

Report
Project: 30304262-5.1.1.01

EXTENDICARE RIVERSIDE – 400 JESSIE CHENEVERT SERVICING BRIEF



Prepared for Extencare Inc.
by ARCADIS

November 2025

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1 INTRODUCTION

Arcadis Professional Services (Canada) Inc. (formerly IBI Group) has been retained by Extencicare Inc. to provide professional engineering services for Extencicare Riverside located at 400 Jessie Chenevert Walk. The subject site is approximately 1.63 ha and consists of one 4-storey long-term care facility with 256 beds, to be completed in one phase. Refer to key plan on **Figure 1.1** for Site location.

Figure 1.1 Site Location



Extencicare Riverside is located near the South-East intersection of Earl Armstrong Road and Portico Way. This site forms part of Block 1 of the Riverside South Town Center Phase 7A project that spans between Portico Way to the west, Limebank Road to the east, Earl Armstrong Road to the north, and the future BRT corridor to the south. The site itself is bounded by Portico Way to the west, Earl Armstrong Road to the north, Jessie Chenevert Walk to the south, and undeveloped lands to the east. Vehicle access to the site will be provided from Portico Way and Jessie Chenevert Walk. Pedestrian access is provided from Portico Way and Earl Armstrong Road.

1.1 Guidelines and Standards

This evaluation takes into consideration the City of Ottawa Sewer Design Guidelines (OSDG) (October 2012), and the February 2014 Technical Bulletin ISDTB-2014-01, the September 2016 Technical Bulletin PIEDTB-2016-01, the June 2018 Technical Bulletin ISTB-2018-04, October 2019 Technical Bulletin 2019-01, and the July Technical Bulletin 2019-02.

It also considers the City of Ottawa Water Distribution Design Guidelines (OWDDG), and the 2010 Technical Bulletin 2010-02, the 2014 Technical Bulletin 2014-02, the 2018 Technical Bulletin 2018-02 and the 2020 Technical Bulletin 2020-02.

All specifications are as per current City of Ottawa standards and specifications, and Province of Ontario (OPSS/D) standards, specifications and drawings.

1.2 Pre-Consultation Meeting

The City of Ottawa hosted a pre-consultation meeting on August 1st, 2025. Notes of the meeting and City of Ottawa Planning Checklist are provided in **Appendix A**. There were no major engineering concerns flagged in this meeting.

1.3 Geotechnical Concerns

A geotechnical report entitled “Geotechnical Investigation – Proposed Mixed-Use Development – Town Center Phase 7A, Riverside South – Ottawa, Ontario” Report PG4958-6 dated June 20, 2024 by Paterson Group Inc. has been prepared for the subdivision.

The objective of the investigation report include:

- Determination of the subsoil and groundwater conditions;
- Provision of geotechnical recommendations pertaining to the design and development of the subject site including construction considerations.

Among other items, the report comments on the following:

- Site grading;
- Foundation design;
- Pavement structure;
- Grad Raise Restrictions;
- Groundwater control;

The report concludes that the subject site is considered suitable for the proposed development.

2 WATER DISTRIBUTION

2.1 Existing Conditions

Extendicare Riverside will be serviced with potable water from the City of Ottawa’s existing watermains. There are two existing 203 mm diameter PVC watermain stubs on Jessie Chenevert Walk intended for this development.

2.2 Design Criteria

2.2.1 Water Demands

The proposed development consists of a 256-bed long-term care building. The closest approximation for water usage per bed was considered to be a 1-bed apartment unit. In order to calculate water demand rates, the per unit population density and consumption rates are taken from Tables 4.1 and 4.2 of the Ottawa Design Guidelines – Water Distribution were used and are summarized as follows:

- Apartment 1.4 person per 1-bed unit
- Average Day Demand 280 l/cap/day
- Peak Daily Demand 700 l/cap/day
- Peak Hour Demand 1,540 l/cap/day

A water demand calculation sheet is included in **Appendix B** and the total water demands are summarized as follows:

- Average Day 1.16 l/s
- Maximum Day 2.90 l/s
- Peak Hour 6.39 l/s

2.2.2 System Pressures

The 2010 City of Ottawa Water Distribution Guidelines states that the preferred practice for the design of a new distribution system is to have normal operating pressures range between 345 kPa (50 psi) and 552 kPa (80 psi) under maximum daily flow conditions. Other pressure criteria identified in the guidelines are as follows:

- Minimum Pressure Minimum system pressure under peak hour demand conditions shall not be less than 276 kPa (40 psi).
- Fire Flow During the period of maximum day demand, the system pressure shall not be less than 150 kPa (21 psi) during a fire flow event.

Long Term Care is considered institutional. The population is less than 500 persons. Please refer to MOE guidelines for avg demand, peaking factors and sewage demand.

Arcadis: Updated demand to institutional. This is not an isolated system. Building is connected to City of Ottawa infrastructure with a population well in excess of 500 people. MOE Table 3-3 should not apply.

Maximum Pressure

Maximum pressure at any point in the distribution system in unoccupied areas shall not exceed 689 kPa (100 psi). In accordance with the Ontario Building/Plumbing Code the maximum pressure should not exceed 552 kPa (80 psi) in occupied areas. Pressure reduction controls may be required for buildings when it is not possible/feasible to maintain the system pressure below 552 kPa.

2.2.3 Fire Flow Rate

The Fire Underwriters Survey was used to determine the fireflow for the site. The calculations result in a fire flow of 12,000 L/min (200 L/s) based on noncombustible construction. A copy of the FUS calculation is included in **Appendix B**.

2.2.4 Boundary Conditions

The City of Ottawa has been requested for hydraulic boundary condition at the connection locations off Jessie Chenevert Walk. Boundary conditions were not received in time for this submission, however results from the hydraulic analysis of Riverside South Town Center Phase 7A were used to determine the conditions below. A copy of the hydraulic analysis is included in **Appendix B** and is summarized as follows:

SCENARIO	CONNECTION HGL (M) (NODE C26)
Average Day	132.1
Peak Hour	124.9
Max Day + Fire Flow (216.7 l/s)	347.0 L/s available at 140kPa

The subdivision water modeling does not reflect this blocks development. Please request boundary conditions for this development.

2.3 Proposed Water Plan

Arcadis: Boundary Conditions were requested but not received in time for first submission. Section updated with Boundary Conditions for higher residential demands, more conservative than institutional.

Two proposed 200mm diameter water services will connect the building to the municipal system. It is proposed to connect to two stubs off of Jessie Chenevert Walk that were installed as part of Riverside South Town Center Phase 7A intended for this development. An existing valve box separates the two connections and provides redundancy. Four existing hydrants surround the building and are expected to provide adequate fire flow coverage for the site. For the purposes of this report, assuming a minimal loss within the service connection the pressures within the site can be estimated as follows:

Minimum Pressure (Peak Hour) – The minimum peak hour pressure on the site can be estimated as HGL 124.9m – meter elevation (assumed to be 1m above ground level) 93.80m = 31.1m or 305.9 kPa which exceeds the minimum requirement of 276 kPa. The pressure on the top floor can be estimated as 124.9m – 102.8m = 22.1m or 216.8 KPa which is below the minimum of 276 kPa and will require a water pump to supply adequate pressure.

Fire Flow – The max day plus fire flow per the hydraulic analysis allows for up to 347.0 L/s of available fire flow at a residual pressure of 140 kPa, greater than the required 200.0 L/s as calculated using the FUS plus the max day demand of 2.90 L/s.

Max HGL (High Pressure Check) – The high-pressure check can be estimated as HGL 132.1 – (lowest level) 92.80 = 39.3m or 385.5 KPa which does not exceed the maximum of 552 kPa, therefore a pressure reducing valve is not required.

The above results indicate the municipal infrastructure can support the proposed development.

3 WASTEWATER

3.1 Existing Conditions

There is an existing 200mm sanitary sewer bulkhead off Jessie Cheneveert Walk. The bulkhead was previously installed as part of Riverside South Phase 7A in anticipation of development on the subject site.

3.2 Proposed Sewers

All on-site sewers have been designed to City of Ottawa and MECP design criteria which include but are not limited to the below listed criteria. The detailed sanitary sewer design sheet which is included in **Appendix C** illustrates the population densities and sewers which provide the necessary outlets. The design wastewater criteria for this analysis area:

3.2.1 Design Flow:

Average Residential Flow	-	280 l/cap/day
Peak Residential Factor	-	Modified Harmon Formula
Infiltration Allowance	-	0.33 l/sec/Ha
Minimum Pipe Size	-	200mm diameter

3.2.2 Population Density:

Apartments	-	1.4 person per 1-bed unit
Townhouse/Semi-Detached	-	2.4 people per unit
Single Family Home	-	3.2 people per unit

Long term care is institutional. Please refer to MOE guidelines.

Arcadis: Revised.

4 SITE STORMWATER MANAGEMENT

4.1 Existing Conditions

The subject site is currently undeveloped with no known stormwater management control measures. Stormwater currently flows overland to the existing road-side ditch on Earl Armstrong Road and Jessie Chenevert Walk.

An existing 600mm storm sewer bulkhead is located in Jessie Chenevert Walk connecting to Riverside South Town Center Phase 7A. This bulkhead was designed and installed in anticipation of this proposed site plan.

4.2 Design Criteria

The stormwater system for the subdivision was designed following the principles of dual drainage, making accommodations for both major and minor flow.

Some of the key criteria include the following:

- Design Storm 1:2-year return (Ottawa)
- Rational Method Sewer Sizing
- Initial Time of Concentration 10 minutes
- Runoff Coefficients
 - Softscape Areas C = 0.20
 - Hardscape Areas C = 0.90
- Pipe Velocities 0.80 m/s to 3.0 m/s
- Minimum Pipe Size 250 mm diameter

4.3 Stormwater Management

The subject site is identified on the City of Ottawa's official Plan (OP) Schedule C15, classified as lands within the urban boundary and is subject to development. This site is designed to have minimal impact on adjacent properties grading, drainage, access, circulation, and privacy. This will be achieved by means of Water Quantity Controls.

Stormwater for the subject site ultimately discharges to the Riverside South Pond 2 facility, therefore no quality control is required. This was noted by the City during the Pre-Consultation meeting.

4.3.1 Water Quantity Control

Per the Arcadis Design Brief Report Riverside South Town Center Phase 7A, the 2.43Ha block the subject site is situated on will be limited to a maximum minor system release rate of 478.80 L/s during a 100-year storm (see excerpt of design brief and storm drainage plan in **Appendix D**). The 1.63 Ha subject site will be restricted proportionally. This will be achieved through a combination of inlet control devices (ICD's), underground storage and surface storage where possible.

Surface flows in excess of the site's allowable release rate will be stored on site and gradually released into the minor system to respect the site's allowable release rate. The surface flows and ponding allocated to this site plan are shown in the ponding plan located in **Appendix D** and grading plan located in **Appendix E**.

Along the perimeter of the site, the opportunity to capture and store runoff is limited due to grading constraints and building geometry. These areas will discharge uncontrolled to Earl Armstrong Road and a very minor area at the corner of Jessie Chenevert Walk and Portico Way. These areas are located at the perimeter of the site where it is necessary to tie into public boulevards and adjacent properties or in areas where ponding stormwater is undesirable.

Based on the proposed site plan, the total uncontrolled area has been calculated to be 0.07 Ha at the edges of the site and 0.20 Ha for the inner courtyard. The runoff calculations for these uncontrolled areas have been calculated and provided in **Appendix D**. For the detailed storm drainage area plan for the site, refer to Drawing 500 in **Appendix D**.

Using the restrictions set by the RSSTC 7A design brief, based on a 2-Year design return period for a runoff coefficient of 0.85, a time of concentration of 10 minutes, and for an area of 1.63 Ha, the restricted flowrate for the subject site can be determined as:

$$Q_{\text{restricted}} = 2.78 \times C_{2yr} \times i_{2yr} \times A \quad \text{where:}$$

C = Design runoff coefficient
 i_{100yr} = Intensity of 2-year storm event (mm/hr)
= $732.951 \times (T_c + 6.199)^{0.810} = 76.81$ mm/hr; where $T_c = 10$ minutes
 A = Uncontrolled Area

Therefore, the restricted release rate can be determined as:

$$\begin{aligned}
 Q_{\text{restricted}} &= 2.78 \times C_{100\text{yr}} \times i_{100\text{yr}} \times A \\
 &= 2.78 \times (0.85) \times 76.81 \times 1.63 \\
 &= 295.83 \text{ L/s}
 \end{aligned}$$

Based on a 1:100-year event, the flow from the 0.07 Ha uncontrolled areas can be determined as:

$$\begin{aligned}
 Q_{\text{uncontrolled}} &= 2.78 \times C_{100\text{yr}} \times i_{100\text{yr}} \times A \quad \text{where:} \\
 C &= \text{Average runoff coefficient (100-year C-value, max 1.00)} \\
 i_{100\text{yr}} &= \text{Intensity of 100-year storm event (mm/hr)} \\
 &= 1735.688 \times (T_c + 6.014)^{0.820} = 178.56 \text{ mm/hr; where } T_c = 10 \text{ minutes} \\
 A &= \text{Uncontrolled Area}
 \end{aligned}$$

Therefore, the uncontrolled release rate can be determined as:

$$\begin{aligned}
 Q_{\text{uncontrolled1+2}} &= 2.78 \times C_{100\text{yr}} \times i_{100\text{yr}} \times A \\
 &= 2.78 \times (0.21 \times 1.25) \times 178.56 \times 0.07 \\
 &= 9.12 \text{ L/s}
 \end{aligned}$$

The calculation when repeated for the 0.20 Ha courtyard returns a value of 62.05 L/s. The Maximum allowable release rate from the site can be determined by subtracting the Uncontrolled release rate from the minor system restricted flow rate.

$$Q_{\text{max}} = Q_{\text{restricted}} - Q_{\text{uncontrolled1+2}} - Q_{\text{uncontrolledCourtyard}}$$

$$Q_{\text{max}} = 295.83 \text{ L/s} - 9.12 \text{ L/s} - 62.05 \text{ L/s}$$

$$Q_{\text{max}} = 224.66 \text{ L/s}$$

Therefore, the total restricted flow rate through the minor system will be the design flow rate of **224.66 L/s**. This will be achieved using Inlet Control Devices. A summary of the ICD's, their corresponding storage requirements, storage availability, and associated drainage areas has been provided below.

Drainage Area	ICD Restricted Flow (L/s)	100 Year Storage Required (m3)	2 Yr Storage Required (m3)	Storage Provided
MH3	164.00	179.76	22.04	341.33
MH5	60.00	141.41	20.54	490.42
TOTAL	224.00	321.17	42.58	831.75

Detailed stormwater management calculations for the 2-year event, 100-year event, and stress test (100-year plus 20%) event can be found in **Appendix D**.

There will be no surface ponding for the 2-year storm event per the rational method calculations, noting that a minimum concentration time of 10 min was considered for 2-year ponding. A 0.3m freeboard from downstream high points/maximum ponding elevations to first floor building openings is maintained in all scenarios including emergency overflow conditions.

Refer to geotechnical report for information regarding foundation drainage. Foundation drainage systems are to be independent and connected to the storm service downstream of any stormwater management control device.

5 SEDIMENT AND EROSION CONTROL PLAN

5.1 General

During construction, existing stream and conveyance systems can be exposed to significant sediment loadings. Although construction is only a temporary situation, it is proposed to introduce a number of mitigative construction techniques to reduce unnecessary construction sediment loadings. These will include:

- groundwater in trench will be pumped into a filter mechanism prior to release to the environment;
- bulkhead barriers will be installed at the nearest downstream manhole in each sewer which connects to an existing downstream sewer;
- seepage barriers will be constructed in any temporary drainage ditches; and
- silt sacks will remain on open surface structure such as manholes and catchbasins until these structures are commissioned and put into use.

5.2 Trench Dewatering

During construction of municipal services, any trench dewatering using pumps will be discharged into a filter trap made up of geotextile filters and straw bales similar in design to the OPSD 219.240 Dewatering Trap. These will be constructed in a bowl shape with the fabric forming the bottom and the straw bales forming the sides. Any pumped groundwater will be filtered prior to release to the existing surface runoff. The contractor will inspect and maintain the filters as needed including sediment removal and disposal and material replacement as needed.

5.3 Bulkhead Barriers

At the first manhole constructed immediately upstream of an existing sewer, a ½ diameter bulkhead will be constructed over the lower half of the outletting sewer. This bulkhead will trap any sediment carrying flows, thus preventing any construction –related contamination of existing sewers. The bulkheads will be inspected and maintained including periodic sediment removal as needed.

5.4 Seepage Barriers

These barriers will consist of both the Light Duty Straw Bale Barrier as per OPSD 219.100 or the Light Duty Silt Fence Barrier as per OPSD 219.110 and will be installed in accordance with the sediment and erosion control drawing. The barriers are typically made of layers of straw bales or geotextile fabric staked in place. All seepage barriers will be inspected and maintained as needed.

5.5 Surface Structure Filters

All catchbasins, and to a lesser degree manholes, convey surface water to sewers. However, until the surrounding surface has been completed these structures will be covered to prevent sediment from entering the minor storm sewer system. Until rear yards are sodded or until streets are asphalted and curbed, all catchbasins and manholes will be equipped with geotextile filter socks. These will stay in place and be maintained during construction and build until it is appropriate to remove them.

6 CONCLUSIONS & RECOMMENDATIONS

6.1 Conclusions

This report and the accompanying working drawings clearly indicate that the proposed development meets the requirements of the stakeholder regulators, including the City of Ottawa. The proposed development is also in general conformance with the recommendations made by the Riverside South Town Center Phase 7A Design Brief.

There is a reliable water supply available adjacent to the proposed development; a wastewater outlet is available adjacent to the site and local storm sewers have been installed adjacent to the site.

6.2 Recommendations

It is recommended that the regulators review this submission with an aim of providing the requisite approvals to permit the owners to proceed to the construction stage of the subject site.

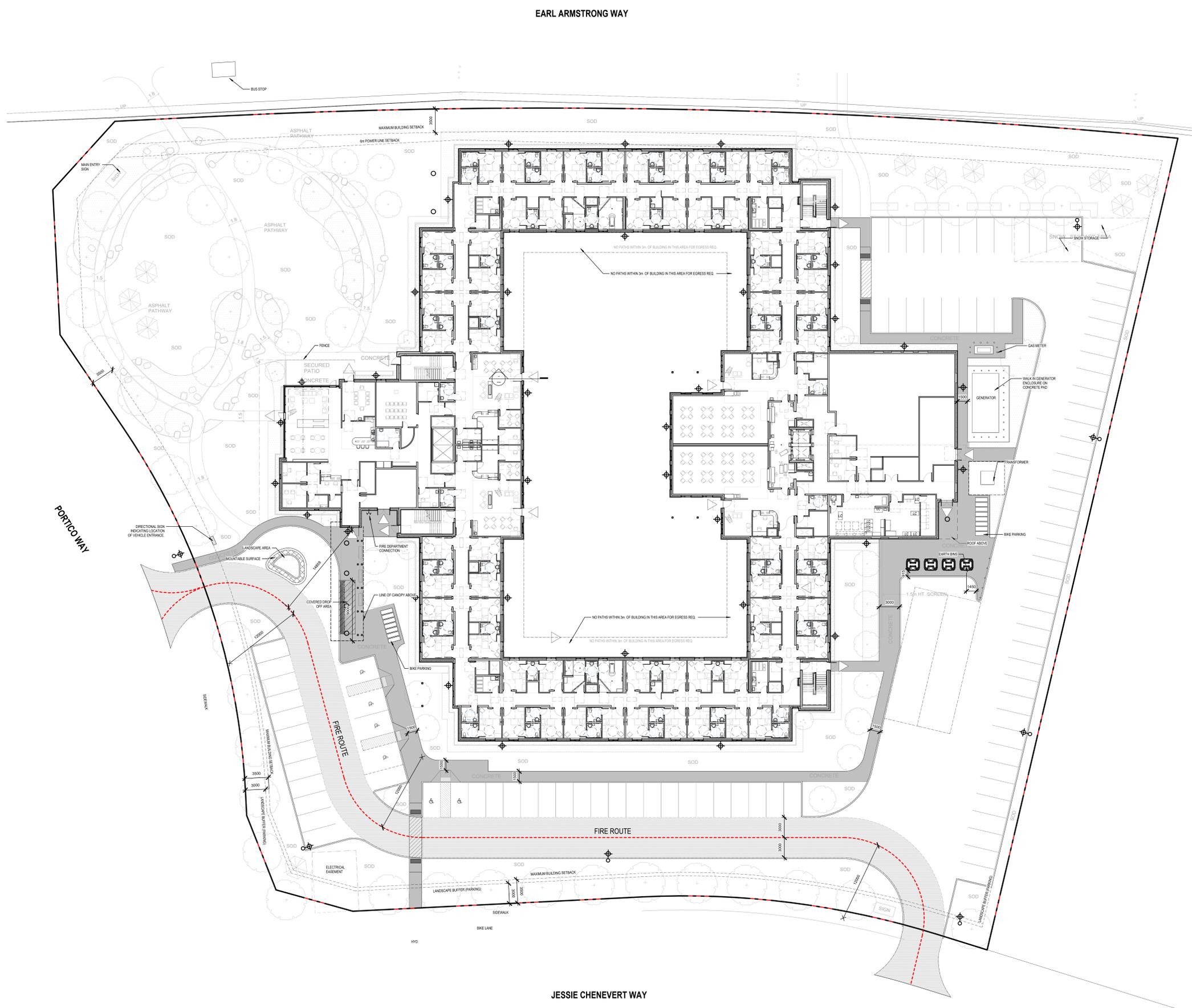
Report prepared by:

ARCADIS



Samantha E. Labadie, P. Eng
Civil Engineer

Appendix A



SITE DATA	
SITE DESCRIPTION	PART OF LOT 21, CONCESSION 1, GEOGRAPHIC TOWNSHIP OF GLOUCESTER, CITY OF OTTAWA
SITE ADDRESS	400 JESSIE CHENEVERT WALK
PROPOSED USE	4 STOREY LONG TERM CARE (256 BEDS)
BUILDING FOOTPRINT	
PAVED SURFACE AREA	
ZONING	
REQUIRED	PROVIDED
ZONE	AM - Arterial Mainstreet
LOT AREA	16,323sq. m (1.63 ha)
FRONT YARD & CORNER SIDE YARD	3.5m
MIN. INTERIOR SIDE YARD	N/A
MIN. REAR YARD	N/A
BUILDING HEIGHT	
MAX. FLOOR SPACE INDEX	
MIN. WIDTH OF LANDSCAPED AREA AROUND PARKING	3m - Abutting Street 1.5m - Abutting Adjacent Property
MIN. LANDSCAPE AREA	
SNOW STORAGE	
AMENITY AREA	
PARKING	
REQUIRED	PROVIDED
PARKING SPACES	0.25 x 256 BEDS + 1 PER 100 sq.m (medical, health/personal services) = 79
BARBER-FREE SPACES	2 TYPE A + 4 TYPE B (AS PER AODA)
LOADING SPACES	2 (5m)
BICYCLE PARKING	1 per 1500 sq.m GFA + 10
PROVIDED	88 (EXCLUDING TYPE A & B) 2 TYPE A + 4 TYPE B 2 (50m) + 1 (5m) 10
BUILDING DATA	
GROSS BUILDING AREA	
GROUND FLOOR LEVEL	
SECOND FLOOR LEVEL	
THIRD FLOOR LEVEL	
FOURTH FLOOR LEVEL	
ROOF: MECH. PENTHOUSE AND STAIR	
TOTAL	

date: revision: by:

All drawing and specifications are the property of the architect. The contractor shall verify all dimensions and information on site and report any discrepancy to architect before proceeding.

EXTENCICARE RIVERSIDE

400 Jessie Chenevert Walk
 Ottawa, ON
 PART OF LOT 21, CONCESSION 1, GEOGRAPHIC TOWNSHIP OF GLOUCESTER, CITY OF OTTAWA

SITE PLAN

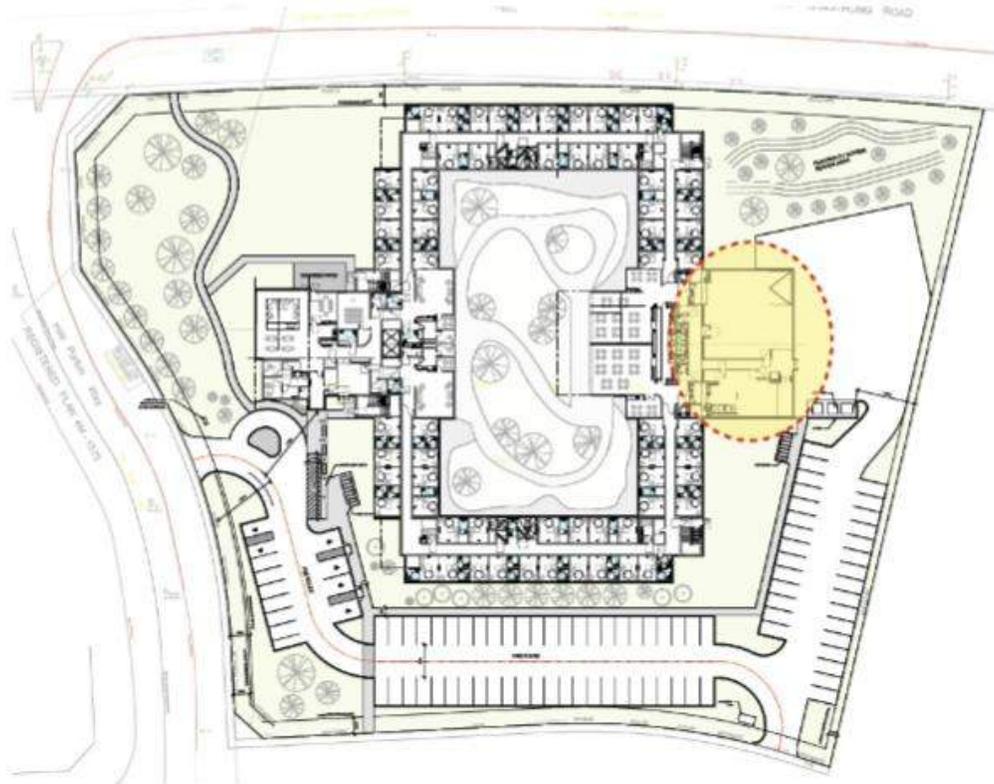
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 reviewed by: Checker
 job number: 0001
 plot date: 10/24/2025
 drawing number:

August 1, 2025

Genessa Bates
Fotenn
bates@fotenn.com

**Subject: Pre-Consultation: Meeting Feedback
Proposed Minor Zoning By-Law Amendment and Site Plan Control
Application
400 Jessie Chenevert Walk**

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on July 2, 2025, based on the 4-storey Extendicare LTC home design below.



Pre-Consultation Preliminary Assessment

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken.

Next Steps

2. For your next submission, please submit the required Application Form, necessary studies and plans to planningcirculations@ottawa.ca, and copy the file lead, planning support and all of the review-staff who provided comments. Please also ensure that all comments or issues are addressed in a detailed cover letter and that the responses are coordinated with the numbering on the initial feedback form.
3. If your development proposal changes significantly in scope, design, or density it is recommended that a subsequent pre-consultation application be submitted.

Supporting Information and Material Requirements

The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

- a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

1. Riverside South Secondary Plan: Town Centre Designation: Please try to meet as many of the policies as possible, understanding that Long Term Care Homes are heavily regulated in their design and function by the Provincial Ministry.
2. Zoning By-Law: MC19 [2952]: The Applicant has advised that they will require a Zoning By-Law application for relief from the glazing requirements and for the

front and corner side yard setbacks. This can be done through the Minor Zoning Amendment process.

3. Landscape requirements: Please provide ample landscaping to meet the intent of the Secondary Plan, especially to buffer the view of vehicular parking, loading, garbage etc.

City Surveyor (Saeid.Sedaghatjahromi@ottawa.ca) - not in attendance

4. The determination of property boundaries, minimum setbacks and other regulatory constraints are a critical component of development. An Ontario Land Surveyor (O.L.S.) needs to be consulted at the outset of a project to ensure properties are properly defined and can be used as the geospatial framework for the development.
5. Topographic details may also be required for a project and should be either carried out by the O.L.S. that has provided the Legal Survey or done in consultation with the O.L.S. to ensure that the project is integrated to the appropriate control network.

Urban Design

Comments:

6. As the site is in a Design Priority Area and is the first development on the south side of the RSS town centre, it should set an example for high quality design.
7. If parking is located along roadway frontages it should be well screened and landscaped. Loading must also be screened from public roadways.
8. The building should try to activate public frontages.
 - i. Please ensure that Earl Armstrong is well landscaped and that street trees can be provided with the overhead wires present.
9. The building and site design should be oriented to provide convenient access to transit for workers and visitors.
 - i. Provide direct convenient walkway connections to building entrances.
10. Provide significant landscaping on site.
 - i. Consider a landscaped gateway feature at the corner of Earl Armstrong and Portico.
 - ii. Provide landscaping and tree planting on site to screen parking areas and to provide a pleasant interface adjacent to ground floor units.

Feel free to contact Lisa Stern, Urban Design, for follow-up questions.

Engineering

Comments:

11. The Stormwater Management Criteria, for the subject site, is to be based on the following:
 - a. The quantity control criteria (100-year post-development to 2-year pre-development). Please refer to the Riverside South Community Infrastructure Servicing Study Update Phase 1 Mosquito Creek Study Area dated August 18, 2023 by Stantec and the Riverside South Phase 7A subdivision design brief dated April 2025.
 - b. A calculated time of concentration (cannot be less than 10 minutes).
12. Flows to the storm sewer in excess of the 2-year storm release rate, up to and including the 100-year storm event, must be detained on site.
13. Storm sewer outlets should not be submerged.
14. Quality control criteria is not required for this site since it discharges to Riverside South Pond 2 facility.
15. Ponding:
 - a. Permissible ponding of 350mm for the 100-year storm event. No spilling to adjacent sites.
 - b. At the 100-year ponding elevation, all drainage must be spilled to the Right-of-Way.
 - c. 100-year spill elevation must be 300mm lower than any building opening or ramp.
 - d. Demonstrate that the stress test spill elevation (100-year +20% event) does not spill onto any permanent structures.
16. Deep Services (Storm, Sanitary and/or Water Supply)
 - a. Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.
 - b. There is an existing temporary DICB 2 with a 200mm lateral on Jessie Chenevert Walk. The storm sewer could be relocated there to minimize new sewer connections if it aligns with the proposed entrance.

- c. Provide information on the monitoring manhole requirements – should be located in an accessible location on private property near the property line (ie. Not in a parking area).
- d. Sewer connections to be made above the springline of the sewermain as per:
 - i. Std Dwg S11.1 for flexible main sewers – connections made using approved tee or wye fittings.
 - ii. Std Dwg S11 (For rigid main sewers) – lateral must be less than 50% the diameter of the sewermain,
 - iii. Std Dwg S11.2 (for rigid main sewers using bell end insert method) – for larger diameter laterals where manufactured inserts are not available; lateral must be less than 50% the diameter of the sewermain,
 - iv. Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.

17. Water

- a. Water Boundary condition requests must include the location of the service (map or plan with connection location(s) indicated) and the expected loads required by the proposed development, including calculations. Please provide the following information:
 - i. Location of service
 - ii. Type of development
 - iii. The amount of fire flow required (per OBC or FUS).
 - iv. Average daily demand: ___ l/s.
 - v. Maximum daily demand: ___ l/s.
 - vi. Maximum hourly daily demand: ___ l/s.

18. Sewer (sanitary and storm)

- a. Please refer to the Riverside South Community Infrastructure Servicing Study Update Phase 1 Mosquito Creek Study Area dated August 18, 2023 by Stantec and the Riverside South Phase 7A subdivision design brief dated April 2025.

19. Grading - the site will have to be raised to provide positive drainage towards the right of way. Currently the road around the site is higher than site elevation. The grade raise will need to be reviewed by a geotechnical engineer and a memo will be required stating the final grading plan is acceptable.
20. Geotechnical (including, where applicable, detailed sensitive marine clay investigation):
 - a. An update to the previously submitted report that supported the subdivision is required.
 - b. Containing detailed information on geotechnical matters and recommendations (i.e. pavement, foundation, bedding construction etc.).
 - c. Sensitive Marine Clay (SMC) is widely found across Ontario – geotechnical reports should include Atterberg Limits, consolidation testing, sensitivity values, and vane shear test results (at a minimum) with a discussion for proposals in areas containing SMC; If SMC exists then the tree planting restrictions are to be discussed and follow the City’s most current tree planting guidelines.
21. The Phase 1 and if required, Phase 2 Environmental Site Assessments will be required.
22. Sensitive Marine Clay: Please follow the City’s 2017 Tree Planting in Sensitive Marine Clay guidelines Tree Planting in Sensitive Marine Clay Soils - 2017 Guidelines.

Feel free to contact Natasha Baird, Project Manager, for follow-up questions.

Noise

Comments:

23. A road noise study is required.

Feel free to contact Mike Giampa, for follow-up questions.

Transportation

Comments:

24. Right-of-way protection (Earl Armstrong).
 - a. See [Schedule C16 of the Official Plan](#).

- b. Any requests for exceptions to ROW protection requirements must be discussed with Transportation Planning and concurrence provided by Transportation Planning management.

25. Corner Sight Triangles:

- a. Arterial/Arterial: overlapping 5m x 15m triangles
- b. Arterial/Collector: overlapping 5m x 15m triangles
- c. Collector/Collector: overlapping 5m x 15m triangles
- d. Arterial/Local: 3m x 9m with the longer dimension along the arterial road
- e. Collector/Local: 3m x 9m with the longer dimension along the collector road
- f. Local/Local: 3m x 3m

26. A TIA is warranted, please proceed to **Step 2; TIA Scoping report**. The application will not be deemed complete without Step 2 being submitted at least 14 calendar days prior to a Phase 3 pre-consultation or formal application. A **TIA Strategy report (Step 3)** with the Synchro files will be required at or prior to the formal application. Refer to the City of Ottawa website for the updated TIA process: [Transportation Impact Assessment Guidelines | City of Ottawa](#).

Feel free to contact Mike Giampa, Transportation Project Manager, for follow-up questions.

Environment

Comments:

- 27. Most environmental concerns have been addressed through previous subdivision applications. An Environmental Impact Statement is not required for this application.
- 28. The City has policies for tree plantings to help meet the urban forest canopy goals, as well as to reduce the impacts of climate change and the urban heat island effect. Additional plantings are always welcome. Please note that the City prefers that all plantings be of native and non-invasive species.

Based on the preliminary drawings shown in the presentation, Staff would recommend additional tree plantings along the southern perimeter of the property, between the parking lot and new road.
- 29. Please review the City's Bird Safe Design Guidelines and implement mitigation measures from that document wherever possible.
- 30. This property is located within the Airport Bird Hazard Zone, which affects what types of trees to be planted. A list of species to avoid will be provided, but in general avoid fruit-bearing trees and shrubs.

Feel free to contact Mark Elliott, Environmental Planner, for follow-up questions.

Forestry

Comments:

31. Tree planting along all road frontages is a priority under the OP (Section 4.1.3).
32. Incorporate regular space for trees throughout the surface parking lot to align with the OP (Section 4.1.4).
33. Boundary and adjacently owned trees are not to be impacted by the development. Design the site and associated engineering accordingly.
34. Tree Conservation Report requirements.

The following Tree Conservation Report (TCR) requirements have been adapted from the Schedule E of the Urban Tree Protection Guidelines – for more information on these requirements please contact hayley.murray@ottawa.ca.

- a. A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City.
- b. Any tree 10 cm in diameter or greater and City-owned trees of any diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.
- c. The TCR must contain 2 separate plans/maps:
 - i. Plan/Map 1 - show existing conditions with tree cover information.
 - ii. Plan/Map 2 - show proposed development with tree cover information.
- d. The TCR must list all trees on site, as well as off-site trees if the CRZ (critical root zone) extends into the developed area, by species, diameter, and health condition. Please note that averages can be used if there are forested areas.
- e. Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)
- f. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained.
- g. The removal of trees on a property line will require the permission of both property owners.

- h. All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available at Tree Protection Specification or by searching Ottawa.ca
- i. The City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.
- j. Removal of a City tree is not permitted unless justified. If justified, monetary compensation for the value of the tree must be paid before a tree removal permit is issued.

35. Landscape Plan (LP) requirements.

- a. Landscape Plan Terms of Reference must be adhered to for all tree planting: [Click Here](#). For more information on these requirements please contact hayley.murray@ottawa.ca

36. Additional Elements for Tree Planting in the Right of Way.

- a. Please ensure any related trees are shown on the LP
- b. Sensitive Marine Clay - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines.
- c. Soil Volume - Please demonstrate as per the Landscape Plan Terms of Reference that the available soil volumes for new plantings will meet or exceed the minimum soil volumes requested.
- d. The city requests that consideration be given to planting native species wherever there is a high probability of survival to maturity.
- e. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. Please provide a projection of the future canopy cover for the site to 40 years
- f. Minimum Setbacks
 - i. Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
 - ii. Maintain 2.5m from curb
 - iii. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.

- iv. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.
 - v. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.
- g. Tree specifications
- vi. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
 - vii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage.
 - viii. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and if possible, include watering and warranty as described in the specification.
 - ix. No root barriers, dead-man anchor systems, or planters are permitted.
 - x. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)
- h. Hard surface planting
- i. If there are hard surface plantings, a planting detail must be provided.
 - ii. Curb style planters are highly recommended.
 - iii. No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.
 - iv. Trees are to be planted at grade.

Feel free to contact Hayley Murray, Planning Forester, for follow-up questions.

Parkland

Comments:

- 37. Covenants are required to inform future residents of the upcoming construction works for the district park.

38. Further covenants are required to inform future residents of potential lighting from nearby sport fields, which lighting will meet the Illuminating Engineering Society of North America (IES) standards.

Feel free to contact steve.gauthier@ottawa.ca for follow-up questions.

Other

1. The High Performance Development Standard (HPDS) is a collection of voluntary and required standards that raise the performance of new building projects to achieve sustainable and resilient design and will be applicable to Site Plan Control and Plan of Subdivision applications.
 - a. The HPDS was passed by Council on April 13, 2022, but is not in effect at this time, as Council has referred the 2023 HPDS Update Report back to staff with the direction to bring forward an updated report to Committee at a later date. The timing of an updated report to Committee is unknown at this time, and updates will be shared when they are available.
 - b. Please refer to the HPDS information at ottawa.ca/HPDS for more information.
2. Under the Affordable Housing Community Improvement Plan, a Tax Increment Equivalent Grant (TIEG) program was created to incentivize the development of affordable rental units. It provides a yearly fixed grant for 20 years. The grant helps offset the revenue loss housing providers experience when incorporating affordable units in their developments.
 - a. To be eligible for the TIEG program you must meet the following criteria:
 - i. the greater of five units OR 15 per cent of the total number of units within the development must be made affordable
 - ii. provide a minimum of 15 per cent of each unit type in the development as affordable
 - iii. enter into an agreement with the city to ensure the units maintain affordable for a minimum period of 20 years at or below the city-wide average market rent for the entire housing stock based on building form and unit type, as defined by the Canada Mortgage and Housing Corporation
 - iv. must apply after a formal Site Plan Control submission, or Building Permit submission for projects not requiring Site Plan Control, and prior to Occupancy Permit issuance
 - b. Please refer to the TIEG information at [Affordable housing community improvement plan](#) / [Plan d'améliorations communautaires pour le](#)



[logement abordable](#) for more details or contact the TIEG coordinator via email at affordablehousingcip@ottawa.ca.

Submission Requirements and Fees

1. The proposed development will require a minor zoning amendment application (to modify zoning provisions) and a site plan control application.

- a. Additional information regarding fees related to planning applications can be found [here](#).

2. The attached **Study and Plan Identification List** outlines the information and material that has been identified as either required (R) or advised (A) as part of a future complete application submission.

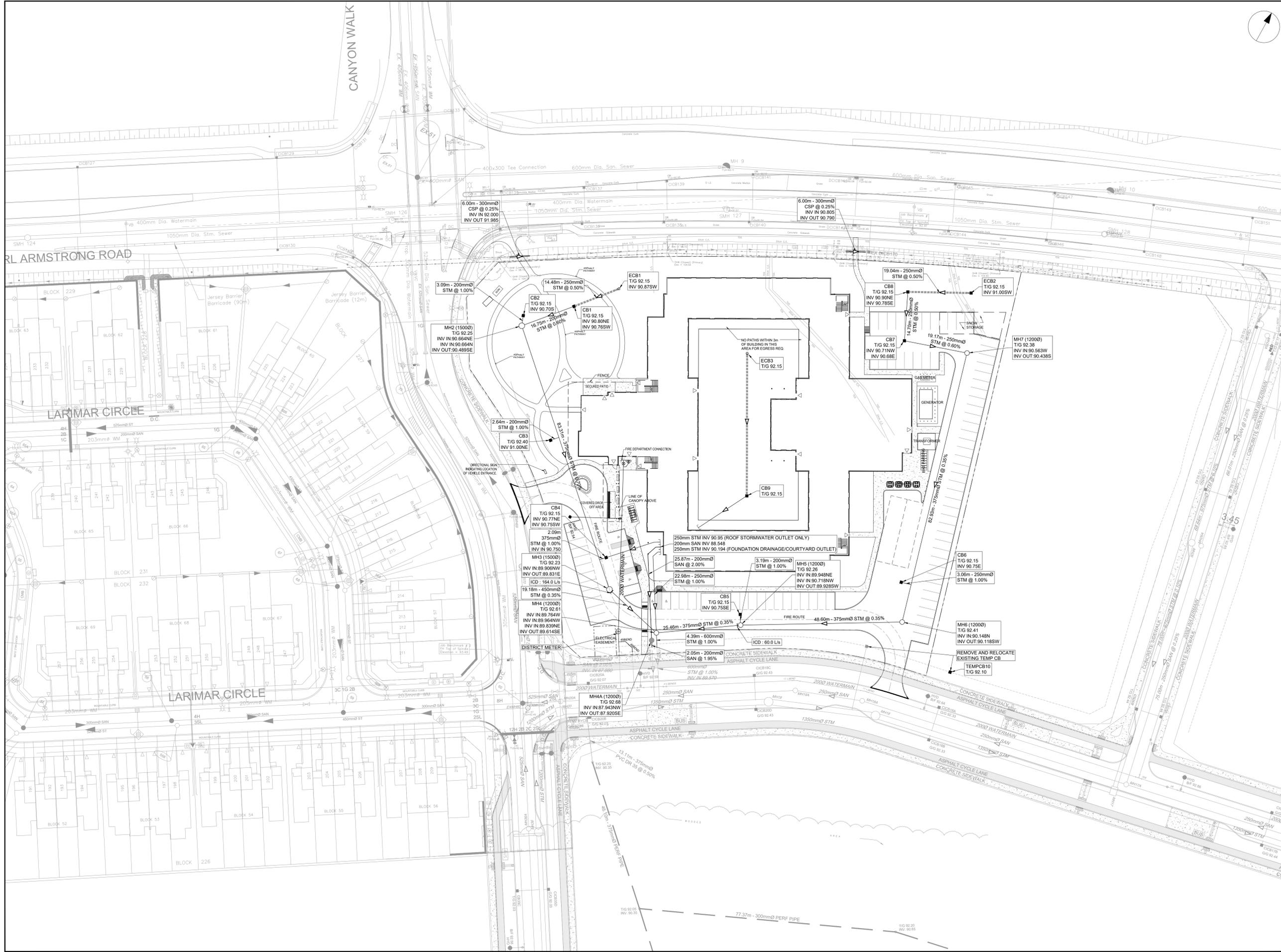
- b. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

3. All of the above comments or issues should be addressed to ensure the effectiveness of the application submission review.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,
Tracey Scaramozzino, MCIP RPP

- c.c. Lisa Stern, Urban Design
Natasha Baird, Infrastructure Project Manager
Mike Giampa, Transportation Project Manager
Mark Elliott, Environmental Planner
Amy MacPherson, Planner, Strategic Initiatives
Steve Gauthier, Parks Planner
Chloe Bullen, Planner



CLIENT
Extendicare
 3000 Steeles Ave East, Suite 400
 Markham ON L3R 4T9

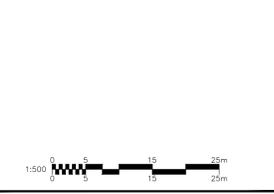
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No.	DESCRIPTION	DATE
1	ISSUED FOR SITEPLAN APPROVAL	2025-11-13



SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

CONSULTANTS



PROJECT
EXTENDICARE RIVERSIDE
 400 JESSIE CHENEVERT WALK
 PROJECT NO:
 3034262
 DRAWN BY:
 D.D.
 PROJECT MGR:
 S.E.L.

CHECKED BY:
 T.R.B.
 APPROVED BY:
 S.E.L.

SHEET TITLE
SERVICING PLAN

SHEET NUMBER
C-001
 ISSUE
1

File Location: C:\Users\m3382\OneDrive\Arcadis\ACC_USA\3034262-RSS-Extendicare\Project Files\10_WPD\04_CIVIL\Sheet\C-001_SITE PLAN_SERVICING.dwg
 Last Saved: November 7, 2025 12:29 PM by Commier3992
 Photos: November 7, 2025 12:29 PM by Commier3992
 D07-XX-XX-XXXX
 XXXX

Appendix B



ARCADIS PROFESSIONAL SERVICES (CANADA) INC.
 500-333 Preston Street
 Ottawa, Ontario K1S 5N4 Canada
arcadis.com

WATERMAIN DEMAND CALCULATION SHEET

WATERMAIN DEMAND CALCULATION SHEET
 Extencicare Riverside | Extencicare Inc.
 30304262.5.1.1 | Rev #2 | 2025-11-03
 Prepared By: SEL | Checked By: MAP

To be updated to institutional.

Arcadis: revised to use ICI

NODE	RESIDENTIAL				NON-RESIDENTIAL (ICI)			AVERAGE DAILY DEMAND (l/s)			MAXIMUM HOURLY DEMAND (l/s)			FIRE DEMAND (l/min)			
	1 Bedroom Apartment	2 Bedroom Apartment	3 Bedroom Apartment	POPULATION	INDUST. (ha)	COMM. (m2)	INSTIT. (pp)	RESIDENTIAL	ICI	TOTAL	RESIDENTIAL	ICI	TOTAL				
Extencicare	256			358.4				1.16		1.16	2.90		2.90	6.39		6.39	12,000

POPULATION DENSITY		WATER DEMAND RATES		PEAKING FACTORS		FIRE DEMANDS	
1 Bedroom Apartment	1.4 persons/unit	Residential	280 l/cap/day	Maximum Daily		Single Family	
2 Bedroom Apartment	2.1 persons/unit	Commercial Shopping Center	2,500 L/(1000m2)/day	Residential	2.5 x avg. day	Semi Detached & Townhouse	
3 Bedroom Apartment	3.1 persons/unit	Institutional	75 l/cap/day	Commercial	1.5 x avg. day		
				Maximum Hourly		Medium Density	12,000 l/min (200 l/s)
				Residential	2.2 x avg. day		
				Commercial	1.8 x avg. day		



STEP	Contents	Description	Adjustment Factor	Result	
1	Extencicare 4-storey residential	Floor 1	4200	Floors 1	4200 m2
		Floors 2-4	4200	Floors 3	12600 m2
	Total Effective Floor Area				16800 m2
2	Type of Construction	Type V Wood Frame 1.5 Type III Ordinary Construction 1.0 Type II Noncombustible Construction 0.8 Type I Fire Resistive Construction 0.6	Type II Noncombustible Construction 0.8		
3	Required Fire Flow	RFF = 220C√A, rounded to nearest 1000 L/min		23000 L/min	
4	Occupancy and Contents	Noncombustible Contents -25%	Limited Combustible Contents -15%	-3450 L/min	
		Limited Combustible Contents -15%			
	Fire Flow	Combustible Contents 0%	Free Burning Contents 15%	Rapid Burning Contents 25%	19550 L/min
5	Automatic Sprinkler Protection	Automatic Sprinkler Conforming to NFPA 13 -30%	Yes -30%	-5865 L/min	
		Standard Water Supply for both the system and Fire Department Hose Lines -10%	Yes -10%	-1955 L/min	
		Fully Supervised System -10%	No		
	Total Sprinkler Adjustment			-7820 L/min	
6	Exposure Adjustment	Based on Table 6 Exposure Adjustment Charges for Subject Building			
	North	Separation (m) >30 Length X Height Factor (m.storeys) Construction Type		0 L/min	
	South	Separation (m) >30 Length X Height Factor (m.storeys) Construction Type		0 L/min	
	East	Separation (m) >30 Length X Height Factor (m.storeys) Construction Type		0 L/min	
	West	Separation (m) >30 Length X Height Factor (m.storeys) Construction Type		0 L/min	
	Total Exposure Adjustment			0 L/min	
7	Total Required Fire Flow			11730 L/min	
		Rounded to Nearest 1000 L/min		12000 L/min	
				200 L/s	

Notes 1. Fire flow calculation are based on Fire Underwriters Survey version 2020.

2. If any vertical opening in the building are unprotected (e.g. interconnected floor spaces, elevators etc.), consider the two largest adjoining floor area plus 50% of all floors immediately above them up to a maximum of eight.

WATERMAIN DEMAND CALCULATION SHEET

PROJECT : RSS TOWN CENTER - PHASE 7A
LOCATION : CITY OF OTTAWA
DEVELOPER : RIVERSIDE SOUTH DEVELOPMENT CORPORATION

FILE: 144320
DATE PRINTED: 06-Jun-24
DESIGN: LE
PAGE : 1 OF 1

NODE	RESIDENTIAL					NON-RESIDENTIAL			AVERAGE DAILY DEMAND (l/s)			MAXIMUM DAILY DEMAND (l/s)			MAXIMUM HOURLY DEMAND (l/s)			FIRE DEMAND (l/min)
	UNITS				POP'N	INDTRL (ha.)	EMP (ha.)	INST. (ha.)	Res.	Non-res.	Total	Res.	Non-res.	Total	Res.	Non-res.	Total	
	SF	SD & TH	APT	TC (ha)														
C05			45		81				0.26	0.00	0.26	0.66	0.00	0.66	1.44	0.00	1.44	13,000
C12			350		630		0.19		2.04	0.08	2.12	5.10	0.12	5.22	11.23	0.21	11.44	13,000
C14			350		630		0.19		2.04	0.08	2.12	5.10	0.12	5.22	11.23	0.21	11.44	13,000
C16			175		315				1.02	0.00	2.12	2.55	0.00	2.55	5.61	0.00	5.61	13,000
C18			235		423				1.37	0.00	1.37	3.43	0.00	3.43	7.54	0.00	7.54	13,000
C22								10.60	0.00	3.44	3.44	0.00	5.15	5.15	0.00	9.28	9.28	13,000
C32		120			324				1.05	0.00	1.05	2.63	0.00	2.63	5.78	0.00	5.78	13,000
C33		48			130				0.42	0.00	0.42	1.05	0.00	1.05	2.31	0.00	2.31	13,000
C35		205			554				1.79	0.00	1.79	4.48	0.00	4.48	9.87	0.00	9.87	13,000
C36		9			24				0.08	0.00	0.08	0.20	0.00	0.20	0.43	0.00	0.43	13,000
TOTALS					3,110		0.38	10.60			14.77			30.59			65.14	

ASSUMPTIONS

RESIDENTIAL DENSITIES

- Single Family (SF)
- Semi Detached (SD) & Townhouse (TH)
- Apartment (APT)
- Town Centre Area (TC)

3.4 p / p / u
2.7 p / p / u
1.8 p / p / u
122.4 p / p / ha

AVG. DAILY DEMAND

- Residential
- Employment
- INST

280 l / cap / day
35,000 l / ha / day
28,000 l / ha / day

MAX. DAILY DEMAND

- Residential
- Employment
- INST

700 l / cap / day
52,500 l / ha / day
42,000 l / ha / day

MAX. HOURLY DEMAND

- Residential
- Employment
- INST

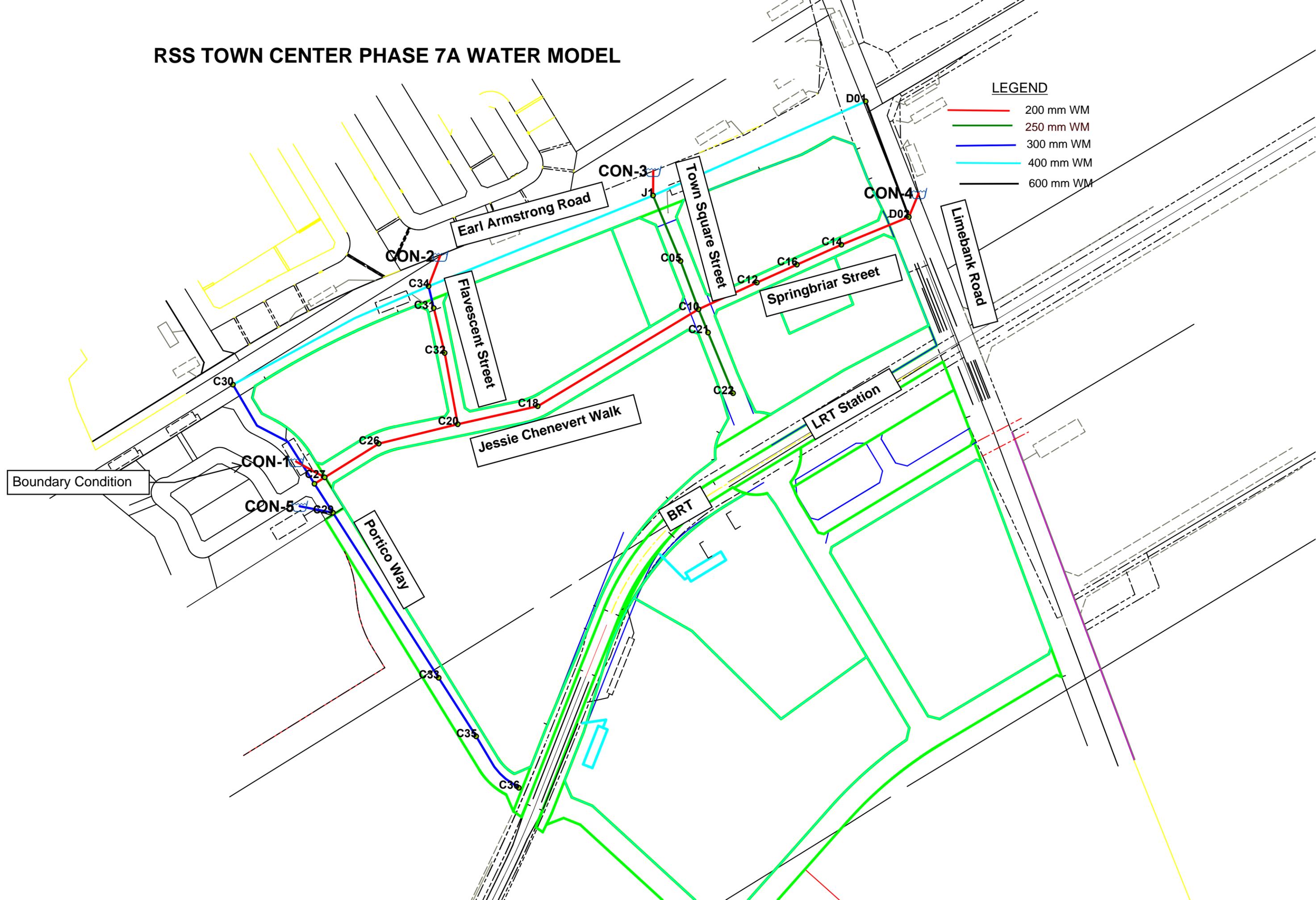
1,540 l / cap / day
94,500 l / ha / day
75,600 l / ha / day

FIRE FLOW

- SF, SD, TH & ST
- ICI

10,000 l / min
13,000 l / min

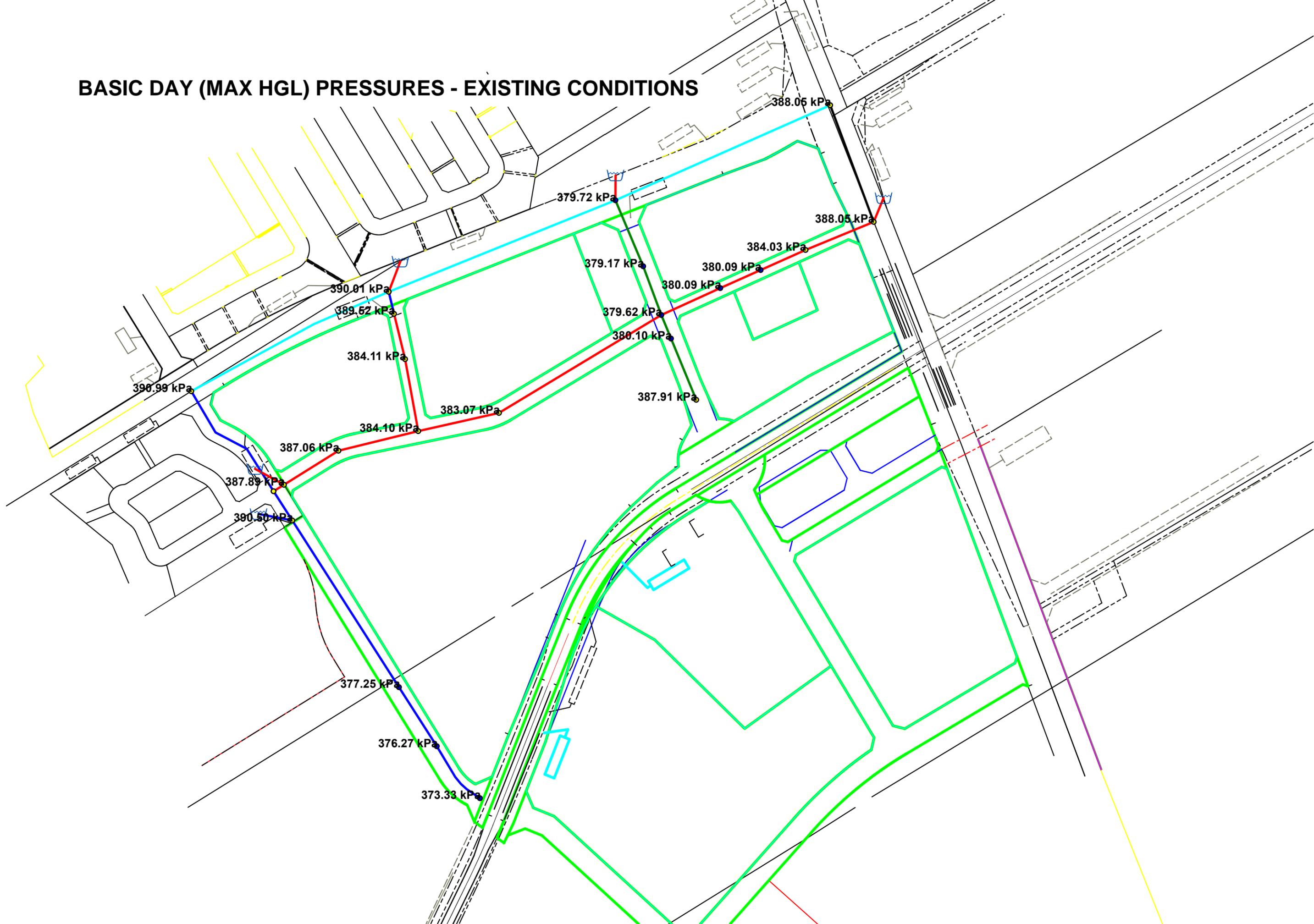
RSS TOWN CENTER PHASE 7A WATER MODEL



LEGEND

- 200 mm WM
- 250 mm WM
- 300 mm WM
- 400 mm WM
- 600 mm WM

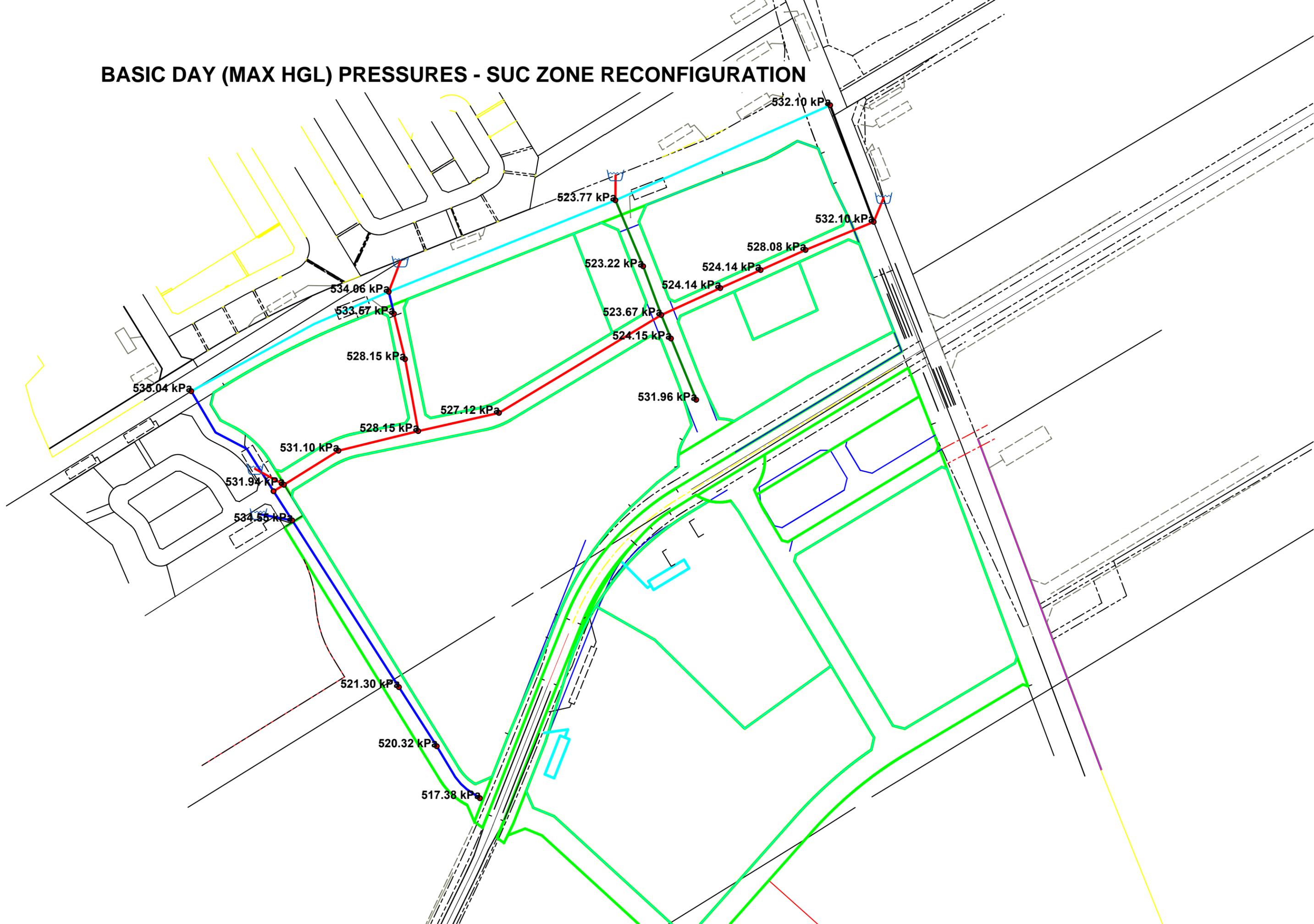
BASIC DAY (MAX HGL) PRESSURES - EXISTING CONDITIONS



Basic Day (Max HGL) - Existing Conditions - Junction Report

		ID	Demand (L/s)	Elevation (m)	Head (m)	Pressure (kPa)
1	<input type="checkbox"/>	C05	0.26	93.40	132.09	379.17
2	<input type="checkbox"/>	C10	0.00	93.35	132.09	379.62
3	<input type="checkbox"/>	C12	2.12	93.30	132.09	380.09
4	<input type="checkbox"/>	C14	2.12	92.90	132.09	384.03
5	<input type="checkbox"/>	C16	1.02	93.30	132.09	380.09
6	<input type="checkbox"/>	C18	1.37	93.00	132.09	383.07
7	<input type="checkbox"/>	C20	0.00	92.90	132.10	384.10
8	<input type="checkbox"/>	C21	0.00	93.30	132.09	380.10
9	<input type="checkbox"/>	C22	3.44	92.50	132.09	387.91
10	<input type="checkbox"/>	C26	0.00	92.60	132.10	387.06
11	<input type="checkbox"/>	C27	0.00	92.52	132.10	387.89
12	<input type="checkbox"/>	C28	0.00	92.60	132.10	387.07
13	<input type="checkbox"/>	C29	0.00	92.25	132.10	390.50
14	<input type="checkbox"/>	C30	0.00	92.20	132.10	390.99
15	<input type="checkbox"/>	C31	0.00	92.35	132.10	389.52
16	<input type="checkbox"/>	C32	1.05	92.90	132.10	384.11
17	<input type="checkbox"/>	C33	0.42	93.60	132.10	377.25
18	<input type="checkbox"/>	C34	0.00	92.30	132.10	390.01
19	<input type="checkbox"/>	C35	1.79	93.70	132.10	376.27
20	<input type="checkbox"/>	C36	0.08	94.00	132.10	373.33
21	<input type="checkbox"/>	D01	0.00	92.50	132.10	388.05
22	<input type="checkbox"/>	D02	0.00	92.50	132.10	388.05
23	<input type="checkbox"/>	J1	0.00	93.35	132.10	379.72

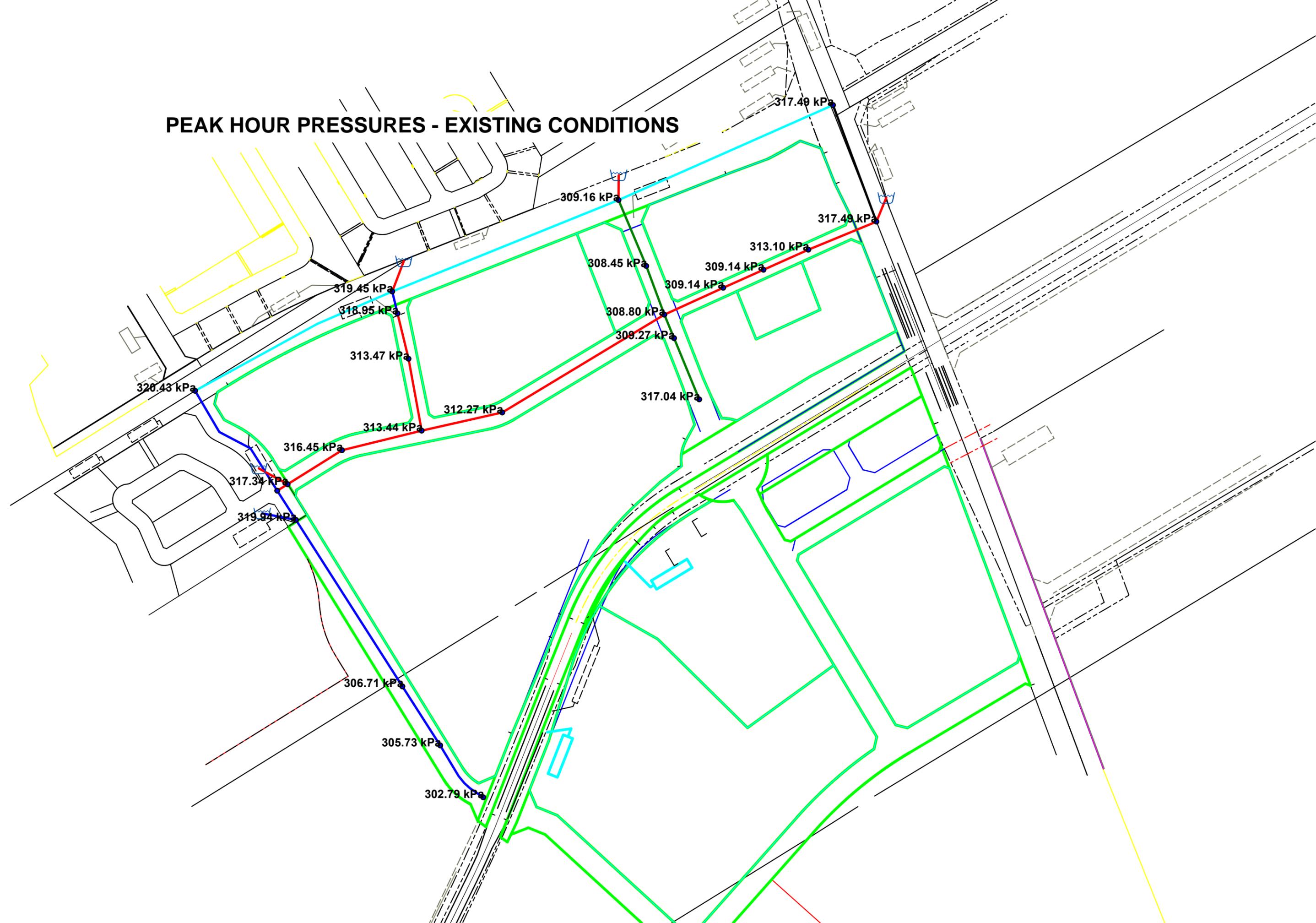
BASIC DAY (MAX HGL) PRESSURES - SUC ZONE RECONFIGURATION



Basic Day (Max HGL) - SUC Zone - Junction Report

		ID	Demand (L/s)	Elevation (m)	Head (m)	Pressure (kPa)
1	<input type="checkbox"/>	C05	0.26	93.40	146.79	523.22
2	<input type="checkbox"/>	C10	0.00	93.35	146.79	523.67
3	<input type="checkbox"/>	C12	2.12	93.30	146.79	524.14
4	<input type="checkbox"/>	C14	2.12	92.90	146.79	528.08
5	<input type="checkbox"/>	C16	1.02	93.30	146.79	524.14
6	<input type="checkbox"/>	C18	1.37	93.00	146.79	527.12
7	<input type="checkbox"/>	C20	0.00	92.90	146.80	528.15
8	<input type="checkbox"/>	C21	0.00	93.30	146.79	524.15
9	<input type="checkbox"/>	C22	3.44	92.50	146.79	531.96
10	<input type="checkbox"/>	C26	0.00	92.60	146.80	531.10
11	<input type="checkbox"/>	C27	0.00	92.52	146.80	531.94
12	<input type="checkbox"/>	C28	0.00	92.60	146.80	531.12
13	<input type="checkbox"/>	C29	0.00	92.25	146.80	534.55
14	<input type="checkbox"/>	C30	0.00	92.20	146.80	535.04
15	<input type="checkbox"/>	C31	0.00	92.35	146.80	533.57
16	<input type="checkbox"/>	C32	1.05	92.90	146.80	528.15
17	<input type="checkbox"/>	C33	0.42	93.60	146.80	521.30
18	<input type="checkbox"/>	C34	0.00	92.30	146.80	534.06
19	<input type="checkbox"/>	C35	1.79	93.70	146.80	520.32
20	<input type="checkbox"/>	C36	0.08	94.00	146.80	517.38
21	<input type="checkbox"/>	D01	0.00	92.50	146.80	532.10
22	<input type="checkbox"/>	D02	0.00	92.50	146.80	532.10
23	<input type="checkbox"/>	J1	0.00	93.35	146.80	523.77

PEAK HOUR PRESSURES - EXISTING CONDITIONS



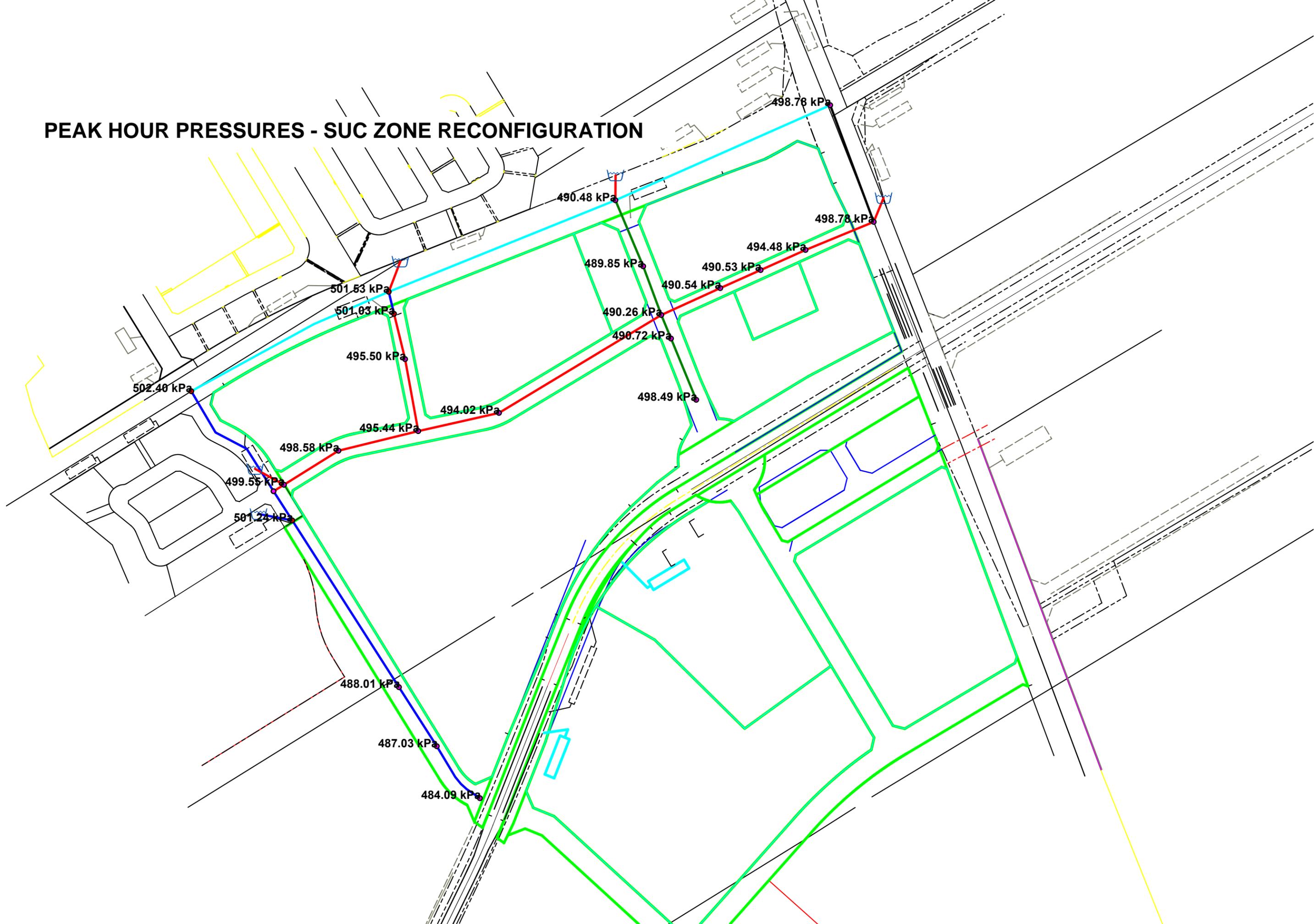
Peak Hour - Existing Conditions - Junction Report

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1	<input type="checkbox"/>	C05	0.66	93.40	124.88	308.45
2	<input type="checkbox"/>	C10	0.00	93.35	124.86	308.80
3	<input type="checkbox"/>	C12	5.22	93.30	124.85	309.14
4	<input type="checkbox"/>	C14	5.22	92.90	124.85	313.10
5	<input type="checkbox"/>	C16	2.55	93.30	124.85	309.14
6	<input type="checkbox"/>	C18	3.43	93.00	124.87	312.27
7	<input type="checkbox"/>	C20	0.00	92.90	124.89	313.44
8	<input type="checkbox"/>	C21	0.00	93.30	124.86	309.27
9	<input type="checkbox"/>	C22	5.15	92.50	124.85	317.04
10	<input type="checkbox"/>	C26	0.00	92.60	124.89	316.45
11	<input type="checkbox"/>	C27	0.00	92.52	124.90	317.34
12	<input type="checkbox"/>	C28	0.00	92.60	124.90	316.51
13	<input type="checkbox"/>	C29	0.00	92.25	124.90	319.94
14	<input type="checkbox"/>	C30	0.00	92.20	124.90	320.43
15	<input type="checkbox"/>	C31	0.00	92.35	124.90	318.95
16	<input type="checkbox"/>	C32	2.63	92.90	124.89	313.47
17	<input type="checkbox"/>	C33	1.05	93.60	124.90	306.71
18	<input type="checkbox"/>	C34	4.48	92.30	124.90	319.45
19	<input type="checkbox"/>	C35	0.20	93.70	124.90	305.73
20	<input type="checkbox"/>	C36	0.00	94.00	124.90	302.79
21	<input type="checkbox"/>	D01	0.00	92.50	124.90	317.49
22	<input type="checkbox"/>	D02	0.00	92.50	124.90	317.49
23	<input type="checkbox"/>	J1	0.00	93.35	124.90	309.16

Peak Hour - Existing Conditions - Pipe Report

		ID	From Node	To Node	Length (m)	Diameter (mm)	Roughness	Flow (L/s)	Velocity (m/s)	Headloss (m)	HL/1000 (m/k-m)	Status	Flow Reversal Count
1		P101	C34	C31	26.36	297.00	120.00	4.44	0.06	0.00	0.02	Open	0
2		P103	C32	C20	85.01	204.00	110.00	1.81	0.06	0.00	0.03	Open	0
3		P105	CON-1	C27	1.00	204.00	110.00	2.96	0.09	0.00	0.09	Open	0
4		P107	C34	CON-2	1.00	204.00	110.00	-8.26	0.25	0.00	0.57	Open	0
5		P109	D02	CON-4	1.00	204.00	110.00	-8.45	0.26	0.00	0.60	Open	0
6		P111	C28	C29	40.36	297.00	120.00	-1.13	0.02	0.00	0.00	Open	0
7		P141	C16	C14	57.36	204.00	110.00	-2.92	0.09	0.00	0.08	Open	0
8		P143	C21	C22	77.06	250.00	110.00	5.15	0.10	0.01	0.09	Open	0
9		P145	C33	C35	81.62	297.00	120.00	0.20	0.00	0.00	0.00	Open	0
10		P147	C35	C36	79.85	297.00	120.00	0.00	0.00	0.00	0.00	Open	0
11		P149	C27	C28	14.26	204.00	110.00	0.07	0.00	0.00	0.00	Open	0
12		P151	C29	C33	230.32	297.00	120.00	1.25	0.02	0.00	0.00	Open	0
13		P153	CON-5	C29	1.00	297.00	120.00	2.38	0.03	0.00	0.01	Open	0
14		P155	C31	C32	54.24	204.00	110.00	4.44	0.14	0.01	0.18	Open	0
15		P31	CON-3	J1	1.00	204.00	110.00	8.55	0.26	0.00	0.60	Open	0
16		P65	J1	C05	83.34	250.00	110.00	9.39	0.19	0.02	0.27	Open	0
17		P67	C05	C10	60.45	250.00	110.00	8.73	0.18	0.01	0.23	Open	0
18		P69	C10	C21	29.55	250.00	110.00	5.15	0.10	0.00	0.09	Open	0
19		P73	C10	C12	75.55	204.00	110.00	4.85	0.15	0.02	0.21	Open	0
20		P75	C12	C16	51.60	204.00	110.00	-0.37	0.01	0.00	0.00	Open	0
21		P77	C14	D02	86.01	204.00	110.00	-8.14	0.25	0.05	0.55	Open	0
22		P83	D02	D01	144.86	610.00	120.00	0.30	0.00	0.00	0.00	Open	0
23		P85	D01	J1	273.80	393.00	120.00	0.30	0.00	0.00	0.00	Open	0
24		P87	C10	C18	220.98	204.00	110.00	-1.27	0.04	0.00	0.02	Open	0
25		P89	C18	C20	96.54	204.00	110.00	-4.70	0.14	0.02	0.20	Open	0
26		P91	C20	C26	95.87	204.00	110.00	-2.88	0.09	0.01	0.08	Open	0
27		P93	C26	C27	74.87	204.00	110.00	-2.88	0.09	0.01	0.08	Open	0
28		P95	C28	C30	155.23	297.00	120.00	1.20	0.02	0.00	0.00	Open	0
29		P97	C30	C34	258.01	393.00	120.00	1.20	0.01	0.00	0.00	Open	0
30		P99	C34	J1	285.12	393.00	120.00	0.54	0.00	0.00	0.00	Open	0

PEAK HOUR PRESSURES - SUC ZONE RECONFIGURATION



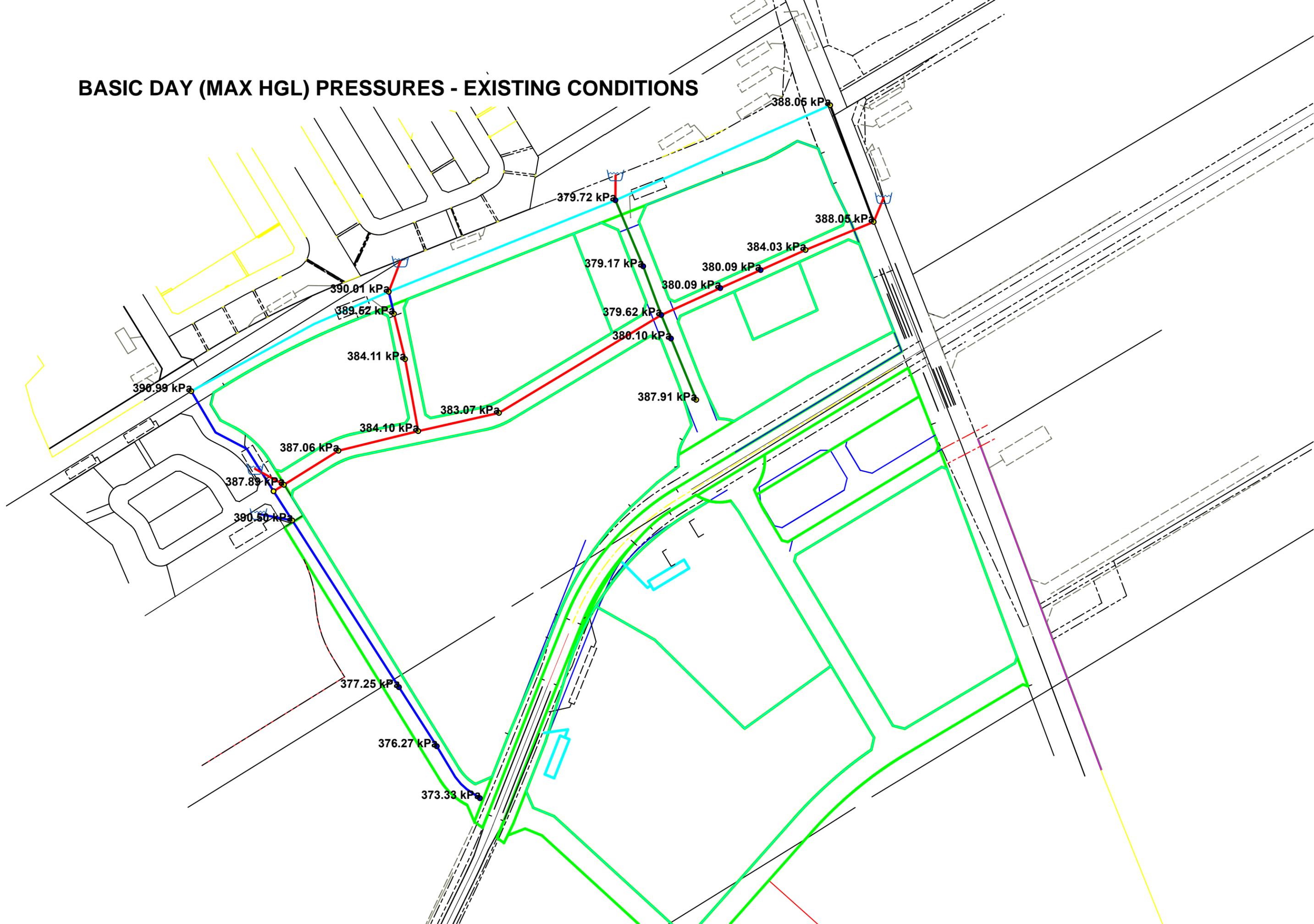
Peak Hour - SUC Zone - Junction Report

		ID	Demand (L/s)	Elevation (m)	Head (m)	Pressure (kPa)
1	<input type="checkbox"/>	C05	0.66	93.40	143.39	489.85
2	<input type="checkbox"/>	C10	0.00	93.35	143.38	490.26
3	<input type="checkbox"/>	C12	5.22	93.30	143.36	490.54
4	<input type="checkbox"/>	C14	5.22	92.90	143.36	494.48
5	<input type="checkbox"/>	C16	2.55	93.30	143.36	490.53
6	<input type="checkbox"/>	C18	3.43	93.00	143.41	494.02
7	<input type="checkbox"/>	C20	0.00	92.90	143.46	495.44
8	<input type="checkbox"/>	C21	0.00	93.30	143.38	490.72
9	<input type="checkbox"/>	C22	5.15	92.50	143.37	498.49
10	<input type="checkbox"/>	C26	0.00	92.60	143.48	498.58
11	<input type="checkbox"/>	C27	0.00	92.52	143.49	499.55
12	<input type="checkbox"/>	C28	0.00	92.60	143.44	498.24
13	<input type="checkbox"/>	C29	0.00	92.25	143.40	501.24
14	<input type="checkbox"/>	C30	0.00	92.20	143.47	502.40
15	<input type="checkbox"/>	C31	0.00	92.35	143.48	501.03
16	<input type="checkbox"/>	C32	2.63	92.90	143.47	495.50
17	<input type="checkbox"/>	C33	1.05	93.60	143.40	488.01
18	<input type="checkbox"/>	C34	4.48	92.30	143.48	501.53
19	<input type="checkbox"/>	C35	0.20	93.70	143.40	487.03
20	<input type="checkbox"/>	C36	0.00	94.00	143.40	484.09
21	<input type="checkbox"/>	D01	0.00	92.50	143.40	498.78
22	<input type="checkbox"/>	D02	0.00	92.50	143.40	498.78
23	<input type="checkbox"/>	J1	0.00	93.35	143.40	490.48

Peak Hour - SUC Zone - Pipe Report

		ID	From Node	To Node	Length (m)	Diameter (mm)	Roughness	Flow (L/s)	Velocity (m/s)	Headloss (m)	HL/1000 (m/k-m)	Status	Flow Reversal Count
1	<input type="checkbox"/>	P101	C34	C31	26.36	297.00	120.00	5.34	0.08	0.00	0.03	Open	0
2	<input type="checkbox"/>	P103	C32	C20	85.01	204.00	110.00	2.71	0.08	0.01	0.07	Open	0
3	<input type="checkbox"/>	P105	CON-1	C27	1.00	204.00	110.00	26.95	0.82	0.01	5.06	Open	0
4	<input type="checkbox"/>	P107	C34	CON-2	1.00	204.00	110.00	-56.08	1.72	0.02	19.64	Open	0
5	<input type="checkbox"/>	P109	D02	CON-4	1.00	204.00	110.00	-1.38	0.04	0.00	0.02	Open	0
6	<input type="checkbox"/>	P111	C28	C29	40.36	297.00	120.00	34.42	0.50	0.04	1.09	Open	0
7	<input type="checkbox"/>	P141	C16	C14	57.36	204.00	110.00	-2.09	0.06	0.00	0.04	Open	0
8	<input type="checkbox"/>	P143	C21	C22	77.06	250.00	110.00	5.15	0.10	0.01	0.09	Open	0
9	<input type="checkbox"/>	P145	C33	C35	81.62	297.00	120.00	0.20	0.00	0.00	0.00	Open	0
10	<input type="checkbox"/>	P147	C35	C36	79.85	297.00	120.00	0.00	0.00	0.00	0.00	Open	0
11	<input type="checkbox"/>	P149	C27	C28	14.26	204.00	110.00	22.15	0.68	0.05	3.51	Open	0
12	<input type="checkbox"/>	P151	C29	C33	230.32	297.00	120.00	1.25	0.02	0.00	0.00	Open	0
13	<input type="checkbox"/>	P153	CON-5	C29	1.00	297.00	120.00	-33.17	0.48	0.00	1.01	Open	0
14	<input type="checkbox"/>	P155	C31	C32	54.24	204.00	110.00	5.34	0.16	0.01	0.25	Open	0
15	<input type="checkbox"/>	P31	CON-3	J1	1.00	204.00	110.00	-20.65	0.63	0.00	3.09	Open	0
16	<input type="checkbox"/>	P65	J1	C05	83.34	250.00	110.00	7.41	0.15	0.01	0.17	Open	0
17	<input type="checkbox"/>	P67	C05	C10	60.45	250.00	110.00	6.75	0.14	0.01	0.14	Open	0
18	<input type="checkbox"/>	P69	C10	C21	29.55	250.00	110.00	5.15	0.10	0.00	0.09	Open	0
19	<input type="checkbox"/>	P73	C10	C12	75.55	204.00	110.00	5.68	0.17	0.02	0.28	Open	0
20	<input type="checkbox"/>	P75	C12	C16	51.60	204.00	110.00	0.46	0.01	0.00	0.00	Open	0
21	<input type="checkbox"/>	P77	C14	D02	86.01	204.00	110.00	-7.31	0.22	0.04	0.45	Open	0
22	<input type="checkbox"/>	P83	D02	D01	144.86	610.00	120.00	-5.93	0.02	0.00	0.00	Open	0
23	<input type="checkbox"/>	P85	D01	J1	273.80	393.00	120.00	-5.93	0.05	0.00	0.01	Open	0
24	<input type="checkbox"/>	P87	C10	C18	220.98	204.00	110.00	-4.08	0.12	0.03	0.15	Open	0
25	<input type="checkbox"/>	P89	C18	C20	96.54	204.00	110.00	-7.51	0.23	0.05	0.47	Open	0
26	<input type="checkbox"/>	P91	C20	C26	95.87	204.00	110.00	-4.80	0.15	0.02	0.21	Open	0
27	<input type="checkbox"/>	P93	C26	C27	74.87	204.00	110.00	-4.80	0.15	0.02	0.21	Open	0
28	<input type="checkbox"/>	P95	C28	C30	155.23	297.00	120.00	-12.27	0.18	0.02	0.16	Open	0
29	<input type="checkbox"/>	P97	C30	C34	258.01	393.00	120.00	-12.27	0.10	0.01	0.04	Open	0
30	<input type="checkbox"/>	P99	C34	J1	285.12	393.00	120.00	33.99	0.28	0.08	0.27	Open	0

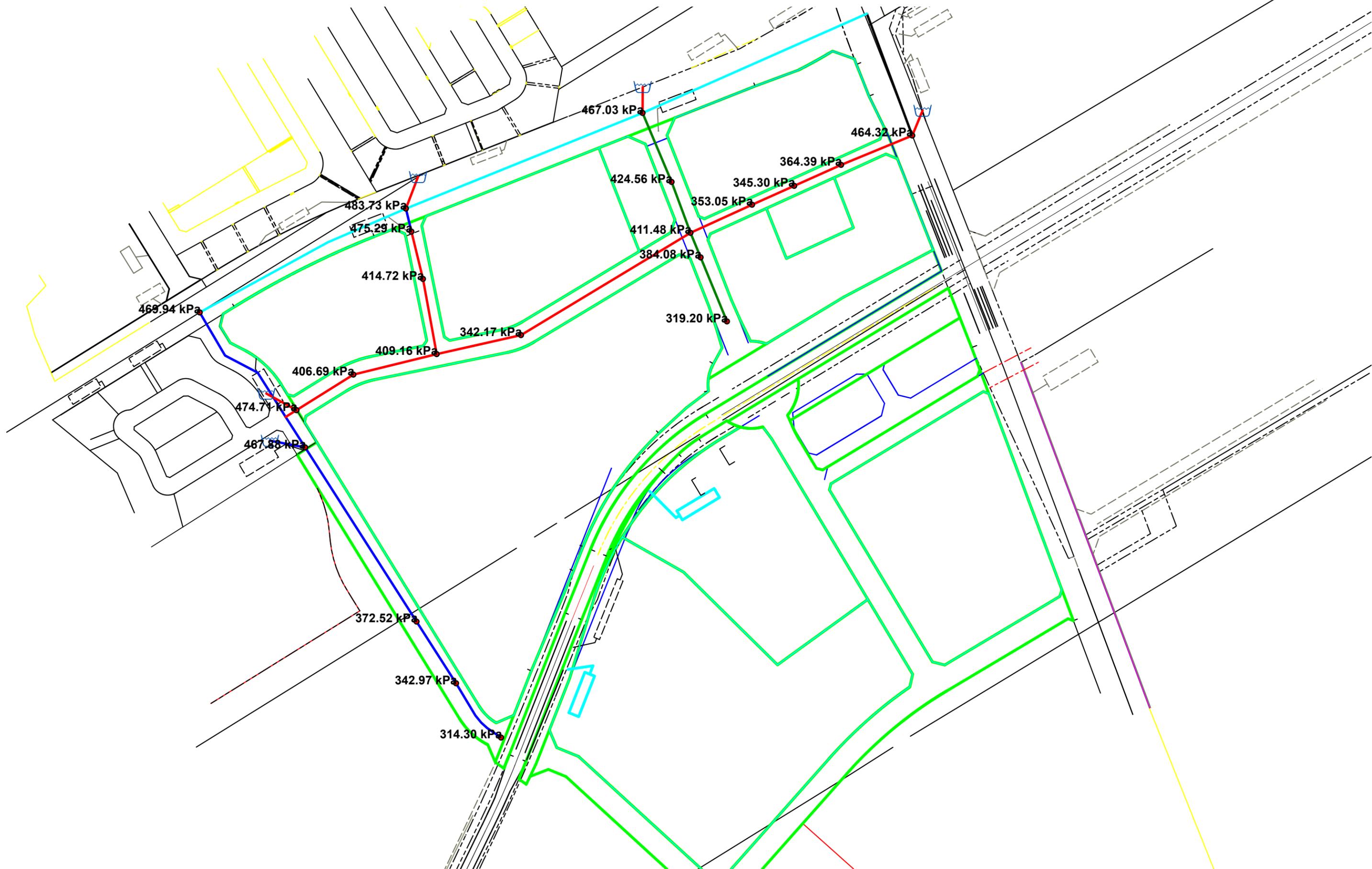
BASIC DAY (MAX HGL) PRESSURES - EXISTING CONDITIONS



Max Day + Fire (13,000 l/min) - Existing Conditions - Fireflow Design Report

		ID	Total Demand (L/s)	Available Flow at Hydrant (L/s)	Critical Node ID	Critical Node Pressure (kPa)	Critical Node Head (m)	Design Flow (L/s)	Design Pressure (kPa)	Design Fire Node Pressure (kPa)
1	<input type="checkbox"/>	C05	218.11	466.78	C05	139.96	107.68	466.78	139.96	140.18
2	<input type="checkbox"/>	C10	216.67	401.55	C10	139.96	107.63	401.55	139.96	140.19
3	<input type="checkbox"/>	C12	228.11	274.04	C12	139.96	107.58	274.04	139.96	139.97
4	<input type="checkbox"/>	C14	228.11	290.34	C14	139.96	107.18	290.34	139.96	139.97
5	<input type="checkbox"/>	C16	222.28	258.16	C16	139.96	107.58	258.16	139.96	139.97
6	<input type="checkbox"/>	C18	224.21	252.39	C18	139.96	107.28	252.39	139.96	140.26
7	<input type="checkbox"/>	C20	216.67	361.32	C20	139.96	107.18	361.32	139.96	139.99
8	<input type="checkbox"/>	C21	216.67	314.04	C21	139.96	107.58	314.04	139.96	140.03
9	<input type="checkbox"/>	C22	225.95	232.81	C22	139.96	106.78	232.81	139.96	140.18
10	<input type="checkbox"/>	C26	216.67	346.97	C26	139.96	106.88	346.97	139.96	139.97
11	<input type="checkbox"/>	C27	216.67	2,734.89	C27	139.99	106.80	2,735.14	139.96	139.70
12	<input type="checkbox"/>	C29	216.67	6,722.96	C36	122.51	106.50	6,311.78	139.96	157.79
13	<input type="checkbox"/>	C30	216.67	1,043.55	C30	139.97	106.48	1,043.57	139.96	139.96
14	<input type="checkbox"/>	C31	216.67	1,143.13	C31	139.97	106.63	1,143.15	139.96	139.96
15	<input type="checkbox"/>	C32	222.45	379.78	C32	139.96	107.18	379.79	139.96	139.98
16	<input type="checkbox"/>	C33	218.98	300.24	C36	135.95	107.87	295.55	139.96	143.99
17	<input type="checkbox"/>	C34	216.67	3,285.56	C34	140.00	106.59	3,285.97	139.96	139.96
18	<input type="checkbox"/>	C35	226.54	260.60	C36	137.02	107.98	257.68	139.96	142.90
19	<input type="checkbox"/>	C36	217.10	220.50	C36	139.96	108.28	220.50	139.96	140.11
20	<input type="checkbox"/>	D02	216.67	2,750.48	D02	139.99	106.79	2,750.75	139.96	139.94
21	<input type="checkbox"/>	J1	216.67	3,361.01	J1	140.00	107.64	3,361.49	139.96	139.97

MAX DAY + FIRE (13,000 l/min) RESIDUAL PRESSURES - SUC ZONE RECONFIGURATION

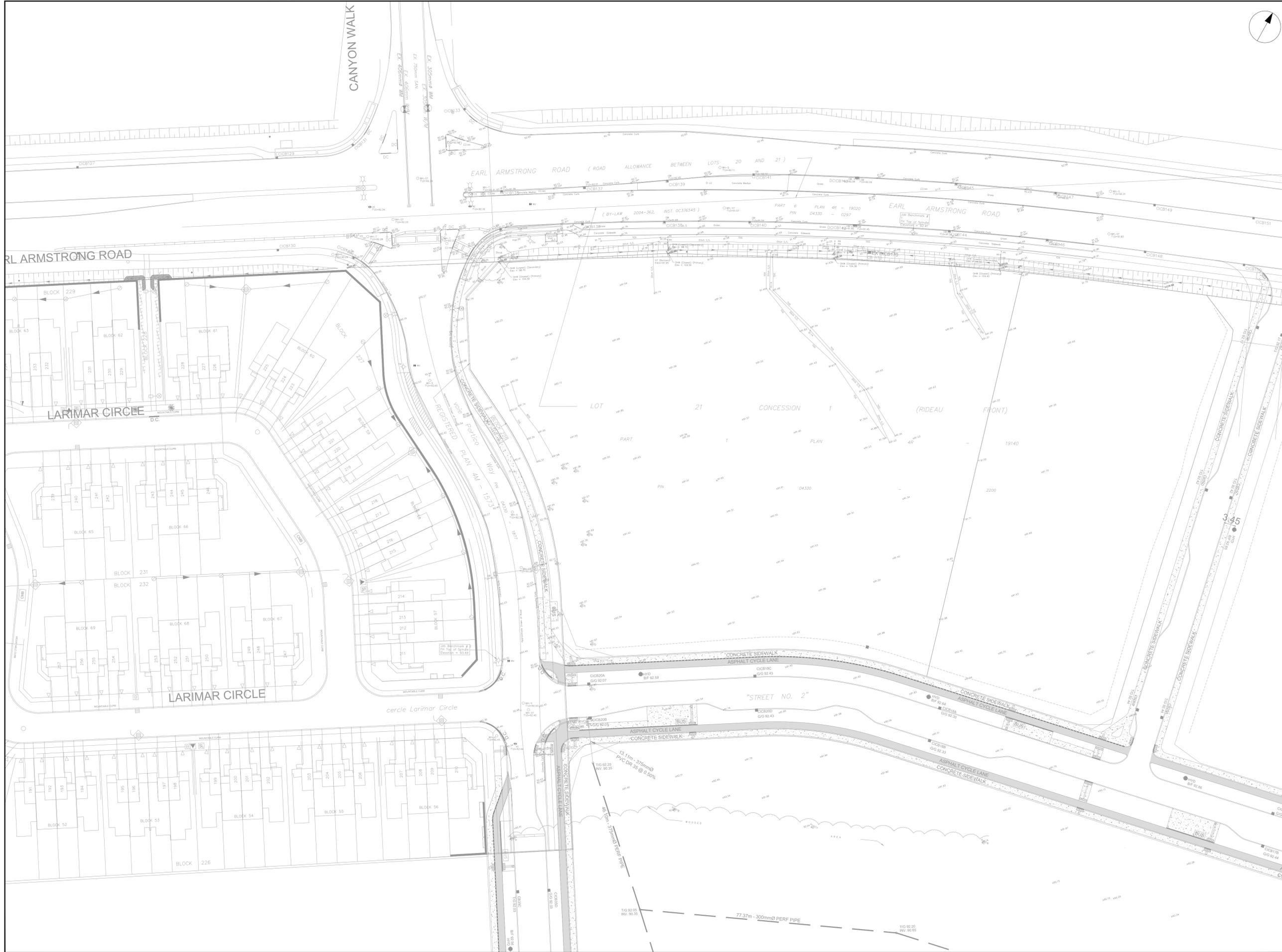


Max Day + Fire (13,000 l/min) - SUC Zone - Fireflow Design Report

		ID	Total Demand (L/s)	Available Flow at Hydrant (L/s)	Critical Node ID	Critical Node Pressure (kPa)	Critical Node Head (m)	Design Flow (L/s)	Design Pressure (kPa)	Design Fire Node Pressure (kPa)
1	<input type="checkbox"/>	C05	218.11	707.09	C05	139.96	107.68	707.09	139.96	139.96
2	<input type="checkbox"/>	C10	216.67	612.51	C10	139.96	107.63	612.51	139.96	139.96
3	<input type="checkbox"/>	C12	228.11	416.33	C12	139.96	107.58	416.34	139.96	140.02
4	<input type="checkbox"/>	C14	228.11	438.92	C14	139.96	107.18	438.92	139.96	140.00
5	<input type="checkbox"/>	C16	222.28	395.64	C16	139.96	107.58	395.64	139.96	140.07
6	<input type="checkbox"/>	C18	224.21	373.92	C18	139.96	107.28	373.92	139.96	139.97
7	<input type="checkbox"/>	C20	216.67	535.55	C20	139.96	107.18	535.55	139.96	140.06
8	<input type="checkbox"/>	C21	216.67	478.15	C21	139.96	107.58	478.15	139.96	140.35
9	<input type="checkbox"/>	C22	225.95	344.99	C22	139.96	106.78	344.99	139.96	139.98
10	<input type="checkbox"/>	C26	216.67	509.81	C26	139.96	106.88	509.81	139.96	139.98
11	<input type="checkbox"/>	C27	216.67	4,005.32	C27	140.02	106.81	4,005.71	139.96	139.61
12	<input type="checkbox"/>	C29	216.67	9,975.58	C36	122.71	106.52	9,689.13	139.96	157.75
13	<input type="checkbox"/>	C30	216.67	1,518.26	C30	139.97	106.48	1,518.28	139.96	139.96
14	<input type="checkbox"/>	C31	216.67	1,662.51	C31	139.97	106.63	1,662.54	139.96	139.96
15	<input type="checkbox"/>	C32	222.45	558.30	C32	139.96	107.18	558.30	139.96	140.01
16	<input type="checkbox"/>	C33	218.98	462.77	C36	135.95	107.87	459.50	139.96	144.05
17	<input type="checkbox"/>	C34	216.67	4,758.11	C34	140.05	106.59	4,758.74	139.96	139.96
18	<input type="checkbox"/>	C35	226.54	398.95	C36	137.02	107.98	396.92	139.96	142.90
19	<input type="checkbox"/>	C36	217.10	343.67	C36	139.96	108.28	343.67	139.96	140.00
20	<input type="checkbox"/>	D02	216.67	4,096.07	D02	140.02	106.79	4,096.50	139.96	139.95
21	<input type="checkbox"/>	J1	216.67	5,007.51	J1	140.06	107.64	5,008.29	139.96	139.96

Appendix C

Appendix D



Extendicare

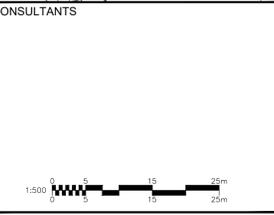
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Markham ON L3R 4T9

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No.	DESCRIPTION	DATE
1	ISSUED FOR SITEPLAN APPROVAL	2025-11-13



SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



PROJECT
EXTENDICARE RIVERSIDE

400 JESSIE CHENEVERT WALK

PROJECT NO:
3034262

DRAWN BY:
D.D.

CHECKED BY:
T.R.B.

PROJECT MGR:
S.E.L.

APPROVED BY:
S.E.L.

SHEET TITLE
EXISTING CONDITIONS

SHEET NUMBER
C-000

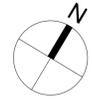
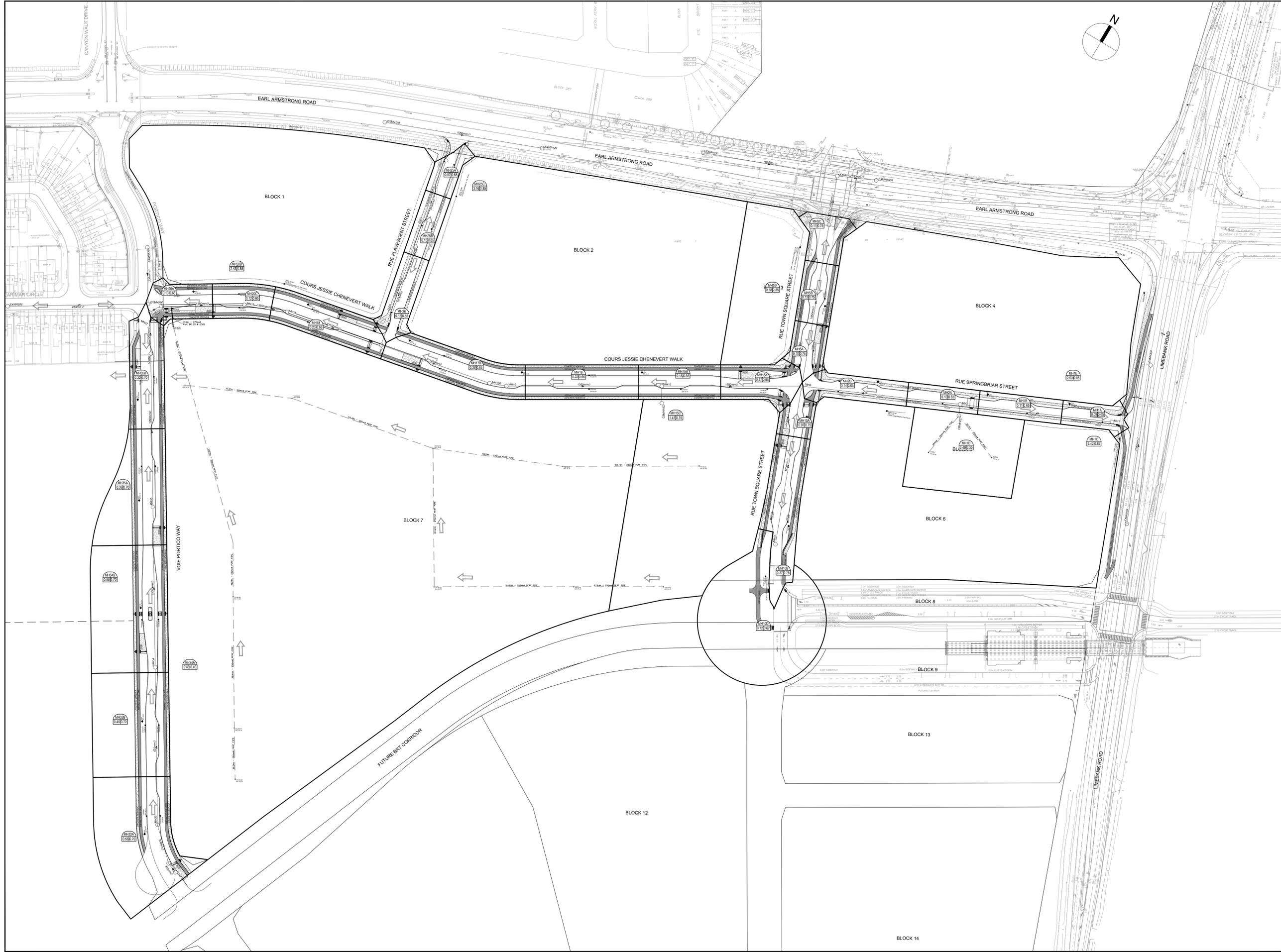
ISSUE
1

Design Brief Phase 7A

980 Earl Armstrong Road & 4700 Limebank Road, Riverside South

DRAINAGE AREA ID	CONTINUOUS/ SAG	ROAD TYPE	MINOR SYSTEM DESIGN TARGET (BASED ON ROAD TYPE)		100 YEAR CAPTURED FLOW (L/S) (3 HOUR CHICAGO STORM)	ICD ORIFICE SIZE (MM DIA.) (TWO ICDs PER DRAINAGE AREA)	
			MINOR SYSTEM DESIGN STORM	GENERATED FLOW ON INDIVIDUAL SEGMENT SIMULATED (L/S)			
S2B-Ph7A	Sag	26mROW-9.4mAsphalt	5	26.9	33.7	83	83
S32A-Ph7A	Sag	26mROW-9.4mAsphalt	5	127.0	141.6	178	152
S32B-Ph7A	Sag	26mROW-9.4mAsphalt	5	102.8	119.3	152	152
S20C-Ph7A	Sag	26mROW-9.4mAsphalt	5	21.8	33.8	83	83
S34B-Ph7A	Sag	26mROW-9.4mAsphalt	5	125.6	143.4	178	152
S35A-Ph7A	Sag	26mROW-9.4mAsphalt	5	82.8	134.0	178	152
S35B-Ph7A	Sag	26mROW-9.4mAsphalt	5	50.1	51.6	102	102
S5A-Ph7A	Sag	26mROW-12mAsphalt	2	16.2	33.5	83	83
S5B-Ph7A	Sag	26mROW-12mAsphalt	2	20.0	34.4	83	83
S5C-Ph7A	Sag	26mROW-12mAsphalt	2	18.3	42.4	94	94
Development Blocks							
B20B-Ph7A	Block	Rear Yard	2	478.8	479.0	n/a	
B25C-Ph7A	Block	Rear Yard	2	621.7	622.0	n/a	
B1C-Ph7A	Block	Rear Yard	2	476.2	477.0	n/a	
B1D-Ph7A	Block	Rear Yard	2	15.4	16.0	n/a	
B1E-Ph7A	Block	Rear Yard	2	492.6	493.0	n/a	
B15C-Ph7A	Block	Rear Yard	2	113.0	113.0	n/a	
B34A-Ph7A	Block	Rear Yard	2	578.7	579.0	n/a	
B5D-Ph7A	Block	Rear Yard	2	114.6	115.0	n/a	
EXT-Ph7A	External	External	100	307.4	307	n/a	

The available on-site storage and the results of the PCSWMM evaluation for Town Center Phase 7A are presented in **Table 4-**. The ponding plan is presented on **Drawing 144320-200** to **Drawing 144320-202**.



CLIENT
Riverside South

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Arcadis Professional Services (Canada) Inc.
 formerly B1 Group Professional Services (Canada) Inc.

ISSUES

No.	DESCRIPTION	DATE
1	SUBMISSION 1 FOR CITY REVIEW	2024-07-19
2	SUBMISSION 2 FOR CITY REVIEW	2024-10-29
3	SUBMISSION 3 FOR CITY REVIEW	2025-01-17

SEE 010, 011 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



PRIME CONSULTANT
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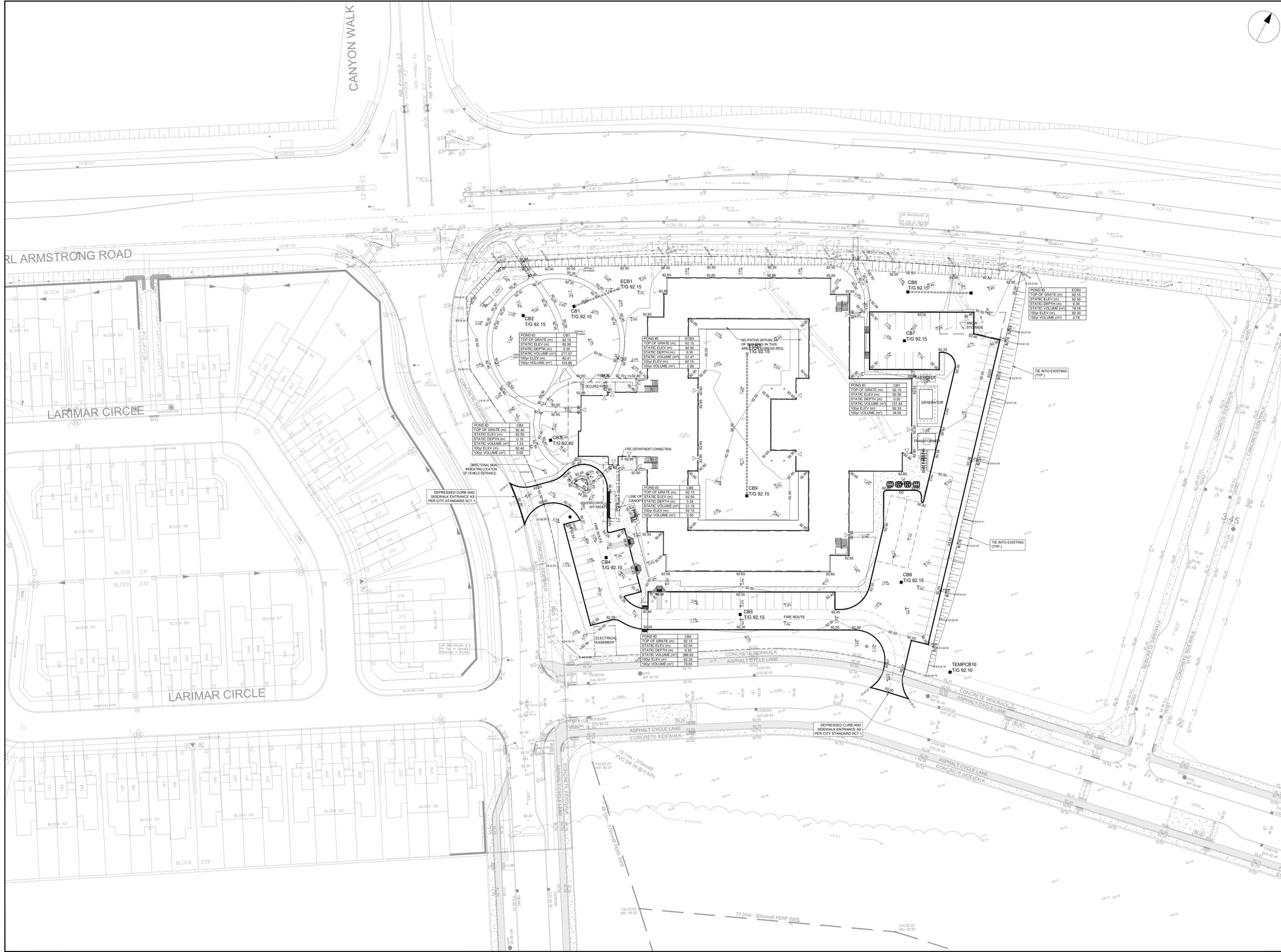
PROJECT
 RSS TOWN CENTER
 980 EARL ARMSTRONG & 4700 LIMEBANK ROAD
 PHASE 7A

PROJECT NO: 144320
DRAWN BY: C.C
PROJECT MGR: L.E.
CHECKED BY: L.E.
APPROVED BY: L.E.

SHEET TITLE
 STORM DRAINAGE AREA PLAN

SHEET NUMBER 500 **ISSUE** 3

File Location: J:\144320_Riverside\7.0_Production\7.03_Design\04_Civil\Storm\500 STORM DRAINAGE AREA PLAN.dwg Last Saved: October 29, 2024, by: gerald5754 - Plotted: January 20, 2025 2:50:54 PM by: Corinn, CHS
 D07-XX-XX-XXXX
 XXXXX



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Extendicare
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No.	DESCRIPTION	DATE
1	ISSUED FOR SITEPLAN APPROVAL	2025-11-13



SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

CONSULTANTS

SEAL

LICENSED PROFESSIONAL ENGINEER
 S. E. LABADIE
 100214983
 2025/11/13
 PROVINCE OF ONTARIO

PROJECT
EXTENDICARE RIVERSIDE
 400 JESSIE CHENEVERT WALK

PROJECT NO:
 3034262

DRAWN BY:
 D.D.

PROJECT MGR:
 S.E.L.

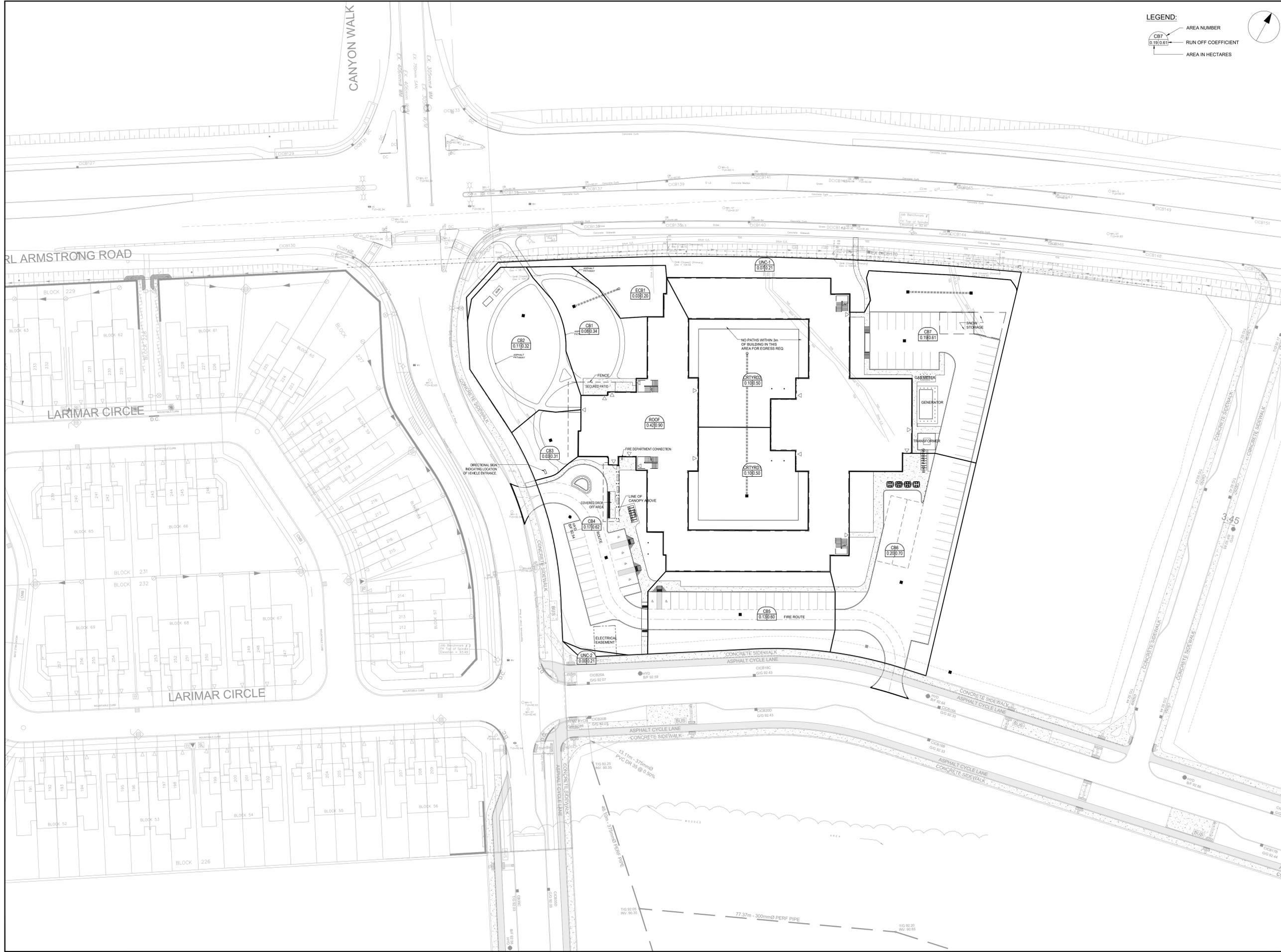
CHECKED BY:
 T.R.B.

APPROVED BY:
 S.E.L.

SHEET TITLE
PONDING PLAN

SHEET NUMBER
C-600

ISSUE
1



LEGEND:

- CB7 AREA NUMBER
- RUN OFF COEFFICIENT
- AREA IN HECTARES

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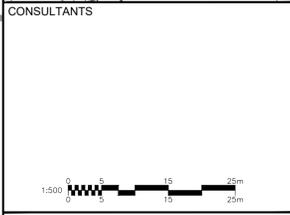
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ISSUES

No.	DESCRIPTION	DATE
1	ISSUED FOR SITEPLAN APPROVAL	2025-11-13



SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS



PROJECT
EXTENCICARE RIVERSIDE
 400 JESSIE CHENEVERT WALK

PROJECT NO:
 3034262

DRAWN BY: D.D.
CHECKED BY: T.R.B.

PROJECT MGR: S.E.L.
APPROVED BY: S.E.L.

SHEET TITLE
STORM DRAINAGE AREA PLAN

SHEET NUMBER C-500	ISSUE 1
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File Location: C:\Users\m392\OneDrive\Arcadis\ACC_US\ACA-3034262-RSS-Extencicare\Project Files\10_WPD\10_CIVIL\SheetC-500 STORM DRAINAGE PLAN.dwg List Saved: November 7, 2025, by commisc392 Plotter: November 7, 2025 12:33:37 PM by Corrier, Chris
 D07-XX-XX-XXXX
 XXXXX



Formulas and Descriptions

$i_{2yr} = 1:2 \text{ year Intensity} = 732.951 / (T_c + 6.199)^{0.810}$
 $i_{5yr} = 1:5 \text{ year Intensity} = 998.071 / (T_c + 6.053)^{0.814}$
 $i_{100yr} = 1:100 \text{ year Intensity} = 1735.688 / (T_c + 6.014)^{0.820}$
 $T_c = \text{Time of Concentration (min)}$
 $C = \text{Average Runoff Coefficient}$
 $A = \text{Area (Ha)}$
 $Q = \text{Flow} = 2.78CiA \text{ (L/s)}$

Maximum Allowable Release Rate

Restricted Flowrate (to reflect 5-yr storm under existing conditions)

Per Design Brief Phase 7A 908 Earl Armstrong Road & 4700 Limebank Road, Riverside South, prepared by Arcadis, dated April 2025

Design Return Period = 2-Year Event
 $i_{2yr} = 76.81$
 Runoff Coefficient for HD/MD Block = 0.85
 $T_c = 10 \text{ min}$
 $A = 1.63 \text{ Ha}$

$Q_{restricted} = 295.83 \text{ L/s}$

Uncontrolled Release ($Q_{uncontrolled} = 2.78 \cdot C \cdot i_{100yr} \cdot A_{uncontrolled}$) for 100-yr storm event

UNC1+2

$C_{100} = 0.26$
 $T_c = 10 \text{ min}$
 $i_{100yr} = 178.56 \text{ mm/hr}$
 $A_{uncontrolled} = 0.07 \text{ Ha}$

$Q_{unc} = 9.12 \text{ L/s}$

Courtyard

$C_{100} = 0.63$
 $T_c = 10 \text{ min}$
 $i_{100yr} = 178.56 \text{ mm/hr}$
 $A_{uncontrolled} = 0.20 \text{ Ha}$

$Q_{unc} = 62.05 \text{ L/s}$

Total Uncontrolled
 $Q_{uncontrolled} = 71.17 \text{ L/s}$

Maximum Allowable Release Rate ($Q_{max \text{ allowable}} = Q_{restricted} - Q_{uncontrolled}$)

$Q_{max \text{ allowable}} = 224.66 \text{ L/s}$

MODIFIED RATIONAL METHOD (100-Year, 5-Year & 2-Year Ponding)

Drainage Area MH3		ECB1, CB1, CB2, CB3, CB4, ROOF	
Area (Ha)	0.83	Restricted Flow ICD Actual (L/s)=	164.00
C =	0.84	Restricted Flow Q_r for swm calc (L/s)=	82.00

T_c Variable (min)	i_{100yr} (mm/hour)	100-Year Ponding			100-Year +20% Ponding		
		Peak Flow $Q_p = 2.78 \cdot C \cdot i_{100yr} \cdot A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	100YR Q_p 20% (L/s)	$Q_p - Q_r$ (L/s)	Volume 100+20 (m^3)
10	178.56	345.06	82.00	263.06	157.83		
15	142.89	276.14	82.00	194.14	174.72		
20	119.95	231.80	82.00	149.80	179.76	278.16	
25	103.85	200.68	82.00	118.68	178.02		
30	91.87	177.53	82.00	95.53	171.95		

Storage (m^3)					100+20		
Overflow	Required	Surface	Sub-surface	Balance	Overflow	Required	Balance
0.00	179.76	318.93	22.40	0.00	0.00	235.39	0.00

convert to flow with peak T_c (L/s)
 overflows to: Offsite

Drainage Area MH3		MH3	
Area (Ha)	0.83	Restricted Flow Q_r (L/s)=	82.00
C =	0.67	Restricted Flow Q_r (L/s)=	82.00

T_c Variable (min)	i_{2yr} (mm/hour)	2-Year Ponding		
		Peak Flow $Q_p = 2.78 \cdot C \cdot i_{2yr} \cdot A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)
8	85.46	132.11	82.00	50.11
9	80.87	125.03	82.00	43.03
10	76.81	118.74	82.00	36.74
11	73.17	113.11	82.00	31.11
12	69.89	108.05	82.00	26.05

Storage (m^3)				
Overflow	Required	Surface	Sub-surface	Balance
0.00	22.04	318.93	22.4	0.00

overflows to: Offsite

Drainage Area MH5		CB5, CB6, CB7, CB8, ECB2	
Area (Ha)	0.53	Restricted Flow ICD Actual (L/s)=	60.00
C =	0.80	Restricted Flow Q_r for swm calc (L/s)=	30.00

T_c Variable (min)	i_{100yr} (mm/hour)	100-Year Ponding			100-Year +20% Ponding		
		Peak Flow $Q_p = 2.78 \cdot C \cdot i_{100yr} \cdot A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)	100YR Q_p 20% (L/s)	$Q_p - Q_r$ (L/s)	Volume 100+20 (m^3)
25	103.85	122.41	30.00	92.41	138.61		
30	91.87	108.29	30.00	78.29	140.92		
35	82.58	97.34	30.00	67.34	141.41	116.80	
40	75.15	88.58	30.00	58.58	140.58		
45	69.05	81.39	30.00	51.39	138.76		

Storage (m^3)					100+20		
Overflow	Required	Surface	Sub-surface	Balance	Overflow	Required	Balance
0.00	141.41	463.55	26.87	0.00	0.00	182.29	0.00

convert to flow with peak T_c (L/s)
 overflows to: MH3

Drainage Area MH5		MH5	
Area (Ha)	0.53	Restricted Flow Q_r (L/s)=	30.00
C =	0.64	Restricted Flow Q_r (L/s)=	30.00

T_c Variable (min)	i_{2yr} (mm/hour)	2-Year Ponding		
		Peak Flow $Q_p = 2.78 \cdot C \cdot i_{2yr} \cdot A$ (L/s)	Q_r (L/s)	$Q_p - Q_r$ (L/s)
10	76.81	72.43	30.00	42.43
11	73.17	69.00	30.00	39.00
12	69.89	65.91	30.00	35.91
13	66.93	63.11	30.00	33.11
14	64.23	60.57	30.00	30.57

Storage (m^3)				
Overflow	Required	Surface	Sub-surface	Balance
0.00	25.85	463.55	26.87	0.00

overflows to: MH3

Stormwater Management Summary Table				
Drainage Area	ICD Restricted Flow (L/s)	100 Year Storage Required (m3)	2 Yr Storage Required (m3)	Storage Provided
MH3	164.00	179.76	22.04	341.33
MH5	60.00	141.41	20.54	490.42
TOTAL	224.00	321.17	42.58	831.75

Max Allowable: 224.66 L/s

RUNOFF COEFFICIENT CALCULATION SHEET

RESTRICTED

ECB1	Area (m ²)	C
Softscape	308.0	0.20
Hardscape	0.0	0.90
Total	308.0	0.20

CB1	Area (m ²)	C
Softscape	609.0	0.20
Hardscape	157.0	0.90
Total	766.0	0.34

CB2	Area (m ²)	C
Softscape	949.0	0.20
Hardscape	195.0	0.90
Total	1144.0	0.32

CB3	Area (m ²)	C
Softscape	305.0	0.20
Hardscape	36.0	0.90
Total	305.0	0.31

CB4	Area (m ²)	C
Softscape	662.0	0.20
Hardscape	1001.0	0.90
Total	1663.0	0.62

CB5	Area (m ²)	C
Softscape	568.0	0.20
Hardscape	740.0	0.90
Total	1308.0	0.60

CB6	Area (m ²)	C
Softscape	582.0	0.20
Hardscape	1437.0	0.90
Total	2019.0	0.70

CB7	Area (m ²)	C
Softscape	807.0	0.20
Hardscape	1132.0	0.90
Total	1939.0	0.61

Courtyard	Area (m ²)	C
Softscape	1127.0	0.20
Hardscape	840.0	0.90
Total	1967.0	0.50

Roof	Area (m ²)	C
Softscape	0.0	0.20
Hardscape	4153.0	0.90
Total	4153.0	0.90

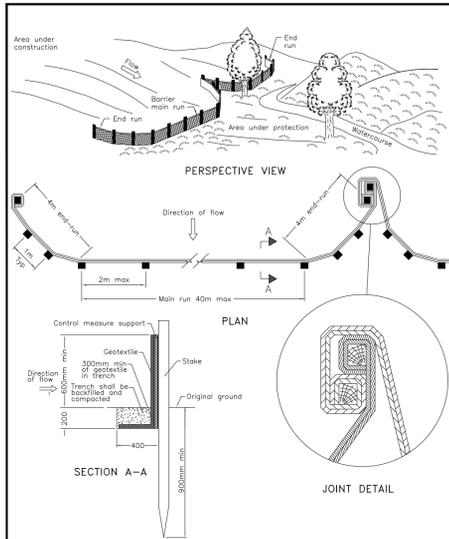
UNC (1+2)	Area (m ²)	C
Softscape	1721.0	0.20
Hardscape	22.0	0.90
Total	1743.0	0.21

GROUPED DRAINAGE AREAS

MH3	Area (m ²)	C
ECB1	308.0	0.20
CB1	766.0	0.34
CB2	1144.0	0.32
CB3	305.0	0.31
CB4	1663.0	0.62
Roof	4153.0	0.90
Total	8339.0	0.67

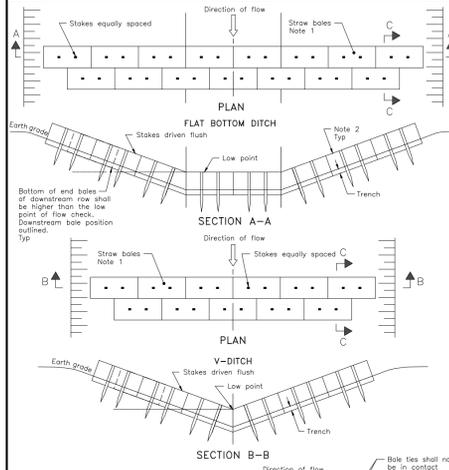
MH5	Area (m ²)	C
CB5	1308.0	0.60
CB6	2019.0	0.70
CB7	1939.0	0.61
Total	5266.0	0.64

Appendix E



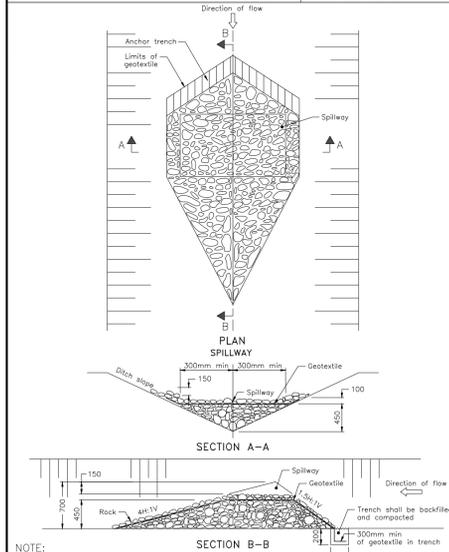
NOTE:
A All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING
HEAVY-DUTY SILT FENCE BARRIER
OPSD 219.130



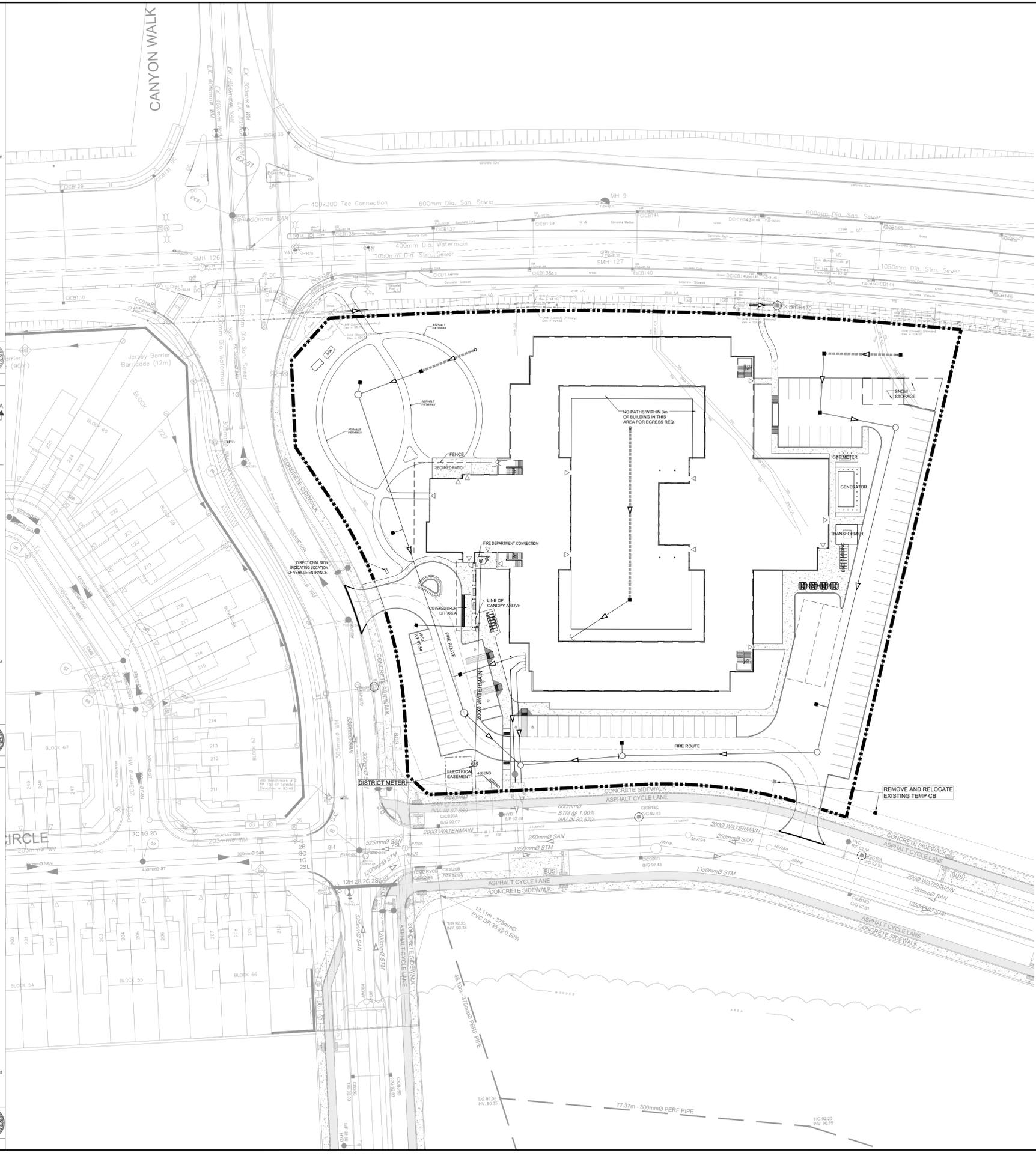
NOTES:
1. Number of bales varies and shall suit ditch.
2. Straw bales shall be batted tightly against adjoining bales and shaped to conform to the sides of the ditch to prevent water flow through barrier.
A. Fill and compact gaps with loose straw.
B. All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING
STRAW BALE FLOW CHECK DAM
OPSD 219.180



NOTE:
A. All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING
TEMPORARY ROCK FLOW CHECK DAM V-DITCH
OPSD 219.210



- NOTES:
- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
 - SILT FENCE TO BE ERECTED PRIOR TO EARTH WORKS COMMENCED. SILT FENCE TO BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL START OF SUBSEQUENT PHASE.
 - STRAW BALE SEDIMENT TRAPS TO BE CONSTRUCTED IN EXISTING ROAD SIDE DITCHES. TRAPS TO REMAIN AND BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED.
 - FILTER CLOTH TO BE PLACED AND MAINTAINED UNDER COVER OF ALL PROPOSED CATCHBASINS AFTER BASE COURSE, AND EXISTING CATCHBASINS IDENTIFIED OUTSIDE OF CONSTRUCTION LIMIT. FILTER CLOTH IN STREET C/S TO REMAIN UNTIL ALL CURBS ARE CONSTRUCTED. FILTER CLOTH IN RYCB'S TO REMAIN UNTIL VEGETATION IS ESTABLISHED. ALL CATCHBASINS TO BE REGULARLY INSPECTED AND CLEANED AS NECESSARY, UNTIL SOD AND CURBS ARE CONSTRUCTED.
 - CONTRACTOR TO PROVIDE DETAILS ON LOCATION(S) AND DESIGN OF DEWATERING TRAP(S) PRIOR TO COMMENCING WORK. CONTRACTOR ALSO RESPONSIBLE FOR MAINTAINING TRAP(S) AND ADJUSTING SIZE(S) IF DEEMED REQUIRED BY THE ENGINEER DURING CONSTRUCTION.
 - WORKS NOTED ABOVE ARE TO BE INSTALLED, INSPECTED, MAINTAINED AND ULTIMATELY REMOVED BY SERVICING CONTRACTOR.
 - THIS IS A "LIVING DOCUMENT" AND MAY BE MODIFIED IN THE EVENT THE PROPOSED CONTROL MEASURES ARE INSUFFICIENT.

- LEGEND:
- HEAVY DUTY SILT FENCE AS PER OPSD-219.130
 - SNOW FENCE
 - STRAW BALE CHECK DAM AS PER OPSD-219.180
 - ROCK CHECK DAM AS PER OPSD-219.210
 - FILTER CLOTH PLACED UNDER EXISTING CB COVER
 - TEMPORARY MUD MAT 0.15m THICK 50mm CLEAR STONE ON NON WOVEN FILTER CLOTH

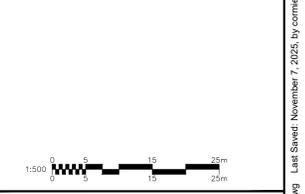
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No.	DESCRIPTION	DATE
1	ISSUED FOR SITEPLAN APPROVAL	2025-11-13



CONSULTANTS



PROJECT
EXTENDICARE RIVERSIDE
400 JESSIE CHENEVERT WALK

PROJECT NO:
3034262

DRAWN BY:
D.D.

PROJECT MGR:
S.E.L.

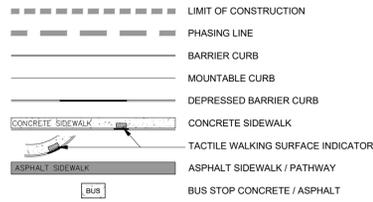
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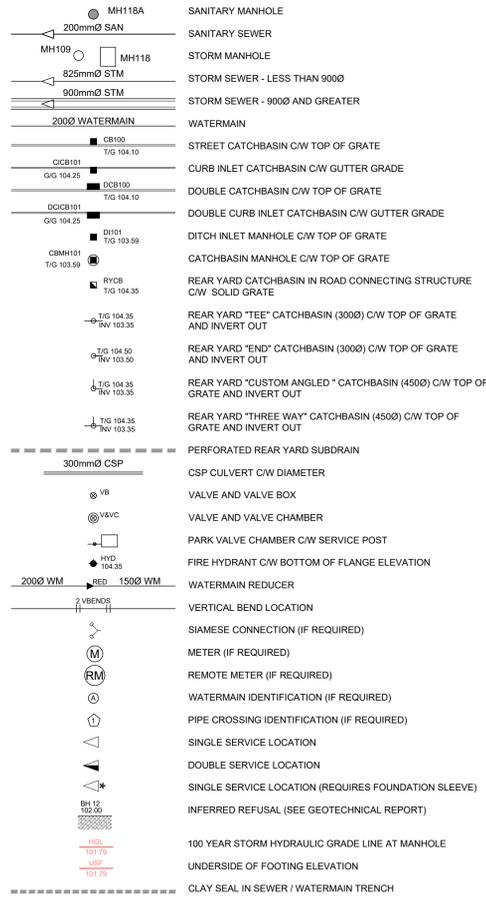
SHEET NUMBER
C-900

ISSUE
1

GENERAL LEGEND



SERVICING LEGEND



AOV LEGEND



NOTES :

- ALL MATERIALS AND CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE CURRENT CITY OF OTTAWA STANDARD DRAWINGS & SPECIFICATIONS OR OPSD/OPSS IF CITY DRAWINGS AND SPECIFICATIONS DO NOT APPLY.
- THE POSITION OF UNDERGROUND AND ABOVE GROUND SERVICE, UTILITIES AND STRUCTURES ARE NOT NECESSARILY SHOWN ON THE CONTRACT DRAWINGS, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH SERVICE, UTILITIES AND STRUCTURES IS NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES PRIOR TO CONSTRUCTION.
- THE CONTRACTOR SHALL REPORT ALL CONFLICTS, DISCOVERIES OF ERROR AND DISCREPANCIES TO THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT AND ASSUME RESPONSIBILITY FOR ALL UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL LANDS BEYOND THE SITE LIMITS. ANY AREAS BEYOND THE SITE LIMITS, WHICH ARE DISTURBED DURING CONSTRUCTION, SHALL BE REPAIRED AND RESTORED TO ORIGINAL CONDITION OR BETTER, TO THE SATISFACTION OF THE ADJACENT LAND OWNER, THE OWNER, THE OWNERS REPRESENTATIVES AND/OR THE AUTHORITY HAVING JURISDICTION AT THE EXPENSE OF THE CONTRACTOR.
- WHERE NECESSARY, THE CONTRACTOR SHALL IMPLEMENT A TRAFFIC MANAGEMENT PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA. ALL CONSTRUCTION SIGNAGE MUST CONFORM TO THE LATEST VERSION OF THE M.T.O. MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. ALL TEMPORARY TRAFFIC CONTROL MEASURES MUST BE REMOVED UPON THE COMPLETION OF THE WORKS.
- SHOULD ANY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL NOTIFY THE OWNER TO CONTACT THE HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE MUST BE NOTIFIED IMMEDIATE, AND WORK WITHIN THE AREA SHALL BE CEASED UNTIL FURTHER NOTICE.
- FOR GEOTECHNICAL INFORMATION REFER TO GEOTECHNICAL REPORT PG4958-6 PREPARED BY PATERSON GROUP.
- FOR GEODETIC BENCHMARK AND GEOMETRIC LAYOUT OF STREET AND LOTS, REFER TO TOPOGRAPHICAL SURVEY AND PLAN OF SUBDIVISION PREPARED BY ANNIS O'SULLIVAN VOLLEBECK LTD. BENCHMARK BASED ON CAN-NET VIRTUAL REFERENCE SYSTEM NETWORK.
- FOR SITE PLAN INFORMATION, REFER TO SITE PLAN PREPARED BY MONTGOMERY SISAM ARCHITECTS
- THESE DRAWINGS ARE NOT TO BE SCALED OR USED FOR LAYOUT PURPOSES
- ROADWAY SECTIONS REQUIRING GRADE RAISE TO PROPOSED SUB GRADE LEVEL, TO BE FILLED WITH ACCEPTABLE NATIVE EARTH BORROW OR IMPORTED OPSS SELECTED SUBGRADE MATERIAL IF NATIVE MATERIAL IS DEFICIENT AS PER RECOMMENDATION OF GEOTECHNICAL ENGINEER.
- IN AREAS WHERE EXISTING GROUND IS BELOW THE PROPOSED ELEVATION OF SEWER AND WATERMANS, GRADE RAISING AND FILLING IS TO BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT, AS PER CITY GUIDELINES ALL WATERMANS IN FILL AREAS ARE TO BE TIED WITH RESTRAINING JOINTS AND THRUST BLOCKS.
- THE CONTRACTOR SHALL IMPLEMENT THE EROSION AND SEDIMENT CONTROL PLAN PRIOR TO THE COMMENCEMENT OF ANY SITE CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED TO THE SATISFACTION OF THE ENGINEER, OR ANY REGULATORY AGENCY. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL VEGETATION IS ESTABLISHED OR UNTIL THE START OF A SUBSEQUENT PHASE.
- CONTRACTORS SHALL BE RESPONSIBLE FOR KEEPING CLEAN ALL ROADS WHICH BECOME COVERED IN DUST, DEBRIS AND/OR MUD AS A RESULT OF ITS CONSTRUCTION OPERATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADDITIONAL BEDDING OR ADDITIONAL STRENGTH PIPE SHOULD THE MAXIMUM OPSD TRENCH WIDTH BE EXCEEDED.
- ALL PIPE, CULVERTS, STRUCTURES REFER TO NOMINAL INSIDE DIMENSIONS.
- SHOULD CLAY SEALS BE REQUIRED, THEY SHALL BE INSTALLED AS PER THE RECOMMENDATIONS WITHIN THE GEOTECHNICAL REPORT.
- UNLESS SPECIFICALLY NOTED OTHERWISE, PIPE MATERIALS SHALL BE AS FOLLOWS:
-WATERMANS TO BE PVC DR18
-SANITARY SEWERS TO BE PVC DR35
-PERFORATED STORM SEWERS IN REAR YARDS AND LANDSCAPE AREAS TO BE HDPE
-STORM SEWERS 375mm DIAMETER AND LESS TO BE PVC DR35
-STORM SEWERS 450mm DIAMETER AND GREATER TO BE CONCRETE, CLASS AS PER OPSD 807.010 OR 807.030, OR HIGHER FOR SHALLOW SEWERS, REFER TO CITY STANDARD S35.
- ALL CONNECTIONS TO EXISTING WATERMANS ARE TO BE COMPLETED BY CITY FORCES. CONTRACTOR IS TO EXCAVATE, BACKFILL, COMPACT AND REINSTATE.
- ANY WATERMAIN WITH LESS THAN 2.4m AND ANY SEWER WITH LESS THAN 2.0m DEPTH OF COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22 OR AS APPROVED BY THE ENGINEER.
- ALL FIRE HYDRANTS AS PER CITY STANDARD W19, c/w 150mmØ LEAD UNLESS OTHERWISE SPECIFIED.
- ALL STUBBED SEWERS SHALL HAVE PRE-MANUFACTURED CAPS INSTALLED.
- ALL CATCHBASINS SHALL HAVE A 600mm SUMP. ALL CATCHBASIN MANHOLES, AND ALL STORM MANHOLES WITH OUTLETTING PIPE SIZES LESS THAN 900mm, SHALL HAVE A 300mm SUMP.
- ALL SANITARY MANHOLES IN PONDING AREAS SHALL BE EQUIPPED WITH A WATERTIGHT COVER.
- ALL LEADS FOR STREET CATCHBASINS AND CURB INLET CATCHBASINS CONNECTED TO MAIN SHALL BE 200mmØ PVC DR35 @ MIN 2% SLOPE UNLESS NOTED OTHERWISE. ALL LEADS FOR RYCB'S CONNECTED TO MAIN SHALL BE 200mmØ PVC DR35 @ MIN 1% SLOPE UNLESS NOTED OTHERWISE.
- UNLESS SPECIFICALLY NOTED OTHERWISE, ALL STREET CATCHBASINS SHALL BE INSTALLED WITH TWO - 3.0m MINIMUM SUBDRAINS INSTALLED LONGITUDINALLY, PARALLEL WITH THE CURB. ALL CATCHBASINS IN ASPHALT AREAS, NOT ADJACENT TO A CURB, SHALL BE INSTALLED WITH FOUR - 3.0m MINIMUM SUBDRAINS INSTALLED ORTHOGONALLY.
- INLET CONTROL DEVICES SHALL BE INSTALLED PRIOR TO COMPLETING THE ROAD BASE (GRANULAR A).
- ALL SEWER SERVICE LATERALS WITH MAINLINE CONNECTIONS DEEPER THAN 5.0m REQUIRE A CONTROLLED SETTLEMENT JOINT.
- EACH BUILDING SHALL BE EQUIPPED WITH A SANITARY AND STORM SEWER BACKWATER VALVE AND CLEAN-OUT ON ITS PRIMARY SERVICE, IF REQUIRED BY ONTARIO BUILDING CODE REQUIREMENTS (BY OTHERS).
- THE SUBGRADE OF ALL STRUCTURES, PIPE, ROADS, SIDEWALKS, WALKWAYS, AND BUILDINGS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.
- TOP COURSE ASPHALT SHALL NOT BE PLACED UNTIL THE FINAL CCTV INSPECTION AND NECESSARY REPAIRS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER AND THE CITY OF OTTAWA.
- ALL RETAINING WALLS GREATER THAN 1.0m IN HEIGHT SHALL BE DESIGNED BY A QUALIFIED STRUCTURAL ENGINEER.
- ALL RETAINING WALLS GREATER THAN 0.6m IN HEIGHT REQUIRE A GUARD. ANY GUARD ON A RETAINING WALL GREATER THAN 1.0m IN HEIGHT SHALL BE DESIGNED BY THE QUALIFIED STRUCTURAL ENGINEER RESPONSIBLE FOR THE WALL DESIGN.
- UPON COMPLETION OF THE RETAINING WALL, THE CONTRACTOR SHALL REQUEST A CONFORMANCE CERTIFICATE FROM THE QUALIFIED ENGINEER RESPONSIBLE FOR THE WALL DESIGN.

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No.	DESCRIPTION	DATE
1	ISSUED FOR SITEPLAN APPROVAL	2025-11-13



SEE 010, 011, 012 FOR NOTES, LEGEND, CB TABLE, STREET SECTIONS AND DETAILS

CONSULTANTS



PROJECT
EXTENDICARE RIVERSIDE
 400 JESSIE CHENEVERT WALK

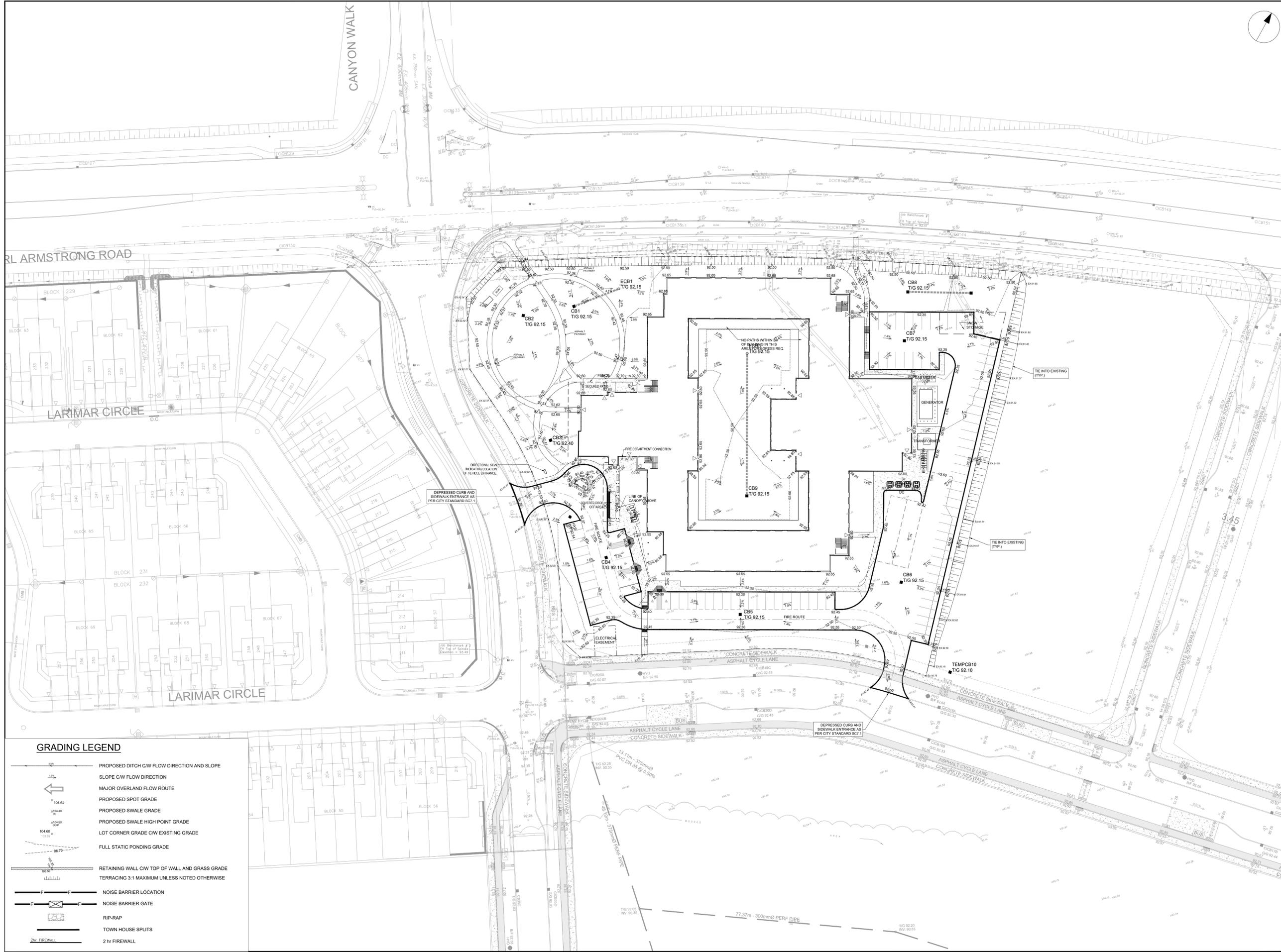
PROJECT NO:
 3034262
 DRAWN BY:
 D.D.
 PROJECT MGR:
 S.E.L.

CHECKED BY:
 T.R.B.
 APPROVED BY:
 S.E.L.

SHEET TITLE
 NOTES AND LEGEND

SHEET NUMBER
C-010

ISSUE
1



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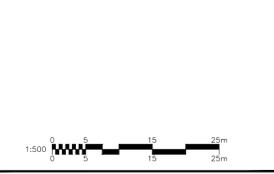
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PROJECT
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PROJECT NO:
 3034262

DRAWN BY: D.D.	CHECKED BY: T.R.B.
PROJECT MGR: S.E.L.	APPROVED BY: S.E.L.

SHEET TITLE
GRADING PLAN

SHEET NUMBER C-200	ISSUE 1
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GRADING LEGEND

- PROPOSED DITCH CW FLOW DIRECTION AND SLOPE
- SLOPE CW FLOW DIRECTION
- MAJOR OVERLAND FLOW ROUTE
- PROPOSED SPOT GRADE
- PROPOSED SWALE GRADE
- PROPOSED SWALE HIGH POINT GRADE
- LOT CORNER GRADE CW EXISTING GRADE
- FULL STATIC PONDING GRADE
- RETAINING WALL C/W TOP OF WALL AND GRASS GRADE
- TERRACING 3:1 MAXIMUM UNLESS NOTED OTHERWISE
- NOISE BARRIER LOCATION
- NOISE BARRIER GATE
- RIP-RAP
- TOWN HOUSE SPLITS
- 2hr FIREWALL