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SerenVita Site
2505 and 2707 Solandt Road

Site Servicing &

Stormwater Management Report

Prepared for: Silk Development Group

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SerenVita Site

2505 and 2707 Solandt Road

Ottawa, Ontario

Site Servicing & Stormwater Management Report

Prepared By:

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January 2026

Novatech File: 124150A
Ref: R-2025-106

NOVATECH
Engineers, Planners & Landscape Architects

January 29, 2026

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City of Ottawa
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Attention: **John Bernier, MCIP RPP – Planner II**

Reference: **SerenVita Site - 2505 and 2707 Solandt Road**
Site Servicing & Stormwater Management Report
Our File No.: 124150A

Novatech has prepared this Site Servicing and Stormwater Management Report, on behalf of Silk Development Group, in support of applications for Major Zoning By-law Amendment and Site Plan Control for review and approval.

The report addresses how the proposed development will be serviced by watermain, sanitary sewer, storm sewers, and the stormwater management approach.

Should you have any questions or comments, please contact us.

Yours truly,

NOVATECH



Lisa Bowley, P.Eng.
Senior Project Manager
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cc: Silk Development Group

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Grading Plan	(124150A-GR1, revision 3)
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General Plan of Services	(124150A-GP1, revision 2)
General Plan of Services	(124150A-GP2, revision 2)
Plan & Profile (Watermain Looping)	(124150A-PW1, revision 1)
Plan & Profile (Watermain Looping)	(124150A-PW2, revision 1)
Notes and Details (General Notes & Servicing)	(124150A-ND1, revision 1)
Notes and Details (General Notes & Servicing)	(124150A-ND2, revision 1)
Notes and Details (Solandt Road Details)	(124150A-ND3, revision 1)
Notes and Details (Easement Sections)	(124150A-ND4, revision 1)
Erosion and Sediment Control Plan	(124150A-ESC, revision 1)

1.0 INTRODUCTION

Novatech has been retained to prepare a Site Servicing and Stormwater Management Report for the proposed commercial development located at 2505 and 2707 Solandt Road within the City of Ottawa. This report will support a Major Zoning By-law Amendment and a Site Plan Control application for the proposed development. **Figure 1** is a Key Plan showing the site location within the Kanata Research Park (KRP).

1.1 Background

The subject lands approximately 4.10 hectares in area. The 2505 Solandt Road site is developed with a surface parking lot and the 2707 Solandt Road property is vacant. In 2019, the 2707 Solandt Road property was approved for Site Plan Control (City File D07-12-19-0172) with an 8-storey office building and surface parking. This property was cleared of trees in anticipation of development.

The subject lands are surrounded by the following:

- The Marshes Golf Club to the north and east,
- Solandt Road, followed by offices to the south, and
- Offices, followed by Legget Drive to the west.

Along the eastern edge of the 2505 property, there is an existing municipal sanitary trunk sewer and an existing storm drainage ditch, each within a defined part on a reference plan. The Marshes Golf Club uses a portion of the east property for course maintenance. The existing pathways across the site would be eliminated as part of the development.

Refer to **Figure 2** for an arial image depicting the existing conditions.

1.2 Proposed Development

The subject lands are designated as 'Kanata North Economic District' on Schedule B5 of the City of Ottawa's Official Plan. The proposed development, known as SerenVita, will consist of a 47,275 ft^2 primary building with indoor and outdoor spa/wellness facilities.

It is proposed to construct a three-storey wellness facility on the subject lands. The proposed development comprises a personal service facility including a spa and restaurant within the main building with accessory buildings and outdoor amenity areas located west of the primary building. A total of 218 at-grade parking spaces are proposed. Access to the proposed development will be provided via a single two-way driveway to Solandt Road at the end of the existing cul-de-sac. The development will be constructed in a single phase, with a buildout year of 2027.

At the City of Ottawa's request, the sidewalk and transit stop along the frontage of Solandt Road will be upgraded within new concrete infrastructure. The details are shown on Notes and Details sheet (124150A-ND3). The landscape and fence design along the municipal right-of-way is provided on the Landscape Plans prepared by NAK Design Strategies.

Figure 3 – Site Plan figure shows the proposed site development.

Refer to the enclosed engineering plans included with the report (**Appendix G**) for the details.

Layout Plan	(124150A-LP)
Existing Conditions & Removals	(124150A-EX)
Grading Plan	(124150A-GR1)
Grading Plan	(124150A-GR2)
General Plan of Services	(124150A-GP1)
General Plan of Services	(124150A-GP2)
Plan & Profile (Watermain Looping)	(124150A-PW1)
Plan & Profile (Watermain Looping)	(124150A-PW2)
Notes and Details (General Notes & Servicing)	(124150A-ND1)
Notes and Details (General Notes & Servicing)	(124150A-ND2)
Notes and Details (Solandt Road Details)	(124150A-ND3)
Notes and Details (Easement Sections)	(124150A-ND4)
Erosion and Sediment Control Plan	(124150A-ESC)

1.3 City of Ottawa Site Plan Application Requirements

A pre-consultation meeting was held with the City of Ottawa on October 10, 2025, to discuss the submission requirements. The Meeting Feedback notes are included in **Appendix A** for reference.

1.4 Background Reports

This report provides information on the considerations and approach by which Novatech has designed and evaluated the proposed servicing and stormwater management strategies. This report should be read in conjunction with the following:

- Shirley's Brook and Watts Creek Subwatershed Study, prepared by Dillon Consulting, dated June, 1999;
- Kanata Research Park, City of Kanata – Stormwater Management Plan, prepared by Novatech, dated April 2000;
- Geotechnical Investigation report, prepared by GEMTEC, dated January 19, 2026;
- Tree Conservation Report and Environmental Impact Study, prepared by Muncaster Environmental Planning Inc., dated January 23, 2026.
  (note previous approved report prepared for 2707 Solandt was dated September 2019)

1.5 Regulatory Approvals

The following regulatory approvals are required to facilitate this proposed development:

- City of Ottawa - Major Zoning By-law Amendment
- City of Ottawa - Site Plan Control
- Mississippi Valley Conservation Authority (MVCA) Permit for 'Development, Interference with Wetlands and Alterations to Shorelines and Watercourses' (for works in the regulated area)
- Ministry of the Environment, Conservation and Parks (MECP) Environmental Activity and Sector Registry (EASR) for stormwater
- Environmental Activity and Sector Registry (EASR) may be required for water taking during construction activities (to be confirmed)

The City of Ottawa Servicing Study Guidelines for Development Applications requires that a Development Servicing Study Checklist be included to confirm that each applicable item is deemed complete and ready for review by City of Ottawa Planning, Development and Building Services Department. Completed checklist is enclosed in **Appendix F** of the report.

1.6 Landowner and Easements

The properties (2505 Solandt Road and 2707 Solandt Road) are owned by Wesley Clover Internation Corporation. The subject lands will remain as separate parcels, but, the development is intended to be governed by a Joint Use and Maintenance Agreement and associated easements to address shared services, access, and infrastructure, as required through the approvals process. The final agreements will be entered into between SerenVita (Ottawa) Ltd. and Wesley Clover International Corporation, to the satisfaction of the City of Ottawa.

Silk Development Group is applying for a Site Plan Control application to develop the subject properties. Letters from Wesley Clover Internation Corporation are included in **Appendix A** indicating their understanding of the development and the requirement easements.

There are several legal parcels (i.e. parts on existing legal plans) which will need to be registered to provide easements in favour of the City of Ottawa for sanitary servicing, watermain servicing and stormwater management.

2.0 SITE GRADING AND SERVICING

2.1 Grading

The majority of the of existing properties are generally flat at elevations between approximately ±77.0 and ±77.5. Refer to the Existing Plan (124150A-EX) for topographic elevations as surveyed by Novatech (2025). The existing storm drainage ditch which bisects the development is at an elevation of approximately 74.5m. There is an existing depression on the west side of the site which drains to Shirley's Brook. As described in the Meeting Feedback notes, the City of Ottawa describes an existing ditch on the east portion of the 2505 Solandt Road property. The topographic survey shown on the Existing Plan shows this area as an existing berm with a bottom of slope, not a defined ditch or swale.

The MVCA Shirley's Brook Floodplain Mapping (5) shows the predicted regulatory flood elevation in Shirley's Brook of 76.50. As noted in the Environmental Impact Study, a 30m setback is required from Shirley's Brook. The setback is shown on the attached Grading Plans.

The detailed grading around the proposed buildings allows for sheet drainage away from the buildings. Storm drainage would be directed to a series of trench drains, catch basins and swales and would drain to one of three outlets.

- Shirley's Brook, via the existing open ditch (which bisects the subject lands)
- Solandt Road
- The Marshes Golf Club stormwater management pond (Pond 2)

Refer to the detailed Grading Plans (124150A-GR1 and 124150A-GR2).

2.2 Pavement Design

The recommended pavement structure is provided on the Notes and Details Sheet (124150A-ND1) as follows:

Table 1: Pavement Structure

Pavement Material Description		
	Heavy Duty	**Light Duty**
Asphalt Wear Course (Superpave 12.5)	40mm	40mm
Asphalt Base Course (Superpave 19.0)	60mm	-
Asphalt Base Course (Superpave 12.5)	-	40mm
OPSS Granular A	150mm	150mm
OPSS Granular B Type II	450mm	300mm
TOTAL	**700mm**	**530mm**

The heavy-duty pavement structure would be used in the loading area, the main entrance ramp and truck/fire routes. The proposed pavement structure is consistent with the recommendations provided in the Geotechnical Investigation report.

2.3 Existing Municipal Services and Drainage Ditch

An existing 750mm dia. municipal sanitary trunk sewer runs along the eastern edge of the 2505 Solandt Road property. There is no municipal local sanitary sewer system in Solandt Road. There are existing municipal watermain and storm sewer systems located in Solandt Road. A screenshot of current GeoOttawa mapping is included in **Appendix C** for reference.

The west property discharges to the existing storm drainage ditch which bisects the subject lands. This drainage ditch runs to the north from Solandt Road before outletting to Shirley's Brook via an existing culvert located under the golf course lands.

Cross-sections of the existing sanitary trunk sewer and existing ditch are depicted on the Notes and Details sheet (**124105A-ND4**).

The east property outlets via a an existing 675mm diameter storm sewer which provides outlet to the current surface parking lot development. This pipe ultimately outlets to Pond 2 on the golf course lands. The record drawing for the existing parking lot is included in **Appendix D** for reference.

2.4 Proposed Servicing Overview

The proposed development will be serviced by extending new private water and sanitary services to the existing municipal watermain in Solandt Road and to the existing municipal sanitary trunk sewer between the properties as described in the following sections.

3.0 WATER SERVICING

3.1 Existing Water Services

The subject lands are located in the City of Ottawa 2W water distribution pressure zone.

There is an existing 300mm diameter municipal watermain located adjacent to the site in Solandt Road. Due to water demand at a dead end, the City of Ottawa requires the watermain to be looped.

Novatech reviewed two looping options:

- Looping the watermain back to Legget Drive, within the municipal right-of-way in the north boulevard of Solandt Road.
- Extending the watermain to Terry Fox Drive, over private lands (Marshes Golf Club)

3.2 Proposed Water Services

The proposed development will be serviced by extending a water service from the existing municipal watermain to the primary building on 2505 Solandt Road, complete with a water meter inside the primary building. A Watermain Sketch is included in **Appendix B** showing the layout.

The accessory buildings and fire hydrant would be serviced by extending a water service on 2707 Solandt Road. At the property line of 2707 Solandt Road, a water meter chamber would be installed, as required by the City of Ottawa. All the accessory buildings will have individual water services, therefore, this approach reduces the number of water meters required onsite. This allows for potential demand of other connections to the onsite private watermain, not in buildings, to be metered (i.e. irrigation or pool filling).

The water services would then be looped between the two properties to provide redundant service as required by the City of Ottawa.

Between the two proposed connections a valve will be installed on the existing municipal watermain to avoid the creation of a vulnerable service area. The existing municipal watermain would be extended from the current location on Solandt Road, through private lands (Marshes Golf Club) by means of a combination of open cut and directional drilling, and a connection will be made to the existing 400mm diameter municipal watermain on Terry Fox Road. A similar watermain proposal was shown on Kanata Research Park Drawings (1999) which are included in **Appendix B** for reference.

3.3 Water Demands

Since both properties will operate as a single entity, the water demands were calculated based on the overall use, not separated by municipal address. The theoretical domestic water demands for the proposed development are provided in **Table 2**.

Table 2: Theoretical Water Demands for Proposed Development

Average Daily Demand (L/s)	Maximum Daily Demand (L/s)	Peak Hour Demand (L/s)
2.17	3.25	5.85

3.4 Water Supply for Fire Fighting

The Fire Underwriters Survey (FUS) was used to estimate fire flow requirements for the proposed development. The following building construction details were reviewed with the Architect (Simmonds):

- Fire-resistive construction (2-hour rating)
- Protected vertical openings between floors
- Fully sprinklered

There are three existing municipal fire hydrants within 150m of the site. Refer to Fire Hydrant Coverage Plan (FH-1) for their locations included in **Appendix B**. The primary building will be fully sprinklered and supplied with a fire department siamese connection, located within 45m of an existing municipal fire hydrant on Solandt Road.

In addition, two accessory buildings require fire protection. Therefore, a fire route (access) has been proposed along the eastern edge of the 2505 Solandt Road property. A fire hydrant would be located 45m from the entrances and siamese connections of Building B2 and B10.

The fire flow requirements include both sprinkler system and hose allowances in accordance with the Ontario Building Code (OBC) and National Fire Protection Association (NFPA)13. The sprinkler system would be designed by the fire protection (sprinkler) contractor at the detailed design stage as this process involves detailed hydraulic calculations based on building layout, pipe runs, head losses, fire pump requirements, etc. Booster pumps may be required to provide adequate service pressure on the upper floors/accessory buildings.

It should be noted that fire flow requirements calculated using the FUS method tend to generate higher values when compared to flows being calculated using the OBC. **Table 3** summarizes the fire flow requirements for the proposed development based on FUS calculations.

Table 3: Fire Flow Requirements for the Proposed Development

Building Usage	Fire Flow Demand
Commercial	12,000 L/min

Refer to **Appendix B** for the Fire Underwriters Survey fire flow calculations.

3.5 Municipal Boundary Conditions and Summary of Watermain Analysis Results

The water demands and fire flow calculations presented above were provided to the City of Ottawa. These values were used to generate the municipal watermain network boundary conditions.

The City of Ottawa confirmed that the only approved connection for the watermain looping was extending the watermain to Terry Fox Drive, over the Marshes Golf Club. Therefore, boundary conditions were provided from the City of Ottawa based on this option.

Table 4 and **5** summarize the boundary conditions provided by the City of Ottawa for the existing municipal watermain network. Refer to **Appendix B** for a copy of the correspondence from the City of Ottawa.

Table 4: Solandt Road Hydraulic Boundary Conditions Provided by the City

Demand Scenario	Hydraulic Grade Line (m)	Pressure[1] (psi)	Pressure (kPa)
Maximum HGL	130.0	75.2	519
Peak Hour	125.5	68.5	472
Maximum Day plus Fire Flow #1	119.5	60.0	414

1 Ground elevation = 77.3 m.

Table 5: Terry Fox Drive Hydraulic Boundary Conditions Provided by the City

Demand Scenario	Hydraulic Grade Line (m)	Pressure[2] (psi)	Pressure (kPa)
Maximum HGL	130.2	74.9	516
Peak Hour	125.5	68.2	470
Maximum Day plus Fire Flow #1	119.5	62.2	429

2 Ground elevation = 77.50 m.

Table 6 summarizes the theoretical water demands for the proposed development under the various operating conditions and compares the anticipated operating pressures at the existing water service connection to the acceptable operating pressures outlined in the Water Distribution Design Guidelines.

Table 6: Water Analysis Results Summary

Condition	Total Water Demand (L/s)	Approximate Design Operating Pressures (psi) / Relative Head (m) [3]	Acceptable Municipal Operating Pressures (psi) / (kPa)
Average Demand	2.17	73 to 79 / 51.65 to 55.62	40 to 80 / 275 to 552
Peak Hour Demand	5.85	67 to 72 / 46.95 to 50.92	40 or above / 275 or above
Max Day + Fire Flow Demand	203.26	52 to 62 / 36.25 to 43.60	20 or above / 140 or above

3 The lowest finished floor elevation of the proposed building is 78.25 m.

Table 7 summarizes the fire hydrants within 150 meters of the proposed building and the combined available fire flow for the site. The combined fire flow was calculated using the individual fire flow contribution rates given in Water Distribution Design Guidelines.

Table 7: Summary of Fire Hydrants Within 150m of the Proposed Building and Combined Available Fire Flow

Building	Fire Flow Demand (L/min)	Fire Hydrants Within 0-75m	Fire Hydrants Within 75- 150m	Combined Available Fire Flow (L/min)
Proposed commercial building	12,000	2 x AA-rated hydrant	2 x AA-rated hydrants	19,000

The total combined available flow from the existing and proposed fire hydrants exceeds the required fire flow. Based on the above analysis, the existing municipal watermain system can provide adequate water supply (domestic and fire) to the proposed development.

4.0 SANITARY SERVICING

From the pre-consultation meeting and subsequent discussions with the City of Ottawa, it was understood that the preference is that there are no sanitary connections made to trunk sewers. However, since there are no local sanitary sewers on Solandt Road, a connection could be made with a monitoring manhole as per City of Ottawa standard S13. We note that this approach was approved for the sanitary connection under the previous Site Plan Control application prepared for 2707 Solandt Road.

The proposed development will be serviced by extending a new private 200mm dia. sanitary system to the existing 750mm dia. municipal sanitary trunk sewer on the eastern edge of 2707 Solandt Road. A monitoring manhole will be installed before the service connection to the trunk sewer, within a landscape area.

The primary building will be provided with two 150mm diameter services (as designed by the mechanical consultant).

Several accessory buildings will have sanitary connections for washrooms and floor drains. These rearyard services are shown on the General Plan of Services drawings. All accessory buildings will have a minimum 100mm diameter individual services.

4.1 Sanitary Flows

The theoretical peak sanitary flow for the proposed development was calculated based on the following criteria from Section 8 of the Ontario Building Code (OBC) and the peak factor and infiltration rate as per the City of Ottawa Sewer Design Guideline (December 2025).

- Spa Guest
  - 1200 guest per day at 40 L/day
- Employees
  - 50 employees per 8-hour shift at 75L/day
- Restaurant
  - 80 restaurant seats per seat at 125 L/day
- Commercial Peak Factor = 1.5
- Infiltration Rate = 0.33 L/s/ha
- The end user has indicated that all backwash and pool draining water will not be directed to the sanitary sewer system

Additional information is provided in **Appendix C**:

- Sanitary Drainage Area Plan showing the subject lands infiltration area
- Conceptual floor plans, prepared by the Architect (Simmonds) demonstrating the uses of the accessory buildings
- Pipe sizing information provided by the mechanical consultant (CIMA+)

The peak sanitary flow calculations for the development are summarized below in **Table 8**.

Table 8: Peak Sanitary Flow Summary

Proposed Development	Peak Flow (L/s)	Infiltration Flow (L/s)	Total Peak Design Flow (L/s)
Commercial	1.09	1.35	2.44

Based on Manning's Equation, a 200mm dia. sanitary gravity sewer at a minimum slope of 1.0% has a full flow conveyance capacity of approximately 73 L/s, which is sufficient to convey the theoretical sanitary design flows calculated above.

Based on sewer invert information available from GeoOttawa, the estimated capacity of the main segment of the trunk sewer which runs through the site is given in **Table 9**.

Table 9: Existing Sanitary Trunk Sewer Capacity

Sanitary Trunk Sewer Size	Approximate Sewer Slope (%)	Approximate Sewer Capacity [1] (L/s)
750mm dia.	0.13%	401 L/s

1 Capacity calculated using Manning's Equation with n=0.013

Based on calculations above, the theoretical peak flow from the proposed development represents approximately 0.6% of the total estimated capacity of the existing 750mm dia. sanitary trunk sewer. It is anticipated that the existing sanitary trunk sewer can adequately service the proposed development.

5.0 STORM SERVICING AND STORMWATER MANAGEMENT

5.1 Storm Servicing

Storm drainage would be directed to a series of trench drains, catch basins and swales and would drain to one of three outlets.

- Shirley's Brook, via the existing open ditch
- Solandt Road
- The Marshes Golf Club stormwater management pond (Pond 2)

Storm servicing for the development will be provided by a dual drainage system.

- Conveyance measures to be used consist of a network of swales, catch basins and trench drains, connecting to a storm sewer network (minor system)
- Flows from large storm events that exceed the capacity of the minor system will be stored on the surface and conveyed along defined overland flow routes (major system)
- The primary building (flat roof) will drain to eight controlled roof drains and be piped to the east outlet

Storm Sewer Drainage Area Plans (**124150A-STM1** and **124150A-STM2**), storm sewer design sheets and roof drain information are included in **Appendix D**.

Major System Overland Flow Route

In the case of a major rainfall event exceeding the design storms provided for, stormwater from the proposed development will overflow towards the existing golf course lands.

The finished floor elevation (FFE) of the proposed buildings have been set to be a minimum of 0.30m above the major system overflow points. The major system spill points are shown on the Grading Plans (124150A-GR1 and 124150A-GR2).

5.2 Stormwater Management Objectives and Criteria

In addition to the City's Meeting Feedback notes (**Appendix A**) for and subsequent correspondence with the City of Ottawa, this site is being developed in accordance with the following documents:

- Sewer Design Guidelines (City of Ottawa, December 2025)
- Stormwater Management Planning and Design Manual (MOE, March 2003)
- Shirley's Brook and Watts Creek Subwatershed Study, prepared by Dillon Consulting, dated June, 1999.
- Kanata Research Park, City of Kanata – Stormwater Management Plan, prepared by Novatech, dated April 2000.

The development is located within Catchment Area 'SB-4' of the Shirley's Brook and Watts Creek Subwatershed Study Report, an excerpt is included in **Appendix D**.

The east property, 2505 Solandt Road is located within the overall catchment area considered in the Kanata Research Park – Stormwater Management Plan, the Storm Drainage Area Plan (93063-STM2) is included in **Appendix D**.

Water Quantity

Based on the City of Ottawa Meeting Feedback notes:

For drainage areas discharging to an existing ditch (west portion of the development), match post-development flows to pre-development flows for each storm event (up to the 100-year). To be conservative, since the open ditch drains to a storm pipe, the stormwater will be controlled to the 5-year pre-development flows.

Based on the information provided in the Kanata Research Park – Stormwater Management Plan:

For drainage areas discharging to a storm sewer, control the post-development flows to the pre-development 5-year release rate with a maximum runoff of 0.75.

Water Quality

An *Enhanced* level of water quality protection (corresponding to a long-term average TSS removal rate of 80%) is required for this site. This MVCA requirement is more stringent than the requirements proposed in the Shirley's Brook and Watts Creek Subwatershed Study Report.

5.3 Pre-Development Condition

Under pre-development conditions, storm runoff from the site is directed to one of three outlets as shown on the Pre-Development Storm Drainage Area Plan (**124150A-PRE**) and described below:

PRE-E: The majority of the east property (2505 Solandt Road) drains an existing 675mm diameter storm sewer at the south of the property. This is directed over private lands (Marshes Golf Club) within an easement to Pond 2.

PRE-D: The drainage from upstream, Solandt Road storm sewer and catchbasin system, drain to an existing open ditch, towards a 900mm diameter storm pipe which crosses over private lands (Marshes Golf Club) within an easement to Shirley's Brook. This area will remain unchanged in post-development.

PRE-W1: The majority of the west property (2707 Solandt Road) drains to the same outlet as PRE-D.

PRE-W2: This small area sheet drains overland directly to Shirley's Brook. This area will be left in a natural state and continue to sheet drain overland to Shirley's Brook.

These areas are shown on the Pre-Development Storm Drainage Area Plan (**124150A-PRE**) included in **Appendix E**.

5.4 Allowable Release Rate

West Property (2707 Solandt Road)

The uncontrolled pre-development site peak flows for the 5-year design event, assuming a time of concentration of 10 minutes and a runoff coefficient of 0.20, were calculated using the Rational Method.

The allowable release rate (west) was calculated to be 96.8 L/s.

East Property (2505 Solandt Road)

As documented in the Kanata Research Park, City of Kanata – Stormwater Management Plan this area is intended to outlet to Pond 2 on the Marshes Golf Club. The area was allocated a C=0.75.

The allowable release rate was calculated using the Rational Method with the following variables: a runoff coefficient (C) of 0.75, a 5-year rainfall intensity of 70.3 mm/hr, based on City of Ottawa Intensity Duration Frequency (IDF) Curves using a time of concentration of 10 minutes.

The allowable release rate (east) was calculated to be 393.2 L/s.

Refer to **Appendix E** for detailed calculations.

5.5 Post-Development Conditions

The proposed storm drainage areas are shown on the Post-Development Drainage Area Plan (**124150A-POST1** and **124150A-POST2**). In the post-development condition, the majority of the development would continue to outlet as in the pre-development condition.

To meet the quantity control criteria, onsite detention of peak flows in excess of the 5-year pre-development levels would be provided by means of surface and underground storage. Peak flows were estimated using the Rational Method and storage values were calculated using the Modified Rational Method.

The Rational Method, where peak flow is calculated, Q= 2.78 CiA

C = Runoff Coefficient
i = Intensity (mm/hr)
A = Drainage Area (hectares)

Runoff Coefficients
The following coefficients have been used in the Rational Method calculations:

Buildings	C = 0.90
Parking/Ramp/Loading Areas	C = 0.90
Granular pathways	C = 0.70
Landscaped Areas	C = 0.20

The runoff coefficients were increased for the 1:100 year storm by 25%.

Intensity
The time of concentration was set at a minimum of 10-mintues. With the rainfall intensity calculated based on the City of Ottawa IDF curve equations.

Drainage Areas
The drainage areas are shown on the Post-Development Drainage Area Plans as described in the following sections.

5.6 Stormwater Quantity Control

West Property (2707 Solandt Road)

5.6.1 Area POST-D (Existing Condition)

This drainage area remains unchanged from pre-development conditions as it drains upstream lands, Solandt Road municipal storm sewer and catchbasin system. This undeveloped area was not included in stormwater calculations.

Area DR-Wa (Direct Runoff)

Stormwater runoff from this sub-catchment area will sheet drain directly to Solandt Road. The post-development flow from Area DR-Wa was calculated using the Rational Method to be 2.1 L/s during the 5-year design event and 4.6 L/s during the 100-year design event.

Area DR-Wb (Direct Runoff)

Stormwater runoff from this sub-catchment area will sheet drain directly to Solandt Road. The post-development flow from Area DR-Wb was calculated using the Rational Method to be 7.4 L/s during the 5-year design event and 14.9 L/s during the 100-year design event.

Area DR-Wc (Direct Runoff)

Stormwater runoff from this sub-catchment area will sheet drain directly to the existing open ditch. The post-development flow from Area DR-Wc was calculated using the Rational Method to be 1.4 L/s during the 5-year design event and 3.1 L/s during the 100-year design event.

Area POST-W1a & POST-W1b (Controlled Site Flows, Rear Yard)

Stormwater runoff from these sub-catchment areas will drain to a series of catchbasins. It will be controlled and stored in underground pipes and StormTech chamber systems.

The allowable release rates for these sub-catchment areas were determined by subtracting the uncontrolled flows from Areas DR-Wa, DR-Wb, DR-Wc and POST-W1c from the allowable release rate for 100-year design storm. The total allowable release rate allocated to the catchment areas POST-W1a and POST-W1b is 74.2 L/s.

StormTech Chambers

Quantity control storage (to meet the allowable release rates) will be provided by StormTech chambers (model SC-800 and MC-3500 or approved equivalent). Inlet control devices (ICD's) will be installed in the outlet structures to control outflows from the StormTech chambers to the allowable release rate. The storm drainage system will connect to the StormTech chambers. The total storage provided by the StormTech chambers is based on the layout presented on the General Plan of Services (**124150A-GP1**) and is provided in **Table 10** below. Supporting calculations are provided in **Appendix E**.

Table 10: West Property– Storage Provided

Area	StormTech Chamber Model	StormTech Storage Provided	Underground Storage Provided	Surface Storage Provided	Total Storage Provided
POST-W1a (South)	SC-800	169.13 m^3	15.87 m^3	0 m^3	**185.0 m^3**
POST-W1b (North)	MC-3500	108.19 m^3	20.78 m^3	4.25 m^3	**133.2 m^3**

In order to attain the required storage, ICDs are proposed to control the flows, as described below.

Tables 11.1 and **11.2** summarize the controlled flows, the required ICD orifice size, required storage volumes and approximate ponding depths for the 2-year, 5-year and 100-year design events and the total storage volume available.

Table 11.1: West Property– Post-Development Controlled Flows (POST-W1a)

Design Event	ICD Type	Controlled Peak Flow	Storage Volume Required [1]	Approximate Ponding Depth (Elevation)	Maximum Storage Volume Available [2]
2-year	Circular Plug Type 131mm Orifice	18.4 L/s	63.2 m^3	-	185.0 m^3
5-year		22.7 L/s	87.8 m^3	-	
100-year		**36.4 L/s**	182.0 m^3	-	

1 Required storage volumes were calculated assuming an average release rate, equal to 50% of the peak allowable rate

2 At the emergency spill elevation of 77.26m

Table 11.2: West Property– Post-Development Controlled Flows (POST-W1b)

Design Event	ICD Type	Controlled Peak Flow	Storage Volume Required [1]	Approximate Ponding Depth (Elevation)	Maximum Storage Volume Available [2]
2-year	Circular Plug Type 116mm Orifice	17.6 L/s	42.1 m^3	-	133.2 m^3
5-year		19.9 L/s	61.0 m^3	-	
100-year		**35.1 L/s**	128.8 m^3	77.09 (surface)	

1 Required storage volumes were calculated assuming an average release rate, equal to 50% of the peak allowable rate

2 At the emergency spill elevation of 77.20m

Refer to **Appendix E** for detailed calculations and StormTech Chamber Details.

Area POST-W1c (Uncontrolled Site Flows, Rear Yard)

Stormwater runoff from this sub-catchment area will drain to a catchbasin and be directed uncontrolled to storm outlet west. The post-development flow from Area POST-W1c was calculated using the Rational Method to be 8.9 L/s during the 5-year design event and 17.4 L/s during the 100-year design event.

Based on Manning's Equation, a 450mm dia. gravity storm sewer at a slope of 0.2% has a full flow conveyance capacity of approximately 131.3 L/s, which is sufficient to convey the stormwater design flows calculated above.

5.6.2 East Property (2505 Solandt Road)

Area DR-E (Direct Runoff)

Stormwater runoff from this sub-catchment area will sheet drain directly to the Marshes Golf Club. The post-development flow from Area DR-E was calculated using the Rational Method to be 3.5 L/s during the 5-year design event and 7.4 L/s during the 100-year design event.

Area POST-E1, POST-E2 & POST-E3 (Controlled Site Flows, Parking Lot)

Stormwater runoff from these sub-catchment areas will drain to a series of catchbasins. They will be controlled and stored in underground storage pipes and on the surface of the parking lot. Stormwater runoff from the parking lot and ramp areas will be directed to proposed catchbasins located in the parking lot. The post-development flows from this sub-catchment will be attenuated using ICDs installed within proposed catchbasin manholes 214, 216 and 218. Stormwater runoff from these drainage areas will be temporarily stored within an underground storage pipe system, and on the surface of the parking lot in larger design events prior to being discharged to the existing storm drainage ditch. There will be no ponding during the 2-year design event.

The allowable release rates for these sub-catchment areas were determined by subtracting the uncontrolled flows from Areas DR-E, E4, E5 and E7 and the controlled flows from POST BLDG from the allowable release rate for 100-year design storms. The total allowable release rate allocated to catchment areas E1, E2, E3 and E6 is 222.9 L/s.

The Modified Rational Method was used to determine the required storage volumes for the 2- year, 5-year and 100-year design events. As required by the City of Ottawa due to the presence of underground storage, the storage volume calculations were completed for all design events using an assumed average release rate equal to 50% of the peak allowable flow. It is noted that this approach is considered overly conservative and is likely to overestimate the required storage volume and maximum ponding elevation. The approximate ponding depths for the 100-year and 5-year design storms were estimated based on the required storage volumes. For comparison, storage volume calculations were also completed for all design events using the peak design flows. Refer to **Appendix E** for Modified Rational Method calculations.

The stage-storage curve for the proposed storage pipes, catchbasins, manholes and parking lot ponding was determined from the proposed grading and servicing design. Refer to drawing **124150A-GR2** for details of the proposed grading. The required circular orifice size for a plug type ICD was calculated for the 100-year ponding elevation and maximum allowable 100-year design flow for each drainage area.

Tables 12.1 – 12.3 summarize the controlled flows, the required ICD orifice size, required storage volumes and approximate ponding depths for the 2-year, 5-year and 100-year design events and the total storage volume available.

Table 12.1: East Property– Post-Development Controlled Flows (POST-E1)

Design Event	ICD Type	Controlled Peak Flow	Storage Volume Required [1]	Approximate Ponding Depth (Elevation)	Maximum Storage Volume Available [2]
2-year	Circular Plug Type 112mm Orifice	33.1 L/s	33.3 m^3	77.50	117.3 m^3
5-year		38.0 L/s	49.2 m^3	77.98	
100-year		**39.7 L/s**	124.1 m^3	78.15	

1 Required storage volumes were calculated assuming an average release rate, equal to 50% of the peak allowable rate

2 At the emergency spill elevation of 78.15m

Table 12.2: East Property– Post-Development Controlled Flows (POST-E2)

Design Event	ICD Type	Controlled Peak Flow	Storage Volume Required [1]	Approximate Ponding Depth (Elevation)	Maximum Storage Volume Available [2]
2-year	Circular Plug Type 107mm Orifice	31.8 L/s	10.6 m³	77.67	88.8 m³
5-year		34.0 L/s	17.6 m³	77.95	
100-year		**35.3 L/s**	49.8 m³	78.10	

1 Required storage volumes were calculated assuming an average release rate, equal to 50% of the peak allowable rate
2 At the emergency spill elevation of 78.10m

Table 12.3: East Property– Post-Development Controlled Flows (POST-E3)

Design Event	ICD Type	Controlled Peak Flow	Storage Volume Required [1]	Approximate Ponding Depth (Elevation)	Maximum Storage Volume Available [2]
2-year	Circular Plug Type 159mm Orifice	61.6 L/s	19.1 m³	77.20	84.3 m³
5-year		77.6 L/s	27.6 m³	77.95	
100-year		**79.5 L/s**	83.4 m³	78.05	

1 Required storage volumes were calculated assuming an average release rate, equal to 50% of the peak allowable rate
2 At the emergency spill elevation of 78.05m

Refer to **Appendix E** for detailed calculations. A total of 68.1m^3 is provided underground, therefore there will not be any surface ponding during the 2-year design event.

Area POST-E4 (Uncontrolled Site Flows)

Stormwater runoff from this sub-catchment area will drain to a catchbasin and be directed uncontrolled to storm outlet east. The post-development flow from Area POST-E4 was calculated using the Rational Method to be 21.7 L/s during the 5-year design event and 42.2 L/s during the 100-year design event.

Area POST-E5 (Uncontrolled Site Flows, Loading Area)

Stormwater runoff from this sub-catchment area will drain to a catchbasin and be directed uncontrolled to storm outlet east. The post-development flow from Area POST-E5 was calculated using the Rational Method to be 29.8 L/s during the 5-year design event and 57.1 L/s during the 100-year design event.

Area POST-E6 (Controlled Site Flows, Rear Yard)

Stormwater runoff from this sub-catchment area will drain to a series of catchbasins. The 5-year and 100-year design event will be controlled and stored on the surface. The 2-year design event will be uncontrolled.

The post-development flow from Area POST-E6 was calculated using the Rational Method to be 62.5 L/s during the 5-year design event and 65.4 L/s during the 100-year design event.

Table 12.4: East Property– Post-Development Controlled Flows (POST-E6)

Design Event	ICD Type	Controlled Peak Flow	Storage Volume Required	Approximate Ponding Depth (Elevation)	Maximum Storage Volume Available [1]
5-year	Circular Plug Type 159mm Orifice	62.5 L/s	5.2 m^3	77.57	29.6m^3
100-year		**65.4 L/s**	29.6 m^3	77.70	

1 At the emergency spill elevation of 78.05m

Area POST-E7 (Uncontrolled Site Flows, Terrace)

Stormwater runoff from this sub-catchment area will drain to a series of floor drains and be directed to the interior of the building.

Area POST-BLDG (Building Controlled Flow Roof Drains)

The post-development flow from main building will be attenuated by eight Watts Adjustable flow control roof drains prior to being directed to the proposed storm service and outleting to the east outlet.

Table 13 summarizes the post-development design flows from this sub-catchment area as well as the type of roof drains, the maximum anticipated ponding depths, storage volumes required, and storage volumes provided for both the 5-year and the 100-year design events. The roof outlet location is shown on the Notes and Detail Sheet (**124150A-ND2**) with ponding details shown on the Main Building Roof Drain Ponding Areas sketch (**124150-RD**) included in **Appendix D**.

Table 13: Design Flow and Roof Drain Table

Roof Drain ID	Number of Roof Drains	Watts Roof Drain Model ID (Weir Opening)	Controlled Flow per Drain (L/s)		Approximate Ponding Depths Above Drains (cm)		Storage Volume Required (m^3)		Max Storage Available (m^3)
			5-Yr	100-Yr	5-Yr	100-Yr	5-Yr	100-Yr	
RD-1	1	RD-100-A-ADJ set to 1/2 Exposed	0.95	1.10	10	13	3.5	8.1	11.7
RD-2	1	RD-100-A-ADJ set to 1/2 Exposed	0.95	1.10	10	13	3.4	8.0	11.4
RD-3	1	RD-100-A-ADJ set to Fully Exposed	1.26	1.58	10	13	5.1	11.5	16.2
RD-4	1	RD-100-A-ADJ set to Fully Exposed	1.26	1.58	11	14	5.1	11.5	14.4
RD-5	1	RD-100-A-ADJ set to Fully Exposed	1.26	1.58	10	13	5.1	11.5	15.3
RD-6	1	RD-100-A-ADJ set to 3/4 Exposed	1.10	1.34	10	13	3.2	7.4	10.9
RD-7	1	RD-100-A-ADJ set to Closed	0.32	0.32	10	13	0.8	2.0	3.0
RD-8	1	RD-100-A-ADJ set to Closed	0.32	0.32	10	13	0.3	0.8	1.6
Total Roof	8	-	7.42	**8.92**	-	-	26.60	61.01	84.4

Based on Manning's Equation, a 675mm dia. gravity storm sewer at a slope of 0.22% (as-built) has a full flow conveyance capacity of approximately 410L/s, which is sufficient to convey the stormwater design flows calculated above.

5.7 Stormwater Quality Control

The subject lands are located within the jurisdiction of the Mississippi Valley Conservation Authority (MVCA) and is in the Shirley's Brook tributary area. As per the Shirley's Brook and Watts Creek Subwatershed Study, "Level 2 water quality enhancement", which corresponds to a long-term average removal of 70% of total suspended solids (TSS) is required.

During pre-consultation MVCA recommended that quality protection be increased to enhanced level (80% TSS removal) as the site is in close proximity to the Kanata North Urban Expansion Area, which requires enhanced treatment for Shirley's Brook.

It is understood that rooftop areas are considered "clean" and runoff from the proposed building roof is not required to be treated.

5.7.1 West Property (2707 Solandt Road)

A CDS hydrodynamic separator unit will be installed downstream of catchbasin manhole 200 on the proposed 450mm diameter stormwater sewer outlet pipe. Stormwater runoff collected by the main storm sewer network will be directed through this treatment unit.

Echelon Environmental have modelled and analyzed the tributary area to provide a CDS unit capable of meeting the TSS removal requirements (TSS removal based on ETV Testing). It was determined that a CDS Model CDS 6 will meet the target removal rate. This CDS unit has a treatment capacity of 61 L/s. The unit should be inspected annually and cleaned out when the unit's sediment storage sump is approximately 85% full. Details of the proposed CDS treatment unit are included in **Appendix E.**

5.7.2 East Property (2505 Solandt Road)

Quality Control for the east property was contemplated during the design of the Kanata Research Park lands. This area is located within the overall catchment area considered in the Kanata Research Park – Stormwater Management Plan, the Storm Drainage Area Plan (93063-STM2) and report excerpts are included in **Appendix D**.

A Certificate of Approval of Municipal and Private Sewage Works (5816-5ALKNH) was obtained for these works and is included in **Appendix E**.

6.0 EROSION AND SEDIMENT CONTROL

To mitigate erosion and to prevent sediment from entering the municipal drainage system, 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 shown in the Erosion and Sediment Control Plan (**124150A-ESC**).

- Filter socks will be placed under the grates of nearby catchbasins and manholes and will remain in place until construction is completed.
- Silt fencing will be placed per OPSS 577 and OPSD 219.110 along the surrounding construction limits, where applicable.
- Mud mats will be installed at the site entrances.

- Street sweeping and cleaning will be performed, as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site.
- On-site dewatering is to be directed to a sediment trap and/or gravel splash pad and discharged safely to an approved outlet as directed by the engineer.

The temporary erosion and sediment control measures would be implemented prior to construction and would remain in place during all phases of construction. Erosion and sediment control measures should be inspected daily and after every rain event to determine maintenance, repair, or replacement requirements. These measures will be implemented prior to the commencement of construction and maintained in good order until vegetation has been established.

7.0 CONCLUSIONS

This report has been prepared in support of a Major Zoning By-law Amendment and a Site Plan Control application for the proposed development 2505 and 2707 Solandt Road

Proposed Development

It is proposed to construct a three-storey wellness facility on the subject lands. The proposed development comprises a personal service facility including a spa and restaurant within the main building with accessory buildings and outdoor amenity areas located west of the primary building. The building drawings were developed by Simmonds Architects. The Landscape work was designed by NAK Design Strategies.

Water Servicing

There is an existing 300mm diameter municipal watermain located adjacent to the site in Solandt Road. Due to water demand at a dead end, the City of Ottawa requires the watermain to be looped. The watermain will be extended over private lands (Marshes Golf Club) and connect to Terry Fox Drive.

The proposed facility will have three watermain connections to Solandt Road to provide fire flows to the development.

Sanitary Servicing

The proposed development will be serviced by extending a new private 200mm dia. sanitary system to the existing 750mm dia. municipal sanitary trunk sewer on the eastern edge of 2707 Solandt Road. A monitoring manhole will be installed before the service connection to the trunk sewer.

Stormwater Servicing (West lands)

The west property (2707 Solandt Road) generally drains to the Marshes Golf Course to the north, via an existing ditch and 900mm diameter storm pipe across the golf course to Shirley's Brook. Stormwater runoff from this area will drain to a series of catchbasins. It will be controlled and

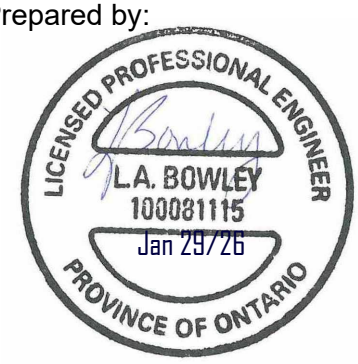
stored in underground pipes and StormTech chamber systems. Water quality control will be provided by an CDS hydrodynamic separator unit (Oil and Grit Separator).

Stormwater Servicing (East lands)

The east property (2505 Solandt Road) generally drains to an existing 675mm diameter pipe. This pipe discharges to Marshes Golf Course and Pond 2. Stormwater runoff from this area will drain to a series of catchbasins. They will be controlled and stored in underground storage pipes and on the surface of the parking lot. Water quality control for this area was considered as part of the Kanata Research Park and will be provided within the Pond 2 works.

NOVATECH

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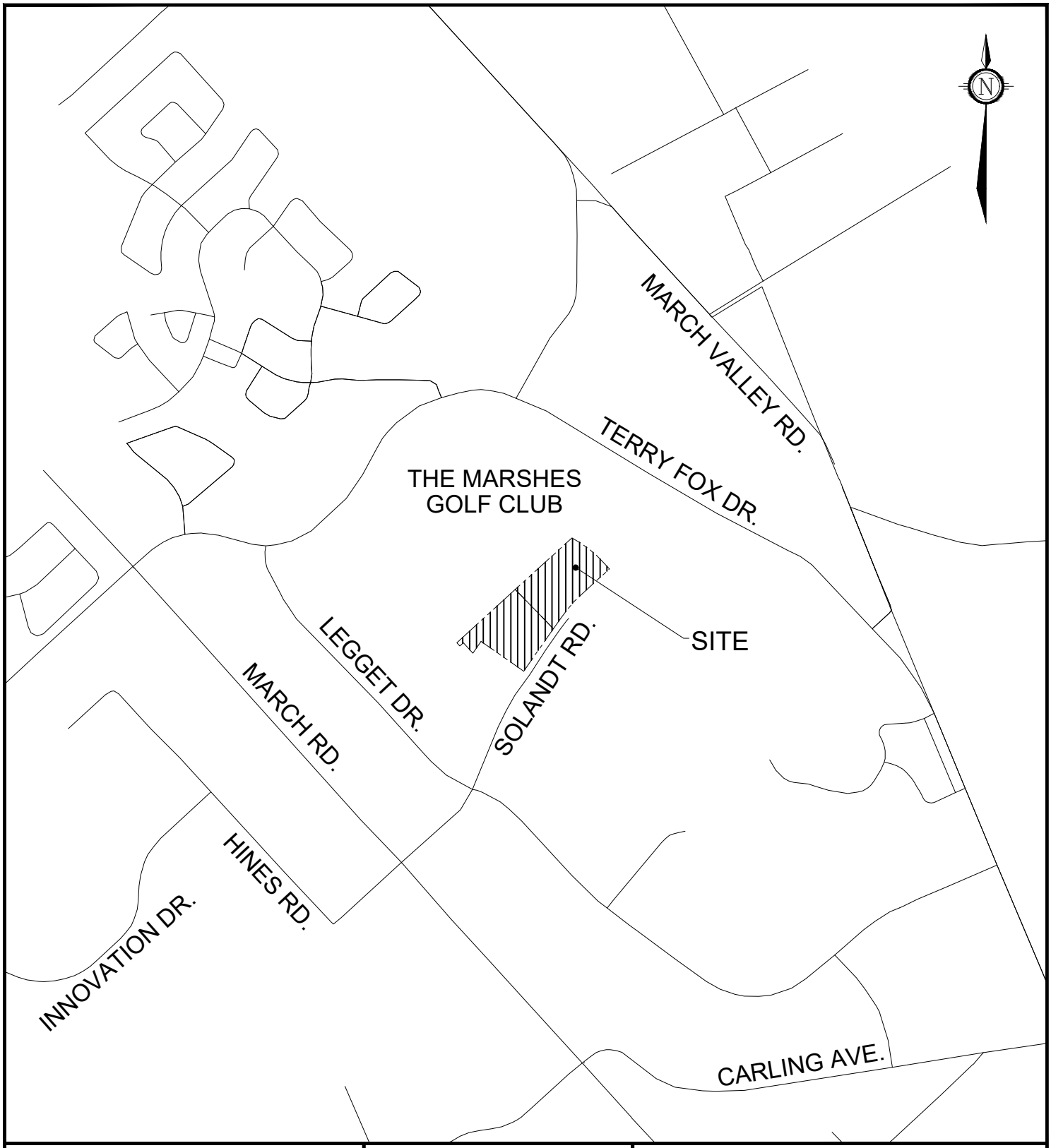


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SERENVITA
2505 & 2707 SOLANDT RD

KEY PLAN

DATE	JOB	FIGURE
JAN 2026	124150A	FIGURE 1

SHT8X11.DWG - 216mmx279mm

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SOURCE REFERENCE:

LEGAL:

1. *4R-26736 / ANNIS, O'SULLIVAN, VOLLEBEKK LTD. / JANUARY 15, 2013 / OTTAWA, ON K2K 3G5*
2. *4R-13632 / FAIRHALL MOFFATT & WOODLAND LIMITED / MARCH 19, 1998 / OTTAWA, ON K2K 3G5*

AERIAL IMAGE:

BING MAPPING 2026

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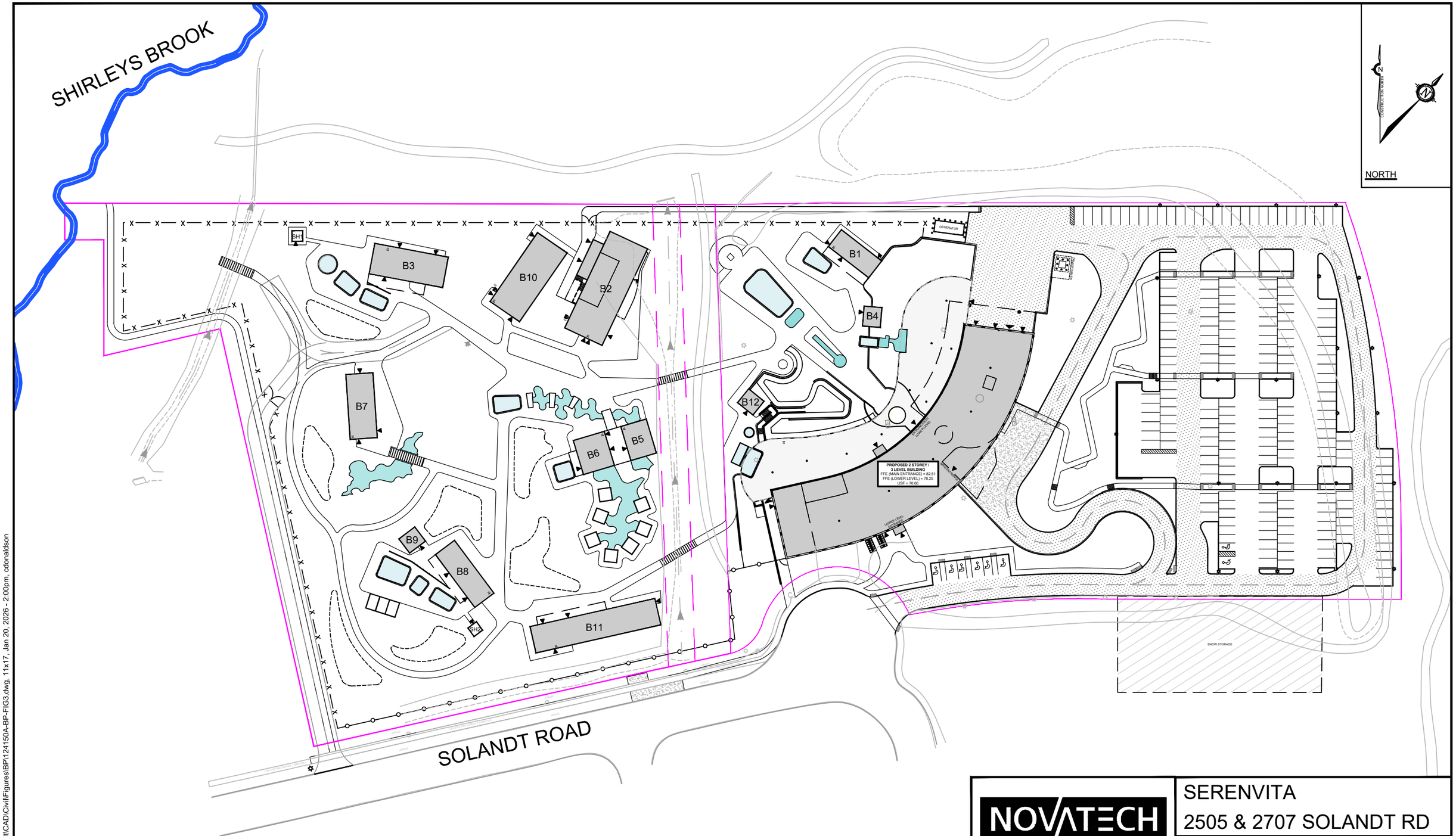
EXISTING CONDITIONS

SCALE 1 : 1000 (0, 10, 20, 30, 40)

DATE JAN 2026 | JOB 124150A | FIGURE FIGURE 2

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2505 & 2707 SOLANDT RD

PROPOSED SITE PLAN

SCALE 1 : 1000 (0 10 20 30 40)

DATE JAN 2026 | JOB 124150A | FIGURE FIGURE 3

SHT11X17.DWG - 279mmX432mm

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Engineers, Planners & Landscape Architects

Appendix A
Correspondence

1. City of Ottawa Meeting Feedback notes dated November 3, 2025 (15 pages)
2. Letter from Wesley Clover Internation Corporation (Ownership) dated January 14, 2026
3. Letter from Wesley Clover Internation Corporation (Understanding of Development) dated January 14, 2026

File No.: PC2025-0256

November 3, 2025

Jeffrey Kelly
Novatech Engineers
Via email: j.kelly@novatech-eng.com

Subject: Pre-Consultation: Meeting Feedback
Proposed Zoning By-law Amendment and Site Plan Control Application – 2505 and 2707 Solandt Road

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on October 10, 2025.

Pre-Consultation Preliminary Assessment

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. For your next submission, please submit the required Application Form, together with the necessary studies and/or plans to planningcirculations@ottawa.ca, copy (cc:) to the file lead and planning support.

2. In your subsequent pre-consultation or application submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed is requested with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.

3. Please note, 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

1. 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

1. 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

Comments:

1. **OP:** Kanata North Economic District

    a. Encourages a mixed of uses that are supportive of employment and innovation uses.

    b. Spa is a **personal service use**, which fits under the umbrella of **commercial/service uses** which the policy directs towards future transit stations along March Road. The station locations being adjusted in the new Transportation Master Plan and this site may be within that buffer.

    c. This Policy includes a number of guiding principles for review, which include:

i. Contributions of active transportation network.

ii. Reducing blank wall conditions.

2. **Design Guidelines:**

    a. Kanata North Economic District

3. **Accessibility Design Standards**

4. **Zoning:**

    a. Present Zoning By-law: IP6 H(44) - Business Park Industrial Zone

    b. Future Zoning By-law: EDK-2 - Kanata North Economic District subzone 2

i. Personal Service Business: maxed at 300 sq metres

    c. Depending on the timing of the application, the planning rationale will need to speak to one or the other.

5. Parking requirements

    a. We discourage painted islands in all large surface parking lots and ask that you provide islands that are large enough to support tree planting.

6. Please include reference to any easements on or adjacent to the site.

Urban Design

Comments:

7. An Urban Design Brief is not required.

8. Additional drawings and studies are required as shown on the SPIL. Please follow the terms of references (Planning application submission information and materials | City of Ottawa) to prepare these drawings and studies. These include:

    a. Site Plan

    b. Landscape Plan

    c. Building Elevations

    d. Conceptual Floorplans

9. Preliminary Design Comments:

    a. The project is generally heading in a positive direction.

    b. Fence details needed. Please ensure that there is tree planting and landscaping along Solandt Road

Feel free to contact Nader Kadri, Urban Designer for follow-up questions.

Engineering

Comments:

Water

10. Based on the nature of the proposal and size of the property, we suspect that the basic day demand will be greater than 50 m3/day, thus two watermain connections separated by an isolation valve would be required to avoid the creation of a vulnerable service area. However, since the watermain on Solandt Road is a dead-end, a watermain extension would be required as part of this application to satisfy this requirement.

    Following internal discussions with the city's water groups, it was determined that the only viable solution to this problem is extending the dead-end watermain across the golf course to connect to Terry Fox Drive. Please note that design drawings along with securities would be required for this watermain extension.

11. 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:

a. Location of service

b. Type of development

c. The amount of fire flow required (per OBC or FUS).

d. Average daily demand: ___ l/s.

e. Maximum daily demand: ___l/s.

f. Maximum hourly daily demand: ___ l/s.

12. Provide a watermain system analysis demonstrating adequate pressure as per section 4.2.2 of the Water Distribution Guidelines.

13. Demonstrate adequate hydrant coverage for fire protection. Please review Technical Bulletin ISTB-2018-02, Appendix I table 1 – maximum flow to be considered from a given hydrant.

14. Please note that a W3 DMA chamber will be required if the private watermain length is greater than 150 m.

Sewer (sanitary and/or storm)

15. Connections to trunk sewers and easement sewers are typically not permitted. However, understanding the constraints on this site, we are currently discussing with our Sewer Operations team to understand if a connection to the East March Trunk easement sewer or to the 375 mm sanitary easement sewer would be amenable. Additional details will be provided in a revised comments letter or separate email.

16. Please apply the wastewater design flow parameters in Technical Bulletin PIEDTB-2018-01.

17. 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.

18. 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).

19. Sewer connections to be made above the springline of the sewermain as per:

a. Std Dwg S11.1 for flexible main sewers – connections made using approved tee or wye fittings.

b. Std Dwg S11 (For rigid main sewers) – lateral must be less that 50% the diameter of the sewermain,

c. 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 that 50% the diameter of the sewermain,

d. 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.

Stormwater Management

20. The Stormwater Management Criteria, for the subject site, is to be based on the following:

    a. For drainage areas discharging to an existing ditch, match post-development flows to pre-development flows for each storm event (up to the 100-year), unless there are known drainage issues with the existing storm outlet/culvert downstream of the ditch. In that case, conservatively meet the pre-development 5-year flow with a maximum runoff of 0.5.

    b. For drainage areas discharging to a storm sewer, control the post-development flows to the pre-development 5-year release rate with a maximum runoff of 0.5.

    c. Application of the IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.

    d. A calculated time of concentration (cannot be less than 10 minutes).

    e. Storm sewer outlets should not be submerged.

    f. Provide 80% TSS removal unless stringer requirements are provided in the Shirley's Brook and Watts Creek Sub-Watershed Study.

    g. Please refer to the Shirley's Brook and Watts Creek Sub-Watershed Study for potential additional stormwater management requirements.

21. The site plan provided shows the direction of flow for the ditch going south to north, however the invert at the "downstream" concrete headwall (74.54) shown on the plan is higher than the invert at the "upstream" headwall (74.28). Please address this in your official site plan submission.

22. A pre-development drainage plan will be required to understand the existing drainage patterns and discharge locations of the storm drainage areas. We

recommend requesting the DEM surface via geoinformation@ottawa.ca to help understand the existing drainage patterns and associated drainage areas.

23. Based on OTwin Viewer (a GIS tool used by the City), there seems to be an existing ditch/stream near the northeastern boundary of the property (see the two markups in red below). Based on the topo and contour lines you provided, it is difficult to determine if this ditch truly exists since no information is provided to the northeast of the bottom of slope line (on the right side of the red line shown below). Say this ditch exists – if you are proposing to backfill it, please take into consideration that it might currently be conveying flows from the adjacent golf course or Solandt ROW. These flows must continue to be conveyed post-development. Additionally, please note that geotechnical recommendations will be required for any ditch that is proposed to be backfilled.





Additional Comments

24. Please confirm if 2505 & 2707 Solandt are merged on title.

25. Please note that Utility Circulation is likely required as part of this site plan application for the watermain extension. Additional details will be provided as we approach final approval.

26. Please note that a JUMA and easements will be needed for the common elements shared between 2505 and 2707 Solandt Road, unless it is determined that the two properties are merged on title.

27. Please confirm if an easement exists over the ditch crossing the property (i.e. Part 1 of 4R-33358). If one exists, please provide the instrument number so we can understand if permanent structures such as pedestrian bridges and fences can be constructed within the easement limits. If one does not exist, the City may claim one through this site plan application.

28. Our team is currently discussing with the Sewer Operations group to confirm if pedestrian bridges and privacy fences will be tolerated within their sanitary sewer easement limits. We will provide additional directions in a revised comments letter or separate email.

29. The following storm water management works will be required to register in the Environmental Activity and Sector Registry (EASR):

    a. The site discharges into a ditch.

    b. If the existing ditches on the properties serve more than one parcel of land.

30. Since this site meets the definition of an industrial land per the Ontario Regulation 525/98, an MECP Environmental Compliance Approval may be required for this application. The applicant is advised to consult the Ontario Regulation 525/98 Approval Exemptions to confirm if an ECA is required, and provide a written confirmation if they believe their site should be exempted.

Feel free to contact Jean-Miguel Roy, Project Manager, for follow-up questions.

Noise

Comments:

31. The site is not listed as a noise sensitive land use as part of the noise guidelines; however, the proponent may choose to complete a noise study as a result of the type of land use along a Collector Road.

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

Transportation

Comments:

32. Follow Transportation Impact Assessment Guidelines:

    a. Note that the TIA Guidelines have been updated, the changes are available on the City's website.

    b. A Transportation Impact Assessment (TIA) is required. Please submit the Scoping/Forecasting report to becca.conrod@ottawa.ca at your earliest

convenience. The applicant is responsible to submit the Scoping Report prior to application and must allow for a 14-day circulation period. An application without the appropriate scoping report and review period will be considered and will result additional delays for the proponent.

c. The Strategy Report (including Synchro files) must be submitted with the formal submission to deem complete. The applicant is strongly encouraged to submit the Strategy Report to the TPM prior to formal submission and allow for a 14-day circulation period.

d. Complete and submit the Transportation Demand Management Measures Checklist and the Transportation Demand Management Supportive Development Design and Infrastructure Checklist in support of the application.

e. The “Urban” area designation is based upon the Transportation Master Plan ‘Inner Urban’ area (i.e. 400m Radius for study area).

33. ROW Protection:

a. Ensure that the development proposal complies with the Right-of-Way protection requirements of Schedule C16 of the Official Plan.

b. ROW must be unincumbered and conveyed at no cost to the City. Note that conveyance of the ROW will be required prior to registration of the SP agreement. Additional information on the conveyance process can be provided upon request.

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

34. Existing Road Network Features

a. There is an existing transit stop (#7548) along the property frontage. OC Transpo has requested a standard shelter pad and loading area, per SC11 and SC12. Coordination with OC Transpo is strongly encouraged.

b. The site is within proximity of the following arterials/collectors, as per the OP:

i. Collector (2 UCU)

c. An existing asphalt sidewalk is located along the frontage. It is recommended that the proponent improve the existing sidewalk along the site’s frontage to current City Standards to connect from the existing pathway on the western frontage of the site to the facility entrance.

d. Existing Pathway through the Golf Course is located to the north of the site.

35. Planned Improvements

a. Transportation Master Plan includes:

i. March Road Transitway (Priority)

ii. Legget Drive, Solandt Rd, and Hines Road Cycling Improvements (Phase 1)

iii. Major Pathway north of the site as part of the ultimate active transportation network.

36. As the proposed site is commercial and for general public use, AODA legislation applies.

a. Ensure all crosswalks located internally on the site provide a TWSI at the depressed curb, per requirements of the Integrated Accessibility Standards Regulation under the AODA.

b. Clearly define accessible parking stalls and ensure they meet AODA standards (include an access aisle next to the parking stall and a pedestrian curb ramp at the end of the access aisle, as required). Ensure a clear path of travel (defined in AODA standards) is provided from the parking stalls to an access door.

c. It is strongly advised to use the City's Accessibility Design Standards, which provide a summary of AODA requirements.

37. On site/concept plan:

a. Show all details of the roads abutting the site; include such items as pavement markings, signage, accesses, on-street parking, and/or sidewalks.

i. Sidewalk is to be continuous across access as per City Specification 7.1.

b. Show all curb radii measurements; ensure that all curb radii are reduced as much as possible and fall within TAC guidelines (Figure 8.5.1).

c. Show dimensions for site elements (i.e. lane/aisle widths, access width and throat length, parking stalls, sidewalks, pedestrian pathways, etc.)

d. Clear throat requirement on a collector is 8m. Ensure this length is provided. The clear throat length is measured from the ends of the driveway curb return radii at the roadway and the point of first conflict on-site. Note the minimum throat length provided must be maintained with the future ROW protection (as applicable).

e. Ensure site access meets the City's Private Approach Bylaw.

f. Parking stalls at the end of dead-end parking aisles require adequate turning around space.

g. Grey out any area that will not be impacted by this application.

38. Turning Movement Diagrams

a. Turning movement diagrams required for all accesses showing the largest vehicle to access/egress the site.

b. Turning movement diagrams required for internal movements (loading areas, garbage).

Feel free to contact **Becca Conrod**, Transportation Project Manager, for follow-up questions.

Environment

Comments:

39. Adjacent to Shirley's Brook which is an environmental feature, an environmental impact study is triggered to assess the impact of the development on the watercourse, riparian area and wildlife habitat.

40. Setback to the watercourse is identified in the Shirley's Brook Watts Creek Subwatershed Study. The setback identified in the site plan for Shirley's Brook to the west appears to reflect the policies and will need to be confirmed through the EIS. The EIS needs to ensure that the watercourse in the middle of the site is appropriately addressed through the site plan and recommend any mitigations as they may apply.

41. EIS can be based on the previous report that was completed for this property.

42. No concerns with the use.

Feel free to contact Matthew Hayley, Environmental Planner, for follow-up questions.

Forestry

Comments:

43. Overall, I really like the concepts of the design and landscaping with integration of existing and new trees.

44. There are no tree-related comments on the proposed rezoning. All comments relate to the Site Plan application.

45. A Tree Conservation Report is required, in accordance with Schedule E of the Tree Protection By-law. Ownership of all trees on the subject site and with Critical Root Zones extending onto the subject site must be determined, and plans must show how they will be protected from proposed works.

46. If any shared or adjacent trees are impacted by the proposal, the applicant is responsible for consulting with the owners of the trees and for obtaining signed permission if any trees must be removed. If no permission is granted, plans must be designed to allow for the full protection of these trees

47. Section 4.8.2 of the Official Plan prioritizes the retention of existing healthy trees over removal and replacement.

48. Please ensure that structure locations, including buildings, services, walkways, fences, gates, etc., and grading account for retention of existing trees. The highest priorities are to retain the groupings of trees around the property lines, including those in the northwest corner identified as 'quiet area', and adjacent to water bodies/drainage areas.

49. A Landscape Plan is required with this application and must address all requirements within the Landscape Plan Terms of Reference, including the projection of canopy cover toward the target of 40%, and confirmation of adequate soil volumes to support any proposed trees.

50. Please include tree planting within the ROW to improve the streetscape of the site.

51. Sufficient soil volume must be provided in the parking lot area for tree planting to mitigate the urban heat island effect.

52. Landscape buffers should be planted with trees rather than snow storage to reduce impacts to adjacent properties.

53. The setback from the building to the cul de sac property line should be sufficient to allow for trees to be planted in the ROW.

54. Given the treed nature proposed for the site, starting from almost a clean slate, please include a description of the variety of stock sizes and transplanting opportunities proposed to support diversity of size, species and structure on site.

Feel free to contact Nancy Young, Forester, for follow-up questions.

Parkland

Comments:

55. Cash-in-lieu of parkland / parkland dedication

a. Parkland Dedication is required in accordance with By-law No. 2022-280. The applicable parkland dedication rate for Industrial and commercial uses is 2% of the gross land area. For Commercial and Industrial redevelopment, gross land area means the portion of the property that is impacted by the development. The gross land area of the two addresses being 49754 sq m. 2% of the gross land area is therefore 815 sq m.

b. Parks & Facilities Planning is requesting payment of Cash-in-lieu-of-Parkland for this development. The value of the land, equivalent to the Parkland Dedication requirement, will be determined as of the day before planning approval is given for the development. The Applicant shall bear the cost of any appraisal costs incurred by the City;

c. The conveyance of parkland or the payment of cash-in-lieu of parkland is required unless it can be demonstrated that the required parkland conveyance or cash-in-lieu of parkland, or combination thereof, has been previously satisfied in accordance with the Planning Act.

Feel free to contact Anissa McAlpine, Parks Planner, for follow-up questions.

MVCA Comments:

56. The MVCA Board of Directors approved updated floodplain mapping for Shirleys Brook in December 2017. This mapping forms a part of MVCA's regulatory limit. The floodplain overlay in the City of Ottawa Zoning By-law in effect as of the date of this email, does not incorporate the most up to date floodplain mapping for Shirley's Brook.

57. The Mississippi Valley Conservation Authority (MVCA) confirms that a portion of the above noted property is regulated under Section 28 of the Conservation Authorities Act and Ontario Regulation 41/24, *Prohibited Activities, Exemptions and Permits*. Written permission is required from the MVCA prior to the initiation of development (which includes construction, site grading and the placement or removal of fill) within an area regulated by the Conservation Authority.

58. All development should be located outside of the 1:100-year floodplain as development, filling and lot grading are generally restricted within the floodplain.

59. MVCA has cut and fill provisions in our regulations policies. If this an avenue you would like to consider, MVCA will require a detail cut and fill balance analysis to demonstrate feasibility. Please note for a cut and fill:

    a. The site alteration is confined to lands with existing ground elevations that are no more than 0.3 meters lower than the estimated 1:100-year water surface elevation.

b. The area of the proposed cut or fill zones will be equal to one another.

c. The loss of floodplain storage volume within the 1:100-year floodplain which will result from the placement of fill shall be fully compensated for by an incrementally balanced cut to be carried out in close proximity to and concurrently with the placement of fill. This cut and fill operation must occur on the same property.

d. The resulting development, if located within 15m of the 1:100-year floodplain, meets all floodproofing requirements.

60. MVCA mapping identifies the erosion hazard associated with this reach of Shirley's Brook to be a meander belt hazard. The meander belt hazard is determined by 20x the bankful width of the watercourse. All development should be located outside of the meander belt erosion hazard as development, filling and lot grading are generally restricted within the meander belt erosion hazard.

    a. The applicant has the option of preparing a geomorphic assessment to assess the meander belt hazard for this reach of Shirley's Brook, which may refine the meander belt hazard. The development will then need to respect the greater hazard of the floodplain or the setback established by the geomorphic assessment.

61. Our mapping sources indicate that organic soils cover a large portion of the proposed development area. As organic soils are unsuitable to build on, the presence and extent needs to be determined through a geotechnical investigation. Depending on the findings, the geotechnical report must identify measures to address the hazard.

62. MVCA will review the stormwater management plan with a focus on water quantity, with respect to flooding and erosion. In addition to the Stormwater Management Plan and Design Report and associated drawings, we request the following studies:

    b. Scoped Hydrogeological and Terrain Analysis to support and undertake an existing and post-development (with and without mitigation) water balance for the site. The existing conditions water balance would set runoff, infiltration and evapotranspiration targets for the site and the post-development analysis would demonstrate how these are met.

    c. Scoped Fluvial Geomorphology Assessment, if the proposed stormwater outlet from the site is directly to a watercourse.

63. Per the Concept and Planting Plan, an existing pathway is shown outside of the subject property that extends into the regulatory limit, including the 1:100-year floodplain and meander belt. Based on the *Site Plan_Site Statistics* (dated 2025-09-25) and available aerial imagery, it appears that this pathway may be proposed rather than existing. Please confirm.

d. A new crossing of Shirleys Brook would require a hydraulic assessment to demonstrate that the crossing does not have a negative impact on flood levels.

64. MVCA mapping identifies a channel parallel to Shirley's Brook in the southwest corner of the property. It appears to function as a storm outlet from Solandt Road across the property, discharging into another culvert beneath the golf course before entering Shirley's Brook. Confirmation should be provided as to whether this feature meets the definition of a watercourse under Section 28 of the *Conservation Authorities Act*, where a *"watercourse"* is defined as *"a defined channel, having a bed and banks or sides, in which a flow of water regularly or continuously occurs."*

Feel free to contact Mercedes Liedtke, Conservation Authority Planner, for follow-up questions.

Other

65. 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.

66. 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. Site Plan Control Complex and Zoning By-law Amendment.
2. An Official Plan Amendment may be a requirement and is still being determined at this time. We are thoroughly assessing the policy and intention for the District Policy.
    a. Additional information regarding fees related to planning applications can be found here.
3. 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.
    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.
4. 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,
John Bernier, MCIP RPP

555 Legget Drive | Tower B | Suite 300 | Ottawa, ON | K2K 2X3
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www.krpproperties.com

January 14, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West
Ottawa, Ontario

To Whom It May Concern,

Re: Site Plan Control Application – 2505 and 2707 Solandt Road, Ottawa, Ontario

This letter is to confirm that Wesley Clover International Corporation is the current registered owner of the lands municipally known as **2505 Solandt Road and 2707 Solandt Road**, Ottawa, Ontario (the "Subject Lands").

Wesley Clover International Corporation hereby authorizes Silk Development Group to apply for Site Plan Control approval for the development of both 2505 and 2707 Solandt Road. The Subject Lands will remain under the ownership of Wesley Clover International Corporation throughout the Site Plan Control approvals process.

The Subject Lands will remain as separate parcels; however, the development is intended to be governed by a Joint Use and Maintenance Agreement and associated easements to address shared services, access, and infrastructure, as required through the approvals process. The final agreements will be entered into between SerenVita (Ottawa) Ltd. and Wesley Clover International Corporation, to the satisfaction of the City of Ottawa.

Further, Silk Development Group is authorized to coordinate all technical submissions, studies, drawings, and approvals associated with the Site Plan Control application.

Silk Development Group, on behalf of the Owner, hereby authorizes Novatech to act as planning and engineering agent to prepare and file the Site Plan Control application with the City of Ottawa for the Subject Lands.

Should you require any additional information, please do not hesitate to contact the undersigned.

Sincerely,

WESLEY CLOVER INTERNATIONAL CORPORATION

Per:_____
Terry Young
President, KRP Properties

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January 14, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West
Ottawa, Ontario

To Whom It May Concern,

Re: Site Plan Control Application – 2505 and 2707 Solandt Road, Ottawa, Ontario

This letter is provided on behalf of Wesley Clover International Corporation, the registered owner of the lands known municipally as **2505 and 2707 Solandt Road**, Ottawa, Ontario, in support of the Site Plan Control application for the proposed development.

Wesley Clover International Corporation acknowledges and understands the nature of the proposed development and its relationship to the surrounding lands, including but not limited to:

- 425 Legget Drive
- 2500 Solandt Road
- Marshes Golf Course Lands
- Lands described as:
    - Part 2 & 3 on Plan 4R-21488 (former Solandt Road right-of-way)
    - Part 2 on Plan 4R-16597 (irregular-shaped parcel)

With respect to the Site Plan Control application, Wesley Clover International Corporation confirms the following:

1. **Easements**
   Easements may be required for off-site drainage works and a proposed watermain extension. Wesley Clover International Corporation is willing to work with the Applicant and the City of Ottawa to grant such easements, as required, subject to detailed design and formal agreement.

2. **Tree Protection and Critical Root Zones**
   Wesley Clover International Corporation acknowledges that if any shared or adjacent trees are impacted by the proposed development, consultation with the respective tree owners will be required, and written permission will be obtained where tree removal is necessary. If permission is not granted, the design will be modified to ensure full protection of the affected trees in accordance with City requirements.

3. **Grading Adjacent to Golf Course Lands**
   Minor grading may be proposed along property lines abutting the golf course lands. Wesley Clover International Corporation acknowledges this potential impact and is agreeable in principle, subject to final engineering design and City approval.

4. **Snow Storage**
   Snow storage is proposed on lands described as Part 2 & 3 on Plan 4R-21488, being the former Solandt Road right-of-way. Wesley Clover International Corporation controls these lands and acknowledges the proposed use for snow storage, subject to City approval and detailed design.

This letter is provided to confirm Wesley Clover International Corporation's understanding of the development and willingness to support the Site Plan Control process. Nothing herein shall be interpreted as granting final approval or waiving any rights with respect to detailed design, final agreements, or regulatory approvals.

Sincerely,

WESLEY CLOVER INTERNATIONAL CORPORATION

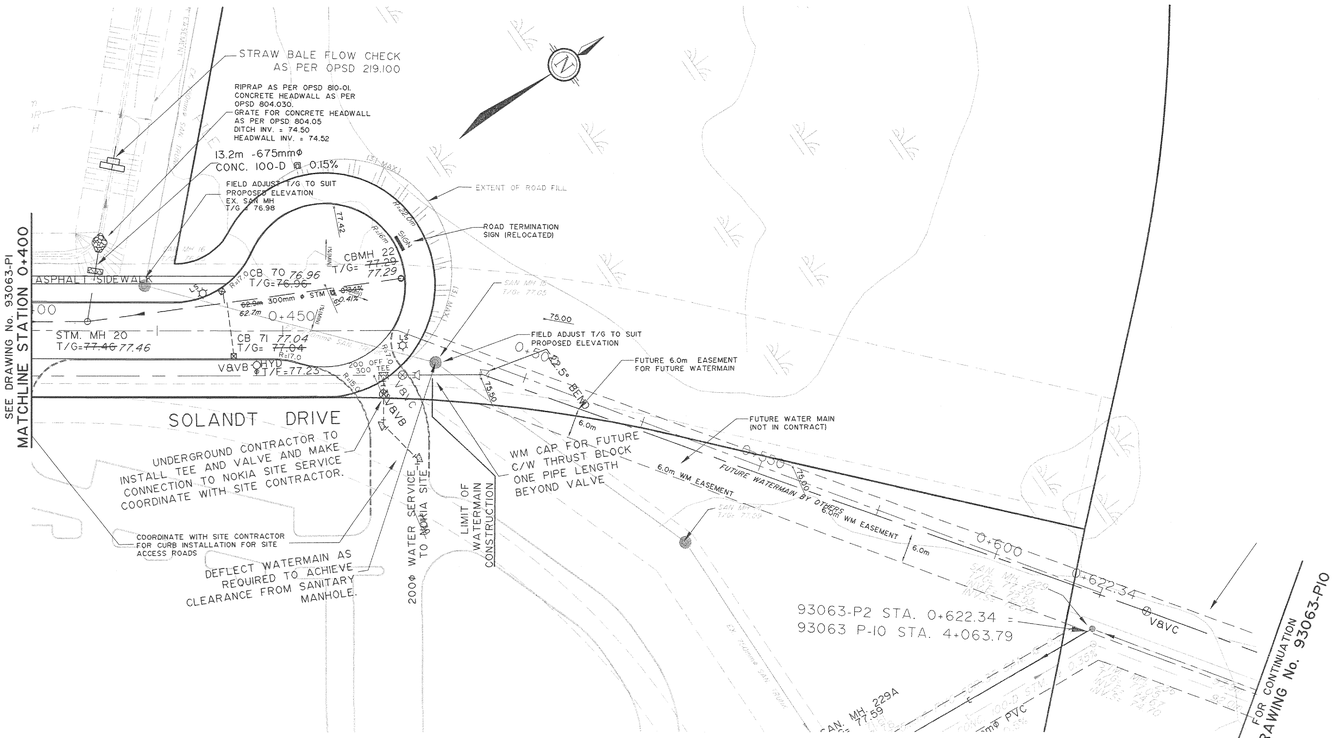
Per:_____
Terry Young
President, KRP Properties

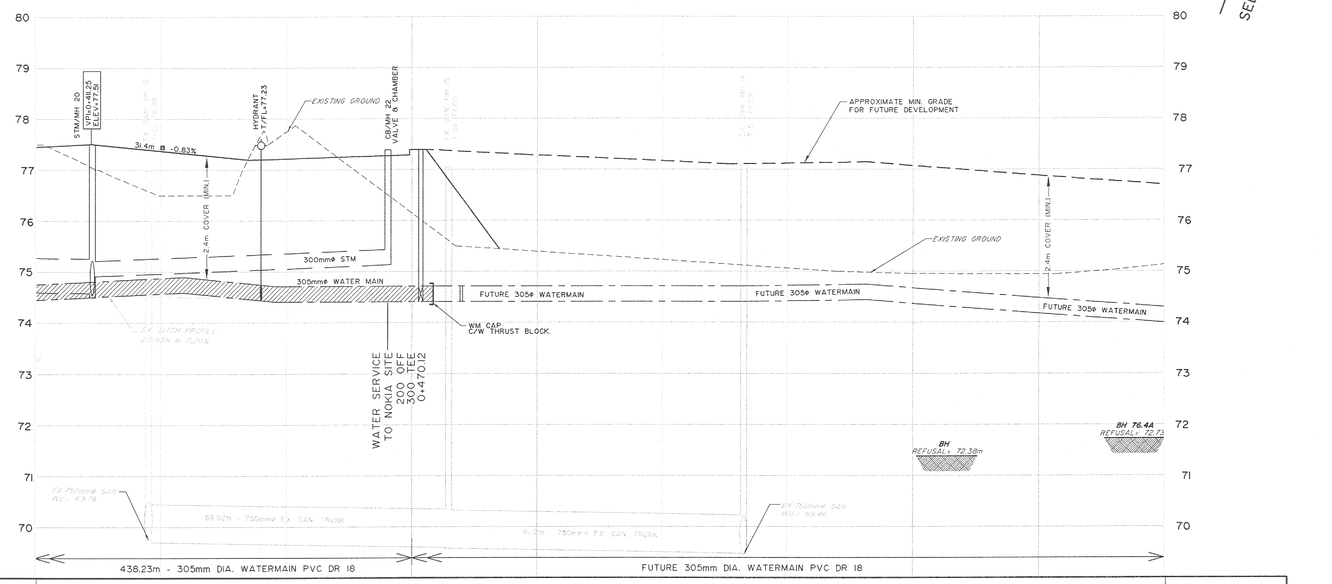
Engineers, Planners & Landscape Architects

Appendix B

Water Servicing and Fire Protection

1. City Watermain Record Drawings [Kanata Research Park]
   (93063-P2, 93063-P7 and 93063-P10)
2. FUS & Boundary Conditions (email correspondence with City of Ottawa/Novatech)
3. EPANET Model Schematic (January 19, 2026)
4. EPANET Model Results (January 19, 2026)
5. Watermain Sketch (January 23, 2026)
6. Fire Hydrant Coverage Plan (FH-1)


STRAW BALE FLOW CHECK AS PER OPSD 219.100
RIPRAP AS PER OPSD 810.01, CONCRETE HEADWALL AS PER OPSD 804.030, GRATE FOR CONCRETE HEADWALL AS PER OPSD 804.05, DITCH INV. = 74.50, HEADWALL INV. = 74.52
13.2m -675mmø CONC. 100-D @ 0.15%
FIELD ADJUST T/G TO SUIT PROPOSED ELEVATION EX. SAN MH T/G = 76.98
EXTENT OF ROAD FILL
ROAD TERMINATION SIGN (RELOCATED)
CBMH 22 T/G= 77.29
CB 70 76.96 T/G=76.96
300mm ø STM @ 0.41%
62.7m
62.2m
0+450
STM. MH 20 T/G=77.46 77.46
CB 71 77.04 T/G= 77.04
R=17.0
VBVB @ T/F=77.23
200 OFF @ 300 TEE @ 0+417.12
SOLANDT DRIVE
UNDERGROUND CONTRACTOR TO INSTALL TEE AND VALVE AND MAKE CONNECTION TO NOKIA SITE SERVICE. COORDINATE WITH SITE CONTRACTOR.
COORDINATE WITH SITE CONTRACTOR FOR CURB INSTALLATION FOR SITE ACCESS ROADS
DEFLECT WATERMAIN AS REQUIRED TO ACHIEVE CLEARANCE FROM SANITARY MANHOLE.
200ø WATER SERVICE TO NOKIA SITE
LIMIT OF WATERMAIN CONSTRUCTION
FIELD ADJUST T/G TO SUIT PROPOSED ELEVATION
FUTURE 6.0m EASEMENT FOR FUTURE WATERMAIN
0+500 22.5° BEND
WM CAP FOR FUTURE C/W THRUST BLOCK ONE PIPE LENGTH BEYOND VALVE
FUTURE WATER MAIN (NOT IN CONTRACT)
6.0m WM EASEMENT
FUTURE WATERMAIN BY OTHERS
0+538.28
0+600
0+622.34
VBVC
93063-P2 STA. 0+622.34 = 93063 P-10 STA. 4+063.79
SAN MH 229A 77.59
SEE DRAWING No. 93063-P10
FOR CONTINUATION
SEE DRAWING No. 93063-P1
MATCHLINE STATION 0+400

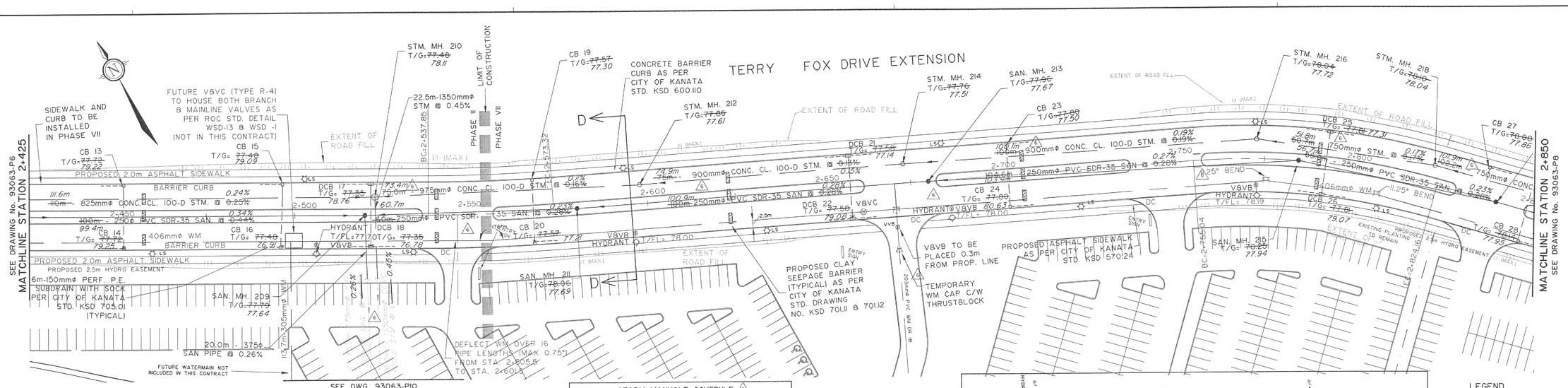

STM MH 20 T/G=77.46 INV.=74.79
314m @ -0.83%
HYDRANT T/F=77.23
CB/MH 22 VALVE & CHAMBER
EXISTING GROUND
APPROXIMATE MIN. GRADE FOR FUTURE DEVELOPMENT
2.4m COVER (MIN.)
300mmø STM
305mmø WATER MAIN
FUTURE 305ø WATERMAIN
WM CAP C/W THRUST BLOCK.
WATER SERVICE TO NOKIA SITE 200 OFF 300 TEE @ 0+417.12
EX. WATER PROFILE 28.95m @ 0.26%
BH REFUSAL= 72.38m
BH 76-4A REFUSAL= 72.73
EX. 750mmø SAN. REC.= 69.78
59.92m - 750mmø EX. SAN. TRUNK
EX. 750mmø SAN. REC.= 69.96
438.23m - 305mm DIA. WATERMAIN PVC DR 18
FUTURE 305mm DIA. WATERMAIN PVC DR 18

| | | |

TERRY FOX DRIVE EXTENSION

MATCHLINE STATION 2+425 — SEE DRAWING No. 93063-P6

MATCHLINE STATION 2+850 — SEE DRAWING No. 93063-P8



WATERMAIN RESTRAINTS 6

STATION	PIPE DIA. (mm)	APPURTENANCE	RESTRAINT REQUIRED	THRUST BLOCK** (cx400)
2+506.12	406	HYDRANT LEAD	3.0m EACH WAY*	a=350
2+511.42	406	22.5° V. BEND	6.0m EACH WAY	
2+515.61	406	22.5° V. BEND	6.0m EACH WAY	
2+522.46	406	22.5° V. BEND	6.0m EACH WAY	
2+526.45	406	22.5° V. BEND	6.0m EACH WAY	
2+596.00	406	HYDRANT LEAD	3.0m EACH WAY*	a=350
2+670.40	406	406 x 203 TEE	3.0m EACH WAY*	a=450
2+668.61 10.5m RT	203	TEMPORARY CAP & THRUSTBLOCK		
2+686.0	406	HYDRANT LEAD	3.0m EACH WAY*	a=350
2+772.00	406	HYDRANT LEAD	3.0m EACH WAY*	a=350
2+775.05	406	11.25° H. BEND	3.0m EACH WAY	a=650
2+805.42	406	11.25° H. BEND	3.0m EACH WAY	a=650
2+661	406	VALVE & CHAMBER	21.0m EACH WAY	

NOTE:
* - MINIMUM 3.0m OF PIPE EACH SIDE OF TEE
** - AS PER TABLE WSC4-4 AND WSD-25.3

CATCH BASIN SCHEDULE 6

CB NO.	STATION	OFFSET (CL)	TYPE	T/G ELEV.	INV.
13	2+451.55	9.125 Lt.	610x610	~~77.72~~ 79.22	76.22
14	2+451.58	9.125 Rt.	610x610	~~77.72~~ 79.25	76.22
15	2+496.55	9.125 Lt.	610x610	~~77.48~~ 79.09	75.98
16	2+496.58	9.125 Rt.	610x610	~~77.48~~ 78.91	75.98
17	2+521.55	9.125 Lt.	610x1450	~~77.35~~ 78.78	75.85
18	2+521.58	9.125 Rt.	610x1450	~~77.35~~ 78.76	75.85
19	2+567.74	9.125 Lt.	610x610	~~77.57~~ 77.30	76.07
20	2+567.44	9.125 Rt.	610x610	~~77.57~~ 77.21	76.07
21	2+657.73	9.125 Lt.	610x1450	~~77.56~~ 77.14	76.08
22	2+657.76	9.125 Rt.	610x1450	~~77.58~~ 79.08	76.08
23	2+702.65	9.125 Lt.	610x610	~~77.80~~ 77.50	76.30
24	2+702.52	9.125 Rt.	610x610	~~77.80~~ 80.63	76.30
25	2+752.66	9.125 Lt.	610x1450	~~77.61~~ 77.31	76.31
26	2+752.14	9.125 Rt.	610x1450	~~77.61~~ 79.07	76.31
27	2+837.34	9.125 Lt.	610x610	~~78.00~~ 77.86	76.56
28	2+851.00	9.125 Rt.	610x610	~~78.14~~ 77.95	76.64

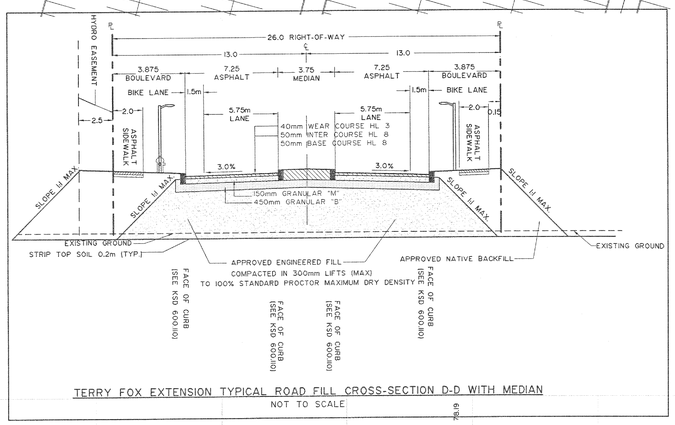
NOTE : OFFSETS ARE FROM CENTRE LINE TO FACE OF CURB FOR CATCH BASINS

STORM MANHOLE SCHEDULE 6

MH NO.	STATION	TYPE	T/G ELEV.	INV.
210	2+522.72	1520 X 1830	~~77.46~~ 78.11	~~77.26~~ W 75.16 ~~77.34~~ S 74.58 ~~77.51~~ E 75.05
212	2+598.12	1830	~~77.86~~ 77.61	~~77.63~~ W 75.13 ~~77.70~~ E 75.19
214	2+673.13	1530	~~77.76~~ 77.51	~~77.36~~ W 75.30 ~~77.43~~ E 75.33
216	2+772.68	1530mm	~~78.04~~ 77.72	~~77.62~~ W 75.52 ~~77.69~~ E 75.67
218	2+822.23	1530mm	~~78.10~~ 78.04	~~77.76~~ W 75.76 ~~77.79~~ E 75.78

SANITARY MANHOLE SCHEDULE 6

MH NO.	STATION	TYPE	T/G ELEV.	INV.
209	2+519.90	1220mm	~~77.79~~ 77.64	~~74.69~~ W 74.53 ~~74.79~~ S 73.79 ~~74.99~~ E 73.95
211	2+579.95	1220mm	~~78.06~~ 77.69	~~74.96~~ W 74.09 ~~74.96~~ E 74.01
213	2+679.98	1220mm	~~77.96~~ 77.67	~~74.86~~ W 74.40 ~~74.96~~ E 74.45
215	2+784.63	1220mm	~~78.20~~ 77.94	~~74.70~~ W 74.73 ~~74.73~~ E 74.75
217	2+841.52	1220mm	~~78.50~~ 78.24	~~74.99~~ W 74.88 ~~74.99~~ E 74.91

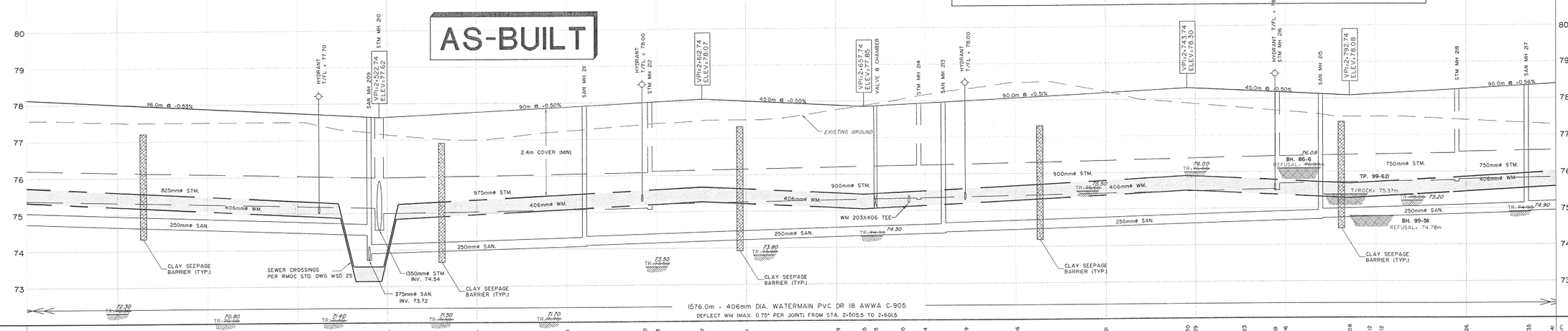


TERRY FOX EXTENSION TYPICAL ROAD FILL CROSS-SECTION D-D WITH MEDIAN
NOT TO SCALE

LEGEND

- 200mmø — PROPOSED WATERMAIN AND DIAMETER
- —⊘— PROPOSED VALVE LOCATION
- VBVB VALVE & VALVE BOX
- VBVC VALVE & VALVE CHAMBER
- HYD PROPOSED HYDRANT C/W VALVE & LEAD
- T/F=98.45 PROPOSED TOP OF BOTTOM FLANGE
- BEND PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° or TEE (SEE PLAN AND PROFILES)
- MH 101 PROPOSED SANITARY MH & SEWER
- MH 1000 PROPOSED STORM MH & SEWER
- CB 2 PROPOSED ROAD CATCHBASIN
- RYCB 2 PROPOSED REARYARD CATCHBASIN
- DICB 2 PROPOSED DITCH INLET CATCHBASIN
- LS PROPOSED LIGHT STANDARD
- DIRECTION OF FLOW
- MH 101 EXISTING SANITARY MH & SEWER
- MH 1000 EXISTING STORM MH & SEWER
- 250mmø WM EXISTING WATERMAIN
- PROPOSED CLAY SEEPAGE BARRIER

AS-BUILT



℄ ROAD ELEVATION	78.14 78.00 77.87 77.74 77.70 77.69 77.62 77.63 78.00 78.03 78.07 78.01 77.89 77.85 77.85 77.90 77.94 77.99 78.06 78.21 78.30 78.29 78.23 78.18 78.16 78.08 78.12 78.12 78.26 78.35 78.41
TOP OF WATERMAIN ELEVATION	~~77.84~~ 75.69 75.66 ~~77.55~~ 75.55 ~~77.41~~ 75.45 ~~77.45~~ 75.45 ~~77.47~~ 75.47 ~~77.33~~ 75.33 ~~77.34~~ 75.34 ~~77.30~~ 75.30 ~~77.27~~ 75.27 ~~77.20~~ 75.20 ~~77.18~~ 75.18 ~~77.46~~ 75.46 ~~77.48~~ 75.48 ~~77.47~~ 75.47 ~~77.46~~ 75.46 ~~77.49~~ 75.49 ~~77.51~~ 75.51 ~~77.59~~ 75.59 ~~77.55~~ 75.55 ~~77.54~~ 75.54 ~~77.45~~ 75.45 ~~77.49~~ 75.49 ~~77.45~~ 75.45 ~~77.44~~ 75.44 ~~77.54~~ 75.54 ~~77.54~~ 75.54 ~~77.57~~ 75.57 ~~77.60~~ 75.60 ~~77.66~~ 75.66 ~~77.68~~ 75.68 ~~77.62~~ 75.62 ~~77.90~~ 75.90 ~~77.89~~ 75.89 ~~77.81~~ 75.81 ~~77.83~~ 75.83 ~~77.78~~ 75.78 ~~77.76~~ 75.76 ~~77.76~~ 75.76 ~~77.72~~ 75.72 ~~77.88~~ 75.88 ~~77.85~~ 75.85 ~~77.89~~ 75.89 ~~77.85~~ 75.85 ~~77.82~~ 75.82 ~~77.79~~ 75.79
STORM SEWER INVERT	111.6m 110.0m - 825mmø CONC. CL 100-D @ 0.24% ~~0.25%~~ 73.4m 75.0m - 975mmø CONC. CL 100-D @ 0.16% ~~0.16%~~ 74.9m ~~75.0m~~ - 900mmø CONC. CL 100-D @ 0.15% ~~0.16%~~ 100.9m 100.0m - 900mmø CONC. CL 100-D @ 0.19% ~~0.19%~~ 51.8m 50.7m - 750mmø CONC. CL 100-D @ 0.17% ~~0.17%~~ 100.9m 100.2m - 750mmø CONC. CL 100-D @ 0.17% ~~0.17%~~
SANITARY SEWER INVERT	99.4m ~~100m~~ - 250mmø PVC SDR-35 @ 0.34% ~~0.44%~~ 60.7m ~~60m~~ - 250mmø PVC SDR-35 @ 0.23% ~~0.26%~~ 100.9m 100m - 250mmø PVC SDR-35 @ 0.28% ~~0.28%~~ 103.9m 104.7m - 250mmø PVC SDR-35 @ 0.27% ~~0.30%~~ 56.7m ~~56.5m~~ - 250mmø PVC SDR-35 @ 0.28% ~~0.30%~~
EXISTING ℄ R.O.W. ELEVATION	77.57 77.50 77.50 77.50 77.00 77.24 77.43 77.50 77.76 78.49 78.19 77.65 77.64 77.50 77.50 77.40 77.27
DESCRIPTION	406x406 TEE 406 x 203 TEE 406mmø FUTURE WM 406mmø HYDRANT 406mmø 22.5° V. BEND 406mmø 22.5° V. BEND 406mmø HYDRANT 406mmø 22.5° V. BEND 406mmø 22.5° V. BEND 406mmø SAN MH 209 406mmø STM MH 210 406mmø 22.5° V. BEND 406mmø 22.5° V. BEND 406mmø HYDRANT 406mmø VPI 406mmø VBVC 406x203 TEE 406mmø STM MH 212 406mmø VPI 406mmø SAN MH 211 406mmø HYDRANT 406mmø VPI 406mmø STM MH 214 406mmø SAN MH 213 406mmø HYDRANT 406mmø VPI 406mmø HYDRANT 406mmø STM MH 216 406mmø 11.25° H. BEND 406mmø SAN MH 215 406mmø VPI 406mmø 11.25° H. BEND 406mmø STM MH 218 406mmø SAN MH 217 406mmø SAN MH 219
CHAINAGE	2+425 2+437 2+450 2+465 2+475 2+490 2+495 2+500 ~~0+506.12~~ ~~0+509.8~~ ~~0+511.42~~ ~~0+515.61~~ ~~0+522.46~~ 2+522.74 2+526.45 2+540.40 ~~0+550.70~~ 2+550 2+555.69 2+575 2+596.00 2+598.12 2+600 2+612.74 2+635 2+640.00 2+650 2+657.74 2+661.00 2+670.37 2+673.13 2+676 2+679.98 2+686.00 2+700 2+725 2+750 2+760 2+772.08 2+772.68 2+775 2+775.05 2+784.63 2+792.74 2+800 2+805.42 2+822.23 2+825 2+840 2+841.52 2+845 2+850

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.

KANATA RESEARCH PARK
Kanata Research Park Corporation
555 Legget Drive, Suite 166, Kanata, Ontario, Canada, K2K 2X3
(613)591-8594

No.	REVISION	DATE	BY
10.	AS-BUILTS	APR 30/07	SAB
9.	REVISIONS TO STORM SEWER	MAR. 12/01	AS
8	ISSUED FOR CONSTRUCTION	JAN. 8/01	DHI
7	REVISED AS PER CONTRACTORS COMMENTS	DEC. 12/00	DHI
6	STORM SEWER REVISION AND WATER PERMIT	NOV 24/00	JGR
5	REVISED AS PER RMOC COMMENTS	AUG. 2000	RRS
4	ISSUED FOR TENDER	AUG. 2000	RRS
3	ISSUED FOR APPROVAL	JUN. 2000	RRS
2	ISSUED FOR MOEE	FEB. 2000	LSM
1	ISSUED FOR COMMENTS	DEC. 1999	LSM

REGISTERED PROFESSIONAL ENGINEER — J.G. RIDDELL — PROVINCE OF ONTARIO

NOVATECH ENGINEERING CONSULTANTS LTD.
ENGINEERS & PLANNERS
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada
K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Email novainfo@novatech-eng.com

DESIGN	LSM
CHECKED	UB
DRAWN	SAM
CHECKED	RRS
APPROVED	JGR

SCALE
HORIZONTAL 1:500 (0 5 10 15 20)
VERTICAL 1:50 (0 0.5 1.0 1.5 2.0)

CITY OF KANATA
KANATA RESEARCH PARK
PLAN AND PROFILE OF
TERRY FOX EXTENSION
STA 2+425 TO STA 2+850

PROJECT No. 93063
DATE NOVEMBER 1999
DRAWING No. 93063-P7

PLANSIZE - 1000mmx770mm

Drawing:M:\K R P\93063\design\asbuilt\profile6_7-8.dwg Layout:P7 Updated: APR 09, 2007 at 2:08pm by sbutler

REFER TO DRAWING 93063-P2
FOR WATERMAIN EXTENSION
TO SOLANDT DRIVE

SEE PLAN & PROFILE DRAWINGS
93063-P2 & P10
EXISTING AND BY OTHERS
OR FUTURE WORK

FUTURE WATERMAIN
(BY OTHERS)
FROM STA. 4+063.79 TO 4+308.32

SAN MH 229
T/G= 77.69

12.0m - 375mmø PVC

112.9m - 305mmø WATER MAIN

PHASE TO MATCH NOKIA PROJECT

STORM MANHOLE SCHEDULE

MH NO.	STATION	TYPE	T/G ELEV.	INV.	
220	4+220.99	2440x3050	78.00	E S W	74.04 E 74.05 N 74.06 W
234	4+157.14	1530mm	76.00	E W	74.16 E 74.66 N 74.35 W
236	4+065.14	1830mm	77.50	E S	74.67 E 74.70 S
238	4+003.51	1830mm	77.03	N	74.88

SANITARY MANHOLE SCHEDULE

MH NO.	STATION	TYPE	T/G ELEV.	INV.	
225	4+228.92	1220mm	77.89	N S	73.48 73.44
227	4+157.72	1220mm	78.00	E W	73.00 E 72.97 W
229	4+063.79	1220mm	77.30	E S	72.55 E 72.03 S
229A1	4+046.83	1220mm	77.59	N S	76.81 N 76.76 S
EX. 13	4+006.83	1830mm	77.50	E W	69.30 E 69.36 W

74.72

EX. HEADWALL CONST. PER OPSD 804.02, c/w ARMOUR STONE FACING, GRATING AS PER OPSD 804.05.

TOP OF WALL=76.00

PROPOSED 3.0m WIDE ACCESS FOR MAINTENANCE PURPOSES c/w 175mm GRANULAR 'A' c/w GEOTEXTILE BELOW GRANULAR 'A' AND NATIVE

SWM - POND NO. 2

TOP OF WALL=76.00
INVERT=73.50
TOP OF WALL=76.00
BOTTOM ELEVATION=73.50
ACCESS @ 12%
WIDTH=6.0m
INVERT=73.50
WIDTH=7.90

LEGEND

- 200mmø — PROPOSED WATERMAIN AND DIAMETER
- PROPOSED VALVE LOCATION
- V&VB — VALVE & VALVE BOX
- V&VC — VALVE & VALVE CHAMBER
- HYD — PROPOSED HYDRANT C/W VALVE & LEAD
- T/F=98.45 — PROPOSED TOP OF BOTTOM FLANGE
- BEND — PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° or TEE (SEE PLAN AND PROFILES)
- MH 101 — PROPOSED SANITARY MH & SEWER
- MH 1000 — PROPOSED STORM MH & SEWER
- CB 2 — PROPOSED ROAD CATCHBASIN
- RYCB 2 — PROPOSED REARYARD CATCHBASIN
- DICB 2 — PROPOSED DITCH INLET CATCHBASIN
- LS — PROPOSED LIGHT STANDARD
- DIRECTION OF FLOW
- MH 101 — EXISTING SANITARY MH & SEWER
- MH 1028 — EXISTING STORM MH & SEWER
- 200mmø WM — EXISTING WATERMAIN
- PROPOSED CLAY SEEPAGE BARRIER
- 76 — PROPOSED GOLF COURSE GRADING
- PROPOSED GOLF COURSE CART PATHWAY

SAN PIPE @ 0.26%
20.0m - 375ø
SAN MH 209
T/G=77.69
113.7m-305mmø WM
TRIAL SIDE WALK
TERRIER CURB
TOD-D S.TM. @ 0.24%
DICB 13S
T/G=78.76
DICB 18
T/G=77.25
60.7m
DC
2.55
2.500
BARRIER CURB
CB 16
T/G=77.46
DICB 35S SAN @ 0.44%
mmø WM
HYDRANT
T/F=77.10
T/G=77.25
VBVB
DCB 18
T/G=77.25
0.26%
0.45%
EXTENT OF ROAD FILL
FUTURE V&VC (TYPE R-4) TO HOUSE BOTH BRANCH & MAINLINE VALVES AS PER ROC STD. DETAIL WSD-13 & WSD -1 (NOT IN THIS CONTRACT)
CB 15
T/G= 77.09
WATERMAIN NOT IN THIS CONTRACT
BC=2+537.85
22.5m-1350mmø STM @ 0.45%
97.6m-975mmø CONC
STM. MH. 210
T/G=77.46
72.11
DEFLECTION PIPE FROM TOP ST.

79 78 77 76 75 74 73 72 71 70

STM MH 238
EX. SAN MH
SAN MH 234
FUTURE FINISHED GRADE
NOT INCLUDED IN THIS CONTRACT
EX. 900mmø STM.
1.5m (MIN.) - 1050mmø SAN. C\W BENCHING SEE RMOC DETAIL DWG. SSD-V2
SAFETY GRATING PER OPSD 404.020 LANDING ELEV.= 74.80m
EXISTING GROUND
305mmø WM
PRECAST SANITARY MAINTENANCE HOLE PER CITY OF KANATA DRAWING KSD. 701.01 / 1001.01
TP. 76.46
TRUCK 12.3m
EX. 375mmø SAN
375mmø SAN.
NOT INCLUDED IN THIS CONTRACT
PROPOSED DROP STRUCTURE TO BE ENCASED IN 150mm OF 20MPa CONCRETE AND SECURED TO THE MANHOLE WITH 450mm LONG, 13mmø THREADED RODS AND DRILLED EXPANSION ANCHORS @ 300mm EACH WAY. AS PER RMOC DETAIL DWG. SSD-V2
SAN MH 229
STM MH 236
VALVE & CHAMBER
PROPOSED FINISHED GRADE OF GOLF COURSE
2.4m COVER (MIN)
375mmø STM.
INV. 74.88
74.80
PRECAST SANITARY MAINTENANCE HOLE PER CITY OF KANATA DRAWING NO. KSD 701.01 / 1001.01
FUTURE WATER MAIN (NOT INCLUDED IN THIS CONTRACT)
STM MH 234
SAN MH 227
STM MH 230
SAN MH 225
EX. 1350mmø STM.
1350mmø STM.
INV. 74.04
305mmø WM
EX. 375mmø SAN
TEMPORARY WM CAP FOR FUTURE CONNECTION
WATER MAIN CROSSING PER RMOC STD. DWG WSD-25.
REMOVE CAP & CONNECT TO EXISTING STORM & SANITARY SEWER
406mmø WM. T/WM 75.35
825mmø STM. INV. 75.16
975mmø STM. INV. 75.05
300mmø SAN. INV. 74.63
250mmø SAN. INV. 73.95
BH. 86-12
REFUSAL 71.40m

| | | |

From: Lisa Bowley
Sent: Wednesday, November 19, 2025 4:21 PM
To: Roy, Jean-Miguel
Cc: Fawzi, Mohammed; Lee Sheets
Subject: RE: 2505 & 2707 Solandt - Watermain & Sanitary Servicing (124150A)
Attachments: WM Boundary Sketch 2.pdf; 124150A-BCRequest.pdf

Jean-Miguel,

Sanitary: Understood, the on-site sanitary connection to the trunk sewer will include a maintenance manhole and (dog house) manhole as per S13.

Watermain Looping: We are reviewing the golf course files and subsurface information to determine if the depth to rock could accommodate watermain construction without impacting the golf course.

Could the City please provide Boundary Conditions at three locations:

1. Legget Drive at Solandt
2. Solandt site connection (at cul-de-sac)
3. Terry Fox (if looping through golf course is constructed)

Thank you,

Attached: Water Boundary Condition Request (sketch and Water Demand Design sheet)

Lisa Bowley, P.Eng., Senior Project Manager | Land Development Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 Ext. 246
The information contained in this email message is confidential and is for exclusive use of the addressee.



WATER BOUNDARY CONDITION REQUEST
2505 and 2707 Solandt Road
Novatech file 124150A
November 19, 2025

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Boundary Condition Request

Novatech Project #:	124150A
Project Name:	SerenVita Wellness
Date:	11/12/2025
Input By:	LAB
Reviewed By:	ARM
Drawing Reference:	Boundary Condition Figure Markups (Nov 12, 2025)

Legend: Input by User | No Input Required | Calculated Cells →

Reference: Ottawa Design Guidelines - Water Distribution (2010 and TBs)
MOE Design Guidelines for Drinking-Water Systems (2008)
Fire Underwriter's Survey Guideline (2020)
Ontario Building Code, Part 3 (2012)

Small System = NO

	Daily Usage (L)	Pop. Equiv.	Average Day Demand (L/s)	Maximum Day Demand (L/s)*	Peak Hour Demand (L/s)*
Proposed					
Spa Guests		1200	1.333	2.00	3.60
Employees		50	0.131	0.20	0.35
Restaurant (# of seats)		80	0.278	0.42	0.75
Misc. Pool Water Uses					
Pool Draining	18900		0.219	0.33	0.59
Backwash	2700		0.031	0.05	0.08
Evaporation and Splash Waste	15120		0.175	0.26	0.47
Total	**36720**	**1330**	**2.17**	**3.25**	**5.85**

Summary

i. Type of Development and Units:	Commercial	
ii. Site Address:	2505 and 2707 Solandt Road	
iii. Proposed Water Service Connection Location(s):	Refer to boundary condition figure markups dated Nov 12, 2025 Connection to existing 305mm diameter watermain at Legget (loop required)	
iv. Average Day Flow Demand:	2.17	L/s
v. Peak Hour Flow Demand:	5.85	L/s
vi. Maximum Day Flow Demand:	3.25	L/s
vii. Required Fire Flow #1:	12000	L/min

Design Parameters

Description of Use	**Per Capita Use (10 hour day)**	
Spa Guests	40	L/Day*
Employees	94	L/Day**
Restaurant Seats	125	L/seat/day***
Misc. Pool Water Uses	**Daily Allowance**** (24 hour day)**	
Pool Draining	18900	L/Day
Backwash	2700	L/Day
Evaporation and Splash Waste	15120	L/Day

* OBC - Swimming and Bathing Facilities - 40 L/person/day

** OBC - Employees - 75 L/employee per 8 hr shift, therefore 94L/employee per 10 hr shift

*** OBC -Restaurant 125 L/seat/day (not 24 hour)

**** Provided by client

FUS Calcualtions

From: Lisa Bowley
Sent: Tuesday, November 25, 2025 3:45 PM
To: Roy, Jean-Miguel
Cc: Fawzi, Mohammed; Lee Sheets; Alex McAuley
Subject: RE: 2505 & 2707 Solandt - Watermain & Sanitary Servicing (124150A)
Attachments: 20251113 - FUSv3.pdf

Jean- Miguel,

Please find attached the preliminary FUS calculations used to request the Boundary conditions (form dated Nov 13, 2025).

The main building footprint is 1694m^2, as described at the pre-consultation meeting.

Lisa Bowley, P.Eng., Senior Project Manager | Land Development Engineering
NOVATECH
Engineers, Planners & Landscape Architects
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 Ext. 246
The information contained in this email message is confidential and is for exclusive use of the addressee.

FUS - Fire Flow Calculations

Engineers, Planners & Landscape Architects

Novatech Project #: 124150A
Project Name: SerenVita Wellness
Date: 11/12/2025
Input By: LAB
Reviewed By: ARM
Drawing Reference: Sketch/Figure/Drawing

Legend: Input by User / No Input Required
Reference: Fire Underwriter's Survey Guideline (2020) Formula Method

Building Description: Non combustible 45min - Commercial
Type V - Wood frame

Step			Choose		Value Used	Total Fire Flow (L/min)
Base Fire Flow						
1	**Construction Material**			**Multiplier**		
	Coefficient related to type of construction C	Type V - Wood frame	Yes	1.5	1.5	
		Type IV - Mass Timber		Varies		
		Type III - Ordinary construction		1		
		Type II - Non-combustible construction		0.8		
		Type I - Fire resistive construction (2 hrs)		0.6		
2	**Floor Area**					
	A	Building Footprint (m^2)	1694			
		Number of Floors/Storeys	2			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**3,388**	
	F	**Base fire flow without reductions**				**19,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	0%	**19,000**
		Limited combustible		-15%		
		Combustible	Yes	0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	Yes	-30%	-30%	**-9,500**
		Standard Water Supply	Yes	-10%	-10%	
		Fully Supervised System	Yes	-10%	-10%	
				Cumulative Sub-Total	**-50%**	
		Area of Sprinklered Coverage (m^2)	3,388	100%		
				Cumulative Total	**-50%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	10.1 - 20 m		15%	**2,850**
		East Side	>30m		0%	
		South Side	>30m		0%	
		West Side	>30m		0%	
				Cumulative Total	**15%**	
Results						
6	(1) + (2) + (3)	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**12,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**200**
				or	USGPM	3,170

From: Roy, Jean-Miguel <Jean-Miguel.Roy@ottawa.ca>
Sent: Tuesday, December 9, 2025 8:52 AM
To: Lisa Bowley
Cc: Fawzi, Mohammed; Lee Sheets; Alex McAuley; Tristan Staff
Subject: Re: 2505 & 2707 Solandt - Watermain & Sanitary Servicing (124150A)
Attachments: R2_2505 Solandt Boundary Condition(26Nov2025).docx

Hi Lisa,

Please find the attached WBC for your site. As noted previously, results are provided for the Solandt site connection and the Terry Fox watermain extension connection only, as the City's water groups object to having a second watermain on Solandt Rd for the reasons previously mentioned.

Please read the following notes carefully :

1. A 305mm WM extension of the existing Solandt Road WM was modelled to prevent dead-end hydraulic results and ensure a looping scenario for the purposes of these boundary conditions, as requested by City staff. The engineer is responsible for determining the appropriate sizing and material for this necessary WM extension and all internal networks.

2. Demands for proposed Connection 2 at future looped water main were assigned Terry Fox Drive WM off the public looped network. The engineer must calculate headloss off the dead-end main.

Let me know if you have any questions or concerns.

Regards,

Jean-Miguel Roy

Project Manager, Infrastructure Approvals

Planning, Real Estate and Economic Development Department

Services de la planification, Direction générale de la planification, de l'immobilier et du développement économique

110 Laurier Avenue West | 110 avenue Laurier Ouest

City of Ottawa | Ville d'Ottawa

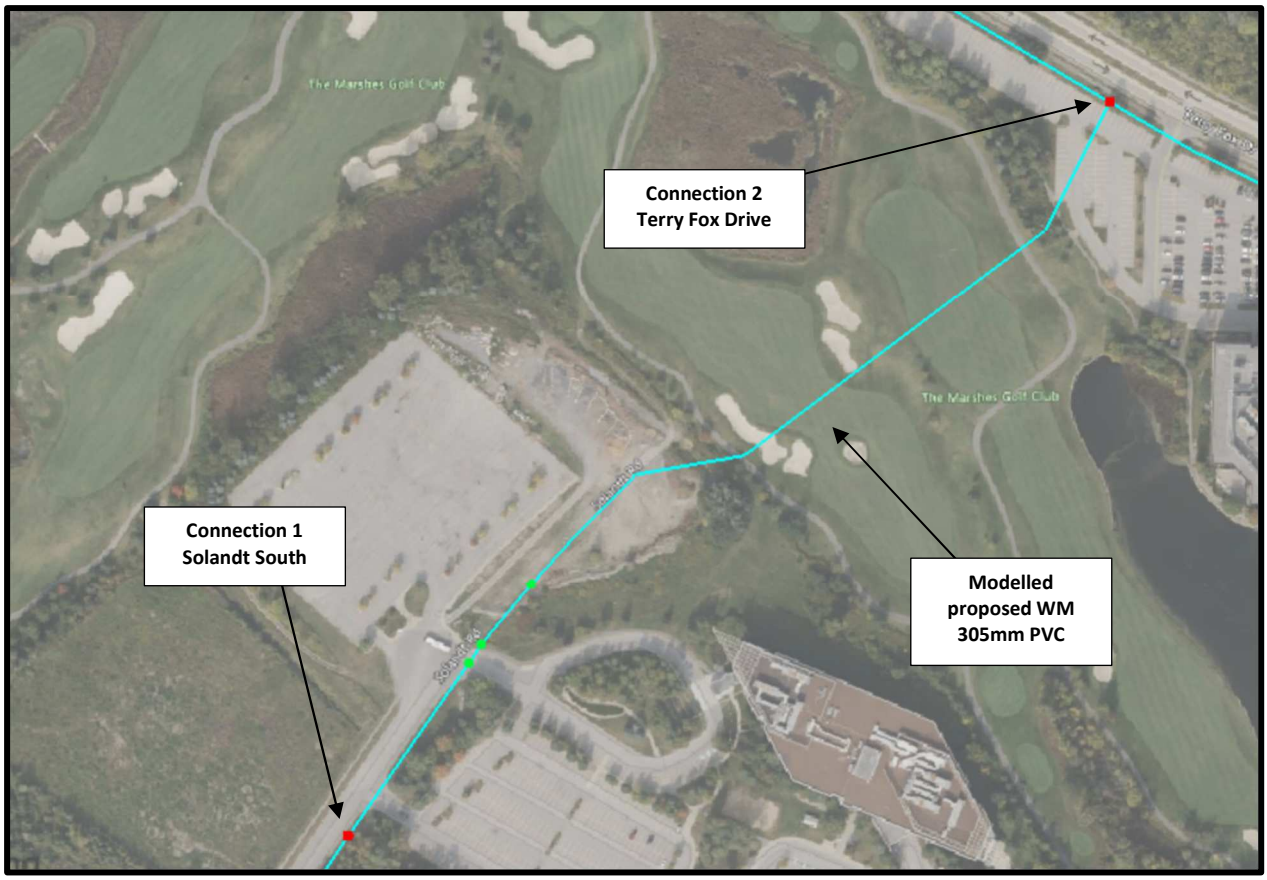
613.580.2424 x 30902

Boundary Conditions
2505 Solandt Road

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	130	2.17
Maximum Daily Demand	195	3.25
Peak Hour	351	5.85
Fire Flow Demand #1	12,000	200.00

Location



Results

Connection 1 – Solandt Road

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	130.2	75.2
Peak Hour	125.5	68.5
Max Day plus Fire Flow #1	119.5	60.0

[1] Ground Elevation = 77.3 m

Connection 2 – Terry Fox Drive

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	130.2	74.9
Peak Hour	125.5	68.2
Max Day plus Fire Flow #1	121.3	62.2

[1] Ground Elevation = 77.5 m

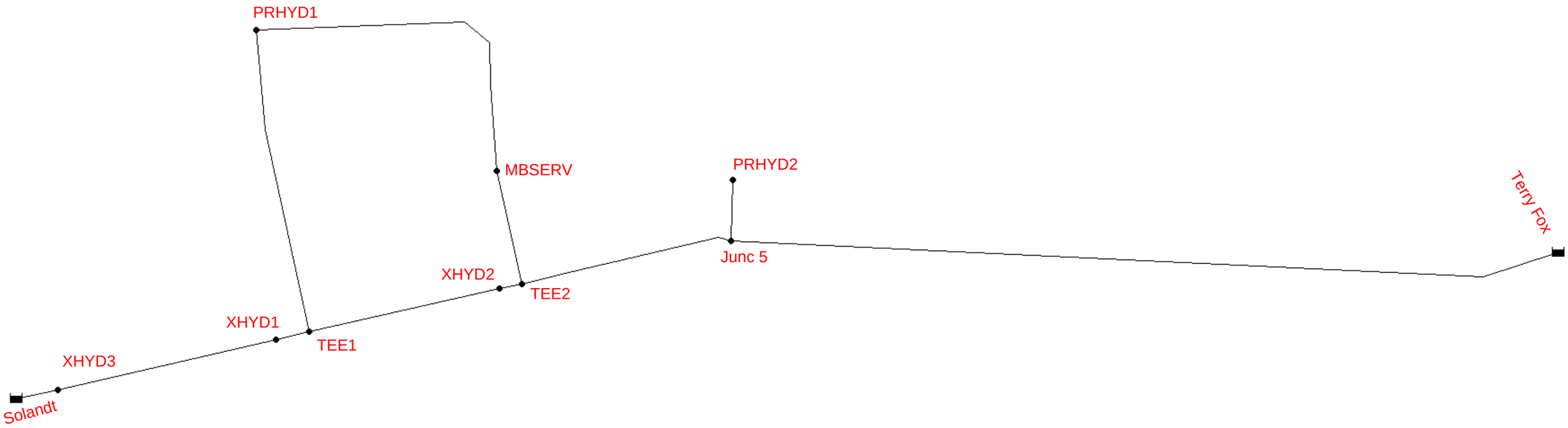
Notes

1. A 305mm WM extension of the existing Solandt Road WM was modelled to prevent dead-end hydraulic results and ensure a looping scenario for the purposes of these boundary conditions, as requested by City staff. The engineer is responsible for determining the appropriate sizing and material for this necessary WM extension and all internal networks.
2. Demands for proposed Connection 2 at future looped water main were assigned Terry Fox Drive WM off the public looped network. The engineer must calculate headloss off the dead-end main.

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. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.

EPANET Model Schematic
Novatech
January 19, 2026



Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Maximum Pressure During Average Day (AVDY) Conditions

Novatech Project #: 124150A
Project Name: SerenVita
Date: 1/19/2026
Input By: TGS
Reviewed By: ARM
Drawing Reference: 124150A-EPANET

Legend: Input by User | No Input Required
Acceptable (40psi - 80psi)
Acceptable w/ PRV (81psi - 100psi)
Unacceptable (< 40psi or > 100psi)

Note: Hydraulic modelling completed using EPANET 2.0.

Node	Elevation (m)	Demand (L/s)	Total Head (m)	Pressure (m)	Pressure (psi)	Pressure (kPa)	Age (hrs)
XHYD2	77.49	0.00	130.20	52.71	75	517	13
XHYD1	77.22	0.00	130.20	52.98	75	519	6
TEE2	74.69	0.00	130.20	55.51	79	544	8
PRHYD1	77.31	1.09	130.20	52.89	75	519	8
TEE1	74.67	0.00	130.20	55.53	79	544	6
Junc 5	74.58	0.00	130.20	55.62	79	545	6
PRHYD2	78.55	0.00	130.20	51.65	73	506	24
MBSERV	75.60	1.09	130.20	54.60	78	535	9
XHYD3	77.71	0.00	130.20	52.49	75	515	4
Solandt	130.20	-1.12	130.20	0.00	0	0	0
Terry Fox	130.20	-1.05	130.20	0.00	0	0	0

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Minimum Pressure During Peak Hour (PKHR) Conditions

Novatech Project #: 124150A
Project Name: SerenVita
Date: 1/19/2026
Input By: TGS
Reviewed By: ARM
Drawing Reference: 124150A-EPANET

Legend: Input by User | No Input Required
Acceptable (=> 40psi)
Unacceptable (< 40psi)

Note: Hydraulic modelling completed using EPANET 2.0.

Node	Elevation (m)	Demand (L/s)	Total Head (m)	Pressure (m)	Pressure (psi)	Pressure (kPa)
XHYD2	77.49	0.00	125.50	48.01	68	471
XHYD1	77.22	0.00	125.50	48.28	69	473
TEE2	74.69	0.00	125.50	50.81	72	498
PRHYD1	77.31	2.92	125.49	48.18	69	472
TEE1	74.67	0.00	125.50	50.83	72	498
Junc 5	74.58	0.00	125.50	50.92	72	499
PRHYD2	78.55	0.00	125.50	46.95	67	460
MBSERV	75.60	2.92	125.49	49.89	71	489
XHYD3	77.71	0.00	125.50	47.79	68	469
Solandt	125.50	-3.02	125.50	0.00	0	0
Terry Fox	125.50	-2.83	125.50	0.00	0	0

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Minimum Pressure During Max Day Plus Fire Flow (MXDY+FF) Condition

Novatech Project #: 124150A
Project Name: SerenVita
Date: 1/19/2026
Input By: TGS
Reviewed By: ARM
Drawing Reference: 124150A-EPANET

Legend: Input by User | No Input Required
Acceptable (=> 20psi)
Unacceptable (< 20psi)

Note: Hydraulic modelling completed using EPANET 2.0.

Node	Elevation (m)	Demand (L/s)	Total Head (m)	Pressure (m)	Pressure (psi)	Pressure (kPa)
XHYD2	77.49	95.00	117.62	40.13	57	393
XHYD1	77.22	0.00	117.93	40.71	58	399
TEE2	74.69	0.00	117.62	42.93	61	421
PRHYD1	77.31	11.63	117.67	40.36	57	396
TEE1	74.67	0.00	117.86	43.19	61	423
Junc 5	74.58	0.00	117.68	43.10	61	423
PRHYD2	78.55	95.00	116.36	37.81	54	371
MBSERV	75.60	1.63	117.62	42.02	60	412
XHYD3	77.71	0.00	118.35	40.64	58	398
Solandt	119.50	-78.74	119.50	0.00	0	0
Terry Fox	121.30	-124.51	121.30	0.00	0	0

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Minimum Pressure During Max Day Plus Fire Flow (MXDY+FF) Condition

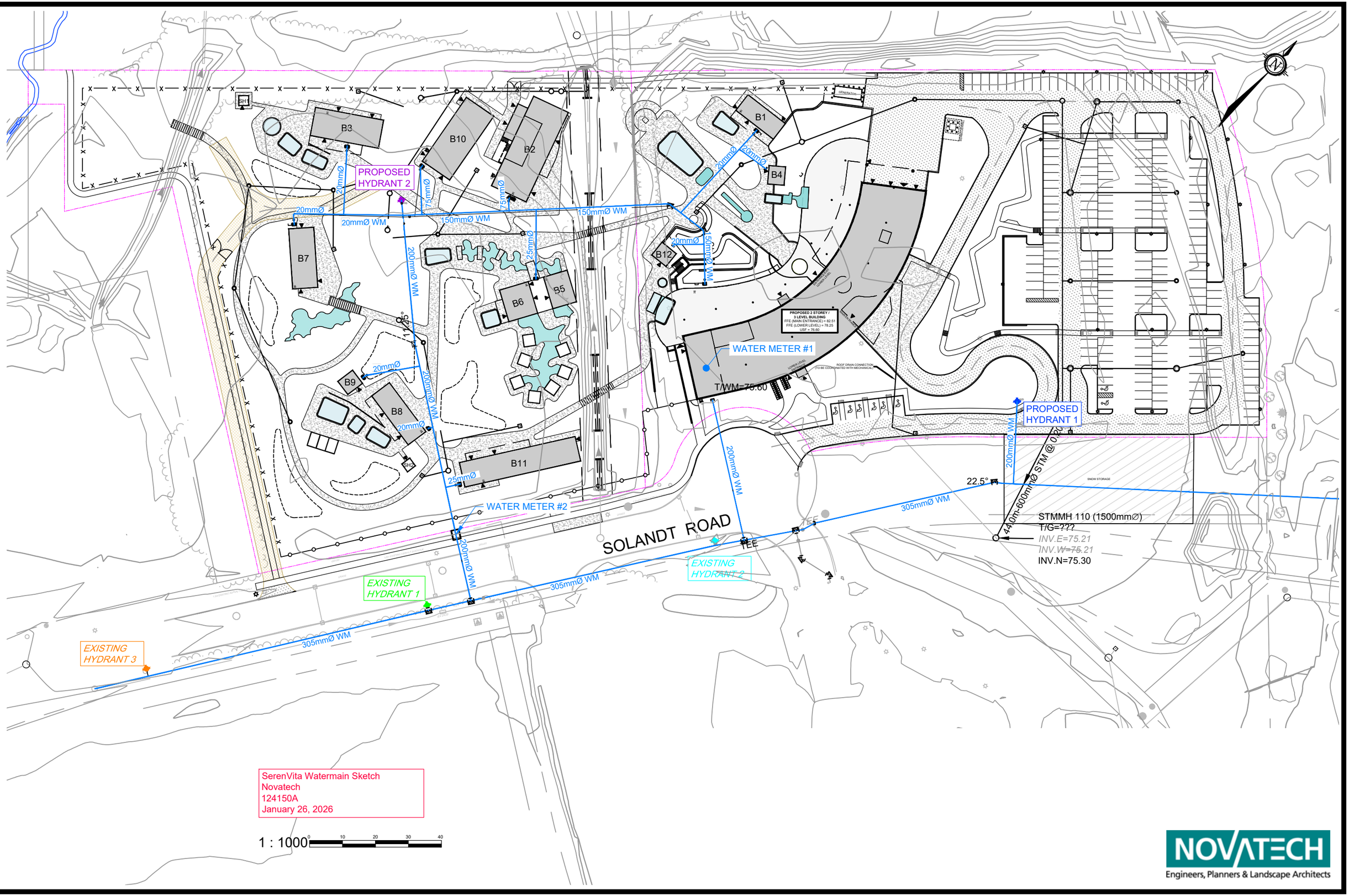
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Novatech Project #: 124150A
Project Name: SerenVita
Date: 1/19/2026
Input By: TGS
Reviewed By: ARM
Drawing Reference: 124150A-EPANET

Legend: Input by User | No Input Required
Acceptable (=> 20psi)
Unacceptable (< 20psi)

Note: Hydraulic modelling completed using EPANET 2.0.

Node	Elevation (m)	Demand (L/s)	Total Head (m)	Pressure (m)	Pressure (psi)	Pressure (kPa)
XHYD2	77.49	95.00	117.48	39.99	57	392
XHYD1	77.22	10.00	117.56	40.34	57	395
TEE2	74.69	0.00	117.53	42.84	61	420
PRHYD1	77.31	96.63	113.56	36.25	52	355
TEE1	74.67	0.00	117.48	42.81	61	420
Junc 5	74.58	0.00	118.18	43.60	62	427
PRHYD2	78.55	0.00	118.18	39.63	56	389
MBSERV	75.60	1.63	117.27	41.67	59	409
XHYD3	77.71	0.00	118.07	40.36	57	396
Solandt	119.50	-88.51	119.50	0.00	0	0
Terry Fox	121.30	-114.74	121.30	0.00	0	0


B1
B2
B3
B4
B5
B6
B7
B8
B9
B10
B11
B12
PROPOSED HYDRANT 2
PROPOSED HYDRANT 1
WATER METER #1
WATER METER #2
EXISTING HYDRANT 1
EXISTING HYDRANT 2
EXISTING HYDRANT 3
SOLANDT ROAD
T/WM=75.60
20mmØ
20mmØ WM
150mmØ WM
200mmØ WM
305mmØ WM
75mmØ
25mmØ
TEE
22.5°
STMMH 110 (1500mmØ)
T/G=???
INV.E=75.21
INV.W=75.21
INV.N=75.30
SerenVita Watermain Sketch
Novatech
124150A
January 26, 2026
1 : 1000
0
10
20
30
40
NOVATECH
Engineers, Planners & Landscape Architects

FIRE HYDRANT <75m FROM BUILDING: 1 @ 5,700L/min
FIRE HYDRANT >75m FROM BUILDING: 2 @ 3,800L/min
AVAILABLE FIRE FLOW = 13,300L/min
F.U.S REQUIRED FIRE FLOW = 5,000L/min

FIRE HYDRANT <75m FROM BUILDING: 1 @ 5,700L/min
FIRE HYDRANT >75m FROM BUILDING: 2 @ 3,800L/min
AVAILABLE FIRE FLOW = 13,300L/min
F.U.S REQUIRED FIRE FLOW = 5,000L/min

FIRE HYDRANT <75m FROM BUILDING: 2 @ 5,700L/min
FIRE HYDRANT >75m FROM BUILDING: 2 @ 3,800L/min
AVAILABLE FIRE FLOW = 19,000L/min
F.U.S REQUIRED FIRE FLOW = 12,000L/min

PROPOSED HYDRANT 1

PROPOSED HYDRANT 2

EXISTING HYDRANT 1

EXISTING HYDRANT 2

EXISTING HYDRANT 3

SOLANDT ROAD

B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12

SH1 SH2

PROPOSED 4 STOREY 3 LEVEL BUILDING
FE (MAIN ENTRANCE) = 77.51
FFE (LOWER LEVEL) = 78.25
USF = 76.60

SNOW STORAGE

LEGEND

75m HYDRANT RADIUS

150m HYDRANT RADIUS

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

SERENVITA (2707 & 2505 SOLANDT ROAD)

FIRE HYDRANT COVERAGE PLAN

SCALE 1 : 1000 (0 10 20 30 40)

DATE JAN 2026 | JOB 124150A | FIGURE FH-1

M:\2024\124150\124150A SOLANDT\CAD\CIVIL\FIGURES\SERVICING\124150A-FH.DWG 1/16/2026 3:21 PM - TSTAFF

SHT11X17.DWG - 279mmX432mm

Appendix C
Sanitary Servicing

1. City of Ottawa Infrastructure Mapping (GeoOttawa)
2. Sanitary Drainage Area Plan (124150A-SAN)
3. Conceptual Floor Plans, prepared by the Architect (Simmonds) demonstrating the uses of the accessory buildings.
4. Pipe sizing information provided by the mechanical consultant (CIMA+)



Existing Infrastructure

STM
SAN
WM

LEGEND

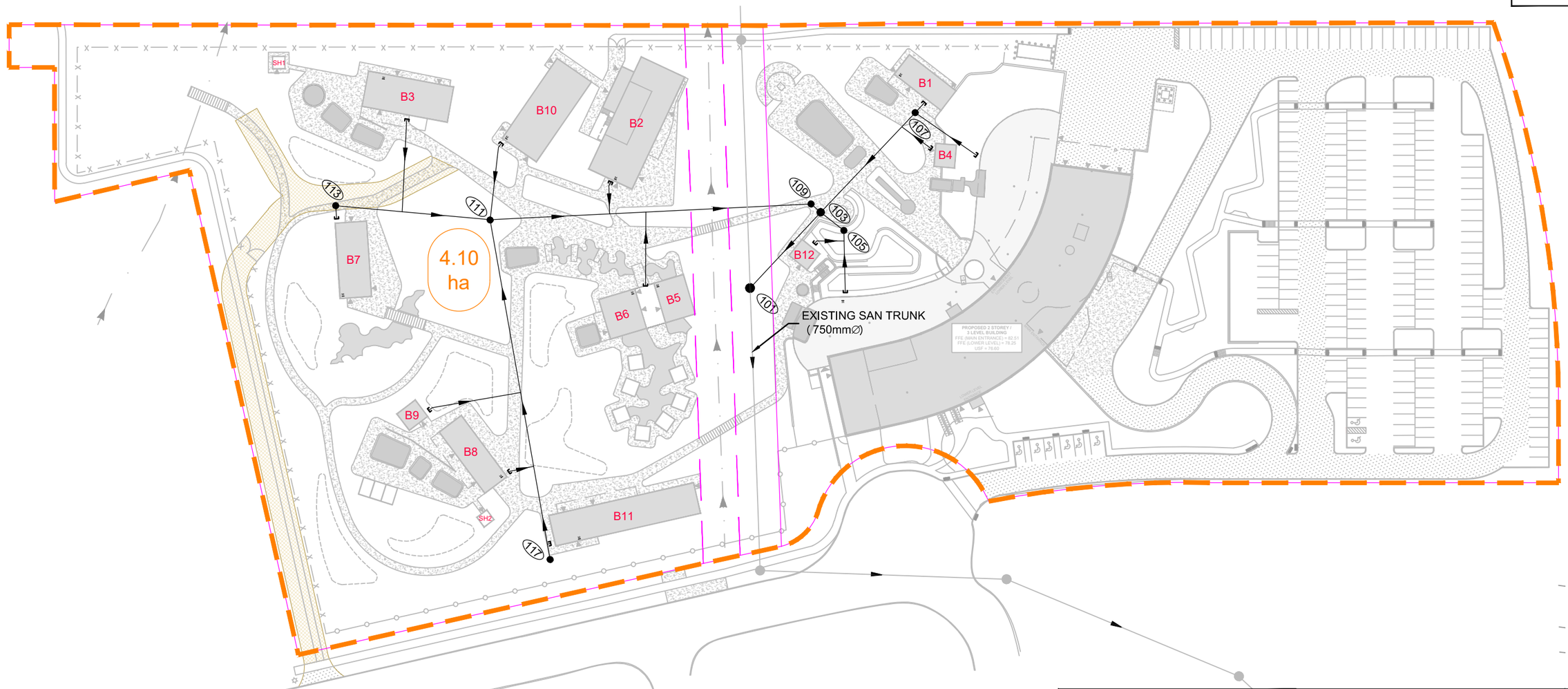
4.10 ha — SANITARY SERVICING AREA IN HECTARES

SANITARY DRAINAGE AREA BOUNDARY

DIRECTION OF FLOW

MH 101 — PROPOSED SANITARY SEWER AND MANHOLE

NORTH



M:\2024\124150\124150A Solandt\CAD\Civil\124150A-SAN.dwg, SAN, Jan 22, 2026 - 5:20pm, cdonaldson

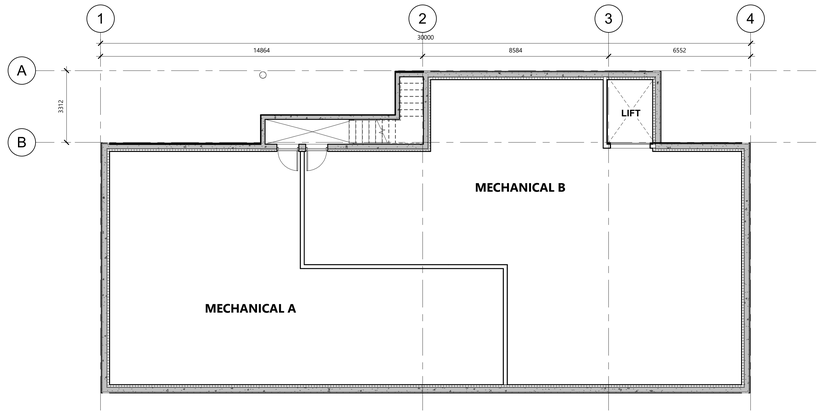
NOVATECH
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Ottawa, Ontario, Canada K2M 1P6
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Facsimile (613) 254-5867
Website www.novatech-eng.com

SERENVITA
2505 & 2707 SOLANDT RD
SANITARY SEWER AREA PLAN

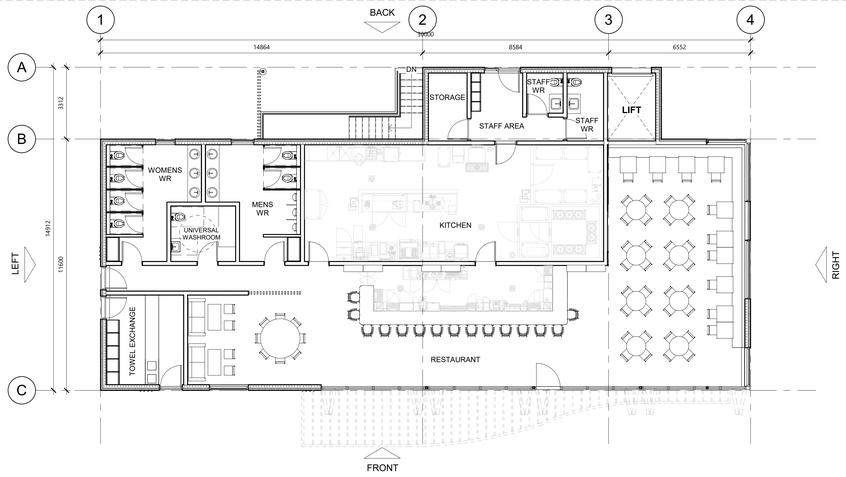
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DATE JAN 2026 | JOB 124150A | FIGURE 124150A-SAN

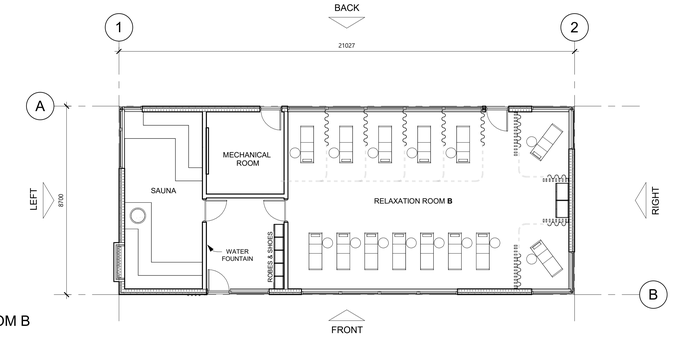
SHT11X17.DWG - 279mmX432mm



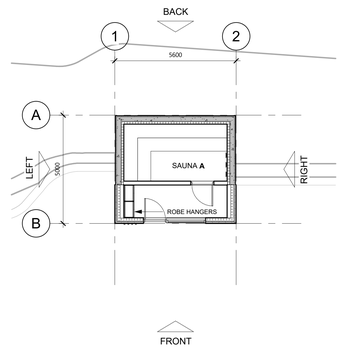
1/100 B2 - FOOD & BEVERAGE (BASEMENT)
1 : 100



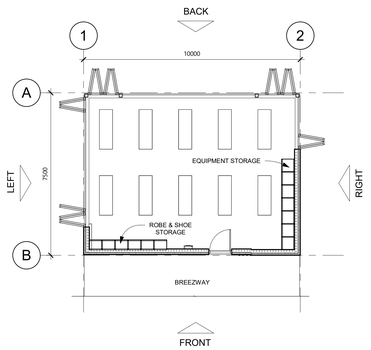
2/100 B2 - FOOD & BEVERAGE
1 : 100



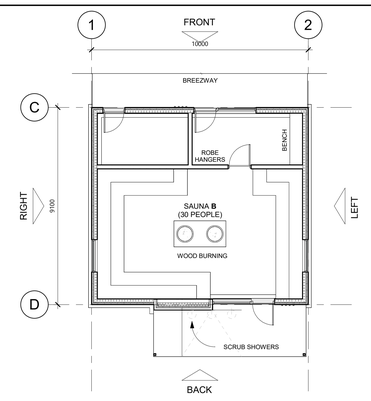
3/100 B3 - RELAXATION ROOM B
1 : 100



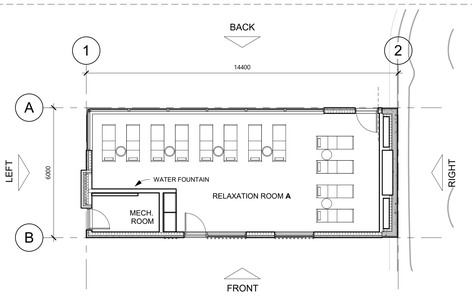
4/100 B4 - SAUNA A
1 : 100



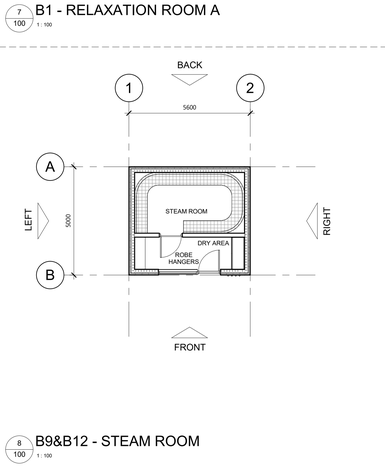
5/100 B5 - YOGA PAVILION
1 : 100



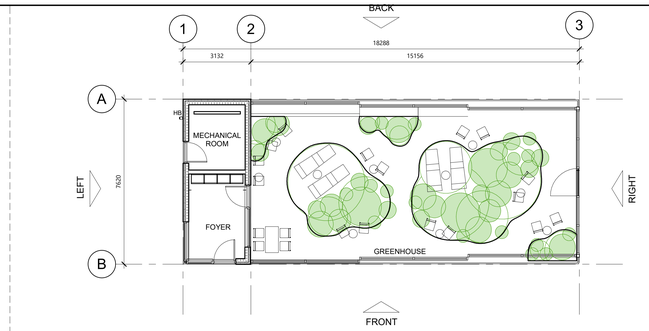
6/100 B6 - SAUNA B
1 : 100



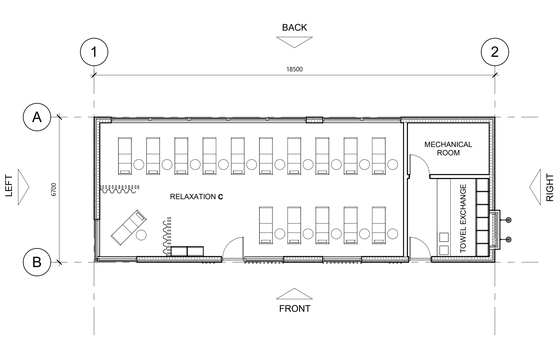
7/100 B1 - RELAXATION ROOM A
1 : 100



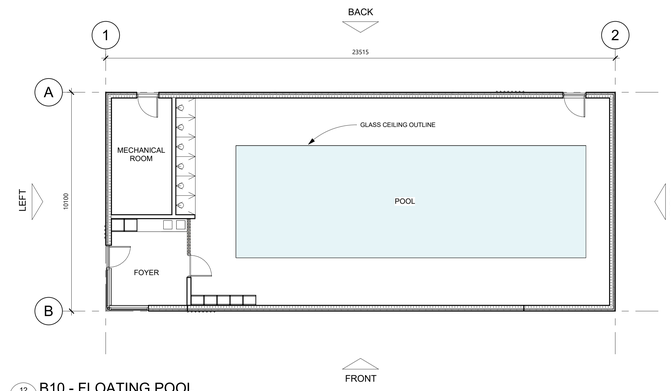
8/100 B9&B12 - STEAM ROOM
1 : 100



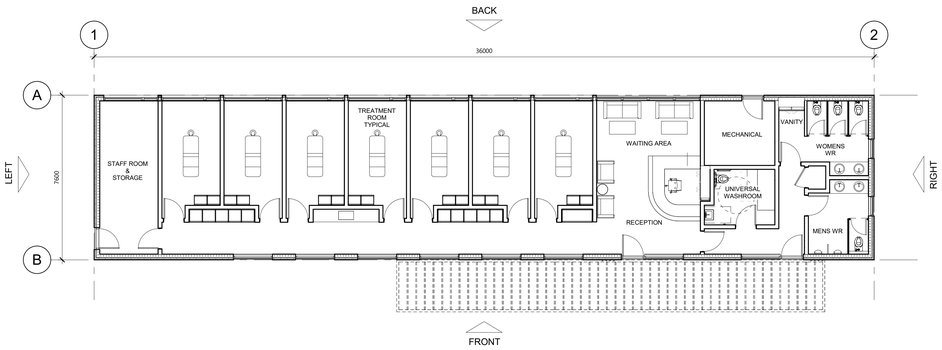
10/100 B7 - GREENHOUSE
1 : 100



11/100 B8 - RELAXATION ROOM C
1 : 100



12/100 B10 - FLOATING POOL
1 : 100



9/100 B11 - TREATMENT BUILDING
1 : 100

GENERAL NOTES:

A THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL DISCREPANCIES TO THE ARCHITECT

B DO NOT SCALE DRAWINGS.

C ALL WORK SHALL COMPLY WITH THE ONTARIO BUILDING CODE AND THE REQUIREMENTS OF ALL AUTHORITIES HAVING JURISDICTION.

D THIS DRAWING IS THE EXCLUSIVE PROPERTY OF CHRISTOPHER SIMMONDS ARCHITECT INC. COPYRIGHT RESERVED.

serenvita

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E-MAIL: cunliffe@cunliffe.ca

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K2M 1P6
PHONE: 613.254.9643
E-MAIL: novainfo@novatech-eng.com

CIMA.
600-1400 BLAIR TOWERS PLACE
OTTAWA, ONTARIO
K1J 9B8
PHONE: 613.860.2462

FAIRHALL MOFFATT & WOODLAND LTD
600 TERRY FOX DR, SUITE 100
KANATA, ONTARIO K2L4B6

GEMTECH
32 STEACIE DRIVE,
OTTAWA, ONTARIO
PHONE: 613.836.1422
E-MAIL: ottawa@gemtec.ca

ANNIS O'SULLIVAN VOLLEBEKK LTD
14 CONCOURSE GATE, SUITE 500
NEPEAN, ONTARIO K2E 7S6

NELLA CUTLERY & FOOD EQUIPMENT
876 BATHURST STREET
TORONTO, ON M5R 3G3
PHONE: 416.922.9055
E-MAIL: helpdesk@nellacutlery.ca

HARCO
5610 MCADAM ROAD
MISSISSAUGA, ONTARIO
L4Z 1P1
PHONE: 905.890.1220

No.	DATE	DESCRIPTION
A	2026/01/28	ISSUED FOR ZBA AND SPC

ARCHITECT'S SEAL: ONTARIO ASSOCIATION OF ARCHITECTS — C. SIMMONDS LICENCE 4559

PROJECT NORTH:

simmonds ARCHITECTURE
340 Catherine Street
Ottawa, ON K1R 1C4
613.567.7888
simmondsarch.com

PROJECT:
SERENVITA WELLNESS SPA
2505 & 2707 SOLANDT ROAD, OTTAWA,ON

DRAWING TITLE:
ACCESSORY BUILDING CONCEPTUAL FLOOR PLANS

DATE:	2026-01-15
SCALE:	1 : 100
DRAWN BY:	CSA
JOB No:	878-24

DRAWING No: 100

SITE PLAN APPLICATION # PC2025-0256

PLOT DATE: 02/11/20

C:\Users\RSoge\Documents\Accessory Buildings 03_RsogeC3JCN.rvt

PLUMBING FIXTURE CALCULATIONS

Client Name:
Project Name: Serenvita
Location: Solandt rd, Kanata, ON
Estimate Date:

Contract #:
Project #: Z0021983

Fixture		Qty	CW		DCW		DHW		SAN	
			FU	Total	FU	Total	FU	Total	FU	Total
Ground Floor										
Lavatory (L1)	Public	9	2	18	1.5	14	1.5	14	1.5	14
Sink, service (SS2)		2	2	4	1.5	3	1.5	3	1.5	3
Water Closet - Flush Tank (WC1)	Public	9	5	45	5	45			4	36
Second Floor										
Lavatory (L1)	Public	3	2	6	1.5	5	1.5	5	1.5	5
Lavatory (L2)	Public	3	2	6	1.5	5	1.5	5	1.5	5
Lavatory (L3)	Public	12	2	24	1.5	18	1.5	18	1.5	18
Shower (SH1)	Public	15	4	60	3	45	3	45	1.5	23
Shower (SH2)	Public	3	4	12	3	9	3	9	1.5	5
Water Closet - Flush Tank (WC1)	Public	10	5	50	5	50			4	40
Water Closet - Flush Tank (WC2)	Public	5	5	25	5	25			4	20
Urinal		3	5	15	5	15			1.5	5
Café 111 - sink		3	2	6	1.5	5	1.5	5	1.5	5
Dining 115 - sink		5	2	10	1.5	8	1.5	8	1.5	8
Kitchen Sink		15	2	30	1.5	23	1.5	23	1.5	23
Third Floor										
Lavatory (L1)	Public	24	2	48	1.5	36	1.5	36	1.5	36
Lavatory (L2)	Public	3	2	6	1.5	5	1.5	5	1.5	5
Shower (SH1)	Public	6	4	24	3	18	3	18	1.5	9
Shower (SH2)	Public	1	4	4	3	3	3	3	1.5	2
Sink, service (SS1)		1	2	2	1.5	2	1.5	2	1.5	2
Sink, service (SS2)		1	2	2	1.5	2	1.5	2	1.5	2
Water Closet - Flush Tank (WC1)	Public	7	5	35	5	35			4	28
Water Closet - Flush Tank (WC2)	Public	3	5	15	5	15			4	12
Kitchen Sink		12	2	24	1.5	18	1.5	18	1.5	18
Building Cold Water Sizing		**471**	**FU**	**138**	**gpm**	**3"**	**dia.**			
Domestic Cold Water		**400**	**FU**	**125**	**gpm**	**3"**	**dia.**			
Domestic Hot water		**215**	**FU**	**90**	**gpm**	**2-1/2"**	**dia.**			
Sanitary		**318**	**FU**	**92**	**gpm**	**2 x 4"**	**dia.**			

B1										
Drinking Fountain	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B2										
Lavatory (L1)	Public	6	2	12	1.5	9	1.5	9	1.5	9
Lavatory (L2)	Public	3	2	6	1.5	5	1.5	5	1.5	5
Water Closet - Flush Tank (WC1)	Public	6	5	30	5	30			4	24
Water Closet - Flush Tank (WC2)	Public	3	5	15	5	15			4	12
Urinal		3	5	15	5	15			1.5	5
Kitchen Sink		7	2	14	1.5	11	1.5	11	1.5	11
Building Cold Water Sizing		**92**	**FU**	**66**	**gpm**	**2"**	**dia.**			
Domestic Cold Water		**84**	**FU**	**62**	**gpm**	**2"**	**dia.**			
Domestic Hot water		**24**	**FU**	**35**	**gpm**	**1-1/2"**	**dia.**			
Sanitary		**65**	**FU**	**53**	**gpm**	**4"**	**dia.**			

B3										
Drinking Fountain	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B4										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B5										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B6										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Shower (SH3)	Public	3	4	12	3	9	3	9	1.5	5
Building Cold Water Sizing		**14**	**FU**	10	**gpm**	**1"**	**dia.**			
Domestic Cold Water		**11**	**FU**	**8**	**gpm**	**1"**	**dia.**			
Domestic Hot water		**9**	**FU**	**8**	**gpm**	**1"**	**dia.**			
Sanitary		**5**	**FU**	**10**	**gpm**	**4"**	**dia.**			

B7										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B8										
Hose Bibbs	Public	1	2	2	2	2			0.5	1

Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B9										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

B10										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Shower (SH3)	Public	6	4	24	3	18	3	18	1.5	9
Building Cold Water Sizing		**26**	**FU**	**18**	**gpm**	**1-1/2"**	**dia.**			
Domestic Cold Water		**20**	**FU**	**14**	**gpm**	**1-1/2"**	**dia.**			
Domestic Hot water		**18**	**FU**	**18**	**gpm**	**1-1/2"**	**dia.**			
Sanitary		**10**	**FU**	**21**	**gpm**	**4"**	**dia.**			

B11										
Lavatory (L1)	Public	4	2	8	1.5	6	1.5	6	1.5	6
Lavatory (L2)	Public	1	2	2	1.5	2	1.5	2	1.5	2
Water Closet - Flush Tank (WC1)	Public	4	5	20	5	20			4	16
Water Closet - Flush Tank (WC2)	Public	1	5	5	5	5			4	4
Urinal		2	5	10	5	10			1.5	3
Building Cold Water Sizing		**45**	**FU**	**26**	**gpm**	**1-1/2"**	**dia.**			
Domestic Cold Water		**43**	**FU**	**25**	**gpm**	**1-1/2"**	**dia.**			
Domestic Hot water		**8**	**FU**	**10**	**gpm**	**3/4"**	**dia.**			
Sanitary		**31**	**FU**	**33**	**gpm**	**4"**	**dia.**			

B12										
Hose Bibbs	Public	1	2	2	2	2			0.5	1
Building Cold Water Sizing		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Cold Water		**2**	**FU**	**2**	**gpm**	**1/2"**	**dia.**			
Domestic Hot water			**FU**	**0**	**gpm**	**0**	**dia.**			
Sanitary		**1**	**FU**	**NEG**	**gpm**	**4"**	**dia.**			

Engineers, Planners & Landscape Architects

Appendix D
Storm Servicing

1. 2505 Solandt Parking Lot Expansion Record Drawing (105129-GP1-R, revision 4)
2. Excerpt from Shirley's Brook and Watts Creek Subwatershed Study Report
3. Kanata Research Park – Stormwater Management Plan
   Storm Drainage Area Plan (93063-STM2)
4. Storm Sewer Drainage Area Plan [West] (124150A-STM1)
5. Storm Sewer Design Sheet West
6. Storm Sewer Drainage Area Plan [EAST] (124150A-STM2)
7. Storm Sewer Design Sheet East
8. Main Building Roof Drain Ponding Plan

GENERAL NOTES:

1 CO-ORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.

2 DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.

3 OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.

4 BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR $5,000,000 INCLUDING BLASTING.
INSURANCE POLICY TO NAME CITY OF OTTAWA, OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.

5 RESTORE ALL TRENCHES AND SURFACES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE ENGINEER.

6 REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ALL ORGANIC MATERIAL AND DEBRIS.

7 ALL ELEVATIONS ARE GEODETIC.

8 ALL AREA DRAINS, LEADS AND ASSOCIATED ON-SITE STORMWATER MANAGEMENT DRAINAGE SYSTEMS LOCATED WITHIN PRIVATE PROPERTY ARE TO BE OWNED AND MAINTAINED BY THE RESPECTIVE PROPERTY OWNERS.

9 DEPRESSED AND BARRIER CURBS TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS.

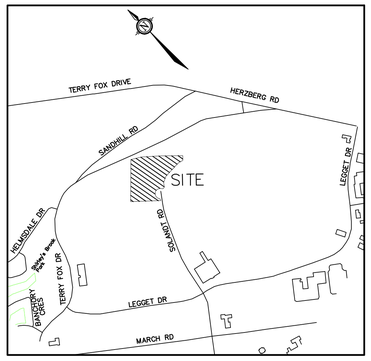
10 THE OWNER SHALL CONTACT THE CITY ENGINEER FOR INSPECTION OF THE ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS. ALL DEFICIENCIES NOTED SHALL BE ANY ASPHALT OR TOPSOIL AND SOD.

11 REINSTATE SIDEWALKS TO ORIGINAL CONDITION.

12 PLACE FILTER FABRIC UNDER NEAR BY COVERS OF CATCHBASINS AND MANHOLES.

13 ALL SIDEWALK TO BE IN ACCORDANCE WITH CITY OF OTTAWA STANADARDS.

KEY PLAN: NTS



SEWER NOTES:

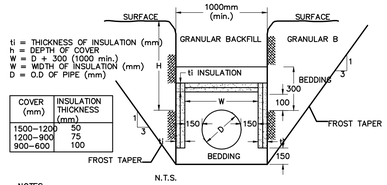
1 SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM MANHOLE (1200ø, 1500ø, 1800ø)	701.010	OPSD
SANITARY MANHOLE (1200ø)	701.010	OPSD
CATCHBASIN MANHOLE	701.010	OPSD
CB, FRAME & COVER	400.02	OPSD
STORM MANHOLE FRAME & COVER	401.02	OPSD
SANITARY MANHOLE FRAME & COVER	401.02	OPSD
CATCHBASIN MANHOLE FRAME & COVER	400.070	OPSD
SEWER TRENCH - BEDDING (GRANULAR A)		OPSD
COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)		OPSD
STORM SEWER - 525ø mm AND GREATER	CONC. OR EQUIV.	
STORM SEWER - 250ø mm TO 450ø mm	PVC SDR 35 OR EQUIV.	
SANITARY SEWER - 150ø mm TO 250ø mm	PVC SDR 35 OR EQUIV.	
CATCHBASIN LEADS - 200mmø	PVC SDR 28 OR EQUIV.	

2 PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.

3 PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS IN ACCORDANCE WITH OPSS 410.07.15, 410.07.15.04, AND 407.07.26. THE FIELD TEST SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO WILL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS TO THE CITY.

PIPE INSULATION DETAIL:



ti = THICKNESS OF INSULATION (mm)
h = DEPTH OF COVER
W = D + 300 (1000 min.)
w = WIDTH OF INSULATION (mm)
D = O.D OF PIPE (mm)

COVER (mm)	INSULATION THICKNESS (mm)
1500-1200	50
1200-900	75
900-600	100

N.T.S.

NOTES

1. INSULATE ALL STORM AND SANITARY PIPES THAT HAVE LESS THAN 1.5m COVER WITH 50mm (min.) HI-40 INSULATION. PROVIDE 100mm CLEARANCE BETWEEN PIPE AND INSULATION. (SEE DETAIL)

2. INCREMENTS OF THICKNESS SHALL BE ADJUSTABLE TO 25mm

3. THE THICKNESS OF INSULATION SLAB SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER (ROUNDED UP TO THE NEAREST 25mm INCREMENT

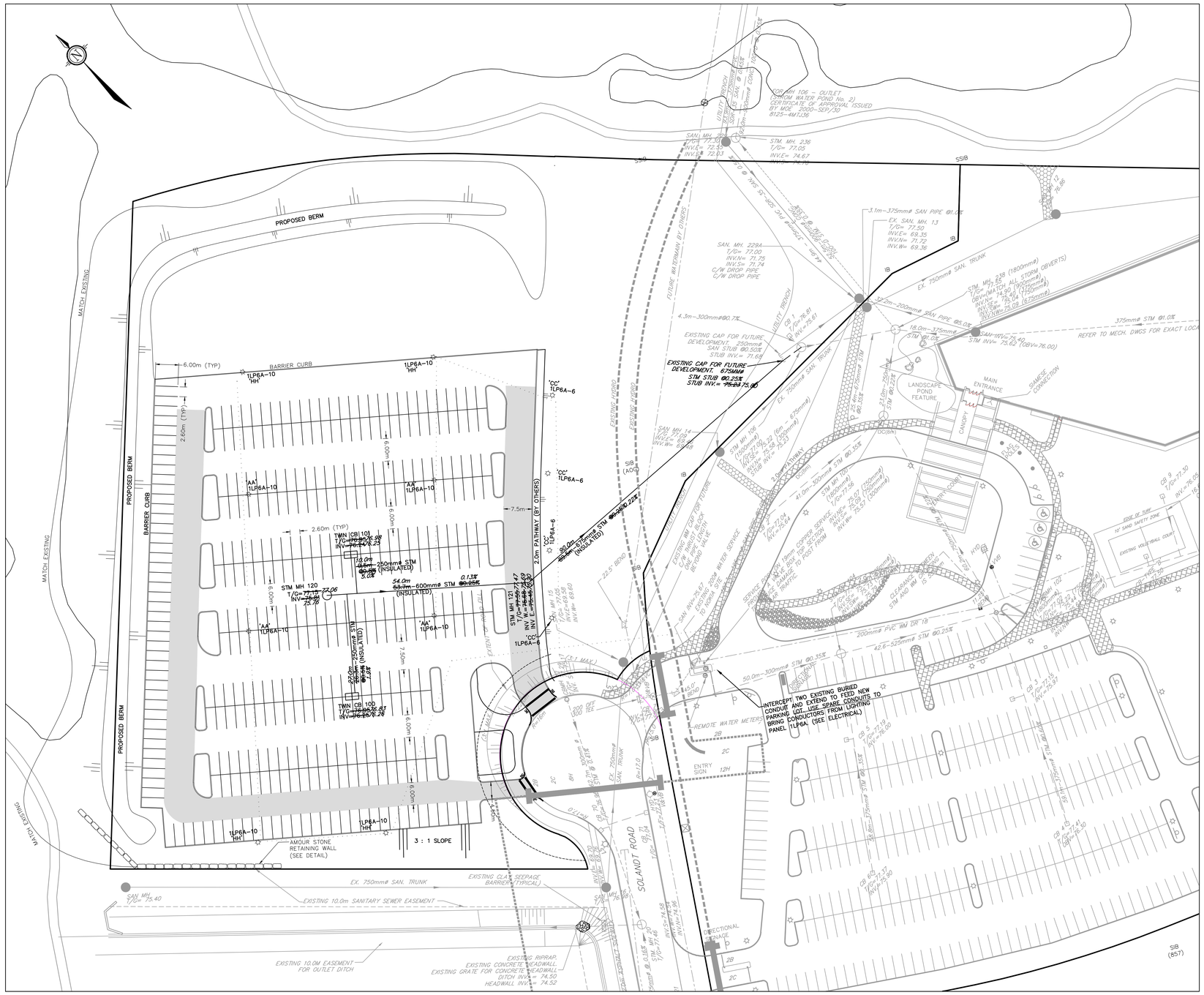
LEGEND

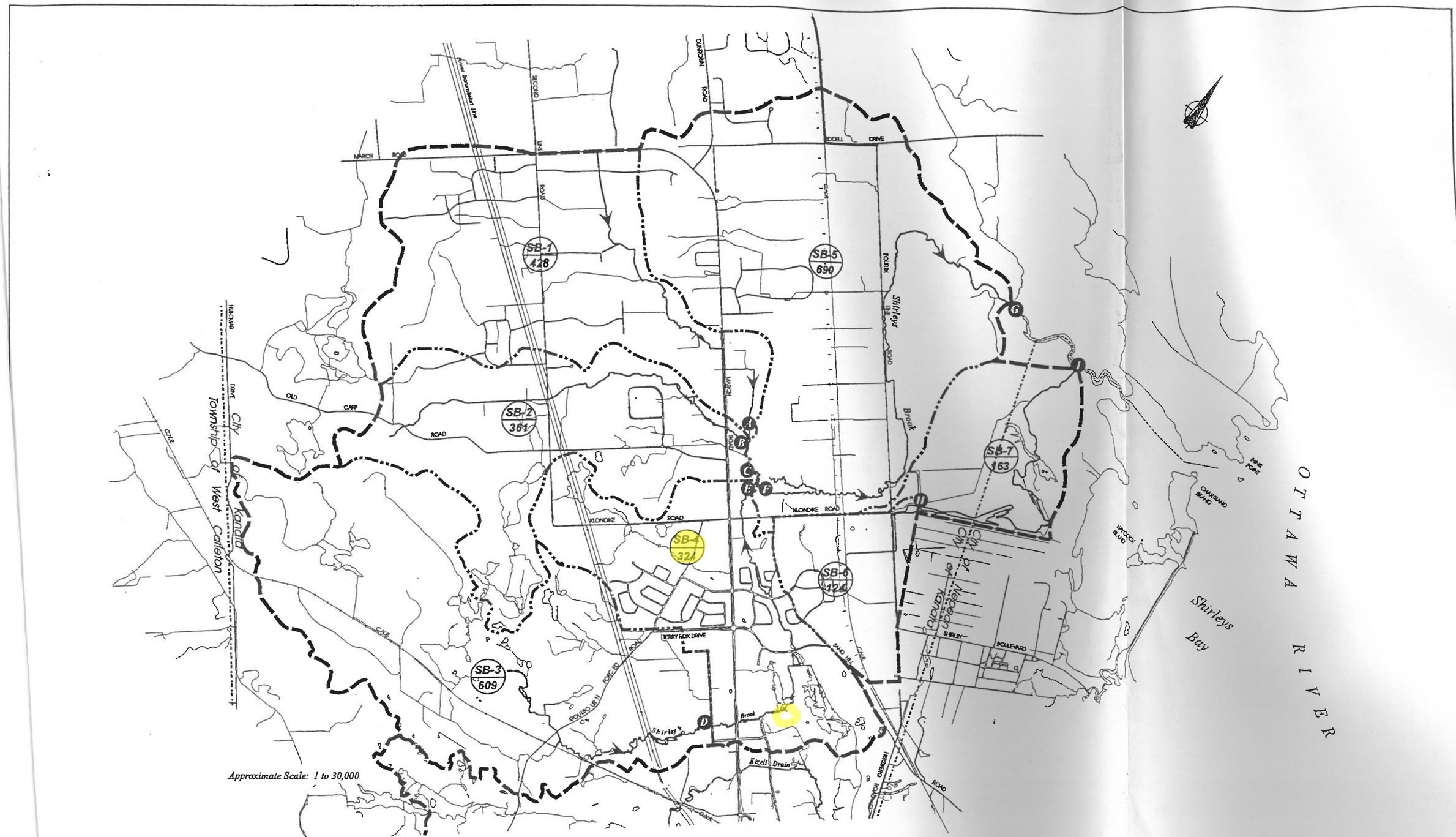
- PROPOSED STORM
- PROPOSED STORM MANHOLE
- PROPOSED CATCHBASIN
- DIRECTION OF FLOW
- PROPOSED STREETLIGHT WIRE
- PROPOSED STREETLIGHT
- D.C. EXISTING DEPRESSED CURB
- EXISTING BARRIER CURB
- EXISTING SIDEWALK
- MH 101 EXISTING SANITARY MH & SEWER
- MH 102 EXISTING STORM MH & SEWER
- 200mmø WM EXISTING WATERMAIN
- EXISTING BELL PEDESTAL
- EXISTING HYDRO TRANSFORMER
- BMH EXISTING BELL MANHOLE
- V& VB EXISTING VALVE AND VALVE BOX

PAVEMENT STRUCTURE:

DRIVING LANES
40mm HL3
40mm HL8
150mm GRAN "A"
300mm GRAN "B"

PARKING AISLES
50mm HL3
150mm GRAN "A"
300mm GRAN "B"





SB-6 / 124 ← Catchment Area ID / Area (ha)

Subwatershed Boundary

Catchment Area Boundary

A Flow Point

Watercourse

DILLON CONSULTING

Shirley's Brook Subwatershed
Existing Drainage Conditions

Figure 2.3a

Catchment Area SB-4

Potential Development Impacts

Future Land Use
- increase in urban residential (118 ha), and industrial/commercial (89 ha)
- area of imperviousness to increase from 16% to 46%

Groundwater Resources
- potential impacts due to road runoff as well as non-specific commercial/industrial point sources (e.g., gas stations)
- potential increased bedrock contamination loading in potential infiltration areas depending upon subsurface profile (i.e., alluvial sands/bedrock connectivity)

Surface Water Resources
- increased runoff peak flows, aggravate existing flooding hazards
- water quality impairment of receiving watercourses
- for 2 year return period event, expected peak flow increase is 303%
- for 100 year return period event, expected peak flow increase is 218%

In stream Water Quality
- increase in TSS
- moderate increase in E. Coli and fecal coliforms
- increased pollutant loading from vehicle traffic

Morphology
- widening of low flow channel: bank toe erosion
- expect more sediment transport and erosion rather than deposition
- meanders will increase in size, causing an increase in the spatial area that the watercourse occupies on the floodplain
- further erosion of existing erosion sites and any other areas in which plantform has been straightened – especially of low order tributary channels and immediately upstream of Klondike Rd.
- increase in fine sediment within channel as a function of particulate matter in urbanized settings
- increase in flushing flows that will remove fines from channel – coarsening of average substrate size
- general erosion process

Aquatic Habitat
- area already significantly impacted
- future development presents an opportunity to restore reach 9
- future impacts from commercial development possible for reach 10
- further increase in erosion and decrease in water quality may degrade habitat to beyond restoration capability

Environmental Protection Targets

Surface Water Quality and Quantity
- provide Level 2 water quality enhancement of urban storm water runoff
- maintain post-development runoff peak flows to existing levels for all storm events up to the 100-year

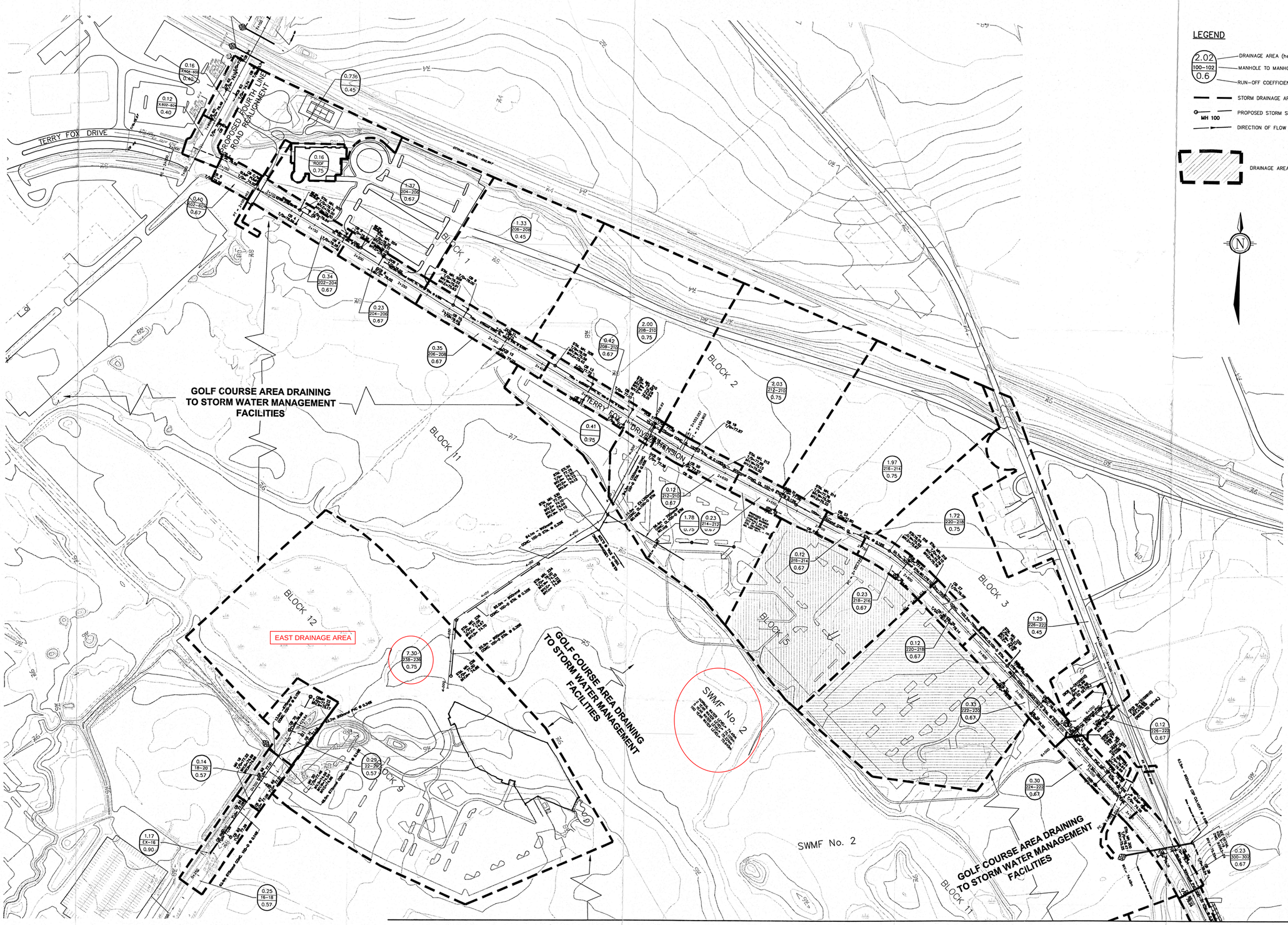
Catchment Area SB-4

Protection Level	Description	[2]SWMP Type	[3]Storage Volume (m^3/ha) for Impervious Level			
			35%	55%	70%	85%
Level 2	Applied in areas of Type 2 fish habitat. Includes: • aquatic habitat identified as ecologically valuable, but is sufficiently abundant or not considered to be a limiting factor for habitat productive capacity • general feeding areas and pool-riffle-run complexes	Infiltration	20	20	25	30
		Wetlands	60	70	80	90
		Wet Ponds	90	110	130	150
		Dry Pond	60	80	95	110

Note:
1 Source, *Stormwater Management Practices Planning and Design Manual*, (MOEE, 1994c)
2 For wetlands and wet ponds, the required storage volume is comprised of 40 m^3/ha extended detention, while the remainder is the permanent pool volume.
3 Storage volumes are based on 24 hour detention.
Storage volumes are based on a 80, 70, 60 and 50% TSS removal for Protection Levels 1, 2, 3 and 4, respectively.

Instream Water Quality

Parameter	Units	Recommended Criteria Level
Dissolved Oxygen	mg/L	> 3.0 mg/L
Temperature	^{0} C	< 2^0 C change (in stormwater discharge)
PH	pH	6.5 - 9.0
Total Suspended Solids (TSS)	mg/L	10
Un-ionized ammonia	mg/L	0.02
Total Phosphorus	mg/L	0.03
Aluminum	mg/L	0.3
Cadmium	mg/L	0.0005
Copper	mg/L	0.005
Lead	mg/L	0.025
Zinc	mg/L	0.03



REFER TO DRAWING 93063–STM1

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.

KANATA RESEARCH PARK
Kanata Research Park Corporation
555 Legget Drive, Suite 204, Kanata, Ontario, Canada, K2K 2X3
(613)591-0594

No.	REVISION	DATE	BY
8.	STORM AREA REVISION	MAR.02/01	AS
7	STORM AREA REVISION	FEB.8/01	AS
6	SEWER SIZE REDUCED	NOV 23/00	DH
5	REVISED PER RMOC COMMENTS	AUG. 2000	RS
4	REVISED	JULY 2000	RS
3.	ISSUED FOR MOEE	APR 13/00	RS
2	ISSUED FOR MOEE	FEB. 2000	LSM
1	ISSUED FOR COMMENTS	DEC. 1999	LSM

A. R. STEWART — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

J.G. RIDDELL — REGISTERED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

NOVATECH
CONSULTING ENGINEERS & PLANNERS
Suite 17, 77 Auriga Drive
Nepean, Ontario, Canada
K2E 7Z7
Telephone (613)727-1658
Facsimile (613)727-6972
Email: novainfo@novatech-eng.com

DESIGN	RRS
CHECKED	UB
DRAWN	DU
CHECKED	RRS
APPROVED	UB

SCALE: 1 : 1500

CITY OF KANATA
KANATA RESEARCH PARK
STORM DRAINAGE PLAN

PROJECT No. 93063
DATE DECEMBER 1999
DRAWING No. 93063–STM2

Apr 04, 2001 - 09:44:07 DWG Name: K:\K R P\93063\design\stm\Dgnfile\93063STM2.dwg Updated By: MKO

PLANBLDWG - 1000mmX707mm

LEGEND

0.31 ha / WA1 / 0.41 — DRAINAGE AREA IN HECTARES; AREA I.D.; RUN-OFF COEFFICIENT

STORM DRAINAGE AREA

MH 100 — PROPOSED STORM SEWER AND MANHOLE

CBMH 200 — PROPOSED STORM SEWER AND CATCH BASIN MANHOLE

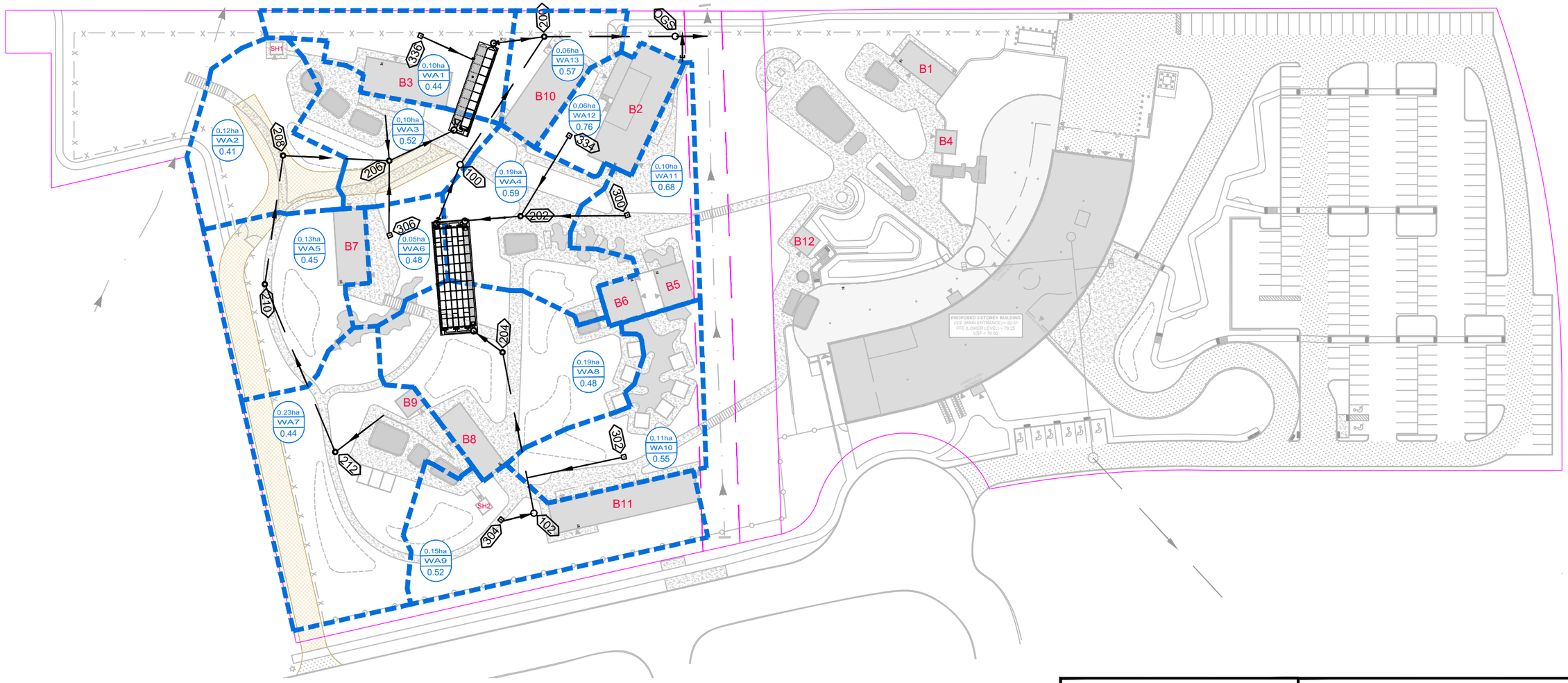
PROPOSED STORM CULVERT

CB 300 — PROPOSED STORM SEWER AND CATCH BASIN

DIRECTION OF FLOW

TOTAL WEST DRAINAGE AREA = 1.60ha

NORTH



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

SERENVITA
2505 & 2707 SOLANDT RD
STORM SEWER DRAINAGE AREA PLAN (WEST)

SCALE 1 : 1000 (0 10 20 30 40)

DATE JAN 2026 | JOB 124150A | FIGURE 124150A-STM1

SHT11X17.DWG - 279mmX432mm

M:\2024\124150\124150A Solandt\CAD\Civil\124150A-STM.dwg, WEST STM, Jan 28, 2026 - 2:48pm, lcorry

STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 124150A
Project Name: SerenVita
Date: 1/29/2026
Input By: CABD
Reviewed By: LAB
Drawing Reference: 124150A-STM1

Storm Design Event = 5 Year

Legend:
- Design Input by User
- As-Built Input by User
- Cumulative Cell
- Calculated Design Cell Output
- Calculated Uncontrolled Peak Flow Cell Output
- Design Input Restricted Peak Flow Cell

Reference: City of Ottawa - Sewer Design Guidelines (2012 and TBs)
MOE - Design Guidelines for Sewage Works (2008)

Location				Flow									Design Capacity / Proposed Sewer Pipe Sizing / Design							
Notes	Area ID	From MH	To MH	Area A (ha.)	Areas Contributing	Runoff Coefficient C	Indivi. 2.78 AC	Accum. 2.78 AC	Time of Conc. Tc (min.)	Rain Intensity I (mm/hr)	Total Uncontrolled Peak Flow Q (L/s)	Total Restricted Peak Flow (L/s)	Pipe Length (m)	Pipe Size (mm) and Material	Pipe ID Actual (m)	Roughness n	Design Grade So (%)	Capacity Qfull (L/s)	Full Flow Velocity (m/s)	Time of Flow (min.)	Q / Qfull
	WA9	304	102	0.15	WA9	0.52	0.22	0.22	10.00	104.19	22.6		7.8	200 PVC	0.2032	0.013	0.75	29.6	0.91	0.14	76.2%
	WA10	302	204	0.11	WA10	0.55	0.17	0.17	10.00	104.19	17.5		24.4	300 PVC	0.3048	0.013	0.35	59.7	0.82	0.50	29.4%
		102	204		WA9, WA10		0.00	0.39	10.50	101.64	39.1		39.6	375 PVC	0.381	0.013	0.25	91.5	0.80	0.82	42.8%
	WA8	204	CHAMBER 1	0.19	WA8, 9, 10	0.48	0.25	0.64	11.32	97.70	62.4		12.0	375 PVC	0.381	0.013	0.25	91.5	0.80	0.25	68.2%
	WA11	300	202	0.10	WA11	0.68	0.19	0.19	10.00	104.19	19.7		25.3	300 PVC	0.3048	0.013	0.35	59.7	0.82	0.52	33.0%
	WA12	334	202	0.06	WA12	0.76	0.13	0.13	10.00	104.19	13.2		23.3	300 PVC	0.3048	0.013	0.35	59.7	0.82	0.47	22.1%
	WA4	202	CHAMBER 1	0.19	WA4, 11, 12	0.59	0.31	0.63	10.52	101.55	63.7		13.6	375 PVC	0.381	0.013	0.40	115.7	1.01	0.22	55.1%
Controlled Flow		CHAMBER 1	100		WA4, 8, 9, 10, 11, 12		0.00	0.00	11.57	96.58	0.0	36.4	15.3	300 PVC	0.3048	0.013	0.35	59.7	0.82	0.31	61.0%
		100	200		WA4, 8, 9, 10, 11, 12		0.00	0.00	11.88	95.21	0.0	36.4	37.0	450 PVC	0.4572	0.013	0.20	133.0	0.81	0.76	27.4%
	WA7	212	210	0.23	WA7	0.44	0.28	0.28	10.00	104.19	29.3		43.9	375 PVC	0.381	0.013	0.25	91.5	0.80	0.91	32.1%
	WA5	210	208	0.13	WA5, 7	0.45	0.16	0.44	10.91	99.61	44.2		31.4	375 PVC	0.381	0.013	0.25	91.5	0.80	0.65	48.4%
	WA2	208	206	0.12	WA2, 5, 7	0.41	0.14	0.58	11.56	96.60	56.1		25.7	375 PVC	0.381	0.013	0.25	91.5	0.80	0.53	61.3%
	WA6	306	206	0.05	WA6	0.48	0.07	0.07	10.00	104.19	7.0		17.5	200 PVC	0.2032	0.013	0.60	26.5	0.82	0.36	26.2%
	WA3	206	CHAMBER 2	0.10	WA2, 3, 5, 6, 7	0.52	0.14	0.79	11.92	95.02	75.3		17.3	375 PVC	0.381	0.013	0.25	91.5	0.80	0.36	82.3%
	WA1	336	CHAMBER 2	0.10	WA1	0.44	0.12	0.12	10.36	102.33	12.5		17.3	375 PVC	0.381	0.013	0.25	91.5	0.80	0.36	13.7%
Controlled Flow		CHAMBER 2	200		WA1, 2, 3, 5, 6, 7		0.00	0.00	12.28	93.50	0.0	35.1	12.6	375 PVC	0.381	0.013	0.25	91.5	0.80	0.26	38.4%
	WA13	200	OGS	0.06	ALL WA's	0.57	0.10	0.10	12.64	92.04	8.8	71.5	31.6	450 PVC	0.4572	0.013	0.20	133.0	0.81	0.65	60.3%
West Outlet (to existing ditch)		OGS	OUTLET				0.00	0.10	13.29	89.51	8.8	71.5	7.7	450 PVC	0.4572	0.013	0.20	133.0	0.81	0.16	60.3%
Totals				**1.59**									**299.3**								

Demand Equation / Parameters

1. Q = 2.78 ACI

Definitions

Q = Peak flow in litres per second (L/s)
A = Area in hectares (ha)
C = Weighted runoff coefficient (increased by 25% for 100-year)
I = Rainfall intensity in millimeters per hour (mm/hr)

Rainfall intensity is based on City of Ottawa IDF data presented in the City of Ottawa - Sewer Design Guidelines

Capacity Equation

Q full = $1000*(1/n)*A_p*R^{2/3}*So^{0.5}$

Definitions

Q full = Capacity (L/s)
n = Manning coefficient of roughness (0.013)
A_p = Pipe flow area (m^2)
R = Hydraulic Radius of wetted area (dia./4 for full pipes)
So = Pipe slope/gradient

LEGEND

0.31 ha
WA1
0.41

- DRAINAGE AREA IN HECTARES
- AREA I.D.
- RUN-OFF COEFFICIENT

MH 100 — PROPOSED STORM SEWER AND MANHOLE

CBMH 200 — PROPOSED STORM SEWER AND CATCH BASIN MANHOLE

PROPOSED STORM CULVERT

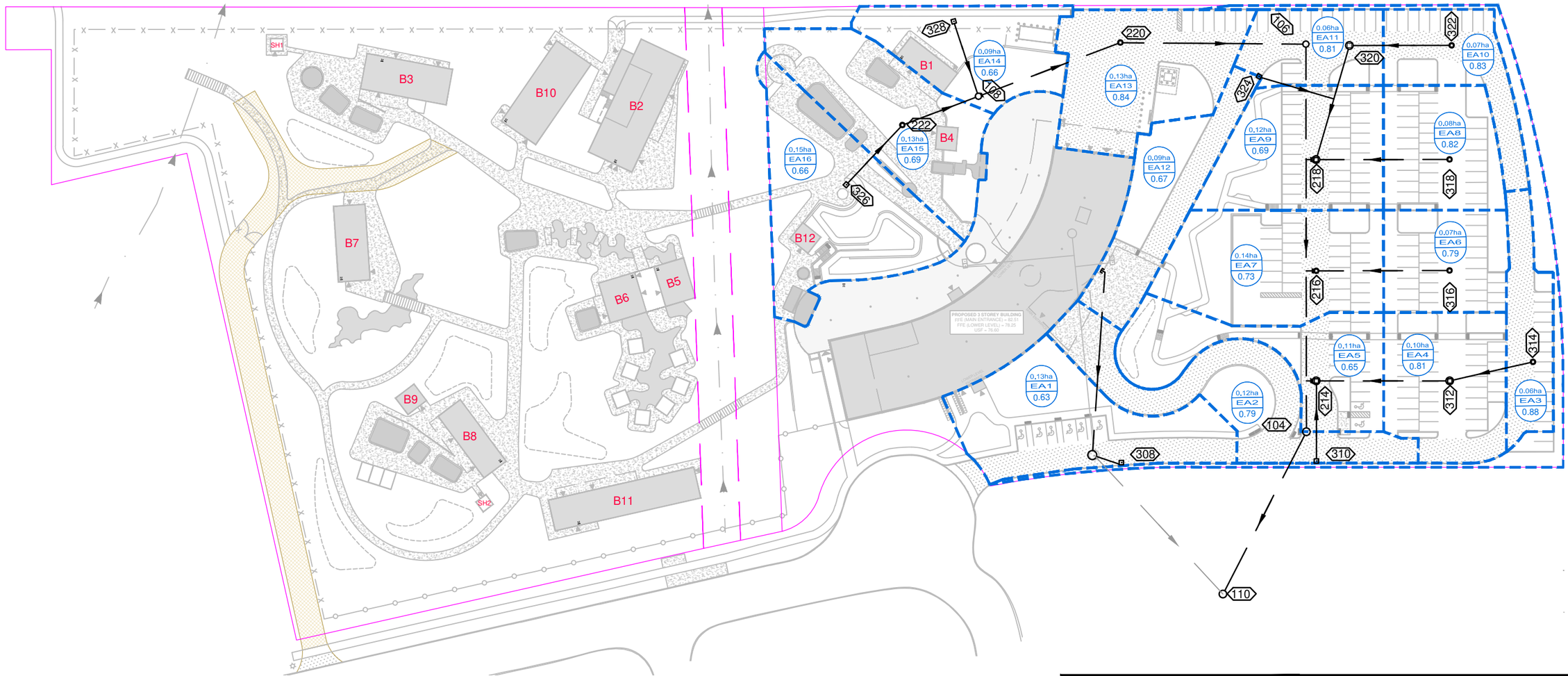
CB 300 — PROPOSED STORM SEWER AND CATCH BASIN

DIRECTION OF FLOW

STORM DRAINAGE AREA

TOTAL EAST DRAINAGE AREA = 1.65ha

NORTH



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

SERENVITA
2505 & 2707 SOLANDT RD
STORM SEWER DRAINAGE AREA PLAN (EAST)

SCALE 1 : 1000 (0 10 20 30 40)

DATE JAN 2026 | JOB 124150A | FIGURE 124150A-STM2

SHT11X17.DWG - 279mmX432mm

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STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 124150A
Project Name: SerenVita
Date: 1/29/2026
Input By: CABD
Reviewed By: LAB
Drawing Reference: 124150A-STM2

Storm Design Event = 5 Year

Legend: Design Input by User
As-Built Input by User
Cumulative Cell
Calculated Design Cell Output
Calculated Uncontrolled Peak Flow Cell Output
Design Input Restricted Peak Flow Cell

Reference: City of Ottawa - Sewer Design Guidelines (2012 and TBs)
MOE - Design Guidelines for Sewage Works (2008)

Location				Flow								Design Capacity / Proposed Sewer Pipe Sizing / Design								
Notes	Area ID	From MH	To MH	Area A (ha.)	Runoff Coefficient C	Indivi. 2.78 AC	Accum. 2.78 AC	Time of Conc. Tc (min.)	Rain Intensity I (mm/hr)	Total Uncontrolled Peak Flow Q (L/s)	Total Restricted Peak Flow (L/s)	Pipe Length (m)	Pipe Size (mm) and Material	Pipe ID Actual (m)	Roughness n	Design Grade So (%)	Capacity Qfull (L/s)	Full Flow Velocity (m/s)	Time of Flow (min.)	Q / Qfull
	EA16	326	222	0.15	0.66	0.28	0.28	10.00	104.19	28.7		19.3	250 PVC	0.254	0.013	0.45	41.6	0.82	0.39	68.9%
	EA15	222	108	0.13	0.69	0.25	0.52	10.39	102.17	53.6		19.6	250 PVC	0.254	0.013	0.45	41.6	0.82	0.40	128.8%
	EA14	328	108	0.09	0.66	0.17	0.17	10.00	104.19	17.2		18.5	200 PVC	0.2032	0.013	0.50	24.2	0.75	0.41	71.1%
		108	220			0.00	0.52	10.79	100.20	52.6		36.6	375 PVC	0.381	0.013	0.25	91.5	0.80	0.76	57.5%
	EA13	220	106	0.13	0.84	0.30	0.83	11.55	96.66	80.1		44.8	375 PVC	0.381	0.013	0.25	91.5	0.80	0.93	87.5%
	EA2-EA12	106	104	1.02	0.77	2.18	3.01	12.48	92.69	279.1		93.4	600 CONC	0.6096	0.013	0.20	286.5	0.98	1.59	97.4%
		104	110			0.00	3.01	14.07	86.70	261.1		44.0	600 CONC	0.6096	0.013	0.20	286.5	0.98	0.75	91.1%
	EA1	308	EX 121	0.13	0.63	0.23	0.46	10.00	104.19	47.4		7.4	250 PVC	0.254	0.013	1.00	62.0	1.22	0.10	76.5%
East Outlet (to existing 675mm dia. Pipe)		EX 121	110			0.00	0.46	10.10	103.66	47.2		46.0	675 CONC	0.6858	0.013	0.30	480.3	1.30	0.59	9.8%
Totals				**1.65**								**329.6**								

Demand Equation / Parameters

1. Q = 2.78 ACI

Definitions

Q = Peak flow in litres per second (L/s)
A = Area in hectares (ha)
C = Weighted runoff coefficient (increased by 25% for 100-year)
I = Rainfall intensity in millimeters per hour (mm/hr)

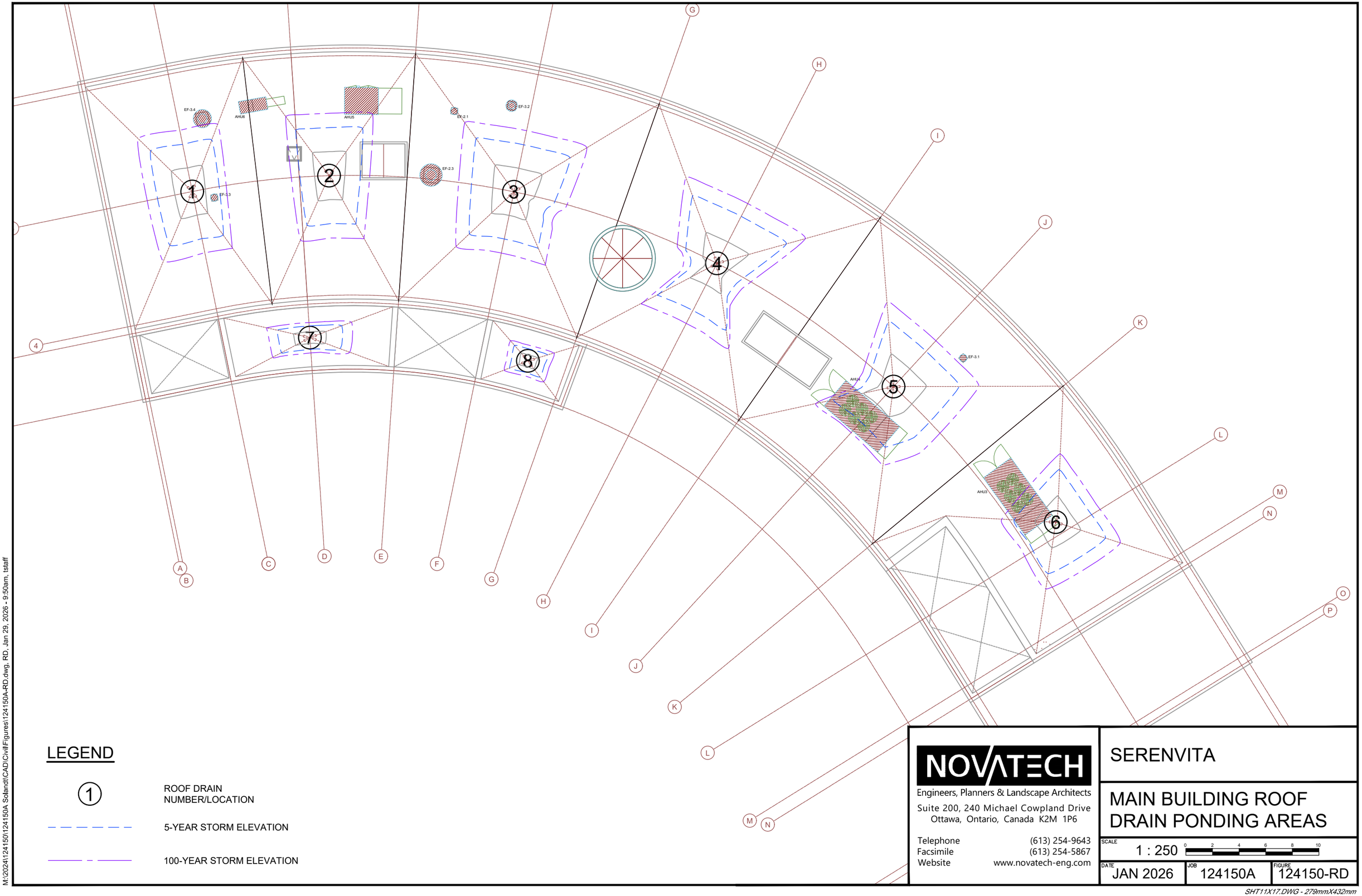
Rainfall intensity is based on City of Ottawa IDF data presented in the City of Ottawa - Sewer Design Guidelines

Capacity Equation

Q full = $1000*(1/n)*A_p*R^{2/3}*So^{0.5}$

Definitions

Q full = Capacity (L/s)
n = Manning coefficient of roughness (0.013)
A_p = Pipe flow area (m^2)
R = Hydraulic Radius of wetted area (dia./4 for full pipes)
So = Pipe slope/gradient



LEGEND

①	ROOF DRAIN NUMBER/LOCATION
– – – – – –	5-YEAR STORM ELEVATION
——– – ——–	100-YEAR STORM ELEVATION

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Facsimile (613) 254-5867
Website www.novatech-eng.com

SERENVITA

MAIN BUILDING ROOF DRAIN PONDING AREAS

SCALE 1 : 250 (0 2 4 6 8 10)

DATE JAN 2026 | JOB 124150A | FIGURE 124150-RD

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SHT11X17.DWG - 279mmX432mm

Engineers, Planners & Landscape Architects

Appendix E
Stormwater Management

1. Certificate of Approval of Municipal and Private Sewage Works (5816-5ALKNH)
2. Pre-Development Drainage Area Plan (124150A-PRE, revision 1)
3. Post-Development Drainage Area Plan (West) (124150A-POST1, revision 1)
4. Post-Development Drainage Area Plan (East) (124150A-POST2, revision 1)
5. Stormwater Management Calculations (West)
6. Stormwater Management Calculations (East)
7. Stormwater Management Calculations (Main Building Roof Drains)
8. StormTech Chambers (Quantity Control - West)
9. Echelon Environmental [Oil and Grit Separator] (Quality Control - West)

RECEIVED
JUN 07 2002

Ontario

Ministry of Environment and Energy | Ministère de l'Environnement et de l'Énergie

AMENDED CERTIFICATE OF APPROVAL
MUNICIPAL AND PRIVATE SEWAGE WORKS
NUMBER 5816-5ALKNH

Kanata Research Park Corporation
555 Legget Drive, Suite 206
Kanata, Ontario
K2K 2X3

Site Location: Kanata Research Park
Kanata City, Regional Municipality Of Ottawa-Carleton

You have applied in accordance with Section 53 of the Ontario Water Resources Act for approval of:

a stormwater management facility to serve Kanata Research Park at the above location covering area of approximately 200 hectares to provide quality and quantity control, as follows:

STORMWATER MANAGEMENT SYSTEM

- one (1) wet pond (# 1) with a total available storage capacity of approximately 28,920 cubic metres with active storage volume of 796 cubic metres and a minimum permanent pool volume of 3,322 cubic metres with an outlet structure complete with a Hickenbottom drain, an orifice and a weir to provide a release rate of 18.39 litres/second for the first flush and a maximum release rate of 1,514 litres/second for a 100 year storm event;

- one (1) wet pond (# 2) with a total available storage capacity of approximately 62,774 cubic metres with active storage volume of 846 cubic metres and a minimum permanent pool volume of 4,270 cubic metres with an outlet structure complete with a Hickenbottom drain, an orifice and a weir to provide a release rate of 19.32 litres/second for the first flush and a maximum release rate of 1,089 litres/second for a 100 year storm event;

- one (1) wet pond (# 3) with a total available storage capacity of approximately 25,250 cubic metres with an active storage volume of 1,746 cubic metres and a minimum permanent pool volume of 3,573 cubic metres with an outlet structure complete with a Hickenbottom drain with an orifice and weir to provide a release rate of 29.55 litres/second for the first flush and a maximum release rate of 2,148 litres/second for a 100 year storm event;

- three (3) stormceptors® STA 2000 for quality control of runoff, one for the parking area adjacent to Swansea Building, one for Area 8 and one for Area 10;

STORM SEWER OUTLETS

- one (1) network of storm sewer and storm sewer outlets from the dedicated manholes; and
- all other appurtenances essential for proper operation of the aforementioned sewage works;

all in accordance with the documents listed below:

1. Application for Approval of Municipal and Private Sewage Works dated May 11, 2000, and the associated documents submitted by the President, Kanata Research Park Corporation, City of Kanata, Ontario.

2. Application for Approval of Municipal and Private Sewage Works dated December 13, 2000, and the associated documents submitted by the President, Kanata Research Park Corporation, City of Kanata, Ontario.

3. Application for Approval of Municipal and Private Sewage Works dated April 25, 2002, and the associated documents submitted by the President, Kanata Research Park Corporation, City of Kanata, Ontario.

For the purpose of this Certificate of Approval and the terms and conditions specified below, the following definitions apply:

(1) "certificate" means this entire certificate of approval document, issued in accordance with Section 53 of the *Ontario Water Resources Act*, and includes any schedules;

(2) "Director" means any Ministry employee appointed by the Minister pursuant to section 5 of the *Ontario Water Resources Act*;

(3) "Ministry" means the Ontario Ministry of the Environment;

(4) "District Manager" means the District Manager of the Ottawa District Office of the Ministry;

(5) "Owner" means Kanata Research Park Corporation and includes its successors and assignees;

(6) "sewage works" means the sewage works described in the Owner's application, this certificate and in the supporting documentation referred to herein, to the extent approved by this certificate;

(7) "grab sample" means a 500 millilitre volume of stormwater collected over a period not exceeding fifteen minutes in an appropriate sample container as specified in "Standard

Methods for Examination of Water and Wastewater", 19th Edition, 1995, as amended from time to time by more recently published editions;

(c) "composite sample" means a sample made up with no less than 5 grab samples of equal volume collected at the same sampling point at equal time intervals over a period of 4 hours following the start of stormwater discharge;

You are hereby notified that this approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. OPERATION AND MAINTENANCE

(1) The Owner shall ensure that at all times, the works and related equipment and appurtenances which are installed or used are properly operated and maintained.

(2) The Owner shall prepare an operations manual for the operation of the sewage works, maintain the operations manual up to date through revisions undertaken from time to time and retain a copy at the location of the sewage works. Upon request, the Owner shall make the manual available for inspection and copying by the Ministry personnel.

(3) The Owner shall ensure that the manual includes the following information:

(a) operating procedures for routine operation of the sewage works;

(b) inspection program including frequency of inspection for the sewage works and the methods or tests employed to detect when repair and/or maintenance is necessary;

(c) contingency plans and procedures for dealing with any abnormal situations and for notifying the District Manager;

(d) complaint procedures for receiving and responding to public complaints.

2. MONITORING AND REPORTING

(1) Prior to construction of the sewage works, the Owner shall determine the antecedent receiving water quality by measuring the BioMAP (d) WQI and/or BioMAP (q) WQI for each of Shirley's Brook and Kizell Drain at the following sample locations:

(a) approximately 140 metres southeast from the east embankment of Terry Fox Drive - this position corresponds to the first bend of Shirley's Brook, upstream of the first stormwater management pond contiguous to Terry Fox Drive; and

(b) in the vicinity of the downstream crossing of Legget Drive and Kizell Drain and more specifically, approximately 40 metres southeast from the south embankment of Legget Drive.

The procedure for determination of these water quality indices are detailed in the publication "BioMAP Bioassessment of Water Quality", The Centre for Environmental Training, Niagara-on-the-Lake, ISBN 0-9685921-0-4, 1999;

(2) Five years from the date of the first bio-assessment of the water quality determined as per subsection (1), the Owner shall conduct a second bio-assessment of water quality at the same sampling location in Shirley's Brook.

(3) The Owner shall ensure that the following monitoring program is initiated upon commencement of operation of the sewage works, and subsequently carried out over a period of five years:

(a) Sampling locations for each of the three stormwater management ponds shall be established to the satisfaction of the District Manager prior to commencement of the operation of the sewage works and may be changed or abandoned or new locations added following commencement of the operation if, in the opinion of the District Manager, it is necessary to do so to ensure representative samples are being collected;

(b) Composite samples of the effluent discharged at each of the three stormwater management ponds shall be collected for at least five (5) storm events during the period from May to September of a given calendar year;

(c) All samples shall be sent as soon as practicable to a reputable laboratory acceptable to the District Manager. In addition, samples shall be kept refrigerated at 4 degree Celsius from the time of collection until they are analyzed in the laboratory. The samples shall be analyzed for Total Suspended Solids, Total Phosphorus, and Ammonia plus Ammonium. The analyses shall be performed in accordance with "Standard Methods for Examination of Water and Wastewater", 19th Edition, 1995, as amended from time to time by more recently published editions;

(d) At the time of collecting samples for the month of July and August storm events, the level of Dissolved Oxygen, the water temperature and pH shall be measured in each of the three stormwater management ponds.

(e) Monitoring results shall be reported in writing to the District Manager within thirty (30) days following the calendar year being reported upon.

RECORD KEEPING AND RETENTION

The Owner shall retain for a minimum of seven (7) years or longer if requested in writing by the District Manager, all records and information related to or resulting from the monitoring activities required by this certificate and proposed by the Owner.

The reasons for the imposition of these terms and conditions are as follows:

Condition No. 1 is included to ensure that the sewage works are properly operated and maintained in order to protect the environment and deterioration, loss or injury or damage to any person or property is prevented.

Condition No. 2 is included to ensure that quality of the stormwater from the sewage works is consistent with the design objectives and does not cause any impairment to the receiving waters.

Condition No. 3 is included to ensure that the monitoring data are kept for a reasonable period of time to enable the owner to demonstrate that the approved works is properly operated and maintained and the quality of the effluent from the works is consistent with the design objectives.

This Certificate of Approval revokes and replaces Certificate(s) of Approval No. 8125-4MTJ36 issued on August 24, 2000 and subsequent Notices dated February 6 and March 29, 2001

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, as amended, you may by written notice served upon me and the Environmental Review Tribunal within 15 days after receipt of this Notice, require a hearing by the Tribunal. Section 101 of the Ontario Water Resources Act, R.S.O. 1990, Chapter 0.40, provides that the Notice requiring the hearing shall state:

The portions of the approval or each term or condition in the approval in respect of which the hearing is required, and;
The grounds on which you intend to rely at the hearing in relation to each portion appealed.

The Notice should also include:

The name of the appellant;
The address of the appellant;
The Certificate of Approval number;
The date of the Certificate of Approval;
The name of the Director;
The municipality within which the works are located;

And the Notice should be signed and dated by the appellant.

This Notice must be served upon:

The Secretary*
Environmental Review Tribunal
2300 Yonge St., 12th Floor
P.O. Box 2382
Toronto, Ontario
M4P 1E4

AND

The Director
Section 53, *Ontario Water Resources Act*
Ministry of Environment and Energy
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario
M4V 1L5

* Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: Tel: (416) 314-4600, Fax: (416) 314-4506 or www.ert.gov.on.ca

The above noted sewage works are approved under Section 53 of the Ontario Water Resources Act.

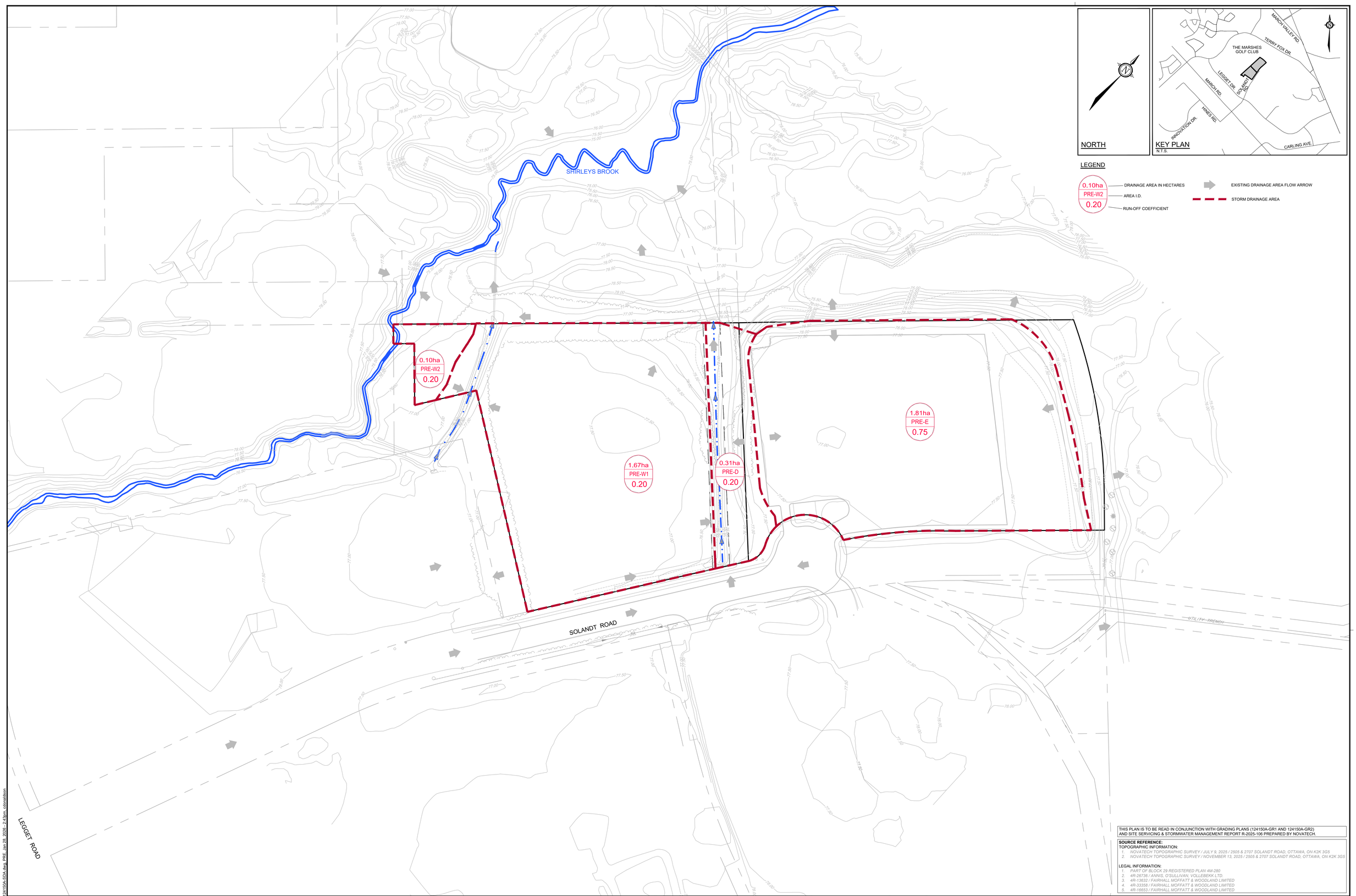
DATED AT TORONTO this 30th day of May, 2002

THIS CERTIFICATE WAS MAILED
ON June 5, 2002
DC
(Signed)

Hitesh Vaja
Director
Section 53, *Ontario Water Resources Act*

AC/

c: District Manager, MOEE Ottawa
John Riddell, Novatech Engineering Consultants Ltd. ✓



NORTH

KEY PLAN
N.T.S.

LEGEND

0.10ha / PRE-W2 / 0.20

- DRAINAGE AREA IN HECTARES
- AREA I.D.
- RUN-OFF COEFFICIENT
- EXISTING DRAINAGE AREA FLOW ARROW
- STORM DRAINAGE AREA

THIS PLAN IS TO BE READ IN CONJUNCTION WITH GRADING PLANS (124150A-GR1 AND 124150A-GR2) AND SITE SERVICING & STORMWATER MANAGEMENT REPORT R-2025-106 PREPARED BY NOVATECH.

SOURCE REFERENCE:

TOPOGRAPHIC INFORMATION:

1. *NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*
2. *NOVATECH TOPOGRAPHIC SURVEY / NOVEMBER 13, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*

LEGAL INFORMATION:

1. *PART OF BLOCK 29 REGISTERED PLAN 4M-280*
2. *4R-26736 / ANNIS, O'SULLIVAN, VOLLEBEKK LTD.*
3. *4R-13632 / FAIRHALL MOFFATT & WOODLAND LIMITED*
4. *4R-33358 / FAIRHALL MOFFATT & WOODLAND LIMITED*
5. *4R-16653 / FAIRHALL MOFFATT & WOODLAND LIMITED*

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

No.	REVISION	DATE	BY
1.	ISSUED WITH SERVICING AND SWM REPORT	JAN 29/26	LAB

SCALE: 1:750

1:750
0 10 20 30

DESIGN: LKC
CHECKED: LAB
DRAWN: LKC
CHECKED: LAB
APPROVED: JLS

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

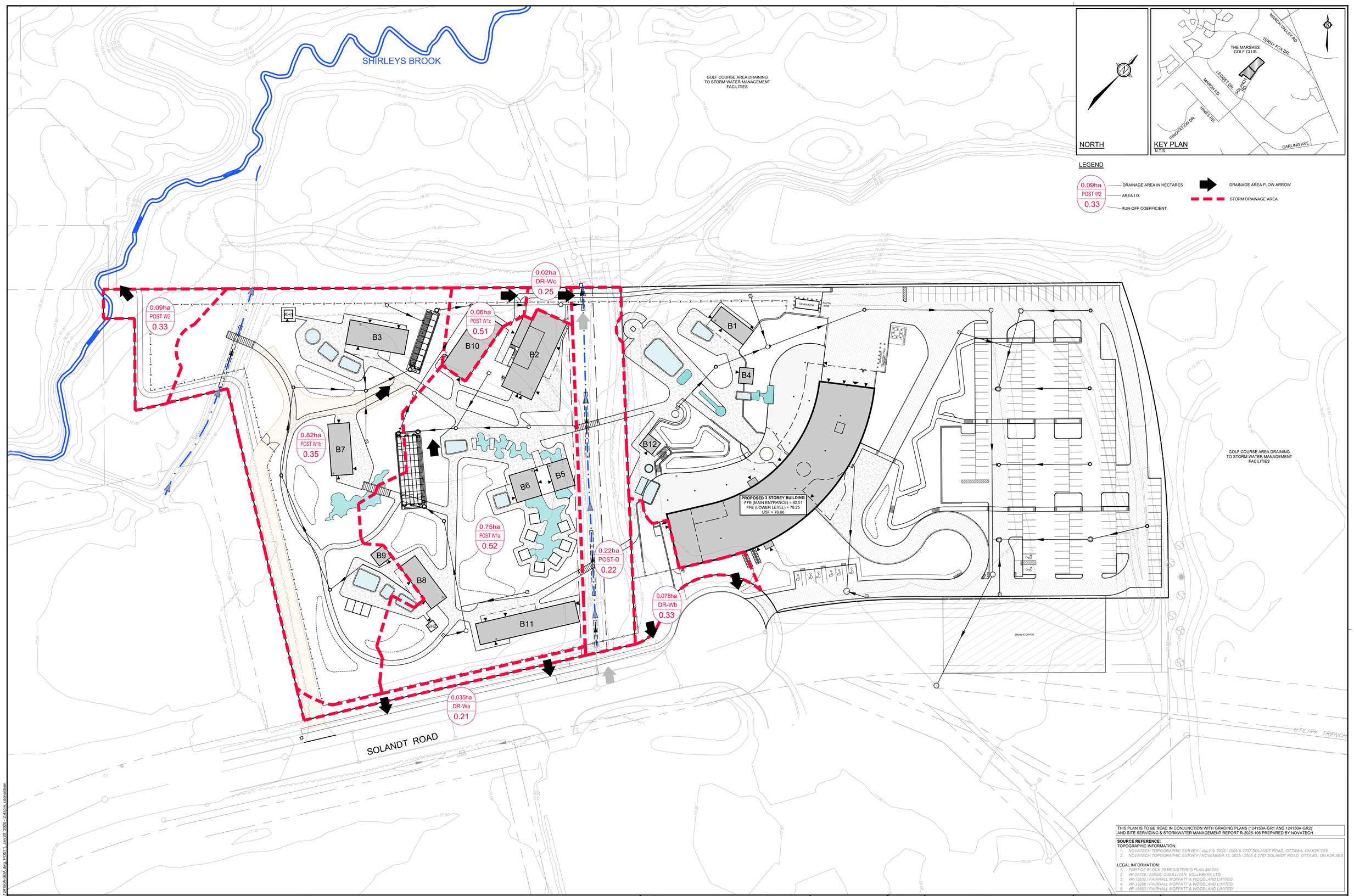
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
PRE-DEVELOPMENT
DRAINAGE AREA PLAN

PROJECT No. 124150A
REV REV # 1
DRAWING No. 124150A-PRE

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THIS PLAN IS TO BE READ IN CONJUNCTION WITH GRADING PLANS (124150A-GR1 AND 124150A-GR2) AND SITE SERVICING & STORMWATER MANAGEMENT REPORT R-2025-106 PREPARED BY NOVATECH.

SOURCE REFERENCE:

TOPOGRAPHIC INFORMATION:

1. *NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*
2. *NOVATECH TOPOGRAPHIC SURVEY / NOVEMBER 13, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*

LEGAL INFORMATION:

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2. *4R-26736 / ANNIS, O'SULLIVAN, VOLLEBEKK LTD.*
3. *4R-13532 / FAIRHALL MOFFATT & WOODLAND LIMITED*
4. *4R-33358 / FAIRHALL MOFFATT & WOODLAND LIMITED*
5. *4R-16653 / FAIRHALL MOFFATT & WOODLAND LIMITED*

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No.	REVISION	DATE	BY
1.	ISSUED WITH SERVICING AND SWM REPORT	JAN 29/26	LAB

SCALE 1:500

1:500
0 5 10 15 20

DESIGN LKC
CHECKED LAB
DRAWN LKC
CHECKED LAB
APPROVED JLS

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
POST-DEVELOPMENT DRAINAGE AREA PLAN (WEST)

PROJECT No. 124150A
REV REV # 1
DRAWING No. 124150A-POST1

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SHIRLEYS BROOK

GOLF COURSE AREA DRAINING TO STORM WATER MANAGEMENT FACILITIES

NORTH

KEY PLAN
N.T.S.

MARCH VALLEY RD.
TERRY FOX DR.
THE MARSHES GOLF CLUB
LEGGET DR.
SQUADRON WAY
MARCH RD.
HINES RD.
INNOVATION DR.
CARLING AVE.

LEGEND

- 0.41ha / POST E1 / 0.75 — DRAINAGE AREA IN HECTARES; AREA I.D.; RUN-OFF COEFFICIENT
- DRAINAGE AREA FLOW ARROW
- STORM DRAINAGE AREA

B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12

SH1 SH2

GENERATOR

EARTH BERM

0.13ha POST E5 0.79

0.41ha POST E1 0.75

0.11ha POST E7 0.90

0.37ha POST E6 0.55

0.18ha POST BLDG 0.90

0.21ha POST E2 0.75

0.06ha DR-E 0.20

PROPOSED 3 STOREY BUILDING
FFE (MAIN ENTRANCE) = 82.51
FFE (LOWER LEVEL) = 78.25
USF = 76.60

0.13ha POST E4 0.58

0.38ha POST E3 0.77

SNOW STORAGE

GOLF COURSE AREA DRAINING TO STORM WATER MANAGEMENT FACILITIES

SOLANDT ROAD

UTILITY TRENCH

THIS PLAN IS TO BE READ IN CONJUNCTION WITH GRADING PLANS (124150A-GR1 AND 124150A-GR2) AND SITE SERVICING & STORMWATER MANAGEMENT REPORT R-2025-106 PREPARED BY NOVATECH.

SOURCE REFERENCE:
TOPOGRAPHIC INFORMATION:
1. *NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*
2. *NOVATECH TOPOGRAPHIC SURVEY / NOVEMBER 13, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*

LEGAL INFORMATION:
1. *PART OF BLOCK 29 REGISTERED PLAN 4M-280*
2. *4R-26736 / ANNIS, O'SULLIVAN, VOLLEBEKK LTD.*
3. *4R-13632 / FAIRHALL MOFFATT & WOODLAND LIMITED*
4. *4R-33358 / FAIRHALL MOFFATT & WOODLAND LIMITED*
5. *4R-16553 / FAIRHALL MOFFATT & WOODLAND LIMITED*

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

No.	REVISION	DATE	BY
1.	ISSUED WITH SERVICING AND SWM REPORT	JAN 29/26	LAB

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

DESIGN LKC
CHECKED LAB
DRAWN LKC
CHECKED LAB
APPROVED JLS

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
POST-DEVELOPMENT DRAINAGE AREA PLAN (EAST)

PROJECT No. 124150A
REV. REV # 1
DRAWING No. 124150A-POST2

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NOVATECH
Engineers, Planners & Landscape Architects

SerenVita Site
2707 Solandt Road

Pre - Development Site Flows										
Description	Area (ha)	$A_{impervious}$ (ha) C=0.9	$A_{pervious}$ (ha) C=0.2	Weighted C_{w5}	Weighted C_{w100}	1:2 Year Flow (L/s)	1:5 Year Flow (L/s)	1:100 Year Flow (L/s)	Allowable C_w	Allowable Flow 5-year (L/s)
Existing Site (W1)	1.67	0.00	1.67	0.20	0.25	71.4	96.8	207.4	0.20	**96.8**

T_c = 10mins

Post - Development Site Flows																	
Area	Description	Area (ha)	A_{imp} (ha) C=0.9	Agravel (ha) C=0.6	A_{perv} (ha) C=0.2	C_5	C_{100}	Uncontrolled Flow (L/s)			Controlled Flow (L/s)			Storage Required (m^3)			Storage Provided (m^3)
								2-year	5-year	100-year	2-year	5-year	100-year	2-year	5-year	100-year	
DR-Wa	Direct Runoff	0.035	0.000	0.001	0.034	0.21	0.26	1.6	2.1	4.6	-	-	-	-	-	-	-
DR-Wb	Direct Runoff	0.078	0.014	0.000	0.064	0.33	0.38	5.4	7.4	14.9	-	-	-	-	-	-	-
DR-Wc	Direct Runoff	0.020	0.000	0.002	0.018	0.25	0.31	1.1	1.4	3.1	-	-	-	-	-	-	-
W-1a	Controlled Site Flows	0.750	0.340	0.000	0.410	0.52	0.59	-	-	-	18.4	22.7	36.4	63.2	87.8	182.0	185.0
W-1b	Controlled Site Flows	0.820	0.160	0.020	0.660	0.35	0.41	-	-	-	17.6	19.9	35.1	42.1	61.0	128.8	133.2
W-1c	Uncontrolled Site Flows	0.060	0.027	0.000	0.033	0.51	0.59	6.6	8.9	17.4	-	-	-	-	-	-	-
	Totals :	1.763	-	-	-	-	-	**14.7**	**19.8**	**22.6**	**36.0**	**42.6**	**71.5**	**105.4**	**148.8**	**310.8**	**318.3**
										Total Stormwater Flows :	**50.7**	**62.4**	**94.1**				

T_c = 10mins

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:2 YEAR EVENT
W-1a **Controlled Site Flows**

OTTAWA IDF CURVE — Qpeak = 18.4 L/s
Area = 0.750 ha — Qavg = 9.2 L/s
C = 0.52 — Vol(max) = 63.2 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	111.72	102.52	30.75
10	76.81	82.84	73.64	44.19
15	61.77	66.62	57.42	51.68
20	52.03	56.12	46.92	56.31
25	45.17	48.72	39.52	59.28
30	40.04	43.19	33.99	61.19
35	36.06	38.89	29.69	62.36
40	32.86	35.45	26.25	63.00
45	30.24	32.62	23.42	63.23
50	28.04	30.25	21.05	63.14
55	26.17	28.23	19.03	62.79
60	24.56	26.49	17.29	62.24
65	23.15	24.97	15.77	61.51
70	21.91	23.64	14.44	60.63
75	20.81	22.45	13.25	59.62
90	18.14	19.57	10.37	56.00
105	16.13	17.40	8.20	51.68
120	14.56	15.71	6.51	46.85
135	13.30	14.34	5.14	41.64
150	12.25	13.22	4.02	36.14

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:5 YEAR EVENT
W-1a **Controlled Site Flows**

OTTAWA IDF CURVE — Qpeak = 22.7 L/s
Area = 0.750 ha — Qavg = 11.4 L/s
C = 0.52 — Vol(max) = 87.8 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	152.28	140.93	42.28
10	104.19	112.39	101.04	60.62
15	83.56	90.13	78.78	70.90
20	70.25	75.78	64.43	77.31
25	60.90	65.68	54.33	81.50
30	53.93	58.17	46.82	84.27
35	48.52	52.33	40.98	86.06
40	44.18	47.66	36.31	87.14
45	40.63	43.82	32.47	87.68
50	37.65	40.61	29.26	87.79
55	35.12	37.89	26.54	87.57
60	32.94	35.53	24.18	87.06
65	31.04	33.48	22.13	86.33
70	29.37	31.68	20.33	85.39
75	27.89	30.08	18.73	84.29
90	24.29	26.20	14.85	80.18
105	21.58	23.28	11.93	75.16
120	19.47	21.00	9.65	69.47
135	17.76	19.16	7.81	63.28
150	16.36	17.65	6.30	56.69

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:100 YEAR EVENT
W-1a **Controlled Site Flows**

OTTAWA IDF CURVE — Qpeak = 36.4 L/s
Area = 0.750 ha — Qavg = 18.2 L/s
C = 0.59 — Vol(max) = 182.0 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	298.56	280.36	84.11
10	178.56	219.65	201.45	120.87
15	142.89	175.78	157.58	141.82
20	119.95	147.56	129.36	155.23
25	103.85	127.75	109.55	164.32
30	91.87	113.01	94.81	170.66
35	82.58	101.58	83.38	175.11
40	75.15	92.44	74.24	178.18
45	69.05	84.94	66.74	180.20
50	63.95	78.67	60.47	181.42
55	59.62	73.35	55.15	181.98
60	55.89	68.76	50.56	182.01
65	52.65	64.76	46.56	181.60
70	49.79	61.25	43.05	180.80
75	47.26	58.13	39.93	179.69
90	41.11	50.57	32.37	174.81
105	36.50	44.90	26.70	168.19
120	32.89	40.47	22.27	160.31
135	30.00	36.90	18.70	151.48
150	27.61	33.97	15.77	141.89

Structures	Size (mm)	Area (m^2)	T/G	Inv IN	Inv OUT
CB 300	600x600	0.36	77.10	-	76.05
CB 334	600x600	0.36	77.25	-	76.04
CBMH 202	1219	1.17	77.05	75.96	75.88
CBMH 204	1219	1.17	77.05	75.91	75.88
STM MH 102	1219	1.17	77.47	76.19	76.01
CB 304	600x600	0.36	77.25	-	76.24
CB 302	600x600	0.36	77.15	-	76.25

Area W-1a: Storage Table

Elevation (m)	System Depth (m)	CB 300 Volume (m^3)	CB 334 Volume (m^3)	CBMH 202 Volume (m^3)	CBMH 204 Volume (m^3)	STM MH 102 Volume (m^3)	CB 304 Volume (m^3)	CB 302 Volume (m^3)	StormTech Volume (m^3)	Total Underground Storage Volume (m^3)	Total Storage **Volume (m^3)**
75.59	0.00	-	-	-	-	-	-	-	0.00	0.00	**0**
75.69	0.10	-	-	-	-	-	-	-	9.93	9.93	**9.9**
75.79	0.20	-	-	-	-	-	-	-	24.88	24.88	**24.9**
75.89	0.30	-	-	0.01	0.01	-	-	-	44.57	44.59	**44.6**
76.00	0.41	-	-	0.14	0.14	-	-	-	63.78	64.06	**64.1**
76.10	0.51	0.02	0.02	0.26	0.26	0.11	-	-	82.39	83.05	**83.0**
76.20	0.61	0.05	0.06	0.37	0.37	0.22	-	-	100.23	107.43	**107.4**
76.30	0.71	0.09	0.09	0.49	0.49	0.34	0.02	0.02	117.11	130.90	**130.9**
76.40	0.81	0.13	0.13	0.61	0.61	0.46	0.06	0.05	132.69	146.97	**147.0**
76.50	0.91	0.16	0.17	0.72	0.72	0.57	0.09	0.09	146.17	160.94	**160.9**
76.61	1.02	0.20	0.21	0.85	0.85	0.70	0.13	0.13	156.72	172.04	**172.0**
76.71	1.12	0.24	0.24	0.97	0.97	0.82	0.17	0.17	166.65	182.46	**182.5**
76.73	1.14	0.24	0.25	0.99	0.99	0.84	0.18	0.17	169.13	185.04	**185.0**

Circular Plug Type 131mm Orifice

1:100 Yr
Flow (L/s) = 36.4
Head (m) = 0.97
Elevation (m) = **76.71**
Outlet Pipe Dia.(mm) = 305
Volume (m3) = 182.0

1:5 Yr
Flow (L/s) = 22.7
Head (m) = 0.38
Elevation (m) = **76.12**
Outlet Pipe Dia.(mm) = 305
Volume (m3) = 87.8

1:2 Yr
Flow (L/s) = 18.4
Head (m) = 0.25
Elevation (m) = **75.99**
Outlet Pipe Dia.(mm) = 305
Volume (m3) = 63.2

Orifice Size - 1:100 yr Flow Check
Q=0.62xAx(2gh)^0.5

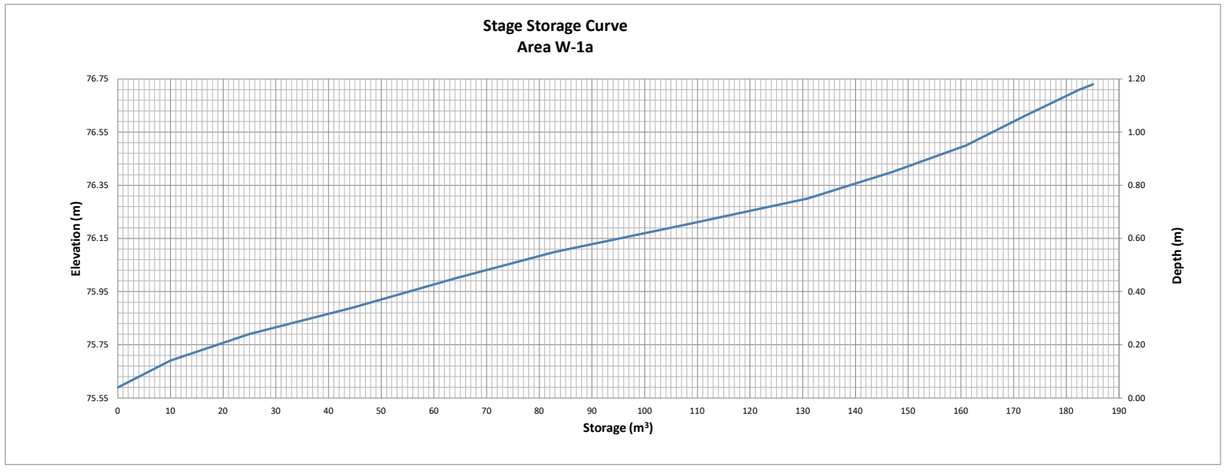
	1:100 yr	Flow Check
Q (m^3/s) =	0.0364	**0.0364**
g (m/s^2) =	9.81	9.81
h (m) =	**0.97**	0.97
A (m^2) =	**0.013475184**	**0.01348**
D (m) =	**0.130985256**	**0.13100**
D (mm) =	**131**	131.0

1:5 yr Flow Check

	1:5 yr
Q (m^3/s) =	0.0227
g (m/s^2) =	9.81
h (m) =	**0.38**
A (m^2) =	**0.01348**
D (m) =	**0.131**
D (mm) =	**131**

1:2 yr Flow Check

	1:2 yr
Q (m^3/s) =	0.0184
g (m/s^2) =	9.81
h (m) =	**0.25**
A (m^2) =	**0.01348**
D (m) =	**0.131**
D (mm) =	**131**



PI = 3.141593
pipe I.D.= 375 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.110 (m^2)
Total Length 11.7 (m)
Pipe Volume 1.3 (m^3)

PI = 3.1415927
pipe I.D.= 375 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.110 (m^2)
Total Length 38.5 (m)
Pipe Volume 4.3 (m^3)

PI = 3.141592654
pipe I.D.= 200 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.031 (m^2)
Total Length 6.8 (m)
Pipe Volume 0.2 (m^3)

PI = 3.14159265
pipe I.D.= 300 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.071 (m^2)
Total Length 24.1 (m)
Pipe Volume 1.7 (m^3)

PI = 3.141593
pipe I.D.= 375 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.110 (m^2)
Total Length 13.2 (m)
Pipe Volume 1.5 (m^3)

PI = 3.1415927
pipe I.D.= 300 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.071 (m^2)
Total Length 24.5 (m)
Pipe Volume 1.7 (m^3)

PI = 3.141592654
pipe I.D.= 300 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.071 (m^2)
Total Length 22.5 (m)
Pipe Volume 1.6 (m^3)

Total Pipe Volume = 12.24 (m^3)

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:2 YEAR EVENT
W-1b **Controlled Site Flows**

OTTAWA IDF CURVE — Qpeak = 17.6 L/s
Area = 0.820 ha — Qavg = 8.8 L/s
C = 0.35 — Vol(max) = 42.1 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	82.92	74.12	22.24
10	76.81	61.49	52.69	31.62
15	61.77	49.45	40.65	36.59
20	52.03	41.66	32.86	39.43
25	45.17	36.16	27.36	41.04
30	40.04	32.06	23.26	41.87
35	36.06	28.87	20.07	42.15
40	32.86	26.31	17.51	42.03
45	30.24	24.21	15.41	41.61
50	28.04	22.45	13.65	40.95
55	26.17	20.95	12.15	40.11
60	24.56	19.66	10.86	39.10
65	23.15	18.54	9.74	37.97
70	21.91	17.54	8.74	36.73
75	20.81	16.66	7.86	35.39
90	18.14	14.53	5.73	30.92
105	16.13	12.92	4.12	25.94
120	14.56	11.66	2.86	20.58
135	13.30	10.65	1.85	14.95
150	12.25	9.81	1.01	9.08

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:5 YEAR EVENT
W-1b **Controlled Site Flows**

OTTAWA IDF CURVE — Qpeak = 19.9 L/s
Area = 0.820 ha — Qavg = 10.0 L/s
C = 0.35 — Vol(max) = 61.0 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	113.03	103.08	30.92
10	104.19	83.42	73.47	44.08
15	83.56	66.90	56.95	51.25
20	70.25	56.25	46.30	55.56
25	60.90	48.76	38.81	58.21
30	53.93	43.18	33.23	59.81
35	48.52	38.85	28.90	60.68
40	44.18	35.38	25.43	61.02
45	40.63	32.53	22.58	60.96
50	37.65	30.15	20.20	60.59
55	35.12	28.12	18.17	59.96
60	32.94	26.38	16.43	59.13
65	31.04	24.85	14.90	58.13
70	29.37	23.52	13.57	56.98
75	27.89	22.33	12.38	55.70
90	24.29	19.45	9.50	51.28
105	21.58	17.28	7.33	46.18
120	19.47	15.59	5.64	40.58
135	17.76	14.22	4.27	34.61
150	16.36	13.10	3.15	28.35

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:100 YEAR EVENT
W-1b **Controlled Site Flows**

OTTAWA IDF CURVE — Qpeak = 35.1 L/s
Area = 0.820 ha — Qavg = 17.6 L/s
C = 0.41 — Vol(max) = 128.8 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	229.40	211.85	63.56
10	178.56	168.77	151.22	90.73
15	142.89	135.06	117.51	105.76
20	119.95	113.38	95.83	114.99
25	103.85	98.16	80.61	120.91
30	91.87	86.83	69.28	124.71
35	82.58	78.05	60.50	127.06
40	75.15	71.03	53.48	128.35
45	69.05	65.27	47.72	128.83
50	63.95	60.45	42.90	128.70
55	59.62	56.36	38.81	128.06
60	55.89	52.83	35.28	127.01
65	52.65	49.76	32.21	125.62
70	49.79	47.06	29.51	123.95
75	47.26	44.67	27.12	122.02
90	41.11	38.86	21.31	115.06
105	36.50	34.50	16.95	106.77
120	32.89	31.09	13.54	97.50
135	30.00	28.35	10.80	87.51
150	27.61	26.10	8.55	76.93

Structures	Size (mm)	Area (m^2)	T/G	Inv IN	Inv OUT
CB 336	600x600	0.36	76.95	-	75.78
CBMH 206	1219	1.17	76.95	75.77	75.74
CB 306	600x600	0.36	77.30	-	75.92
CBMH 208	1219	1.17	77.05	75.86	75.83
CBMH 210	1219	1.17	77.10	75.97	75.94
CBMH 212	1219	1.17	77.15	76.25	76.08

Area W-1b: Storage Table

Elevation (m)	System Depth (m)	CB 336 Volume (m^3)	CBMH 206 Volume (m^3)	CB 306 Volume (m^3)	CBMH 208 Volume (m^3)	CBMH 210 Volume (m^3)	CBMH 212 Volume (m^3)	StormTech Volume (m^3)	Underground Storage Combined Volume (m^3)	Surface Storage CB 336 Area (m^2)	CB 336 Volume (m^3)	CBMH 206 Area (m^2)	CBMH 206 Volume (m^3)	Ponding Volume (m^3)	Total Storage **Total Volume (m^3)**
75.44	0.00	-	-	-	-	-	-	0.00	0.00	-	-	-	-	-	**0**
75.54	0.10	-	-	-	-	-	-	4.46	4.46	-	-	-	-	-	**4.5**
75.64	0.20	-	-	-	-	-	-	8.92	8.92	-	-	-	-	-	**8.9**
75.74	0.30	-	0.00	-	-	-	-	16.68	16.68	-	-	-	-	-	**16.7**
75.85	0.41	0.03	0.13	-	0.02	-	-	25.45	25.63	-	-	-	-	-	**25.6**
75.95	0.51	0.06	0.25	0.01	0.14	0.01	-	34.08	34.55	-	-	-	-	-	**34.5**
76.05	0.61	0.10	0.36	0.05	0.26	0.13	-	42.56	50.66	-	-	-	-	-	**50.7**
76.15	0.71	0.13	0.48	0.08	0.37	0.25	0.08	50.84	63.05	-	-	-	-	-	**63.0**
76.25	0.81	0.17	0.60	0.12	0.49	0.36	0.20	58.89	75.24	-	-	-	-	-	**75.2**
76.35	0.91	0.21	0.71	0.15	0.61	0.48	0.32	66.64	83.53	-	-	-	-	-	**83.5**
76.46	1.02	0.24	0.84	0.19	0.74	0.61	0.44	74.04	91.52	-	-	-	-	-	**91.5**
76.56	1.12	0.28	0.96	0.23	0.85	0.72	0.56	80.98	99.00	-	-	-	-	-	**99.0**
76.66	1.22	0.32	1.07	0.27	0.97	0.84	0.68	87.30	105.86	-	-	-	-	-	**105.9**
76.76	1.32	0.35	1.19	0.30	1.09	0.96	0.79	92.51	111.61	-	-	-	-	-	**111.6**
76.86	1.42	0.39	1.31	0.34	1.20	1.07	0.91	97.05	116.69	0.00	0.00	0.00	0.00	0.00	**116.7**
76.96	1.52	0.42	1.42	0.37	1.32	1.19	1.03	101.50	121.68	0.86	0.01	0.85	0.01	0.03	**121.7**
77.07	1.63	0.42	1.42	0.41	1.45	1.32	1.16	105.96	126.55	28.09	0.74	15.13	0.41	1.15	**127.7**
77.12	1.68	0.42	1.42	0.43	1.51	1.38	1.21	108.19	128.98	53.59	2.78	27.02	1.47	4.25	**133.2**

Circular Plug Type 116mm Orifice

1:100 Yr
Flow (L/s) = 35.1
Head (m) = 1.46
Elevation (m) = **77.09**
Outlet Pipe Dia.(mm) = 381
Volume (m3) = 128.8

1:5 Yr
Flow (L/s) = 19.9
Head (m) = 0.47
Elevation (m) = **76.10**
Outlet Pipe Dia.(mm) = 381
Volume (m3) = 61.0

1:2 Yr
Flow (L/s) = 17.6
Head (m) = 0.37
Elevation (m) = **76.00**
Outlet Pipe Dia.(mm) = 381
Volume (m3) = 42.1

Orifice Size - 1:100 yr Flow Check

Q=0.62xAx(2gh)^0.5

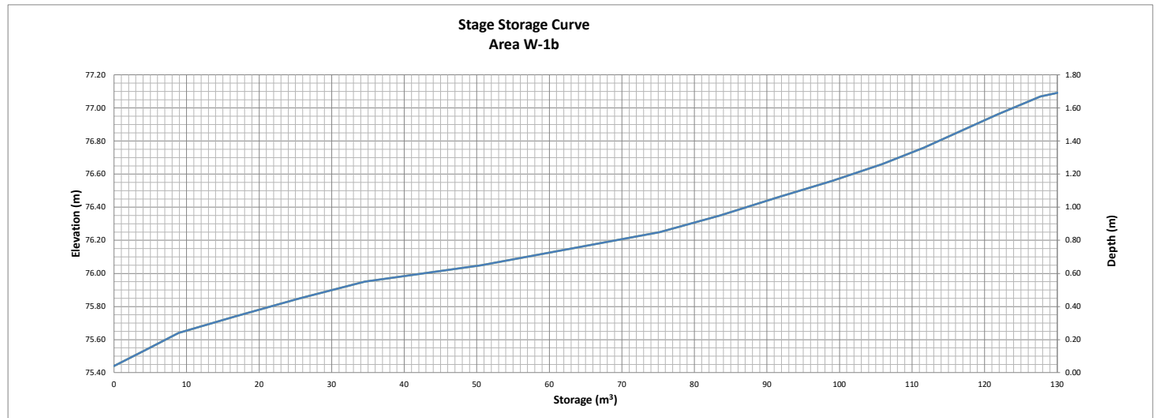
	1:100 yr	Flow Check
Q (m^3/s) =	0.0351	**0.0351**
g (m/s^2) =	9.81	9.81
h (m) =	**1.46**	1.46
A (m^2) =	**0.010579469**	**0.01057**
D (m) =	**0.116061184**	**0.11600**
D (mm) =	**116**	116.0

1:5 yr Flow Check

	1:5 yr
Q (m^3/s) =	0.0199
g (m/s^2) =	9.81
h (m) =	**0.47**
A (m^2) =	**0.01057**
D (m) =	**0.116**
D (mm) =	**116**

1:2 yr Flow Check

	1:2 yr
Q (m^3/s) =	0.0176
g (m/s^2) =	9.81
h (m) =	**0.37**
A (m^2) =	**0.01057**
D (m) =	**0.116**
D (mm) =	**116**



PI = 3.14159265
pipe I.D. = 200 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.031 (m^2)
Total Length 12.8 (m)
Pipe Volume 0.4 (m^3)

PI = 3.14159265
pipe I.D. = 200 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.110 (m^2)
Total Length 16.7 (m)
Pipe Volume 1.8 (m^3)

PI = 3.141593
pipe I.D. = 375 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.110 (m^2)
Total Length 24.8 (m)
Pipe Volume 2.7 (m^3)

PI = 3.141593
I.D. = 375 (pvc pipe)
U/G Storage Pipe Volume
nd Are 0.110 (m^2)
tal Len 30.5 (m)
e Volu 3.4 (m^3)

PI = 3.14159265
pipe I.D. = 375 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.110 (m^2)
Total Length 43.1 (m)
Pipe Volume 4.8 (m^3)

PI = 3.14159265
pipe I.D. = 200 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.031 (m^2)
Total Length 14.2 (m)
Pipe Volume 0.4 (m^3)

PI = 3.141593
pipe I.D. = 375 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.031 (m^2)
Total Length 16.6 (m)
Pipe Volume 0.5 (m^3)

PI = 3.141593
I.D. = 200 (pvc pipe)
U/G Storage Pipe Volume
nd Are 0.031 (m^2)
tal Len 10.5 (m)
e Volu 0.3 (m^3)

l Pipe Volume = 14.42 (m^3)

NOVATECH
Engineers, Planners & Landscape Architects

SerenVita Site
2505 Solandt Road

Pre - Development Site Flows

Description	Area (ha)	$A_{impervious}$ (ha) C=0.9	A_{gravel} (ha) C=0.6	$A_{pervious}$ (ha) C=0.2	Weighted C_{w5}	Weighted C_{w100}	1:2 Year Flow (L/s)	1:5 Year Flow (L/s)	1:100 Year Flow (L/s)	Allowable C_w	Allowable Flow 5-year (L/s)
Existing Site	1.810	0.000	0.000	0.000	0.00	0.00	0.0	0.0	0.0	0.75	**393.2**

T_c = 10mins

Post - Development Site Flows

Area	Description	Area (ha)	A_{imp} (ha) C=0.9	A_{perv} (ha) C=0.2	C_5	C_{100}	Uncontrolled Flow (L/s)			Controlled Flow (L/s)			Storage Required (m^3)			Storage Provided (m^3)
							2-year	5-year	100-year	2-year	5-year	100-year	2-year	5-year	100-year	
DR-E	Direct Runoff	0.06	0.00	0.06	0.20	0.25	2.6	3.5	7.4	-	-	-	-	-	-	-
BLDG	Controlled Roof Flows	0.18	0.18	0.00	0.90	1.00	-	-	-	-	7.1	8.9	-	26.3	60.2	-
E-1	Controlled Site Flows	0.41	0.32	0.09	0.75	0.84	-	-	-	33.1	38.0	39.7	33.3	49.2	124.1	177.3
E-2	Controlled Site Flows	0.21	0.17	0.05	0.75	0.84	-	-	-	31.8	34.0	35.3	19.1	27.6	83.4	88.8
E-3	Controlled Site Flows	0.38	0.31	0.07	0.77	0.86	-	-	-	61.6	77.6	79.5	10.6	17.6	49.8	84.3
E-4	Uncontrolled Flow	0.13	0.07	0.06	0.58	0.65	16.0	21.7	42.2	-	-	-	-	-	-	-
E-5	Uncontrolled Flow	0.13	0.11	0.02	0.79	0.88	22.0	29.8	57.1	-	-	-	-	-	-	-
E-6	Controlled Site Flows	0.37	0.19	0.19	0.55	0.63	43.5	-	-	-	62.5	65.4	0.0	5.2	5.2	29.6
E-7	Uncontrolled Flow	0.11	0.11	0.00	0.90	1.00	21.1	28.7	54.6	-	-	-	-	-	-	-
Totals :		1.980	-	-	-	-	**105.2**	**83.7**	**161.4**	**126.5**	**219.2**	**228.8**	**62.9**	**126.0**	**322.7**	**380.0**
							Total Stormwater Flows :			**231.7**	**302.9**	**390.2**				

T_c = 10mins

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:2 YEAR EVENT
AREA E-1 — Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 33.1 L/s
Area = 0.410 ha — Qavg = 16.6 L/s
C = 0.75 — Vol(max) = 33.3 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	88.11	71.56	21.47
10	76.81	65.34	48.79	29.27
15	61.77	52.54	35.99	32.39
20	52.03	44.26	27.71	33.25
25	45.17	38.42	21.87	32.81
30	40.04	34.06	17.51	31.53
35	36.06	30.67	14.12	29.66
40	32.86	27.96	11.41	27.38
45	30.24	25.72	9.17	24.77
50	28.04	23.85	7.30	21.91
55	26.17	22.26	5.71	18.85
60	24.56	20.89	4.34	15.63
65	23.15	19.69	3.14	12.26
70	21.91	18.64	2.09	8.78
75	20.81	17.71	1.16	5.20
90	18.14	15.43	-1.12	-6.03
105	16.13	13.72	-2.83	-17.80
120	14.56	12.39	-4.16	-29.97
135	13.30	11.31	-5.24	-42.44
150	12.25	10.42	-6.13	-55.15

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA E-1 — Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 38.0 L/s
Area = 0.410 ha — Qavg = 19.0 L/s
C = 0.75 — Vol(max) = 49.2 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	120.10	101.10	30.33
10	104.19	88.63	69.63	41.78
15	83.56	71.08	52.08	46.87
20	70.25	59.76	40.76	48.91
25	60.90	51.80	32.80	49.20
30	53.93	45.88	26.88	48.38
35	48.52	41.27	22.27	46.77
40	44.18	37.59	18.59	44.61
45	40.63	34.56	15.56	42.02
50	37.65	32.03	13.03	39.09
55	35.12	29.88	10.88	35.90
60	32.94	28.02	9.02	32.49
65	31.04	26.41	7.41	28.89
70	29.37	24.99	5.99	25.14
75	27.89	23.72	4.72	21.26
90	24.29	20.66	1.66	8.97
105	21.58	18.36	-0.64	-4.03
120	19.47	16.56	-2.44	-17.56
135	17.76	15.11	-3.89	-31.49
150	16.36	13.92	-5.08	-45.73

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA E-1 — Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 39.7 L/s
Area = 0.410 ha — Qavg = 19.9 L/s
C = 0.84 — Vol(max) = 124.1 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	231.09	211.24	63.37
10	178.56	170.01	150.16	90.10
15	142.89	136.06	116.21	104.59
20	119.95	114.21	94.36	113.23
25	103.85	98.88	79.03	118.54
30	91.87	87.47	67.62	121.72
35	82.58	78.63	58.78	123.43
40	75.15	71.55	51.70	124.08
45	69.05	65.75	45.90	123.92
50	63.95	60.89	41.04	123.13
55	59.62	56.77	36.92	121.84
60	55.89	53.22	33.37	120.13
65	52.65	50.13	30.28	118.08
70	49.79	47.41	27.56	115.74
75	47.26	44.99	25.14	113.15
90	41.11	39.14	19.29	104.19
105	36.50	34.75	14.90	93.88
120	32.89	31.32	11.47	82.59
135	30.00	28.56	8.71	70.56
150	27.61	26.29	6.44	57.96

Structures	Size (mm)	Area (m^2)	T/G	Inv IN	Inv OUT
CBMH 218	1524	1.82	77.85	76.03	75.88
CBMH 318	1219	1.17	77.85	-	76.09
CBMH 320	1524	1.82	77.95	76.12	76.09
CBMH 322	1219	1.82	77.90	-	76.17

PI = 3.141592654
pipe I.D.= 609
U/G Storage Pipe Volume

End Area	0.291	(m^2)
Total Length	30.9	(m)
Pipe Volume	9.0	(m^3)

PI = 3.14159
pipe I.D.= 609
U/G Storage Pipe Volume

End Area	0.291	(m^2)
Total Length	27.2	(m)
Pipe Volume	7.9	(m^3)

PI = 3.141593
pipe I.D.= 609
U/G Storage Pipe Volume

End Area	0.291	(m^2)
Total Length	23.4	(m)
Pipe Volume	6.8	(m^3)

Area E-1: Storage Table

Elevation (m)	System Depth (m)	CBMH 218 Volume (m^3)	CBMH 318 Volume (m^3)	CBMH 320 Volume (m^3)	CBMH 322 Volume (m^3)	Underground Storage Combined Volume (m^3)	Surface Storage CBMH 218 Area (m^2)	CBMH 218 Volume (m^3)	CBMH 318 Area (m^2)	CBMH 318 Volume (m^3)	CBMH 320 Area (m^2)	CBMH 320 Volume (m^3)	CBMH 322 Area (m^2)	CBMH 322 Volume (m^3)	Total Storage Ponding Volume (m^3)	**Total Volume (m^3)**
75.88	0.00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0**
76.17	0.29	0.53	-	-	-	2.90	-	-	-	-	-	-	-	-	-	**2.9**
76.37	0.49	0.89	0.33	0.51	0.36	10.00	-	-	-	-	-	-	-	-	-	**10.0**
76.57	0.69	1.26	0.56	0.88	0.73	19.23	-	-	-	-	-	-	-	-	-	**19.2**
76.77	0.89	1.62	0.79	1.24	1.09	28.46	-	-	-	-	-	-	-	-	-	**28.5**
77.85	1.97	3.59	2.05	3.21	3.06	35.63	0.0	0.00	0.0	0.0	-	-	-	-	0.0	**35.6**
77.90	2.02	3.59	2.05	3.30	3.16	35.81	20.3	0.34	18.8	0.31	-	-	0.0	0.0	0.7	**35.8**
77.95	2.07	3.59	2.05	3.39	3.16	35.90	67.8	2.54	64.9	2.41	0.00	0.00	15.07	0.25	5.2	**41.1**
78.00	2.12	3.59	2.05	3.39	3.16	35.90	146.1	7.89	138.8	7.50	14.18	0.24	52.59	1.94	17.6	**53.5**
78.05	2.17	3.59	2.05	3.39	3.16	35.90	240.8	17.56	240.5	16.98	37.88	1.54	108.65	5.97	42.1	**78.0**
78.10	2.22	3.59	2.05	3.39	3.16	35.90	355.3	32.47	370.0	32.24	65.65	4.13	187.45	13.38	82.2	**118.1**
78.15	2.27	3.59	2.05	3.39	3.16	35.90	480.5	53.36	520.2	54.50	102.24	8.32	285.25	25.19	141.4	**177.3**

Circular Plug Type 112mm Orifice

1:100 Yr
Flow (L/s) = 39.7
Head (m) = 2.14
Elevation (m) = **78.15**
Outlet Pipe Dia.(mm) = 254
Volume (m3) = 124.1

1:5 Yr
Flow (L/s) = 38.0
Head (m) = 1.97
Elevation (m) = **77.98**
Outlet Pipe Dia.(mm) = 254
Volume (m3) = 49.2

1:2 Yr
Flow (L/s) = 33.1
Head (m) = 1.49
Elevation (m) = **77.50**
Outlet Pipe Dia.(mm) = 254
Volume (m3) = 33.3

Orifice Size - 1:100 yr Flow Check
Q=0.62xAx(2gh)^0.5

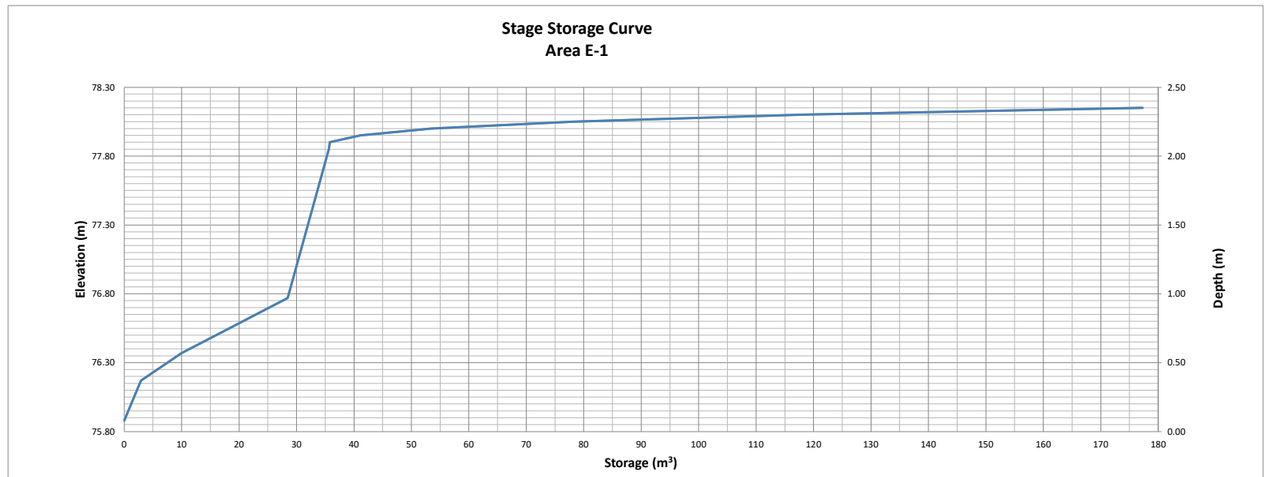
	1:100 yr	Flow Check
Q (m^3/s) =	0.0397	**0.0396**
g (m/s^2) =	9.81	9.81
h (m) =	**2.14**	2.14
A (m^2) =	**0.009875026**	**0.00985**
D (m) =	**0.112130607**	**0.11200**
D (mm) =	**112**	112.0

1:5 yr Flow Check

	1:5 yr
Q (m^3/s) =	0.0380
g (m/s^2) =	9.81
h (m) =	**1.97**
A (m^2) =	**0.00985**
D (m) =	**0.112**
D (mm) =	**112**

1:2 yr Flow Check

	1:2 yr
Q (m^3/s) =	0.0331
g (m/s^2) =	9.81
h (m) =	**1.49**
A (m^2) =	**0.00985**
D (m) =	**0.112**
D (mm) =	**112**



SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:2 YEAR EVENT
AREA E-2 Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 31.8 L/s
Area = 0.210 ha — Qavg = 15.9 L/s
C = 0.75 — Vol(max) = 10.6 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	45.35	29.45	8.83
10	76.81	33.63	17.73	10.64
15	61.77	27.04	11.14	10.03
20	52.03	22.78	6.88	8.26
25	45.17	19.78	3.88	5.81
30	40.04	17.53	1.63	2.94
35	36.06	15.79	-0.11	-0.23
40	32.86	14.39	-1.51	-3.63
45	30.24	13.24	-2.66	-7.18
50	28.04	12.28	-3.62	-10.87
55	26.17	11.46	-4.44	-14.66
60	24.56	10.75	-5.15	-18.53
65	23.15	10.14	-5.76	-22.48
70	21.91	9.59	-6.31	-26.48
75	20.81	9.11	-6.79	-30.54
90	18.14	7.94	-7.96	-42.96
105	16.13	7.06	-8.84	-55.67
120	14.56	6.38	-9.52	-68.57
135	13.30	5.82	-10.08	-81.64
150	12.25	5.36	-10.54	-94.82

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA E-2 Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 34.0 L/s
Area = 0.210 ha — Qavg = 17.0 L/s
C = 0.75 — Vol(max) = 17.6 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	61.82	44.82	13.44
10	104.19	45.62	28.62	17.17
15	83.56	36.59	19.59	17.63
20	70.25	30.76	13.76	16.51
25	60.90	26.66	9.66	14.50
30	53.93	23.61	6.61	11.90
35	48.52	21.24	4.24	8.91
40	44.18	19.35	2.35	5.63
45	40.63	17.79	0.79	2.13
50	37.65	16.49	-0.51	-1.54
55	35.12	15.38	-1.62	-5.35
60	32.94	14.42	-2.58	-9.27
65	31.04	13.59	-3.41	-13.29
70	29.37	12.86	-4.14	-17.39
75	27.89	12.21	-4.79	-21.55
90	24.29	10.63	-6.37	-34.37
105	21.58	9.45	-7.55	-47.57
120	19.47	8.52	-8.48	-61.03
135	17.76	7.78	-9.22	-74.70
150	16.36	7.16	-9.84	-88.52

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA E-2 Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 35.3 L/s
Area = 0.210 ha — Qavg = 17.7 L/s
C = 0.84 — Vol(max) = 49.8 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	118.92	101.27	30.38
10	178.56	87.49	69.84	41.90
15	142.89	70.01	52.36	47.13
20	119.95	58.77	41.12	49.35
25	103.85	50.88	33.23	49.85
30	91.87	45.01	27.36	49.25
35	82.58	40.46	22.81	47.90
40	75.15	36.82	19.17	46.01
45	69.05	33.83	16.18	43.69
50	63.95	31.34	13.69	41.06
55	59.62	29.21	11.56	38.16
60	55.89	27.39	9.74	35.05
65	52.65	25.80	8.15	31.77
70	49.79	24.40	6.75	28.33
75	47.26	23.15	5.50	24.77
90	41.11	20.14	2.49	13.46
105	36.50	17.88	0.23	1.47
120	32.89	16.12	-1.53	-11.03
135	30.00	14.70	-2.95	-23.91
150	27.61	13.53	-4.12	-37.09

Structures	Size (mm)	Area (m^2)	T/G	Inv IN	Inv OUT
CBMH 216	1219	1.17	77.85	76.01	75.88
CBMH 316	1219	1.17	77.85	-	76.07

Area E-2: Storage Table

Elevation (m)	System Depth (m)	CBMH 216 Volume (m^3)	CBMH 316 Volume (m^3)	Underground Storage: Combined Volume (m^3)	Surface Storage: CBMH 216 Area (m^2)	CBMH 216 Volume (m^3)	CBMH 316 Area (m^2)	CBMH 316 Volume (m^3)	Ponding Volume (m^3)	Total Storage: **Total Volume (m^3)**
75.88	0.00	-	-	-	-	-	-	-	-	**0**
76.07	0.19	0.22	-	0.22	-	-	-	-	-	**0.2**
76.27	0.39	0.46	0.23	2.97	-	-	-	-	-	**3.0**
76.47	0.59	0.69	0.47	5.79	-	-	-	-	-	**5.8**
76.67	0.79	0.92	0.70	8.54	-	-	-	-	-	**8.5**
77.85	1.97	2.30	2.08	11.29	-	0.0	-	0.0	0.0	**11.3**
77.90	2.02	2.30	2.08	11.30	22.17	0.37	22.89	0.38	0.8	**11.3**
77.95	2.07	2.30	2.08	11.30	76.47	2.84	78.94	2.93	5.8	**17.1**
78.00	2.12	2.30	2.08	11.30	163.71	8.84	168.55	9.11	18.0	**29.3**
78.05	2.17	2.30	2.08	11.30	283.76	20.03	296.92	20.75	40.8	**52.1**
78.10	2.22	2.30	2.08	11.30	443.75	38.21	443.75	39.27	77.5	**88.8**

Circular Plug Type 107mm Orifice

1:100 Yr
Flow (L/s) = 35.3
Head (m) = 2.04
Elevation (m) = **78.05**
Outlet Pipe Dia.(mm) = 254
Volume (m3) = 49.8

1:5 Yr
Flow (L/s) = 34.0
Head (m) = 1.94
Elevation (m) = **77.95**
Outlet Pipe Dia.(mm) = 254
Volume (m3) = 17.6

1:2 Yr
Flow (L/s) = 31.8
Head (m) = 1.66
Elevation (m) = **77.67**
Outlet Pipe Dia.(mm) = 254
Volume (m3) = 10.6

Orifice Size - 1:100 yr Flow Check
Q=0.62xAx(2gh)^0.5

	1:100 yr	Flow Check
Q (m^3/s) =	0.0353	**0.0353**
g (m/s^2) =	9.81	9.81
h (m) =	**2.04**	2.04
A (m^2) =	**0.008992891**	**0.00899**
D (m) =	**0.107005161**	**0.10700**
D (mm) =	**107**	107.0

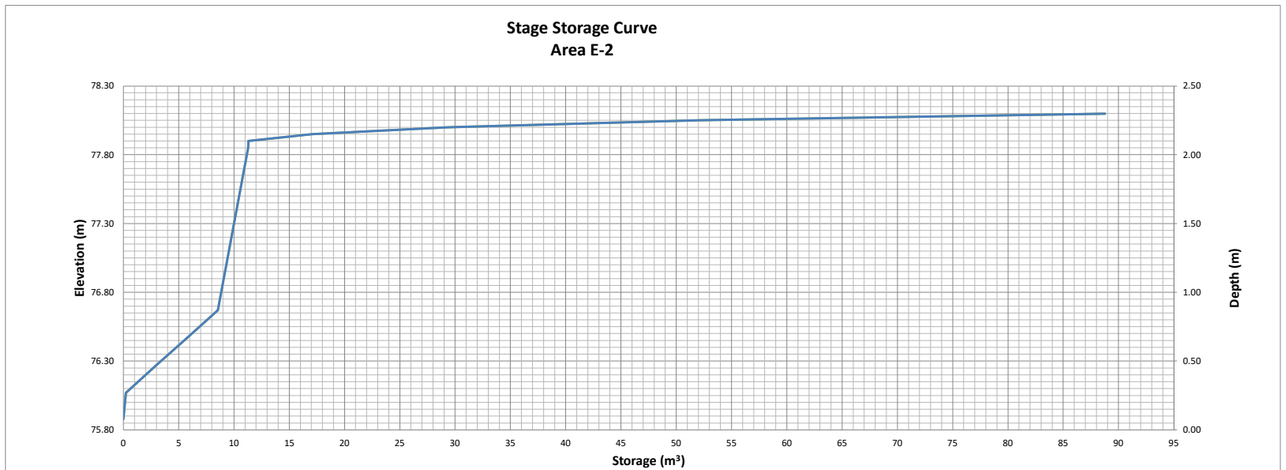
1:5 yr Flow Check

	1:5 yr
Q (m^3/s) =	0.0344
g (m/s^2) =	9.81
h (m) =	**1.94**
A (m^2) =	**0.00899**
D (m) =	**0.107**
D (mm) =	**107**

1:2 yr Flow Check

	1:2 yr
Q (m^3/s) =	0.0318
g (m/s^2) =	9.81
h (m) =	**1.66**
A (m^2) =	**0.00899**
D (m) =	**0.107**
D (mm) =	**107**

PI = 3.141592654
pipe I.D.= 533 (pvc pipe)
U/G Storage Pipe Volume
End Area 0.223 (m^2)
Total Length 31.0 (m)
Pipe Volume 6.9 (m^3)



SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:2 YEAR EVENT
AREA E-3 Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 61.6 L/s
Area = 0.380 ha — Qavg = 30.8 L/s
C = 0.77 — Vol(max) = 19.1 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	84.36	53.56	16.07
10	76.81	62.56	31.76	19.06
15	61.77	50.31	19.51	17.56
20	52.03	42.38	11.58	13.90
25	45.17	36.79	5.99	8.99
30	40.04	32.62	1.82	3.27
35	36.06	29.37	-1.43	-3.00
40	32.86	26.77	-4.03	-9.67
45	30.24	24.63	-6.17	-16.66
50	28.04	22.84	-7.96	-23.88
55	26.17	21.32	-9.48	-31.29
60	24.56	20.00	-10.80	-38.87
65	23.15	18.86	-11.94	-46.58
70	21.91	17.85	-12.95	-54.40
75	20.81	16.95	-13.85	-62.31
90	18.14	14.78	-16.02	-86.52
105	16.13	13.14	-17.66	-111.25
120	14.56	11.86	-18.94	-136.36
135	13.30	10.83	-19.97	-161.76
150	12.25	9.98	-20.82	-187.38

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA E-3 Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 77.6 L/s
Area = 0.380 ha — Qavg = 38.8 L/s
C = 0.77 — Vol(max) = 27.6 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	115.00	76.20	22.86
10	104.19	84.87	46.07	27.64
15	83.56	68.06	29.26	26.33
20	70.25	57.22	18.42	22.11
25	60.90	49.60	10.80	16.20
30	53.93	43.93	5.13	9.23
35	48.52	39.52	0.72	1.51
40	44.18	35.99	-2.81	-6.74
45	40.63	33.09	-5.71	-15.41
50	37.65	30.67	-8.13	-24.39
55	35.12	28.61	-10.19	-33.63
60	32.94	26.83	-11.97	-43.08
65	31.04	25.29	-13.51	-52.70
70	29.37	23.92	-14.88	-62.48
75	27.89	22.72	-16.08	-72.38
90	24.29	19.78	-19.02	-102.69
105	21.58	17.58	-21.22	-133.69
120	19.47	15.86	-22.94	-165.19
135	17.76	14.47	-24.33	-197.07
150	16.36	13.33	-25.47	-229.25

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA E-3 Controlled Site Flows

OTTAWA IDF CURVE — Qpeak = 79.5 L/s
Area = 0.380 ha — Qavg = 39.8 L/s
C = 0.86 — Vol(max) = 83.4 m3
(Vol calculated for Qavg)

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	220.97	181.22	54.37
10	178.56	162.57	122.82	73.69
15	142.89	130.10	90.35	81.31
20	119.95	109.21	69.46	83.35
25	103.85	94.55	54.80	82.20
30	91.87	83.64	43.89	79.00
35	82.58	75.18	35.43	74.41
40	75.15	68.42	28.67	68.80
45	69.05	62.87	23.12	62.42
50	63.95	58.23	18.48	55.43
55	59.62	54.28	14.53	47.96
60	55.89	50.89	11.14	40.10
65	52.65	47.93	8.18	31.91
70	49.79	45.33	5.58	23.44
75	47.26	43.02	3.27	14.73
90	41.11	37.43	-2.32	-12.53
105	36.50	33.23	-6.52	-41.08
120	32.89	29.95	-9.80	-70.57
135	30.00	27.31	-12.44	-100.76
150	27.61	25.14	-14.61	-131.51

Structures	Size (mm)	Area (m^2)	T/G	Inv IN	Inv OUT
CBMH 214	1219	1.17	77.85	75.92	75.77
CBMH 312	1219	1.17	77.85	76.01	75.98
CBMH 314	1219	1.17	77.85	-	76.05
CB 310	600x600	0.36	77.85	-	75.92

PI = 3.141592654
pipe I.D.= 609
U/G Storage Pipe Volume
End Area 0.291 (m^2)
Total Length 31.0 (m)
Pipe Volume 9.0 (m^3)

PI = 3.14159
pipe I.D.= 609
U/G Storage Pipe Volume
End Area 0.291 (m^2)
Total Length 19.4 (m)
Pipe Volume 5.7 (m^3)

PI = 3.141593
pipe I.D.= 254
U/G Storage Pipe Volume
End Area 0.051 (m^2)
Total Length 18.3 (m)
Pipe Volume 0.9 (m^3)

Area E-3: Storage Table

		Underground Storage	Surface Storage								Total Storage	
			CBMH 214		CBMH 312		CBMH 314		CB 310			
Elevation (m)	System Depth (m)	Combined Volume (m^3)	Area (m^2)	Volume (m^3)	Area (m^2)	Volume (m^3)	Area (m^2)	Volume (m^3)	Area (m^2)	Volume (m^3)	Ponding Volume (m^3)	**Total Volume (m^3)**
75.77	0.00	-	-	-	-	-			-	-	-	**0**
76.01	0.24	0.28	-	-	-	-			-	-	-	**0.3**
76.05	0.28	0.33	0.08	-	0.05	1.92			-	-	-	**1.9**
76.25	0.48	0.56	0.32	0.23	0.12	6.77			-	-	-	**6.8**
76.45	0.68	0.79	0.55	0.47	0.19	12.30			-	-	-	**12.3**
76.65	0.88	1.03	0.78	0.70	0.26	17.68			-	-	-	**17.7**
77.85	2.08	2.43	2.18	2.10	0.69	20.91	0.0	0.0	0.0	0.0	0.0	**20.9**
77.90	2.13	2.43	2.18	2.10	0.69	20.91	26.075	0.43	42.02	0.70	11.51	0.19	0.00	0.00	1.1	**22.0**
77.95	2.18	2.43	2.18	2.10	0.69	20.91	81.61	2.69	151.52	4.84	39.59	1.28	13.73	0.34	7.9	**28.8**
78.00	2.23	2.43	2.18	2.10	0.69	20.91	164.15	8.84	322.80	16.70	84.65	4.38	46.39	1.85	27.4	**48.3**
78.05	2.28	2.43	2.18	2.10	0.69	20.91	292.17	20.24	516.39	37.68	154.71	10.37	99.11	5.48	63.4	**84.3**

Circular Plug Type 159mm Orifice

1:100 Yr
Flow (L/s) = 79.5
Head (m) = 2.13
Elevation (m) = **78.05**
Outlet Pipe Dia.(mm) = 305
Volume (m3) = 83.4

1:5 Yr
Flow (L/s) = 77.6
Head (m) = 2.03
Elevation (m) = **77.95**
Outlet Pipe Dia.(mm) = 305
Volume (m3) = 27.6

1:2 Yr
Flow (L/s) = 61.6
Head (m) = 1.28
Elevation (m) = **77.20**
Outlet Pipe Dia.(mm) = 305
Volume (m3) = 19.1

Orifice Size - 1:100 yr Flow Check
Q=0.62xAx(2gh)^0.5

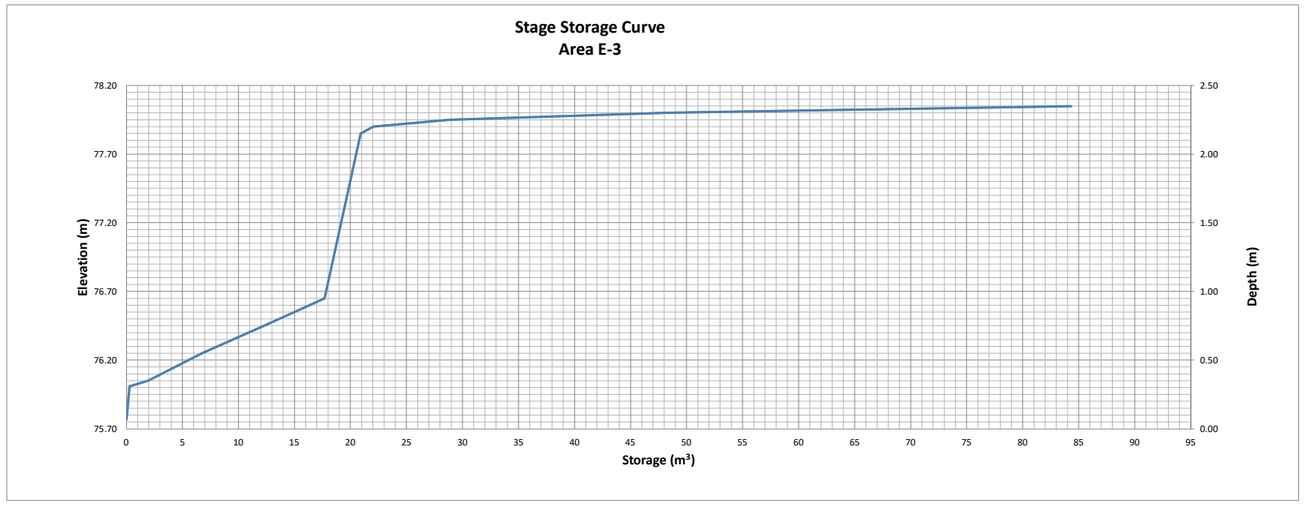
	1:100 yr	Flow Check
Q (m^3/s) =	0.0795	**0.0795**
g (m/s^2) =	9.81	9.81
h (m) =	**2.13**	2.13
A (m^2) =	**0.01984683**	**0.01986**
D (m) =	**0.158964678**	**0.15900**
D (mm) =	**159**	159.0

1:5 yr Flow Check

	1:5 yr
Q (m^3/s) =	0.0776
g (m/s^2) =	9.81
h (m) =	**2.03**
A (m^2) =	**0.01986**
D (m) =	**0.159**
D (mm) =	**159**

1:2 yr Flow Check

	1:2 yr
Q (m^3/s) =	0.0616
g (m/s^2) =	9.81
h (m) =	**1.28**
A (m^2) =	**0.01986**
D (m) =	**0.159**
D (mm) =	**159**



SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:2 YEAR EVENT
AREA E-6 Controlled Site Flows

OTTAWA IDF CURVE

Area = 0.370 ha — Qpeak = 43.5 L/s
C = 0.55 — Vol(max) = 0.0 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	103.57	58.59	15.09	4.53
10	76.81	43.45	-0.05	-0.03
15	61.77	34.94	-8.56	-7.70
20	52.03	29.44	-14.06	-16.88
25	45.17	25.55	-17.95	-26.92
30	40.04	22.65	-20.85	-37.52
35	36.06	20.40	-23.10	-48.51
40	32.86	18.59	-24.91	-59.78
45	30.24	17.11	-26.39	-71.26
50	28.04	15.86	-27.64	-82.91
55	26.17	14.81	-28.69	-94.69
60	24.56	13.89	-29.61	-106.59
65	23.15	13.10	-30.40	-118.57
70	21.91	12.40	-31.10	-130.63
75	20.81	11.77	-31.73	-142.76
90	18.14	10.26	-33.24	-179.47
105	16.13	9.13	-34.37	-216.55
120	14.56	8.24	-35.26	-253.89
135	13.30	7.52	-35.98	-291.42
150	12.25	6.93	-36.57	-329.12

SerenVita Site — Storage Calculations Using Average
Novatech Project No. 124150A — Release Rate Equal to 50% of the Qpeak
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA E-6 Controlled Site Flows

OTTAWA IDF CURVE

Area = 0.370 ha — Qpeak = 62.5 L/s
C = 0.55 — Vol(max) = 5.2 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	79.87	17.37	5.21
10	104.19	58.95	-3.55	-2.13
15	83.56	47.27	-15.23	-13.71
20	70.25	39.74	-22.76	-27.31
25	60.90	34.45	-28.05	-42.07
30	53.93	30.51	-31.99	-57.58
35	48.52	27.45	-35.05	-73.61
40	44.18	25.00	-37.50	-90.01
45	40.63	22.98	-39.52	-106.69
50	37.65	21.30	-41.20	-123.60
55	35.12	19.87	-42.63	-140.68
60	32.94	18.64	-43.86	-157.91
65	31.04	17.56	-44.94	-175.26
70	29.37	16.62	-45.88	-192.71
75	27.89	15.78	-46.72	-210.25
90	24.29	13.74	-48.76	-263.30
105	21.58	12.21	-50.29	-316.83
120	19.47	11.01	-51.49	-370.70
135	17.76	10.05	-52.45	-424.84
150	16.36	9.26	-53.24	-479.19

SerenVita Site
Novatech Project No. 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA E-6 Controlled Site Flows

OTTAWA IDF CURVE

Area = 0.370 ha — Qpeak = 65.4 L/s
C = 0.63 — Vol(max) = 29.6 m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	156.03	90.63	27.19
10	178.56	114.79	49.39	29.63
15	142.89	91.86	26.46	23.82
20	119.95	77.11	11.71	14.06
25	103.85	66.76	1.36	2.04
30	91.87	59.06	-6.34	-11.41
35	82.58	53.09	-12.31	-25.86
40	75.15	48.31	-17.09	-41.02
45	69.05	44.39	-21.01	-56.72
50	63.95	41.11	-24.29	-72.86
55	59.62	38.33	-27.07	-89.33
60	55.89	35.93	-29.47	-106.08
65	52.65	33.85	-31.55	-123.06
70	49.79	32.01	-33.39	-140.24
75	47.26	30.38	-35.02	-157.59
90	41.11	26.43	-38.97	-210.44
105	36.50	23.46	-41.94	-264.20
120	32.89	21.15	-44.25	-318.62
135	30.00	19.28	-46.12	-373.54
150	27.61	17.75	-47.65	-428.85

Structures	Size (mm)	Area (m^2)	T/G	Inv IN	Inv OUT
STMMH 108	1219	0.00	89.67	76.25	76.07
CBMH 222	1219	0.00	77.40	76.40	76.37
CB 326	1219	0.00	77.60	-	76.49
CB 328	1219	0.00	77.40	-	76.34

Area E-6: Storage Table

Elevation (m)	CBMH 222 Area (m^2)	CBMH 222 Volume (m^3)	CB 326 Area (m^2)	CB 326 Volume (m^3)	CB 326 Area (m^2)	CB 326 Volume (m^3)	CB 328 Area (m^2)	CB 328 Volume (m^3)	Total Surface Storage: Ponding Volume (m^3)	Total Surface Storage: **Total Volume (m^3)**
77.40	0.00	0.00	-	-	-	-	0.00	0.00	0.00	**0.0**
77.45	5.30	0.00	-	-	-	-	7.02	0.12	0.12	**0.1**
77.50	17.47	0.29	-	-	-	-	19.21	0.77	1.06	**1.1**
77.55	36.71	1.65	-	-	-	-	36.49	2.17	3.81	**3.8**
77.60	58.83	4.03	0.00	0.00	-	-	56.75	4.50	8.53	**8.5**
77.65	90.57	7.77	33.05	0.55	-	-	81.93	7.96	16.28	**16.3**
77.70	128.95	13.26	80.44	3.39	-	-	117.30	12.94	29.59	**29.6**

Circular Plug Type 159mm Orifice

1:100 Yr
Flow (L/s) = 0.0
Head (m) = 1.44
Elevation (m) = **77.70**
Outlet Pipe Dia.(mm) = 381
Volume (m3) = 29.6

1:5 Yr
Flow (L/s) = 0.0
Head (m) = 1.31
Elevation (m) = **77.57**
Outlet Pipe Dia.(mm) = 381
Volume (m3) = 5.2

1:2 Yr
Flow (L/s) = 0.0
Head (m) = 1.14
Elevation (m) = **77.40**
Outlet Pipe Dia.(mm) = 381
Volume (m3) = 0.0

Orifice Size - 1:100 yr Flow Check

Q=0.62xAx(2gh)^0.5

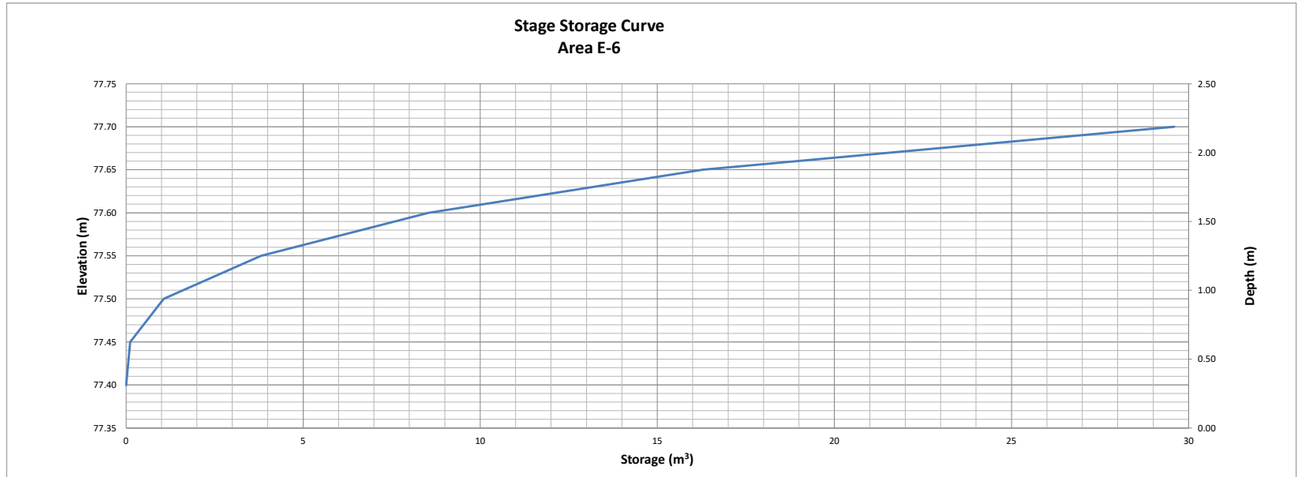
	1:100 yr	Flow Check
Q (m^3/s) =	0.0654	**0.0654**
g (m/s^2) =	9.81	9.81
h (m) =	**1.44**	1.44
A (m^2) =	**0.019848639**	**0.01986**
D (m) =	**0.15897192**	**0.15900**
D (mm) =	**159**	159.0

1:5 yr Flow Check

	1:5 yr
Q (m^3/s) =	0.0624
g (m/s^2) =	9.81
h (m) =	**1.31**
A (m^2) =	**0.01986**
D (m) =	**0.159**
D (mm) =	**159**

1:2 yr Flow Check

	1:2 yr
Q (m^3/s) =	0.0582
g (m/s^2) =	9.81
h (m) =	**1.14**
A (m^2) =	**0.01986**
D (m) =	**0.159**
D (mm) =	**159**



Roof Drain ID	Number of Roof Drains	Watts Roof Drain Model ID (Weir Opening)	Controlled Flow per Drain (L/s)		Approximate Ponding Depths Above Drains (cm)		Storage Volume Required (m^3)		Max Storage Available (m^3)
			5-Yr	100-Yr	5-Yr	100-Yr	5-Yr	100-Yr	
RD-1	1	RD-100-A-ADJ set to 1/2 Exposed	0.95	1.10	10	13	3.5	8.1	11.7
RD-2	1	RD-100-A-ADJ set to 1/2 Exposed	0.95	1.10	10	13	3.4	8.0	11.4
RD-3	1	RD-100-A-ADJ set to Fully Exposed	1.26	1.58	10	13	5.1	11.5	16.2
RD-4	1	RD-100-A-ADJ set to Fully Exposed	1.26	1.58	11	14	5.1	11.5	14.4
RD-5	1	RD-100-A-ADJ set to Fully Exposed	1.26	1.58	10	13	5.1	11.5	15.3
RD-6	1	RD-100-A-ADJ set to 3/4 Exposed	1.10	1.34	10	13	3.2	7.4	10.9
RD-7	1	RD-100-A-ADJ set to Closed	0.32	0.32	10	13	0.8	2.0	3.0
RD-8	1	RD-100-A-ADJ set to Closed	0.32	0.32	10	13	0.3	0.8	1.6
Total Roof	8	-	7.42	8.92	-	-	26.60	61.01	84.43

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 1**

OTTAWA IDF CURVE

Area =	0.021	ha	Qallow =	0.95	L/s
C =	0.90		Vol(max) =	3.5	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	7.54	6.59	1.98
10	104.19	5.56	4.61	2.77
15	83.56	4.46	3.51	3.16
20	70.25	3.75	2.80	3.36
25	60.90	3.25	2.30	3.45
30	53.93	2.88	1.93	3.47
35	48.52	2.59	1.64	3.45
40	44.18	2.36	1.41	3.38
45	40.63	2.17	1.22	3.29
50	37.65	2.01	1.06	3.18
55	35.12	1.88	0.93	3.05
60	32.94	1.76	0.81	2.91
65	31.04	1.66	0.71	2.76
70	29.37	1.57	0.62	2.60
75	27.89	1.49	0.54	2.43
90	24.29	1.30	0.35	1.87
105	21.58	1.15	0.20	1.27
120	19.47	1.04	0.09	0.64

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 1**

OTTAWA IDF CURVE

Area =	0.021	ha	Qallow =	1.10	L/s
C =	1.00		Vol(max) =	8.1	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	14.40	13.30	3.99
10	178.56	10.59	9.49	5.70
15	142.89	8.48	7.38	6.64
20	119.95	7.12	6.02	7.22
25	103.85	6.16	5.06	7.59
30	91.87	5.45	4.35	7.83
35	82.58	4.90	3.80	7.98
40	75.15	4.46	3.36	8.06
45	69.05	4.10	3.00	8.09
50	63.95	3.79	2.69	8.08
55	59.62	3.54	2.44	8.04
60	55.89	3.32	2.22	7.98
65	52.65	3.12	2.02	7.89
70	49.79	2.95	1.85	7.79
75	47.26	2.80	1.70	7.67
90	41.11	2.44	1.34	7.23
105	36.50	2.17	1.07	6.71
120	32.89	1.95	0.85	6.13

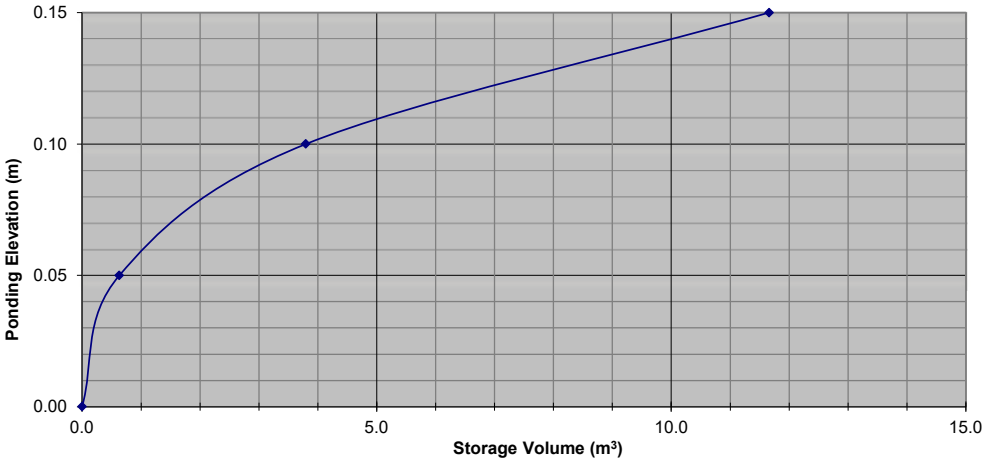
Watts Accutrol Flow Control Roof Drains: RD-100-A-ADJ set to 1/2 Exposed

Design Event	Flow/Drain (L/s)	Total Flow (L/s)	Ponding (cm)	Storage (m^3) Required	Storage (m^3) Provided
1:5 Year	0.95	0.95	10	3.5	11.7
1:100 Year	1.10	1.10	13	8.1	11.7

Roof Drain Storage Table (RD 1)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	25.3	0.6
0.10	101.2	3.8
0.15	213.4	11.7

Stage Storage Curve: Area BLDG
Controlled Roof Drain #1



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 2**

OTTAWA IDF CURVE

Area =	0.021	ha	Qallow =	0.95	L/s
C =	0.90		Vol(max) =	3.4	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	7.48	6.53	1.96
10	104.19	5.52	4.57	2.74
15	83.56	4.43	3.48	3.13
20	70.25	3.72	2.77	3.33
25	60.90	3.23	2.28	3.42
30	53.93	2.86	1.91	3.43
35	48.52	2.57	1.62	3.40
40	44.18	2.34	1.39	3.34
45	40.63	2.15	1.20	3.25
50	37.65	2.00	1.05	3.14
55	35.12	1.86	0.91	3.01
60	32.94	1.75	0.80	2.86
65	31.04	1.65	0.70	2.71
70	29.37	1.56	0.61	2.55
75	27.89	1.48	0.53	2.38
90	24.29	1.29	0.34	1.82
105	21.58	1.14	0.19	1.22
120	19.47	1.03	0.08	0.59

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 2**

OTTAWA IDF CURVE

Area =	0.021	ha	Qallow =	1.10	L/s
C =	1.00		Vol(max) =	8.0	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	14.29	13.19	3.96
10	178.56	10.51	9.41	5.65
15	142.89	8.41	7.31	6.58
20	119.95	7.06	5.96	7.16
25	103.85	6.11	5.01	7.52
30	91.87	5.41	4.31	7.76
35	82.58	4.86	3.76	7.90
40	75.15	4.42	3.32	7.98
45	69.05	4.07	2.97	8.01
50	63.95	3.77	2.67	8.00
55	59.62	3.51	2.41	7.96
60	55.89	3.29	2.19	7.89
65	52.65	3.10	2.00	7.80
70	49.79	2.93	1.83	7.69
75	47.26	2.78	1.68	7.57
90	41.11	2.42	1.32	7.13
105	36.50	2.15	1.05	6.61
120	32.89	1.94	0.84	6.03

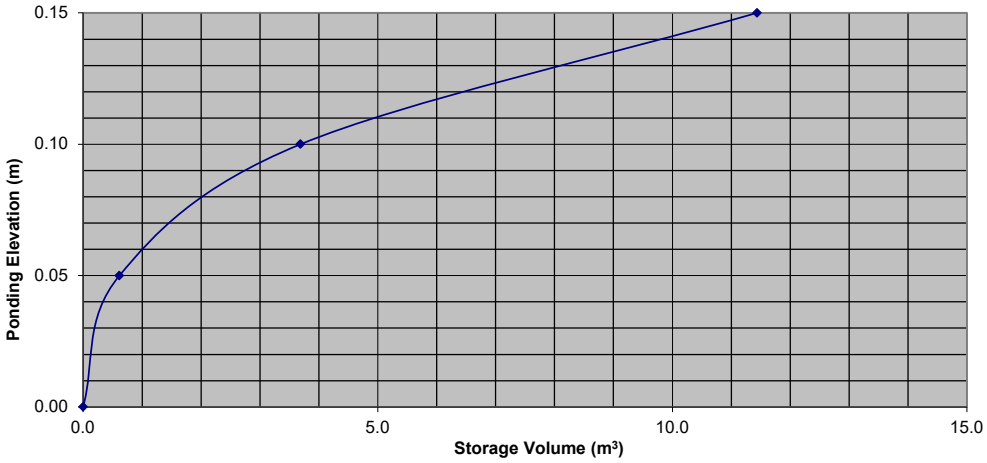
Watts Accutrol Flow Control Roof Drains: RD-100-A-ADJ set to 1/2 Exposed

Design Event	Flow/Drain (L/s)	Total Flow (L/s)	Ponding (cm)	Storage (m^3) Required	Storage (m^3) Provided
1:5 Year	0.95	0.95	10	3.4	11.4
1:100 Year	1.10	1.10	13	8.0	11.4

Roof Drain Storage Table (RD-2)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	24.6	0.6
0.10	98.3	3.7
0.15	211.8	11.4

Stage Storage Curve: Area BLDG
Controlled Roof Drain #2



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 3**

OTTAWA IDF CURVE

Area =	0.031	ha	Qallow =	1.26	L/s
C =	0.90		Vol(max) =	5.1	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	10.77	9.51	2.85
10	104.19	7.95	6.69	4.01
15	83.56	6.38	5.12	4.60
20	70.25	5.36	4.10	4.92
25	60.90	4.65	3.39	5.08
30	53.93	4.12	2.86	5.14
35	48.52	3.70	2.44	5.13
40	44.18	3.37	2.11	5.07
45	40.63	3.10	1.84	4.97
50	37.65	2.87	1.61	4.84
55	35.12	2.68	1.42	4.69
60	32.94	2.51	1.25	4.51
65	31.04	2.37	1.11	4.33
70	29.37	2.24	0.98	4.12
75	27.89	2.13	0.87	3.91
90	24.29	1.85	0.59	3.20
105	21.58	1.65	0.39	2.44
120	19.47	1.49	0.23	1.62

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 3**

OTTAWA IDF CURVE

Area =	0.031	ha	Qallow =	1.58	L/s
C =	1.00		Vol(max) =	11.5	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	20.58	19.00	5.70
10	178.56	15.14	13.56	8.14
15	142.89	12.12	10.54	9.48
20	119.95	10.17	8.59	10.31
25	103.85	8.81	7.23	10.84
30	91.87	7.79	6.21	11.18
35	82.58	7.00	5.42	11.39
40	75.15	6.37	4.79	11.50
45	69.05	5.85	4.27	11.54
50	63.95	5.42	3.84	11.53
55	59.62	5.06	3.48	11.47
60	55.89	4.74	3.16	11.37
65	52.65	4.46	2.88	11.25
70	49.79	4.22	2.64	11.09
75	47.26	4.01	2.43	10.92
90	41.11	3.49	1.91	10.29
105	36.50	3.09	1.51	9.54
120	32.89	2.79	1.21	8.71

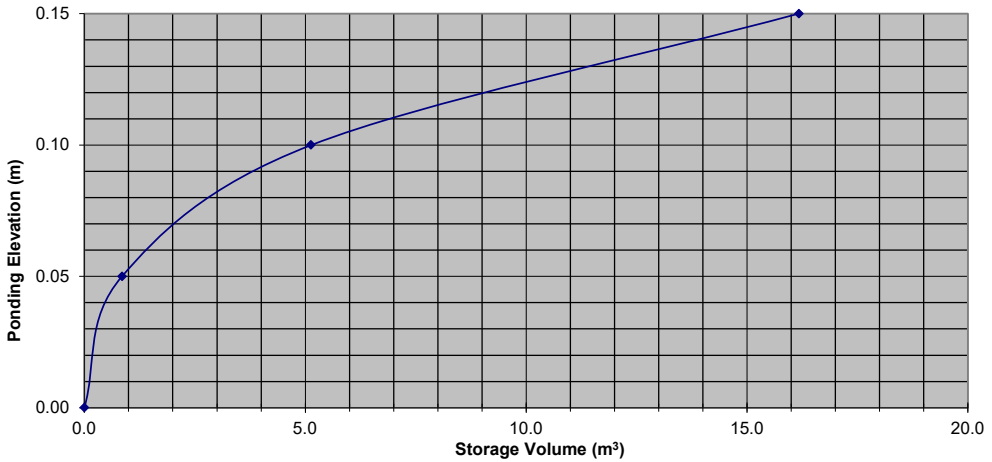
Watts Accutrol Flow Control Roof Drains: RD-100-A-ADJ set to Fully Exposed

Design Event	Flow/Drain (L/s)	Total Flow (L/s)	Ponding (cm)	Storage (m^3) Required	Storage (m^3) Provided
1:5 Year	1.26	1.26	10	5.1	16.2
1:100 Year	1.58	1.58	13	11.5	16.2

Roof Drain Storage Table (RD-3)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	34.2	0.9
0.10	136.8	5.1
0.15	305.0	16.2

Stage Storage Curve: Area BLDG
Controlled Roof Drain #3



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 4**

OTTAWA IDF CURVE

Area =	0.031	ha	Qallow =	1.26	L/s
C =	0.90		Vol(max) =	5.1	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	10.77	9.51	2.85
10	104.19	7.95	6.69	4.01
15	83.56	6.38	5.12	4.60
20	70.25	5.36	4.10	4.92
25	60.90	4.65	3.39	5.08
30	53.93	4.12	2.86	5.14
35	48.52	3.70	2.44	5.13
40	44.18	3.37	2.11	5.07
45	40.63	3.10	1.84	4.97
50	37.65	2.87	1.61	4.84
55	35.12	2.68	1.42	4.69
60	32.94	2.51	1.25	4.51
65	31.04	2.37	1.11	4.33
70	29.37	2.24	0.98	4.12
75	27.89	2.13	0.87	3.91
90	24.29	1.85	0.59	3.20
105	21.58	1.65	0.39	2.44
120	19.47	1.49	0.23	1.62

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 4**

OTTAWA IDF CURVE

Area =	0.031	ha	Qallow =	1.58	L/s
C =	1.00		Vol(max) =	11.5	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	20.58	19.00	5.70
10	178.56	15.14	13.56	8.14
15	142.89	12.12	10.54	9.48
20	119.95	10.17	8.59	10.31
25	103.85	8.81	7.23	10.84
30	91.87	7.79	6.21	11.18
35	82.58	7.00	5.42	11.39
40	75.15	6.37	4.79	11.50
45	69.05	5.85	4.27	11.54
50	63.95	5.42	3.84	11.53
55	59.62	5.06	3.48	11.47
60	55.89	4.74	3.16	11.37
65	52.65	4.46	2.88	11.25
70	49.79	4.22	2.64	11.09
75	47.26	4.01	2.43	10.92
90	41.11	3.49	1.91	10.29
105	36.50	3.09	1.51	9.54
120	32.89	2.79	1.21	8.71

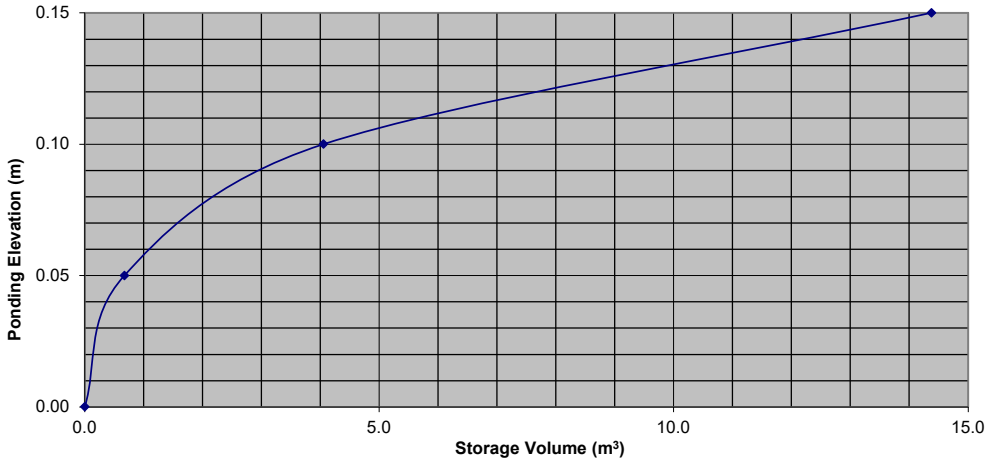
Watts Accutrol Flow Control Roof Drains: RD-100-A-ADJ set to Fully Exposed

Design Event	Flow/Drain (L/s)	Total Flow (L/s)	Ponding (cm)	Storage (m^3) Required	Storage (m^3) Provided
1:5 Year	1.26	1.26	11	5.1	14.4
1:100 Year	1.58	1.58	14	11.5	14.4

Roof Drain Storage Table (RD-4)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	27.0	0.7
0.10	108.0	4.1
0.15	305.0	14.4

Stage Storage Curve: Area BLDG
Controlled Roof Drain #4



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 5**

OTTAWA IDF CURVE

Area =	0.031	ha	Qallow =	1.26	L/s
C =	0.90		Vol(max) =	5.1	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	10.77	9.51	2.85
10	104.19	7.95	6.69	4.01
15	83.56	6.38	5.12	4.60
20	70.25	5.36	4.10	4.92
25	60.90	4.65	3.39	5.08
30	53.93	4.12	2.86	5.14
35	48.52	3.70	2.44	5.13
40	44.18	3.37	2.11	5.07
45	40.63	3.10	1.84	4.97
50	37.65	2.87	1.61	4.84
55	35.12	2.68	1.42	4.69
60	32.94	2.51	1.25	4.51
65	31.04	2.37	1.11	4.33
70	29.37	2.24	0.98	4.12
75	27.89	2.13	0.87	3.91
90	24.29	1.85	0.59	3.20
105	21.58	1.65	0.39	2.44
120	19.47	1.49	0.23	1.62

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 5**

OTTAWA IDF CURVE

Area =	0.031	ha	Qallow =	1.58	L/s
C =	1.00		Vol(max) =	11.5	m3

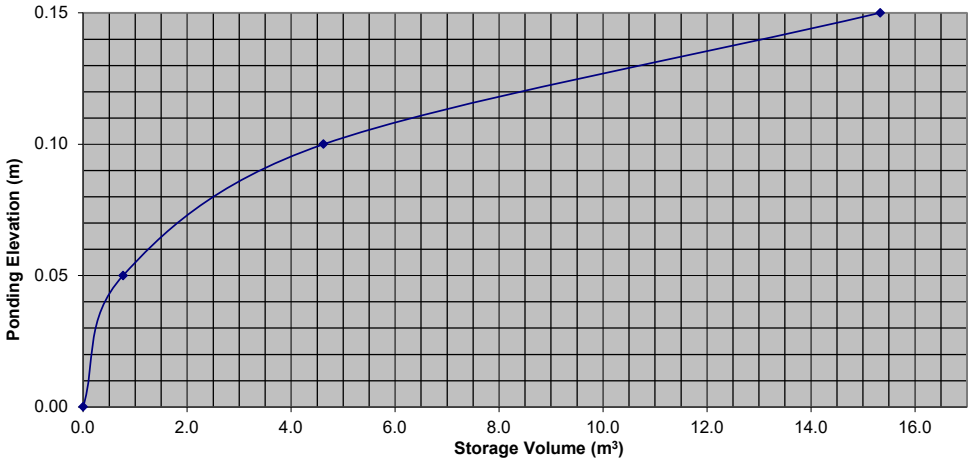
Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	20.58	19.00	5.70
10	178.56	15.14	13.56	8.14
15	142.89	12.12	10.54	9.48
20	119.95	10.17	8.59	10.31
25	103.85	8.81	7.23	10.84
30	91.87	7.79	6.21	11.18
35	82.58	7.00	5.42	11.39
40	75.15	6.37	4.79	11.50
45	69.05	5.85	4.27	11.54
50	63.95	5.42	3.84	11.53
55	59.62	5.06	3.48	11.47
60	55.89	4.74	3.16	11.37
65	52.65	4.46	2.88	11.25
70	49.79	4.22	2.64	11.09
75	47.26	4.01	2.43	10.92
90	41.11	3.49	1.91	10.29
105	36.50	3.09	1.51	9.54
120	32.89	2.79	1.21	8.71

Watts Accutrol Flow Control Roof Drains:			RD-100-A-ADJ set to Fully Exposed		
Design Event	**Flow/Drain (L/s)**	**Total Flow (L/s)**	**Ponding (cm)**	**Storage (m^3)**	
				Required	**Provided**
1:5 Year	1.26	1.26	10	5.1	15.3
1:100 Year	1.58	1.58	13	11.5	15.3

Roof Drain Storage Table (RD-5)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	30.8	0.8
0.10	123.3	4.6
0.15	305.0	15.3

Stage Storage Curve: Area BLDG
Controlled Roof Drain #5



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 6**

OTTAWA IDF CURVE

Area =	0.021	ha	Qallow =	1.10	L/s
C =	0.90		Vol(max) =	3.2	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	7.51	6.41	1.92
10	104.19	5.54	4.44	2.66
15	83.56	4.44	3.34	3.01
20	70.25	3.74	2.64	3.16
25	60.90	3.24	2.14	3.21
30	53.93	2.87	1.77	3.18
35	48.52	2.58	1.48	3.11
40	44.18	2.35	1.25	3.00
45	40.63	2.16	1.06	2.86
50	37.65	2.00	0.90	2.71
55	35.12	1.87	0.77	2.53
60	32.94	1.75	0.65	2.35
65	31.04	1.65	0.55	2.15
70	29.37	1.56	0.46	1.94
75	27.89	1.48	0.38	1.72
90	24.29	1.29	0.19	1.03
105	21.58	1.15	0.05	0.30
120	19.47	1.04	-0.06	-0.47

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 6**

OTTAWA IDF CURVE

Area =	0.021	ha	Qallow =	1.34	L/s
C =	1.00		Vol(max) =	7.4	m3

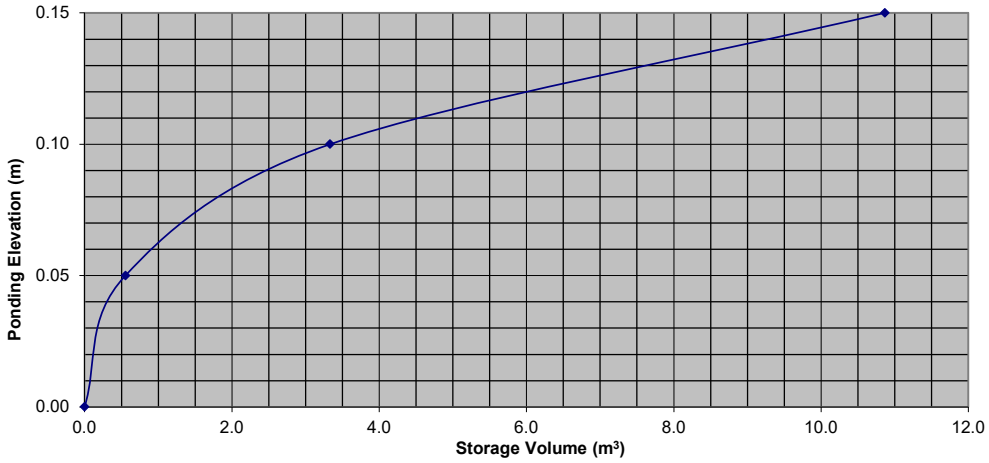
Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	14.34	13.00	3.90
10	178.56	10.55	9.21	5.53
15	142.89	8.44	7.10	6.39
20	119.95	7.09	5.75	6.90
25	103.85	6.13	4.79	7.19
30	91.87	5.43	4.09	7.36
35	82.58	4.88	3.54	7.43
40	75.15	4.44	3.10	7.44
45	69.05	4.08	2.74	7.40
50	63.95	3.78	2.44	7.31
55	59.62	3.52	2.18	7.20
60	55.89	3.30	1.96	7.06
65	52.65	3.11	1.77	6.90
70	49.79	2.94	1.60	6.73
75	47.26	2.79	1.45	6.53
90	41.11	2.43	1.09	5.88
105	36.50	2.16	0.82	5.14
120	32.89	1.94	0.60	4.34

Watts Accutrol Flow Control Roof Drains:			RD-100-A-ADJ set to 3/4 Exposed		
Design Event	**Flow/Drain (L/s)**	**Total Flow (L/s)**	**Ponding (cm)**	**Storage (m^3)**	
				Required	**Provided**
1:5 Year	1.10	1.10	10	3.2	10.9
1:100 Year	1.34	1.34	13	7.4	10.9

Roof Drain Storage Table (RD-6)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	22.2	0.6
0.10	88.9	3.3
0.15	212.5	10.9

Stage Storage Curve: Area BLDG
Controlled Roof Drain #6



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 7**

OTTAWA IDF CURVE

Area =	0.006	ha	Qallow =	0.32	L/s
C =	0.90		Vol(max) =	0.8	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	1.97	1.65	0.50
10	104.19	1.45	1.13	0.68
15	83.56	1.17	0.85	0.76
20	70.25	0.98	0.66	0.79
25	60.90	0.85	0.53	0.80
30	53.93	0.75	0.43	0.78
35	48.52	0.68	0.36	0.75
40	44.18	0.62	0.30	0.71
45	40.63	0.57	0.25	0.67
50	37.65	0.53	0.21	0.62
55	35.12	0.49	0.17	0.56
60	32.94	0.46	0.14	0.50
65	31.04	0.43	0.11	0.44
70	29.37	0.41	0.09	0.38
75	27.89	0.39	0.07	0.31
90	24.29	0.34	0.02	0.10
105	21.58	0.30	-0.02	-0.12
120	19.47	0.27	-0.05	-0.35

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 7**

OTTAWA IDF CURVE

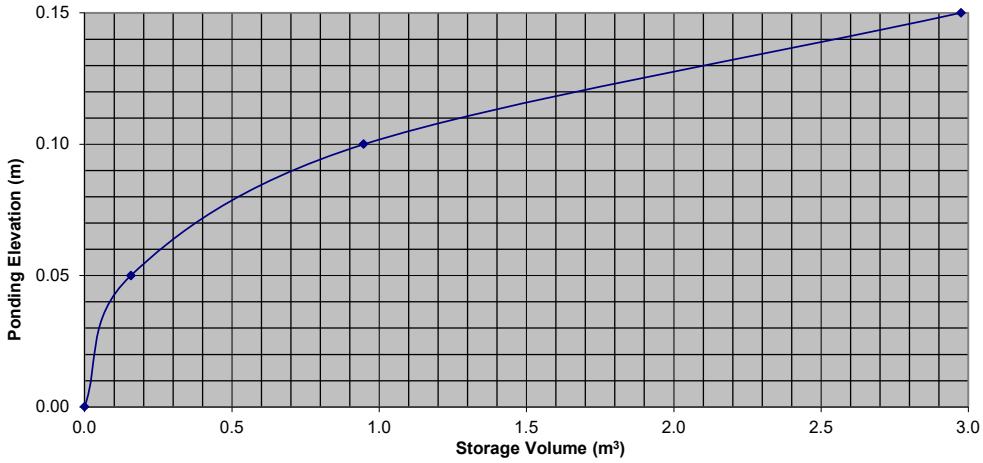
Area =	0.006	ha	Qallow =	0.32	L/s
C =	1.00		Vol(max) =	2.0	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	3.76	3.44	1.03
10	178.56	2.77	2.45	1.47
15	142.89	2.22	1.90	1.71
20	119.95	1.86	1.54	1.85
25	103.85	1.61	1.29	1.94
30	91.87	1.43	1.11	1.99
35	82.58	1.28	0.96	2.02
40	75.15	1.17	0.85	2.03
45	69.05	1.07	0.75	2.03
50	63.95	0.99	0.67	2.02
55	59.62	0.92	0.60	2.00
60	55.89	0.87	0.55	1.97
65	52.65	0.82	0.50	1.94
70	49.79	0.77	0.45	1.90
75	47.26	0.73	0.41	1.86
90	41.11	0.64	0.32	1.72
105	36.50	0.57	0.25	1.55
120	32.89	0.51	0.19	1.37

Watts Accutrol Flow Control Roof Drains:			RD-100-A-ADJ set to Closed		
Design Event	**Flow/Drain (L/s)**	**Total Flow (L/s)**	**Ponding (cm)**	**Storage (m^3)**	
				Required	**Provided**
1:5 Year	0.32	0.32	10	0.8	3.0
1:100 Year	0.32	0.32	13	2.0	3.0

Roof Drain Storage Table (RD-7)		
Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	6.3	0.2
0.10	25.3	0.9
0.15	55.8	3.0

Stage Storage Curve: Area BLDG
Controlled Roof Drain #7



SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:5 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 8**

OTTAWA IDF CURVE

Area =	0.003	ha	Qallow =	0.32	L/s
C =	0.90		Vol(max) =	0.3	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	141.18	1.06	0.74	0.22
10	104.19	0.78	0.46	0.28
15	83.56	0.63	0.31	0.27
20	70.25	0.53	0.21	0.25
25	60.90	0.46	0.14	0.20
30	53.93	0.40	0.08	0.15
35	48.52	0.36	0.04	0.09
40	44.18	0.33	0.01	0.03
45	40.63	0.30	-0.02	-0.04
50	37.65	0.28	-0.04	-0.11
55	35.12	0.26	-0.06	-0.19
60	32.94	0.25	-0.07	-0.26
65	31.04	0.23	-0.09	-0.34
70	29.37	0.22	-0.10	-0.42
75	27.89	0.21	-0.11	-0.50
90	24.29	0.18	-0.14	-0.75
105	21.58	0.16	-0.16	-1.00
120	19.47	0.15	-0.17	-1.26

SerenVita Site
PROJECT NO: 124150A
REQUIRED STORAGE - 1:100 YEAR EVENT
AREA BLDG **Controlled Roof Drain RD 8**

OTTAWA IDF CURVE

Area =	0.003	ha	Qallow =	0.32	L/s
C =	1.00		Vol(max) =	0.8	m3

Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)
5	242.70	2.02	1.70	0.51
10	178.56	1.48	1.16	0.70
15	142.89	1.19	0.87	0.78
20	119.95	1.00	0.68	0.81
25	103.85	0.86	0.54	0.81
30	91.87	0.76	0.44	0.80
35	82.58	0.69	0.37	0.77
40	75.15	0.62	0.30	0.73
45	69.05	0.57	0.25	0.69
50	63.95	0.53	0.21	0.63
55	59.62	0.50	0.18	0.58
60	55.89	0.46	0.14	0.52
65	52.65	0.44	0.12	0.46
70	49.79	0.41	0.09	0.39
75	47.26	0.39	0.07	0.33
90	41.11	0.34	0.02	0.12
105	36.50	0.30	-0.02	-0.10
120	32.89	0.27	-0.05	-0.34

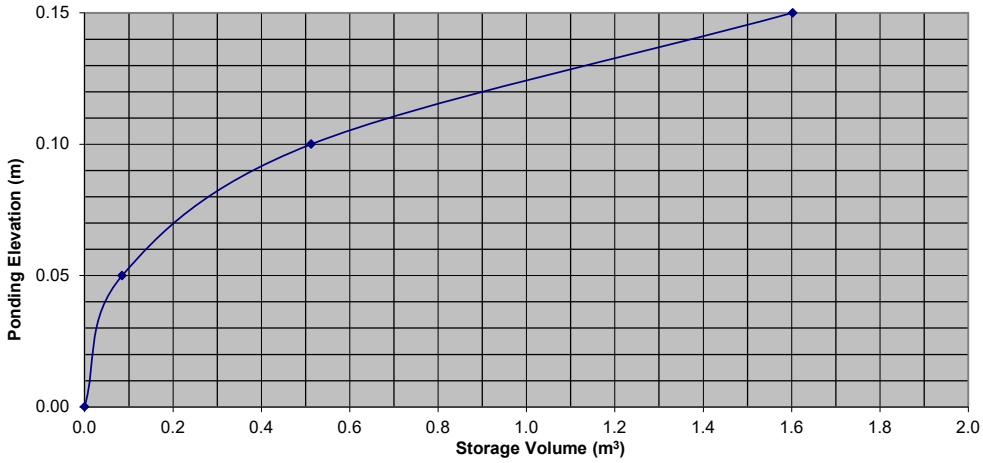
Watts Accutrol Flow Control Roof Drains: RD-100-A-ADJ set to Closed

Design Event	Flow/Drain (L/s)	Total Flow (L/s)	Ponding (cm)	Storage (m^3) Required	Storage (m^3) Provided
1:5 Year	0.32	0.32	10	0.3	1.6
1:100 Year	0.32	0.32	13	0.8	1.6

Roof Drain Storage Table (RD-8)

Elevation	Area RD 1	Total Volume
m	m^2	m^3
0.00	0	0
0.05	3.4	0.1
0.10	13.7	0.5
0.15	29.9	1.6

Stage Storage Curve: Area BLDG
Controlled Roof Drain #8



User Inputs

Chamber Model:	SC-800
Outlet Control Structure:	Yes
Project Name:	124150A
Bed Name	Bed 1
Engineer:	Lindsey Corry
Project Location:	Ontario
Measurement Type:	Metric
Required Storage Volume:	165.01 cubic meters.
Stone Porosity:	40%
Stone Foundation Depth:	153 mm.
Stone Above Chambers:	153 mm.
Average Cover Over Chambers:	381 mm.
Design Constraint Dimensions:	(9.01 m. x 26.00 m.)

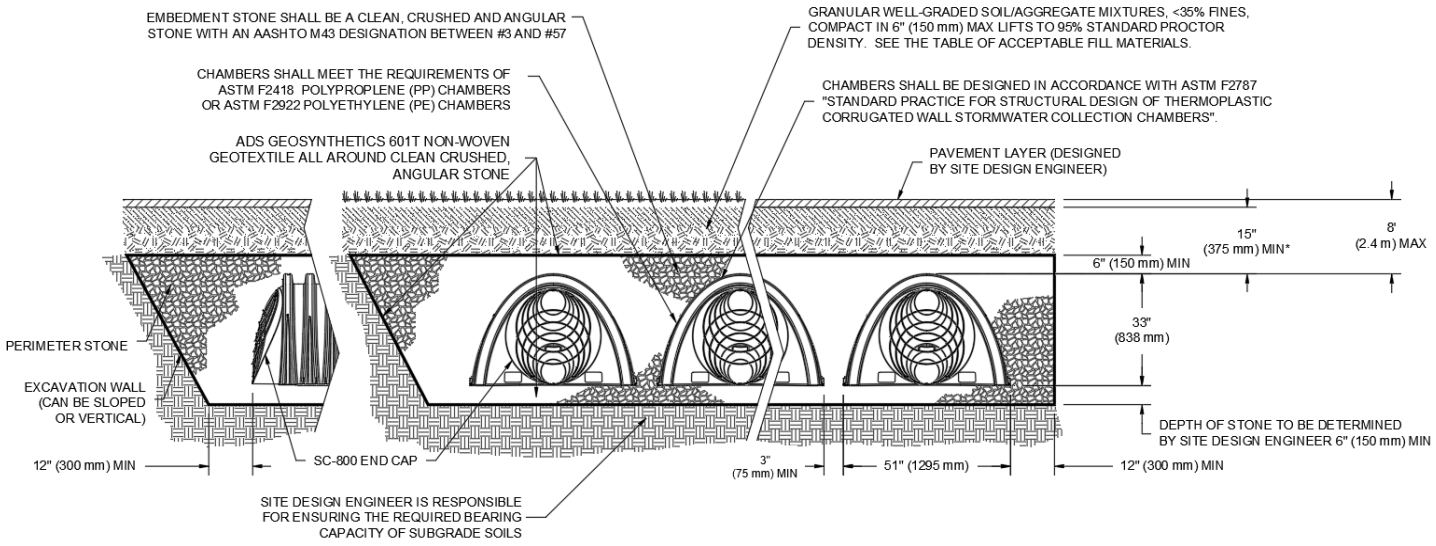
Results

System Volume and Bed Size

Installed Storage Volume:	169.13 cubic meters.
Storage Volume Per Chamber:	1.44 cubic meters.
Number Of Chambers Required:	66
Number Of End Caps Required:	12
Chamber Rows:	6
Maximum Length:	27.31 m.
Maximum Width:	8.95 m.
Approx. Bed Size Required:	244.24 square meters.

System Components

Amount Of Stone Required (0% Overage):	127 cubic meters
(Cubic yard to ton factor:1.4):	231.04 tons
Volume Of Excavation (Not Including Fill):	280 cubic meters
Total Non-woven Geotextile Required:	820 square meters
Woven Geotextile Required (excluding Isolator Row):	53 square meters
Woven Geotextile Required (Isolator Row):	45 square meters
Total Woven Geotextile Required:	116 square meters
Impervious Liner Required:	0 square meters



*MINIMUM COVER TO BOTTOM OF FLEXIBLE PAVEMENT. FOR UNPAVED INSTALLATIONS WHERE RUTTING FROM VEHICLES MAY OCCUR, INCREASE COVER TO 24" (600 mm).

User Inputs

Chamber Model:	MC-3500
Outlet Control Structure:	Yes
Project Name:	124150A
Bed Name	Bed 2
Engineer:	Lindsey Corry
Project Location:	Ontario
Measurement Type:	Metric
Required Storage Volume:	105.01 cubic meters.
Stone Porosity:	40%
Stone Foundation Depth:	229 mm.
Stone Above Chambers:	305 mm.
Average Cover Over Chambers:	458 mm.
Design Constraint Dimensions:	(5.00 m. x 23.01 m.)

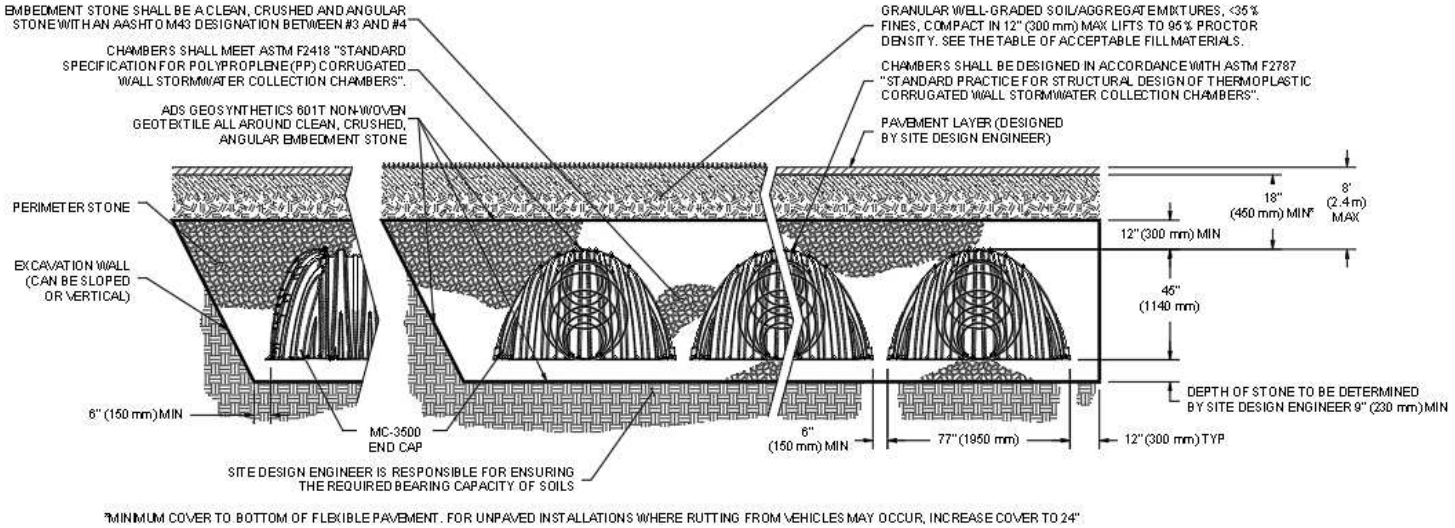
Results

System Volume and Bed Size

Installed Storage Volume:	108.20 cubic meters.
Storage Volume Per Chamber:	3.12 cubic meters.
Number Of Chambers Required:	18
Number Of End Caps Required:	4
Chamber Rows:	2
Maximum Length:	22.59 m.
Maximum Width:	4.86 m.
Approx. Bed Size Required:	109.69 square meters.

System Components

Amount Of Stone Required (0% Overage):	127 cubic meters
(Cubic yard to ton factor:1.4):	231.04 tons
Volume Of Excavation (Not Including Fill):	184 cubic meters
Total Non-woven Geotextile Required:	447 square meters
Woven Geotextile Required (excluding Isolator Row):	25 square meters
Woven Geotextile Required (Isolator Row):	67 square meters
Total Woven Geotextile Required:	109 square meters
Impervious Liner Required:	0 square meters



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INSTALLATION INSTRUCTIONS
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SC-800 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-800.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM V RGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF THE SC-800 SYSTEM

1. STORMTECH SC-800 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-800".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON TOP OF THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 3" (75 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
8. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
9. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

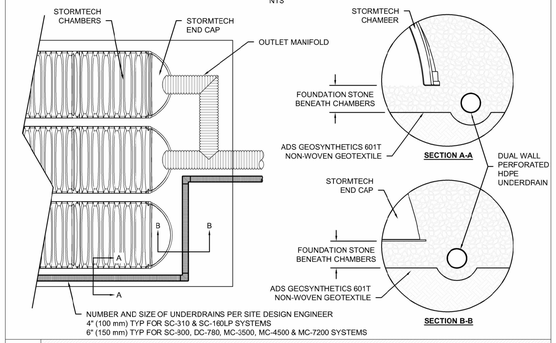
NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH SC-800 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-800".
2. THE USE OF CONSTRUCTION EQUIPMENT OVER SC-800 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADERS, DUMP TRUCKS, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-800".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE SC-310/DC-780/SC-800".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

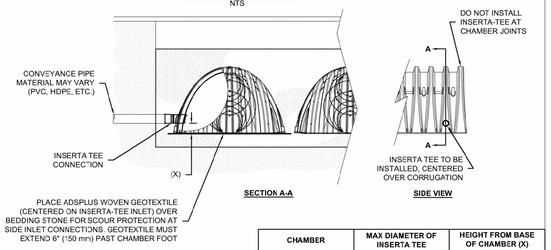
CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

UNDERDRAIN DETAIL
NTS



5 UNDERDRAIN DETAIL

INSERTA TEE DETAIL
NTS

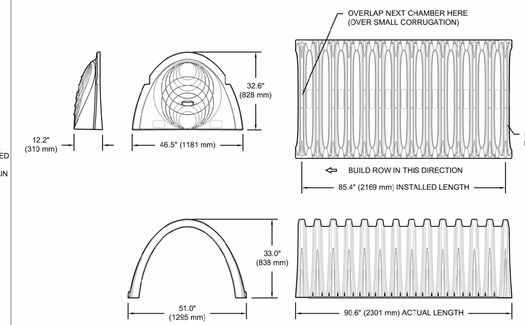


CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	5" (150 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

6 INSERTA-TEE SIDE INLET DETAIL

SC-800 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	51.0" X 33.0" X 85.4"	(1295 mm X 838 mm X 2169 mm)
CHAMBER STORAGE	50.6 CUBIC FEET	(1.43 m³)
MINIMUM INSTALLED STORAGE*	78.4 CUBIC FEET	(2.22 m³)
WEIGHT	81.8 lbs.	(37.1 kg)

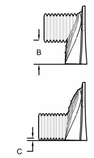
NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	46.5" X 32.6" X 10.5"	(1181 mm X 828 mm X 267 mm)
END CAP STORAGE	3.4 CUBIC FEET	(0.09 m³)
MINIMUM INSTALLED STORAGE**	14.7 CUBIC FEET	(0.42 m³)
WEIGHT	15.7 lbs.	(7.1 kg)

* ASSUMES 6" (150 mm) STONE ABOVE AND BELOW CHAMBER, 3" (75 mm) BETWEEN CHAMBERS
**ASSUMES 6" (150 mm) STONE ABOVE AND BELOW END CAPS, 3" (75 mm) BETWEEN ROWS, 12" (300 mm) BEYOND END CAPS

PRE-CORED HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "BPC"
PRE-CORED HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "TPC"

PART #	STUB	B	C
SC800EPE06TPC	6" (150 mm)	21.4" (544 mm)	---
SC800EPE06BPC		---	0.9" (23 mm)
SC800EPE08TPC	8" (200 mm)	19.2" (488 mm)	---
SC800EPE08BPC		---	1.0" (25 mm)
SC800EPE10TPC	10" (250 mm)	17.0" (432 mm)	---
SC800EPE10BPC		---	1.2" (30 mm)
SC800EPE12TPC	12" (300 mm)	14.4" (366 mm)	---
SC800EPE12BPC		---	1.6" (41 mm)
SC800EPE15TPC	15" (375 mm)	11.3" (287 mm)	---
SC800EPE15BPC		---	1.7" (43 mm)
SC800EPE18TPC	18" (450 mm)	8.0" (203 mm)	---
SC800EPE18BPC		---	2.0" (51 mm)
SC800ECE2	24" (600 mm)	---	2.3" (58 mm)



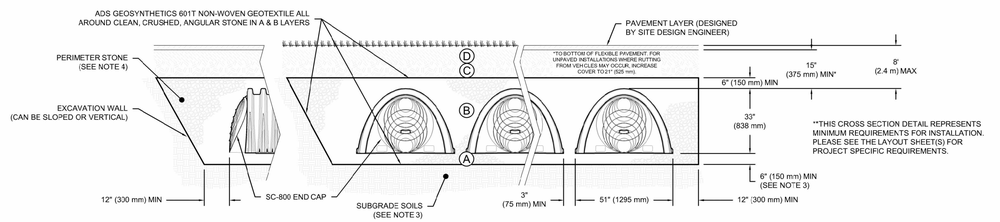
NOTE: ALL DIMENSIONS ARE NOMINAL

2 SC-800 TECHNICAL SPECIFICATIONS

ACCEPTABLE FILL MATERIALS: STORMTECH SC-800 CHAMBER SYSTEMS

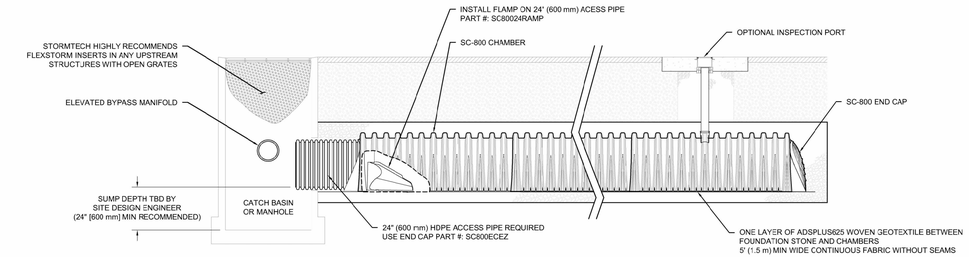
	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 15" (375 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 12" (300 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 6" (150 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS. ROLLER GROSS VEHICLE WEIGHT NOT TO EXCEED 12,000 lbs (53 kN). DYNAMIC FORCE NOT TO EXCEED 2C,000 lbs (89 kN).
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL, BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (150 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



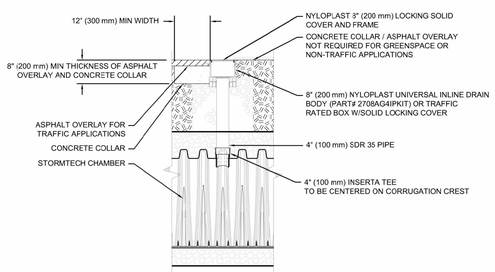
NOTES:
1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 2" (50 mm).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 700 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 SC-800 CROSS SECTION DETAIL



SC-800 ISOLATOR ROW PLUS DETAIL
NTS

3 SC-800 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION CREST.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)
NTS

4 4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACULM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4" PVC INSPECTION PORT DETAIL (SC SERIES CHAMBER)

DRAWN: SMW | DATE: 08/05/2025
REVIEWED: JLM | PROJECT NO: 721-890
REV: | NOT TO SCALE

SC-800 STANDARD DETAILS

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026

Advanced Drainage Systems, Inc.

SHEET 1

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT. NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER, THE SITE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION AND SEALING THE DOCUMENT. IT IS THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

Advanced Drainage Systems, Inc.

SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR WEBSITE

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL BE CERTIFIED TO CSA B184, "POLYMERIC SUB-SURFACE STORMWATER MANAGEMENT STRUCTURES", AND MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE CSA S6 CL-625 TRUCK AND THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 75 mm (3").
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 23° C / 73° F), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECHNICAL NOTE 6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 150 mm (6") SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 300 mm (12") INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

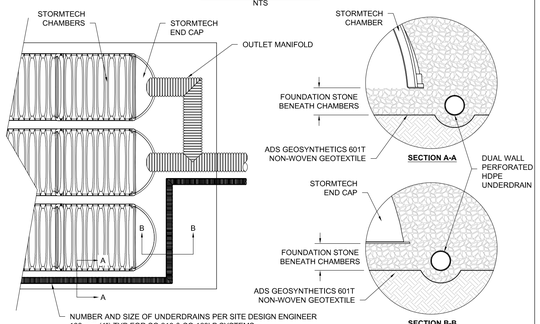
NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH INSTALLATION GUIDE MC-3500 & MC-4500 CHAMBER".
3. FULL 900 mm (36") OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

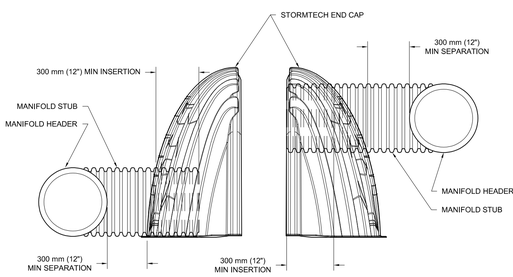
UNDERDRAIN DETAIL
NTS



NUMBER AND SIZE OF UNDERDRAINS PER SITE DESIGN ENGINEER
100 mm (4") TYP FOR SC-310 & SC-160LP SYSTEMS
150 mm (6") TYP FOR SC-800, DC-780, MC-3500, MC-4500 & MC-7200 SYSTEMS

5 UNDERDRAIN DETAIL

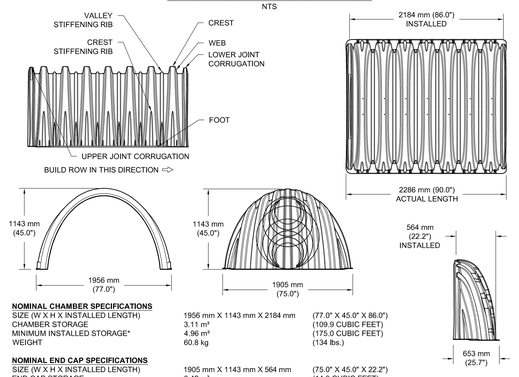
MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

6 MC-SERIES END CAP INSERTION DETAIL

MC-3500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	1956 mm X 1143 mm X 2184 mm	(77.0" X 45.0" X 86.0")
CHAMBER STORAGE	3.11 m³	(109.9 CUBIC FEET)
MINIMUM INSTALLED STORAGE*	4.96 m³	(175.0 CUBIC FEET)
WEIGHT	60.8 kg	(134 lbs.)

NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	1905 mm X 1143 mm X 564 mm	(75.0" X 45.0" X 22.2")
END CAP STORAGE	0.42 m³	(14.9 CUBIC FEET)
MINIMUM INSTALLED STORAGE*	1.28 m³	(45.1 CUBIC FEET)
WEIGHT	22.2 kg	(49 lbs.)

*ASSUMES 305 mm (12") STONE ABOVE, 229 mm (9") STONE FOUNDATION, 152 mm (6") STONE BETWEEN CHAMBERS, 152 mm (6") STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

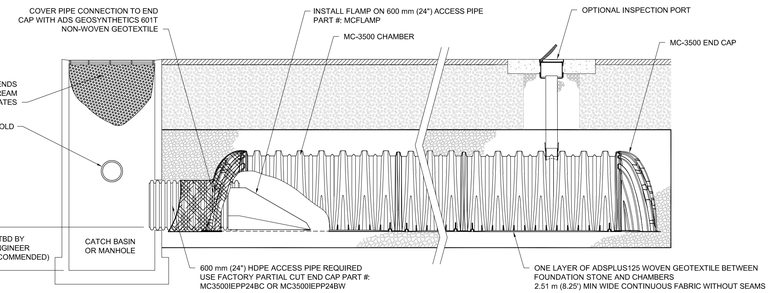
PARTIAL CUT HOLES AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
PARTIAL CUT HOLES AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"

PART #	STUB	B	C
MC3500IEPP06T	150 mm (6")	844 mm (33.21")	—
MC3500IEPP06B		---	17 mm (0.66")
MC3500IEPP08T	200 mm (8")	791 mm (31.16")	—
MC3500IEPP08B		---	21 mm (0.81")
MC3500IEPP10T	250 mm (10")	738 mm (29.04")	—
MC3500IEPP10B		---	24 mm (0.93")
MC3500IEPP12T	300 mm (12")	670 mm (26.36")	—
MC3500IEPP12B		---	34 mm (1.35")
MC3500IEPP15T	375 mm (15")	594 mm (23.39")	—
MC3500IEPP15B		---	38 mm (1.50")
MC3500IEPP18TC	450 mm (18")	509 mm (20.03")	—
MC3500IEPP18TW			
MC3500IEPP18BC		---	45 mm (1.77")
MC3500IEPP18BW			
MC3500IEPP24TC	600 mm (24")	368 mm (14.48")	—
MC3500IEPP24TW			
MC3500IEPP24BC		---	52 mm (2.06")
MC3500IEPP24BW			
MC3500IEPP30BC	750 mm (30")	---	70 mm (2.75")

NOTE: ALL DIMENSIONS ARE NOMINAL

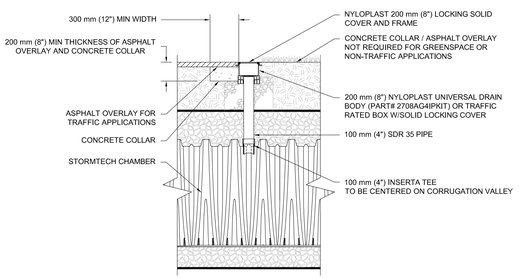
CUSTOM PARTIAL CUT INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 300-600 mm (12-24") SIZE ON SIZE AND 375-1200 mm (15-48") ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 250 mm (10"). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

2 MC-3500 TECHNICAL SPECIFICATIONS



MC-3500 ISOLATOR ROW PLUS DETAIL
NTS

3 MC-3500 ISOLATOR ROW PLUS DETAIL



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

100 mm (4") PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 80 mm (3") PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 80 mm (3") PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 1.1 m (45") OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

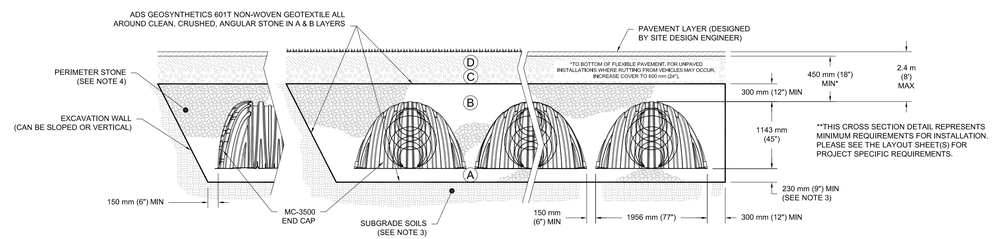
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

4 4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 450 mm (18") ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 450 mm (18") OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 300 mm (12") MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 230 mm (9") (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 75 mm (3").
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

1 MC-3500 CROSS SECTION DETAIL

MC-3500 STANDARD DETAILS

DRAWN: SMW | DATE: 08/05/2025
REVIEWED: JLM | PROJECT NO: 724-390_C
REV: | NOT TO SCALE

StormTech® Chamber System

4640 TRUEMAN BLVD
HILLIARD, OH 43026

Advanced Drainage Systems, Inc.

SHEET 1

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON REFERENCED STANDARDS. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. UNLESS THE PLANS ARE SIGNED AND SEALED BY THE SITE DESIGN ENGINEER, THE SITE DESIGN ENGINEER'S RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

CDS ESTIMATED NET ANNUAL SOLIDS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD
AND THE ETV PARTICLE SIZE DISTRIBUTION

Echelon Environmental
55 Albert Street, Suite #200 | Markham, ON, L3P 2T4
www.echelonenvironmental.ca info@echelonenvironmental.ca 905-948-0000

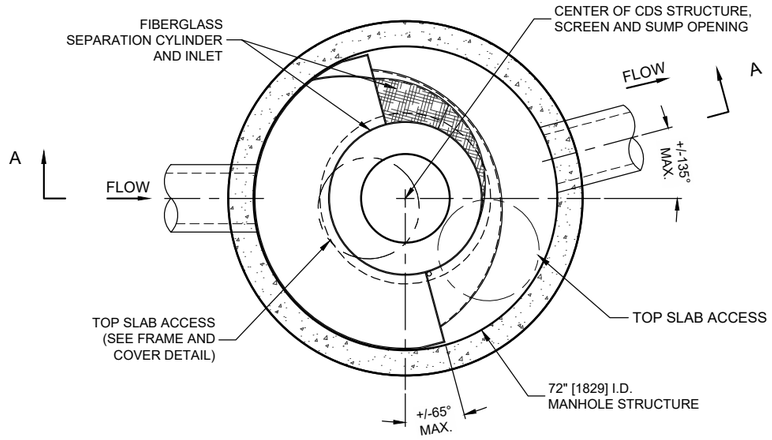
Project Name:	SerenVita (124150A)	**Engineer:**	**NOVATECH**
Location:	Ottawa, ON	**Contact:**	Lindsay Corry
OGS ID:	OGS	**Report Date:**	26-Jan-26

Area:	1.64	ha	**Rainfall Station #**	215	
C Value:	0.43		**Particle Size distribution:**	ETV	
CDS Model:	CDS 6		**CDS Treatment Capacity:**	61.1	l/s

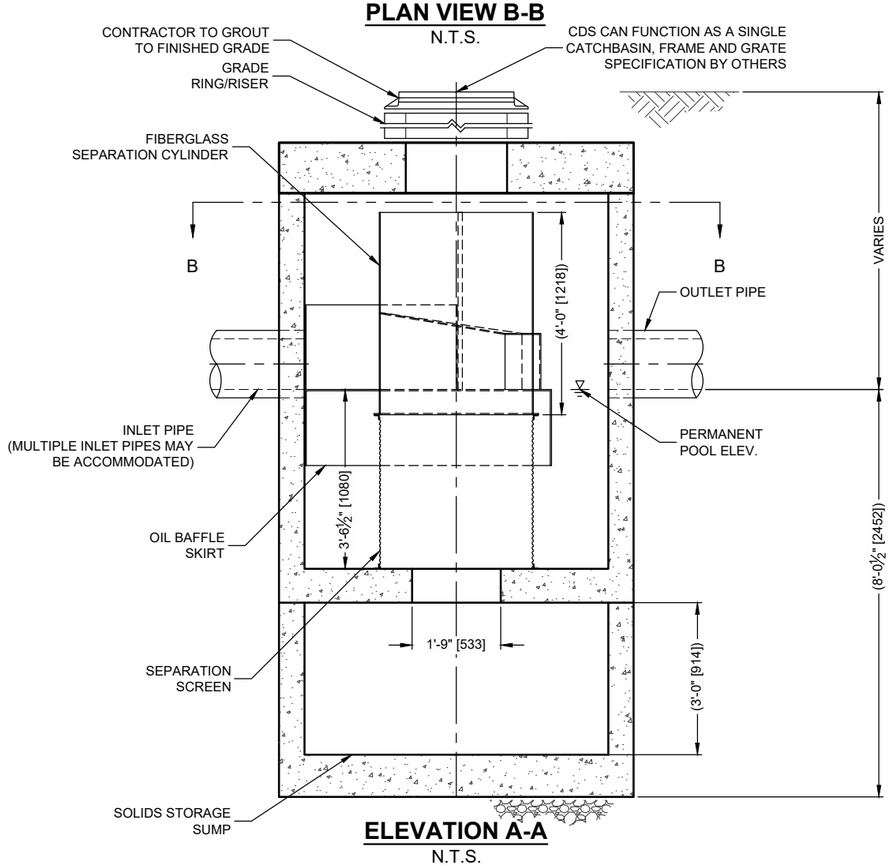
Rainfall Intensity[1] (mm/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
0.5	9.2%	9.2%	1.0	1.0	1.6	75.5	6.9
1.0	10.6%	19.8%	2.0	2.0	3.2	73.5	7.8
1.5	9.9%	29.7%	2.9	2.9	4.8	71.7	7.1
2.0	8.4%	38.1%	3.9	3.9	6.4	69.8	5.9
2.5	7.7%	45.8%	4.9	4.9	8.0	68.1	5.2
3.0	5.9%	51.7%	5.9	5.9	9.6	66.5	4.0
3.5	4.4%	56.1%	6.9	6.9	11.2	64.9	2.8
4.0	4.7%	60.7%	7.8	7.8	12.8	63.4	3.0
4.5	3.3%	64.0%	8.8	8.8	14.4	62.0	2.1
5.0	3.0%	67.1%	9.8	9.8	16.0	60.7	1.8
6.0	5.4%	72.4%	11.8	11.8	19.2	58.2	3.1
7.0	4.4%	76.8%	13.7	13.7	22.4	55.9	2.4
8.0	3.5%	80.3%	15.7	15.7	25.7	53.9	1.9
9.0	2.8%	83.2%	17.6	17.6	28.9	52.1	1.5
10.0	2.2%	85.3%	19.6	19.6	32.1	50.6	1.1
15.0	7.0%	92.3%	29.4	29.4	48.1	45.1	3.1
20.0	4.5%	96.9%	39.2	39.2	64.1	42.0	1.9
25.0	1.4%	98.3%	49.0	49.0	80.2	39.1	0.6
30.0	0.7%	99.0%	58.8	58.8	96.2	34.3	0.2
35.0	0.5%	99.5%	68.6	61.1	100.0	32.6	0.2
40.0	0.5%	100.0%	78.4	61.1	100.0	32.6	0.2
45.0	0.0%	100.0%	88.2	61.1	100.0	32.6	0.0
50.0	0.0%	100.0%	98.0	61.1	100.0	32.6	0.0

Predicted Net Annual TSS Removal Efficiency = 62.8%
Predicted Annual Rainfall Treated = 99.8%

1 - Based on 42 years of hourly rainfall data from Canadian Station 6105976, Ottawa ON
2 - TSS Removal Rate Based on ETV Testing



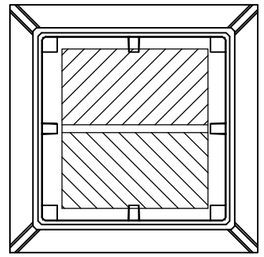
PLAN VIEW B-B
N.T.S.



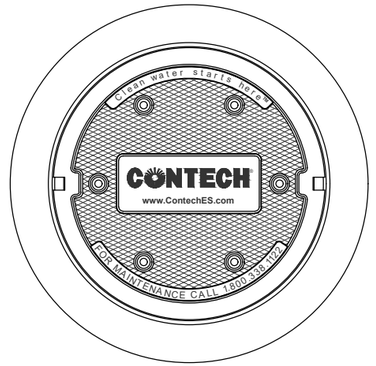
ELEVATION A-A
N.T.S.

CDS-6-C DESIGN NOTES

THE STANDARD CDS-6-C CONFIGURATION IS SHOWN.
ANTI-BUOYANCY SLAB MAY BE INCLUDED (NOT SHOWN).
SUMP DEPTH SHOWN IS TYPICAL, CAN BE EXTENDED AS REQUIRED.
HYDRAULIC CHARACTERISTICS VARY BASED ON PIPE SIZE, MATERIAL, AND CDS UNIT SELECTION. FOR CUSTOM HYDRAULIC ANALYSIS PLEASE CONTACT ECHELON ENVIRONMENTAL.
FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT ECHELON ENVIRONMENTAL.



FRAME AND GRATE
(DIMENSIONS VARIES)
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

GENERAL NOTES
1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET HS20 (AASHTO M 306) AND BE CAST WITH THE CONTECH LOGO.
6. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES
A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

ECHELON ENVIRONMENTAL
55 ALBERT STREET, MARKHAM ON L3P2T4
CONTACT: INFO@ECHELONENVIRONMENTAL.CA
905-948-0000

THIS PRODUCT MAY BE PROTECTED BY ONE OR MORE OF THE FOLLOWING U.S. PATENTS: 5,788,848; 6,641,720; 6,511,595; 6,581,783; RELATED FOREIGN PATENTS, OR OTHER PATENTS PENDING.

CONTECH ENGINEERED SOLUTIONS LLC

CDS-6-C
ONLINE CDS
STANDARD DETAIL

DATE: 13-FEB-25
REVISION:1
DRAWN BY: PG

Engineers, Planners & Landscape Architects

Appendix F

Development Servicing Study Checklist

NOVATECH
Engineers, Planners & Landscape Architects

SerenVita
2505 and 2707 Solandt 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 Exisiting Condtions and Removals Plan
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	Included in Appendix A
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.	Y	Refer to Section 1.4
Statement of objectives and servicing criteria.	Y	Report Sections: 3.0 Water Servicing , 4.0 Sanitary Servicing, 5.0 Storm Servicing and Stormwater Management
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).	Y	Refer to Tree Conservation Report and Environmental Impact Study
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 Storm Drainage Area Plans

SerenVita
2505 and 2707 Solandt 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	Refer to Section 1.4
All preliminary and formal site plan submissions should have the following information:		
Metric scale	Y	
North arrow (including construction North)	Y	
Key plan	Y	
Name and contact information of applicant and property owner	Y	Refer to section 1.6
Property limits including bearings and dimensions	Y	
Existing and proposed structures and parking areas	Y	
Easements, road widening and rights-of-way	Y	
Adjacent street names	Y	

SerenVita
2505 and 2707 Solandt 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: 3.0 Water Servicing
Identification of system constraints.	Y	Looping required
Identify boundary conditions.	Y	Provided by City of Ottawa/Appendix B
Confirmation of adequate domestic supply and pressure.	Y	Refer to Appendix B
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 B
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 B
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 B
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 3.0 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 3.0 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 3.0 Water Servicing
Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A	

SerenVita
2505 and 2707 Solandt 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 infrastructure).	Y	Report Section 4.0 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 4.0 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 C
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 4.0 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	

SerenVita
2505 and 2707 Solandt 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 Section 5.0 Storm Servicing and Stormwater Management
Analysis of the available capacity in existing public infrastructure.	Y	
A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns and proposed drainage patterns.	Y	Refer to Existing Condtions and Drainage Area Plans
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 5.6
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 5.7
Description of stormwater management concept with facility locations and descriptions with references and supporting information.	Y	Report Section 5.0
Set-back from private sewage disposal systems.	N/A	
Watercourse and hazard lands setbacks.	Y	Shown on Layout Plan and ECS Plan
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.	Y	
Storage requirements (complete with calcs) and conveyance capacity for 5 yr and 100 yr events.	Y	Refer to Appendix E
Identification of watercourse within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Y	
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 E
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 facilities.	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	

SerenVita
2505 and 2707 Solandt 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 5.0
100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Y	
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 6.0 Erosion and Sediment Control Measures
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.	Y	Within Shirley's Brook setback
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.)	Y	

4.6 Conclusion	Addressed (Y/N/NA)	Comments
Clearly stated conclusions and recommendations.	Y	
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	First Submission
All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario.	Y	

Engineers, Planners & Landscape Architects

Appendix G
Engineering Drawings

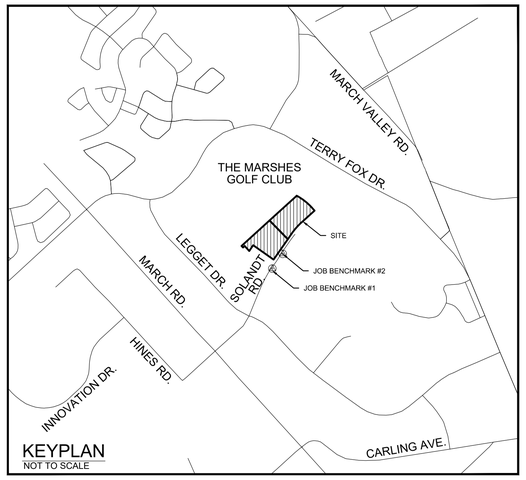
Layout Plan	(124150A-LP, revision 1)
Existing Conditions & Removals	(124150A-EX, revision 1)
Grading Plan	(124150A-GR1, revision 3)
Grading Plan	(124150A-GR2, revision 3)
General Plan of Services	(124150A-GP1, revision 2)
General Plan of Services	(124150A-GP2, revision 2)
Plan & Profile (Watermain Looping)	(124150A-PW1, revision 1)
Plan & Profile (Watermain Looping)	(124150A-PW2, revision 1)
Notes and Details (General Notes & Servicing)	(124150A-ND1, revision 1)
Notes and Details (General Notes & Servicing)	(124150A-ND2, revision 1)
Notes and Details (Solandt Road Details)	(124150A-ND3, revision 1)
Notes and Details (Easement Sections)	(124150A-ND4, revision 1)
Erosion and Sediment Control Plan	(124150A-ESC, revision 1)

SERENVITA

2505 & 2707 SOLANDT ROAD

CITY OF OTTAWA

GRADING AND SERVICING



KEYPLAN
NOT TO SCALE

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

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124150A-LP	LAYOUT PLAN	REV. 1
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124150A-ND1	NOTES AND DETAILS (GENERAL NOTES & SERVICING)	REV. 1
124150A-ND2	NOTES AND DETAILS (GENERAL NOTES & SERVICING)	REV. 1
124150A-ND3	NOTES AND DETAILS (SOLANDT ROAD DETAILS)	REV. 1
124150A-ND4	NOTES AND DETAILS (EASEMENT SECTIONS)	REV. 1
124150A-ESC	EROSION AND SEDIMENT CONTROL PLAN	REV. 1

SITE BENCHMARK

REFERENCED TO GEODETIC DATUM:
HORIZONTAL (NAD83-ORIG)
VERTICAL (CGVD-28-78)
PROJECTION (ZONE 9 - MTM)

JOB BENCHMARK #1
TOP OF SPINDLE ON FIRE HYDRANT
N: 5023108.620
E: 350766.1500
ELEV: 78.52

JOB BENCHMARK #2
TOP OF SPINDLE ON FIRE HYDRANT
N: 5023180.196
E: 350816.2360
ELEV: 77.93

SOURCE REFERENCE:
TOPOGRAPHIC INFORMATION:
1. *NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*
2. *NOVATECH TOPOGRAPHIC SURVEY / NOVEMBER 13, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*

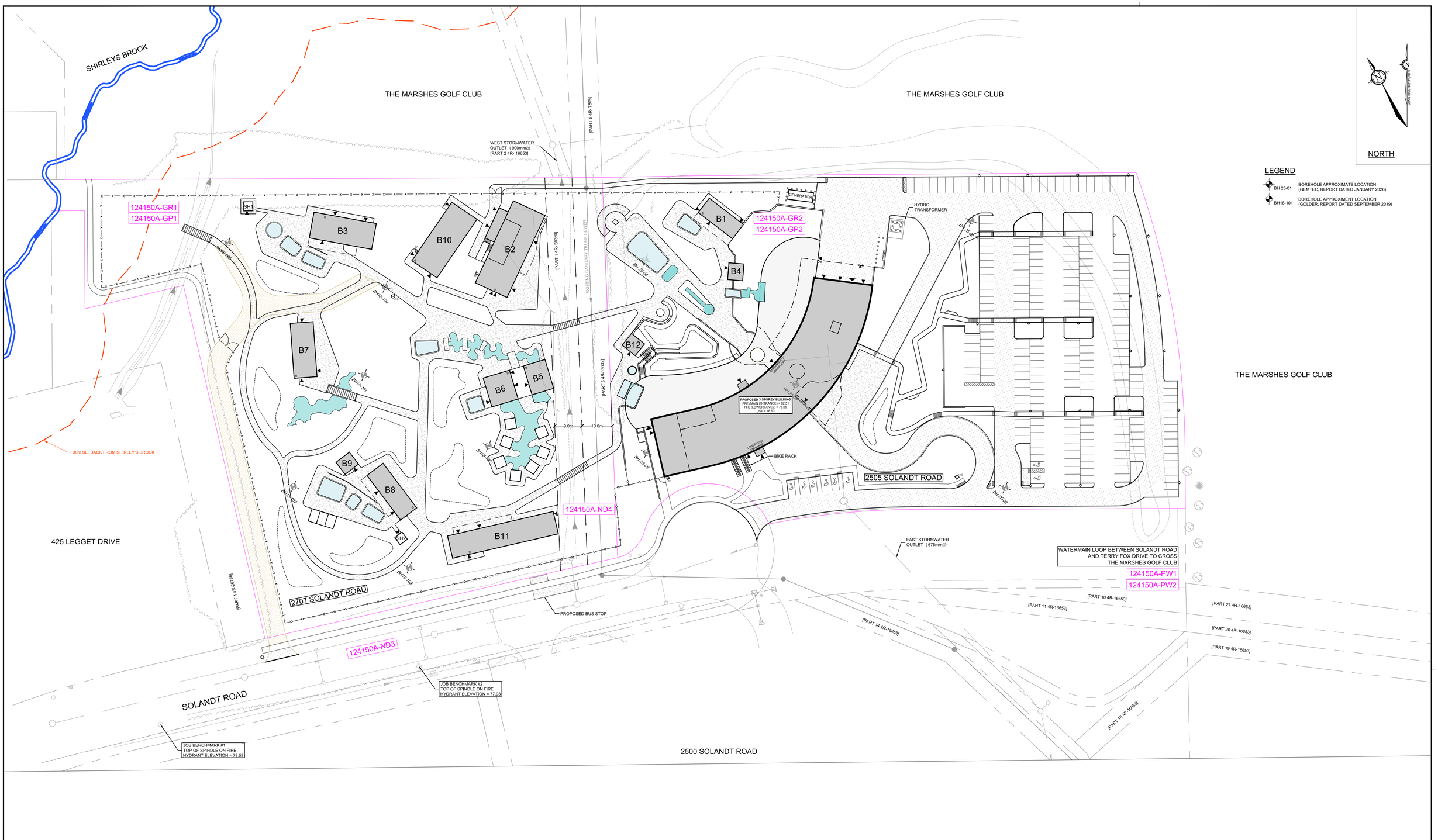
LEGAL INFORMATION:
1. *PART OF BLOCK 29 REGISTERED PLAN 4M-280*
2. *4R-26736 / ANNIS, O'SULLIVAN, VOLLEBEKK LTD.*
3. *4R-13632 / FAIRHALL MOFFATT & WOODLAND LIMITED*
4. *4R-33558 / FAIRHALL MOFFATT & WOODLAND LIMITED*
5. *4R-16653 / FAIRHALL MOFFATT & WOODLAND LIMITED*

PROJECT No. 124150A

ISSUED FOR REVIEW

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PLANBT.DWG - 1000mm=150mm



REFER TO NAK DESIGN STRATEGIES FOR LANDSCAPE PLANS

REFER TO SIMMONDS ARCHITECTURE FOR ARCHITECTURE PLANS

SOURCE REFERENCE:

TOPOGRAPHIC INFORMATION:
1. NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5
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No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	TGS

SCALE 1:500

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DESIGN CABD
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CHECKED JLS
APPROVED LAB

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LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
LAYOUT PLAN

PROJECT No. 124150A
REV REV # 1
DRAWING No. 124150A-LP

PLANOT.DWG

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NORTH

LEGEND

- BH 25-01 — BOREHOLE APPROXIMATE LOCATION (GEMTEC, REPORT DATED JANUARY 2026)
- BH18-101 — BOREHOLE APPROXIMENT LOCATION (GOLDER, REPORT DATED SEPTEMBER 2019)

EXISTING TREES WITHIN PARKING LOT ISLANDS TO BE TRANSPLANTED AS DIRECTED BY DEVELOPER.

EXISTING ASPHALT AND CURB TO BE REMOVED. EXISTING PAVEMENT STRUCTURE TO BE REVIEWED BY GEOTECHNICAL CONSULTANTS PRIOR TO PLACEMENT OF IMPORTED MATERIAL.

EXISTING LIGHTING AND WIRING TO BE REMOVED.

EXISTING CATCHBASINS AND STORMSEWER TO BE REMOVED.

EXISTING STREETLIGHT FIXTURE (×12) TO BE REUSED AS DIRECTED BY CIMA+ (ELECTRICAL CONSULTANT).

FILL BELOW BUILDING FOOTPRINT TO BE REMOVED AND DISPOSED OFFSITE AS DIRECTED BY GEMTEC (GEOTECHNICAL ENGINEER) AND GROUND IMPROVEMENT CONSULTANT.

EXISTING ENTRANCES AND ISLAND TO BE REMOVED. REFER TO 124150A-GR2 FOR REINSTATEMENT.

EXISTING STORM SEWER TO BE CAPPED. INV.=75.64

APPROXIMENTLY 300m OF EXISTING ASPHALT SIDEWALK TO BE REMOVED. REFER TO 124150A-ND3 FOR REINSTATEMENT.

APPROXIMATELY 50m OF EXISTING CONCRETE SIDEWALK TO BE REMOVED. REFER TO 124054-ND3 FOR REINSTATEMENT.

LIMIT OF EXISTING ASPHALT SIDEWALK TO REMAIN.

LIMIT OF EXISTING PAVED PARKING LOT

LIMIT OF EXISTING PARKING LOT.

EXISTING CURB

EXISTING 600mmØ CSP CULVERT INV.INV=74.97 SE.INV=75.04

EXISTING CONCRETE HEADWALL

EX STMMH 132 T/G=77.36 INV.NW=74.48 INV.SE=74.53 INV.NE=74.53

EX SANMH 18 T/G=75.62 INV.NW=69.91 INV.SE=69.81

EX STMMH 122 T/G=77.43 INV.NE=74.83 INV.SW=74.85

EX STMMH 123 T/G=77.50 INV.SW=75.04 INV.NE=75.02

EX CB 126 T/G=77.25 INV.SE=75.71

EX CB 127 T/G=77.24 INV.NW=75.73

EX CB 128 T/G=77.09 INV.SE=75.07

EX CB 129 T/G=77.05 INV.NW=75.55

EX STMMH 18 T/G=77.13 INV.SW=74.65 INV.NE=74.65

EX CB 130 T/G=77.17 INV.SE=75.64

EX CB 131 T/G=77.18 INV.NW=75.63

EX STMMH 20 T/G=77.33 INV.NE=74.92 INV.NW=74.56

EX CB 64 T/G=77.17 INV.NW=75.50

EX CB 65 T/G=77.08 INV.SE=75.37

EX SANMH 17 INV.NW=69.73 INV.NE=69.70

EX STMMH CBMH 22 T/G=77.24 INV.NW=75.14

EX SANMH 15 T/G=77.16 INV.SW=69.60 INV.E=69.58

EX SANMH 14 T/G=76.91 INV.E=69.46 INV.W=69.48

EX STMMH CB 1 T/G=76.72

EX STMMH 106 T/G=76.60 INV.N=75.38 INV.W=75.10 INV.SE=75.03

EX SANMH 229 T/G=??? INV.NE=72.55 INV.S=72.03 INV.NE=74.67

BH18-105 · BH18-104 · BH18-101 · BH18-106 · BH18-103 · BH18-102 · BH18-107 · BH 25-01 · BH 25-02 · BH 25-03 · BH 25-04 · BH 25-05 · BH 25-06

SOURCE REFERENCE:

TOPOGRAPHIC INFORMATION:
1. NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5
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No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	LAB

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LICENSED PROFESSIONAL ENGINEER — L.A. BOWLEY — 100081115 — Jan 29/26 — PROVINCE OF ONTARIO

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Telephone (613) 254-9643
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Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
EXISTING CONDITIONS AND REMOVALS PLAN

PROJECT No. 124150A
REV REV # 1
DRAWING No. 124150A-EX

DO NOT SCALE DRAWING

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LEGEND

- 78.10 / EG 10 — PROPOSED ELEVATION / *EXISTING ELEVATION*
- 76.95 S — PROPOSED SWALE ELEVATION
- 78.00 TC — PROPOSED TOP OF CURB ELEVATION
- 79.15 TW — PROPOSED TOP OF WALL ELEVATION
- 77.85 BW — PROPOSED BOTTOM OF WALL ELEVATION
- 77.25 LL — PROPOSED LOWER LEVEL ELEVATION
- 3.0% — PROPOSED GRADING DIRECTION AND SLOPE
- FFE=82.51 — FINISHED FLOOR ELEVATION
- T/G=77.30 — PROPOSED TOP OF GRATE ELEVATION
- T/F=77.37 — PROPOSED TOP OF FLANGE ELEVATION
- PROPOSED DITCHES/SWALES
- PROPOSED TERRACING
- PROPOSED BARRIER CURB
- DC — PROPOSED DEPRESSED CURB
- PROPOSED TACTILE WALKING SURFACE INDICATOR (TWSI)
- PROPOSED CHAIN LINK FENCE (NAK)
- PROPOSED SPECIALTY FENCE (NAK)
- DIRECTION OF OVERLAND FLOW
- PROPOSED TRENCH DRAIN
- V&VB — PROPOSED VALVE LOCATION
- HYD — PROPOSED HYDRANT LOCATION
- SF — PROPOSED SIAMESE FIRE HOSE CONNECTION
- SANMH 101 — PROPOSED SANITARY MANHOLE
- STMMH 100 — PROPOSED STORM MANHOLE
- CBMH 200 — PROPOSED STORM MANHOLE CATCHBASIN
- CB 300 — PROPOSED CATCHBASIN
- OGS — PROPOSED OIL AND GRIT SEPARATOR
- M — MECHANICAL ROOM
- PROPOSED BOLLARD
- PROPOSED LIGHT
- CRITICAL ROOT ZONE RADIUS (MUNCASTER)
- AREAS OF TREE RETENTION (MUNCASTER)
- 100-YEAR PONDING LIMITS
- 5-YEAR PONDING LIMITS
- APPROXIMATE LIMITS OF GRADING

NOTE:
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3.	ISSUED FOR REVIEW	JAN 29/26	LKC
2.	ISSUED FOR COORDINATION	JAN 23/26	LKC
1.	ISSUED FOR COORDINATION	JAN 7/26	LKC

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DESIGN LKC
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LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
GRADING PLAN

PROJECT No. 124150A
REV REV # 3
DRAWING No. 124150A-GR1

PLAN # #####

© Trans-Canada Plaza - 109681 124150A GR.dwg, GR1, Jan 29, 2026 - 10:05am, lcorry



LEGEND

- PROPOSED ELEVATION / *EXISTING ELEVATION*
- PROPOSED SWALE ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED TOP OF WALL ELEVATION
- PROPOSED BOTTOM OF WALL ELEVATION
- PROPOSED LOWER LEVEL ELEVATION
- PROPOSED GRADING DIRECTION AND SLOPE
- FFE=82.51 FINISHED FLOOR ELEVATION
- T/G=77.30 PROPOSED TOP OF GRATE ELEVATION
- T/F=77.37 PROPOSED TOP OF FLANGE ELEVATION
- PROPOSED DITCHES/SWALES
- PROPOSED TERRACING
- PROPOSED BARRIER CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TACTILE WALKING SURFACE INDICATOR (TWSI)
- PROPOSED CHAIN LINK FENCE (NAK)
- PROPOSED SPECIALTY FENCE (NAK)
- DIRECTION OF OVERLAND FLOW
- PROPOSED TRENCH DRAIN
- V&VB PROPOSED VALVE LOCATION
- HYD PROPOSED HYDRANT LOCATION
- SF PROPOSED SIAMESE FIRE HOSE CONNECTION
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- STMMH 100 PROPOSED STORM MANHOLE
- CBMH 200 PROPOSED STORM MANHOLE CATCHBASIN
- CB 300 PROPOSED CATCHBASIN
- OGS PROPOSED OIL AND GRIT SEPARATOR
- M MECHANICAL ROOM
- PROPOSED BOLLARD
- PROPOSED LIGHT
- CRITICAL ROOT ZONE RADIUS (MUNCASTER)
- AREAS OF TREE RETENTION (MUNCASTER)
- 100-YEAR PONDING LIMITS
- 5-YEAR PONDING LIMITS
- APPROXIMATE LIMITS OF GRADING

NORTH

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3.	ISSUED FOR REVIEW	JAN 29/26	LKC
2.	ISSUED FOR COORDINATION	JAN 23/26	LKC
1.	ISSUED FOR COORDINATION	JAN 7/26	LKC

SCALE 1:300

1:300
0 3 6 9 12

DESIGN LKC
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LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
GRADING PLAN

PROJECT No. 124150A
REV REV # 3
DRAWING No. 124150A-GR2

PLAN # #####

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LEGEND

FFE=82.51	FINISHED FLOOR ELEVATION
T/G=77.30	PROPOSED TOP OF GRATE ELEVATION
T/F=77.37	PROPOSED TOP OF FLANGE ELEVATION
	PROPOSED TRENCH DRAIN
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SANMH 101	PROPOSED SANITARY MANHOLE
STMMH 100	PROPOSED STORM MANHOLE
CBMH 200	PROPOSED STORM MANHOLE CATCHBASIN
CB 300	PROPOSED CATCHBASIN
OGS	PROPOSED OIL AND GRIT SEPARATOR
M	MECHANICAL ROOM
C1	PROPOSED CULVERT (900mmØ)
	3m RADIAL SUBDRAIN (AS PER GEOTECH)
ICD	INLET CONTROL DEVICE

PIPE CONFLICTS TABLE

Crossing Number	Higher Pipe	Invert (m)	Lower Pipe	Obvert (m)	Clearance (m)
1	300mmØ Storm (Proposed)	76.17	150mmØ Sanitary (Proposed)	74.98	**1.19**
2	200mmØ Storm (Proposed)	75.97	100mmØ Sanitary (Proposed)	74.99	**0.98**
3	300mmØ Storm (Proposed)	75.42	100mmØ Sanitary (Proposed)	74.92	**0.50**
4	375mmØ Storm (Proposed)	75.86	150mmØ Sanitary (Proposed)	74.98	**0.88**
5	300mmØ Storm (Proposed)	75.97	150mmØ Sanitary (Proposed)	74.27	**1.70**
6	250mmØ Storm (Proposed)	76.32	150mmØ Sanitary (Proposed)	75.53	**0.79**

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L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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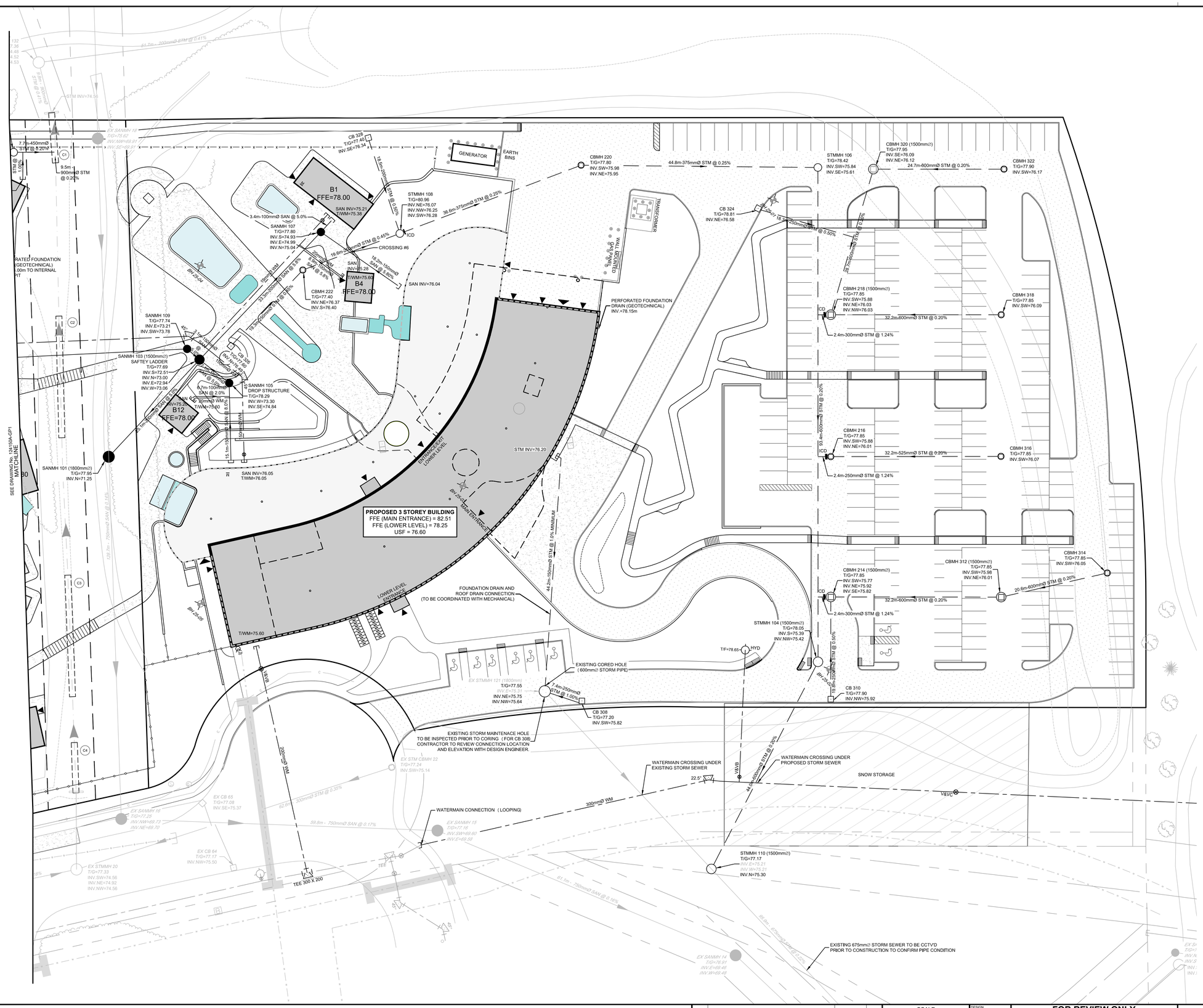
LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 124150A
REV REV # 2
DRAWING No. 124150A-GP1

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PLAN # #####



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1.	ISSUED FOR COORDINATION	JAN 23/26	LAB

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DRAWN LKC
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APPROVED LAB

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LICENSED PROFESSIONAL ENGINEER L.A. BOWLEY 100081115 Jan 29/26 PROVINCE OF ONTARIO

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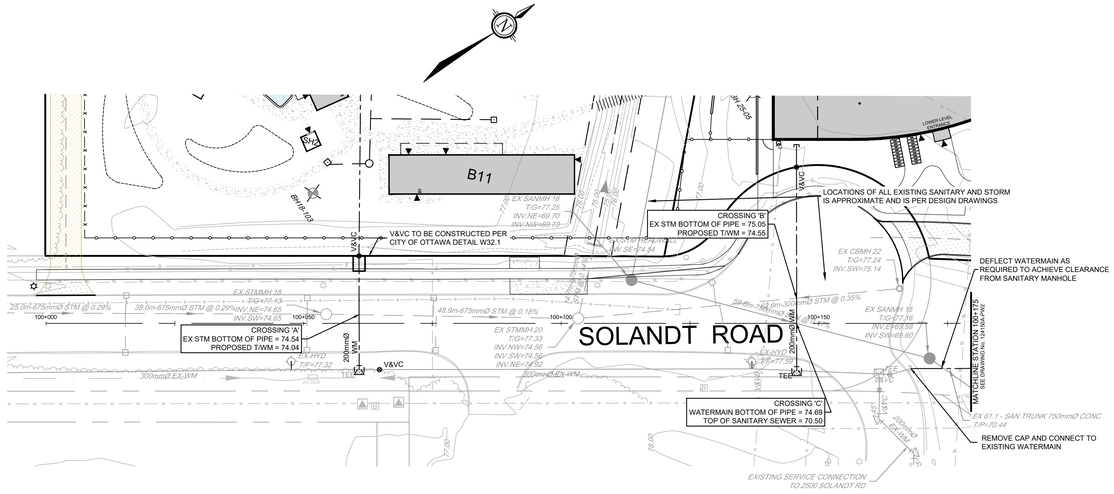
LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
GENERAL PLAN OF SERVICES

PROJECT No. 124150A
REV REV # 2
DRAWING No. 124150A-GP2

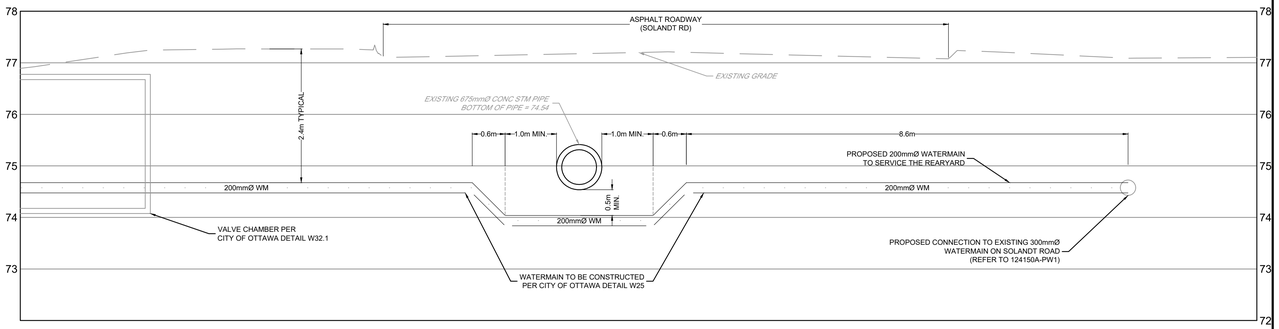
PLAN # ######

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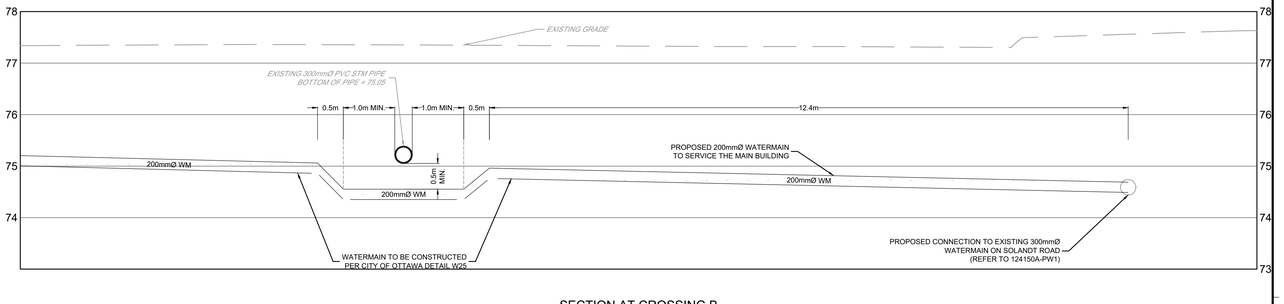


SOLANDT ROAD PIPE CROSSING TABLE:

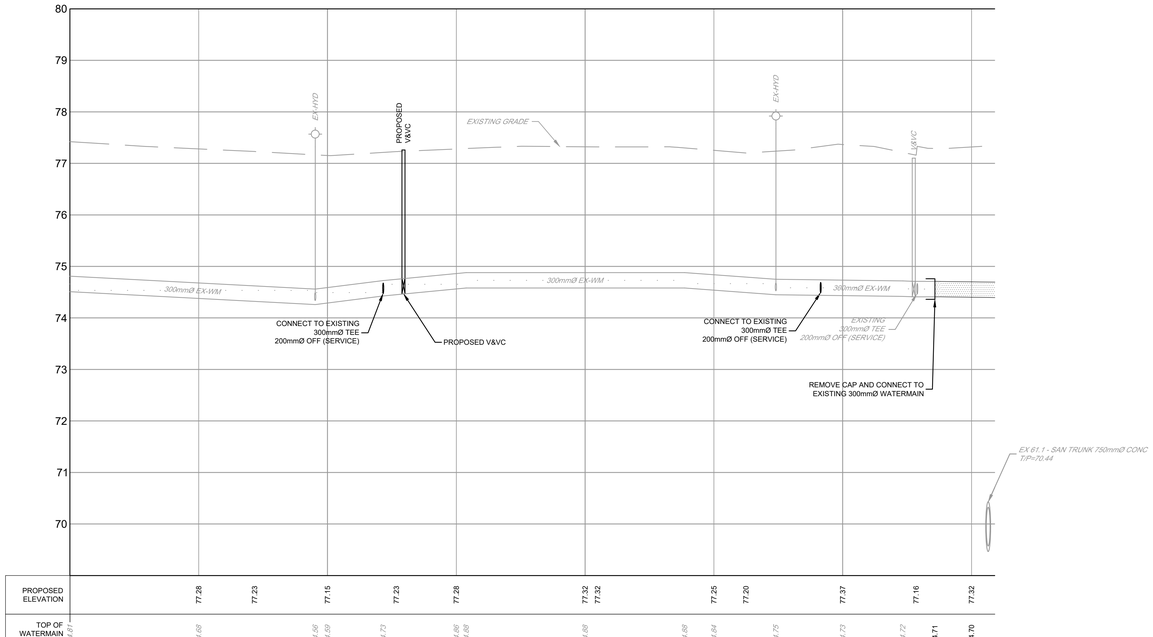
Crossing Number	Higher Pipe	Invert (m)	Lower Pipe	Obvert (m)	Clearance (m)	
A	675mmØ Storm (Existing)	74.54	200mmØ Watermain	74.04	**0.50**	
B	300mmØ Storm (Existing)	75.05	200mmØ Watermain	74.55	**0.50**	
C	200mmØ Watermain	74.69	750mmØ Sanitary (Existing)	70.50	**4.19**	(NOT DETAILED)



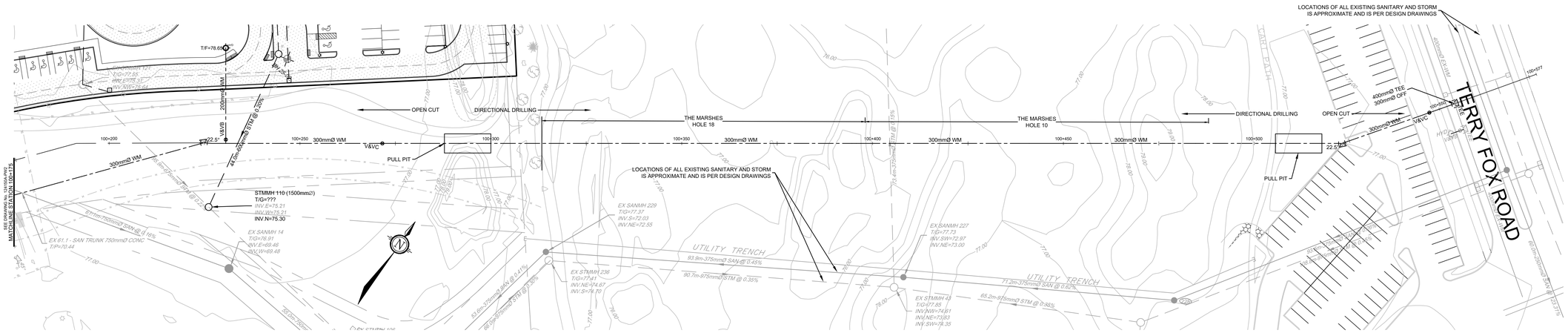
SECTION AT CROSSING A
SCALE 1:50



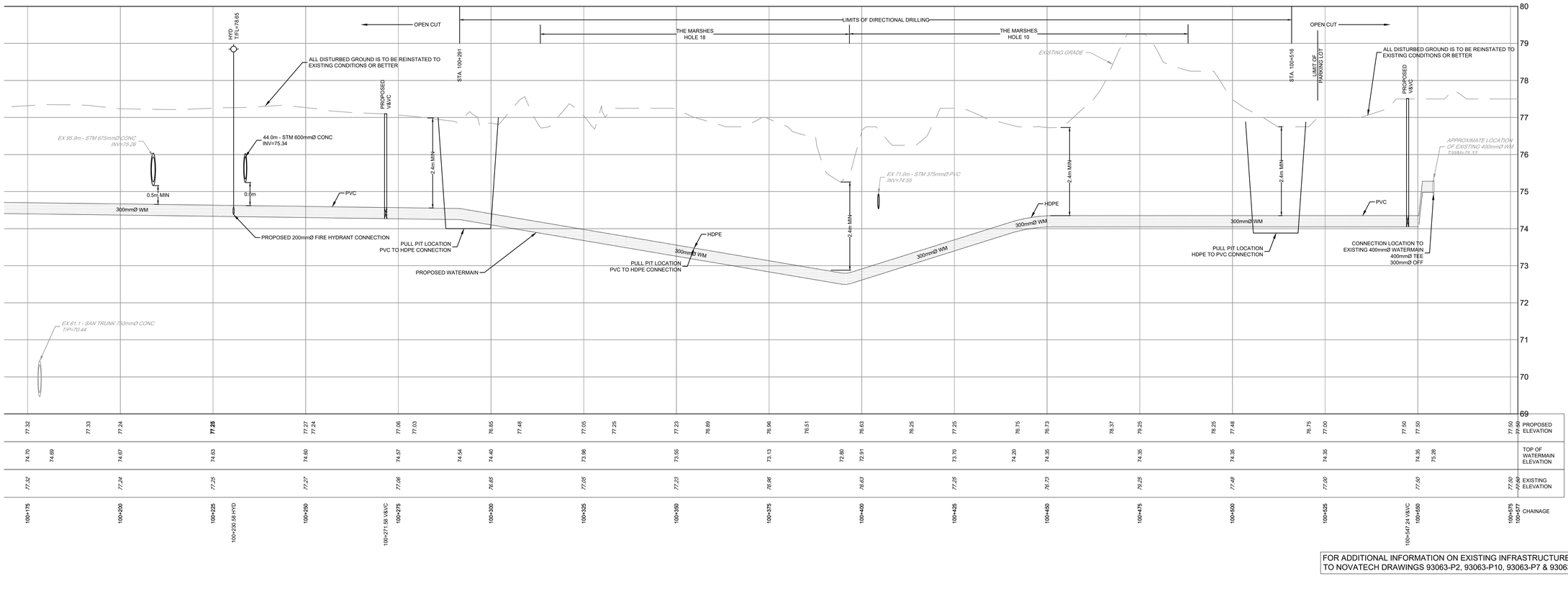
SECTION AT CROSSING B
SCALE 1:50



| | | |



EASEMENT IN FAVOUR OF THE CITY OF OTTAWA WILL BE REQUIRED OVER THE PROPOSED WATERMAIN. WIDTH AND EXACT LOCATION TO BE DETERMINED IN CONSULTATION WITH THE CITY OF OTTAWA AND LANDOWNERS.



FOR ADDITIONAL INFORMATION ON EXISTING INFRASTRUCTURE AND DETAILS, REFER TO NOVATECH DRAWINGS 93063-P2, 93063-P10, 93063-P7 & 93063-GP2

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.

SOURCE REFERENCE:
TOPOGRAPHIC INFORMATION:
1. *NOVATECH TOPOGRAPHIC SURVEY / JULY 9, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*
2. *NOVATECH TOPOGRAPHIC SURVEY / NOVEMBER 13, 2025 / 2505 & 2707 SOLANDT ROAD, OTTAWA, ON K2K 3G5*
3. *1-1000 OTTAWA BASE MAPPING*

LEGAL INFORMATION:
1. *PART OF BLOCK 29 REGISTERED PLAN 4M-280*
2. *4R-26736 / ANNIS, O'SULLIVAN, VOLLEBEKK LTD.*
3. *4R-13632 / FAIRHALL MOFFATT & WOODLAND LIMITED*
4. *4R-33358 / FAIRHALL MOFFATT & WOODLAND LIMITED*
5. *4R-16653 / FAIRHALL MOFFATT & WOODLAND LIMITED*

No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	LAB

SCALE
1:500
0 5 10 15 20
HORIZONTAL
1:50
0 0.5 1.0 1.5 2.0
VERTICAL

DESIGN TGS
CHECKED LAB
DRAWN TGS
CHECKED JLS
APPROVED LAB

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
PLAN AND PROFILE
WATERMAIN LOOPING - SOLANDT TO TERRY FOX
STA. 100+175 TO 100+577

PROJECT No. 124150A
REV REV # 1
DRAWING No. 124150A-PW2

M:\2024\124150\124150A SOLANDT\CAD\CIVIL\124150A-PW2.DWG (29/2026 8:08 AM - CDONALDSON

#00000

GENERAL NOTES:

1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
3. OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA AND MISSISSIPPI VALLEY CONSERVATION AUTHORITY BEFORE COMMENCING CONSTRUCTION.
4. BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR $5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
5. RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
6. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL AS PER THE EXCESS SOIL MANAGEMENT PLAN. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL REPORT (No. 104638.001, DATED JANUARY 19, 2026), PREPARED BY GEMTEC CONSULTING ENGINEERS AND SCIENTISTS LTD. FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
9. THE MONITORING WELLS INSTALLED DURING THE DESIGN PHASE SHOULD BE DECOMMISSIONED BY A LICENSED WELL TECHNICIAN. THE WELLS ARE LOCATED ON BH 25-02 AND BH 25-04.
10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
11. REFER TO SERVICING STORMWATER MANAGEMENT REPORT (R-2025-106) PREPARED BY NOVATECH.
12. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
13. PROVIDE LINE/PARKING PAINTING.
14. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.

GRADING NOTES:

1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS AS DIRECTED BY THE SITE ENGINEER OR GEOTECHNICAL ENGINEER.
2. EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULARS.
3. ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUB-EXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
4. THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 99% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. THE PAVEMENT GRANULAR MATERIAL SHOULD BE COMPACTED IN MAXIMUM 300-MILLIMETRE-THICK LIFTS TO AT LEAST 99% OF MATERIALS STANDARD PROCTOR MAXIMUM DRY DENSITY USING SUITABLE VIBRATORY COMPACTION EQUIPMENT.
5. IN AREAS WHERE THE NEW PAVEMENT STRUCTURE WILL ABUT EXISTING PAVEMENTS THE DEPTHS OF THE GRANULAR MATERIALS SHOULD TAPER UP OR DOWN AT 5 HORIZONTAL TO 1 VERTICAL OR FLATTER TO MATCH THE DEPTHS OF THE GRANULAR MATERIALS EXPOSED IN THE EXISTING PAVEMENT.
6. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
7. MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
8. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
9. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
10. REFER TO LANDSCAPE PLAN PREPARED BY NAK DESIGN STRATEGIES FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
11. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN.

PAVEMENT STRUCTURE:

LIGHT DUTY
40mm Superpave 12.5, PG 58-34 (TRAFFIC LEVEL B)
40mm Superpave 12.5, PG 58-34
150mm OPSS GRANUAR A
300mm OPSS GRANULAR B TYPE II
530mm

HEAVY DUTY (LOADING AREA AND FIRE LANE)
40mm Superpave 12.5, PG 58-34 (TRAFFIC LEVEL D)
60mm Superpave 19, PG 58-34
150mm OPSS GRANUAR A
450mm OPSS GRANULAR B TYPE II
700mm

SEWER NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200mmØ)	701.010	OPSD
STORM / SANITARY MANHOLE (1500mmØ)	701.040	OPSD
CB, FRAME & COVER	400.020	OPSD
STORM / SANITARY MH FRAME & COVER	401.010	OPSD
SEWER TRENCH - BEDDING (GRANULAR A) COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)		
STORM SEWER	PVC DR 35	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	
SUBDRAIN		

2. STORM SEWER CATCH BASINS SHOULD BE EQUIPPED WITH 3 METRE STUB DRAINS EXTENDING IN AT LEAST 2 DIRECTIONS. THE STUB DRAINS SHOULD BE INSTALLED AT SUBGRADE LEVEL.
3. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
4. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
5. PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
6. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
7. THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.
8. STORM MAINTENANCE AND CATCHBASIN MAINTENANCE HOLES ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
9. ALL WEEPING TILE CONNECTIONS TO BE MADE TO THE PROPOSED STORM SEWER SYSTEM DOWNSTREAM OF ANY INLET CONTROL DEVICES.
10. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS, 200mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

WATERMAIN NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
FIRE HYDRANT INSTALLATION	W19	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

2. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMAINS BY THE CONTRACTOR. CONNECTIONS AND SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OFFICIALS.
3. WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
4. PROVIDE MINIMUM 0.25m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

BICYCLE RACKS:

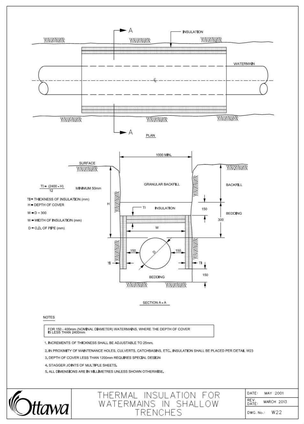
1. REFER TO SITE PLAN PREPARED BY SIMMONDS FOR POST & RING BIKE RACK DETAIL.

RETAINING WALL DESIGN:

1. FOR CAST IN PLACE WALLS REFER TO DRAWINGS PREPARED BY CUNLIFFE & ASSOCIATES.
2. FOR LANDSCAPE WALLS (STONE STRONG) REFER TO DRAWINGS PREPARED BY MCON PRODUCTS INC.

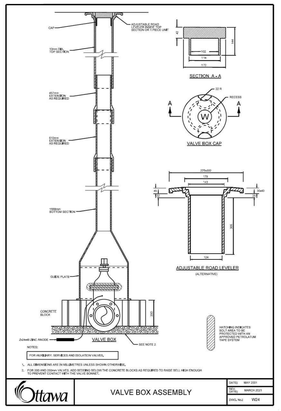
LIGHTING DESIGN:

1. REFER TO PLANS PREPARED BY CIMA+.

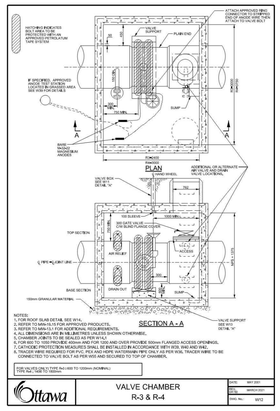


THERMAL INSULATION FOR WATERMAINS IN SHALLOW TRENCHES

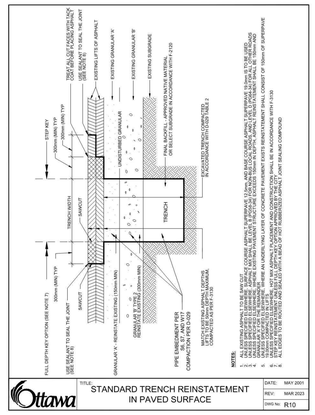
DATE: MAY 2001 | SCALE: NTS | MARCH 2003 | DWG No.: W22



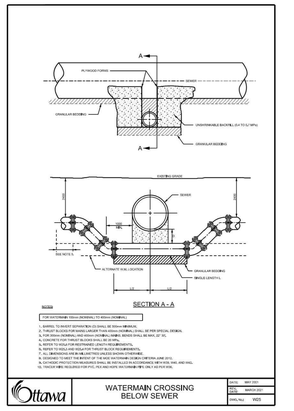
DATE: MAY 2001 | SCALE: NTS | MARCH 2003 | DWG No.: W23



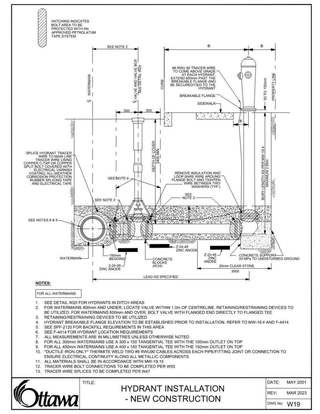
DATE: MAY 2001 | SCALE: NTS | MARCH 2003 | DWG No.: W24



DATE: MAY 2001 | REV: MAR 2023 | DWG No.: R10

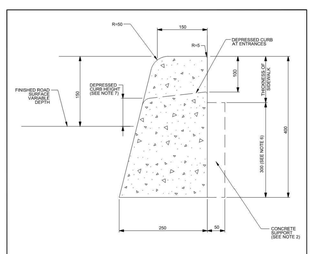


DATE: MAY 2001 | SCALE: NTS | MARCH 2021 | DWG No.: W25



HYDRANT INSTALLATION - NEW CONSTRUCTION

DATE: MAY 2001 | REV: MAR 2023 | DWG No.: W19

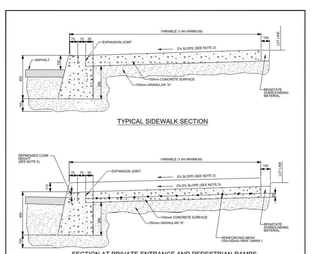


CONCRETE BARRIER CURB

NOTES:
1. THE FULL CURB DEPTH SHALL BE CARRIED THROUGH THE DEPRESSED ACCESS CROSSING
2. A CONCRETE SUPPORT IS REQUIRED WHEN BUILT ADJACENT TO THE SIDEWALK
3. IF AN EXTRUSION CURBING MACHINE IS USED, THE EXPANSION BITUMINOUS MATERIAL AND THE #15 DOWELS ARE TO BE PLACED AT THE END OF THE EXTRUSION
4. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
5. EXPANSION AND DUMMY JOINTS AS PER SC3
6. FOR DEPRESSED CURB AT ENTRANCES USE 250
7. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS 0 TO 6mm AND FOR PRIVATE ENTRANCES 0 TO 13mm

CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-600.110)

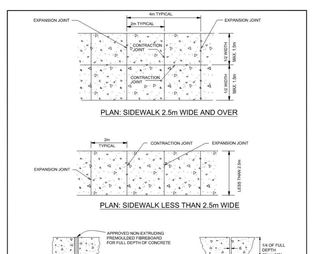
DATE: JAN 2003 | REV: FEB 2025 | DWG No.: SC1.1



NOTES:
1. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
2. THE MAXIMUM SLOPE IS NOT TO EXCEED 2%
3. FOR CURB RAMPS, SLOPE OF 2% TO 5%, MAXIMUM 8%
4. EXPANSION AND DUMMY JOINTS AS PER SC3
5. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS 0 TO 6 mm AND FOR PRIVATE ENTRANCES 0 TO 13mm

CONCRETE BARRIER CURB WITH SIDEWALK

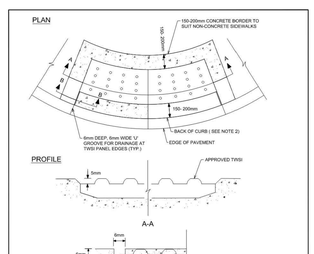
DATE: JAN 2003 | REV: FEB 2025 | DWG No.: SC1.4



NOTES:
1. FOR CURBS THE EXPANSION JOINTS SHALL BE SPACED 48 APART OR IGONCIDE WITH THE JOINTS IN THE ADJOINING SIDEWALK
2. TRANSVERSE EXPANSION JOINTS ARE REQUIRED AT THE ENDS, THIS REPORT, AT INTERVALS OF 4m MAXIMUM, AND ALSO TO ISOLATE OBSTRUCTIONS FROM SIDEWALK HYDRANTS, POLES, BUILDINGS, ETC
3. ALL JOINTS SHALL BE CONSTRUCTED PERPENDICULAR
4. ALL CONCRETE SIDEWALKS ARE TO HAVE A BROOM FINISH UNLESS OTHERWISE SPECIFIED
5. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
6. CONTRACTION JOINTS SHALL BE CONSTRUCTED AT EQUAL SPACING OF 2m BETWEEN ALL JOINTS
7. CONTRACTION JOINTS ARE TO BE SAWCUTTING WITH A GREEN SAW OR BY HAND TOOLING
8. JOINTS SHALL BE CONSTRUCTED TRANSVERSELY ACROSS THE SIDEWALK, PERPENDICULAR TO THE FACE OF CURB FOR SIDEWALK
9. THE LOCATION OF THE CONTRACTION JOINTS SHALL BE MEASURED FROM THE BACK CORNERS OF THE OUTSIDE THEN PLOTTED ON BACK OF SIDEWALK, OR TERMINATE AT AN ADJACENT JOINT
10. THE TERMINATION OF THE JOINTS AT BOTH THE FRONT AND BACK OF SIDEWALK SHALL BE NO LESS THAN 600MM APART
11. JOINTS IN ALL CONCRETE ELEMENTS SHALL BE LAID OUT TO ENSURE THAT NO INDIVIDUAL RESULTING CONCRETE PANEL IS LESS THAN 0.6m² OR GREATER THAN 6m²

SIDEWALK CONSTRUCTION JOINTS

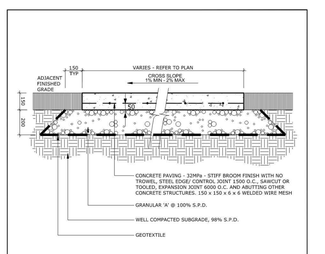
DATE: MAY 2001 | REV: FEB 2020 | DWG No.: SC5



NOTES:
1. TOPS OF TWSI'S (TACTILE WALKING SURFACE INDICATOR) SHALL BE ALIGNED & LEVEL WITH THE ADJACENT CONCRETE SURFACE & INSTALLATION IN WET CONCRETE SHALL BE EFFECTIVE IN PERMANENTLY SECURING THE TWSI TO THE SURFACE
2. FOR MONOLITHIC SIDEWALKS, TWSI SHALL BE 300 TO 350mm BACK FROM THE CURB FACE
3. JOINTS SHALL BE CONSTRUCTED TRANSVERSELY ACROSS THE SIDEWALK, PERPENDICULAR TO THE FACE OF CURB FOR SIDEWALK
4. WHEN JOINTS ARE CONSTRUCTED ADJACENT TO TWSI'S, THE JOINTS SHALL EXTEND FROM THE BACK CORNERS OF THE OUTSIDE TWSI PLATES TO THE BACK OF SIDEWALK, OR TERMINATE AT AN ADJACENT JOINT
5. THE TERMINATION OF THE JOINTS AT BOTH THE FRONT AND BACK OF SIDEWALK SHALL BE NO LESS THAN 600mm APART
6. JOINTS IN ALL CONCRETE ELEMENTS SHALL BE LAID OUT TO ENSURE THAT NO INDIVIDUAL RESULTING CONCRETE PANEL IS LESS THAN 0.6m² OR GREATER THAN 6m²

TWSI DETAIL

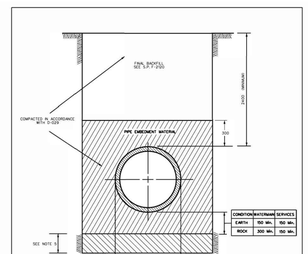
DATE: MAR 2013 | REV: FEB 2025 | DWG No.: SC7.3



NOTES:
1. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
2. CONCRETE SHALL BE 32MPa CLASS C-2 MEETING THE REQUIREMENTS OF S.P. F-3510 AND PLACED IN ACCORDANCE WITH S.P. F-1040
3. GRANULAR 'A' SHALL MEET THE REQUIREMENTS OF OPSS 1010
4. APPROVED NON-WOVEN CLASS 1 GEOTEXTILE AS PER MT-34.15 WHEN WARRANTED BY SOIL CONDITION, SUBJECT TO APPROVAL BY THE CONTRACT ADMINISTRATOR

LIGHT DUTY WALKWAY CONCRETE PAVING

DATE: FEB 2013 | REV: FEB 2025 | DWG No.: SC22



NOTES:
1. PIPE EMBEDMENT MATERIAL = GRANULAR 'A'.
2. FINAL BACKFILL = APPROVED NATIVE MATERIAL OR SELECT SUBGRADE IN ACCORDANCE WITH F-1100 AND 7-1120
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4.

OUTSIDE DIA. (mm)	CLEARANCE (mm)
900 or LESS	450
over 900	600

5. WHEN APPROVED BY THE CONTRACT ADMINISTRATOR, POOR SOILS SHALL BE EXCAVATED TO CREATE A FOUNDATION THAT SHALL BE 'FILLED TO THE SECOND' WITH GRANULAR 'B'.

STANDARD TRENCH DETAIL

DATE: MAY 2000 | SCALE: NTS | JANUARY 2025 | DWG No.: W17

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

No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	LAB

SCALE: AS SHOWN

DESIGN: LKC | CHECKED: LAB | DRAWN: LKC | CHECKED: JLS | APPROVED: LAB

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER — L.A. BOWLEY — 100081115 — Jan 29/26 — PROVINCE OF ONTARIO

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Facsimile (613) 254-5867
Website www.novatech-eng.com

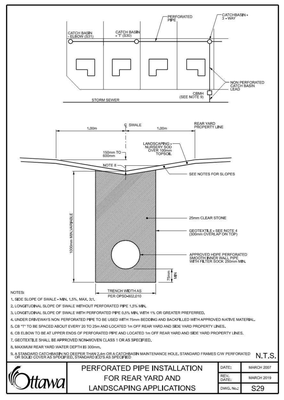
LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
NOTES AND DETAILS
(GENERAL NOTES AND SERVICING)

PROJECT No. 124150A | REV REV # 1 | DRAWING No. 124150A-ND1

PLAN # #####

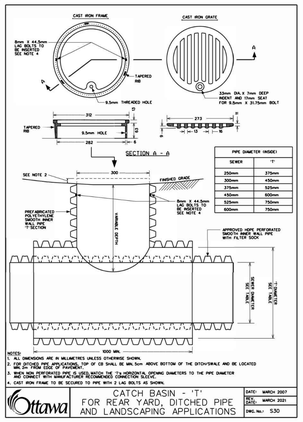
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NOTES:
1. SIDE SLOPE OF SWALE = MIN. 1.5%, MAX. 5%.
2. LONGITUDINAL SLOPE OF SWALE WITHOUT PERFORATED PIPE: 1.0% MIN.
3. LONGITUDINAL SLOPE OF SWALE WITH PERFORATED PIPE: 0.5% MIN. (WITH 1% OR GREATER PREFERRED).
4. UNDER DRIVEWAYS NON PERFORATED PIPE TO BE USED WITH 75mm BEDDING AND BACKFILLED WITH APPROVED NATIVE MATERIAL.
5. CB "T" TO BE SPACED ABOUT EVERY 20 TO 25m AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
6. CB ELBOW TO BE AT UPPER ENDS OF PERFORATED PIPE AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
7. GEOTEXTILE SHALL BE APPROVED NONWOVEN CLASS 1 OR AS SPECIFIED.
8. MAXIMUM REAR YARD WATER DEPTH IS 350mm.

Ottawa	PERFORATED PIPE INSTALLATION FOR REAR YARD AND LANDSCAPING APPLICATIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2019
		DWG No.:	S29

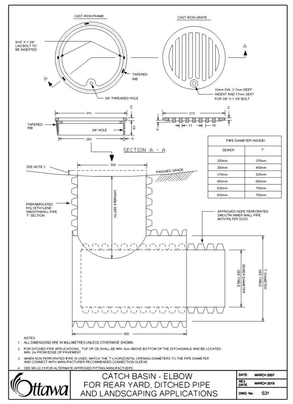
N.T.S.



PIPE DIAMETER (INSIDE)	
SEWER	"T"
250mm	375mm
300mm	450mm
375mm	525mm
450mm	600mm
525mm	750mm
600mm	750mm

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
2. CBT SETTLED TYPE WITH RADIUSED TOP OF CB SHALL BE MIN. 5cm ABOVE BOTTOM OF THE STITCH/SWALE AND BE LOCATED MIN. 2m FROM EDGE OF PAVEMENT.
3. WHEN NON-PERFORATED PIPE IS USED, MACH THE T's HORIZONTAL OPENING DIAMETERS TO THE PIPE DIAMETER
4. CAST IRON FRAME TO BE SECURED TO PIPE WITH 2 LAG BOLTS AS SHOWN.

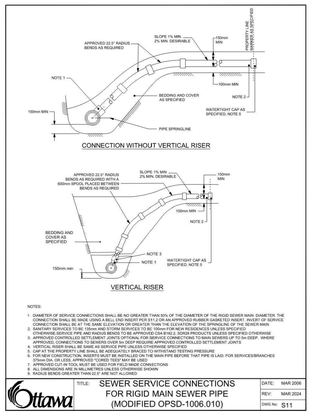
Ottawa	CATCH BASIN - 'T' FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2019
		DWG No.:	S30



PIPE DIAMETER (INSIDE)	
SEWER	"T"
250mm	375mm
300mm	450mm
375mm	525mm
450mm	600mm
525mm	750mm
600mm	750mm

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN
2. CBT SETTLED TYPE WITH RADIUSED TOP OF CB SHALL BE MIN. 5cm ABOVE BOTTOM OF THE STITCH/SWALE AND BE LOCATED MIN. 2m FROM EDGE OF PAVEMENT.
3. WHEN NON-PERFORATED PIPE IS USED, MACH THE T's HORIZONTAL OPENING DIAMETERS TO THE PIPE DIAMETER
4. ALL WELDS TO BE FREE OF DEFECTS AND PROPERLY PENETRATED.

Ottawa	CATCH BASIN - ELBOW FOR REAR YARD, DITCHED PIPE AND LANDSCAPING APPLICATIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2019
		DWG No.:	S31

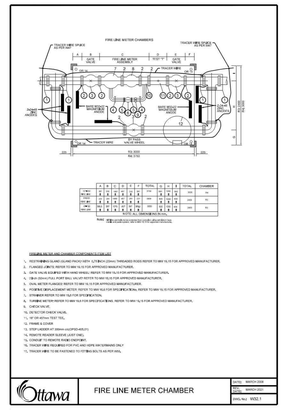


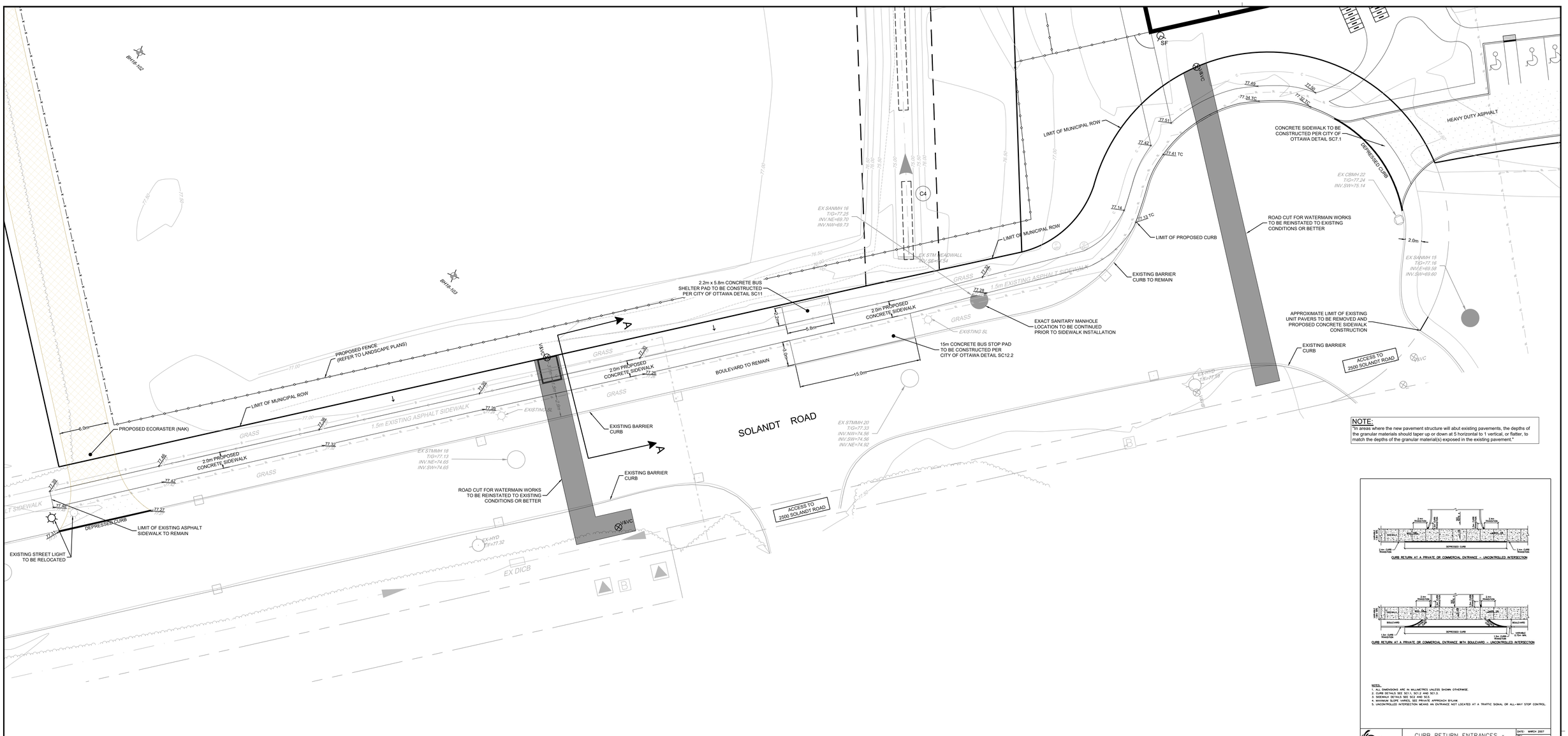
CONNECTION WITHOUT VERTICAL RISER

VERTICAL RISER

NOTES:
1. DIAMETER OF SERVICE CONNECTIONS SHALL BE NO GREATER THAN 50% OF THE DIAMETER OF THE RIGID SEWER MAIN. DIAMETER, THE CONNECTION SHALL BE MADE USING AN APPROVED TEE OR WYE FITTINGS. INVERT OF SERVICE CONNECTION SHALL BE AT THE SAME ELEVATION OR SPRINGLINE OF THE SEWER MAIN.
2. SANITARY SERVICES TO BE 150mm AND STORM SERVICES TO BE 100mm FOR NEW RESIDENCES UNLESS SPECIFIED OTHERWISE.
3. SANITARY SERVICES TO BE 150mm AND STORM SERVICES TO BE 150mm FOR NEW RESIDENCES UNLESS SPECIFIED OTHERWISE
4. APPROVED CONTROLLED SETTLEMENT JOINTS OPTIONAL FOR SERVICE CONNECTIONS TO MAIN SEWERS UP TO 5m DEEP. WHERE APPROVED, CONNECTIONS TO SEWERS OVER 5m DEEP REQUIRE APPROVED CONTROLLED SETTLEMENT JOINTS
5. CAP AT THE PROPERTY LINE SHALL BE ADEQUATELY BRACED TO WITHSTAND TESTING PRESSURE
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.
7. RADIUS SERVICE GREATER THAN 22.5° ARE NOT ALLOWED.

Ottawa	TITLE: SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE (MODIFIED OPSD-1006.010)	DATE:	MAR 2006
		REV:	MAR 2024
		DWG No:	S11

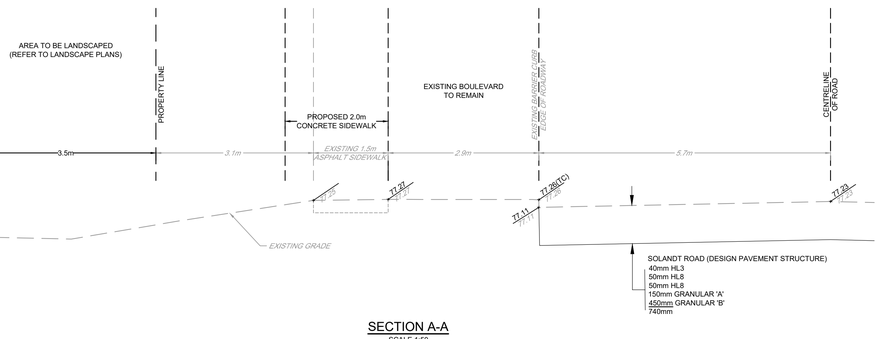




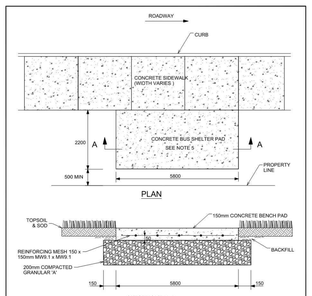
NOTE:
"In areas where the new pavement structure will abut existing pavements, the depths of the granular materials should taper up or down at 5 horizontal to 1 vertical, or flatter, to match the depths of the granular material(s) exposed in the existing pavement."

CURB RETURN ENTRANCES - UNCONTROLLED INTERSECTIONS

DATE: MARCH 2007
REV. DATE: MARCH 2007
DWG No.: SC7.1



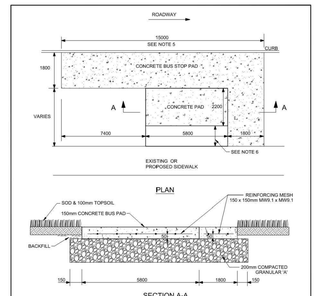
SECTION A-A
SCALE 1:50



NOTES:
1. CONCRETE PADS TO BE IN ACCORDANCE WITH OPSS AND CITY OF OTTAWA STANDARDS
2. ALL PADS TO BE SLOPED 2% MAX. TOWARDS THE ROAD UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR
3. THE SURFACE ELEVATION OF THE PAD MUST BE FLUSH TO THE SURFACE ELEVATION OF ADJACENT GRADE (SIDEWALK OR BOULEVARD)
4. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
5. FINISH TO MATCH SIDEWALK
6. DIMENSIONS COULD VARY AT OC TRANSPO DISCRETION

CONCRETE SHELTER PAD ADJACENT TO SIDEWALK

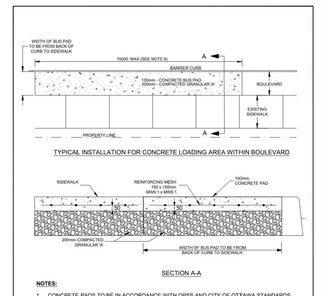
DATE: MAR 2016
REV: MAR 2023
DWG No.: SC11



NOTES:
1. CONCRETE PADS TO BE IN ACCORDANCE WITH OPSS AND CITY OF OTTAWA STANDARDS
2. ALL PADS TO BE SLOPED 2% MAX. TOWARDS THE ROAD UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR
3. THE SURFACE ELEVATION OF THE PAD MUST BE FLUSH TO THE SURFACE ELEVATION OF ADJACENT GRADE (SIDEWALK OR BOULEVARD)
4. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
5. ON COLLECTOR & ARTERIAL ROADS, AN ADDITIONAL 10.0m OF BUS STOP PAD IS REQUIRED FOR ARTICULATED BUSES
6. THIS PAD MAY BE REDUCED TO SUIT IF LESS THAN 1.0m
7. FINISH TO MATCH SIDEWALK
8. DIMENSIONS COULD VARY AT OC TRANSPO DISCRETION

TYPICAL BUS PAD WITH SHELTER PAD IN BOULEVARD BETWEEN CURB AND SIDEWALK

DATE: MAR 2015
REV: MAR 2023
DWG No.: SC12



NOTES:
1. CONCRETE PADS TO BE IN ACCORDANCE WITH OPSS AND CITY OF OTTAWA STANDARDS
2. ALL PADS TO BE SLOPED 2% MAX. TOWARDS THE ROAD UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR
3. THE SURFACE ELEVATION OF THE PAD MUST BE FLUSH TO THE SURFACE ELEVATION OF ADJACENT GRADE (SIDEWALK OR BOULEVARD)
4. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
5. FINISH TO MATCH SIDEWALK
6. THIS LENGTH MAY BE REDUCED DUE TO ON-SITE CONDITIONS
7. DIMENSIONS COULD VARY AT OC TRANSPO DISCRETION

CONCRETE LOADING PAD LOCATED IN BOULEVARD BETWEEN SIDEWALK AND CURB

DATE: MAR 2016
REV: MAR 2023
DWG No.: SC12.2

REMOVALS SHOWN ON 124150A-EX

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

No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	LAB

SCALE
1:200
1:200
0 2 4 6 8

DESIGN: LKC
CHECKED: LAB
DRAWN: TGS
CHECKED: JLS
APPROVED: LAB

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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

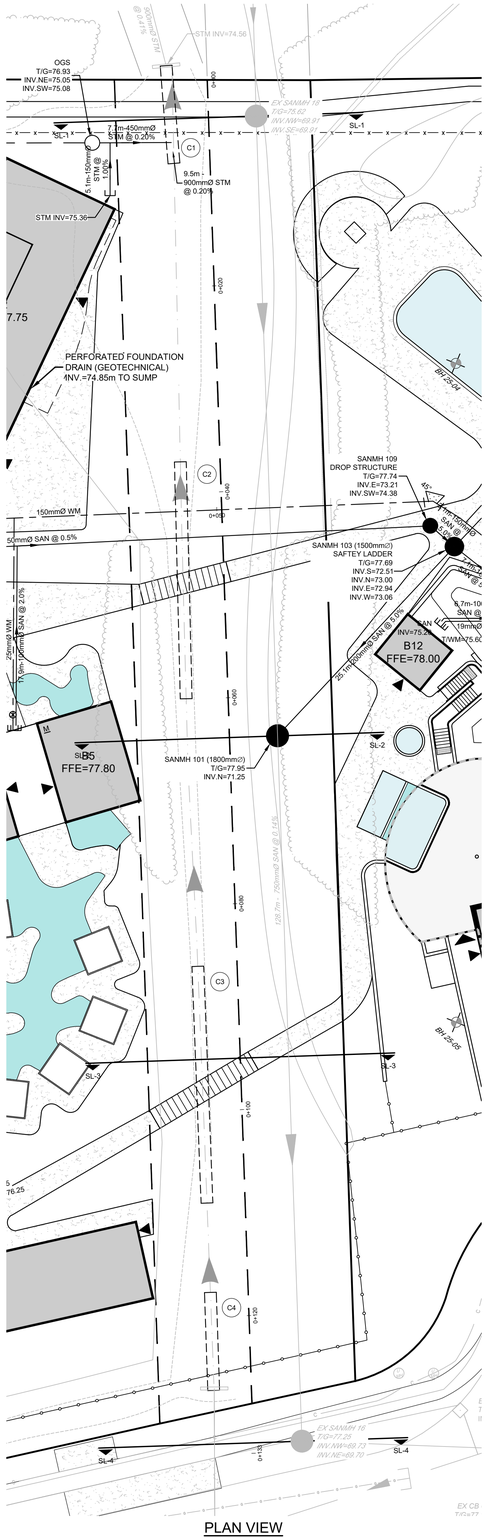
LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
NOTES AND DETAILS
(SOLANDT ROAD DETAILS)

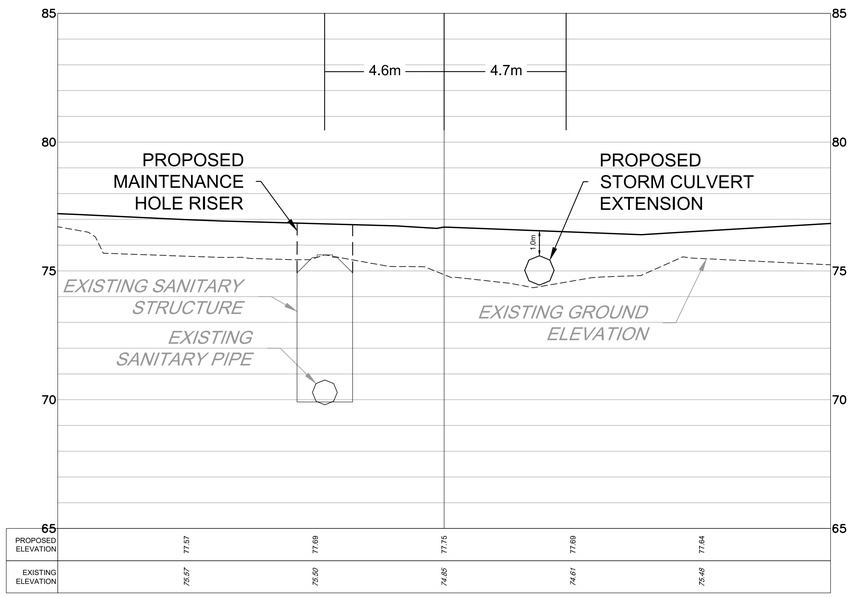
PROJECT No.: 124150A
REV: REV # 1
DRAWING No.: 124150A-ND3

PLAN # ######

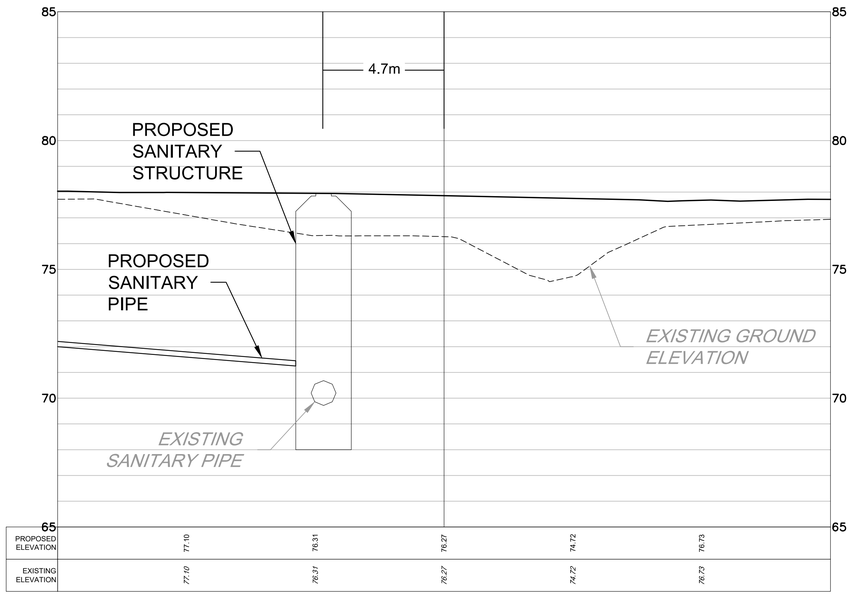
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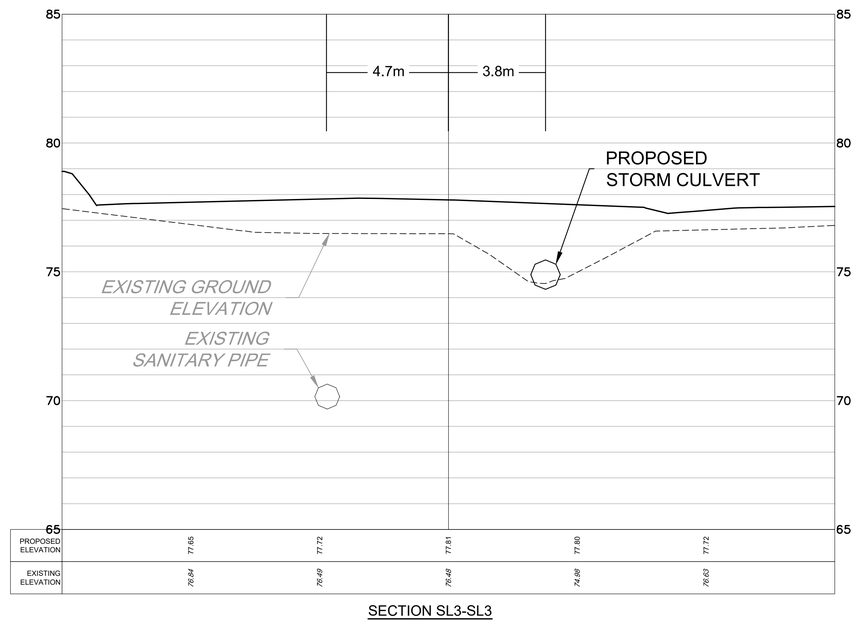
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SCALE = 1:250



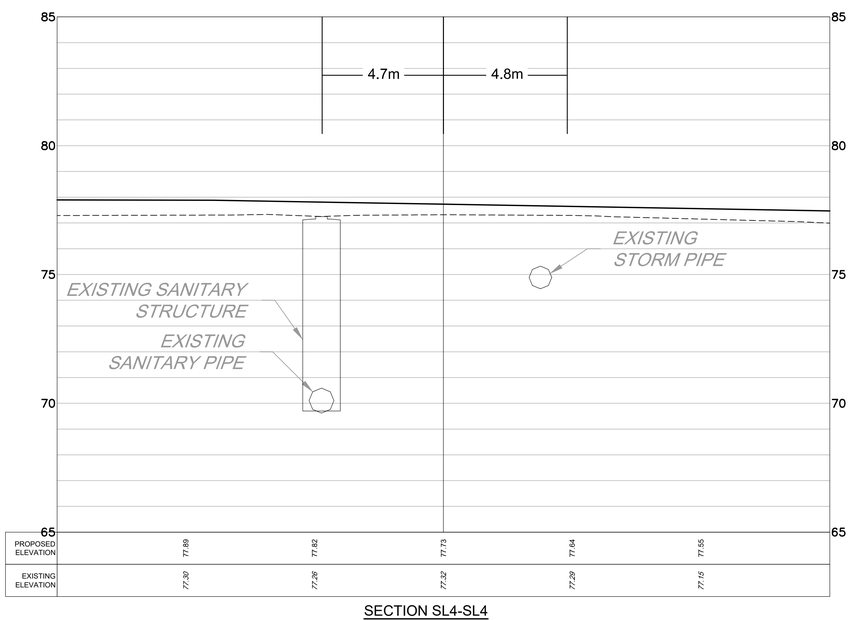
SECTION SL1-SL1
SCALE = 1:100



SECTION SL2-SL2
SCALE = 1:100



SECTION SL3-SL3
SCALE = 1:100



SECTION SL4-SL4
SCALE = 1:100

NOTE:
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No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	LAB

SCALE: AS SHOWN

DESIGN: LKC
CHECKED: LAB
DRAWN: LKC
CHECKED: JLS
APPROVED: LAB

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
L.A. BOWLEY
100081115
Jan 29/26
PROVINCE OF ONTARIO

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
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

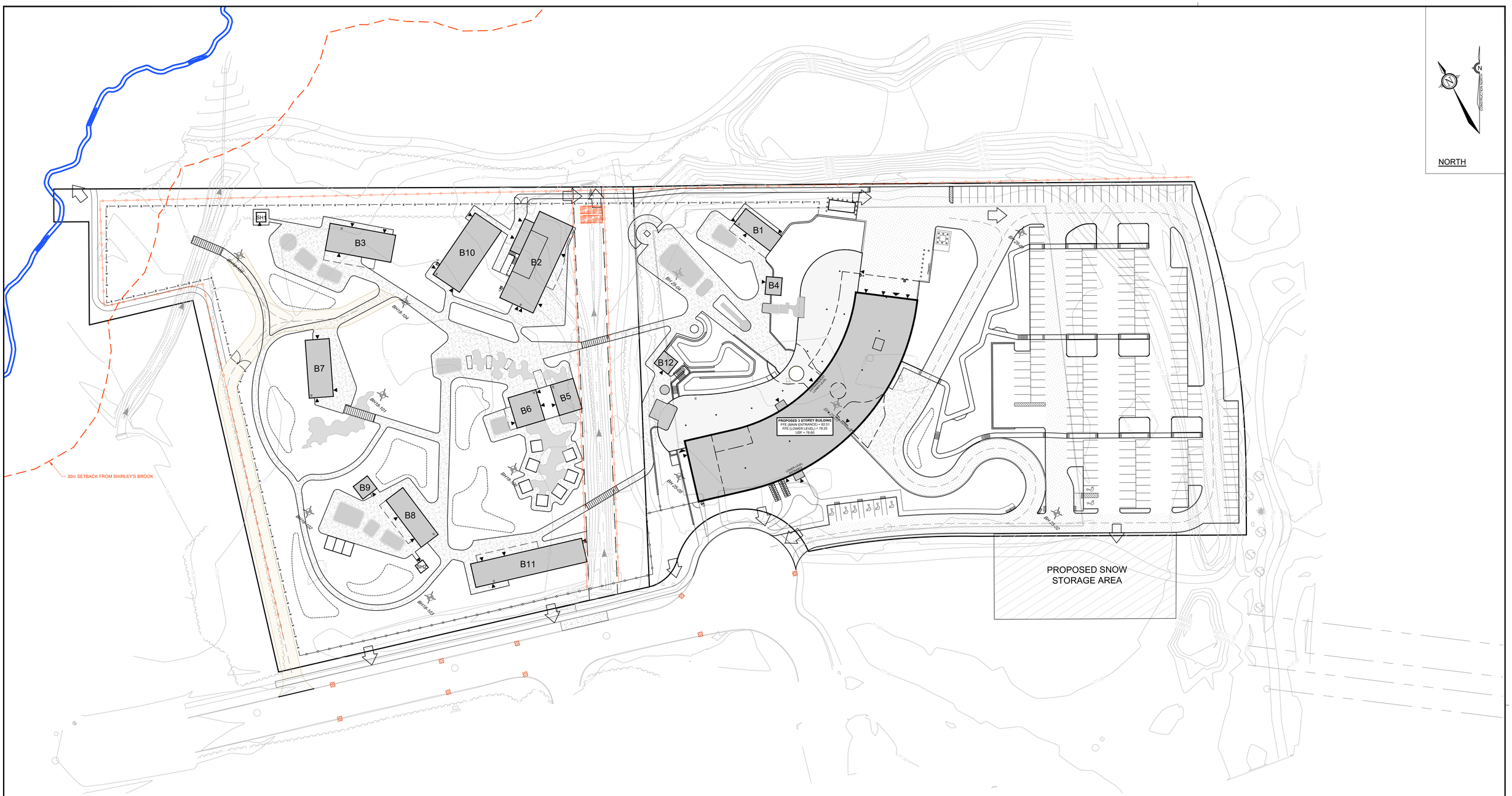
DRAWING NAME
NOTES AND DETAILS (EASEMENT SECTIONS)

PROJECT No. 124150A
REV REV # 1
DRAWING No. 124150A-ND4

PLAN # #####

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EROSION AND SEDIMENT CONTROL RESPONSIBILITIES

				During Construction		After Construction Prior to Final Acceptance	
	ESC Measure	Symbol	OPSD No.	Installation Responsibility	Inspection Responsibility	Inspection/Maintenance Responsibility	Removal Responsibility
Temporary Measures	Light Duty Silt Fence Barrier		219.110	Developer's Contractor	Developer's Contractor	Developer	Developer
	Straw Bale Flow Check Dam		219.180	Developer's Contractor	Developer's Contractor	Developer	Developer
	Temporary Rock Flow Check Dam		219.211	Developer's Contractor	Developer's Contractor	Developer	Developer
	Filter Cloth Under Structures		N/A	Developer's Contractor	Developer's Contractor	Developer	Developer

EROSION AND SEDIMENT CONTROL NOTES

1. THE CONTRACTOR AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA AND CONSERVATION AUTHORITY, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL SUCH AS BUT NOT LIMITED TO INSTALLING FILTER CLOTHS ACROSS MANHOLE/CATCHBASIN LIDS TO PREVENT SEDIMENTS FROM ENTERING STRUCTURES AND INSTALL AND MAINTAIN A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.
2. THE EROSION AND SEDIMENT CONTROL PLANS ARE TO BE READ IN CONJUNCTION WITH THE TREE CONSERVATION REPORT AND ENVIRONMENTAL IMPACT STUDY PREPARED BY MUNCASTER ENVIRONMENTAL PLANNING DATED JANUARY 2026.
3. THE CONTRACTOR SHALL REVIEW AND FOLLOW THE , PROTOCOL FOR WILDLIFE PROTECTION DURING CONSTRUCTION, PREPARED BY THE CITY OF OTTAWA (SEPTEMBER 2022) .
4. THE BIOLOGIST FOR THIS PROJECT IS BERNIE MUNCASTER (613-748-3753) . ANY SPECIES AT RISK SIGHTINGS ARE TO BE IMMEDIATELY REPORTED TO THE PROJECT BIOLOGIST AND THE MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS.
5. DEVELOPMENT SETBACK: NO TREE REMOVAL OR OTHER SITE DISTURBANCES, OTHER THAN A SECURITY FENCE AND A POTENTIAL PERMEABLE PATHWAY IN THE FUTURE, WITHIN 30 METRES OF SHIRLEY'S BROOK. SNOW REMOVAL IS NOT TO BE STORED IN THE WEST PORTION OF THE SITE TO KEEP ANY SNOW PILES AN EXTENDED DISTANCE FROM SHIRLEY'S BROOK.
6. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
7. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED IN GOOD WORKING ORDER UNTIL THE SITE HAS STABILIZED, AFTER WHICH ANY SUCH MEASURES THAT ARE NOT PERMANENT, AS PER THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE REMOVED IN A MANNER THAT MINIMIZES DISTURBANCE TO THE SITE.
8. THE CONTRACTOR IS TO INSPECT ALL EROSION AND SEDIMENT CONTROL DAILY AND IMMEDIATELY AFTER EVERY RAINFALL EVENT AND REPAIR ANY DAMAGED OR NON-FUNCTIONING MEASURES IMMEDIATELY.
9. THE EROSION AND SEDIMENT CONTROL PLANS ARE TO BE CONSIDERED A 'LIVING DOCUMENT' WHICH MAY BE MODIFIED IN THE EVENT, THE EROSION AND SEDIMENT CONTROL MEASURES ARE INSUFFICIENT.
10. FOR MATERIAL STOCKPILING, MINIMIZE THE AMOUNT OF EXPOSED MATERIALS AT ANY GIVEN TIME; APPLY TEMPORARY SEEDING, TARPS, COMPACTION AND/OR SURFACE ROUGHENING AS REQUIRED TO STABILIZE STOCKPILED MATERIALS THAT WILL NOT BE USED WITHIN 14 DAYS.
11. THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE ENGINEER, THE MEASURES ARE NO LONGER REQUIRED. NO CONTROL MEASURES MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE ENGINEER.
12. TO PROTECT BREEDING BIRDS, NO TREE REMOVAL SHOULD OCCUR BETWEEN APRIL 15TH AND AUGUST 15TH, UNLESS A BREEDING BIRD SURVEY CONDUCTED BY A QUALIFIED BIOLOGIST WITHIN FIVE DAYS OF THE WOODY VEGETATION REMOVAL IDENTIFIES NO ACTIVE NESTS IN THE VEGETATION TO BE REMOVED.
13. ROADWAYS ARE TO BE SWEPT AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR THE REPRESENTATIVE OF THE CITY OF OTTAWA.

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

No.	REVISION	DATE	BY
1.	ISSUED FOR REVIEW	JAN 29/26	LAB

SCALE: 1:500 (1:500, 0 5 10 15 20)

DESIGN: CABD
CHECKED: LAB
DRAWN: LKC
CHECKED: JLS
APPROVED: LAB

FOR REVIEW ONLY

L.A. BOWLEY 100081115 Jan 29/26 — LICENSED PROFESSIONAL ENGINEER — PROVINCE OF ONTARIO

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
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LOCATION
CITY OF OTTAWA
SERENVITA - 2505 & 2707 SOLANDT ROAD

DRAWING NAME
EROSION AND SEDIMENT CONTROL PLAN

PROJECT No. 124150A
REV # 1
DRAWING No. 124150A-ESC

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