.814}$
Intensity (100 Year Event)	I_{100}=	162.13	mm/hr	2 year Intensity = 732.951 / (Time in min + 6.199) $^{0.810}$
Time of Concentration	Tc=	15	min	
Intensity (5 Year Event)	I_5=	83.56	mm/hr	
Intensity (100 Year Event)	I_{100}=	142.89	mm/hr	

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

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DATE PREPARED: DECEMBER 2020

TABLE 2A: Post-Development Runoff Coefficient "C" - A-1

Area	Surface	Ha	"C"	C_{avg}	*C_{100}
Total	Hard	0.00	0.90	0.20	0.25
0.20	Soft	0.20	0.20		

Runoff Coefficient Equation

$C = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

* Runoff Coefficient increases by 25% up to a maximum value of 1.00 for the 100-Year event

TABLE 2B: Post-Development A-1 Flows

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Conroy Rd	0.20	0.20	10	**11.6**	**24.8**

Time of Concentration	Tc=	10	min
Intensity (5 Year Event)	I_5=	104.19	mm/hr
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr

100 year Intensity = 1735.688 / (Time in min + 6.014) $^{0.820}$
5 year Intensity = 998.071 / (Time in min + 6.053) $^{0.814}$

Equations:
Q = 2.78 x C x I x A
Where:
C is the runoff coefficient
I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

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DATE PREPARED: DECEMBER 2020

TABLE 3A: Post-Development Runoff Coefficient "C" - A-2

			5 Year Event		100 Year Event	
Area	0.4	Ha	"C"	C_{avg}	"C" + 25%	$*C_{avg}$
Total	Hard	0.00	0.90	0.90	1.00	1.00
0.86	Roof	0.86	0.90		1.00	
	Soft	0.00	0.20		0.25	

TABLE 3C: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - A-2

0.86 =Area (ha)
1.00 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	45	69.05	165.09	38.9	126.21	340.75
	50	63.95	152.90	38.9	114.02	342.06
	55	**59.62**	**142.55**	**38.9**	**103.67**	**342.11**
	60	55.89	133.63	38.9	94.75	341.11
	65	52.65	125.87	38.9	86.99	339.25

Equations:

Flow Equation

$Q = 2.78 \times C \times I \times A$

Where:

C is the runoff coefficient
I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

Runoff Coefficient Equation

$C_s = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

$C_{100} = (A_{hard} \times 1.0 + A_{soft} \times 0.25)/A_{Tot}$

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

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Engineers, Planners & Landscape Architects

DATE PREPARED: DECEMBER 2020

TABLE 4A: Post-Development Runoff Coefficient "C" - A-3

			5 Year Event		100 Year Event	
Area	0.4	Ha	"C"	C_{avg}	"C" + 25%	$*C_{avg}$
Total	Hard	0.75	0.90	0.77	1.00	0.86
0.92	Roof	0.00	0.90		1.00	
	Soft	0.17	0.20		0.25	

TABLE 4C: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - A-3

0.92 =Area (ha)
0.86 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	30	91.87	202.40	50.0	152.40	274.32
	35	82.58	181.93	50.0	131.93	277.06
	40	**75.15**	**165.56**	**50.0**	**115.56**	**277.34**
	45	69.05	152.13	50.0	102.13	275.75
	50	63.95	140.90	50.0	90.90	272.70

Equations:

Flow Equation

$Q = 2.78 \times C \times I \times A$

Where:

C is the runoff coefficient
I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

Runoff Coefficient Equation

$C_5 = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

$C_{100} = (A_{hard} \times 1.0 + A_{soft} \times 0.25)/A_{Tot}$

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: DECEMBER 2020

TABLE 5A: Post-Development Runoff Coefficient "C" - A-4

			5 Year Event		100 Year Event	
Area	0.4	Ha	"C"	C_{avg}	"C" + 25%	$*C_{avg}$
Total	Hard	0.00	0.90	0.90	1.00	1.00
0.85	Roof	0.85	0.90		1.00	
	Soft	0.00	0.20		0.25	

TABLE 5C: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - A-4

0.85 =Area (ha)
1.00 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	40	75.15	177.57	38.9	138.69	332.85
	45	69.05	163.17	38.9	124.29	335.57
	50	**63.95**	**151.12**	**38.9**	**112.24**	**336.73**
	55	59.62	140.89	38.9	102.01	336.64
	60	55.89	132.08	38.9	93.20	335.52

Equations:

Flow Equation

$Q = 2.78 \times C \times I \times A$

Where:

C is the runoff coefficient
I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

Runoff Coefficient Equation

$C_s = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

$C_{100} = (A_{hard} \times 1.0 + A_{soft} \times 0.25)/A_{Tot}$

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: DECEMBER 2020

TABLE 6A: Post-Development Runoff Coefficient "C" - A-5

			5 Year Event		100 Year Event	
Area	0.4	Ha	"C"	C_{avg}	"C" + 25%	$*C_{avg}$
Total	Hard	0.00	0.90	0.90	1.00	1.00
0.77	Roof	0.77	0.90		1.00	
	Soft	0.00	0.20		0.25	

TABLE 6C: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - A-5

0.77 =Area (ha)
1.00 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	45	69.05	147.81	34.9	112.95	304.97
	50	63.95	136.90	34.9	102.04	306.13
	55	**59.62**	**127.63**	**34.9**	**92.77**	**306.15**
	60	55.89	119.65	34.9	84.79	305.24
	65	52.65	112.70	34.9	77.84	303.56

Equations:

Flow Equation

$Q = 2.78 \times C \times I \times A$

Where:

C is the runoff coefficient
I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

Runoff Coefficient Equation

$C_s = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

$C_{100} = (A_{hard} \times 1.0 + A_{soft} \times 0.25)/A_{Tot}$

PROJECT #: 119067
PROJECT NAME: 2020 WALKLEY ROAD
LOCATION: OTTAWA, ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: DECEMBER 2020

TABLE 7A: Post-Development Runoff Coefficient "C" - A-6

			5 Year Event		100 Year Event	
Area	0.4	Ha	"C"	C_{avg}	"C" + 25%	$*C_{avg}$
Total	Hard	1.82	0.90	0.84	1.00	0.93
2.00	Roof	0.00	0.90		1.00	
	Soft	0.18	0.20		0.25	

TABLE 7C: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - A-6

2.00 =Area (ha)
0.93 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	5	242.70	1258.35	350.0	908.35	272.50
	10	178.56	925.77	350.0	575.77	345.46
	15	**142.89**	**740.86**	**350.0**	**390.86**	**351.78**
	20	119.95	621.91	350.0	271.91	326.29
	25	103.85	538.42	350.0	188.42	282.62

Equations:

Flow Equation

$Q = 2.78 \times C \times I \times A$

Where:

C is the runoff coefficient
I is the rainfall intensity, City of Ottawa IDF
A is the total drainage area

Runoff Coefficient Equation

$C_s = (A_{hard} \times 0.9 + A_{soft} \times 0.2)/A_{Tot}$

$C_{100} = (A_{hard} \times 1.0 + A_{soft} \times 0.25)/A_{Tot}$

Table 7: Post-Development Stormwater Mangement Summary

Area ID	Area (ha)	1:5 Year Weighted Cw	Oulet Location	5-Year Storm	100 Year Storm	
				Release (L/s)	Release (L/s)	Req'd Vol (cu.m)
A-1	0.20	0.20	Conroy Rd	11.6	24.8	N/A
Total Post Development Flow to Conroy Road				**11.6**	**24.8**	
Allowable Flow to Conroy Road				**38.4**	**38.4**	
A-2	0.86	0.90	St Laurent Blvd	21.7	38.9	342.11
A-3	0.92	0.77	St Laurent Blvd	50.0	50.0	277.34
Total Post Development Flow to St Laurent Blvd				**71.7**	**88.9**	
Allowable Flow to St Laurent Blvd				**89.4**	**89.4**	
A-4	0.85	0.90	Walkley Rd	21.7	38.9	336.73
A-5	0.77	0.90	Walkley Rd	19.5	34.9	306.15
A-6	2.00	0.84	Walkley Rd	350.0	350.0	351.78
Total Post Development Flow to Walkley Road				**391.2**	**423.7**	
Allowable Flow to Walkley Road				**423.9**	**423.9**	
Overall Total				**474.5**	**537.4**	
Overall Allowable				**551.7**	**551.7**	
Overall Pre Development				**777.0**	**1607.6**	

APPENDIX G
Drawings

Drawing Index (Separate from Report)

119067-COV – COVER PAGE

119067-ND – NOTES AND DETAILS

119067-GP1 – GENERAL PLAN OF SERVICES - PHASE 1 - SOUTH
119067-GP2 – GENERAL PLAN OF SERVICES - PHASE 2 - SOUTH
119067-GP3 – GENERAL PLAN OF SERVICES - PHASE 2 - NORTH
119067-GP4 – GENERAL PLAN OF SERVICES - PHASE 3 - NORTH

119067-GR1 – GRADING PLAN - PHASE 1 - SOUTH
119067-GR2 – GRADING PLAN - PHASE 2 - SOUTH
119067-GR3 – GRADING PLAN - PHASE 2 - NORTH
119067-GR4 – GRADING PLAN - PHASE 3 - NORTH

119067-ESC – EROSION SEDIMENT CONTROL PLAN