Geotechnical Report

Comments:

11. *The basis for concluding that the surcharge program is complete and that no grade raise restrictions are required remains unclear. Settlement monitoring indicates that several plates continued to exhibit measurable settlement (>20 mm) during the final interval, which does not clearly demonstrate that consolidation has stabilized. Please clarify how the conclusion that approximately 95% of primary settlement has been achieved was determined, including the method of interpretation. Based on the monitoring data provided, it is not evident that the settlement–time response has reached an asymptotic trend consistent with near-complete primary consolidation. The assumption that removal of the surcharge would result in negligible additional settlement also requires justification. Residual settlement under final grade loading conditions should be explicitly quantified. In addition, the assessment appears to assume a uniform 2 m surcharge; however, the surcharge program indicates a range of 1 m to 2 m, with no information provided on its spatial distribution. Please provide:*
    a. *Methodology used to determine the degree of primary consolidation achieved;*
    b. *Settlement–time interpretation (e.g., plots and/or extrapolation);*
    c. *Estimated residual settlement under final grade loading conditions;*
    d. *Clarification on the spatial distribution of surcharge thickness (1 m vs. 2 m).*

Response: Please refer to the enclosed Geotechnical Letter prepared by Paterson Group dated April 29, 2026.

12. *Driveways leading to the garage parking spaces must be a minimum of 2.6m in width to align with zoning bylaw (By-law No. 2026-50) Section 606.*

Response: No change required. Both the Site Plan and Garage Plan indicate that the driveways leading to the garages have a width of 3.2 m (10' 5½"). The Site Plan also demonstrates that a standard width parking space can be accommodated in front of each garage parking space. Please also note that the transition provisions for the New Zoning By-law 2026-50 permit this application to be processed under Zoning By-law 2008-250, as the Site Plan Application was deemed complete and the Minor Zoning By-law Amendment was approved prior to March 11, 2026 (date of enactment).

Comments 13, 14, 15, and 16 have been addressed in two previous submissions and no further response is required.

Mississippi Valley Conservation Authority

17. *Please refer to the attached comments from the Mississippi Valley Conservation Authority (MVCA).*

Response: MVCA comments have been addressed in a separate letter (attached).

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

NOVATECH

Engineers, Planners & Landscape Architects

Engineering
- Land/Site Development
- Municipal Infrastructure
- Environmental/ Water Resources
- Traffic/ Transportation
- Recreational

Planning
- Land/Site Development
- Planning Application Management
- Municipal Planning
- Urban Design
- Expert Witness (OLT)
- Wireless Industry

Landscape Architecture
- Streetscapes & Public Amenities
- Open Space, Parks & Recreation
- Community & Residential
- Commercial & Institutional
- Environmental Restoration

4829 Abbott Street East, Ottawa
Block 123 – Trail View Subdivision

Servicing and Stormwater Management Report

Prepared for: SPB Developments Inc.

4829 Abbott Street East, Ottawa

Block 123 – Trail View Subdivision

Servicing and Stormwater Management Report

Prepared By:

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

June 13, 2025
Revised: March 11, 2026
Revised: April 30, 2026

Novatech File: 110037
Ref: R-2025-013

NOVATECH
Engineers, Planners & Landscape Architects

April 30, 2026

City of Ottawa
Development Review West - Planning,
Development and Building Services Department
110 Laurier Avenue West
Ottawa, ON K1P 1J1

Attention: **Nishant Dave, Planner I**

Reference: **4829 Abbott Street East, Ottawa, ON**
Block 123 – Trail View Subdivision
Servicing and Stormwater Management Report
Our File No.: 110037
City File No.: PC2024-0509

Please find enclosed the 'Servicing and Stormwater Management Report' for the above noted project. This report has been prepared in support of a Site Plan Application and is submitted for your review and approval. It has been revised in response to City and MVCA comments from the second submission.

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

Yours truly,

NOVATECH

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

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

Table of Contents

1.0 INTRODUCTION 1
1.1 Background 1
1.2 Development Intent 1
1.3 Report Objective 1
2.0 GEOTECHNICAL INVESTIGATION 2
3.0 SERVICING AND GRADING 2
3.1 General Servicing 2
3.2 General Grading 2
4.0 STORM SEWER SYSTEM AND STORMWATER MANAGEMENT 3
4.1 Stormwater Management Criteria 3
4.2 Pre-Development Conditions 3
4.3 Proposed Storm Drainage System 3
5.0 SANITARY SEWER SYSTEM 6
5.1 Existing Sanitary Infrastructure 6
5.2 Proposed Sanitary Infrastructure 6
5.3 Sanitary Demand and Design Parameters 6
6.0 WATER SUPPLY SYSTEM 7
6.1 Existing Water Infrastructure 7
6.2 Proposed Water Infrastructure 7
6.3 Watermain Design Parameters 7
6.4 System Pressure Modelling and Results 8
6.5 Fire Demand 8
7.0 EROSION AND SEDIMENT CONTROL AND DEWATERING MEASURES 9
8.0 SUMMARY AND CONCLUSIONS 9
9.0 CLOSURE 11

Tables

Table 1.1 Land Use, Development Potential, and Yield
Table 2.1 Summary of Geotechnical Servicing and Grading Considerations
Table 3.1 Vertical Difference Between Building Envelopes and Spill Elevations
Table 4.1 Storm Sewer Design Parameters
Table 5.1 Sanitary Sewer Design Parameters
Table 6.1 Watermain Design Parameters and Criteria
Table 6.2 System Pressure (EPANET).
Table 6.3 Summary of Available Aggregate Hydrant Flow
Table 6.4: Summary of Water Age Analysis

Figures

Figure 1.1 Key Plan
Figure 1.2 Existing Conditions
Figure 3.1 Proposed Servicing Layout Plan
Figure 4.1 Pre-Development Storm Drainage Area Plan
Figure 5.1 Post-Development Storm Drainage Area Plan
Figure 6.1 EPA Net Model Schematic
Figure 7.1 Fire Hydrant Coverage Plan

Drawings

Site Plan	Block 123 Site Plan – Hobin Architecture, February 2, 2026
General Plan of Services	110037-GP123, revision 9, April 24, 2026
Grading Plan	110037-GR123, revision 9, April 24, 2026
Erosion and Sediment Control Plan	110037-ESC123, revision 4, April 24, 2026

Appendices

Appendix A Correspondence & Background Information
Appendix B Architectural Drawings
Appendix C Report Checklist
Appendix D Storm Sewer Design Sheets and Stormwater Management Calculations
Appendix E Sanitary Sewer Design Sheets
Appendix F Water Demand Calculations and Hydraulic Modeling
Appendix G Novatech Drawings

1.0 INTRODUCTION

1.1 Background

This report addresses the approach to site servicing and stormwater management for the development at the Trail View Subdivision – Block 123 (Subject Site), which is being proposed by SPB Developments Inc. (Developer).

The Subject Site is located on Abbott Street East, currently known municipally as 4829 Abbott Street East, as shown on **Figure 1.1** – Key Plan. The site is part of the Trail View Subdivision and is bound to the north by a servicing easement, to the south by residential lots (Cranesbill Road), to the west by Adstock Heights, and to the east by Abbott Street East.

The existing site drains overland from southwest to northeast towards the servicing easement / existing stormwater management pond.

The existing land is mostly vacant. There is an existing sales center building on the site that would remain and be converted in the future to a rental office and one residential unit. This is separately serviced and does not impact the proposed development as shown on **Figure 1.2** – Existing Conditions Plan.

1.2 Development Intent

The Subject Site has an area of 0.93ha, and the proposed development will comprise of 5 apartment blocks, 3 storeys in height, containing 12 units each (60 units total), as shown in **Table 1.1** below. The development will include a shared parking area with a 6.0m wide drive aisle. Access to the site will be via Abbott Street East. The proposed Site Plan (Block 123 Site Plan) is included in **Appendix B**.

Table 1.1: Land Use, Development Potential, and Yield

Unit Type[1]	Number of Buildings	Number of Units	Area
Stacked Apartments	5	60	0.79 ha
Sales Office	1	1	0.14 ha

The Subject Site is located within the serviced area in the City of Ottawa Official Plan; therefore, the site has been designed with municipal water, storm, and sanitary sewage collection.

1.3 Report Objective

This report assesses the adequacy of existing and proposed services to support the proposed development. This report will be provided to the various agencies for approval and to obtain any applicable permits.

The City of Ottawa Servicing Study Guidelines for Development Applications checklist has been completed and is provided in **Appendix B**.

2.0 GEOTECHNICAL INVESTIGATION

Paterson Group Inc. (Paterson) conducted a geotechnical investigation in support of the proposed residential development: *Geotechnical Investigation – Proposed Residential phase 5 – Block 123, 429 Abbott Street East, Ottawa, Ontario; Report No. PG2855-3, Paterson Group Inc., February 21, 2025.* Based on the geotechnical study, it is not anticipated that there will be any significant geotechnical concerns with respect to servicing and developing the site. Refer to drawing PG2855-9 included in the report for the test hole location plan. A summary of the geotechnical report findings is provided in **Table 2.1** below.

Table 2.1: Summary of Geotechnical Servicing and Grading Considerations

Parameter	Summary
Sub-Soil Conditions	Loose brown silty sand with clay, grey clayey sand with silt, firm brown and grey silty clay
Groundwater Considerations	Groundwater table 2.0m to 3.0m below original ground surface elevation. Clay seals should be provided in the service trenches.
Bedrock	Bedrock not encountered.
Pipe Bedding / Backfill	Pipe Bedding 150 mm to 300 mm Granular A Pipe Cover 300 mm Granular A Backfill Dry Native Material
Pavement Structure (Parking Areas)	50mm Wear Course (SuperPave 12.5) 150mm Base (Granular A) 300mm Subbase (Granular B Type II)
Pavement Structure (Drive Aisles)	40mm Wear Course (SuperPave 12.5) 50mm Binder Course (SuperPave 19.0) 150mm Base (Granular A) 450mm Subbase (Granular B Type I or II)

3.0 SERVICING AND GRADING

3.1 General Servicing

The Subject Site will be serviced using local storm and sanitary sewers, and watermain. The storm drainage / stormwater management, sanitary and water servicing strategy is discussed in further detail in the following sections.

Refer to **Figure 3.1** – Proposed Servicing Layout Plan. For additional details refer to the General Plan of Services (Drawing 110037-GP123) and Grading Plan (Drawing 110037-GR123)

3.2 General Grading

The proposed grading within the Subject Site will direct overland flows away from building envelopes and to the servicing and drainage easement Block 130. See **Table 3.1** for details on the vertical separation between each building envelope and the major overland flow spill elevation.

Table 3.1: Vertical Difference Between Building Envelopes and Spill Elevations

Building #	Building Envelope Elevation	Overland Flow Spill Elevation
Building 1	98.14	97.84
Building 2	98.00	97.70
Building 3	98.00	97.70
Building 4	98.40	97.70
Building 5	98.17	97.70
Garage	98.14	97.84

Portions of the Subject Site fronting onto Abbott Street East and the Adstock Heights right-of-way will direct overland flows towards the existing Abbott Street right-of-way and the Adstock Heights right-of-way.

Refer to the Grading Plan (Drawing 110037-GR123) for details.

4.0 STORM SEWER SYSTEM AND STORMWATER MANAGEMENT

4.1 Stormwater Management Criteria

The following stormwater management criteria was followed for the stormwater management design of the proposed development:

- Control post-development flow from the site to the release rate of 186 L/s (200L/s/ha), allocated to the development site as part of the Detailed Servicing and Stormwater Management Report for the Trail View Subdivision (Novatech, 2018). An excerpt is included in **Appendix D.**

- Minor System (Storm Sewers) designed per the City of Ottawa Design Guidelines.

- Provide a major system (overland flow route) to the existing Servicing Block 130 for storms that exceed capacity of the minor system.

- Best Management Practices: implement lot level and conveyance Best Management Practices (BMPs) to promote infiltration and treatment of storm runoff.

4.2 Pre-Development Conditions

Refer to **Figure 4.1** – Pre-Development Storm Drainage Areas for an illustration of the pre-development drainage areas of the Subject Site.

Under existing conditions, the majority of the site drains overland from southwest to northeast towards the existing stormwater management pond.

4.3 Proposed Storm Drainage System

Stormwater servicing for the proposed development would be provided using an underground storm sewer system. Surface stormwater runoff, including from the existing building, would be captured and conveyed to the underground system via catch basins located throughout the site.

Storm services for the apartment buildings are proposed to provide foundation drainage. The existing building foundation drainage is serviced independently to Abbott Street.

4.3.1 Storm Sewers (Minor System)

The proposed storm sewers have been designed using the Rational Method. The on-site storm sewers were sized to convey an uncontrolled peak flow corresponding to a 2-year return period. The criteria used to size the storm sewers are summarized in **Table 4.1**. The storm sewer design sheets are provided in **Appendix C**.

Table 4.1: Storm Sewer Design Parameters

Parameter	Design Criteria
Local Roads	2-year Return Period
Storm Sewer Design	Rational Method/Modeling
IDF Rainfall Data	OSDG
Initial Time of Concentration (T_c)	10 minutes
Minimum Velocity	0.9 m/s
Maximum Velocity	1.8 m/s
Minimum Diameter	375 mm

The proposed storm drainage systems include the following:

- Approximately 98.5m of storm sewers for collection and conveyance of stormwater runoff and foundation drainage including a connection to the existing storm sewer stub within the servicing easement (Block 130).

Hydraulic Grade Line (HGL)

The 100-year hydraulic grade line of the existing downstream storm sewer in the servicing easement was reviewed and is approximately 95.52m. The 100-year hydraulic grade line has been reviewed on-site, and all underside of footing (USF) elevations have been set accordingly. The results of the storm sewer hydraulic grade line analysis can be found in **Appendix C**.

4.3.2 Stormwater Quality Control

The Subject Site is within the catchment area of the existing stormwater management facility (Fernbank SWM Pond 3), located to the north of the Subject Site. The design of the existing stormwater management facility accounted for stormwater runoff from the Subject Site. The existing stormwater management facility provides quality control in accordance with MOE Level 1 – Enhance protection (70% TSS removal). Onsite quality control is not required and is not proposed.

Onsite Conveyance Controls

The following lot level and conveyance best management practices would be implemented to promote infiltration and filter sediment, thus providing quality control.

- Roof leaders directed to grass surfaces.
- Grassed swales constructed at minimum grade, where possible.
- Grassed swales would be vegetated.
- Landscape catch basin leads would be perforated to promote infiltration.

• Open bottom underground storage chambers complete with geotextile filter fabric would promote infiltration

4.3.3 Stormwater Quantity Control

The following provides an overview of the proposed stormwater management strategy for controlled and uncontrolled areas. Refer to **Figure 5.1** – Post-Development Drainage Areas for sub-catchment locations:

- *Area STM-1 & STM-2 (Paved parking area and Portions of the Apartment Buildings) – Controlled*

  These sub-catchments represent areas draining towards the paved parking area. Storm runoff will be collected by catch basins and conveyed to the existing storm sewer in the servicing easement Block 130.

- *Areas STM-4, STM-5, STM-6, & STM-7 – Uncontrolled*

  These sub-catchments represent portions of the Subject Site that will drain uncontrolled to the existing right-of-ways and servicing easement adjacent to the Subject Site. The overall site release rates have accounted for the uncontrolled release rates of these areas.

Surface and Subsurface Storage

Quantity control storage (to meet the allowable release rates) will be provided by surface storage around the catch basins in the parking area and by subsurface storage in pipes, structures, and underground storage chambers. Inlet control devices (ICD's) would be installed in the catch basins to control outflows to the allowable release rate. The total volume provided by the storage is approximately 139m^3 based on the layout presented on the Grading Plan (Drawing 110037-GR123). Supporting documentation is provided in **Appendix D**.

The catch basins will be privately owned and maintained.

4.3.4 Grading & Overland Flow (Major System)

The site will be graded to provide an overland flow route (major system) for large infrequent storms or in the event that the storm sewer / stormwater management system becomes obstructed. Major system flows will be directed to Servicing Block 130.

Runoff from storms that exceed the minor system capacity are to be conveyed overland to Servicing Block 130.

4.3.5 Retention and Infiltration

Clay seals will be used in service trenches to reduce the long-term lowering of the groundwater level at the site. Due to the poor hydraulic properties of the underlying silt/clay soil, infiltration type LID measures are not permitted per City of Ottawa IWSTB 2024-04. However, Best Management Practices for infiltration are being provided, but are not being analyzed for their contribution due to the City IWSTB. Where possible, runoff from roofs will be directed to grassed areas to promote infiltration and open bottom stormwater storage chambers with geotextile filter fabric are proposed to filter and promote infiltration of hard surface runoff..

5.0 SANITARY SEWER SYSTEM

5.1 Existing Sanitary Infrastructure

There is an existing 200mm diameter sanitary sewer (gravity) located in the servicing easement Block 130. A 7.5m – 200mm diameter stub was installed at the time of construction of the sanitary sewer on Block 130. The stub was capped at the Subject Site's property boundary. Refer to the General Plan of Services (Drawing 110037-GP123) for the sanitary layout.

5.2 Proposed Sanitary Infrastructure

The proposed on-site works will require approximately 192m of on-site sanitary sewer (gravity) to collect wastewater flows and to direct flows to the existing 200mm sanitary sewer stub connecting to the existing 200mm sanitary sewer on Block 130. The layout of the proposed sanitary sewer is shown on the General Plan of Services (Drawing 110037-GP123). To meet Ontario Building Code requirements for the mechanical design within the buildings, sanitary services are proposed for all four quadrants of each apartment building.

5.3 Sanitary Demand and Design Parameters

The peak design flow parameters in **Table 5.1** have been used in the sewer capacity analysis. Unit and population densities and all other design parameters are specified in the OSDG.

Table 5.1: Sanitary Sewer Design Parameters

Design Component	Design Parameter
Unit Population: Apartments	2.1 people/unit
Residential Flow Rate, Average Daily	280 L/cap/day
Residential Peaking Factor	Harmon Equation (min=2.0, max=4.0) Harmon Correction Factor = 0.8
Extraneous Flow Rate	0.31 L/s/ha
Minimum Pipe Size	200 mm (Res)
Minimum Velocity[1]	0.6 m/s
Maximum Velocity	3.0 m/s
Minimum Pipe Cover	2.2 m (Unless frost protection provided)

The sanitary sewer design sheet, located in **Appendix D**, confirms the peaked sanitary flows from the Subject Site to the receiving sewer will be 1.77 L/s.

The capacity of the existing downstream sanitary was reviewed to confirm sufficient capacity to service the development. The Subdivision Servicing & SWM Report (Novatech, 2018) includes sanitary sewer design calculations for the existing sanitary sewer which the development would connect to in Servicing Block 130. The report accounts for a peak design flow of 2.89 L/s for the Block 123 development. Since total peak design flow is 1.77 L/s, there is capacity in the existing downstream sewer in Block 130. The sanitary sewer design table from the Subdivision Servicing & SWM Report (Novatech, 2018) is included in **Appendix D.**

6.0 WATER SUPPLY SYSTEM

6.1 Existing Water Infrastructure

There is an existing 200mm diameter watermain adjacent to the Subject Site in the servicing easement Block 130 and Adstock Heights. Two 200mm diameter stubs were installed at the time of construction of the watermain, located in the Adstock Heights right of way and in servicing easement Block 130. The stubs were capped 6.0m past the Block 123 property line. It is proposed to connect to the existing 200mm diameter watermain stubs to service the proposed development.

6.2 Proposed Water Infrastructure

The proposed on-site watermain would connect to the two existing stubs and would include approximately 92m of 200mm diameter watermain and approximately 54m of 100mm watermain. To meet Ontario Building Code requirements for the mechanical design within the buildings water services are proposed for all four quadrants of each apartment building.

Refer to the General Plan of Services **(110037-GP123)** for the proposed watermain layout.

6.3 Watermain Design Parameters

Boundary conditions were provided by the City of Ottawa, based on the OWDG water demand criteria, for existing and proposed development. The boundary conditions are included in **Appendix E**.

The domestic demand design parameters, fire fighting demand design scenarios and system pressure criteria design parameters are outlined in **Table 6.1** below. The system pressure design criteria are used to determine the size of the watermains, required within the Subject Site, and are based on a conservative approach that considers three possible scenarios.

Table 6.1: Watermain Design Parameters and Criteria

Domestic Demand Design Parameters	**Design Parameters**
Population: Apartments – 2-bedroom	2.1 people/unit
Average Day Residential Demand (AVG)	280 L/c/d
Maximum Day Demand (MXDY)	2.5 x AVG
Peak Hour Demand (PKHR)	2.2 x MXDY
Fire Demand Design	**Design Flows**
Fire Demand (FF)	217 L/s per FUS / OWDG TB-2014
System Pressure Criteria Design Parameters	**Criteria**
Maximum Pressure (AVG) Condition	< 552 kPa (80 psi) occupied areas < 690 kPa (100 psi) unoccupied areas
Minimum Pressure (PKHR) Condition	> 276 kPa (40 psi) or 300 kPa (43.5psi) preferred (for 3-storey product)
Minimum Pressure (MXDY + FF) Condition	> 140 kPa (20 psi)

6.4 System Pressure Modelling and Results

System pressures for the Subject Site for both the existing and planned conditions were estimated using the EPANET modeling software.

The EPANET model layout is demonstrated in **Appendix F**.

Domestic Demand

The water demand summary for the build out of the Subject Site for the basic daily and peak hour demands has been provided in **Table 6.2** below. For detailed results refer to the tables provided in **Appendix E**.

Table 6.2: System Pressure (EPANET)

Condition	Demand (L/s)	Allowable Pressure (psi)	Max/Min Pressure (psi)
Planned Conditions (Summer 2022)			
Average Daily Demand	0.25	80 (Max)	91
Peak Hour Demand	1.35	40 (Min)	83

6.4.1 High Pressures

As summarized in the Table 6.2 above, under average day demands, pressure in the system exceeds the OWDG allowable pressure of 80 psi. Therefore, all units within Block 123 will require pressure reducing valves.

6.5 Fire Demand

An analysis was carried out to determine the available fire flow under maximum day demand while maintaining a residual pressure of 20psi. This was completed using the EPANET modeling software.

To achieve the required fire flow and optimize watermain sizes, the OWDG and its subsequent revisions (specifically ISTB-2018-02) allow for multiple hydrants to be drawn from, as opposed to drawing from a single hydrant to meet the required demand. Upon review of the Subject Site and the proposed hydrant location, the required fire flows can be achieved for the proposed structures by utilizing multiple hydrants.

For the purpose of this analysis, and to ensure a residual pressure of 20 psi is maintained within the system, all existing hydrants were considered as hydrant class AA. Proposed Hydrant 1 will be hydrant class AA (5,700 L/min). With this approach, the maximum required fire flow condition can be achieved at all buildings. For detailed results refer to the tables provided in **Appendix E.**

Please see **Table 6.3** below for a summary of the required fire flows for each apartment building, and the available fire flows based on distances to the proposed and existing hydrants. The

maximum required fire flow scenario is highlighted in blue. Refer to **Figure 7.1** for the Fire Hydrant coverage plan.

Table 6.3: Summary of Available Aggregate Hydrant Flow

Building #	Fire Hydrants providing 5,700L/min	Fire Hydrants providing 3,800L/min	Combined Hydrant Flow Rates (L/min)	Required Fire Flow per FUS Calculations (L/min)
1	2	1	15,200	14,000
2	2	1	15,200	12,000
3	2	1	15,200	14,000
4	2	1	17,100	14,000
5	2	2	19,000	17,000

Therefore, in the maximum fire flow demand scenario (Block 5), the combined fire flow from the proposed on-site hydrant and existing hydrants exceeds the required fire flow.

Based on the boundary condition information provided by the City and the existing fire hydrants in the area, the existing watermain infrastructure can provide adequate flow and pressure for domestic demand and fire protection for the proposed development. Refer to **Appendix E** for water demands, fire flow calculations, boundary conditions, and hydraulic analysis calculations.

7.0 EROSION AND SEDIMENT CONTROL AND DEWATERING MEASURES

Temporary erosion and sediment control measures will be implemented during construction in accordance with the “Guidelines on Erosion and Sediment Control for Urban Construction Sites” (Government of Ontario, May 1987). Details are provided on the Grading Plan (Drawing 110037-GR123). Erosion and sediment control measures may include:

- Placement of filter fabric under all catch basin and maintenance hatches
- Tree protection fence around the trees to be maintained
- Silt fence around the area under construction placed as per OPSS 577 / OPSD 219.110

The erosion and sediment control measures will need to be installed to the satisfaction of the engineer, the City, and the Ontario Ministry of Environment Conservation and Parks (MECP), prior to construction and will remain in place during construction until vegetation is established. The erosion and sediment control measure will also be subject to regular inspection to ensure that measures are operational.

8.0 SUMMARY AND CONCLUSIONS

This report demonstrates that the proposed development can be adequately serviced with storm and sanitary sewers and watermain. The report is summarized below:

Stormwater Management

- The Subject Site will be serviced with approximately 98m of on-site storm sewers 450mm, 525mm, and 600mm in diameter. The on-site storm sewers will outlet to the existing storm sewer on Block 130.
- The existing sewer was designed for and has capacity for the proposed development.
- Stormwater management will be provided onsite to adhere to the allowable release rates.
- Stormwater storage will be provided on the surface, at the catch basins, and underground in the parking area.

Sanitary and Wastewater Collection System

- The sanitary outlet would be the existing 200mm sanitary sewer on Block 130. The existing sanitary sewer has capacity for the proposed development.
- The proposed on-site works would require approximately 192m of on-site sanitary 200mm diameter sewers to collect wastewater flows and to direct flows to the sanitary outlet. The proposed sanitary sewers have been designed per the OSDG design parameters.

Water Supply System

- The watermain connection point for the Subject Site is two locations:
    - Existing 200mm watermain on Block 130
    - Existing 200mm watermain on Adstock Heights
- The proposed on-site watermain would include approximately 92m of 200mm diameter watermain and 54m of 100mm diameter watermain.
- The apartment blocks would be serviced with 50mm water services.
- Pressure reducing valves would be required on each building service.
- One private hydrant location has been provided for fire protection purposes.
- The existing municipal watermain system has the capacity to provide domestic and fire protection for the proposed development.

Erosion and Sediment Control

- Temporary erosion and sediment control measures would be implemented both prior to commencement and during construction in accordance with the “Guidelines on Erosion and Sediment Control for Urban Construction Sites” (Government of Ontario, May 1987).

9.0 CLOSURE

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

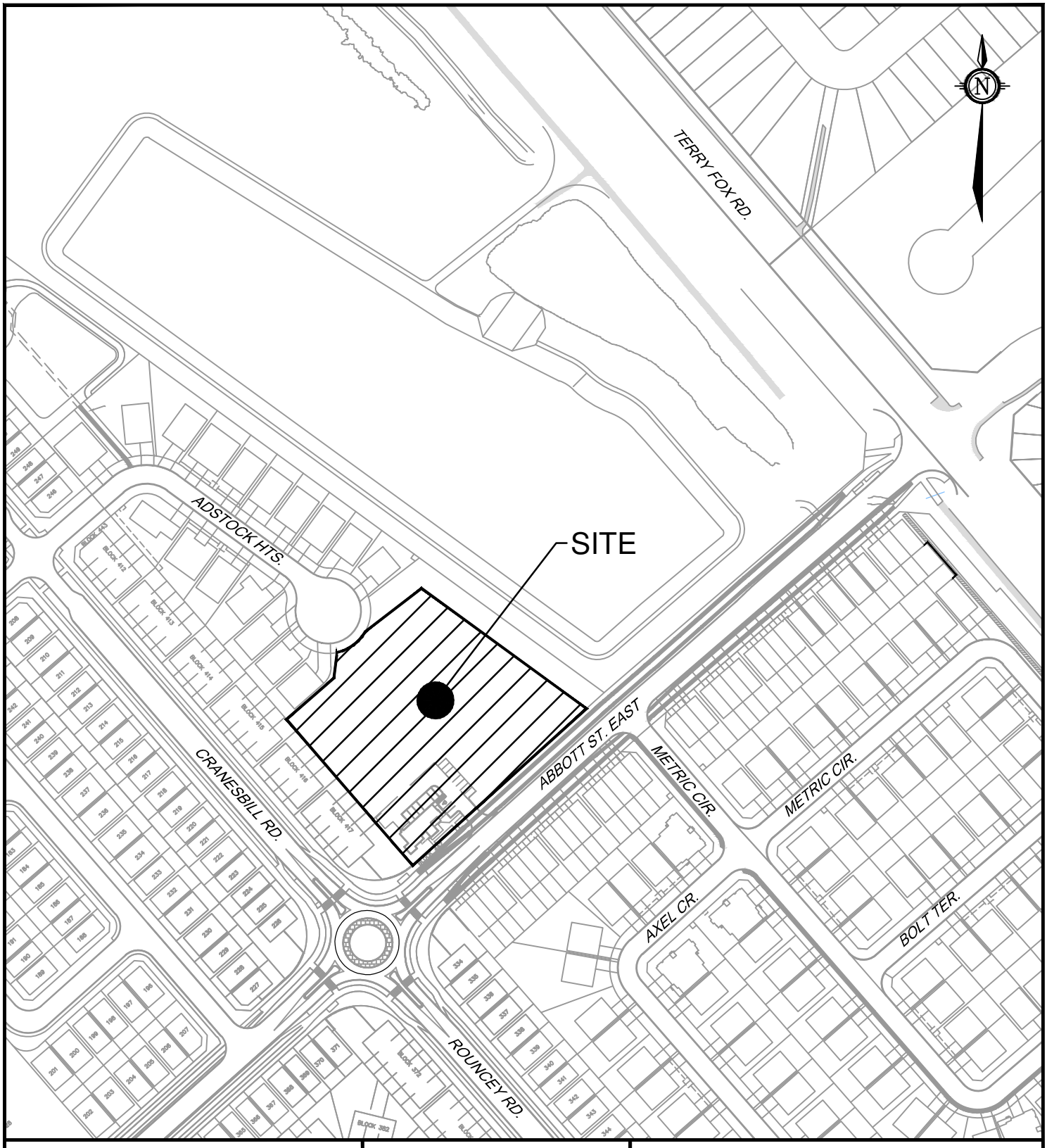
NOVATECH

Prepared by:

Matthew Blanton, B.Eng.
Land Development Engineering

Reviewed by:

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering



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

KEY PLAN

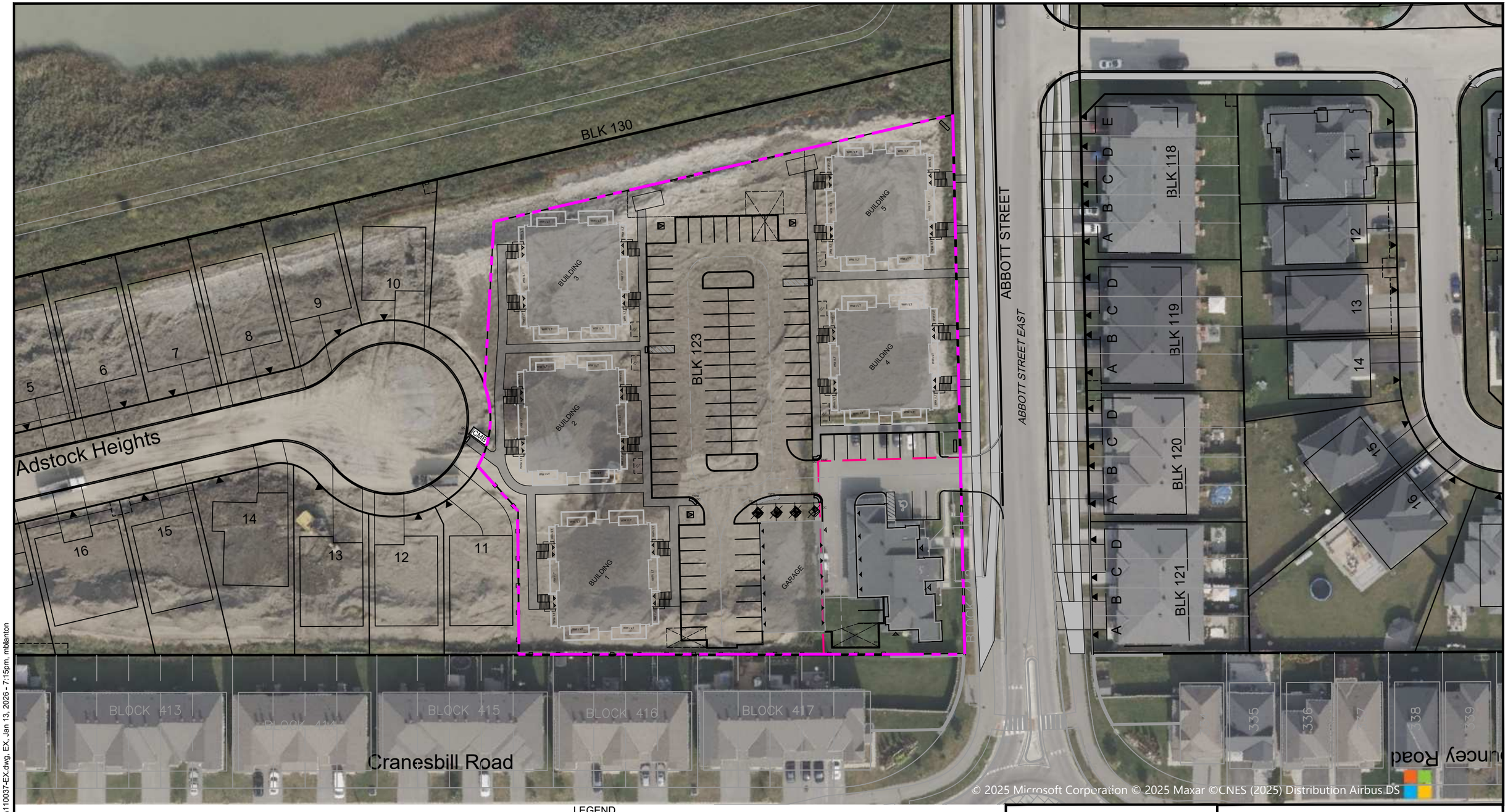
SPB DEVELOPMENTS INC. (METRIC HOMES)

BLOCK 123 (4829 ABBOTT ST. EAST)

DATE	JOB	FIGURE
JUN 2025	110037	1.1

M:\2010\110037\CAD\Design_Block123\Figures\110037-KP.dwg, 8x11 Keyplan, Feb 25, 2025 - 4:36pm, mblanton

SHT8X11.DWG - 216mmx279mm



LEGEND

PROPERTY BOUNDARY

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

BLOCK 123 (4829 ABBOTT STREET EAST)

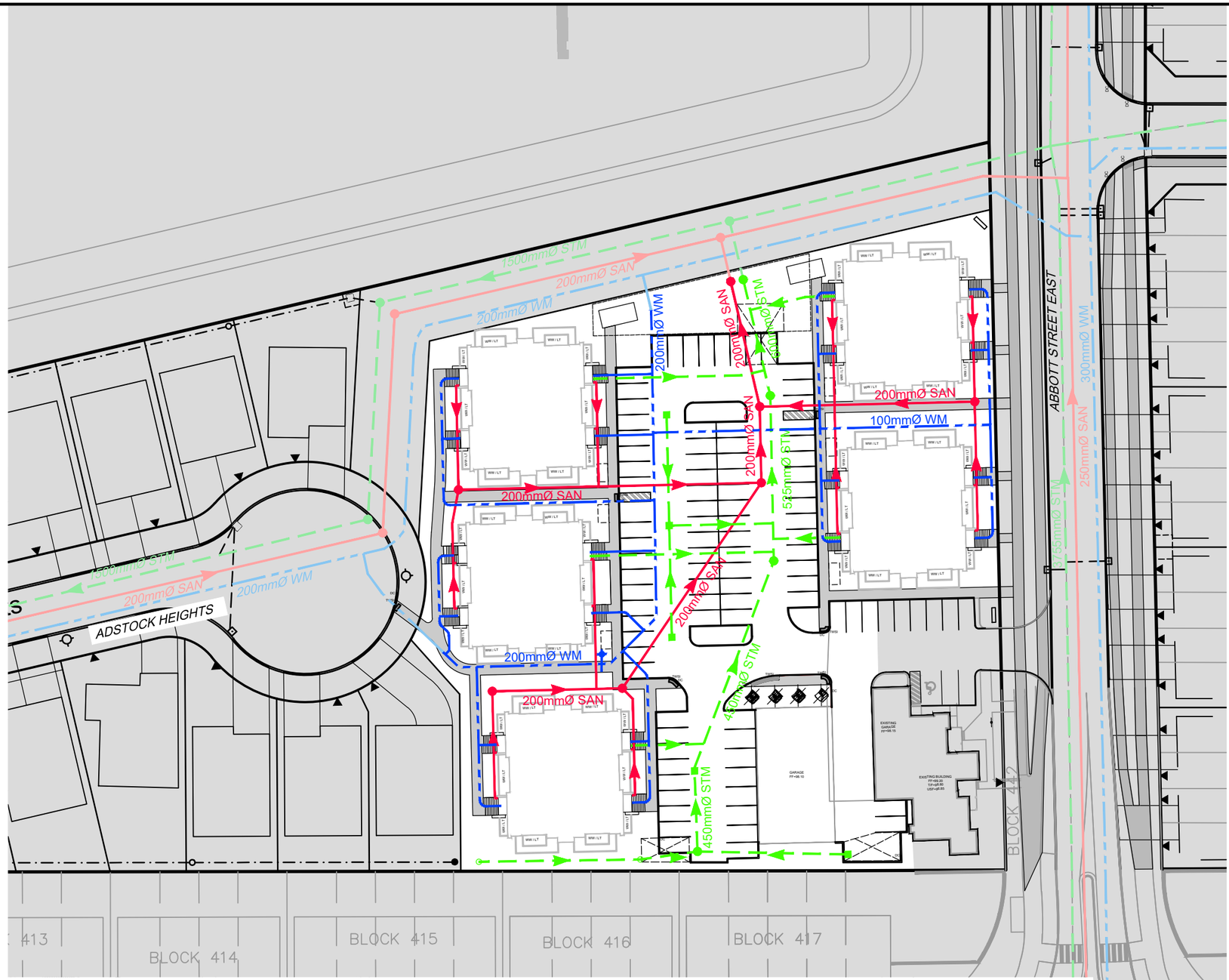
EXISTING CONDITIONS

SCALE 1 : 750 (0, 10, 20, 30)

DATE MAR 2026 | JOB 110037 | FIGURE 1.2

M:\2010\110037\CAD\Design_Block123\Figures\110037-EX.dwg, EX, Jan 13, 2026 - 7:15pm, mblanton

SHT11X17.DWG - 279mmX432mm



LEGEND

- PROPOSED WATERMAIN
- PROPOSED STORM SEWER AND DIRECTION OF FLOW
- PROPOSED SANITARY SEWER AND DIRECTION OF FLOW
- EXISTING WATERMAIN
- EXISTING STORM SEWER AND DIRECTION OF FLOW
- EXISTING SANITARY SEWER AND DIRECTION OF FLOW

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

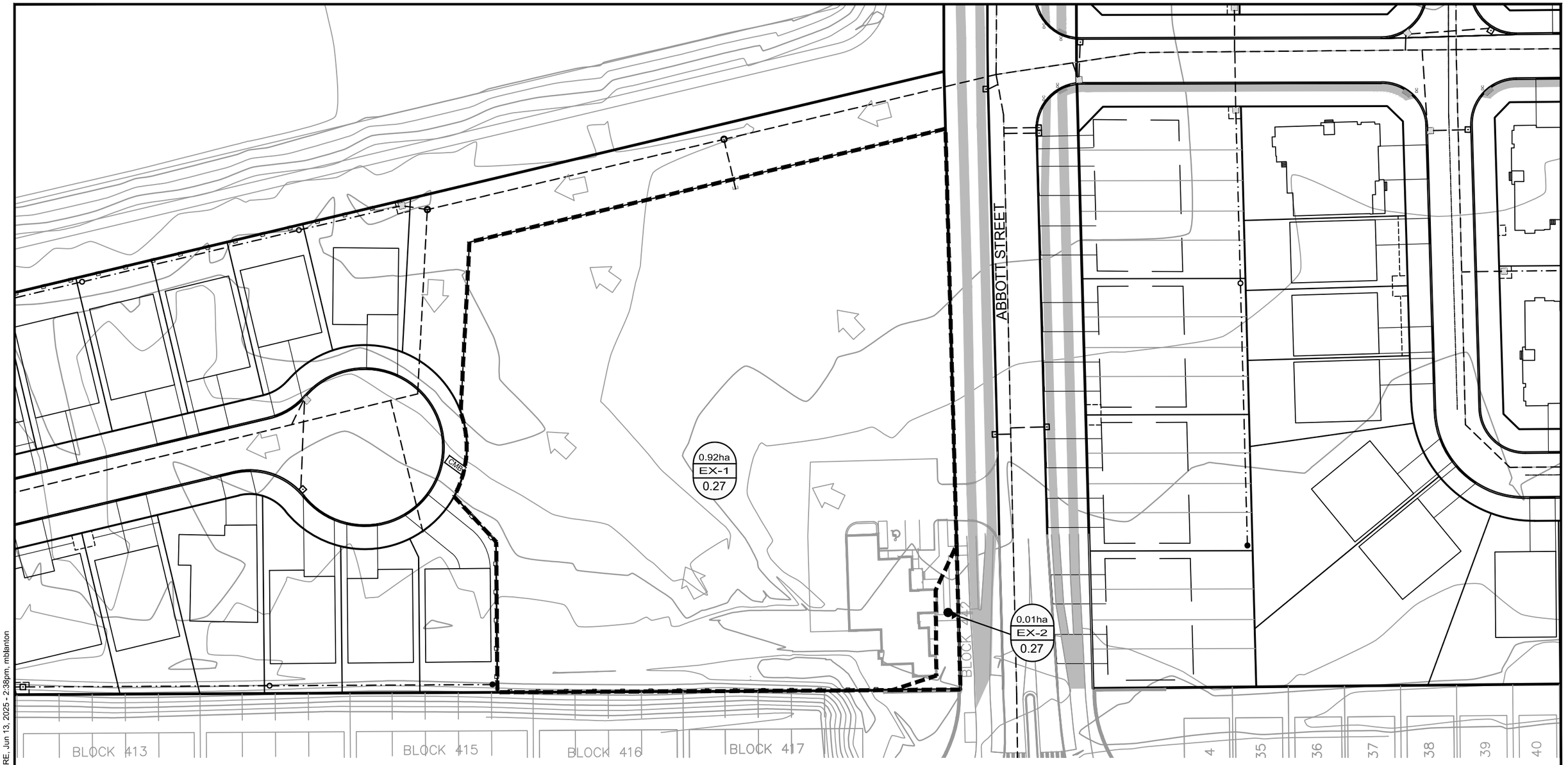
BLOCK 123 (4829 ABBOTT STREET EAST)

PROPOSED SERVICING LAYOUT PLAN

SCALE 1 : 750 (0, 10, 20, 30)
DATE MAR 2026 | JOB 110037 | FIGURE 3.1

SHT11X17.DWG - 279mmX432mm

M:\2010\110037\CAD\Design_Block123\Figures\110037-SERVICING.dwg, Servicing, Jun 13, 2025 - 2:44pm, mblanton



LEGEND

0.500 / EX-1 / 0.70

- DRAINAGE AREA (hectares)
- DRAINAGE AREA ID
- RUNOFF COEFFICIENT (C)

DRAINAGE AREA BOUNDARY

MAJOR OVERLAND FLOW DIRECTION

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

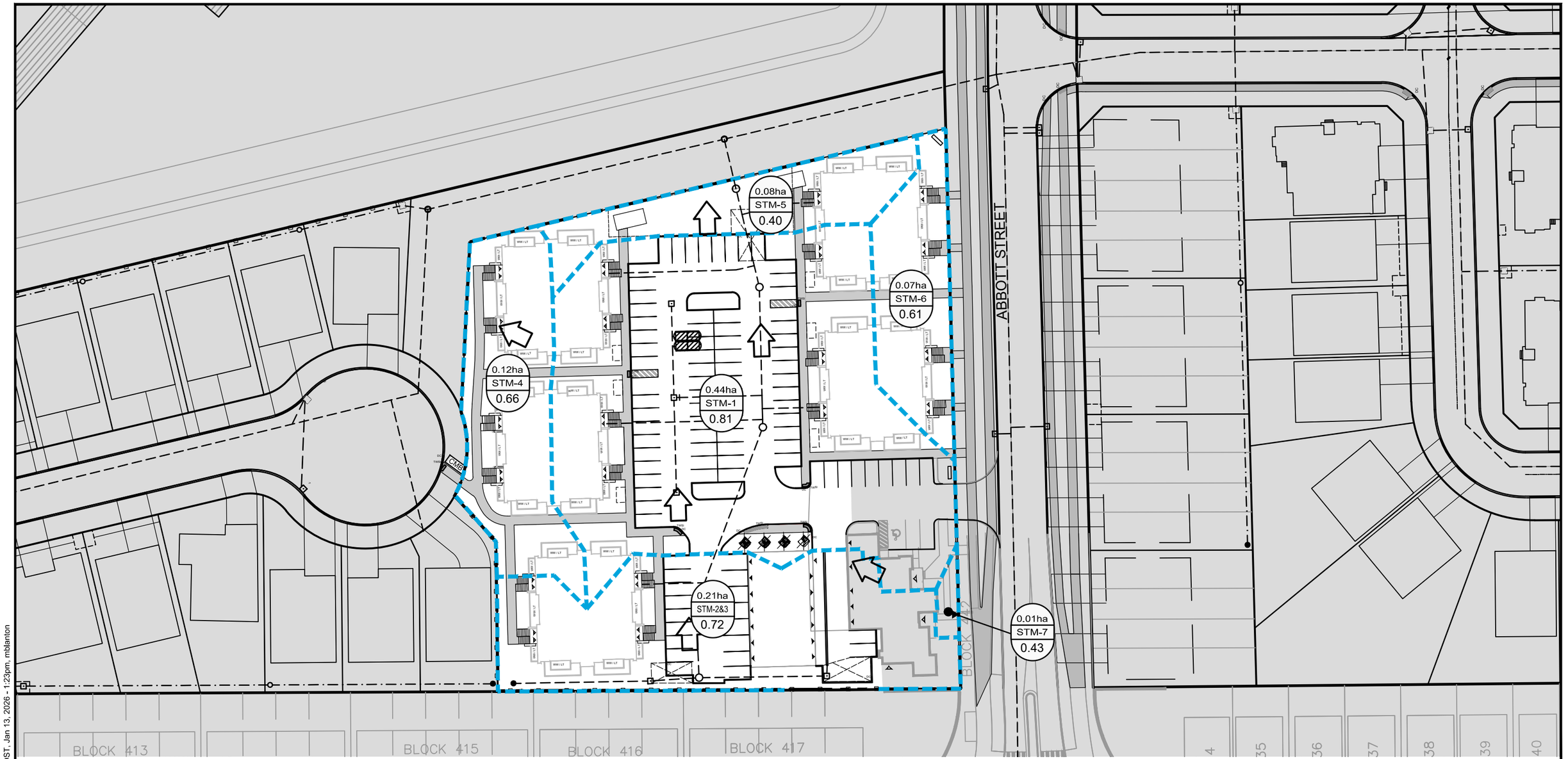
BLOCK 123 (4829 ABBOTT STREET EAST)

PRE-DEVELOPMENT STORM DRAINAGE AREA PLAN

SCALE 1 : 750 (0 10 20 30)
DATE JUN 2025
JOB 110037
FIGURE 4.1

M:\2010\110037\CAD\Design_Block123\Figures\110037-POST.dwg, PRE, Jun 13, 2025 - 2:38pm, mblanton

SHT11X17.DWG - 279mmX432mm



LEGEND

0.500 / STM-1 / 0.70 — DRAINAGE AREA (hectares) / DRAINAGE AREA ID / RUNOFF COEFFICIENT (C)

DRAINAGE AREA BOUNDARY

MAJOR OVERLAND FLOW DIRECTION

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

BLOCK 123 (4829 ABBOTT STREET EAST)

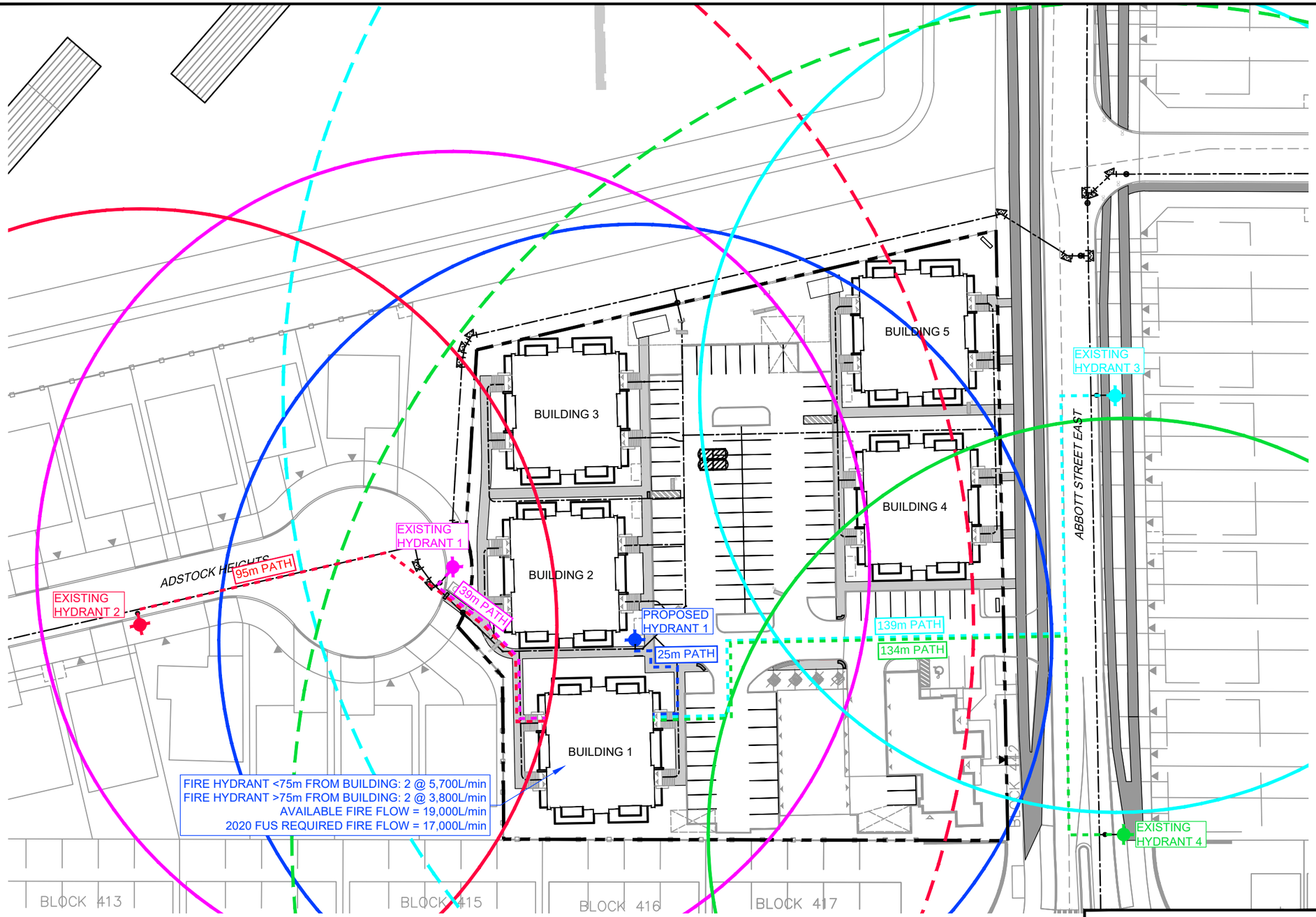
POST-DEVELOPMENT STORM DRAINAGE AREA PLAN

SCALE 1 : 750 (0 10 20 30)

DATE MAR 2026 | JOB 110037 | FIGURE 5.1

SHT11X17.DWG - 279mmX432mm

M:\2010\110037\CAD\Design_Block123\Figures\110037-POST.dwg, POST, Jan 13, 2026 - 1:23pm, mblanton



LEGEND

75m HYDRANT RADIUS

150m HYDRANT RADIUS

FIRE ACCESS ROUTE

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

BLOCK 123 (4829 ABBOTT STREET EAST)

FIRE HYDRANT COVERAGE PLAN

SCALE 1 : 750 (0, 10, 20, 30)

DATE MAR 2026 | JOB 110037 | FIGURE 7.1

M:\2010\110037\CAD\Design_Block123\Figures\110037-FH.dwg, FH, Jan 12, 2026 - 1:37pm, mblanton

SHT11X17.DWG - 279mmX432mm

Appendix A

Pre-Consultation Feedback Form – City of Ottawa

Study and Plan Identification List – City of Ottawa

Response to Comments Letter (City of Ottawa) – Novatech dated March 11, 2026

Response to Comments Letter (City of Ottawa) – Paterson dated February 9, 2026

Response to Comments Letter (MVCA) – Novatech dated March 11, 2026

Response to Comments Letter (Enbridge) – Novatech dated March 11, 2026

Grading Plan Review – Block 123 – Paterson dated March 5, 2026

Response to Comments Letter (City of Ottawa) – Novatech dated April 30,2026

Response to Comments Letter (City of Ottawa) – Paterson dated April 29, 2026

Response to Comments Letter (MVCA) – Novatech dated April 30, 2026

File No.: PC2024-0509

January 24, 2025

Miranda Virginillo
Novatech
Via email: m.virginillo@novatech-eng.com

Subject: **Pre-Consultation: Meeting Feedback**
Proposed Zoning By-law Amendment and Site Plan Control Application – 4829 Abbott Street East

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on December 19, 2024.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☐	**4** ☒	**5** ☐

One (1) indicates that considerable major revisions are required while five (5) suggests that the proposal appears to meet the City's key land use policies and guidelines. This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.

Next Steps

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

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

Please note, if your development proposal changes significantly in scope, design, or density before the next submission, you may be recommended to repeat the pre-consultation process before filing an official application.

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. Please ensure the landscape buffer provided between the parking lot and the adjacent residential property is sufficient and meets the zoning requirements as per Section 110.
2. In your subsequent submission, please ensure the number of parking spaces and accessible parking spaces required for the commercial/office use is met.
3. Please ensure the planning rationale includes detail on the requested amendment to the exception as it relates to the sale centre.
4. Staff understand the applicant's desire to provide more parking than the required, however, please consider removing the 8 parking spaces adjacent to the communal amenity area to provide a greater communal amenity area.
5. Staff would like to see more trees planted within the PUD.
6. Submission Requirements and Fees.
    a. Zoning By-law Amendment, Site Plan Control (Complex)
    b. Additional information regarding fees related to planning applications can be found here.

Urban Design

Comments:

7. No major concerns from an urban design perspective.
8. Staff are looking for additional details on the proposed garage.
9. A scoped Urban Design Brief (Terms of Reference attached) is required.
10. The following architectural drawings are required.
    a. Site Plan,
    b. Building Elevations
    c. Landscape Plan.

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

Engineering

Comments:

1. The Stormwater Management Criteria, for the subject site, is to be based on the criteria and allocated flows approved in the **SPB Development Inc. Subdivision Servicing and Stormwater Management Report, prepared by Novatech Consulting Engineers, dated April 19, 2018**:

    a. **Water Quantity Control:** Control post-development runoff from the subject site, up to and including the **100-year storm event**, to **a 2-year storm event**. See approved report noted above for details.

    Any storm events greater than the established **2-year allowable** release rate, up to and including the **100-year storm event**, shall be detained on-site.

    Water Quality Control: Not required as quality control is provided by SWM Pond 3.

2. 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 and the amount of fire flow required (as per FUS).
    c. Average daily demand: ___ l/s.
    d. Maximum daily demand: ___l/s.
    e. Maximum hourly daily demand: ___ l/s.

3. **Water**
    a. Water Supply Redundancy: Residential buildings with 50 or more units are required to be connected to a minimum of two water services separated by an isolation valve to avoid a vulnerable service area as per the Ottawa Design Guidelines - Water Distribution, WDG001, July 2010 Clause 4.3.1 Configuration.
    b. Please review Technical Bulletin ISTB-2018-02, maximum fire flow hydrant capacity is provided in Section 3 Table 1 of Appendix I. A hydrant coverage figure shall be provided and demonstrate there is adequate fire protection for the proposal. Two or more public hydrants are anticipated to be required to handle fire flow.

4. **Sewer (sanitary and storm)**
    a. Sanitary flows to be consistent with allocated flows indicated in the SPB **Development Inc. Subdivision Servicing and Stormwater Management Report, prepared by Novatech Consulting Engineers, dated April 19, 2018.**

b. A storm sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) Monitoring Devices.

c. Sanitary sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) Monitoring Devices.

d. Document how any foundation drainage system will be integrated into the servicing design and show the positive outlet on the plan. Foundation drainage is to be independently connected to sewer main unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention. It is recommended that the foundation drainage system be drained by a sump pump connection to the storm sewer to minimize risk of basement flooding as it will provide the best protection from the uncontrolled sewer system compared to relying on the backwater valve.

e. Please note that the minimum orifice dia. for a plug style ICD is 83mm and the minimum flow rate from a vortex ICD is 6 L/s in order to reduce the likelihood of plugging.

f. Please provide a Pre-Development Drainage Area Plan to define the pre-development drainage areas/patterns. Existing drainage patterns shall be maintained and discussed as part of the proposed SWM solution.

g. Post-development site grading shall match existing property line grades in order to minimize disruption to the adjacent residential properties. A **topographical plan of survey** shall be provided as part of the submission and a note provided on the plans.

h. There must be at least **15cm of vertical clearance** between the spill elevation and the ground elevation at the building envelope that is in proximity of the flow route or ponding area. The exception in this case would be at reverse sloped loading dock locations. At these locations, a minimum of 15cm of vertical clearance must be provided below loading dock openings. Ensure to provide discussion in report and ensure grading plan matches if applicable.

i. **Underground Storage:** Please note that the Modified Rational Method for storage computation in the Sewer Design Guidelines was originally intended to be used for above ground storage (i.e., parking lot) where the change in head over the orifice varied from 1.5 m to 1.2 m (assuming a 1.2 m deep CB and a max ponding depth of 0.3 m). This change in head was small and hence the release rate fluctuated little, therefore there was no need to use an average release rate.

j. When underground storage is used, the release rate fluctuates from a maximum peak flow based on maximum head down to a release rate of zero. This difference is large and has a significant impact on storage requirements. **We therefore require that an average release rate equal to 50% of the peak allowable rate shall be applied to estimate the**

required volume. Alternatively, the consultant may choose to use a submersible pump in the design to ensure a constant release rate.

k. If there is a disagreement from the designer regarding the required storage, the City will require that the designer demonstrate their rationale utilizing dynamic modelling, that will then be reviewed by City modellers in the Water Resources Group.

l. Provide information on type of underground storage system including product name and model, number of chambers, chamber configuration, confirm invert of chamber system, top of chamber system, required cover over system and details, interior bottom slope (for self-cleansing), chart of storage values, length, width and height, capacity, entry ports (maintenance) etc. UG storage to provide actual 2- and 100-year event storage requirements.

m. In regard to all proposed UG storage, ground water levels (and in particular HGW levels) will need to be reviewed to ensure that the proposed system does not become surcharged and thereby ineffective.

n. Modeling can be provided to ensure capacity for both storm and sanitary sewers for the proposed development by City's Water Distribution Dept. – Modeling Group, through PM and upon request.

o. If rooftop control and storage is proposed as part of the SWM solutions sufficient details (Cl. 8.3.8.4) shall be discussed and document in the report and on the plans. Roof drains are to be connected downstream of any incorporated ICDs within the SWM system and not to the foundation drain system. Provide a Roof Drain Plan as part of the submission.

p. Street catch basins are not to be located at any proposed entrances.

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

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

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

   iii) Std Dwg S11.2 (for rigid main sewers using bell end insert method) – for larger diameter laterals where manufactured inserts are not available; lateral must be less that 50% the diameter of the sewermain,

   iv) Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.

   v) No submerged outlet connections.

5. **Grading**

Post-development site grading shall match existing property line grades to minimize disruption to the adjacent residential properties. A **topographical plan of survey** shall be provided as part of the submission and a note provided on the plans.

6. **Geotechnical (including sensitive marine clay, where appropriate)**

Geotechnical Study shall be consistent with the Geotechnical Investigation and Reporting Guidelines for Development Applications.
https://documents.ottawa.ca/sites/documents/files/geotech_report_en.pdf

7. **Snow Storage**

Any portion of the subject property which is intended to be used for permanent or temporary snow storage shall be as shown on the approved site plan and grading plan. Snow storage shall not interfere with approved grading and drainage patters or servicing. Snow storage areas shall be setback from the property lines, foundations, fencing or landscaping a minimum of 1.5m. Snow storage areas shall not occupy driveways, aisles, required parking spaces or any portion of a road allowance. If snow is to be removed from the site please indicate this on the plan(s).

8. **Road Reinstatement**

Where servicing involves three or more service trenches, either a full road width or full lane width 40 mm asphalt overlay will be required, as per amended Road Activity By- Law 2003-445 and City Standard Detail Drawing R10. The amount of overlay will depend on condition of roadway and width of roadway(s).

9. **Gas pressure regulating station**

A gas pressure regulating station may be required depending on HVAC needs (typically for 12+ units). Be sure to include this on the Grading, Site Servicing, SWM and Landscape plans. This is to ensure that there are no barriers for overland flow routes (SWM) or conflicts with any proposed grading or landscape features with installed structures and has nothing to do with supply and demand of any product.

10. **Phase One Environmental Site Assessment**

a. A Phase I ESA is required to be completed in accordance with Ontario Regulation 153/04 in support of this development proposal to determine the potential for site contamination. Depending on the Phase I recommendations a Phase II ESA may be required.

b. The Phase I ESA shall provide all the required Environmental Source Information as required by O. Reg. 153/04. ERIS records are available to public at a reasonable cost and need to be included in the ESA report to comply with O.Reg. 153/04 and the Official Plan. The City will not be in a position to approve the Phase I ESA without the inclusion of the ERIS reports.

c. Official Plan Section 10.1.6

d. Record of Site Condition (RSC) will not be required.

11. **General**
    a. It is the sole responsibility of the consultant to investigate the location of existing underground utilities in the proposed servicing area and submit a request for locates to avoid conflict(s). The location of existing utilities and services shall be documented on an **Existing Conditions Plan**.
    b. Any easements on the subject site shall be identified and respected by any development proposal and shall adhere to the conditions identified in the easement agreement. A **legal survey plan** shall be provided, and all easements shall be shown on the engineering plans.
    c. All underground and above ground building footprints and permanent walls need to be shown on the plans to confirm that any permanent structure does not extend either above or below into the existing property lines and sight triangles.
    d. **Construction approach** – Please contact the Right-of-Ways Permit Office TMconstruction@ottawa.ca early in the Site Plan process to determine the ability to construct site and copy File Lead on this request.

Feel free to contact Mohammed Fawzi Senior Project Manager for follow-up questions.

Noise

Comments:

11. A noise study is required due to proximity to Abbott Street.

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

Transportation

Comments:

12. **TIA:**
    a. A Transportation Impact Assessment is required. Please submit the Scoping/Forecasting report to reed.adams@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.
    b. The Strategy Report 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.
    c. 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.

d. If an RMA is required to support the proposed development, the functional plan and/or RMA plans must be submitted with the formal submission to deem complete. Request base mapping asap if RMA is required, contact Engineering Services

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

13. ROW:

a. None required.

14. Site Plan:

a. Corner clearances should follow minimum distances set out within TAC Figure 8.8.2.

b. As the site proposed is residential, AODA legislation applies for all areas accessible to the public (i.e. outdoor pathways, parking, etc.).

c. Ensure site access meets the City’s Private Approach Bylaw.

d. Turning movement diagrams required for all accesses showing the largest vehicle to access/egress the site (garbage, fire)

e. 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).

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

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

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

Environment

Comments:

15. Adjacent to a green/open space with a pathway block in between, the greenspace is a pond it does not trigger an EIS.

16. Please add features that reduce the urban heat island effect (see OP 10.3.3) produced by the parking lot and a building footprint. For example, this impact can be reduced by adding large canopy trees, green roofs or vegetation walls, or constructing the parking lot or building with low heat absorbing materials.

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

Forestry

Comments:

17. A Tree Conservation Report is required to address the city-owned trees planted along Abbott.
    a. It may be combined with the Landscape Plan.
    b. If these trees need to be removed, a tree permit will be required and can be made available at site plan approval
    c. Seek opportunities to replace any trees that need removal
18. **Landscape Plan tree planting requirements**
    a. Please ensure all retained trees are shown on the LP
    b. Minimum Setbacks
        i. Maintain 1.5m from sidewalk, MUP/cycle track, water service laterals.
        ii. Maintain 2.5m from curb.
        iii. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.
        iv. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.
    c. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.
    d. Tree specifications
        i. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
        ii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage.
    e. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; if possible, include watering and warranty as described in the specification.
    f. No root barriers, dead-man anchor systems, or planters are permitted.
    g. No tree stakes unless necessary
    h. Hard surface planting
        i. If there are hard surface plantings, a planting detail must be provided.
        ii. Curb style planter is highly recommended.
        iii. No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

i. Trees are to be planted at grade.

j. Soil Volume - Please demonstrate as per the Landscape Plan Terms of Reference that the available soil volumes for new plantings will meet or exceed the following:

Tree Type/Size	Single Tree Soil Volume (m3)	Multiple Tree Soil Volume (m3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

k. Sensitive Marine Clay - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines.

l. The city requests that consideration be given to planting native species where ever there is a high probability of survival to maturity.

m. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. Please provide a projection of the future canopy cover for the site to 40 years.

n. Page 7 of the Landscape Plan Terms of Reference requires applicants to submit a digital, georeferenced CAD or GIS file of the final approved LP. Please follow this link to review the submission requirements: https://documents.ottawa.ca/sites/documents/files/landscape_tor_en.pdf . The file can be sent to the Planning Forester or Planning File Lead.

Feel free to contact Mark Richardson, Planning Forester, for follow-up questions.

Parkland

Comments:

1. The conveyance of Block 126 on plan 4M-1616 (Metric Park) has satisfied the parkland dedication requirement for the entire subdivision. Block 123 which is now under review being part of the larger subdivision will not trigger a separate parkland dedication or cash in lieu of parkland requirement unless the unit count for the entire subdivision is higher than the 325 units anticipated at the time the subdivision was signed. This is to satisfy condition 9(a) of the subdivision agreement.

2. Please verify the unit count for the entire subdivision including Block 123, so as to determine if the unit count has exceeded the 325 units anticipated at the time

of the subdivision agreement. As noted in condition 9(a) of the subdivision agreement.

3. The parkland dedication was calculated at a rate of 1 hectare per 300 units. Which generated a dedication requirement of 0.78 hectares of land. Please verify the size of Block 126 (Metric Park) to determine that the full parkland owning has been transferred to the City.

4. To satisfy conditions 9(c and d) of the subdivision agreement please verify that the blocks of land required for retaining walls abutting Terry Fox Drive and the Trans Canada Trail are separate from parkland Block 126 and that the construction of these retaining walls does not impact on parkland block 126.

5. It is acknowledged that the park Block 126 has been built and substantially completed by the developer in satisfaction of condition 9 (e) of the subdivision agreement. A final take over meeting will be required to ensure that condition 9(f) is satisfied. This condition indicates that all obligations with park Block 126 must be completed to the City's satisfaction during Phase 4 of the Subdivision.

6. Please provide documentation to confirm that an accessible pedestrian connection between Block 126 (Metric Park) and the abutting Trans Canada Trail has been completed to the City's satisfaction. This is to satisfy condition 9 (u) of the subdivision conditions.

Feel free to contact Diane Emmerson, Parks Planner, for follow-up questions.

Other

19. 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.

    d. 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.

    e. Please refer to the HPDS information at ottawa.ca/HPDS for more information.

20. 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.*

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 for Zoning By-law Amendment and Site Plan Control.

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.

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,
Solé Soyak

APPLICANT'S STUDY AND PLAN IDENTIFICATION LIST

Proposed Zoning By-law Amendment and Site Plan Control Application – 4829 Abbott Street East – PC2024-0509

Legend: **R** = Required, the study or plan is required with application submission
A = Advised, the study or plan is advised to evaluate the application or satisfy a condition of approval/draft approval
1 - OPA, **2** - ZBA, **3** - Plan of Subdivision, **4** - Plan of Condominium, **5** - SPC

Core studies required for certain applications all the time (Remaining studies are site specific)

For information and guidance on preparing required studies and plans refer here:

ENGINEERING										
R	**A**	**Study/ Plan Name**	**Description**	**When Required**					**Applicable Study Components & Other Comments**
				1	**2**	**3**	**4**	**5**	
☒	☐	1. Environmental Site Assessment (Phase 1 & Phase 2)	Ensures development only takes place on sites where the environmental conditions are suitable for the proposed use	☒	☒	☒	☒	☒	Record of Site Condition Yes ☐ No ☒
				Study Trigger Details: All cases					
☒	☐	2. Geotechnical Study	Geotechnical design requirements for the subsurface conditions	☒	☒	☒	☒	☒	
				Study Trigger Details: All cases					
☒	☐	3. Grading and Drainage Plan	Grading relationships between connecting (or abutting) properties and surface runoff control	☐	☐	☒	☐	☒	
				Study Trigger Details: All cases					
☐	☐	4. Hydrogeological and Terrain Analysis	A scientific study or evaluation that includes a description of the ground and surface hydrology, geology, terrain, affected landform and its susceptibility	☐	☐	☒	☒	☒	Reasonable Use Study Yes ☐ No ☐ Groundwater Impact Study Yes ☐ No ☐
				Study Trigger Details: When developing on private services or when urban development is in close proximity to existing private serviced development					
☒	☐	5. Noise Control Study	Potential impacts of noise on a development	☒	☒	☒	☒	☒	Vibration Study Yes ☐ No ☒
				Study Trigger Details: See Terms of Reference for full details.					

☐	☐	6. Rail Proximity Study	Development on land adjacent to all Protected Transportation Corridors and facilities shown on Schedule C2 of the Official Plan, to follow rail safety and risk mitigation best practices	☐	☒	☒	☒	☒	Rail Safety Report Yes ☐ No ☐ O-Train Network Proximity Study Yes ☐ No ☐
				Study Trigger Details: Within the Development Zone of Influence for existing and future rapid transit stations and corridors, as shown on Annex 2 of the OP OR on land adjacent to all Protected Transportation Corridors and facilities shown on Schedule C2 of the Official Plan					
☒	☐	7. Site Servicing Study	Provides servicing details based on proposed scale of development with an engineering overview taking into consideration surrounding developments and connections.	☐	☒	☒	☒	☒	Fluvial Geomorphological Report Yes ☐ No ☐ Assessment of Adequacy of Public Services Yes ☐ No ☐ Servicing Options Report Yes ☐ No ☐ Erosion and Sediment Control Plan / Brief Yes ☐ No ☐ Hydraulic Water Main Analysis Yes ☐ No ☐ Stormwater Management Report and Detailed Design Brief Yes ☒ No ☐
				Study Trigger Details: All cases					
☐	☐	8. Slope Stability Study	Assessment of slope stability and measures to provide safe set-back.	☐	☒	☒	☒	☒	Retrogressive Landslide Analysis Yes ☐ No ☐
				Study Trigger Details: Where the potential for Hazard Lands exists on a site.					
☒	☐	9. Transportation Impact Assessment	Identify on and off-site measures to align a development with City transportation objectives.	☐	☒	☒	☒	☒	Roadway Modification Functional Design Yes ☐ No ☒
				Study Trigger Details: If the development generates 60 person-trips or more; or if the development is located in a Location Trigger; or if the development has a Safety Trigger.					

☐	☐	10. Water Budget Assessment	Identify impact of land use changes on the hydrologic cycle and post-development mitigation targets.	☐	☒	☒	☒	☒	
				Study Trigger Details: May be required for site plan control applications for sites with private servicing and / or proximity to hydrogeologically-sensitive areas. Draft plans of subdivision are required to integrate water budget assessments into supporting stormwater management plans and analysis for the study area.					
☐	☐	11. Wellhead Protection Study	Delineate a Wellhead Protection Area (WHPA) and characterize vulnerability for new communal residential drinking water well systems, in accordance with Technical Rules under *Clean Water Act*.	☐	☒	☒	☒	☒	
				Study Trigger Details: Required for all new communal residential drinking water well systems; including new municipal wells, new private communal wells (small water works) that require a Municipal Responsibility Agreement (MRA), expansions or increased water takings from an existing municipal well or existing private communal well and new private communal wells.					

PLANNING									
R	**A**	**Study/Plan Name**	**Description**	**When Required**					**Applicable Study Components & Other Comments**
				1	**2**	**3**	**4**	**5**	
☐	☐	12. Agrology and Soil Capability Study	Confirm or recommend alterations to mapping of agricultural lands in the City.	☒	☐	☐	☐	☐	
				Study Trigger Details: For the expansion of a settlement area or identification of a new settlement area through a comprehensive review; or where it is demonstrated that the land does not meet the requirements for an Agricultural Resource Area.					
☐	☐	13. Archaeological Assessment	Discover any archaeological resources on site, evaluate cultural heritage value and conservation strategies	☒	☒	☒	☒	☒	
				Study Trigger Details: When the land has either: a known archaeological site; or the potential to have archaeological sites; or where the City's Archaeological Resource Potential Mapping Study indicates archaeological potential, outside of the historic core; or upon discovery of any archaeological resource during construction in the City's historic core area.					
☒	☐	14. Building Elevations	Visual of proposed development to understand facing of building including direction of sunlight, height, doors, and windows.	☒	☒	☐	☐	☒	
				Study Trigger Details: Site Plan: for residential buildings with 25 or more residential units; or for residential buildings with less than 25 residential units, if the units are within the Urban area or the High-performance Development Standard threshold in the rural area. Official Plan or Zoning By-law: if staff deem it necessary to determine compliance with OP policies, the Zoning By-law or City of Ottawa Urban Design Guidelines.					

☐	☐	15. Heritage Impact Assessment	Determine impacts of proposed development on cultural heritage resources.	☒	☒	☒	☒	☒	Study Trigger Details: Where development or an application under the Ontario Heritage Act is proposed on, adjacent to, across the street from or within 30 metres of a protected heritage property; or for any development adjacent to the Rideau Canal UNESCO World Heritage Site and its landscaped buffer.	Conservation Plan Yes ☐ No ☐
☐	☐	16. Heritage Act Acknowledgement Report	A submission requirement to demonstrate that the *Ontario Heritage Act* requirements have been satisfied, to ensure that multiple applications are considered currently.	☐	☒	☒	☒	☒	Study Trigger Details: Where the subject property is listed on the Heritage Register and the applicant must submit a Heritage Permit Application (designated heritage property listed on the Heritage Register) or provide notice of intent to demolish or remove a building (non-designated property listed on the Heritage Register).	Heritage Permit Application Yes ☐ No ☐ Notice of Intent to Demolish Yes ☐ No ☐
☐	☐	17. Impact Assessment Study – Mineral Aggregate	Mineral aggregate extraction activities; and to protect known high quality mineral aggregate resources from development and activities that would preclude or hinder their existence (ability to be extracted) or expansion.	☒	☒	☒	☒	☒	Study Trigger Details: New Development within 500 metres of lands within the Bedrock Overlay , or within 300 metres of lands within the Sand and Gravel Resource Area Overlay.	
☐	☐	18. Impact Assessment Study – Mining Hazards	To identify or confirm known mineral deposits or petroleum resources and significant areas of mineral potential. To protect mineral and petroleum resources from development and activities which would preclude or hinder the establishment of new operations or access to the resources.	☒	☒	☒	☒	☒	Study Trigger Details: For all applications in proximity to mining operations.	

☐	☐	19. Impact Assessment Study – Waste Disposal Sites / Former Landfill Sites	To identify or confirm known proximity of existing or former waste disposal sites. To ensure issues of public health, public safety and environmental impact are addressed.	☒	☒	☒	☒	☒	Study Trigger Details: For the establishment of any new Solid Waste Disposal Site or for a footprint expansion of an operating Solid Waste Disposal Site; or development within three kilometers of an operating or non-operating Waste Disposal Site.	
☒	☐	20. Landscape Plan	A plan to demonstrate how the canopy cover, urban design, health, and climate change objectives of Official Plan will be met through tree planting and other site design elements.	☒	☒	☒	☒	☒	Study Trigger Details: Site Plan, Plan of Subdivision, and Plan of Condominium: always required, except where it is demonstrated that the landscape component of a project is not relevant to the review of the application. A high-level conceptual Landscape Plan may be required to support Zoning By-law and Official Plan Amendment applications.	
☐	☐	21. Mature Neighbourhood Streetscape Character Analysis	In the Mature Neighbourhoods a Streetscape Character Analysis is required to determine the applicable zoning requirements.	☐	☒	☐	☐	☐	Study Trigger Details: Zoning By-law amendment application in areas covered by the Mature Neighbourhoods zoning overlay for applications of residential development of four storeys or less located in a R1, R2, R3, or R4 zone.	
☐	☐	22. Minimum Distance Separation	Provincial land use planning tool that determines setback distances between livestock barns, manure storages or anaerobic digesters and surrounding land uses, with the objective of minimizing land use conflicts and nuisance complaints related to odour.	☒	☒	☒	☒	☒	Study Trigger Details: Applications in the Rural Area, outside of a village.	

☐	☐	23. Parking Plan	A tool to assess the sufficiency of on-street parking in plans of subdivision.	☐	☐	☒	☒	☐	
				Study Trigger Details: For new or revised plans of subdivision with public streets.					
☒	☐	24. Plan of Survey	A Plan of Survey depicts legal boundaries and is a specialized map of a parcel of land and it delineates boundary locations, building locations, physical features and other items of spatial importance.	☒	☒	☒	☒	☒	
				Study Trigger Details: Required for all *Planning Act* applications.					
☐	☐	25. Plan of Subdivision	Proposed subdivision layout to be used for application approval	☐	☒	☒	☐	☐	
				Study Trigger Details: Always required with the submission of plan of subdivision application. Only required with a Zoning By-law Amendment application, where such ZBLA is in response to enable a subdivision.					
☐	☐	26. Plan of Condominium	Proposed condominium layout to be used for application approval	☐	☐	☐	☒	☐	
				Study Trigger Details: With the submission of plan of condominium application.					
☒	☐	27. Planning Rationale	Provides the planning justification in support of the *Planning Act* application and to assist staff and the public in the review of the proposal.	☒	☒	☒	☐	☐	Integrated Environmental Review Summary Yes ☐ No ☐
				Study Trigger Details: For all Official Plan amendment, Zoning By-law amendment, or plan of subdivision applications.					
☒	☐	28. Preliminary Construction Management Plan	A checklist that shows a development proposal's anticipated impacts to all modes of transportation and all elements in the right of way during construction.	☐	☐	☒	☐	☒	
				Study Trigger Details: For all Site Plan and plan of subdivision applications.					

☒	☐	29. Public Consultation Strategy	Proposal to reach and collect public input as part of development application.	☒	☒	☒	☒	☒	Study Trigger Details: Official Plan Amendment, Zoning By-law Amendment and Subdivision: Always required. Condominium: Vacant Land only Site Plan: At the discretion of the City's file lead in consultation with the Business and Technical Support Services Manager.	
☐	☐	30. Shadow Analysis	A visual model of how the proposed development will cast its shadow.	☐	☒	☐	☐	☐	Study Trigger Details: When there is an increase in height or massing proposed for a residential, commercial or office use. Two triggers: 1. Inside the Greenbelt: proposed development is over 5 storeys in height (≤15 meters). If a development proposal is 5 storeys or less, but is proposing an increase in height and/or massing and is in close proximity to a shadow sensitive area, a shadow analysis may be requested. 2. Outside the Greenbelt: proposed development is over 3 storeys in height (≤9 meters) and is in close proximity to a shadow sensitive area. Where a proposed development is not in close proximity to a shadow sensitive area (e.g. industrial development) the trigger for a shadow analysis is over 5 storeys in height (≤15 meters).	
☒	☐	31. Site Plan	A Site Plan is a visual drawing that illustrates the proposed development of a site in two dimensions.	☒	☒	☒	☒	☒	Study Trigger Details: Site Plan: All Other applications: where a layout of the	Site Plan Yes ☐ No ☐ Concept Plan Yes ☐ No ☐

				public realm, building massing, heights, densities or massing of the proposal provides changes to the planned context; sites proposing multiple land uses; sites with multiple landowners; sites with two or more buildings, on-site park dedication, and/or a new public or private street(s); sites with proposed changes to connectivity (such as active transportation networks, vehicular circulation or access to transit); sites where the development potential on adjacent properties may be impacted by or could be integrated into the proposed site.	Facility Fit Plan Yes ☐ No ☐
☒	☐	32. Urban Design Brief	Illustrate how a development proposal represents high-quality and context sensitive design that implements policies of the Official Plan, relevant secondary plans, and Council approved plans and guidelines.	☒ ☒ ☒ ☐ ☒ Study Trigger Details: For all Official Plan amendment, Zoning By-law amendment, and plan of subdivision applications. For SPC applications: proposals for residential buildings with 25 or more residential units, or for proposals for residential buildings with less than 25 residential units, if the units are within the Urban area or the High-performance Development Standard threshold in the rural area where OP Policy 11.3 (3) is relevant; for non-residential and mixed-use proposals.	
☐	☐	33. Urban Design Review Panel Report	Demonstrates that a development proposal has attended an Urban Design Review Panel formal review meeting, received, and responded to the associated recommendations, if applicable	☒ ☒ ☒ ☒ ☒ Study Trigger Details: Required for all planning act applications subject to UDRP review, in accordance with the UDRP Panel Terms of Reference.	
☐	☐	34. Wind Analysis	A visual model and a written evaluation of how a proposed development will impact pedestrian-level wind conditions.	☐ ☒ ☐ ☐ ☒ Study Trigger Details: Applications seeking an increase in height and/or massing which is either: a tall building(s), 10 storeys or more or a proposed building that is more than twice the height of	

				adjacent existing buildings and is greater than five storeys in height and is adjacent to existing or planned low rise development, open spaces, water bodies and large public amenity areas.						
☒	☐	35. Zoning Confirmation Report	The purpose of the Zoning Confirmation Report (ZCR) is to identify all zoning compliance issues, if any, at the outset of a planning application.	☐	☒	☐	☐	☒	Study Trigger Details: Required for all SPC and ZBLA applications.	

ENVIRONMENTAL										
R	**A**	**Study / Plan Name**	**Description**	**When Required**					**Applicable Study Components & Other Comments**
				1	**2**	**3**	**4**	**5**	
☐	☐	36. Community Energy Plan	Includes a community energy analysis, alongside mitigation measures, and other associated information. The community energy analysis refers to the overall assessment process to identify on and off-site measures to align the design of the development with City climate objectives.	☐	☐	☐	☐	☐	NOT IMPLEMENTED & NOT REQUIRED	
☐	☐	37. Energy Modelling Report	The Energy Modeling Report is a Site Plan Control application submission requirement to show how climate change mitigation, and energy objectives will be met through exterior building design elements.	☐	☐	☐	☐	☐	NOT IMPLEMENTED & NOT REQUIRED	
☐	☐	38. Environmental Impact Study	Assessment of environmental impacts of a project and documents the existing natural features, identifies the potential environmental impacts,	☒	☒	☒	☐	☒	Study Trigger Details: Is required when development or site alteration is proposed in or within a	Assessment of Landform Features Yes ☐ No ☐ Integrated Environmental Review Yes ☐ No ☐

			recommends ways to avoid and reduce the negative impacts, and proposes ways to enhance natural features and functions.	specified distance of environmentally designated lands, natural heritage features, the City's Natural Heritage System, or hazardous forest types for wildland fire. The EIS Decision Tool (Appendix 2 of the Environmental Impact Study Guidelines) provides a checklist of the natural heritage features and adjacent areas within which an EIS is required to support development applications under the *Planning Act.*	Protocol for Wildlife Protection during Construction Yes ☐ No ☐ Significant Woodlands Guidelines for Identification, Evaluation, and Impact Assessment Yes ☐ No ☐
☐	☐	39. Environmental Management Plan	A comprehensive environmental planning document that identifies, evaluates, and mitigates the potential impacts of proposed development on the natural environment and its ecological functions at local planning stage.	☒ ☐ ☐ ☐ ☐ Study Trigger Details: Official Plan amendments for local plans (area-specific policy or secondary plan, where: there is significant change in the conditions upon which the original study was based; there are proposed changes to planned infrastructure needed to service a subdivision that would have a significant impact on the infrastructure needs of another subdivision within the EMP study area, or the applicable Class Environmental Assessment approval has expired.	
☐	☐	40. High-performance Development Standard	A collection of voluntary and required standards that raise performance of new building projects to achieve sustainable and resilient design	☐ ☐ ☐ ☐ ☐ NOT IMPLEMENTED & NOT REQUIRED	
☒	☐	41. Tree Conservation Report	Demonstrates how tree cover will be retained and protected on the site, including mature trees, stands of trees, and hedgerows.	☐ ☐ ☒ ☒ ☒ Study Trigger Details: Where there is a tree of 10 centimeters in diameter or greater on the site and/or if there is a tree on an adjacent site that has a Critical Root Zone (CRZ) extending onto the development site.	

NOVATECH
Engineers, Planners & Landscape Architects

March 11, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
By email only: stream.shen@ottawa.ca

Attention: **Stream Shen – Planner III**

Reference: **4829 Abbott Street East**
Response to First Review Comments
Zoning By-law Amendment & Site Plan Control
Our File: 110037
City File No.: D02-02-25-0040 & D07-12-25-0084

First review comments on the Minor Zoning By-law Amendment and Site Plan Control applications for 4829 Abbott Street East were received via email on September 15, 2025. The Minor Zoning By-law Amendment application was recommended for approval on December 18, 2025. The Council of the City of Ottawa passed By-law 2026-26 on January 28, 2026, under Section 34 of the Planning Act.

Responses to the first review comments are provided in **bold** text below each of the comments. The responses should be read together with the full 2nd submission package.

Additional context is being provided in advance of the responses to better explain the constraints and considerations specific to this site which are interrelated and affect the ability to implement the City's comments related to parking, pathway alignments, tree planting, and building locations.

- Sensitive marine clay soils exist on site. The proposed buildings and pathways are located and oriented in such a way as to optimize tree planting areas while respecting required tree planting setbacks to buildings.
- Parking is not permitted on Adstock Heights or Abbott Street East in proximity to the Subject Site. Some street parking is available on Abbott Street East west of the roundabout and Cranesbill Road and Rouncey Road, but parking is limited overall due to driveway spacing. To limit the potential for spillover onto adjacent streets, sufficient parking to meet the anticipated demand of both residents and visitors needs to be provided on the Subject Site.
- The proposed communal garage building provides flexibility for those units that require either two parking spaces (driveway and garage), an indoor parking space, or additional storage space (for sports and recreation equipment, for instance). It is possible that not all garage spaces will be used as parking spaces.
- At present, the sales centre and head office uses require approximately 13 parking spaces. In the future, the site management office may not require all 13 parking spaces and these parking spaces may be converted to either resident or visitor spaces to meet demands.

In the latest Site Plan, 2 parking spaces have been removed from the centre aisle parking area. This has enabled the planted islands on both ends of the centre aisle to be enlarged to accommodate larger trees.

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

Planning

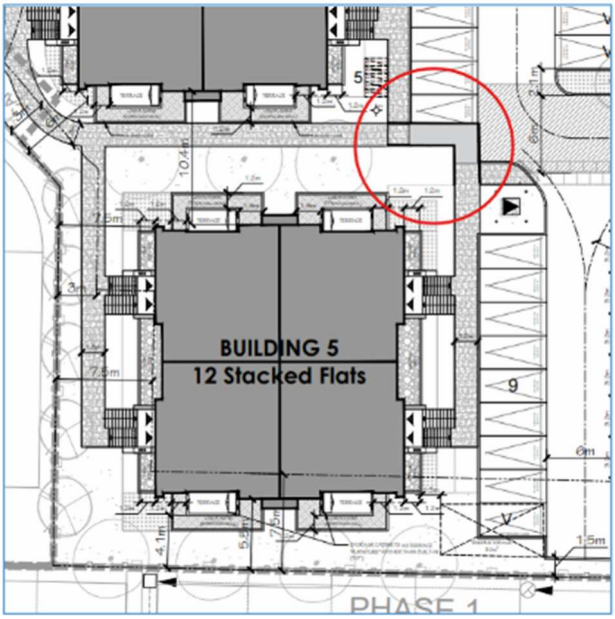
Comments:

1. *Please ensure the File Number D02-02-25-0040/D07-12-25-0084 and Plan Number #19360 are incorporated in the bottom right-hand corner of all plans (including civil drawings).*

Response: Acknowledged. Please refer to revised drawings.

2. *Consider reducing the number of parking spaces proposed. This offers opportunities for additional tree plantings and landscape features within the general parking area.*

    a. *A potential opportunity to enhance the site layout is to remove one parking space near Building 5 to allow for a more rectangular pedestrian walkway. This adjustment would also provide room to shift Building 5 slightly east, increasing the buffer from the residential units to the west and respecting the 7.5-metre interior side yard setback. Additionally, this could create an opportunity for new tree planting at the southwest corner of Building 5 (see red circle). Please refer to the image below for reference.*

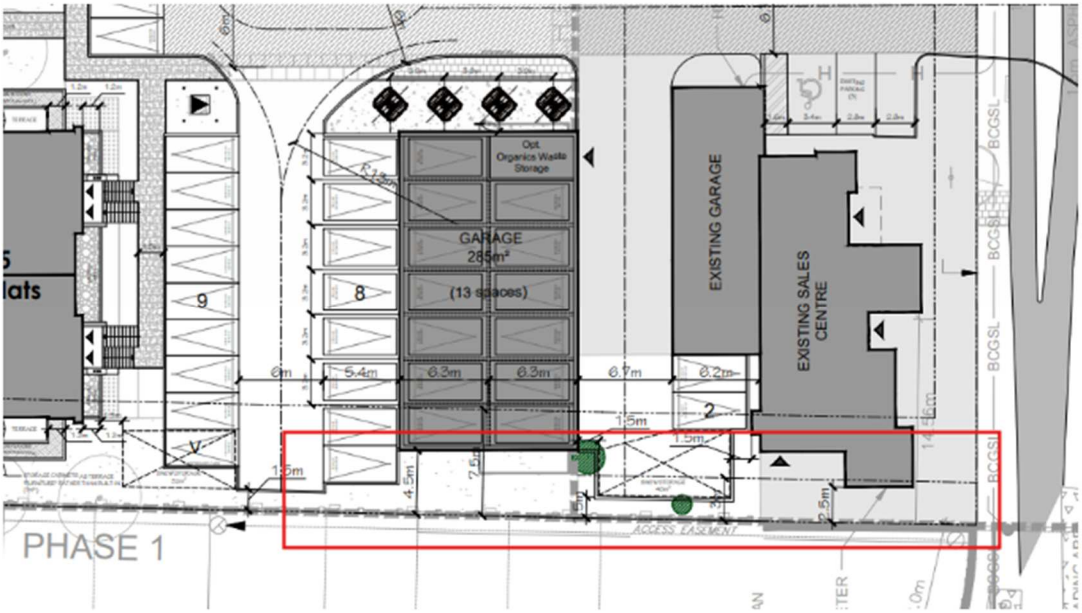


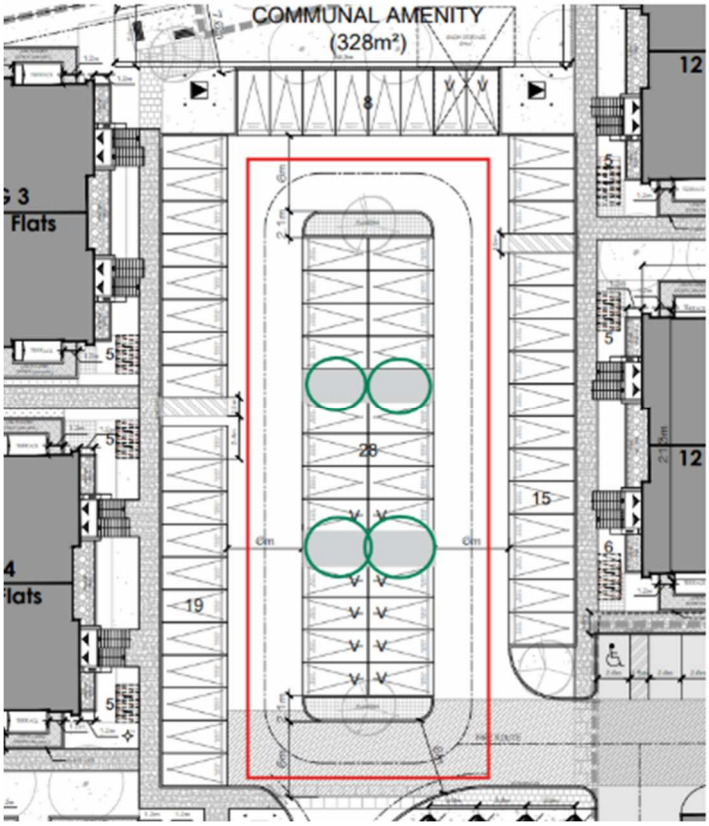
Response: The removal of one parking space could impact pedestrian crossing and vehicle turning/fire route in that area. We are recommending keeping the parking space and removing parking spaces elsewhere. This allows for more space for trees in the middle of the parking spaces and more soil volume in the end islands to support larger trees than previously shown.

Between Buildings 4 and 5, there is only 1.3 m of available width to plant trees. To shift Building 5 to meet the setback, the 3 trees between Buildings 4 and 5 would be eliminated. We are recommending the building locations remain the same to maintain the tree coverage.

    b. *In addition, consider providing tree plantings/landscaping opportunities in the following places:*

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





Response: The area adjacent to the garage and sales centre building is limited based on the City's restriction on tree planting within 4.5m of buildings as indicated on the landscape plan. The soil volume is further reduced in that area with the rear yard clearstone drainage system installed in the adjacent existing rear yards. Therefore, no trees are proposed adjacent to the garage.

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

To add additional/larger trees in the parking lot islands is dependant on City's minimum soil volumes. The City's markup as shown would only permit 1 small tree per island. Novatech's recommendation is to remove 2 parking stalls to enlarge the islands at both ends of the centre aisle in the parking lot to allow for the addition of a large tree in both if these islands.

3. *Has the proposed development considered installing lighting along the walkways? Keep in mind of CPTED principles to help create a safer environment for residents.*

Response: Acknowledged. The client is considering a Preliminary Lighting Plan along walkways.

4. *Please provide additional details on how the existing sales centre and garage will be converted into an on-site sales management centre for the development, as well as a dwelling unit.*

Response: Refer to attached drawings: "Existing Floor Plan" and "Proposed future floor plan" for details on conversion. The office space could be allocated to either side, to be determined at later date.

5. *Please include design details of the accessory building (garage) in your next submission. In particular, illustrating how the west façade will interact with the rear yards of the existing townhomes.*

Response: Refer to attached drawings: "Garage Plans".

6. *Could you please provide additional details regarding your waste collection arrangement? Are you seeking arrangement with the City or through a private service?*

Response: Per the email dated September 22, 2025, these comments were confirmed to be resolved with the previously provided information in response to Comments 20, 43 & 44 in the letter dated August 8, 2025. The proposed EarthBin system will include the following details:

- **EarthBin Premium Model EB500**
- **EarthBin Premium Bin with Black Architectural Panels (100% Recycled Polyethylene Plastic). Thermoformed Lids & Doors. Dual Lockable Feed Doors. Includes Automatic Gravity Locks and Lid Struts. Includes High Quality Aluminum Signage on Front and Rear of Bin.**
- **Dual Black Feed Doors with Square Opening ,19 x 24 inch (48 x 61cm) opening**
- **Signage - "GARBAGE ONLY"**
- **Signage - "RECYCLING ONLY"**
- **Signage - "CARDBOARD ONLY"**

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

7. *Site plan requires a note stating the source of topographic and boundary information.*

PROJECT TEAM

Owner / Applicant
SPB DEVELOPMENTS INC (Project Owner)
METRIC HOMES (Project Builder)
829 Abbott Street East
Kanata, ON, K2V 0L4
Contact:
Shawn Bernier, Owner, VP – Operations, Metric Homes
Phone: (613) 301-7792 email: Shawn@MetricHomes.com
Chris Bernier, Owner, VP – Construction
Phone: (613) 302-0727 email: Christopher@MetricHomes.com

Architect
Hobin Architecture Inc.
13 Pamilla Street
Ottawa, ON K1S 3K7
Contact:
Todd Duckworth
Phone: (613) 238-7200 x 130 email: tduckworth@hobinarc.com
Web: www.hobinarc.com

Planning
Novatech
240 Michael Cowpland Drive, Suite 200,
Ottawa, ON, K2M 1P6
Contact:
Miranda Virginillo
Phone: (613) 254-9643 x 204
Email: m.virginillo@novatech-eng.com

Landscape
Novatech
240 Michael Cowpland Drive, Suite 200,
Ottawa, ON, K2M 1P6
Contact:
Kathleen Watson
phone: (613) 254-9643 x313
email: k.watson@novatech-eng.com

CIVIL
Novatech
240 Michael Cowpland Drive, Suite 200,
Ottawa, ON, K2M 1P6
Contact:
Alex McAuley
phone: (613) 254-9643 x292
email: a.mcauley@novatech-eng.com

Surveyor

Response: Please refer to revised Site Plan.

Urban Design

Comments:

8. *No Comments.*

Response: Noted, no further action required.

Engineering

Comments:

Geotechnical Report

For responses to Comments 9 to 13, please refer to the enclosed Response to City Comments from Paterson Group dated February 9, 2026.

General Plan of Services

14. *Please include the development application number and plan number (19360) in the bottom right corner of all applicable civil drawings.*

Response: The development application number and plan number have both been included in the bottom right corner of all applicable civil drawings.

15. *Please refer to the attached plan with redline comments.*

Response: All redline comments have been addressed. Please see markup for additional comment responses.

16. *A District Metering Chamber (DMA) as per City of Ottawa Standard W3 is required after the valve box on private property at one location connection location (on private property). The DMA chamber is required due to the private watermain network size and due to the number of connections to the City watermain.*

Response: A district metering chamber has been added at the plan north property line as per City of Ottawa detail W3 (March 2021) to allow for monitoring either side of the valve. Please see the revised general plan of services (110037-GP123)

17. *Watermain crossing elevations and descriptions cannot be cross referenced with the watermain tables on the plan as there are no station numbers. Please indicate the location of description information from the tables on the plan and ensure all sewer and watermain crossings are indicated.*

Response: All applicable watermain crossings are listed in the watermain tables. Corresponding alignment stationing can be found along the watermains. 25m stationing has been added to assist in the review. Please see the revised general plan of services (110037-GP123).

18. *Please indicate location of clay seals as recommended by the Geotechnical Report.*

Response: Clay seals/seepage barriers have been added to the plans as per geotechnical recommendations. Please see the revised general plan of services (110037-GP123).

19. *We've reviewed the settlement monitoring data for the Metric Lands – Phase 5 development. While we acknowledge that some time has passed since the last readings in late 2022, we note that several plates (e.g., SP5, SP6, SP7, and SP10) were still showing significant settlement—over 20 mm within the final monitoring interval. Given this, we're seeking clarification on the conclusion that the surcharge program is complete and that no grade raise restrictions are required. Has any additional monitoring been conducted since 2022 to confirm this? If not, we would appreciate further justification based on the available data.*

Please refer to the enclosed Response to City Comments from Paterson Group dated February 9, 2026 for the response to Comment 19.

Grading Plan

20. *Please refer to attached plan with reline comments.*

Response: All redline comments have been addressed. Please see markups for additional comment responses.

Servicing and Stormwater Management Report

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

21. *Section 4.1 indicates that the Travil View Subdivision excerpt is included in appendix C, however it is included in appendix D. Please revise.*

Response: Section 4.1 has been revised to refer to Appendix D. Please see the updated Servicing and SWM Report.

22. *Please confirm that uncontrolled drainage STM-6 is permitted and has been accounted for in the design of Abbott Street, similarly for STM-4.*

Response: Per the subdivision design storm sewer design sheets, there is available capacity in the existing Abbott Street storm sewer. In addition, the major system overland flow route for the subdivision, including Abbott Street, is along Drainage Block 130 to Adstock Heights and outlets to the existing SWM Pond. Therefore, there will be no negative impact on Abbott Street from the proposed development. See Appendix D for the subdivision storm drainage area plan and subdivision storm sewer design sheets.

23. *Section 4.3.2 indicates that landscape catch basins leads would be perforated to promote infiltration while section 4.3.5 indicates infiltration type LID measures are not permitted.*

Response: The landscaped drainage system of perforated pipe and clearstone per the typical City of Ottawa details has been provided to promote drainage of the landscaped area and to provide underground detention of stormwater. Some infiltration into the underlying soil may occur, but it is not designed as part of an infiltration type LID measure.

24. *Table 10 located in appendix D (page 67) indicates that the outlet for drainage area STM-7 is parade drive. Please revise as this should say Abbott Street.*

Response: This typo has been revised. Please see the revised servicing and SWM report.

25. *Please include a storm sewer design sheet in appendix D.*

Response: Please see Appendix D of the Servicing and SWM report for the storm sewer design sheet.

26. *Table 2 in appendix D (page 59) indicates a pipe diameter of 200mm for pipe storage. The southwest CB lead is 150mm and not 200mm. Similarly for Table 6 (page 63) there is a 150mm sewer pipe. Please also indicate where the clear stone storage is from?*

Response: All pipe sizes have been revised so that the Servicing plan matches Appendix D Tables 2 and 4 (combined areas STM-2&3). Please see the revised general plan of services (110037-GP123) and the revised servicing and SWM report.

27. *Table 11 (page 68) in the appendices indicates 0.13m of ponding depth during the 2-year storm event. As per PIEDTB-2016-01 no surfacing ponding is permitted in private parking areas for the 2-year storm event.*

Response: The corresponding drainage area has been revised to include underground storage chambers which eliminate ponding during the 2-year storm event. Please see the revised general plan of services (110037-GP123) and the revised servicing and SWM report.

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

28. *Please confirm that the emergency overflow spill elevations are 30cm below the lowest building openings. This does not appear to be the case for the garage.*

Response: Site grading has been revised so that emergency spill elevations are 30cm below the lowest building openings. Please see the revised grading plan (110037-GR123) and Table 3.1 of the revised servicing and SWM report.

29. *Please demonstrate from the Subdivision Servicing & SWM Report (Novatech, 2018) that the emergency overland flow areas are approved.*

Response: Subdivision grading plans (110037-GR3) have been added to Appendix D of the report. This indicates the location of the emergency overland flow along the servicing block to Adstock Heights for the subdivision, which includes 4829 Abbott St.

30. *Given that the HGL in the receiving system is at 95.52m which is higher than the invert elevation at the downstream outlet (94.27). the system will need to be modelled since the rational method assumes free flowing conditions. Please use the time series HGL at STMMH 252 as the boundary conditions.*

Response: Novatech reviewed and considered the HGL boundary condition as part of the storm sewer design. Refer to the Storm Sewer Hydraulic Grade Line Analysis (100 Year Event) included in Appendix D. All underside of footings have been located 0.3m above the 100-year HGL. All ICD inverts are located above the 100-year HGL, therefore they are considered free flow and modeling is not required.

31. *Please discuss and demonstrate that the existing services for the existing building are adequately sized. Please also confirm when the services were installed.*

Response: The existing services (100mmØ storm, 135mmØ sanitary, and 19mmØ water) were installed in 2016/2017 as part of the subdivisions works. At the time of building permit for the existing building (May 2017) they were determined to be sufficient.

32. *The sanitary sewer design table from the Subdivision Servicing & SWM Report (Novatech, 2018) is not included in the appendices. Please include it to verify that the allocated sanitary peak flow is 2.89 L/s.*

Response: The sanitary sewer design table from the subdivision servicing and SWM report has been added to Appendix E. Please see the revised servicing and SWM report.

33. *When calculating aggregate fire flow capacity of existing contributing hydrants, the distances measured should be in accordance with Section 15.1.4 and 18.5.1.5. Please refer to technical bulletin ISTB-2018-02. Table 6.3 and the Fire Hydrant Coverage Plan will need to be revised.*

Response: Access routes are provided so that the maximum distance between a primary fire hydrant and building is 75m maximum (per the NFPA 1) and an unobstructed path of travel between the access route and the furthest building entrance is not more than 45m per Part 3 of the Ontario Building Code.

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

34. *Demands listed in Table 6.2 are different than demands calculated in appendices. Please confirm discrepancy.*

Response: The values from the report match the average daily demand and peak hour demand for Block 123. Please see the "TOTAL" line under the "Block 123" subheading of the water design calculations in Appendix F.

Transportation

Comments:

35. *Section 2.1.1 Planned Transportation Projects:*
    a. *Note that the Terry Fox Drive widening between Winchester Drive and Abbott Street East / Castlefrank Road is included in the Draft TMP Priority Road Network (2025). The widening is extended to Eagleson Road in the Draft TMP Needs-Based Road Network.*

Response: No further action required.

    b. *It should be noted that the Robert Grant Avenue extension between Hazeldean Road and Abbott Street East is under construction as part of the Abbott's Run subdivision.*

Response: No further action required.

36. *Section 2.4 Access Design:*
    a. *Section 25(1)(c) of the Private Approach Bylaw also requires a maximum driveway width of 9m measured at the roadway edge, which is exceeded. This should be noted.*

Response: The existing driveway width along Abbott Street was approved by the City of Ottawa and constructed as part of the Mattamy Subdivision. In discussion with the City and as confirmed by email on November 21, 2025, the existing approach and entrance throat length can be accepted as is.

    b. *The clear throat length between the end of the curb return (approximately the back of the sidewalk) and the first parking space on the east side only measures approximately 5.7m.*

Response: See response to 36(a) above.

    c. *Ensure existing site access is compliant with SC36.*

Response: The existing site access that was approved by the City of Ottawa and constructed as part of the Mattamy Subdivision complies with SC36.

37. *Section 2.5.1 Trip Generation: The TRANS Trip Generation Manual identifies low-rise housing as having two storeys or less. The Site Plan indicates that each building (other than the existing sales centre) has three storeys each with four units per floor, which would be considered mid- to high-rise housing. Please confirm.*

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

Response: The TRANS high-rise rates are lower than the low-rise rates cited in the TIA (25 to 26 peak hour person trips for 61 high-rise units versus 41 to 45 peak hour person trips for 61 low-rise units). Therefore, the use of low-rise rates in the TIA is conservative.

38. *Section 4.1.1 Design for Sustainable Modes:*
    a. *Provide attention TWSIs at depressed curbs approaching internal pedestrian crossings and at the accessible parking access aisles.*

Response: TWSIs are indicated on the Grading Plan and have been added to the Site Plan.

    b. *Provide an attention TWSI at the pedestrian connection to Adstock Heights.*

Response: TWSIs are indicated on the Grading Plan and have been added to the Site Plan.

    c. *The site plan and Section 4.2 indicate 31 bicycle parking spaces, but only 30 are identified in this section.*

Response: 30 bicycle parking spaces are required, but 31 are provided as indicated on the Site Plan.

39. *Section 4.1.2 Circulation and Access: How will vehicles access the spaces on the north side of the parking garage? The site plan indicates that the other parking spaces will block them on both sides, and no aisle is shown.*

Response: The parking space in front of each garage door will be rented with that garage space. i.e. the garage rental will include the exterior parking space in front.

40. *Section 4.2 Parking:*
    a. *A reduction to the number of parking spaces is recommended to mitigate the risk of a higher auto driver mode share than projected.*

Response: The number of parking stalls has been reduced by 4, as indicated in the other responses above.

    b. *It is noted that three of the visitor parking spaces are shown as snow storage areas in the site plan. This will reduce the total number of visitor parking spaces at times during the winter months.*

Response: Noted. Even with the reduction due to temporary snow storage, to required visitor parking spaces are provided.

Traffic Management

Comments:

41. *Preliminary Construction Management Plan Submission Requirements*
    a. *Required for Site Plan and Subdivision Applications*
        i. *Diagram:*
            1. *Provide a labelled graphic showing the proposed construction area within the ROW.*

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

2. *Identify anticipated construction vehicle ingress/egress points.*
3. *Diagram should be preliminary and high-level.*

b. *Checklist:*
   i. *Will construction require the temporary detour of a bus route?*
   ii. *Will construction block or impact a bike lane?*
   iii. *Will construction block or impact a sidewalk?*
   iv. *Will construction require a lane reduction or traffic lane closure?*
   v. *Will construction require a full road closure?*

c. *Send the completed diagram and checklist for review by Traffic Services to: clara.jajou@ottawa.ca*

Response: Per the follow up email received on September 22, 2025, the previously provided Preliminary Construction Management Plan prepared by Novatech dated June 13, 2025 was confirmed to satisfy the above comments. No further response is required.

Noise

Comments:

42. No Comments.

Response: Noted. No further response required.

Environment

Comments:

43. There are no triggers for an Environmental Impact Study.

Response: Noted. No further response required.

44. Bird-Safe Design Guidelines - Please review and incorporate bird safe design elements, where feasible. Some of the risk factors include glass and related design traps such as corner glass and fly-through conditions, ventilation grates and open pipes, landscaping, light pollution. More guidance and solutions are available in the guidelines which can be found here: https://documents.ottawa.ca/sites/documents/files/birdsafedesign_guidelines_en.pdf

Response: Request acknowledged. No further response required.

45. Please consider if there are features that can be added reduce the urban heat island effect (see OP 10.3). For example, this impact can be reduced by adding large canopy trees, green roofs or vegetation walls, or incorporating building with low heat absorbing materials.

Response: Acknowledged. Two parking spaces have been removed in order to increase the size of the islands to allow for additional large trees to be planted.

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

Forestry

Comments:

46. No additional comments.

Response: Noted. No further response required.

Parkland

Comments:

47. Parkland and CILP requirement have been previously satisfied through a related subdivision.

Response: Acknowledged. No further response required.

Housing Solutions and Investments

Comments:

48. Please be advised that this development proposal is adjacent to or in proximity to City land (non-right of way lands). Should this development require temporary or permanent interest in City land, the Strategic Initiatives Department may require the developer to enter into an agreement to formalize such use at market value in accordance with applicable policy. This interest includes, but is not limited to, temporary or permanent access agreements across City lands, temporary staging areas, the installation of permanent infrastructure to the benefit of the development such as sewers, water, gas, pathways, the expansion of storm water management ponds to the benefit of the development. Note that several months may be required in order to formalize such agreements and conversations should be initiated early in the development process.

Response: Acknowledged. No further response required at this time.

49. For temporary interests, please contact Paul Kerluke, Program Manager, Leasing Unit, Strategic Initiatives Department Paul.Kerluke@ottawa.ca (leases, licenses, crane swing agreement, and consent to enter agreements).

Response: Acknowledged. No further response required.

50. For permanent interests, please contact Dhaneshwar Neermul, Program Manager, Disposal and Strategic Development Unit, CREO:Dhaneshwar.Neermul@ottawa.ca (purchase and sale agreements, disposal of City land, easements).

Response: Acknowledged. No further response required.

Community Issues

51. Traffic & Safety: Existing congestion on Abbott St. E. and Terry Fox will worsen; added access points raise safety concerns for vehicles, pedestrians, and cyclists.

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

52. *Parking: Risk of spillover into nearby streets due to limited visitor parking; large surface lots criticized.*
53. *Neighbourhood Fit: Scale, density, and design not compatible with surrounding low-density homes; concerns about privacy and loss of natural views.*
54. *Infrastructure: Unclear if water, sewer, schools, and community services can support added demand.*
55. *Environment & Green Space: Loss of trees, open space, and natural features; heat island and runoff issues from extensive paving.*

Response: Public comments are typically addressed by the City as part of their Staff Report to Planning & Housing Committee. Additional information to support the City's responses can be provided as required.

Other

56. *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*

Response: Acknowledged. No further response required.

    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.*

Response: Acknowledged. No further response required.

Technical Agency Feedback Form

File Number(s): D02-02-25-0040
Application Type(s): Zoning By-law Amendment & Site Plan Control

Telus Communications

Comments:

1. *No conflict with TELUS.*

Response: Acknowledged. No further response required at this time.

Enbridge Gas Distribution

Comments:

1. *Please see attached letter.*

Response: Acknowledged. No further response required at this time.

Ottawa-Carleton District School Board

Comments:

2. *"The owner shall include in all Agreements of Purchase and Sale the following clause:*

   Prospective purchasers are informed that school accommodation pressures exist in the Ottawa-Carleton District School Board schools designated to serve this development which are currently being addressed by the utilization of portable classrooms and/or by directing students to schools outside of their community".

Response: Acknowledged. No further response required at this time.

3. *We request that the OCDSB be circulated on this file and any other subsequent development applications associated with these lands.*

Response: Acknowledged. No further response required at this time.

Ottawa-Carleton Catholic School Board

Comments:

1. *No Comments.*

Response: No response required.

Hydro Ottawa (Local Distribution)

Hydro Ottawa has prepared a number of comments on the proposal.

Response: All comments are acknowledged and will be addressed post-Site Plan Approval.

Mississippi Valley Conservation Authority

Comments:

1. *Please see attached letter.*

Response: Please see enclosed letter for responses to MVCA comments.

Canada Post

Comments:

2. *Developer - Please contact to Canada Post to confirm CMB location and anticipated first occupancy*

Response: Acknowledged. Comment will be addressed post-Site Plan Approval.

In support of the 2nd Site Plan Control submission for this file, please find enclosed the following documents at the corresponding OneDrive folder:

Response Letters
- This letter
- Response to City Comments prepared by Paterson Group dated February 9, 2026
- Response to MVCA Comments prepared by Novatech dated March 11, 2026
- Response to Enbridge Comments prepared by Novatech dated March 11, 2026

Plans and Studies
- Servicing and SWM Report, Novatech, dated March 11, 2026
- Geotechnical investigation, Paterson, dated February 9, 2026
- Grading Plan Review, Patterson, dated March 5, 2026
- General Plan of Services, 110017-GP123 rev 8
- Grading and Servicing Plan, 110037-GR123 rev 8
- Erosion and Sediment Control Plan, 110037-ESC123 rev 3
- Landscape Plan and Tree Conservation Plan, 110037-B123-L1 rev 6
- Site Plan, Hobin, 2223-SP-1, dated February 2, 2026
- Garage Plans, Metric Homes, dated Sept 10, 2021

Please let us know should you have any questions regarding the above.

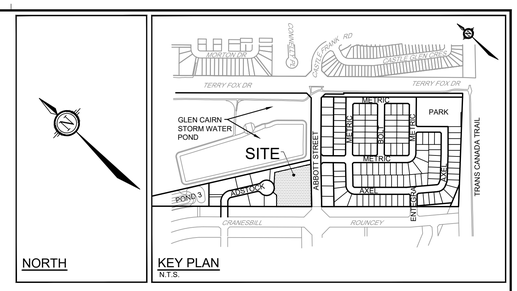
Sincerely,

NOVATECH

Miranda Virginillo MCIP, RPP, CAHP-Intern
Project Planner | Planning & Development

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

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



LEGEND

97.15	EXISTING GRADE
98.20	PROPOSED ELEVATION
98.39(S)	PROPOSED SWALE ELEVATION
99.00TW	PROPOSED TOP OF WALL ELEVATION
98.39BW	PROPOSED BOTTOM OF WALL ELEVATION
97.92	PROPOSED ELEVATION BY OTHERS
137.25	PROPOSED TERRACE ELEVATION
137.25	PROPOSED GARAGE ELEVATION
LO	REAR LOOKOUT, FOOTING INSULATION MAY BE REQUIRED
BF=	BASEMENT FINISHED FLOOR ELEVATION
USF=	UNDERSIDE OF FOOTING ELEVATION
FF=	FINISHED FLOOR ELEVATION
2.0%	GRADE AND DIRECTION
	PROPOSED TERRACE GRADING (3:1 MAX)
	BARRIER CURB
DC	DEPRESSED CURB
	DEVELOPMENT BY OTHERS PART OF SEPARATE APPLICATION
	PROPOSED TRANSFORMER c/w PAD AND BOLLARDS
	PROPOSED HYDRANT C/W VALVE & LEAD
T/F = 98.45	PROPOSED TOP OF BOTTOM FLANGE
	PROPOSED CATCH BASIN
	PROPOSED CATCH BASIN WITH INLET CONTROL DEVICE
TEE	PROPOSED LANDSCAPE TEE CATCH BASIN
ELB	PROPOSED LANDSCAPE ELBOW CATCH BASIN
	PROPOSED SWALE c/w SUBDRAIN
	PROPOSED SWALE
FH	EXISTING FIRE HYDRANT
VC	EXISTING VALVE CHAMBER
	DIRECTION OF EMERGENCY OVERLAND FLOW
100 YR = 97.99	100 YEAR PONDING LIMIT 100 YEAR PONDING ELEVATION
SPILL EL =97.71	OVERLAND SPILL ELEVATION
TWSI	TACTILE WALKING SURFACE INDICATOR PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS
WW / LT	WINDOW WELL / LOWERED TERRACE - SEE ARCHITECTURAL DRAWING FOR MORE DETAILS

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 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. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL REPORT (No. PG2855-3, DATED FEBRUARY 21, 2025), PREPARED BY PATERSON GROUP 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. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
10. REFER TO STORMWATER MANAGEMENT REPORT (R-2025-013) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
11. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
12. PROVIDE LINE/PARKING PAINTING.

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 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
5. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
6. MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
7. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
8. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
9. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
13. 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
50mm HL-3 OR SUPERPAVE 12.5
150mm GRAN "A"
300mm GRAN "B" TYPE II

HEAVY DUTY
40mm HL-3 OR SUPERPAVE 12.5
50mm HL-8 OR SUPERPAVE 19.0
150mm GRAN "A"
450mm GRAN "B" TYPE II

CITY COMMENT

NOVATECH RESPONSE

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
5.	ISSUED FOR REVIEW	JUN 13/25	ARM
4.	ISSUED FOR COORDINATION	JUN 05/25	ARM
3.	ISSUED FOR COORDINATION	MAY 16/25	ARM
2.	ISSUED FOR COORDINATION	FEB 18/25	ARM
1.	ISSUED FOR PHASE 4/5 TENDER	OCT 6/22	ARM

SCALE
1:200
1:200
0 2 4 6 8

DESIGN MJB
CHECKED ARM
DRAWN MJB
CHECKED ARM
APPROVED ARM

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER
A.R. MCAULEY
100141256
June 13, 2025
PROVINCE OF ONTARIO

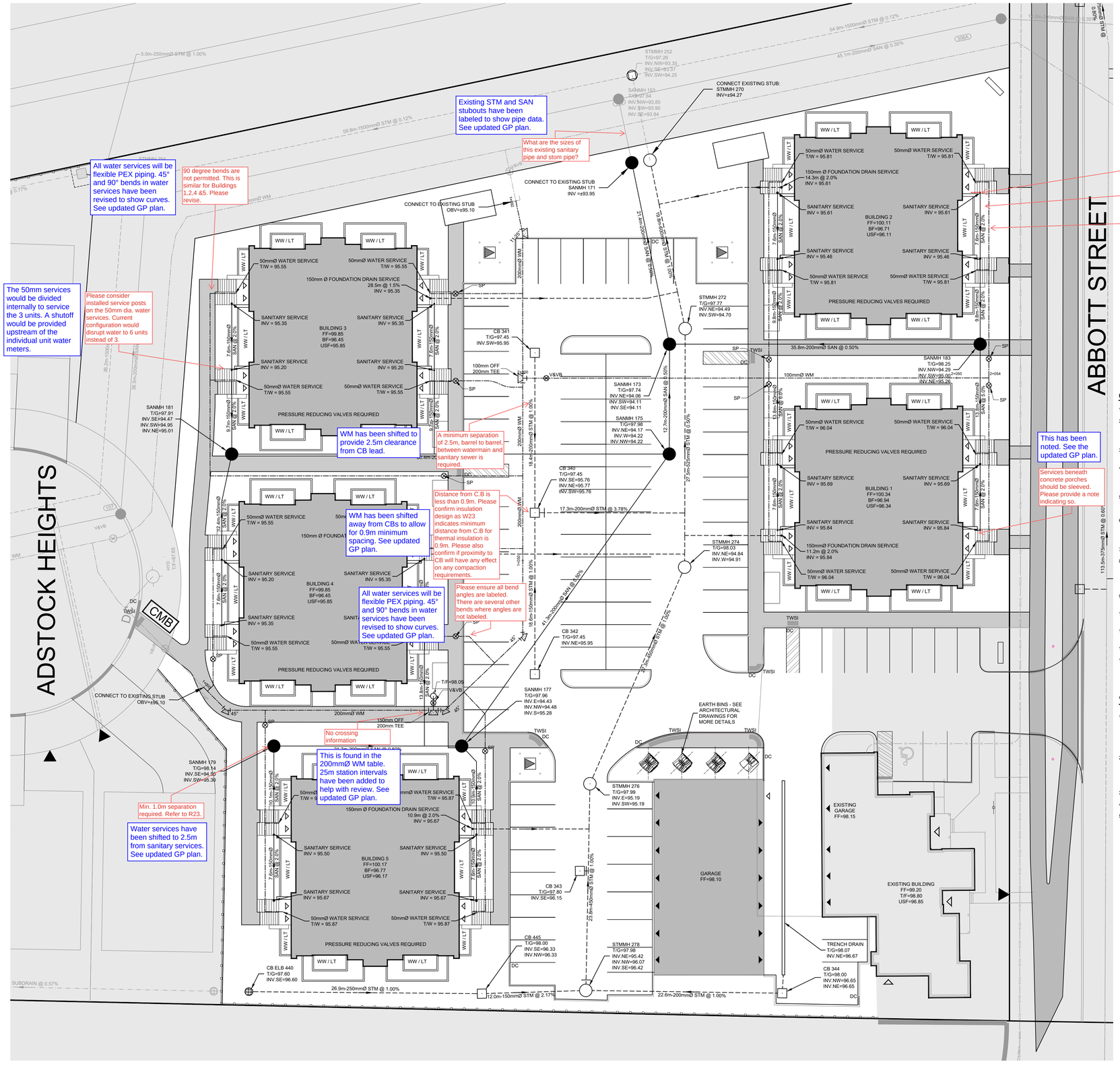
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

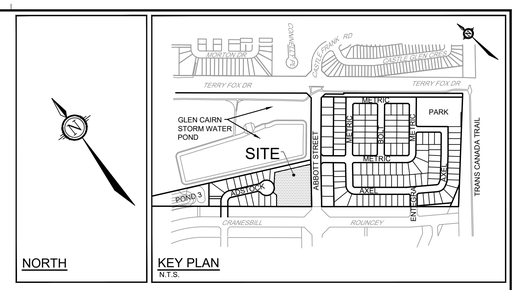
SPB DEVELOPMENTS INC.
(METRIC HOMES) SUBDIVISION - BLOCK 123
950 TERRY FOX DRIVE

DRAWING NAME
GRADING PLAN

PROJECT No. 110037
REV REV # 5
DRAWING No. 110037-GR

M:\2025\110037\CAD\Design_Block123\110037-GR123.dwg, GR, Jun 13, 2025 - 11:39am, mlilienton
PLANOT, D400 - 558mm, ByStyle





These represent cleanouts. This symbol has been removed and a note has been added to note that the services will be complete with cleanouts. See updated GP plan.

It is unclear what these are.

These pipes are acting as a watermain and sewer main, therefore 2.5m separation, barrel to barrel required.

Water services have been shifted to 2.5m from sanitary services. See updated GP plan.

Please label watermain size and material

Water service material information has been added to labels. See updated GP plan.

This note has been revised to reflect a 2.0m minimum cover. See updated GP plan.

This has been noted. See the updated GP plan.

Services beneath concrete porches should be sleeved. Please provide a note indicating so.

Minimum cover is 2.0m. Please revise.

LEGEND

- DIAMETER
- E BOX
- PROPOSED HYDRANT C/W VALVE & LEAD
- FLANGE
- STBLOCK
- STANDPOST
- 200mmØ STM — PROPOSED STORM SEWER AND FLOW DIRECTION
- 200mmØ SAN — PROPOSED SANITARY SEWER AND FLOW DIRECTION
- PROPOSED SANITARY MH
- PROPOSED STORM MH
- PROPOSED CATCHBASIN
- BARRIER CURB
- DEVELOPMENT BY OTHERS PART OF SEPARATE APPLICATION
- PROPOSED TRANSFORMER c/w PAD AND BOLLARDS
- WW / LT — WINDOW WELL / LOWERED TERRACE - SEE ARCHITECTURAL DRAWING FOR MORE DETAILS

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 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. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL REPORT (No. PG2855-3, DATED FEBRUARY 21, 2025), PREPARED BY PATERSON GROUP 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. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
10. REFER TO STORMWATER MANAGEMENT REPORT (R-2025-013) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
11. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
12. PROVIDE LINE/PARKING PAINTING.
13. 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.

WATERMAIN NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	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.

ICD DATA TABLE

STRUCTURE No.	T/G ELEVATIAON	INVERT OUT ELEVATION	ICD DIA. (mm)	OUTLET DIA. (mm)
CB 340	97.45	95.76	127	200
CB 343	97.65	96.15	83	200
STMMH 278	97.98	95.42	108	450

SEWER NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANNHOLE (1200Ø)	701.010	OPSD
CB, FRAME & COVER	S19.1, S22, & S 23	CITY OF OTTAWA
STORM / SANITARY MH FRAME & COVER	S24, S24.1, & S25	CITY OF OTTAWA
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	

2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
4. 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.
5. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KORA-SEAL, PSX POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
6. 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.
7. STORM MANHOLES AND CBMHS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
8. 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.

100mmØ WATERMAIN TABLE

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
2+000	97.54	95.00	100 OFF 200 TEE c/w ISOLATION VALVE
2+001	97.50	95.00	CROSS UNDER 200mmØ CB LEAD (INV = 95.93, 0.9m CLEARANCE)
2+017	97.80	95.30 ✱✱	CROSS OVER 200mmØ SAN (OBV = 94.32, 0.9m CLEARANCE)
2+019	97.85	95.80 ✱✱	CROSS OVER 525mmØ STM (OBV = 95.15, 0.3m CLEARANCE) c/w VERTICAL BENDS AND INSULATION
2+025	98.03	95.60 ✱✱	100mmØ WM
2+028	98.20	95.80	50 OFF 100 CROSS (BUILDING 1 & 2 SERVICE) c/w STANDPOSTS
2+029	98.24	95.80	CROSS UNDER 150mmØ SAN SERV (INV = 94.49, 0.4m CLEARANCE)
2+050	98.38	95.95	100mmØ WM
2+053	98.35	95.95	CROSS UNDER 150mmØ SAN SERV (INV = 94.49, 0.4m CLEARANCE)
2+053.7	98.34	95.90	100 OFF 50 TEE (BUILDING 1 & 2 SERVICE) c/w STANDPOSTS

200mmØ WATERMAIN TABLE

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
1+000	97.85	±95.10 ✱	CONNECT TO EXISTING 200mmØ WM STUBOUT
1+001	97.86	95.10	50 OFF 200 TEE (BUILDING 4 SERVICE) c/w STANDPOST
1+004	97.87	95.25	45° HORIZONTAL BEND
1+008	97.92	95.40	50 OFF 200 TEE (BUILDING 5 SERVICE) c/w STANDPOST
1+025	97.88	95.40	200mmØ WM
1+027	97.52	94.50	CROSS UNDER 150mmØ SAN SERV (INV = 95.01, 0.5m CLEARANCE) c/w VERTICAL BENDS
1+028	97.84	94.70	150 OFF 200 FIRE HYDRANT TEE
1+029	97.82	94.70	45° HORIZONTAL BEND
1+032	97.71	95.10	50 OFF 200 TEE (BUILDING 5 SERVICE) c/w STANDPOST
1+037	97.59	95.10	50 OFF 200 TEE (BUILDING 4 SERVICE) c/w STANDPOST
1+041	97.53	95.10	45° HORIZONTAL BEND
1+050	97.54	95.00	200mmØ WM
1+050.8	97.53	95.00	CROSS UNDER 150mmØ STM SERV (INV = 95.31, 0.5m CLEARANCE) c/w VERTICAL BENDS
1+051.4	97.52	95.00	50 OFF 200 TEE (BUILDING 4 SERVICE) c/w STANDPOST
1+060	97.51	95.10	50 OFF 200 TEE (BUILDING 3 SERVICE) c/w STANDPOST
1+062	97.54	95.20 ✱✱	CROSS OVER 200mmØ SAN (OBV = 94.50, 0.4m CLEARANCE) c/w INSULATION
1+069	97.52	95.00	50 OFF 200 TEE (BUILDING 3 SERVICE) c/w STANDPOST
1+070	97.49	95.00	100 OFF 200 TEE c/w ISOLATION VALVE
1+075	97.48	95.00	200mmØ WM
1+080	97.61	94.70	CROSS UNDER 150mmØ STM SERV (INV = 95.20, 0.5m CLEARANCE) c/w VERTICAL BENDS
1+081	97.62	94.70	50 OFF 200 TEE (BUILDING 3 SERV.) c/w STANDPOST
1+088	97.83	95.10	11.25° HORIZONTAL BEND
1+091.6	97.74	±95.10 ✱	CONNECT TO EXISTING 200mmØ WM STUBOUT

✱ CONNECTION TO EXISTING 200mmØ WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.
✱✱ PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 AND DETAIL W22 WHERE COVER IS LESS THAN 2.4m AND/OR ADJACENT TO OPEN STRUCTURES.

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.

CITY COMMENT
NOVATECH RESPONSE

No.	REVISION	DATE	BY
5.	ISSUED FOR REVIEW	JUN 13/25	ARM
4.	ISSUED FOR COORDINATION	JUN 05/25	ARM
3.	ISSUED FOR COORDINATION	FEB 18/25	ARM
2.	ISSUED WITH ADDENDUM #3	OCT 19/22	ARM
1.	ISSUED FOR PHASE 4/5 TENDER	OCT 6/22	ARM

SCALE 1:200
1:200
0 2 4 6 8
7.98 m

DESIGN AAR
CHECKED ARM
DRAWN AAR
CHECKED ARM
APPROVED SMG

FOR REVIEW ONLY

LICENSED PROFESSIONAL ENGINEER A.R. MCAULEY 100141256 June 13, 2025 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

SPB DEVELOPMENT INC.
(METRIC HOMES) SUBDIVISION - BLOCK 123
950 TERRY FOX DRIVE

DRAWING NAME
GENERAL PLAN OF SERVICES BLOCK 123

Added

File number to be added

PROJECT No. 110037
REV REV # 5
DRAWING No. 110037-GP123

PLANBT1.DWG - N:\$$dwms.50\Team

M:\2025\110037\CAD\Design\ Block\123\110037-GP123.dwg, GP, Jun 13, 2025 - 11:50am, mtaunton

PATERSON GROUP

memorandum

re: **Response to City Comments**
Metric Homes – Block 123
950 Terry Fox Drive – Ottawa

to: SPB Developments – **Chris Bernier** – chris@metrichomes.com
cc: Novatech Engineering – **Alex McAuley** – a.mcauley@novatech-eng.com
date: February 9, 2026
file: PG2855-MEMO.77

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to provide responses to comments from the City of Ottawa pertaining to the proposed residential development to be located at the subject site in the City of Ottawa, Ontario. The following memorandum should be read in conjunction with Paterson Group report PG2855-3 Revision 1 dated February 9, 2026 and memorandums PG2855-MEMO.21 dated November 8, 2022 and PG2855-MEMO.76 dated February 9, 2026.

Geotechnical Related City Comments

Comment 9: *Please remove the sentence in Paragraph 1 of Section 5.1 indicating that a grade raise restriction is required.*

Response: The sentence has been removed in the revised geotechnical investigation report.

Comment 10: *Please remove the duplicate sentence in Section 5.3.*

Response: The duplicate sentence has been removed in the revised geotechnical investigation report.

Comment 11: *Please review the grading plan, servicing plan and landscaping plan and confirm if there are any additional recommendations. As per Section 6.4, clay seals are required. Please confirm if the location of the clay seals proposed on the civil plans are adequate.*

Response: Reference should be made to memorandum PG2855-MEMO.76 which summarizes Paterson's review of the grading, servicing and landscaping plans, including review of the proposed clay seal locations.

Comment 12: *Please confirm if there are any anticipated impacts to surrounding structures and utilities. Special consideration should be given to the townhomes to the west on Cranesbill Road and the 1500mm dia. storm sewer in the servicing block to the east. Please indicate any mitigation measures if required.*

Response: Impacts to surrounding structures and utilities are not anticipated due to the elevation of the groundwater being below the underside of footing elevations for the proposed buildings, thereby eliminating any risk of potential dewatering of the silty clay deposit. Furthermore, given the distance and depth of the 1500mm dia. storm sewer, the lateral support zones of the nearest proposed buildings are not impacted. Typical construction is recommended.

Comment 13: *[blank]*

Response: Comment 13 is blank.

Comment 19: We've reviewed the settlement monitoring data for the Metric Lands – Phase 5 development. While we acknowledge that some time has passed since the last readings in late 2022, we note that several plates (e.g. SP5, SP6, SP7 and SP10) were still showing significant settlement – over 20 mm within the final monitoring interval. Given this, we're seeking clarification on the conclusion that the surcharge program is complete and that no grade raise restrictions are required. Has any additional monitoring been conducted since 2022 to confirm this? If not, we would appreciate further justification based on the available data.

Response: Although settlement was still occurring, the surcharge program was determined to be complete based on the total amount of settlement incurred at the time of completion. Based on Paterson's calculations, 95% of total primary settlement had occurred, which is required for completion of a successful surcharge program. The ongoing settlement was attributed to the "surcharge" load (i.e. the surcharge pile being constructed 2 m above the proposed finished grade). Based on the total settlement incurred, reducing the pile height to the proposed finished grade (i.e. removing the surcharge load) would yield zero settlement. Therefore, the surcharge program was determined to be complete and no grade raise restrictions are required.

We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Owen R. Canton, B.Eng

Faisal I. Abou-Seido, P.Eng.

NOVATECH
Engineers, Planners & Landscape Architects

March 11, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
By email only: nishant.dave@ottawa.ca

Attention: **Nishant Dave – Planner I**

Reference: **4829 Abbott Street East**
Mississippi Valley Conservation Authority (MVCA) – Response to First Review Comments
Zoning By-law Amendment and Site Plan Control – D02-02-25-0040 and D07-12-25-0084
Our File: 110037
City File No.: PGLSP-110 & PGLZA-77

First review comments on the Zoning By-law Amendment and Site Plan Control application for 4829 Abbott Street East were provided on September 9, 2025 by the Mississippi Valley Conservation Authority (MVCA). Responses are provided in **bold** text below each of the comments. The responses should be read together with the full 2nd submission package.

Natural Hazards (Advisory Role)

MVCA's information sources do not identify any potential natural hazard features within the scope of our review as being associated with the subject lands. We therefore do not have any concerns from a natural hazard perspective for the proposed development.

Response: Acknowledged.

Stormwater Control Criteria

The stormwater management criteria, specified in the SPB Development Inc., Subdivision Servicing and Stormwater Management Report (Novatech Engineering consultant, April 19, 2018), requires the control of post-development flow rates to the allowable release rates of 186 L/s (200 L/s/ha).

Response: Acknowledged.

Servicing and Stormwater Management Report Summary

Comments

MVCA offers the following comments for your consideration:

1. *Please confirm the water quantity control design criteria. Under Comment #1 in the Engineering section of the Pre-Consultation: Meeting Feedback dated January 24, 2025, post-development runoff up to and including the 100-year storm event will be controlled to a 2-year storm event. However, Section 4.1 of the Report states that the allocated*

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

release rate to the site is 186 L/s (200 L/s/ha). Note: The allowable release rate for the site is assumed to be 200 L/s/ha for the following review based on the information provided in SPB Development Inc., Subdivision Servicing and Stormwater Management Report (Novatech Engineering consultant, April 19, 2018). Further review and comments will need to be provided if there is any change to the requirement for water quantity control.

Response: The allowable release for the site was established as part of the overall subdivision design with the storm sewers and pond sized for 200L/s/ha release rate from the site. Based on the criteria established in the Subdivision Servicing and SWM Report, an allowable release rate of 186L/s was allocated for the proposed site and will be used for the stormwater design.

2. *Table 11 indicates that the total outflow for the 5-year storm event is 188.4 L/s, which exceeds the allowable release rate of 186 L/s. Please demonstrate how the post-development flow up to and including the 100-year storm is controlled to the allowable release rate.*

Response: This has been revised to be below the allowable release rate. Please see Table 9 in Appendix D of the revised Block 123 - Servicing and Stormwater Management Report (Novatech, March 11, 2026).

3. *Please provide a summary table to demonstrate a 15 cm of vertical clearance between the spill elevation and the ground elevation at the building envelope.*

Response: This has been added to Section 3.2 of the Block 123 - Servicing and Stormwater Management Report (Novatech, March 11, 2026).

4. *Please clearly show maximum available ponding depth and volume available for surface storage on the Grading Plan or a separate ponding plan. Please provide the 100-year depth at each surface storage.*

Response: Maximum ponding depth and volume info is provided in Tables 2 and 4 in Appendix D of the Servicing and SWM report. The updated 100-year ponding elevations are noted on 110037-GR123.

5. *As per Section 4.3.3 of the report, uncontrolled flows from areas STM-4 will drain to the existing Adstock Heights ROW. Please demonstrate that the existing ROW storm system (minor and/or major system) has adequate capacity to receive the uncontrolled post-development flow from the site and there are no negative impacts.*

Response: Per the subdivision design, all of Block 123 was designed to flow to the Adstock Heights 1500mmØ storm sewer (i.e. minor system). In addition, the major system overland flow route for the subdivision, including Block 123, is along Adstock Heights and outlets to the existing SWM Pond. Therefore, there will be no negative impact on Adstock Heights or Block 123 from the proposed development. See Appendix D for the subdivision storm drainage area plan.

6. *The Pre- & Post-development Drainage Plans show that an area of 0.01 ha with C=0.27 (EX-2) draining uncontrolled to Abbott Street East is increased to 0.07 ha with C=0.61 (STM-6) and 0.01 ha with C=0.43 (STM-7). Please demonstrate that the existing Abbott*

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

Street East ROW has adequate capacity to receive additional uncontrolled flows from the site and there are no negative impacts.

Response: Per the subdivision design storm sewer design sheets, there is available capacity in the existing Abbott Street storm sewer. In addition, the major system overland flow route for the subdivision, including Abbott Street, is along Drainage Block 130 to Adstock Heights and outlets to the existing SWM Pond. Therefore, there will be no negative impact on Abbott Street from the proposed development. See Appendix D for the subdivision storm drainage area plan and subdivision storm sewer design sheets.

7. *The Service Plan indicates that a 250 mm diameter storm sewer from CB ELB 440 to CB 445 on the southwest side of Building 5 has been downsized to a 150 mm diameter storm sewer from CB 445 to STMMH 278. Please confirm this will not create a backwater effect and cause flooding issue.*

Response: See 110037-GP123, for servicing revisions including the referenced storm sewer pipe.

8. *There appears to be a discrepancy between Section 4.3.3 of the report and Table 11. In Section 4.3.3, the surface storage noted to be approximately 180 m3 whereas Table 11 shows that the maximum volume provided is 132.6 m3.*

Response: This has been revised in the updated Block 123 - Servicing and Stormwater Management Report (Novatech, March 11, 2026).

9. *There appears to be a discrepancy between the catch basin, CBMH/MH, pipe details in Tables 2, 4, and 6 and the information provided on the Servicing/Grading Plan. Please update and confirm storage volume.*
   a. *Table 2: Table 2 shows the 37 m of 200 mm diameter pipe whereas the servicing plan shows the 18.4 m of 200 mm diameter and 18.6 m of 150 mm storm sewer pipes.*
   b. *Table 6: 1200 mm diameter pipe at SWMMH101 is not found on the Servicing Plan.*
   c. *Table 6: Table 6 shows the 38.7 m of 250 mm diameter pipe whereas the servicing plan shows the 26.9 m of 250 mm diameter and 12.0 m of 150 mm storm sewer pipes.*
   d. *Table 2, 4, and 6: CB 1, 2, 3, and 4 are not shown in the Servicing Plan.*

Response: See the updated plan 110037-GP123, rev7 and the revised Block 123 - Servicing and Stormwater Management Report (Novatech, March 11, 2026). Tables 2, 4, and 6 of Appendix D have been revised to reflect all plan changes.

Sincerely,

NOVATECH

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

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

NOVATECH
Engineers, Planners & Landscape Architects

March 11, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
By email only: nishant.dave@ottawa.ca

Attention: **Nishant Dave – Planner I**

Reference: **4829 Abbott Street East**
Response to First Review Comments (Enbridge)
Zoning By-law Amendment
Our File: 110037
City File No.: D02-02-25-0040/D07-12-25-0084

First review comments on the Zoning By-law Amendment and Site Plan Control application for 4829 Abbott Street East were provided on September 3, 2025 by Enbridge Gas Distribution. Responses are provided in **bold** text below each of the comments. The responses should be read together with the full 2nd submission package.

Comments:

1. *Enbridge Gas does not object to the proposed application(s) however, we reserve the right to amend or remove development conditions. This response does not signify an approval for the site/development.*

Response: Acknowledged

2. *This response does not constitute a pipe locate, clearance for construction or availability of gas.*

Response: Acknowledged

3. *The applicant shall use the Enbridge Gas Get Connected tool to determine gas availability, service and meter installation details and to ensure all gas piping is installed prior to the commencement of site landscaping and/or asphalt paving. (https://enbridge.outsystemsenterprise.com/GetConnected_Th/Login2?OriginalURL=https%3A%2F%2Fenbridge.outsystemsenterprise.com%2FGetConnectedApp_UI%2F)*

Response: Acknowledged

4. *If the gas main(s) needs to be relocated as a result of changes in the alignment or grade of the future road allowances or for temporary gas pipe installations pertaining to phased construction, all costs are the responsibility of the applicant.*

Response: Acknowledged

5. *In the event that easement(s) are required to service this development, and any future adjacent developments, the applicant will provide the easement(s) to Enbridge Gas at no cost.*

Response: Acknowledged

6. *Blasting and pile driving activities in the vicinity of Enbridge Gas Distribution and Storage (GDS) facilities require prior approval by GDS. The Blasting and Pile Driving Form, referenced in Enbridge's Third Party Requirements in the Vicinity of Natural Gas Facilities Standard, must be provided to mark-ups@enbridge.com by the Owner of the proposed work for all blasting and pile driving operations. In addition, a licensed blasting consultant's stamped validation report must be submitted to GDS for review if blasting is to occur within thirty (30) metres of GDS facilities. The request must be submitted a minimum of four (4) weeks prior to the beginning of work to allow sufficient time for review.*

Response: Acknowledged.

Sincerely,

NOVATECH

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

PATERSON GROUP

memorandum

re: **Geotechnical Design Summary Details**
Metric Homes – Block 123
950 Terry Fox Drive – Ottawa

to: SPB Developments – **Chris Bernier** – chris@metrichomes.com
cc: Novatech Engineering – **Alex McAuley** – a.mcauley@novatech-eng.com
date: March 5, 2026
file: PG2855-MEMO.76 Revision 1

Further to your request and authorization, Paterson Group (Paterson) prepared the current report to provide a geotechnical design summary and grading plan review for the proposed residential development to be located at 950 Terry Fox Drive in the City of Ottawa, Ontario. The following memorandum should be read in conjunction with Paterson Group report PG2855-3 Revision 1 dated February 9, 2026 and memorandum PG2855-MEMO.21 dated November 8, 2022.

1.0 Grading Review

1.1 Residential & Right-of-Way Grading

Paterson reviewed the following grading plans prepared by Novatech Engineering (Novatech) regarding the residential development at the aforementioned site:

- ❑ Grading Plan – Block 123, 950 Terry Fox Drive — Drawing No. 110037-GR123 – Project No. 110037 – Revision 8 dated February 11, 2026.

Relevant design information is presented in Table 1 - Summary of Design Details for the subject blocks and lots. The relevant design information includes the following:

- ❑ Block number
- ❑ Existing grade elevation
- ❑ Proposed finished grade elevation
- ❑ Finished floor elevation
- ❑ Maximum allowable grade raise
- ❑ Bearing resistance values
- ❑ Proposed USF elevation
- ❑ Lightweight fill (LWF) recommendations
- ❑ Seismic site class

As presented in the aforementioned PG2855-MEMO.21, a settlement surcharge program was successfully completed for Block 123. As such, Block 123 is not subject to grading restrictions. Therefore, the proposed grading for Building 1 through 5, the parking areas and the proposed garage, within Block 123 is considered acceptable from a geotechnical perspective and lightweight fill is not required for building or parking area construction.

Furthermore, the proposed grading provides adequate soil cover for frost protection for the footings of the proposed buildings.

1.2 Exterior Structures

Swimming Pools

The in-situ soils are considered to be acceptable for in-ground swimming pools. Above ground swimming pools must be placed at least 5 m away from the residence foundation and neighbouring foundations. Otherwise, pool construction is considered routine, and can be constructed in accordance with the manufacturer`s requirements.

Aboveground Hot Tubs

Additional grading around the hot tub should not exceed permissible grade raises. Otherwise, hot tub construction is considered routine, and can be constructed in accordance with the manufacturer's specifications

Installation of Decks or Additions

Additional grading around proposed deck or addition should not exceed permissible grade raises. Otherwise, standard construction practices are considered acceptable.

2.0 Servicing Review

Paterson reviewed the following servicing plans prepared by Novatech Engineering (Novatech) regarding the residential development at the aforementioned site:

- ❑ General Plan of Services – Block 123, 950 Terry Fox Drive — Drawing No. 110037-GP123 – Project No. 110037 – Revision 8 dated February 12, 2026.

2.1 Lateral Support

The site servicing layout does not impede the lateral support zones of any adjacent buildings/structures and is in conformance with our recommendations, with the exception of the service connections to the proposed buildings, which are at a lower elevation than each respective building's underside of footing (USF). Therefore, reinstatement of the bearing medium above the service connections and within the lateral support zones of the buildings' foundation will be required. To reinstate the bearing medium, it is recommended that the excavations are backfilled with either 15 MPa 28-day strength concrete, or OPSS Granular B Type II placed in maximum 300 mm thick loose lifts and compacted to a minimum of 98% of the material's standard Proctor maximum dry density.

2.2 Frost Protection

The majority of the proposed services are provided with sufficient soil cover of 2.1 m for adequate frost protection, with the exception of a small number of catch basins and pipe sections between them within the landscaped areas. As catch basins within landscaped areas are not considered critical infrastructure and pose no risk to impacted any adjacent structures, the reduced soil cover provided is considered acceptable from a geotechnical perspective. However, consideration should still be given to implementing rigid insulation for the subject structures, as per Table 1 below.

Table 1 – Rigid Insulation Recommendations for Pipes with Reduced Soil Cover

Thermal Condition	Soil Cover Provided (mm)	Insulation Dimensions	
		Thickness (mm)	Extension (mm)
Unheated	1800-2099	50	Extend 600 mm horizontally beyond edge of the pipe
	1500-1799	50	Extend 900 mm horizontally beyond edge of the pipe
	1200-1499	75	Extend 1200 mm horizontally beyond edge of the pipe

Alternatively, instead of extending the rigid insulation 600 to 1200 mm beyond the edge of the pipe, the rigid insulation can be “boxed” around the pipe by transitioning from horizontal to vertical placement of the rigid insulation and extending to the invert pipe elevation, effectively forming a box of rigid insulation around the pipe. In this case, the rigid insulation should still be extended far enough to provide adequate spring-line and cover backfill material around the pipe.

2.3 Clay Seals

The proposed clay seal locations indicated on the servicing plans are considered adequate from a geotechnical perspective.

3.0 Landscaping Review

3.1 Tree Planting Restrictions

Paterson completed a soils review of the site to determine applicable tree planting setbacks, in accordance with the City of Ottawa Tree Planting in Sensitive Marine Clay Soils (2017 Guidelines) for trees planted within a public right-of-way (ROW). Atterberg limits testing was completed for recovered silty clay samples at selected locations throughout the subject site.

Grain size distribution and hydrometer testing was also completed on selected soil samples. The above-noted test results were completed on samples taken at depths between the anticipated underside of footing elevation and a 3.5 m depth below finished grade. The results of our testing are presented in the aforementioned geotechnical investigation report.

Based on the results of the Atterberg limit testing mentioned above, the plasticity index was found to be less than 40% in all the tested clay samples. In addition, based on the clay content found in the clay samples from the grain size distribution test results, moisture levels and consistency, the silty clay across the subject site is considered low to medium sensitivity clay and should not be designated as sensitive marine clays.

Low to Medium Sensitivity Clays

A low to medium sensitivity clay soil was encountered between the anticipated design underside of footing elevations and 3.5 m below finished grade as per City Guidelines for the entire site. Based on our Atterberg limits test results, the modified plasticity index does not exceed 40% across the site. The following tree planting setback is recommended for the entire subject site due to the presence of low to medium sensitivity clays. Large trees (mature height over 14 m) can be planted within these areas provided a tree to foundation setback equal to the full mature height of the tree can be provided (e.g. in a park or other green space). Tree planting setback limits may be reduced to 4.5 m for small (mature height up to 7.5 m) and medium size trees (mature tree height 7.5 to 14 m), provided that the conditions noted below are met.

- ❒ The underside of footing (USF) is 2.1 m or greater below the lowest finished grade must be satisfied for footings within 10 m from the tree, as measured from the centre of the tree trunk and verified by means of the Grading Plan as indicated procedural changes below.
- ❒ A small tree must be provided with a minimum of 25 m3 of available soil volume while a medium tree must be provided with a minimum of 30 m3 of available soil volume, as determined by the Landscape Architect. The developer is to ensure that the soil is generally uncompacted when backfilling in street tree planting locations.
- ❒ The tree species must be small (mature tree height up to 7.5 m) to medium size (mature tree height 7.5 m to 14 m) as confirmed by the Landscape Architect
- ❒ The foundation walls are to be reinforced at least nominally (minimum of two upper and two lower 15M bars in the foundation wall).
- ❒ Grading surrounding the tree must promote drainage to the tree root zone (in such a manner as not to be detrimental to the tree).

It is well documented in the literature, and it is our experience, that fast-growing trees located near buildings founded on cohesive soils that shrink on drying can result in long-term differential settlements of the structures. Tree varieties that have the most pronounced effect on foundations are seen to consist of poplars, willows and some maples (i.e., Manitoba Maples) and, as such, they should not be considered in the landscaping design.

3.2 Landscaping Review

Paterson reviewed the following drawings prepared by Novatech for the aforementioned development:

- ❑ Landscape Plan and Tree Conservation Plan – Block 123, 4829 Abbott Street East, Kanata — Drawing No. 110037-B123-L1 – Project No. 110037 – Revision 5 dated February 12, 2026.

Based on the above-noted drawing, a minimum setback of 4.5 m from the nearest building foundation is provided for all proposed small and medium trees at the subject site. Furthermore, a setback equal to, or greater than, the mature tree height is provided for all proposed large trees at the subject site.

Best Regards,

Paterson Group Inc.

Owen R. Canton, B.Eng.

Faisal I. Abou-Seido, P. Eng.

Attachments:

- ❑ Table 1 – Summary of Lot Grading

Table 1 - Summary of Design Details

PG2855 - Metric Homes - 950 Terry Fox Drive - Block 123

Lot/Block No.	Street	Original GS Front (m)	Proposed GS Front (m)	Original GS Rear (m)	Proposed GS Rear (m)	Finished Floor Elevation	Bearing Resistance Value - SLS (kPa)	Underside of Footing (USF) Elevation	Permissible Grade Raise Front (m)	Permissible Grade Raise Rear (m)	Eng Fill Below Footing (m)	Exceeding Permissible Grade Raise Front (m)	Exceeding Permissible Grade Raise Rear (m)	Surcharge Program	Minimum Thickness LWF in Garage and Front Porch or Slab-on-Grade (m)	Minimum Thickness LWF extending 2.4 m Beyond the building face or property line (m)	Seismic Site Class
Building 1	Abbott Street	97.55	98.57	97.65	98.49	100.34	100	96.34	n/a	n/a	no	no	no	Completed	Not Required	Not Required	Class E
Building 2	Abbott Street	97.70	98.34	97.48	98.25	100.11	100	96.11	n/a	n/a	no	no	no	Completed	Not Required	Not Required	Class E
Building 3	Abbott Street	97.40	98.04	97.30	98.06	99.85	100	95.85	n/a	n/a	no	no	no	Completed	Not Required	Not Required	Class E
Building 4	Abbott Street	97.48	98.06	97.51	98.03	99.85	100	95.85	n/a	n/a	no	no	no	Completed	Not Required	Not Required	Class E
Building 5	Abbott Street	97.46	98.28	97.50	98.27	100.17	100	96.17	n/a	n/a	no	no	no	Completed	Not Required	Not Required	Class E

Proposed grade raise information was based on the following grading plans prepared by Novatech:

- SPB Developments Inc. (Metric Homes) Subdivision, 950 Terry Fox Drive -Grading Plan - Project No. 110037 - Drawing No. 110037-GR - Revision 7 dated February 2, 2026.
- Bearing resistance values to be confirmed in the field by the geotechnical consultant at the time of construction.
- Front of Block 123 Buildings 1 through 5 faces Abbott Street, rear faces Adstock Heigh

NOVATECH
Engineers, Planners & Landscape Architects

April 30, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
By email only: stream.shen@ottawa.ca

Attention: Stream Shen – Planner III

Reference: 4829 Abbott Street East
Response to Second Review Comments
Zoning By-law Amendment & Site Plan Control
Our File: 110037
City File No.: D02-02-25-0040 & D07-12-25-0084

Second review comments on the Site Plan Control applications for 4829 Abbott Street East were received via email on April 4, 2026.

Responses to the first review comments are provided in **bold** text below each of the comments. The responses should be read together with the full 3rd submission package.

Planning

Comments:

1. *Please ensure the File Number D07-12-25-0084 and Plan Number #19360 are incorporated in the bottom right-hand corner of all plans. This is not currently shown on the Site Plan or Landscape Plan.*

Response: Acknowledged. Please refer to revised drawings.

2. *Thank you for providing additional context to the site constraints re: parking, tree planting, and landscaping. While it's understood that no changes to the number of visitor parking is proposed, the areas identified for snow storage slightly overlap with visitor parking spaces. Additionally, please confirm any grade change is minimal to prevent potential snow melt run-off onto neighbouring properties.*

Response: The snow storage overlap with visitor parking spaces is intentional. 3 visitor parking spaces are seasonal and provide temporary snow storage during the winter. Snow will be removed from the temporary storage as needed.

For the western (plan south) temporary snow storage, a catch basin is provided at a lower elevation (98.00) than the adjacent property line (98.42). The grade change is appropriate to ensure snow melt run off remains on the property.

We note that the Engineering review of the Grading Plan has not identified any concerns with the proposed grading in these areas.

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

Engineering

Servicing and Stormwater Management Report

3. *The report should indicate how the clear stone storage volume and surface storage volume were calculated.*

Response: This information has been added. Please refer to Tables 2, Table 4, and the new Cut / Fill Report in Appendix D of the revised Servicing and SWM report.

General Plan of Services

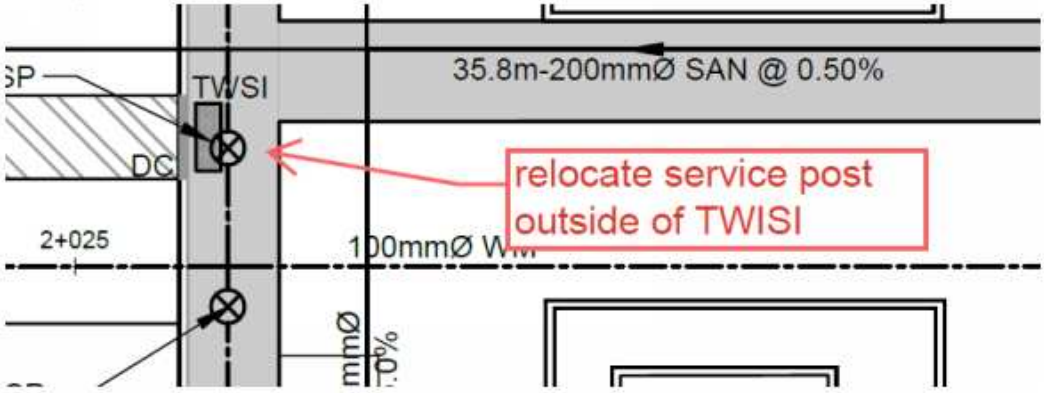
4. *Note 4 under Watermain Notes should be revised to indicate that a 0.5m clearance is required between watermains 100mm to 400mm in dia. crossing above or below sewers. Please refer to City of Ottawa Standard Drawing W25.2 and W25. Please update the 100mm and 200mm. watermain tables and ensure a 0.5m crossing elevation is provided.*

Response: The watermain notes have been updated and all crossings have been revised to reflect the updated W25 and W25.2 details. Refer to attached revised General Plan of Services (110037-GP123 rev 9).

5. *Please include a note indicating all 50mm water services must have a minimum 0.3m clearance at sewer crossings. Please refer to City of Ottawa Standard Drawing W38.*

Response: This has been added to the watermain notes on the revised General Plan of Services (110037-GP123 rev 9).

6. *Please relocate the service post shown in the snippet below outside of the TWISI.*



Response: This service post has been relocated outside of the TWSI. Refer to the revised General Plan of Services (110037-GP123 rev 9).

7. *Please revise the limits of the foundation to include the limits of the mechanical room beneath the steps.*

Response: The building limits have been updated to reflect the mechanical room. Please refer to the revised General Plan of Services (110037-GP123 rev 9).

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

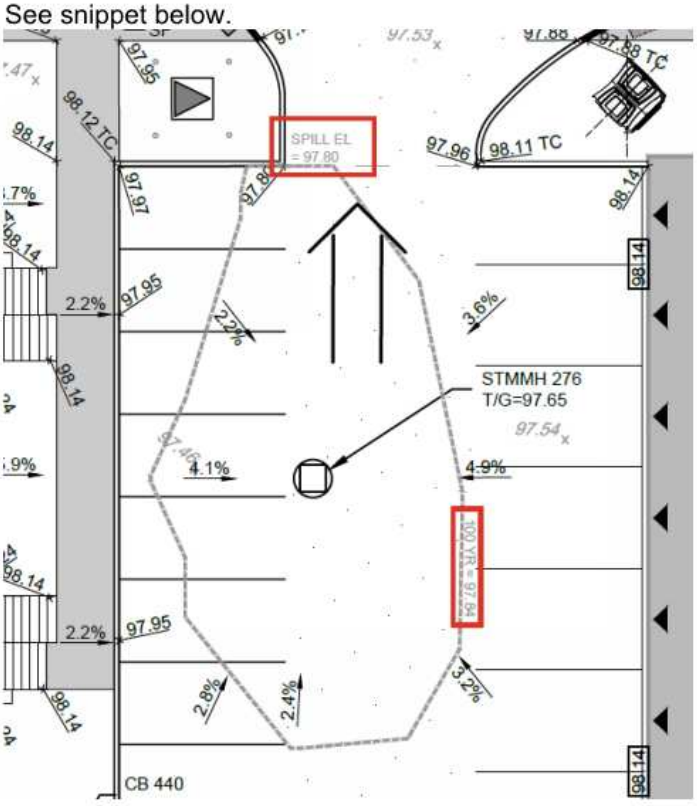
8. *Please confirm that there will be 4 City water meters per building. Private sub-metering will be required for individual units.*

Response: It is proposed to have individual metering for each unit located in the common mechanical room.

Grading Plan

9. *The 100-year ponding elevation (97.84) at STMH276 is higher than the spill point elevation at 97.80. Please ensure all spill point elevations are double checked.*

See snippet below.



Response: The spill elevation has been revised match the ponding elevation. Refer to the revised Grading Plan (110037-GR123 rev 9).

10. *Please include the Drawing Number (19360) on the bottom right corner of all Civil Drawings.*

Response: The drawing number (#19360) has been added to the bottom right corner of all Civil Drawings.

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

Geotechnical Report

Comments:

11. *The basis for concluding that the surcharge program is complete and that no grade raise restrictions are required remains unclear. Settlement monitoring indicates that several plates continued to exhibit measurable settlement (>20 mm) during the final interval, which does not clearly demonstrate that consolidation has stabilized. Please clarify how the conclusion that approximately 95% of primary settlement has been achieved was determined, including the method of interpretation. Based on the monitoring data provided, it is not evident that the settlement–time response has reached an asymptotic trend consistent with near-complete primary consolidation. The assumption that removal of the surcharge would result in negligible additional settlement also requires justification. Residual settlement under final grade loading conditions should be explicitly quantified. In addition, the assessment appears to assume a uniform 2 m surcharge; however, the surcharge program indicates a range of 1 m to 2 m, with no information provided on its spatial distribution. Please provide:*
    a. *Methodology used to determine the degree of primary consolidation achieved;*
    b. *Settlement–time interpretation (e.g., plots and/or extrapolation);*
    c. *Estimated residual settlement under final grade loading conditions;*
    d. *Clarification on the spatial distribution of surcharge thickness (1 m vs. 2 m).*

Response: Please refer to the enclosed Geotechnical Letter prepared by Paterson Group dated April 29, 2026.

12. *Driveways leading to the garage parking spaces must be a minimum of 2.6m in width to align with zoning bylaw (By-law No. 2026-50) Section 606.*

Response: No change required. Both the Site Plan and Garage Plan indicate that the driveways leading to the garages have a width of 3.2 m (10' 5½"). The Site Plan also demonstrates that a standard width parking space can be accommodated in front of each garage parking space. Please also note that the transition provisions for the New Zoning By-law 2026-50 permit this application to be processed under Zoning By-law 2008-250, as the Site Plan Application was deemed complete and the Minor Zoning By-law Amendment was approved prior to March 11, 2026 (date of enactment).

Comments 13, 14, 15, and 16 have been addressed in two previous submissions and no further response is required.

Mississippi Valley Conservation Authority

17. Please refer to the attached comments from the Mississippi Valley Conservation Authority (MVCA).

Response: MVCA comments have been addressed in a separate letter (attached).

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

In support of the 3rd Site Plan Control submission for this file, please find enclosed the following documents at the corresponding OneDrive folder:

Response Letters

- This letter
- Response to City Comments prepared by Paterson Group dated April 29, 2026
- Response to MVCA Comments prepared by Novatech dated April 30, 2026

Plans and Studies

- Servicing and SWM Report, Novatech, dated April
- Geotechnical investigation, Paterson, dated February 9, 2026
- Grading Plan Review, Paterson, dated March 5, 2026
- General Plan of Services, 110017-GP123 rev 9
- Grading and Servicing Plan, 110037-GR123 rev 9
- Erosion and Sediment Control Plan, 110037-ESC123 rev 4
- Landscape Plan and Tree Conservation Plan, 110037-B123-L1 rev 7
- Landscape Details, Canopy Coverage and Soil Availability Calculations, 110037-B123-L2 rev 7
- Site Plan, Hobin, 2223-SP-1, dated February 2, 2026
- Garage Plans, Metric Homes, dated Sept 10, 2021

Please let us know should you have any questions regarding the above.

Sincerely,

NOVATECH

Miranda Virginillo MCIP, RPP, CAHP-Intern
Project Planner | Planning & Development

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

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

PATERSON GROUP

memorandum

re: **Response to City Comments**
Metric Homes – Block 123
950 Terry Fox Drive – Ottawa

to: SPB Developments – **Chris Bernier** – chris@metrichomes.com
cc: Novatech Engineering – **Alex McAuley** – a.mcauley@novatech-eng.com
date: April 29, 2026
file: PG2855-MEMO.78

Further to your request and authorization, Paterson Group (Paterson) prepared the current memorandum to provide responses to comments from the City of Ottawa pertaining to the proposed residential development to be located at the subject site in the City of Ottawa, Ontario. The following memorandum should be read in conjunction with Paterson Group report PG2855-3 Revision 1 dated February 9, 2026.

Geotechnical Related City Comments

Comment 11: *The basis for concluding that the surcharge program is complete and that no grade raise restrictions are required remains unclear. Settlement monitoring indicates that several plates continued to exhibit measurable settlement (>20 mm) during the final interval, which does not clearly demonstrate that consolidation has stabilized. Please clarify how the conclusion that approximately 95% of primary settlement has been achieved was determined, including the method of interpretation. Based on the monitoring data provided, it is not evident that the settlement–time response has reached an asymptotic trend consistent with near-complete primary consolidation. The assumption that removal of the surcharge would result in negligible additional settlement also requires justification. Residual settlement under final grade loading conditions should be explicitly quantified. In addition, the assessment appears to assume a uniform 2 m surcharge; however, the surcharge program indicates a range of 1 m to 2 m, with no information provided on its spatial distribution. Please provide:*

a. *Methodology used to determine the degree of primary consolidation achieved;*
b. *Settlement-time interpretation (e.g. plots and/or extrapolation)*
c. *Estimated residual settlement under final grade loading conditions;*
d. *Clarification of the spatial distribution of surcharge thickness (1 m vs. 2 m).*

Response:

It is important to differentiate between preload and surcharge programs. Preload programs require achieving a minimum of 95% of primary consolidation of the underlying soil, whereas surcharge programs overload (surcharge) the underlying soil using a fill pile placed considerably higher than proposed finished grading, thereby accelerating settlement/consolidation of the underlying soil to achieve 95% of primary consolidation **based on proposed finished grading**. As such, 95% of primary consolidation of the surcharge loading is not required.

Based on Paterson's calculations, along with quantitative data obtained from completing multiple surcharge programs completed in the general area (with similar subsurface soil profiles), Paterson was able to determine that primary consolidation exceeding 95% was achieved for the subject site **based on proposed finished grade loading**.

a. The methodology to determine completion of the surcharge program is based on the above-noted discussion. Using the data acquired and our experience with surcharge programs completed within the surrounding area of the subject site, although movement was still recorded during the final stages of the monitoring program for the height of the surcharge above the proposed grade, the consolidation of the silty clay was sufficient to terminate the monitoring program for the proposed grades. As such, no further monitoring was required from a geotechnical perspective.
b. Reference should be made to Figure 4 – Surcharge Monitoring Program – Phase 5, presented in Appendix 3 of the above-noted Paterson Group report which shows the settlement-time interpretation. No further settlement is anticipated, therefore settlement extrapolation is not required.
c. Based on completion of the surcharge program, residual settlement under final grade loading conditions will be limited to 25 and 20 mm for total and differential settlement, respectively, which is considered a tolerable range from a geotechnical perspective.
d. Reference should be made to Drawing PG2855-6 – Settlement Plate Location Plan presented in Appendix 3 of the above-noted Paterson Group report, which shows the locations and heights of the surcharge piles. Typically, the permissible grade raise restriction provided by Paterson is for residential buildings. Due to higher tolerance of settlement of paved areas, the permissible grade raise restriction for paved areas is higher. Therefore, a lower surcharge height of 1 m was completed for these areas.

We trust that the current submission meets your immediate requirements.

Best Regards,

Paterson Group Inc.

Owen R. Canton, B.Eng

Faisal I. Abou-Seido, P.Eng.

NOVATECH
Engineers, Planners & Landscape Architects

April 30, 2026

City of Ottawa
Planning, Development and Building Services
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1
By email only: nishant.dave@ottawa.ca

Attention: **Nishant Dave – Planner I**

Reference: **4829 Abbott Street East**
Mississippi Valley Conservation Authority (MVCA) – Response to Second Review Comments
Zoning By-law Amendment and Site Plan Control – D02-02-25-0040 and D07-12-25-0084
Our File: 110037
City File No.: PGLSP-110 & PGLZA-77

Second round review comments on the Zoning By-law Amendment and Site Plan Control application for 4829 Abbott Street East were provided by the Mississippi Valley Conservation Authority (MVCA) by letter dated March 30, 2026. Responses are provided in **bold** text below each of the comments. The responses should be read together with the full 3rd submission package.

Stormwater Management

Comments

MVCA offers the following comments for your consideration:

1. **MVCA Comment (March 2026):** *The comment is considered addressed.*

2. **MVCA Comment (March 2026):** *This comment is considered addressed.*

3. **MVCA Comment (March 2026):** *This comment is considered addressed.*

4. *Please clearly show maximum available ponding depth and volume available for surface storage on the Grading Plan or a separate ponding plan. Please provide the 100-year depth at each surface storage.*
   Proponent Response (March 2026): Maximum ponding depth and volume info is provided in Tables 2 and 4 in Appendix D of the Servicing and SWM report. The updated 100-year ponding elevations are noted on 110037-GR123.
   MVCA Comment (March 2026): *Noted.*
   Additional MVCA Comments (March 2026):
   - *The Subsurface storage volumes in Table 2 (CB341) and Table 4 (STMMH 278) appear to include surface ponding. The storage depths provided – 1.69 m in Table 2 and 2.55 m in Table 4 – exceed the depths from the pipe inverts to the top of grates (T/G). The depth at CB341 is 1.5 m (INV.SW 95.95 m to T/G 97.45 m), and the depth at STMMH 278 is 2.19 m (INV.NE 95.78 m to T/G 97.97 m). Please review and revise accordingly.*

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

- *Please provide the PCSWM Profiles of 100-year Boundary Condition and 100-year HGL for storm sewers in STM-1 (i.e., CB340, CB 341, CB 342, an inlet control and Stormtech Chambers). It is not clear how they are connected to the downstream storm sewer system in PCSWMM.*
- *Please include the PCSWW model schematic.*

Response: Storage depths in CB341 and CB340 have been revised to match . Refer to the General Plan of Services (110037-GP123 rev9) and Table 2 in Appendix D of the revised Servicing and SWM report.

The storage depth of STMMH 278 in Table 4 has been revised to 2.06m to reflect storage up to the 100-yr storm water elevation of 97.84 m. Please see Table 4 in Appendix D of the revised Servicing and SWM report.

PCSWM profiles of the storm sewer are provided in Appendix D to confirm the Storm Sewer Hydraulic Grade Line Analysis (100-Year Event) design sheet. This confirms that the HGL in the mainline storm sewer for events up to and including the 100- year event is below the invert of the inlet controls. Therefore, all ICDs are considered to be operating in free-flow conditions. Upstream of the ICD, the HGL would be equal to the 100-year ponding elevation.

A PCSWM model schematic has been provided in Appendix D of the revised Servicing and SWM report.

5. **MVCA Comment (March 2026):** *This comment is considered addressed.*

6. **MVCA Comment (March 2026):** *This comment is considered addressed.*

7. **MVCA Comment (March 2026):** *This comment is considered addressed.*

8. *There appears to be a discrepancy between Section 4.3.3 of the report and Table 11. In Section 4.3.3, the surface storage noted to be approximately 180 m3 whereas Table 11 shows that the maximum volume provided is 132.6 m3.*
   Proponent Response (March 2026): *This has been revised in the updated Block 123 - Servicing and Stormwater Management Report (Novatech, March 11, 2026).*
   MVC Comment (March 2026): *This comment remains outstanding. Please clarify how the 126 m3 value was determined in the Surface Ponding subsection of Section 4.3.3. Table 2 indicates a surface ponding volume of 92.04 m3 (total storage of 108.17 m3), while Table 4 shows a surface ponding volume of 11.78 m3 (total storage of 30.88 m3). Please review and revise accordingly.*
   Additional MVCA Comment (March 2026): *Table 4 indicates that both surface ponding depth and volume for 2-year storm event are 0. However, Table 9 shows that a ponding depth of 2.05 m and a required volume of 0.7 m3 for the same storm event in Area STM 2& 3. Please review and revise accordingly.*

Response: Section 4.3.3 of the report has been revised to only account for surface storage up to the 100-year water elevation. Table 9 has been revised to show a ponding depth of 0.0m. The required storage volume of 0.7m³ is correct in the 2-year storm and will be contained in the subsurface storage system.

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

9. *There appears to be a discrepancy between the catch basin, CBMH/MH, pipe details in Tables 2, 4, and 6 and the information provided on the Servicing/Grading Plan. Please update and confirm storage volume.*
   a. *Table 2: Table 2 shows the 37 m of 200 mm diameter pipe whereas the servicing plan shows the 18.4 m of 200 mm diameter and 18.6 m of 150 mm storm sewer pipes.*
   b. *Table 6: 1200 mm diameter pipe at SWMMH101 is not found on the Servicing Plan.*
   c. *Table 6: Table 6 shows the 38.7 m of 250 mm diameter pipe whereas the servicing plan shows the 26.9 m of 250 mm diameter and 12.0 m of 150 mm storm sewer pipes.*
   d. *Table 2, 4, and 6: CB 1, 2, 3, and 4 are not shown in the Servicing Plan.*

   Proponent Response (March 2026): *See the updated plan 110037-GP123, rev7 and the revised Block 123 - Servicing and Stormwater Management Report (Novatech, March 11, 2026). Tables 2, 4, and 6 of Appendix D have been revised to reflect all plan changes.*
   MVCA Comment (March 2026): *9.a, b, and d have been considered addressed. 9.c There is a discrepancy regarding the 250 mm pipe length: Table 4 shows it as 36.5 m, whereas the servicing plan shows only 9.6 m.*

Response: This has been revised. Please see Table 4 in Appendix D of the revised Servicing and SWM Report.

10. *It is noted that StormTech storage chambers are proposed in the latest submission. Please include the proposed StormTech design and specifications sheets (i.e., cumulative storage spreadsheets) in the appendices.*

Response: Design sheets have been added and the chamber storage volume in Table 4 has been adjusted accordingly. Please see the StormTech design and specifications sheets included in Appendix D of the revised Servicing and SWM report.

Sincerely,

NOVATECH

Alex McAuley, P.Eng.
Senior Project Manager | Land Development Engineering

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

Appendix B

Block 123 Site Plan – Hobin Architecture

Level 1 Plan – Hobin Architecture

Level 2 Plan – Hobin Architecture

Level 3 Plan – Hobin Architecture

Roof Plan – Hobin Architecture

NORTH

PRIVATE COMMUNAL AMENITY (328m²)

BUILDING 1
12 Stacked Flats

BUILDING 2
12 Stacked Flats

BUILDING 3
12 Stacked Flats

BUILDING 4
12 Stacked Flats

BUILDING 5
12 Stacked Flats

GARAGE
285m²
13 spaces

Opt. Organics Waste Storage

EXISTING GARAGE

EXISTING SALES CENTRE

FIRE ROUTE

HYDRO METER

GAS METER

REFER TO LANDSCAPE PLAN

PHASE 1

rue Abbott Street East

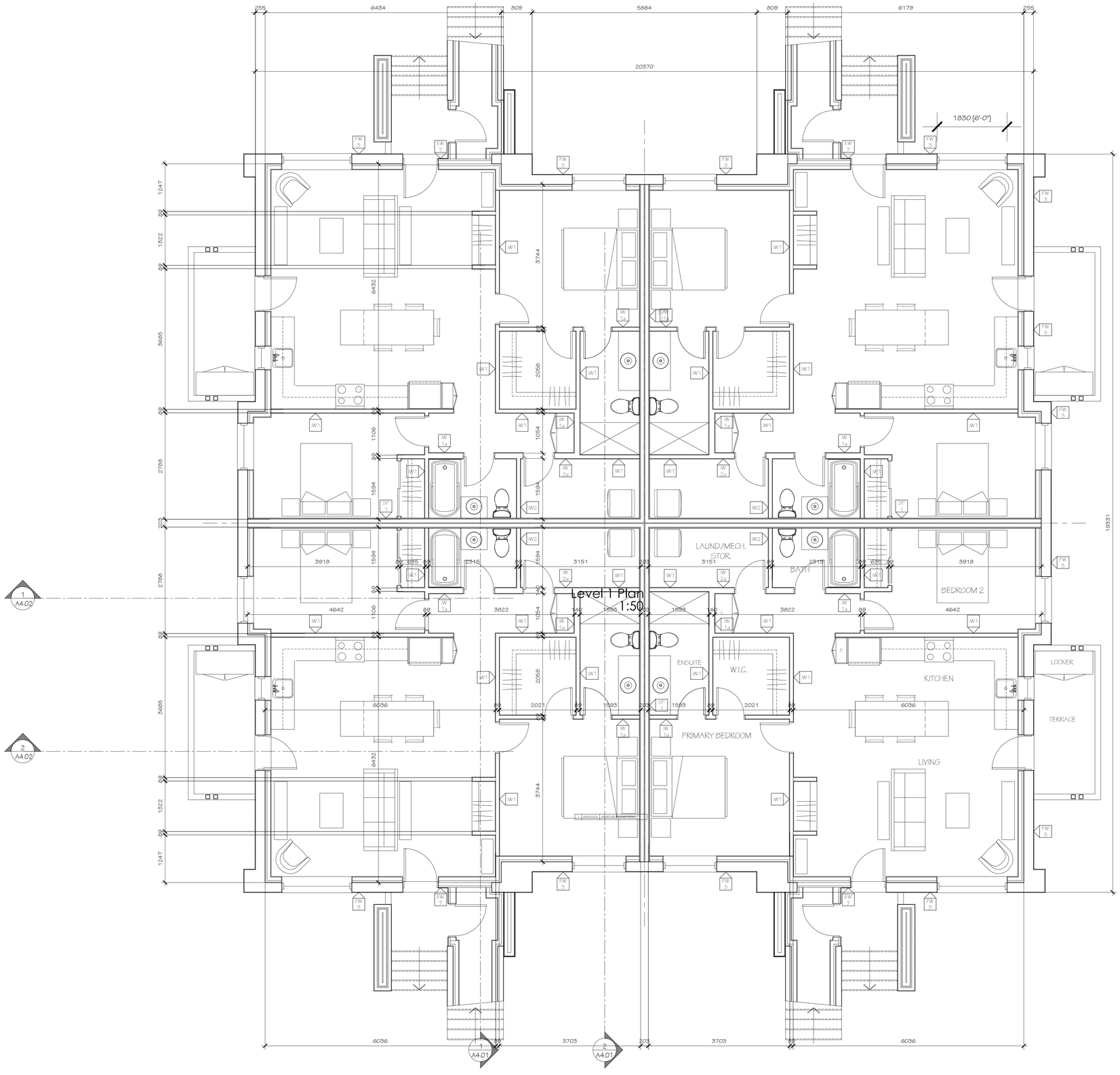
MH 200

MH 56

4H,2B,1C,3SL

6H,2B,3C,G

320
4829
Ashbrook Hts
Abbott St E
Trail View Cres
Trail View Cres
Trail View Cres



no.	date	revision
1	XXXX/2024	ISSUED FOR BUILDING PERMIT

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND/ OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

DO NOT SCALE DRAWINGS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED.

COPYRIGHT RESERVED.

METRIC HOMES

Hobin Architecture Incorporated
63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7200
F: 613-235-2005
E: mail@hobinarc.com
hobinarc.com

HOBIN ARCHITECTURE

PROJECT/LOCATION:
TRAILVIEW VILLAGE
BLOCK 1

DRAWING TITLE:
LEVEL 1 PLAN

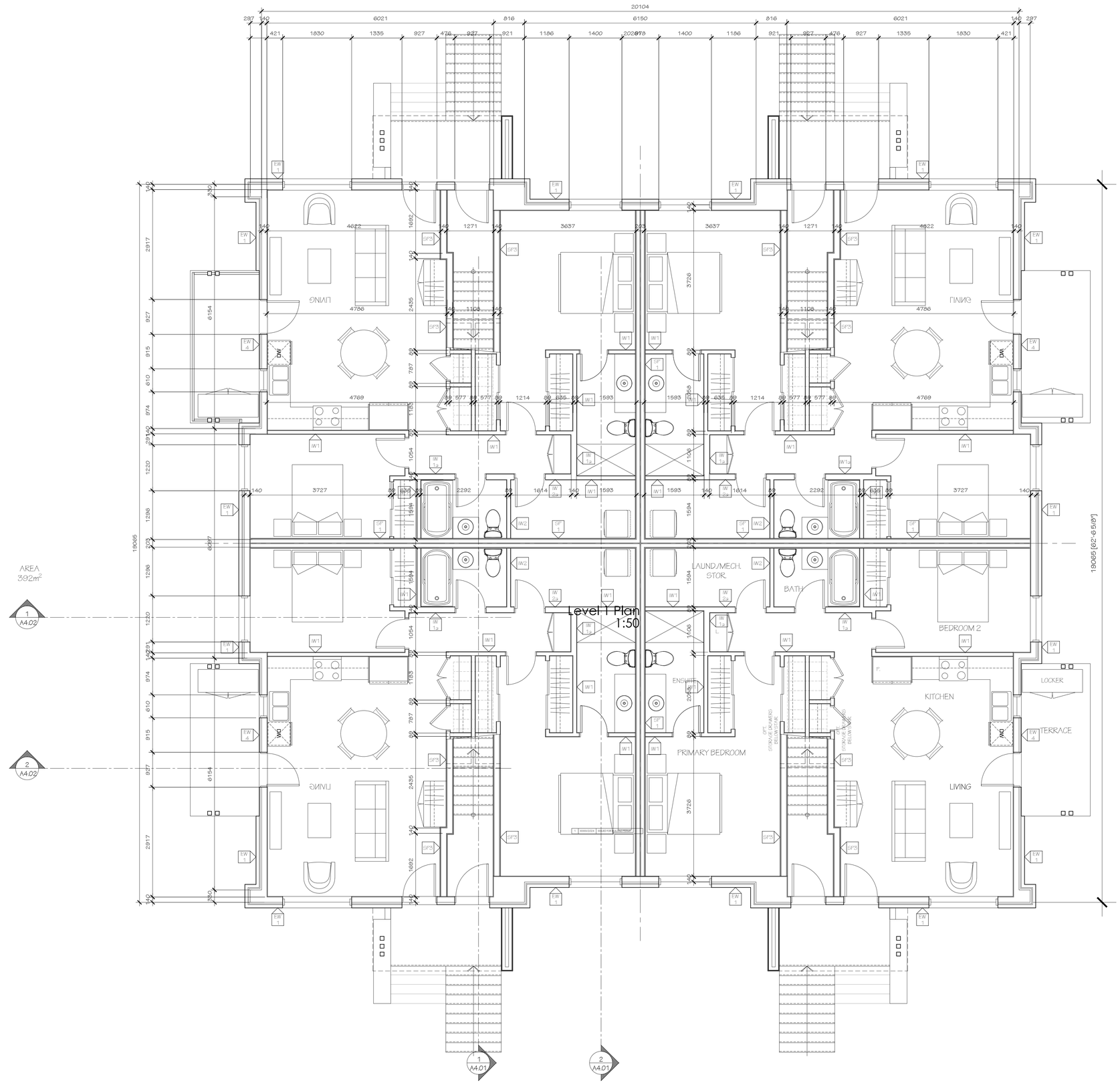
DRAWN BY:	DATE:	SCALE:
KG	01-29-2025	1:50

PROJECT: 2223

DRAWING NO.: A2.01

REVISION NO.:

None
None



no.	date	revision
1	XXXX/2024	ISSUED FOR BUILDING PERMIT

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND/ OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

DO NOT SCALE DRAWINGS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED.

COPYRIGHT RESERVED.

METRIC HOMES

Hobin Architecture Incorporated
63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7

T: 613-238-7200
F: 613-235-2005
E: mail@hobinarc.com

hobinarc.com

HOBIN ARCHITECTURE

PROJECT/LOCATION:
TRAILVIEW VILLAGE
BLOCK 1

DRAWING TITLE:
LEVEL 2 PLAN

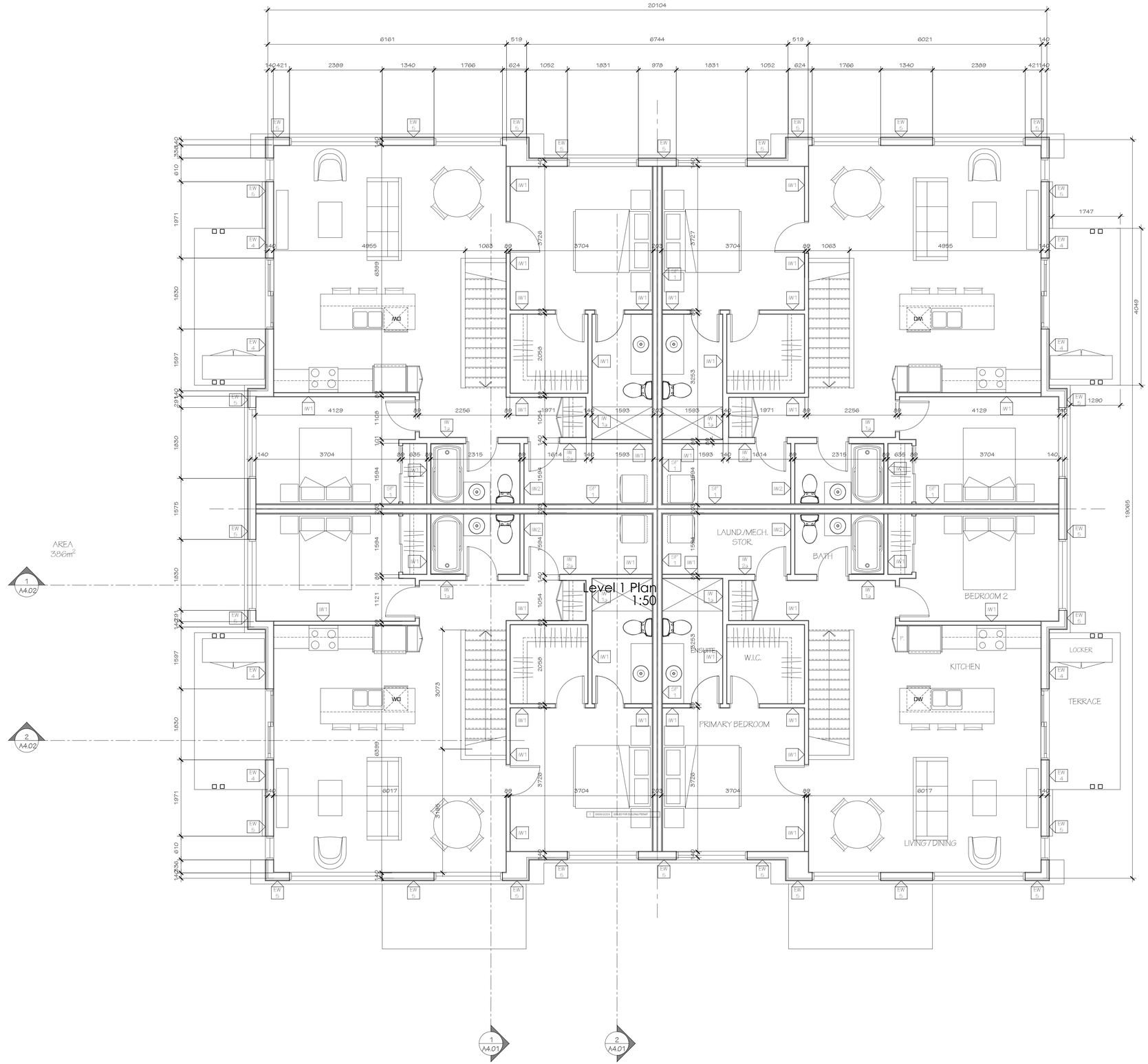
DRAWN BY:	DATE:	SCALE:
KG	01-29-2025	1:50

PROJECT: 2223

DRAWING NO.: A2.01

REVISION NO.:

None
None



1	XXXX/2024	ISSUED FOR BUILDING PERMIT
no.	date	revision

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND/ OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

DO NOT SCALE DRAWINGS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED.

COPYRIGHT RESERVED.

METRIC HOMES

Hobin Architecture Incorporated
63 Parmilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7200
F: 613-235-2005
E: mail@hobinarc.com
hobinarc.com

HOBIN ARCHITECTURE

PROJECT/LOCATION:
TRAILVIEW VILLAGE
BLOCK 1

DRAWING TITLE:
LEVEL 3 PLAN

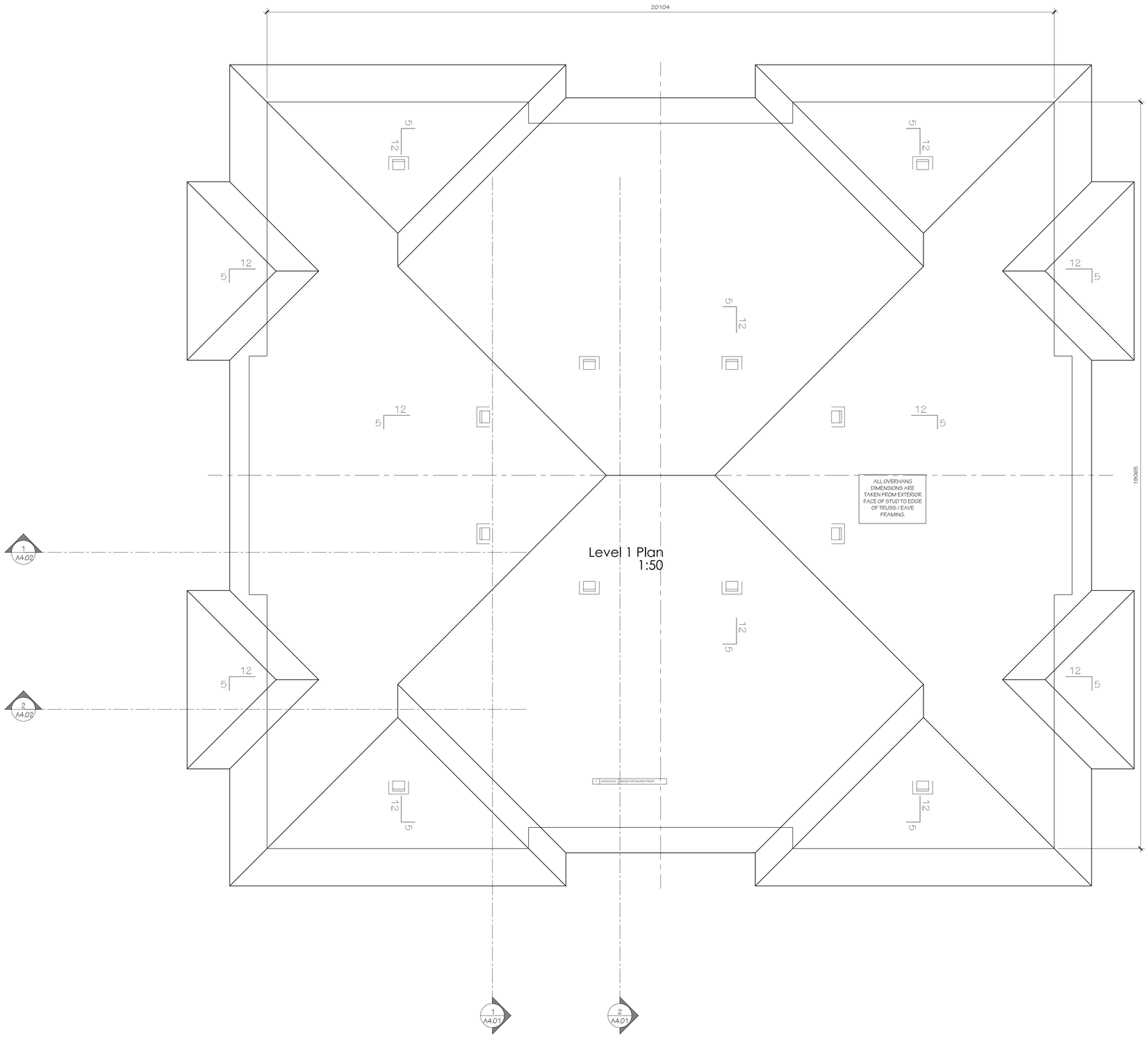
DRAWN BY:	DATE:	SCALE:
KG	01-29-2025	1:50

PROJECT: 2223

DRAWING NO.: A2.01

REVISION NO.:

None
None



Level 1 Plan
1:50

no.	date	revision
1	XXXX/2024	ISSUED FOR BUILDING PERMIT

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND/ OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

DO NOT SCALE DRAWINGS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED.

COPYRIGHT RESERVED.

METRIC HOMES

Hobin Architecture Incorporated
63 Pamilla Street
Ottawa, Ontario
Canada K1S 3K7
T: 613-238-7200
F: 613-235-2005
E: mail@hobinarc.com
hobinarc.com

HOBIN ARCHITECTURE

PROJECT/LOCATION:
TRAILVIEW VILLAGE
BLOCK 1

DRAWING TITLE:
ROOF PLAN

DRAWN BY:	DATE:	SCALE:
KG	01-29-2025	1:50

PROJECT: 2223

DRAWING NO.: A2.01

REVISION NO.:

None
None

Appendix C

Development Servicing Study Checklist

Servicing study guidelines for development applications

4. Development Servicing Study Checklist

The following section describes the checklist of the required content of servicing studies. It is expected that the proponent will address each one of the following items for the study to be deemed complete and ready for review by City of Ottawa Infrastructure Approvals staff.

The level of required detail in the Servicing Study will increase depending on the type of application. For example, for Official Plan amendments and re-zoning applications, the main issues will be to determine the capacity requirements for the proposed change in land use and confirm this against the existing capacity constraint, and to define the solutions, phasing of works and the financing of works to address the capacity constraint. For subdivisions and site plans, the above will be required with additional detailed information supporting the servicing within the development boundary.

4.1 General Content

- ☐ Executive Summary (for larger reports only).
- ☒ Date and revision number of the report.
- ☒ Location map and plan showing municipal address, boundary, and layout of proposed development.
- ☒ Plan showing the site and location of all existing services.
- ☒ 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.
- ☐ Summary of Pre-consultation Meetings with City and other approval agencies.
- ☐ 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.
- ☒ Statement of objectives and servicing criteria.
- ☒ Identification of existing and proposed infrastructure available in the immediate area.
- ☐ 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).
- ☒ 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 neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.
- ☐ 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.
- ☐ Proposed phasing of the development, if applicable.

☒ Reference to geotechnical studies and recommendations concerning servicing.

☒ All preliminary and formal site plan submissions should have the following information:
- Metric scale
- North arrow (including construction North)
- Key plan
- Name and contact information of applicant and property owner
- Property limits including bearings and dimensions
- Existing and proposed structures and parking areas
- Easements, road widening and rights-of-way
- Adjacent street names

4.2 Development Servicing Report: Water

☐ Confirm consistency with Master Servicing Study, if available
☒ Availability of public infrastructure to service proposed development
☒ Identification of system constraints
☒ Identify boundary conditions
☒ Confirmation of adequate domestic supply and pressure
☒ 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.
☒ 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.
☐ Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design
☒ Address reliability requirements such as appropriate location of shut-off valves
☐ Check on the necessity of a pressure zone boundary modification.
☒ 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

- ☒ 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.
- ☐ 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.
- ☒ Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.
- ☒ Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.

4.3 Development Servicing Report: Wastewater

- ☒ 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).
- ☐ Confirm consistency with Master Servicing Study and/or justifications for deviations.
- ☒ 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.
- ☒ Description of existing sanitary sewer available for discharge of wastewater from proposed development.
- ☒ 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)
- ☒ Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix ‘C’) format.
- ☒ Description of proposed sewer network including sewers, pumping stations, and forcemains.
- ☐ 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).
- ☐ Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.
- ☐ Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.
- ☐ Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.
- ☐ Special considerations such as contamination, corrosive environment etc.

4.4 Development Servicing Report: Stormwater Checklist

- ☒ Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)
- ☒ Analysis of available capacity in existing public infrastructure.
- ☒ A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.
- ☒ 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.
- ☒ Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.
- ☒ Description of the stormwater management concept with facility locations and descriptions with references and supporting information.
- ☐ Set-back from private sewage disposal systems.
- ☐ Watercourse and hazard lands setbacks.
- ☐ Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.
- ☐ Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.
- ☒ Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period).
- ☐ Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.
- ☒ 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.
- ☐ Any proposed diversion of drainage catchment areas from one outlet to another.
- ☒ Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.
- ☐ 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.
- ☐ Identification of potential impacts to receiving watercourses
- ☐ Identification of municipal drains and related approval requirements.
- ☒ Descriptions of how the conveyance and storage capacity will be achieved for the development.
- ☒ 100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.

- ☐ Inclusion of hydraulic analysis including hydraulic grade line elevations.
- ☒ Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.
- ☐ 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.
- ☐ Identification of fill constraints related to floodplain and geotechnical investigation.

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

- ☐ 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.
- ☐ Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.
- ☐ Changes to Municipal Drains.
- ☐ Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)

4.6 Conclusion Checklist

- ☒ Clearly stated conclusions and recommendations
- ☒ Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.
- ☒ All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario

Appendix D

Block 123 Storm Sewer Design Sheet

Block 123 HGL Design Sheet

Block 123 HGL Profiles – PCSWM

Block 123 PCSWM Model Schematic

Block 123 SWM Calculations – Rational

Block 123 – Surface Storage Cut / Fill Volume Report

Excerpt From Subdivision Servicing and SWM Report

Grading and Drainage Plan (110037-GR3 rev17)

Metric Homes Subdivision Storm Sewer Design Sheet

Abbottsville Crossing Subdivision Storm Sewer Design Sheet – DESL

ADS Design Specification Sheets – SC-800 Chambers

STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123 - Trail View Subdivision
Date: 1/13/2026
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

Storm Design Event = 2 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								
Street	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)	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
Private Site	STM-2 & 3	276	274	0.21	0.72	0.42	0.42	10.00	76.81	32.3	37.4	450 CONC	0.4572	0.013	1.00	297.4	1.81	0.34	10.9%
Private Site	STM-1	274	272	0.44	0.81	0.99	1.41	10.34	75.51	106.6	27.5	525 CONC	0.5334	0.013	1.00	448.7	2.01	0.23	23.7%
Private Site	N/A	272	270	0.00	0.00	0.00	1.41	10.57	74.67	105.4	21.4	600 CONC	0.6096	0.013	1.00	640.6	2.19	0.16	16.5%
Private Site	N/A	270	EX 252	0.00	0.00	0.00	1.41	10.73	74.09	104.6	10.0	600 CONC	0.6096	0.013	1.00	640.6	2.19	0.08	16.3%
Totals				**0.65**							**96.3**								

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

STORM SEWER HYDRAULIC GRADE LINE ANALYSIS (100 YEAR EVENT)

Project: Block 123 - Trail View Subdivision
Developer: SPB Developments Inc.

NOVATECH
Engineers, Planners & Landscape Architects

Area	MANHOLE			INVERT ELEVATION			OBVERT ELEVATION		GROUND ELEVATION	COVER	PIPE PARAMETERS			TOTAL FLOW	Q_{cap}	Q_{in}/Q_{cap}	COMPUTATIONAL COLUMNS					HEAD LOSS	SURCHARGE	HGL			PIPE SLOPE	MIN. USF ELEVATION
	U/S	D/S		U/S		D/S	U/S	D/S	Upstream	Upstream	Dia	Length	'n'	(m^3/s)	(m^3/s)		Pipe Area (m^2)	L/D	Friction Factor (f)	Velocity V (m/s)	$V^2/2g$	HL	Upstream	U/S	D/S	SLOPE		Upstream
				(m)		(m)	(m)	(m)	(m)	(m)	(mm)	(m)										(m)	(m)	(m)	(m)	(%)	(%)	(m)
																								95.52	**(100 year HGL in STM MH 252)**			
	270	252	NE	94.27	SW	94.25	94.87	94.85	97.68	2.81	600	10.0	0.013	0.097	0.286	0.34	0.292	17	0.0248	0.33	0.01	0.00	0.65	95.52	95.52	0.03	0.20	95.82
STM-1	272	270	NE	94.49	SW	94.29	95.09	94.89	97.77	2.68	600	19.8	0.013	0.097	0.644	0.15	0.292	33	0.0248	0.33	0.01	0.01	0.44	95.53	95.52	0.03	1.01	95.83
	274	272	NE	94.84	SW	94.70	95.37	95.23	98.03	2.66	525	27.5	0.013	0.097	0.320	0.30	0.223	52	0.0260	0.44	0.01	0.02	0.18	95.55	95.53	0.06	0.51	95.85
STM-2&3	276	274	E	95.19	W	94.91	95.64	95.36	97.65	2.01	450	37.5	0.013	0.042	0.257	0.16	0.164	83	0.0273	0.26	0.00	0.01	0.00	95.64	95.55	0.25	0.75	95.94

DESIGN PARAMETERS
DOWNSTREAM WATER LEVEL AT OUTLET = 95.52m
RETURN FREQUENCY = 100 YEAR CONTROLLED BY 2 YEAR ICDs
FLOWS TAKEN FROM SWM (ICD) CALCULATIONS FOR 100-YEAR

MINIMUM VELOCITY= 0.80 m/s
MANNING'S n= 0.013
MIN. HGL CLEARANCE = 0.30m

HGL=Major + Minor Losses
Major Loss= Pipe Friction (Darcy-Weisbach)
Friction Factor= 8g/c^2, where c=(1/n)*(D/4)^1/6
Minor losses = see equations on page 2

Designed: MJB	PROJECT: Block 123 - Trail View Subdivision
Checked: ARM	CLIENT: SPB Developments Inc.
Dwg. Reference: 110037-GP123	Date: May 29, 2025

Manhole Loss

U/S MH	Diameters (mm) U/S MH	Pipe In		Pipe Out		Bend Angle	K_O	C_D	C_d	C_Q	C_B	K_{tot}	HL_{MH} (m)
270	1200	600		600		180	0.20	1.00	0.78	1.00	1.00	0.16	0.00
272	1200	525		600		168	0.48	1.00	0.69	1.00	1.00	0.33	0.00
274	1200	450		525		158	0.74	1.00	0.60	1.00	1.00	0.44	0.00
276	1200	0		450		0	0.27	1.00	0.44	1.00	1.00	0.12	0.00

Equations for Manhole Loss

K_O: Initial head loss coefficient based on relative access hole size

$K_O = 0.1 \times (b/D_o) \times (1-\sin\theta) + 1.4 \times (b/D_o)^{0.15} \times \sin\theta$

b : Upstream manhole diameter (m)
D_o: Diameter of outlet pipe (m)
θ : Angle between pipes (degrees)

C_D: Correction facto for pipe diameter (pressure flow only)
If the depth of water in structure / diameter of the outlet pipe > 3.2 pressure flow applies

$C_D = (D_o/D_i)^3$

D_o: Diameter of outlet pipe (m)
D_i: Diameter of inlet pipe (m)
If the depth of water in structure / diameter of the outlet pipe < 3.2 pressure flow does not apply

$C_D = 1.00$

C_d: Correction factor for flow depth (free flow or low pressure flow)
If the depth of water in structure / diameter of the outlet pipe < 3.2 free flow or low pressure flow applies

$C_d = 0.5 \times (d_{MH}/D_o)^{0.6}$

D_o: Diameter of outlet pipe (m)
d_{MH}: Depth of water in the upstream manhole (m)
If the depth of water in structure / diameter of the outlet pipe > 3.2 pressure flow does not apply

$C_d = 1.00$

C_Q: Correction factor for relative flow (more than one inlet pipe to structure)

$C_Q = (1-2\sin\theta) \times (1-(Qi/Qo))^{0.75} + 1$

θ : Angle between inflow and outflow pipes (degrees)
Q_i: Flow in the inlet pipe
Q_o: Flow in the outlet pipe

C_B: Correction factor for benching
Only applies when outlet pipe is > 825mm

$C_B = (0.3636 \times d_{MH}) - 0.202$

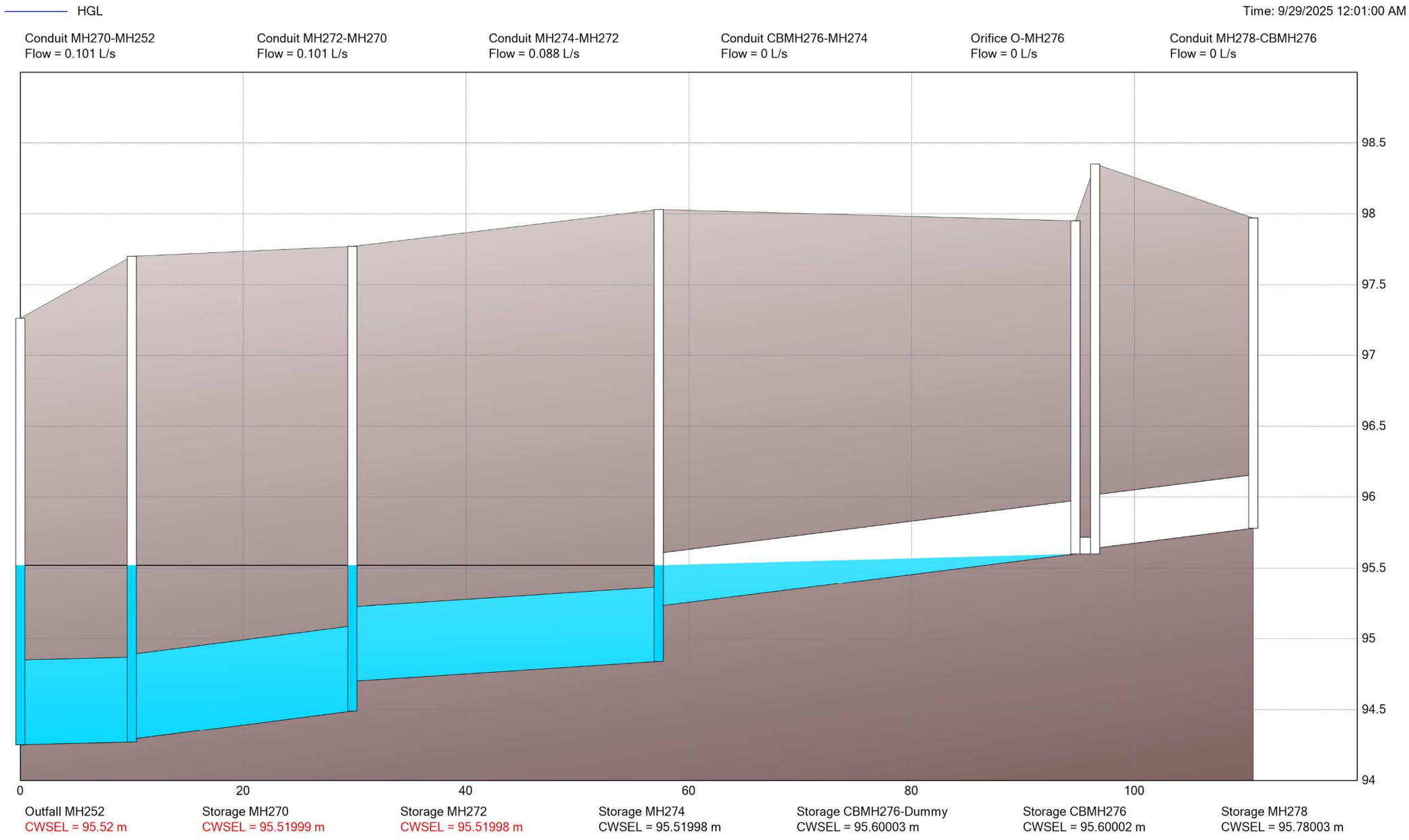
If C_B applies (outlet pipe > 825mm) it can not exceed 0.95
If outlet pipe < 825mm CB =1.0

This spreadsheet uses the Darcy-Weisbach equation to calculate hydraulic losses through a pipe network with a specified flow rate. Minor losses are accounted for including both pipe bend losses and structure losses.
The spreadsheet returns the upstream hydraulic grade line if surcharged, or the pipe obvert if free flow conditions exist. The slope of the HGL is calculated and the minimum USF elevations can be established +0.30m above the HGL.
The theoretical 100-year event storm sewer peak flows will be controlled to the actual 5-year flow rates using various roadway inlet controls within CBs. Additional flows will be directed using overland flow routes.
The Ultimate Condition accounts for the entire drainage areas flowing through the completed storm sewer network.

4829 Abbott Street East (110037)
Block 123 – Trail View Subdivision
PCSWMM Profiles

NOVATECH
Engineers, Planners & Landscape Architects

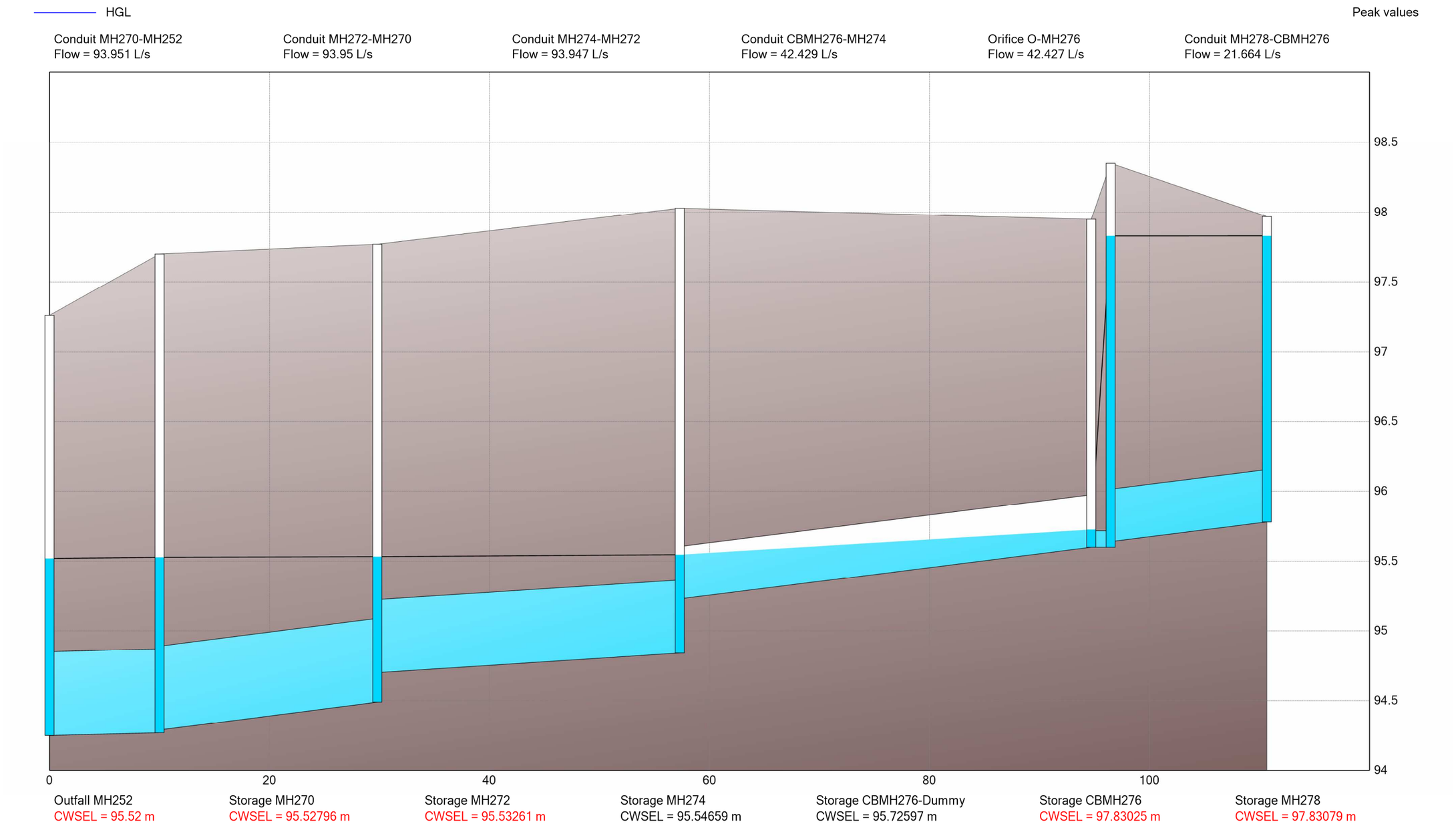
100-year Boundary Condition



4829 Abbott Street East (110037)
Block 123 – Trail View Subdivision
PCSWMM Profiles

NOVATECH
Engineers, Planners & Landscape Architects

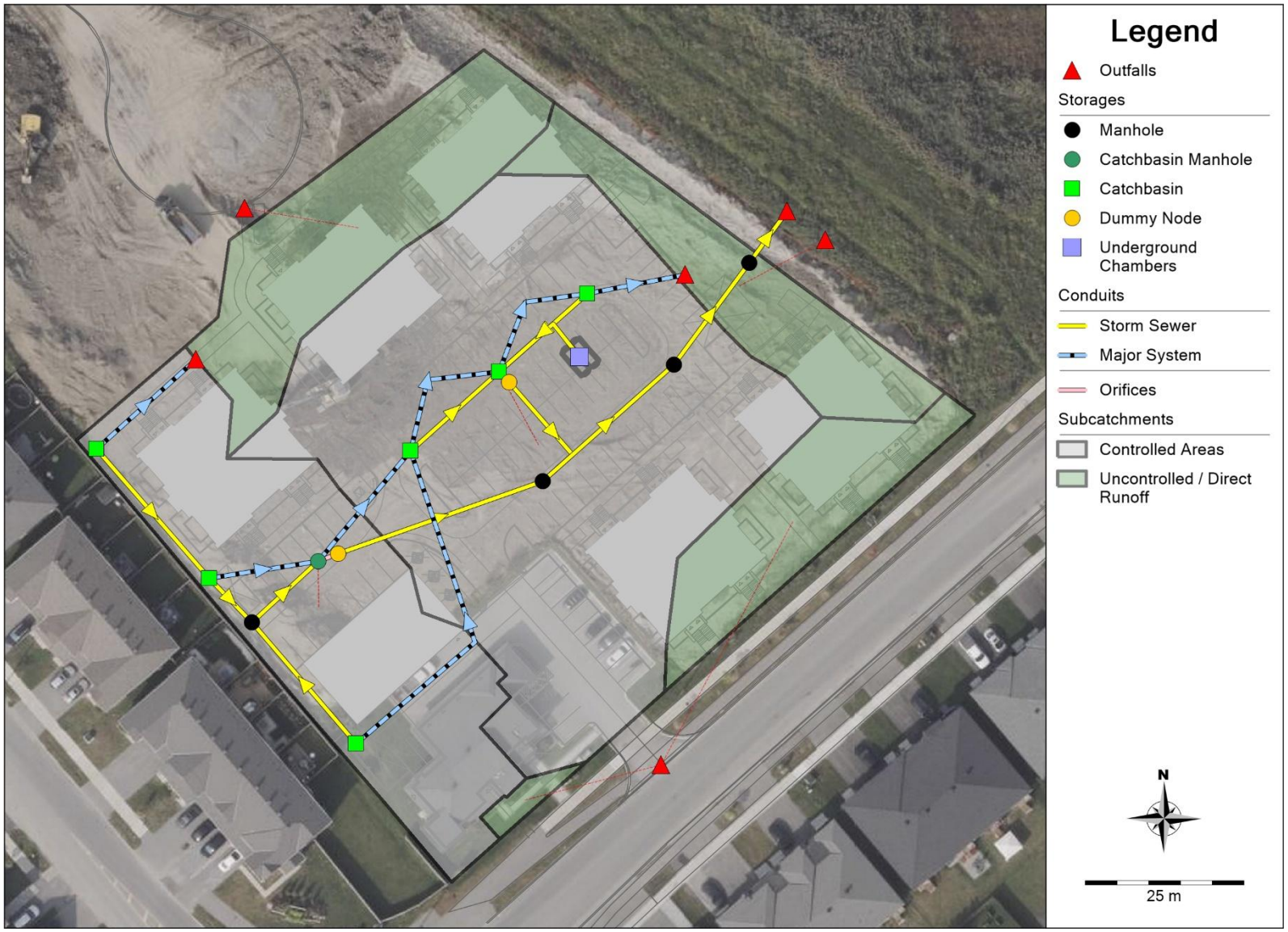
100-year HGL



4829 Abbott Street East – Block 123 (110037)
PCSWMM Model Schematics

NOVATECH
Engineers, Planners & Landscape Architects

Overall Model Schematic

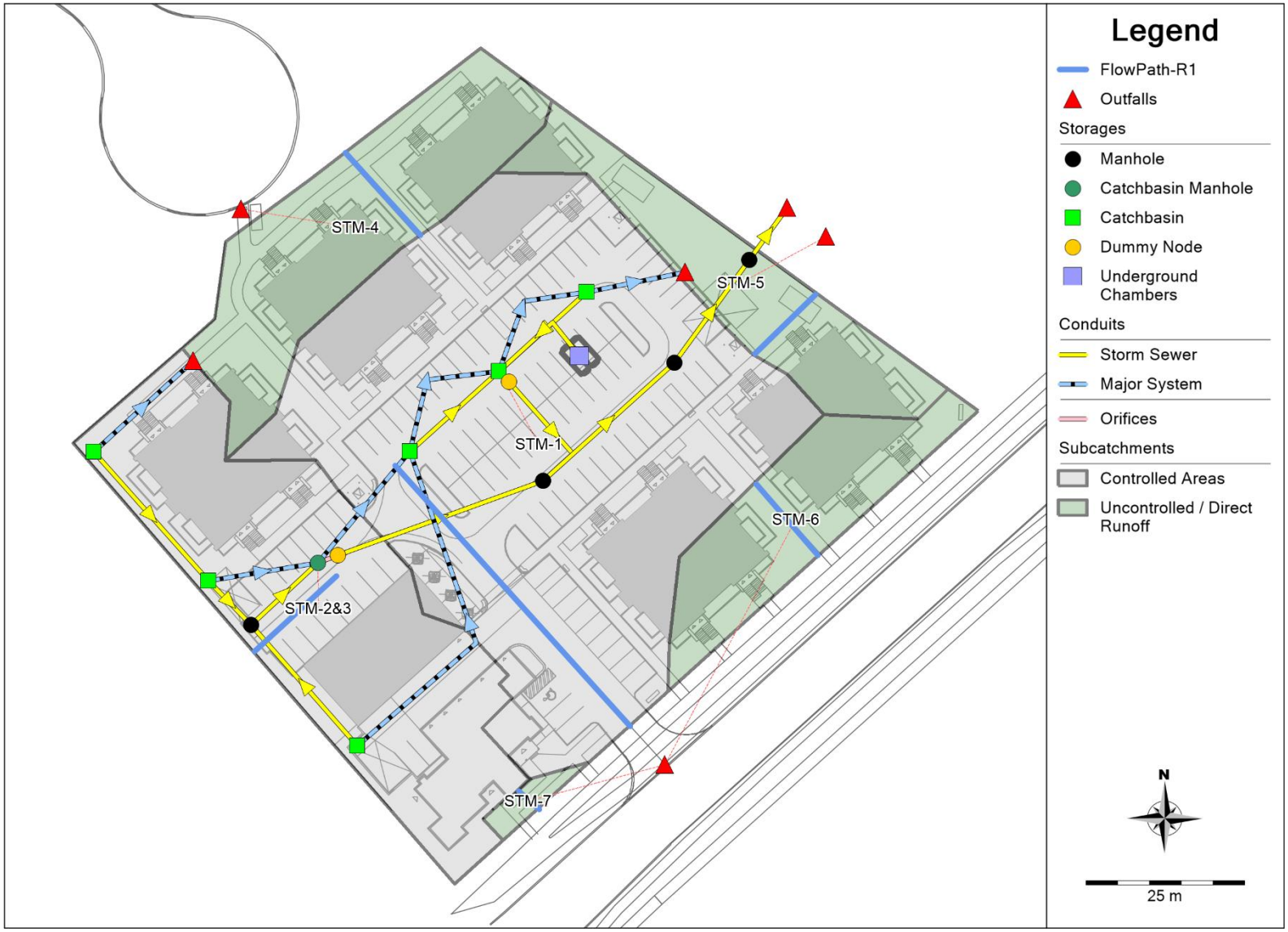


Date: 2026-04-17
M:\2010\110037\DATA\Calculations_Blk123\SWM\PCSWMM\Sub 2\110037-PCSWMM Model Schematics.docx

4829 Abbott Street East – Block 123 (110037)
PCSWMM Model Schematics

NOVATECH
Engineers, Planners & Landscape Architects

Subcatchments and Flow Paths

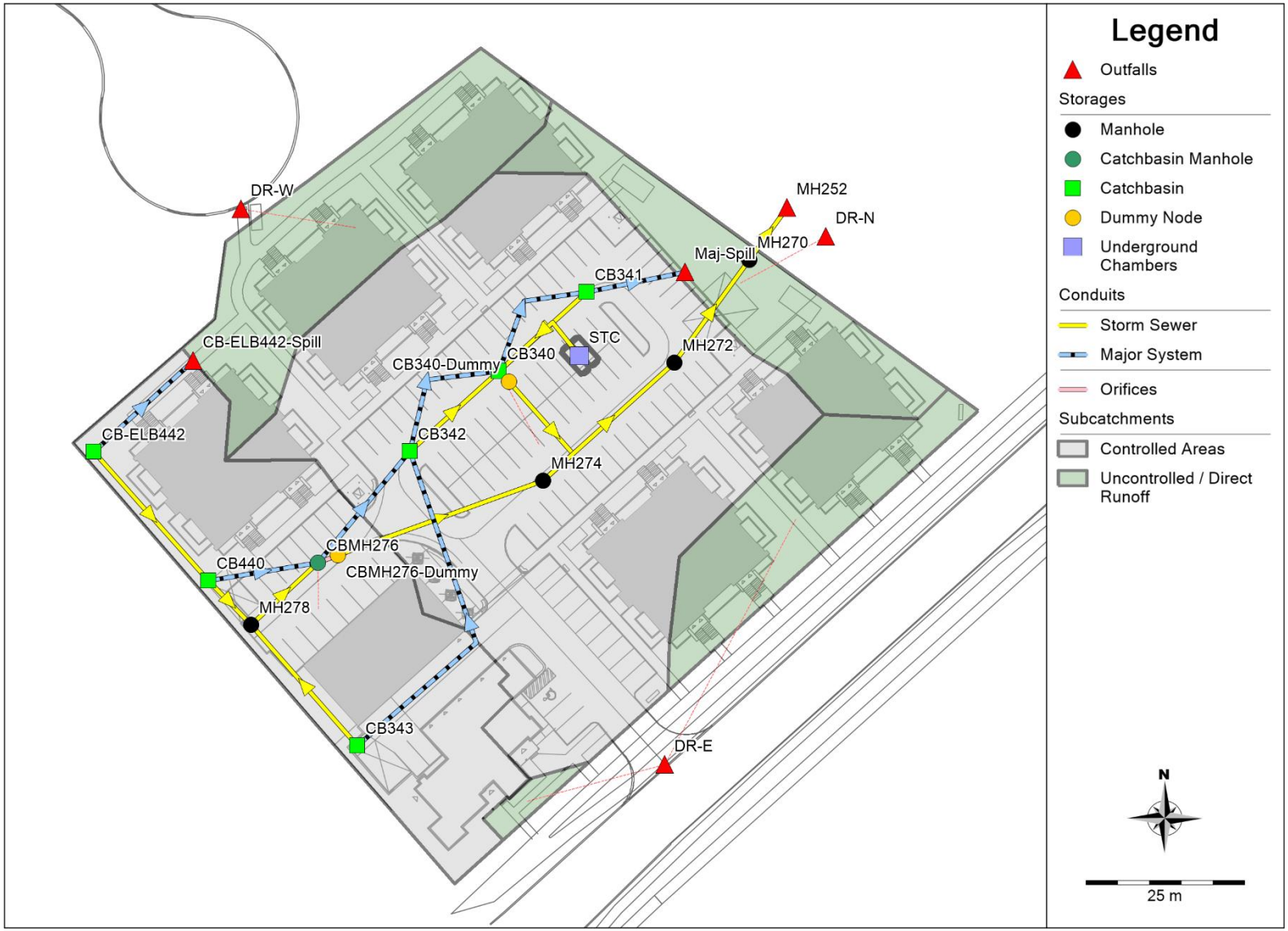


Date: 2026-04-17
M:\2010\110037\DATA\Calculations_Blk123\SWM\PCSWMM\Sub 2\110037-PCSWMM Model Schematics.docx

4829 Abbott Street East – Block 123 (110037)
PCSWMM Model Schematics

NOVATECH
Engineers, Planners & Landscape Architects

Storages Nodes and Outfalls



Date: 2026-04-17
M:\2010\110037\DATA\Calculations_Blk123\SWM\PCSWMM\Sub 2\110037-PCSWMM Model Schematics.docx

Table 1: Area STM-1, Post-Development Controlled Flow

Runoff Coefficient "C"

			2/5 Year Event		100 Year Event	
Area	Surface	Ha	"C"	C_{avg}	"C" + 25%	*C_{avg}
Total	Hard	0.385	0.90	0.81	1.00	0.90
0.442	Soft	0.057	0.20		0.25	
	Pond	0.000	0.00		0.00	

2 YEAR EVENT QUANTITY STORAGE REQUIREMENT

0.442 =Area (ha)
0.81 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
2 YEAR	0	167.22	166.38	50.4	115.98	0.00
	5	**103.57**	**103.05**	**50.4**	**52.65**	**15.80**
	10	76.81	76.42	50.4	26.02	15.61
	15	61.77	61.46	50.4	11.06	9.95
	20	52.03	51.77	50.4	1.37	1.65

5 YEAR EVENT QUANTITY STORAGE REQUIREMENT

0.442 =Area (ha)
0.81 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
5 YEAR	5	141.18	140.47	51.9	88.54	26.56
	10	**104.19**	**103.67**	**51.9**	**51.74**	**31.05**
	15	83.56	83.14	51.9	31.21	28.09
	20	70.25	69.90	51.9	17.97	21.57
	25	60.90	60.59	51.9	8.66	13.00

100 YEAR EVENT QUANTITY STORAGE REQUIREMENT

0.442 =Area (ha)
0.90 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	10	178.56	198.19	53.7	144.47	86.68
	15	142.89	158.60	53.7	104.88	94.40
	20	**119.95**	**133.13**	**53.7**	**79.42**	**95.30**
	25	103.85	115.26	53.7	61.55	92.32
	30	91.87	101.97	53.7	48.25	86.85

Equations:

Flow Equation

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

Where:

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

Runoff Coefficient Equation

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

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

ORIFICE SIZING

Control Device		
Circular Plug Type ICD	137	mm

Design Event	**Flow**	**Head**	**Elevation**	**Orifice Area (m^2)**	**Circ (mm)**
1:2 Year	50.4	1.62	97.45	0.014412	135
1:5 Year	51.9	1.74	97.57	0.014328	135
1:100 Year	53.7	1.86	97.69	0.014336	135

Outlet Invert	95.76

Orifice Control Sizing

$Q = 0.62 \times A \times (2gh) \times 0.5$

Where:

Q is the release rate in m^3/s
A is the orifice area in m^2
g is the acceleration due to gravity, 9.81 m/s^2
h is the head of water above the orifice center in m
d is the diameter of the orifice in m

Table 2: Area STM-1, Storage Provided

Max Water Elevation = 97.70

Description		Pipe Diameter (mm)	Length (m)	Depth (m)	Volume (cu.m)	Cumulative Volume (cu.m)
Pipe Storage		200	37	N/A	1.16	1.16
Underground Storage		N/A	N/A	N/A	14.80	15.96
Catchbasin Storage	CB 340	N/A	N/A	1.69	0.61	16.57
	CB 341	N/A	N/A	1.50	0.54	17.11
	CB 342	N/A	N/A	1.50	0.54	17.65
CBMH/MH Storage						
Surface Ponding	2 Year	N/A	N/A	0.00	0.00	17.65
	5 Year	N/A	N/A	0.12	15.82	33.47
	100 Year	N/A	N/A	0.24	92.04	109.69

TOTAL STORAGE = 109.69

Note:
1. Surface storage is calculated with Civil3D volume surfaces using the elevations found in **Tabel 3**. See the Cut / Fill Report at the end of Appendix D for storage volumes during each storm event.

Table 3: Area STM-2&3, Post-Development Controlled Flow

Runoff Coefficient "C"

			2/5 Year Event		100 Year Event	
Area	Surface	Ha	"C"	C_{avg}	"C" + 25%	*C_{avg}
Total	Hard	0.158	0.90	0.72	1.00	0.81
0.212	Soft	0.054	0.20		0.25	
	Pond	0.000	0.00		0.00	

2 YEAR EVENT QUANTITY STORAGE REQUIREMENT

0.212 =Area (ha)
0.72 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
2 YEAR	0	167.22	71.13	41.7	29.41	0.00
	5	**103.57**	**44.05**	**41.7**	**2.33**	**0.70**
	10	76.81	32.67	41.7	-9.05	-5.43
	15	61.77	26.27	41.7	-15.45	-13.90
	20	52.03	22.13	41.7	-19.59	-23.50

5 YEAR EVENT QUANTITY STORAGE REQUIREMENT

0.212 =Area (ha)
0.72 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
5 YEAR	0	230.48	98.03	41.7	56.32	0.00
	5	**141.18**	**60.05**	**41.7**	**18.34**	**5.50**
	10	104.19	44.32	41.7	2.60	1.56
	15	83.56	35.54	41.7	-6.17	-5.56
	20	70.25	29.88	41.7	-11.83	-14.20

100 YEAR EVENT QUANTITY STORAGE REQUIREMENT

0.212 =Area (ha)
0.81 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	5	242.70	115.71	43.7	71.96	21.59
	10	**178.56**	**85.13**	**43.7**	**41.38**	**24.83**
	15	142.89	68.13	43.7	24.38	21.94
	20	119.95	57.19	43.7	13.44	16.13
	25	103.85	49.51	43.7	5.76	8.64

Equations:

Flow Equation

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

Where:

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

Runoff Coefficient Equation

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

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

ORIFICE SIZING

Control Device		
Circular Plug Type ICD	117	mm

Design Event	Flow	Head	Elevation	Orifice Area (m^2)	Circ (mm)
1:2 Year	41.7	1.99	97.65	0.010764	117
1:5 Year	41.7	1.99	97.65	0.010763	117
1:100 Year	43.7	2.18	97.84	0.010786	117

Outlet Invert	95.60

Orifice Control Sizing

$Q = 0.62 \times A \times (2gh) \times 0.5$

Where:

Q is the release rate in m^3/s
A is the orifice area in m^2
g is the acceleration due to gravity, 9.81 m/s^2
h is the head of water above the orifice center in m
d is the diameter of the orifice in m

Table 4: Area STM-2&3, Storage Provided

Max Water Elevation = 97.84

Description		Pipe Diameter (mm)	Length (m)	Depth (m)	Volume (cu.m)	Cumulative Volume (cu.m)
Pipe Storage						
		200	51.9	N/A	1.63	1.63
		250	9.6	N/A	0.47	2.10
		375	14.2	N/A	1.57	3.67
		Clear Stone	23	0.8	8.44	12.11
Catchbasin Storage						
	CB 343	N/A	N/A	1.50	0.54	12.65
	CB 440	N/A	N/A	1.67	0.60	13.25
CBMH/MH Storage						
	CBMH 276	N/A	N/A	2.05	2.32	15.57
	STMMH 278	N/A	N/A	2.06	2.33	17.90
Surface Ponding	2 Year	N/A	N/A	0.00	0.00	17.90
	5 Year	N/A	N/A	0.00	0.00	17.90
	100 Year	N/A	N/A	0.19	11.19	29.09

TOTAL STORAGE = 29.09

Note:
1. Clearstone storage volume is calculated using L × (W × H - Subdrain OD) × Void Ratio. A width of 1.2m and a void ratio of 40% are used.
2. Surface storage is calculated with Civil3D volume surfaces using the elevations found in **Tabel 3**. See the Cut / Fill Report in Appendix D for storage volumes during each storm event.
3. STMMH 278 accounts for storage volume up to an elevation of 97.84m. This is equal to the water elevation in the 100yr storm event.

Table 5: Area STM-4, Post-Development Uncontrolled Flows

Runoff Coefficient "C"

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.077	0.90	0.66	0.75
0.116	Soft	0.039	0.20		

Runoff Coefficient Equation

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

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

Uncontrolled Flow

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Adstock Heights	0.116	0.66	10	**16.5**	**22.3**	**43.1**

Time of Concentration	Tc=	10	min
Intensity (2 Year Event)	I_2=	76.81	mm/hr
Intensity (5 Year Event)	I_5=	104.19	mm/hr
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr

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

Equations:
Flow Equation
$Q = 2.78 \times C \times I \times A$

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

Table 6: Area STM-5, Post-Development Uncontrolled Flows

Runoff Coefficient "C"

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.023	0.90	0.40	0.46
0.081	Soft	0.058	0.20		

Runoff Coefficient Equation

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

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

Uncontrolled Flow

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Block 130	0.081	0.40	10	**6.9**	**9.4**	**18.6**

Time of Concentration	Tc=	10	min
Intensity (2 Year Event)	I_2=	76.81	mm/hr
Intensity (5 Year Event)	I_5=	104.19	mm/hr
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr

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

Equations:
Flow Equation
$Q = 2.78 \times C \times I \times A$

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

Table 7: Area STM-6, Post-Development Uncontrolled Flows

Runoff Coefficient "C"

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.043	0.90	0.61	0.69
0.073	Soft	0.030	0.20		

Runoff Coefficient Equation

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

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

Uncontrolled Flow

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Abbott Street East	0.073	0.61	10	**9.5**	**12.9**	**25.1**

Time of Concentration	Tc=	10	min
Intensity (2 Year Event)	I_2=	76.81	mm/hr
Intensity (5 Year Event)	I_5=	104.19	mm/hr
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr

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

Equations:
Flow Equation
$Q = 2.78 \times C \times I \times A$

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

Table 8: Area STM-7, Post-Development Uncontrolled Flows

Runoff Coefficient "C"

Area	Surface	Ha	"C"	C_{avg}	$*C_{100}$
Total	Hard	0.002	0.90	0.43	0.50
0.006	Soft	0.004	0.20		

Runoff Coefficient Equation

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

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

Uncontrolled Flow

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)	$Q_{5\ Year}$ (L/s)	$Q_{100\ Year}$ (L/s)
Abbott Street East	0.006	0.43	10	**0.6**	**0.8**	**1.5**

Time of Concentration	Tc=	10	min
Intensity (2 Year Event)	I_2=	76.81	mm/hr
Intensity (5 Year Event)	I_5=	104.19	mm/hr
Intensity (100 Year Event)	I_{100}=	178.56	mm/hr

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

Equations:
Flow Equation
$Q = 2.78 \times C \times I \times A$

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

Table 9: Post-Development Stormwater Management Summary

Area ID	Area (ha)	1:2 & 1:5 Year Weighted Cw	1:100 Year Weighted Cw	2 Year Storm Event				5 Year Storm Event				100 Year Storm Event			
				Release (L/s)	Ponding Depth (m)	Req'd Vol (cu.m)	Max. Vol. Provided (cu.m.)	Release (L/s)	Ponding Depth (m)	Req'd Vol (cu.m)	Max. Vol. Provided (cu.m.) [2]	Release (L/s)	Ponding Depth (m)	Req'd Vol (cu.m)	Max. Vol. Provided (cu.m.)
1	0.442	0.81	0.90	50.4	0.19	15.80	17.65	51.9	0.12	31.05	33.47	53.7	0.24	95.30	109.69
2&3	0.212	0.81	0.81	41.7	0.00	0.70	17.90	41.7	0.00	5.50	17.90	43.7	0.19	24.83	29.09
4	0.116	0.66	0.75	16.5	0.00	N/A	N/A	22.3	0.00	N/A	N/A	43.1	0.00	N/A	N/A
5	0.081	0.40	0.46	6.9	0.00	N/A	N/A	9.4	0.00	N/A	N/A	18.6	0.00	N/A	N/A
6	0.073	0.61	0.69	9.5	0.00	N/A	N/A	12.9	0.00	N/A	N/A	25.1	0.00	N/A	N/A
7	0.006	0.43	0.50	0.6	0.00	N/A	N/A	0.8	0.00	N/A	N/A	1.5	0.00	N/A	N/A
Total				**125.6**				**139.0**		**36.5**	**51.4**	**185.8**		**120.1**	**138.8**
Allowable*(1)				**186.0**				**186.0**				**186.0**			

(1) Allowable release rate based on allocated release rate of 200 L/s/ha, indicated in the Servicing and Stormwater Management Report for the SPB Developments Subdivsion (Novatech, 2018)

Cut/Fill Report

Generated: 2026-04-15 12:41:54

By user: mblanton

Drawing: M:\2010\110037\CAD\Design_Block123\M:\2010\110037\CAD\Design_Block123\110037-GR123.dwg

Volume Summary

Name	Type	Cut Factor	Fill Factor	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
STM-1 2yr VOLUME (97.45)	full	0.00	1.00	1908.89	0.00*	0.00	0.00*
STM-1 5yr VOLUME (97.57)	full	0.00	1.00	1908.89	0.00*	15.82	15.82*
STM-1 100yr VOLUME (97.69)	full	0.00	1.00	1908.89	0.00*	92.04	92.04*
STM-2 2yr VOLUME (97.60)	full	0.00	1.00	601.23	0.00*	0.00	0.00*
STM-2 5yr VOLUME (97.60)	full	0.00	1.00	601.23	0.00*	0.00	0.00*
STM-2 100yr VOLUME (97.84)	full	0.00	1.00	601.23	0.00*	11.19	11.19*

Totals

	2d Area (sq.m)	Cut (Cu. M.)	Fill (Cu. M.)	Net (Cu. M.)
Total	7530.37	0.00*	119.05	119.05*

* Value adjusted by cut or fill factor other than 1.0

Note:

1. The 2D area is equal to the area of the volume surface. This is not a representation of the storage area.
2. A cut factor of zero is applied because storage can only take place when the FG-surface is below the storage elevation.

6.2 Results of Hydrologic / Hydraulic Analysis

Flows generated from PCSWMM for the 2-year storm were compared with flows generated using the rational method using a time of concentration of 10 minutes. In general, the flows generated by PCSWMM were very comparable to those generated by the Rational Method. The differences are attributed to the difference between the time of concentration calculated by PCSWMM and the 10-minute time of concentration used by the Rational Method. This comparison is included in **Appendix F**.

6.2.1 Minor System

The storm sewers have been designed to allow uncontrolled 2-year flows without surcharging. A portion of the downstream storm sewers adjacent to Pond 3 will be paritally submerged. Refer to **Section 6.2.5** for details.

The proposed inlet control devices (ICDs) have been sized to capture the approximate 2-year peak flow at each inlet to the storm sewer. As a result, there will be effectively no ponding within the rights-of-way during the 2-year event. The selection of ICDs takes into account the overland flow that bypasses catch basins on-grade by providing additional capacity at the downstream inlets. The list of ICD sizes and peak flows is provided in **Table 6.2,** and locations are indicated on the drawings.

ICDs were provided for the catch basins on a continuous grade in addition to those at sag points. During the minor system storm event, the inlet capacity of the catch basin controls the flow at those locations, but the ICD becomes the control in most cases during the major system storm event.

The multi-unit residential block, Block 123, has been modeled with on-site controls to limit the overall release rate to 200 L/s/ha. This release rate is roughly equivalent to a 5-year storm event. Storm events up to and including the 100-year event will require onsite storage. This can be achieved by means of surface ponding, and storage underground within pipes and structures.

EXCERPT FROM NOVATECH REPORT
APRIL 19, 2018
R-2017-164

LEGEND

95.00	ORIGINAL GROUND CONTOURS - APRIL 2016 SURVEY (FMW)
98.20	PROPOSED ELEVATION
98.20	APPROXIMATE EXISTING ELEVATION AT CENTRELINE OF ROAD/ SERVICING BLOCK - OCT. 2022 SURVEY (NOVATECH) & JUN. 2020 SURVEY (ASL)
98.39(S)	PROPOSED SWALE ELEVATION
99.00TW	PROPOSED TOP OF WALL ELEVATION
98.39BW	PROPOSED BOTTOM OF WALL ELEVATION
137.25	PROPOSED CENTRELINE OF ROAD ELEVATION
137.25	PROPOSED GARAGE ELEVATION
137.25	PROPOSED TERRACE ELEVATION
TF=	TOP OF FOUNDATION ELEVATION
USF=	UNDERSIDE OF FOOTING ELEVATION
FF=	FINISHED FLOOR ELEVATION
LOF=	MINIMUM FOUNDATION OPENING FRONT
LOR=	MINIMUM FOUNDATION OPENING REAR
2.0%	GRADE AND DIRECTION
	PROPOSED TERRACE GRADING (3:1 MAX)
	CURB
DC	DEPRESSED CURB
	BARRIER CURB
T/F = 98.45	PROPOSED HYDRANT C/W VALVE & LEAD
	PROPOSED TOP OF BOTTOM FLANGE
	PROPOSED CATCH BASIN
	PROPOSED CATCH BASIN WITH INLET CONTROL DEVICE
TEE	PROPOSED LANDSCAPE TEE CATCH BASIN
ELB	PROPOSED LANDSCAPE ELBOW CATCH BASIN
	PROPOSED SWALE c/w SUBDRAIN
	PROPOSED SWALE
FH	EXISTING FIRE HYDRANT
VC	EXISTING VALVE CHAMBER
	DIRECTION OF EMERGENCY OVERLAND FLOW
	MATTAMY SUBDIVISION EMERGENCY OVERLAND FLOW
97.69	100 YEAR PONDING LIMIT 100 YEAR PONDING ELEVATION
SPILL EL =97.71	REARYARD OVERLAND SPILL ELEVATION
	PROPOSED RETAINING WALL
	BY OTHERS
TWSI	TACTILE WALKING SURFACE INDICATOR PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS

NOTE:
GEOTECHNICAL RECOMMENDED GRADE RAISE IS UP TO 2.1m FOR AREAS EAST OF THE WESTERN RIGHT OF WAY OF ABBOTT ST. AREAS WEST OF WESTERN RIGHT OF WAY OF ABBOTT ST TO HAVE GRADE RAISE OF UP TO 1.5m AND 1.7m AS DEFINED BY AREAS SHOWN BELOW.

NORTH

KEY PLAN
N.T.S.

REVIEWED BY DEVELOPMENT REVIEW BRANCH
Signed
Date 2018
Plan Number 17510

REFER TO DRAWING 110037-ND2 FOR SECTION DETAILS

REFER TO DSEL; JOB # 12-594, SHEETS 51, 57 - 63 FOR SWM POND 3 DETAILS (ABBOTTSVILLE CROSSING SUBDIVISION)

SWALE TO TIE INTO EXISTING SWM POND. ENSURE POSITIVE DRAINAGE

REINSTATE AREA AROUND STORM SEWER TO MATCH APPROVED DSEL SWM POND 3 GRADING PLANS

EXTENSION OF 3.0m OVERLAND FLOW ROUTE WITH EROSION CONTROL MAT TO BE COMPLETED BY OTHERS. (REFER TO DSEL PLANS FOR DETAIL)

APPROXIMATE LIMITS OF GRADING. TIE INTO EXISTING @ 3:1 (MAX). ENSURE POSITIVE DRAINAGE.

DETAILED GRADING FOR BLOCK 123 TO BE PROVIDED AS PART OF SEPARATE SITE PLAN APPLICATION. REFER TO DRAWING 10037-GR123 FOR DETAILS.

REFER TO DSEL; JOB # 12-594, SHEET NO. 53 FOR GRADING DETAILS (ABBOTTSVILLE CROSSING SUBDIVISION)

REFER TO DSEL; JOB # 12-594, SHEETS NO. 49 & 51 FOR GRADING DETAILS (ABBOTTSVILLE CROSSING SUBDIVISION)

REFER TO DRAWING 110037-GR1 FOR CONTINUATION

BLK 129 — 1.8m BLACK VINYL COATED CHAINLINK FENCE

BLK 131 — SWM POND 3

BLK 130

BLK 123

BLK 116 (A, B, C)
BLK 117 (A, B, C)
BLK 118 (A, B, C, D, E)
BLK 119 (A, B, C, D)
BLK 120 (A, B, C, D)
BLK 121 (A, B, C, D)

ABBOTT STREET

ADSTOCK HEIGHTS

Adstock Heights

Cranesbill Road

1.5m CONC. SIDEWALK
1.5m ASPHALT CYCLE PATH
3.0m ASPHALT CYCLE PATH
BARRIER CURB
MOUNTABLE CURB
1.8m WOODEN PRIVACY FENCE
ACOUSTIC BARRIER
300mmØ WM

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
17	REVISED LOT 3 AND 14 HOUSE FOOTPRINT (PHASE 5)	DEC 13/24	ARM
16	REVISED CMB / DEPRESSED CURB LOCATION	APR 23/24	ARM
15	REVISED PER CITY COMMENTS	APR 1/24	ARM
14	REVISED PER CITY COMMENTS	MAR 27/24	ARM
13	REVISED PER UTILITIES COORDINATION (LOT 14 DRIVEWAY AND SERVICE)	JAN 17/24	ARM
12	REVISED PER CITY COMMENTS	JAN 26/23	ARM
11	ISSUED WITH ADDENDUM #1	OCT 11/22	ARM
10	ISSUED FOR PHASE 4/5 TENDER	OCT 6/22	ARM
9	REVISED LOTTING (PHASE 5)	AUG 22/22	ARM
8	REVISED PER CITY COMMENTS	JUNE 07/18	ARM
7	REVISED PER CITY COMMENTS	APR 20/18	ARM
6	REVISED PER CITY COMMENTS	DEC 20/17	ARM
5	REVISED PER CITY COMMENTS / ISSUED FOR ECA	SEPT 21/17	ARM
4	REVISED PER CITY COMMENTS	AUG 30/17	ARM
3	REVISED PER CITY COMMENTS	MAY 31/17	ARM
2	ISSUED FOR COORDINATION	MAY 4/17	DJC
1	ISSUED TO CITY OF OTTAWA	JAN 19/17	ARM

SCALE 1:500

DESIGN LSC
CHECKED ARM
DRAWN LSC/TPB
CHECKED ARM
APPROVED SG

LICENSED PROFESSIONAL ENGINEER
A.R. MCAULEY
100141256
DEC 17, 2024
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

SPB DEVELOPMENTS INC.
(METRIC HOMES) SUBDIVISION
950 TERRY FOX DRIVE

DRAWING NAME
GRADING PLAN

PROJECT No. 110037
REV REV # 17
DRAWING No. 110037-GR3

D07-16-14-0022

M:\2015\110037\CAD\Design\110037-GR.dwg, GR3, Dec 12, 2024 - 4:19pm, mparker

STORM SEWER DESIGN SHEET (2 YEAR DESIGN EVENT)
Metric Homes Subdivision

PROJECT #: 110037
DESIGNED BY : LSC
CHECKED BY : ARM
DATE PREPARED : Jan. 2017
DATE REVISED May. 2017
DATE REVISED Sept. 2017

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION											PROPOSED SEWER									
STREET	FROM M.H.	TO M.H.	AREA #	INDIV AREA (ha)	INDIV R	INDIV. 2.78 AR	ACCUM. 2.78 AR	TIME OF CONC. (min)	RAINFALL INTENSITY (mm/hr)	PEAK FLOW Q (L/s)	TYPE OF PIPE	PIPE SIZE (mm)	PIPE ID (mm)	GRADE (%)	LENGTH (m)	CAPACITY (L/s)	FULL FLOW VELOCITY	TIME OF FLOW (min)	ROUGHNESS COEFFICIENT	CAPACITY (%)
ABBOTT STREET	201	202	M202A-B	0.341	0.74	0.70	0.70	10.00	76.8	**53.8**	CONC	525	533	0.20	65.0	200.6	0.90	1.21	0.013	27%
ABBOTT STREET	202	204	M204B	0.130	0.74		0.70	11.21	72.5	**50.7**	CONC	525	533	0.20	81.5	200.6	0.90	1.51	0.013	25%
ABBOTT STREET	CICB 85	MAIN	M200A	0.065	0.74	0.13	0.13	10.00	76.8	**10.0**	DR 35	200	203	1.00	3.0	34.2	1.06	0.05	0.013	29%
ABBOTT STREET	CICB 86	MAIN	M200B	0.121	0.74	0.25	0.25	10.00	76.8	**19.2**	DR 35	200	203	1.00	6.5	34.2	1.06	0.10	0.013	56%
ABBOTT STREET	56	200	M200C	0.160	0.74	0.33	0.71	10.10	76.4	**54.3**	DR 35	375	381	0.60	113.5	141.7	1.24	1.52	0.013	38%
ABBOTT STREET	200	204	M204C	0.164	0.74	0.34	1.05	11.62	71.1	**74.7**	DR 35	375	381	0.80	8.0	163.6	1.43	0.09	0.013	46%
BLOCK 130	204	252					16.61	16.43	58.6	**973.1**	CONC	1500	1524	0.12	54.9	2554.6	1.40	0.65	0.013	38%
BLOCK 130	252	254	A27	1.004	0.85	2.37	18.98	17.08	57.3	**1086.8**	CONC	1500	1524	0.12	59.8	2554.6	1.40	0.71	0.013	43%
BLOCK 130	254	256	A28	0.268	0.47	0.35	19.33	17.79	55.9	**1080.2**	CONC	1500	1524	0.12	36.2	2554.6	1.40	0.43	0.013	42%
ADSTOCK HEIGHTS	256	258	A29	0.406	0.66	0.74	20.07	18.22	55.1	**1105.5**	CONC	1500	1524	0.12	129.2	2554.6	1.40	1.54	0.013	43%
ADSTOCK HEIGHTS	CB 435	262	A30	0.199	0.47	0.26	0.26	10.00	76.8	**20.0**	DR 35	250	254	1.00	12.5	62.0	1.22	0.17	0.013	32%
ADSTOCK HEIGHTS	262	258	A31	0.304	0.66	0.56	0.82	10.17	76.2	**62.4**	DR 35	375	381	1.50	26.5	224.0	1.96	0.22	0.013	28%
BLOCK 129	258	STUB					20.89	19.76	52.4	**1095.1**	CONC	1500	1524	0.12	34.4	2554.6	1.40	0.41	0.013	43%

Definitions:
Q = Peak Flow in Litres per Second (L/s)
Q = 2.78 AIR, where
A = Area in hectares (ha)
I = Rainfall Intensity (mm/hr)
R = Runoff Coefficient

Notes:
1) **Rainfall Intensity Curves are I (2-year) = 732.951/ [(Tc(min)+6.199)]^0.81**
2) **Minimum Tc is 10min as per the Municipality Guidelines.**
3) **Roughness Coefficient 'n' in Manning's formula shall be 0.013 for Concrete & PVC pipes .**
4) **Minimum diameter for on street sewer is 250mm.**

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Manning 0.013

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years

LOCATION			AREA (Ha)										2 YR FLOW						5YR FLOW			5YR - 2YR	DESIGN	SEWER DATA							
			R=	R=	R=	R=	R=	R=	R=	R=	R=	R=	Indiv.	Accum.	Time of	Rainfall	Indiv. Flow	Peak Flow	Indiv.	Rainfall	Indiv. Flow	Flow (l/s)	FLOW	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
Location	From Node	To Node	0.25	0.40	0.54	0.57	0.65	0.72	0.74	0.76	0.80	0.85	2.78 AC	2.78 AC	Conc.	Intensity	Q (l/s)	Q (l/s)	2.78 AC	Intensity	Q (l/s)			(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	FLOW (min.)	Q/Q full
voie Malahat Way																															
	31	29			0.18			0.36					0.99	0.99	10.00	76.81		76					76	375	375	PVC	0.30	64.0	96	0.87	1.23	0.79
								0.05					0.10		11.23	72.40	7		0.10	98.13	10	3									
	29	58						0.10					0.20	1.29	11.23	72.40		93					96	450	450	PVC	0.20	76.5	128	0.80	1.59	0.75
To rue Abbott Street East, Pipe 58 - 59														1.29	12.82																
Contribution From STREET L, Pipe 65 - 31													3.23		13.10																
	31	32			0.31			0.42					1.31	4.54	13.10	66.64		302					302	675	675	CONC	0.20	95.5	376	1.05	1.52	0.80
	32	33											0.00	4.54	14.62	62.68		284					284	750	750	CONC	0.15	11.0	431	0.98	0.19	0.66
	33	34			0.24			0.46					1.28	5.82	14.81	62.23		362					362	750	750	CONC	0.15	73.5	431	0.98	1.26	0.84
	34	35											0.00	5.82	16.06	59.37		345					345	750	750	CONC	0.15	75.5	431	0.98	1.29	0.80
Contribution From rue Ponderosa Street, Pipe 21 - 35													5.01		14.87																
Contribution From rue Ponderosa Street, Pipe 28 - 35													4.13		13.73																
	35	87			0.08			0.14					0.40	15.36	17.35	56.72		871					871	1500	1500	CONC	0.15	81.5	2738	1.55	0.88	0.32
To chemin Cranesbill Road, Pipe 87 - 88														15.36	18.23																
voie Lanceleaf Way																															
Contribution From rue Clintonia Street, Pipe 520 - 44													0.08		10.74																
	44	440							0.46				0.95	1.03	10.74	74.07		76					76	375	375	PVC	0.30	66.0	96	0.87	1.27	0.79
	440	45				0.28			0.15				0.75	1.78	12.01	69.87		124					124	525	525	CONC	0.20	71.5	192	0.89	1.34	0.65
Contribution From voie Roundleaf Way, Pipe 46 - 45													1.05		11.20																
									0.05				0.10		13.35	65.96	7		0.10	89.30	9	2									
	45	58			0.07	0.06			0.22				0.65	3.59	13.35	65.96		237					239	675	675	CONC	0.15	74.5	326	0.91	1.36	0.73
To rue Abbott Street East, Pipe 58 - 59														3.59	14.71																
rue Abbott Street East																															
Contribution From External							2.72				1.06		7.27	54.20	20.50	51.24	373		7.27	69.17	503	130									
	57	58											0.00	54.20	20.50	51.24		2777					2908	1950	1950	CONC	0.20	32.0	6364	2.13	0.25	0.46
Contribution From voie Lanceleaf Way, Pipe 45 - 58													3.59		14.71							2									
Contribution From voie Malahat Way, Pipe 29 - 58													1.29		12.82							3									
								0.24					0.48		20.75	50.85	24		0.48	68.65	33	9									
	58	59											0.00	59.57	20.75	50.85		3029					3173	1950	1950	CONC	0.20	48.5	6364	2.13	0.38	0.50
Contribution From Block 428 (Park)																															
STM Control MH 1		59		0.44									0.49	0.49	10.00	76.81		38					38	300	300	PVC	0.50	12.5	68	0.97	0.22	0.55
								0.47					0.94		21.13	50.28	47		0.94	67.87	64	17									
	59	60			0.17	0.15							0.49	61.49	21.13	50.28		3092					3252	1950	1950	CONC	0.20	107.5	6364	2.13	0.84	0.51
Contribution From rue Ponderosa Street, Pipe 27 - 60													1.00		12.27																
								0.29					0.58		21.97	49.06	28		0.58	66.20	38	10									
	60	85			0.03	0.12							0.24	63.30	21.97	49.06		3106					3276	1950	1950	CONC	0.20	81.5	6364	2.13	0.64	0.51
To chemin Cranesbill Road, Pipe 85 - 86														63.30	22.61																
								0.05	0.05				0.20		10.00	76.81	16		0.20	104.19	21	6									
	56	85			0.07								0.11	0.31	10.00	76.81		24					29	300	300	PVC	2.00	36.0	137	1.93	0.31	0.21
To chemin Cranesbill Road, Pipe 85 - 86														0.31	10.31																
									0.39				0.80		10.00	76.81	62		0.80	104.19	84	22									
	56	200							0.08				0.16	0.97	10.00	76.81		74					96	375	375	PVC	0.60	113.5	136	1.23	1.54	0.71
									0.16				0.33		11.54	71.36	23		0.33	96.71	32	8									
	200	204											0.00	1.30	11.54	71.36		92					123	375	375	PVC	0.80	8.0	157	1.42	0.09	0.78
To Block 122 (Metric Homes), Pipe 204 - 115														1.30	11.63																
									0.33				0.68		10.00	76.81	52		0.68	104.19	71	19									
	201	202											0.00	0.68	10.00	76.81		52					71	525	525	CONC	0.20	65.0	192	0.89	1.22	0.37
									0.13				0.27		11.22	72.42	19		0.27	98.17	26	7									
	202	204							0.09				0.19	1.13	11.22	72.42		82					107	525	525	CONC	0.20	81.5	192	0.89	1.53	0.56
To Block 122 (Metric Homes), Pipe 204 - 115														1.13	12.75																
rue Clintonia Street																															
	52	520											0.00	0.00	10.00	76.81		0					0	300	300	PVC	0.40	23.5	61	0.87	0.45	0.00
	520	44							0.04				0.08	0.08	10.45	75.11		6					6	300	300	PVC	0.40	15.0	61	0.87	0.29	0.10
To voie Lanceleaf Way, Pipe 44 - 440														0.08	10.74																
	53	55							0.30				0.62	0.62	10.00	76.81		47					47	300	300	PVC	0.60	104.0	75	1.06	1.64	0.63
Contribution From District Park																															
Contribution From External														1.50	10.00																
STM Control MH 2		55	1.32	1.28									2.34	3.84	10.00	76.81		295					295	600	600	CONC	0.50	6.5	434	1.54	0.07	0.68
	55	81							0.19				0.39	4.85	11.64	71.05		345					345	975	975	CONC	0.35	43.5	1326	1.78	0.41	0.26
To chemin Rouncey Road, Pipe 81 - 82														4.85	12.04																

Definitions:
Q = 2.78 AIR, where
Q = Peak Flow in Litres per second (L/s)
A = Areas in hectares (ha)
I = Rainfall Intensity (mm/h)
R = Runoff Coefficient

Notes:
1) Ottawa Rainfall-Intensity Curve
2) Min. Velocity = 0.80 m/sec

Designed: K.M.
Checked: Z.L.
Dwg. Reference: Storm Drainage Plan, Dwg. No.74, 75, 76

PROJECT: **Abbottsville Crossing Subdivision**
LOCATION: **City of Ottawa**
File Ref: 12-594
Date: August, 2016
Sheet No. 2 of 5

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	
ADS SALES REP	
PROJECT NO.	

Advanced Drainage Systems, Inc.

SiteAssist™
FOR STORMTECH
INSTALLATION INSTRUCTIONS
VISIT OUR APP

4829 ABBOTT ST
OTTAWA, ON, CANADA

SC-800 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH SC-800.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL BE CERTIFIED TO CSA B184.2, "POLYMERIC SUB-SURFACE STORMWATER MANAGEMENT STRUCTURES FOR POLYPROPYLENE (PP) 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 CSA S6 CL-625 TRUCK AND THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED AND TESTED IN ACCORDANCE WITH CSA B184.0 AND CSA B184.2, “POLYMERIC SUBSURFACE STORMWATER MANAGEMENT STRUCTURES FOR POLYPROPYLENE CHAMBERS (PP)". THE STRUCTURAL DESIGN SHALL CONSIDER BOTH LONG-TERM (DEAD) AND SHORT-TERM (LIVE) LOADS IN ACCORDANCE WITH THE LOAD AND RESISTANCE FACTORS SPECIFIED IN CSA S6, “CANADIAN HIGHWAY BRIDGE DESIGN CODE.” DESIGN LOADS SHALL INCLUDE PERMANENT EARTH AND SURCHARGE LOADS, AS WELL AS TRAFFIC LOADS BASED ON THE CSA S6 CL-625 DESIGN TRUCK, INCLUDING CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE. STRUCTURAL PERFORMANCE SHALL BE VERIFIED BY TESTING IN ACCORDANCE WITH CLAUSE 7.2 OF CSA B184.2.
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 50 mm (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 7.2.2.6 OF CSA B184.0. 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 COMPLIANCE WITH THE STRUCTURAL DESIGN AND PERFORMANCE REQUIREMENTS OF CSA B184.0 AND CSA B184.2, SPECIFICALLY WITH CLAUSES 4.1.2 AND 5 OF CSA B184.0, FOR APPLICABLE PERMANENT AND LIVE LOADS.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN SECTION 5.3 OF CSA B184.2 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.

©2026 ADS, INC.

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 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 - 75 mm (3") 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 900 mm (36") OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

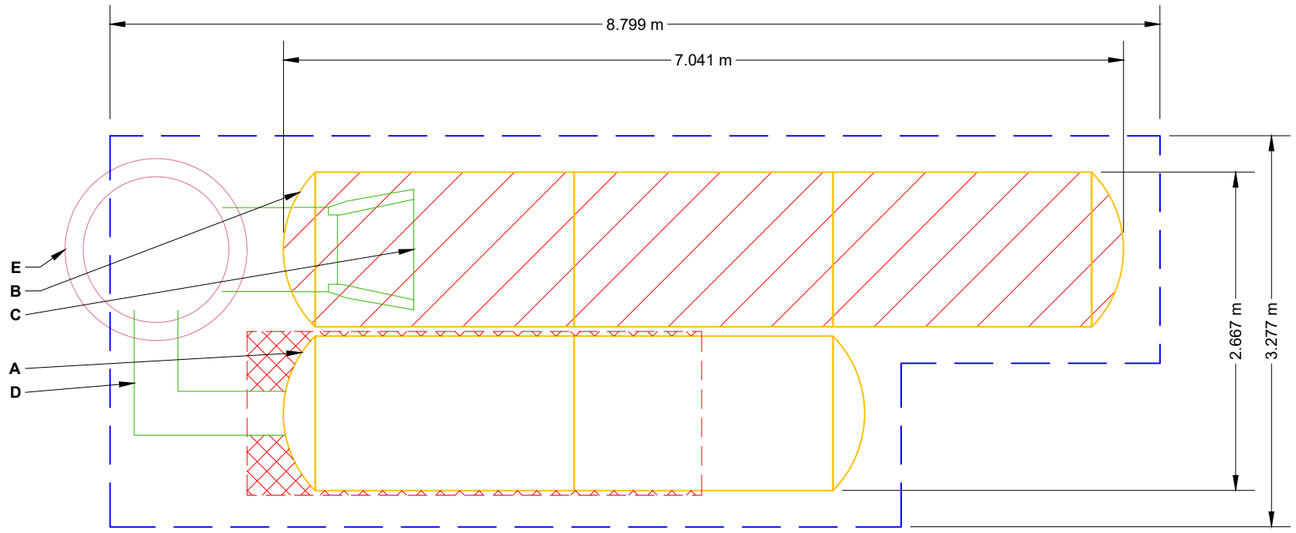
USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO THE CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

ADDITIONAL INSTRUCTIONS OR FOR SITE SPECIFIC DEVIATIONS FROM THESE GUIDELINE CAN BE OBTAINED DIRECTLY FROM YOUR LOCAL ADS REPRESENTATIVE OR BY LOGGING ON TO WWW.ADSPIPE.CA.

PROPOSED LAYOUT		PROPOSED ELEVATIONS	
5	STORMTECH SC-800 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	99.154
4	STORMTECH SC-800 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	97.249
152	STONE ABOVE (mm)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	97.096
152	STONE BELOW (mm)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	97.096
40	STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	97.096
14.8	INSTALLED SYSTEM VOLUME (m^3) ABOVE ELEVATION 95.877 (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED)	TOP OF STONE:	96.868
		TOP OF SC-800 CHAMBER:	96.715
		300 mm x 300 mm TOP MANIFOLD INVERT:	96.243
		600 mm ISOLATOR ROW PLUS INVERT:	95.936
25.9	SYSTEM AREA (m^2)	BOTTOM OF SC-800 CHAMBER:	95.877
24.2	SYSTEM PERIMETER (m)	BOTTOM OF STONE:	95.725

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PRE-CORED END CAP	A	300 mm TOP PRE-CORED END CAP, PART#: SC800EPE12TPC / TYP OF ALL 300 mm TOP CONNECTIONS		
PREFABRICATED EZ END CAP	B	600 mm BOTTOM PREFABRICATED EZ END CAP, PART#: SC800ECEZ / TYP OF ALL 600 mm BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS		
FLAMP	C	INSTALL FLAMP ON 600 mm ACCESS PIPE / PART#: SC80024RAMP		
MANIFOLD	D	300 mm x 300 mm TOP MANIFOLD, ADS N-12	366 mm	
CONCRETE STRUCTURE	E	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		



ISOLATOR ROW PLUS
(SEE DETAIL)

PLACE MINIMUM 3.810 m OF ADSPLUS625 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- **NOT FOR CONSTRUCTION**: THIS LAYOUT IS FOR DIMENSIONAL PURPOSES ONLY TO PROVE CONCEPT & THE REQUIRED STORAGE VOLUME CAN BE ACHIEVED ON SITE.

4829 ABBOTT ST
OTTAWA, ON, CANADA
DATE: 04/16/2026
DRAWN: DD
CHECKED: N/A
PROJECT #:

DATE	DWN	CHK

StormTech®
Chamber System

WWW.ADSPIPE.COM

SCALE = 1 : 50

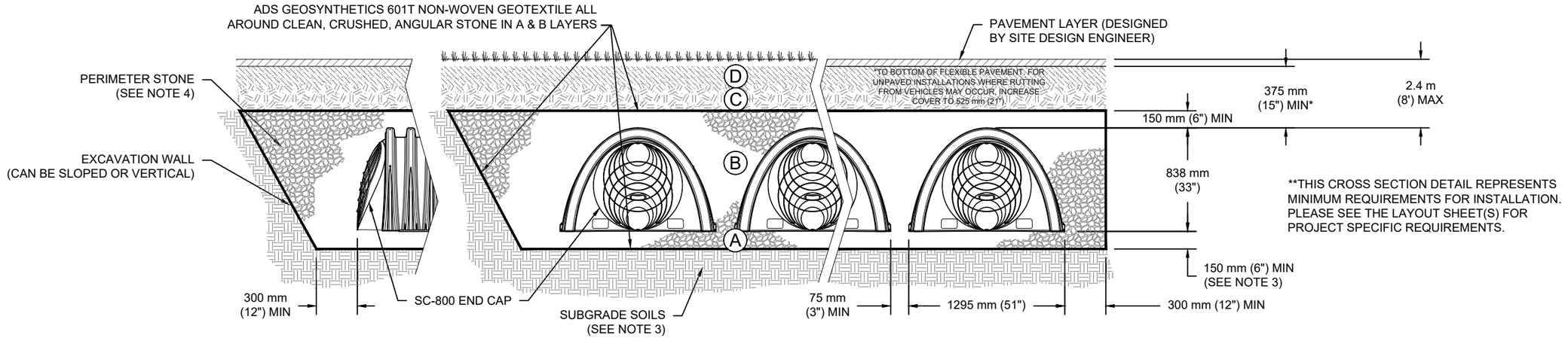
SHEET
2 OF 5

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

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 375 mm (15") 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 300 mm (12") OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 150 mm (6") 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 20,000 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 150 mm (6") (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".



**THIS CROSS SECTION DETAIL REPRESENTS MINIMUM REQUIREMENTS FOR INSTALLATION. PLEASE SEE THE LAYOUT SHEET(S) FOR PROJECT SPECIFIC REQUIREMENTS.

NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF CSA B184.2 "POLYMERIC SUBSURFACE STORMWATER MANAGEMENT STRUCTURES FOR POLYPROPYLENE (PP) CHAMBERS".
2. SC-800 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH CSA B184.0 “POLYMERIC SUBSURFACE STORMWATER MANAGEMENT STRUCTURES".
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 50 mm (2”).
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 7.2.2.6 OF CSA B184.0 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.

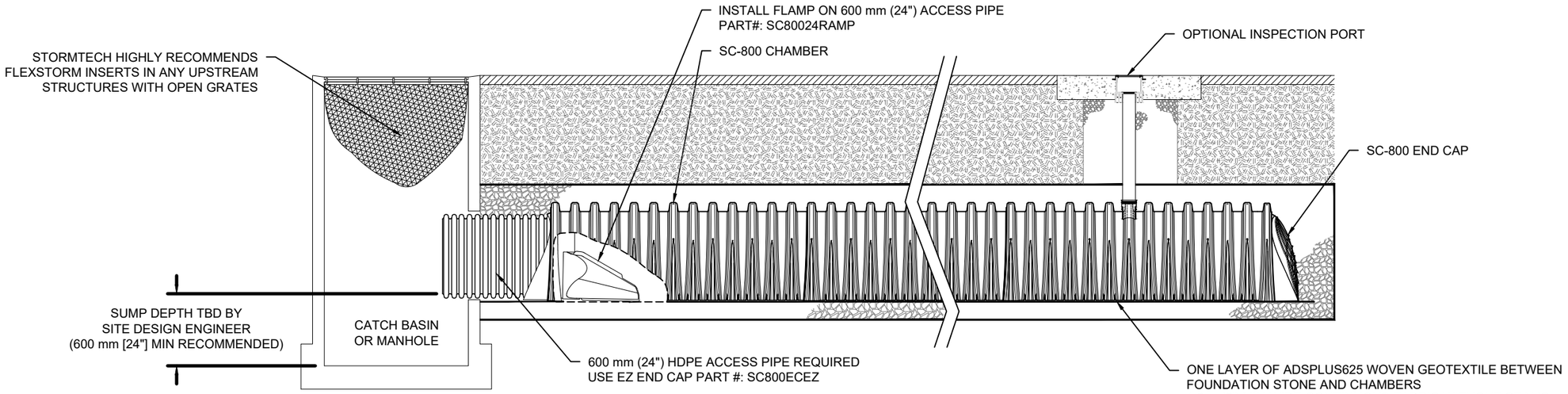
4829 ABBOTT ST
OTTAWA, ON, CANADA
DATE: 04/16/2026
DRAWN: DD
CHECKED: N/A
PROJECT #:

DATE	DWN	CHK

StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.



SC-800 ISOLATOR ROW PLUS DETAIL
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.

4829 ABBOTT ST
OTTAWA, ON, CANADA
DATE: 04/16/2026 | DRAWN: DD | CHECKED: N/A
PROJECT #:

DATE	DWN	CHK

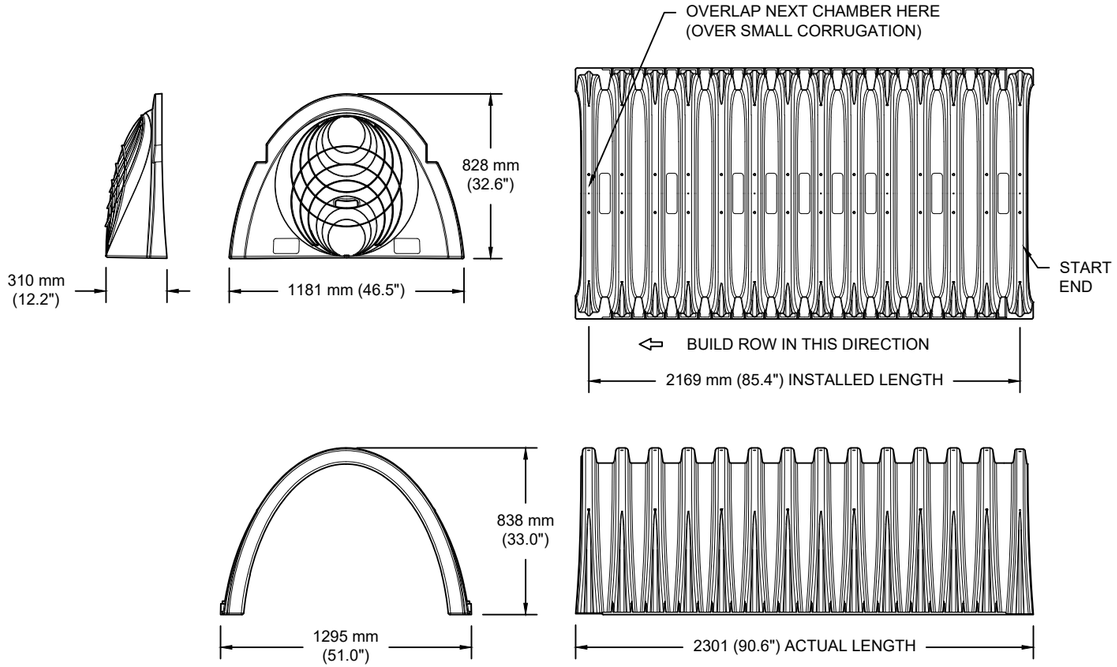
StormTech® Chamber System

WWW.ADSPIPE.COM

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SC-800 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	1295 mm X 838 mm X 2169 mm	(51.0" X 33.0" X 85.4")
CHAMBER STORAGE	1.43 m³	(50.6 CUBIC FEET)
MINIMUM INSTALLED STORAGE*	2.22 m³	(78.4 CUBIC FEET)
WEIGHT	37.1 kg	(81.8 lbs.)

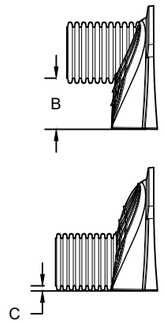
NOMINAL END CAP SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	1181 mm X 828 mm X 267 mm	(46.5" X 32.6" X 10.5")
END CAP STORAGE	0.09 m³	(3.4 CUBIC FEET)
MINIMUM INSTALLED STORAGE**	0.42 m³	(14.7 CUBIC FEET)
WEIGHT	7.1 kg	(15.7 lbs.)

* ASSUMES 150 mm (6") STONE ABOVE AND BELOW CHAMBERS, 75 mm (3") BETWEEN CHAMBERS
**ASSUMES 150 mm (6") STONE ABOVE AND BELOW END CAPS, 75 mm (3") BETWEEN ROWS, 300 mm (12") 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	150 mm (6")	544 mm (21.4")	---
SC800EPE06BPC		---	23 mm (0.9")
SC800EPE08TPC	200 mm (8")	488 mm (19.2")	---
SC800EPE08BPC		---	25 mm (1.0")
SC800EPE10TPC	250 mm (10")	432 mm (17.0")	---
SC800EPE10BPC		---	30 mm (1.2")
SC800EPE12TPC	300 mm (12")	366 mm (14.4")	---
SC800EPE12BPC		---	41 mm (1.6")
SC800EPE15TPC	375 mm (15")	287 mm (11.3")	---
SC800EPE15BPC		---	43 mm (1.7")
SC800EPE18TPC	450 mm (18")	203 mm (8.0")	---
SC800EPE18BPC		---	51 mm (2.0")
SC800ECEZ	600 mm (24")	---	58 mm (2.3")



NOTE: ALL DIMENSIONS ARE NOMINAL

4829 ABBOTT ST
OTTAWA, ON, CANADA
DATE: 04/16/2026
DRAWN: DD
PROJECT #:
CHECKED: N/A

DATE	DWN	CHK

StormTech® Chamber System

WWW.ADSPIPE.COM

SHEET
5 OF 5

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

V&VB

SANMH 173
T/G=97.74
INV.NE=94.06
INV.SW=94.11
INV.SE=94.11

18.4m -200mm Ø STM @ 1.00%

200mm Ø WM

12.7m -200mm Ø SAN @ 0.50%

SANMH 175
T/G=97.97

Appendix E

Block 123 Sanitary Sewer Design Sheet

Metric Homes Subdivision Sanitary Sewer Design Sheet

SANITARY SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123
Date: 4/28/2025
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

Legend:
- Design Input by User
- As-Built Input by User
- Cumulative Cell
- Calculated Design Cell Output
- Calculated Annual Cell Output
- Calculated Rare Cell Output

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

Location				Demand											Design Capacity							
				Residential Flow									Extraneous Flow Area Method		Total Design Flow	Proposed Sewer Pipe Sizing / Design							
Street	Area ID	From MH	To MH	Apts	Population (in 1000's)	Cumulative Population (in 1000's)	Average Pop. Flow Q(q) (L/s)	Design Peaking Factor M	Peak Design Pop. Flow Q(p) (L/s)	Res. Drainage Area (ha.)	Cumulative Res. Drainage Area (ha.)	Cumulative Extraneous Drainage Area (ha.)	Design Extraneous Flow Q(e) (L/s)	Total Peak Design Flow Q(D) (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)	Q(D) / Qfull
Private	A1	183	173	24	0.050	0.050	0.16	3.65	0.60	0.260	0.260	0.260	0.09	0.68	35.8	200 PVC	0.203	0.013	0.50	24.2	0.75	2.8%
Private	A8	181	175	18	0.038	0.038	0.12	3.67	0.45	0.180	0.180	0.180	0.06	0.51	50.4	200 PVC	0.203	0.013	0.50	24.2	0.75	2.1%
Private	A9	179	177	12	0.025	0.025	0.08	3.69	0.30	0.330	0.330	0.330	0.11	0.41	21.7	200 PVC	0.203	0.013	0.50	24.2	0.75	1.7%
Private	A10	177	175	6	0.013	0.038	0.12	3.67	0.45	0.100	0.430	0.430	0.14	0.59	41.3	200 PVC	0.203	0.013	0.50	24.2	0.75	2.4%
Private	A10	175	173		0.000	0.076	0.25	3.62	0.89	0.010	0.620	0.620	0.20	1.09	12.7	200 PVC	0.203	0.013	0.50	24.2	0.75	4.5%
Private	A10	173	171		0.000	0.126	0.41	3.57	1.46	0.040	0.920	0.920	0.30	1.76	21.4	200 PVC	0.203	0.013	0.50	24.2	0.75	7.3%
Private	A10	171	EX 153		0.000	0.126	0.41	3.57	1.46	0.010	0.930	0.930	0.31	1.77	7.5	200 PVC	0.203	0.013	0.50	24.2	0.75	7.3%
Totals				**60**	**0.126**	**0.126**	**0.41**	**3.57**	**1.46**	**0.930**	**0.930**	**0.930**	**0.31**	**1.77**	**190.8**							

Demand Equation / Parameters

1. **Q(D), Q(A), Q(R) =** Q(p) + Q(fd) + Q(ici) + Q(e)
2. **Q(p) =** (P x q x M x K / 86,400)
3. **q =** 280 L/per person/day
   200 L/per person/day
4. **M = Harmon Formula (maximum of 4.0)**
5. **K =** 0.8
   0.6
6. **Park flow is considered equivalent to a single unit / ha**
   Park Demand = 4 single unit equivalent / park ha (~ 3,60
7. **Q(fd) =** 0.45 L/s/unit
8. **Q(ici) =** ICI Area x ICI Flow x ICI Peak
9. **Q(e) =** 0.33 L/s/ha
   0.30 L/s/ha
   0.55 L/s/ha

Definitions

Q(D) = Peak Design Flow (L/s)
Q(A) = Peak Annual Flow (L/s)
Q(R) = Peak Rare Flow (L/s)
Q(p) = Peak Design Population Flow (L/s)
Q(q) = Average Population Flow (L/s)

	Singles	Semis / Towns	Apts
P = Residential Population =	3.4	2.7	2.1
q = Average Capita Flow			
M = Harmon Formula			
K = Harmon Correction Factor			
Typ. Service Diameter (mm) =	135		
Typ. Service Length (m) =	15	15	
I/I Pipe Rate (L/mm dia/m/hr) =	0.007		

Q(fd) = Foundation Flow (L/s)
Q(ici) = Industrial / Commercial / Institutional Flow (L/s)
Q(e) = Extraneous Flow (L/s)

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

SANITARY SEWER DESIGN SHEET
Metric Homes Subdivision

PROJECT : 110037
DESIGNED BY: LSC
CHECKED BY: ARM
DATE: Jan. 2017
DATE REVISED: May. 2017
DATE REVISED: Sept. 2017

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION											INFILTRATION		PROPOSED SEWER PIPE							CHECK
STREET	FROM MH	TO MH	DWELLING (TOWNHOUSE) 2.7	DWELLING (SINGLE FAMILY) 3.4	POP.	AREA (ha)	CUMULATIVE POP.	CUMULATIVE AREA (ha)	PEAK FACTOR (M)	POP. FLOW Q(p) (L/s)	PEAK EXTRAN. FLOW Q(i) (L/s)	PEAK DESIGN FLOW Q(d) (L/s)	LENGTH (m)	DIA. (mm)	PIPE ID (mm)	TYPE OF PIPE	SLOPE (%)	CAPACITY (L/s)	FULL FLOW VELOCITY (m/s)	Qpeak/ Qcap
ADSTOCK HEIGHTS	163	161	3	0	8.1	0.12	8.1	0.12	4.00	0.13	0.03	0.16	20.0	200	201.2	DR 35	0.65	26.9	0.84	0.6%
ADSTOCK HEIGHTS	161	159	2	0	5.4	0.10	13.5	0.22	4.00	0.22	0.06	0.28	13.7	200	201.2	DR 35	0.65	26.9	0.84	1.0%
ADSTOCK HEIGHTS	159	157	32	0	86.4	1.09	99.9	1.31	4.00	1.62	0.37	1.99	115.5	200	201.2	DR 35	0.35	19.7	0.62	10.1%
BLK 130	157	155	0	0	0.0	0.00	99.9	1.31	4.00	1.62	0.37	1.99	36.5	200	201.2	DR 35	0.35	19.7	0.62	10.1%
BLK 130	155	153	0	0	0.0	0.00	99.9	1.31	4.00	1.62	0.37	1.99	55.7	200	201.2	DR 35	0.35	19.7	0.62	10.1%
BLK 130	153	306A	60	0	162.0	0.98	261.9	2.29	4.00	4.24	0.64	4.88	45.1	200	201.2	DR 35	0.35	19.7	0.62	24.8%
BLK 130	*306A*	*307A*			0.0	0.00	*261.9*	*2.29*	*4.00*	*4.24*	*0.64*	*4.88*	*14.0*	*200*	*201.2*	*DR 35*	*0.35*	*19.7*	*0.62*	*24.8%*
ABBOTT STREET	*201A*	*202A*	4	5	27.8	0.54	*27.8*	*0.54*	*4.00*	*0.45*	*0.15*	*0.60*	*70.0*	*200*	*201.2*	*DR 35*	*0.65*	*26.9*	*0.84*	*2.2%*
ABBOTT STREET	*202A*	*307A*	10		27.0	0.50	*54.8*	*1.04*	*4.00*	*0.89*	*0.29*	*1.18*	*85.0*	*200*	*201.2*	*DR 35*	*0.35*	*19.7*	*0.62*	*6.0%*
ABBOTT STREET	*307A*	*56A*	12		32.4	0.45	*349.1*	*3.78*	*4.00*	*5.66*	*1.06*	*6.72*	*80.0*	*250*	*251.5*	*DR 35*	*0.25*	*30.2*	*0.61*	*22.2%*
ABBOTT STREET	*56A*	*112A*	6		16.2	0.21	*365.3*	*3.99*	*4.00*	*5.92*	*1.12*	*7.04*	*75.0*	*250*	*251.5*	*DR 35*	*0.25*	*30.2*	*0.61*	*23.3%*

Notes:

1. Q(d) = Q(p) + Q(i) , where
   - Q(d) = Design Flow (L/sec)
   - Q(p) = Population Flow (L/sec)
   - Q(i) = Extraneous Flow (L/sec)
2. Q(i) = 0.28 L/sec/ha
3. Q(p) = (PxqxM/86.4), where
4. Depth of flow/Diameter from Hydraulic properties of circular pipes flowing partially full

Appendix F

Block 123 Boundary Condition Request

Block 123 Boundary Conditions – City of Ottawa

Block 123 FUS Calculations

EPANET Model Schematic

Block 123 Water Demand Design Sheet

Maximum Pressure During Average Day (AVDY) Conditions

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

Minimum Pressure During Peak Hour (PKHR) Conditions

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Boundary Condition Request

Novatech Project #: 110037
Project Name: Block 123- Trail View Subdivision
Date: 1/15/2025
Input By: MNP
Reviewed By: ARM
Drawing Reference: Boundary Condition Figure Markup (Jan. 20, 2025)

Small System = YES

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)

	# of Dwellings	Area (ha.)	Pop. Equiv.	Average Day Demand (L/s)	Maximum Day Demand (L/s)	Peak Hour Demand (L/s)
Residential Input						
Singles			0.00	0.00	0.00	0.00
Semis / Townhomes			0.00	0.00	0.00	0.00
Apartments (2-BR)	60		126.00	0.41	3.88	5.84
Apartments (1-BR)			0.00	0.00	0.00	0.00
Apartments (Avg)			0.00	0.00	0.00	0.00
Totals	**60**	**0.00**	**126.00**	**0.41**	**3.88**	**5.84**

Summary

i. Type of Development and Units:	Residential; Stacks Townhomes (12-units per building)		
ii. Site Address:	4829 Abbott Street East		
iii. Proposed Water Service Connection Location(s):	1) Connection to existing 300mm diameter watermain on Abbott Street East		
	2) Connection to existing 200mm diameter watermain on Adstock Heights		
iv. Average Day Flow Demand:		0.41	L/s
v. Peak Hour Flow Demand:		5.84	L/s
vi. Maximum Day Flow Demand:		3.88	L/s
vii. Required Fire Flow #1:		15,000.00	L/min
viii. Required Fire Flow #2:		17,000.00	L/min
ix. Required Fire Flow #3:		19,000.00	L/min

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Design Parameters

Residential					
Unit Type	**Singles**	**Semis/ Towns**	**Apts (2-BR)**	**Apts (1-BR)**	**Apts (Avg)**
Population Equiv.	3.4	2.7	2.1	1.4	1.8
Dailly Demand	L/per person/day				
Average Demand	280				
Basic Demand	200				

Residential Peaking Factors		**Max Day (x Avg Day)**	**Peak Hour (x Avg Day)**
	Pop.		
Small System (If Applicable)	0	9.50	14.30
	30	9.50	14.30
	150	4.90	7.40
Modified	300	3.60	*5.50*
	450	3.00	*5.50*
	500	2.90	*5.50*
Large System (Default)	> 500	2.50	5.50

Boundary Conditions
4829 Abbott Street

Provided Information

Scenario	Demand	
	L/min	L/s
Average Daily Demand	25	0.41
Maximum Daily Demand	233	3.88
Peak Hour	350	5.84
Fire Flow Demand	17,000	283.33

Location

Results

Connection 1 – Abbott Street

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	161.3	93.0
Peak Hour	156.5	86.2
Max Day plus Fire Flow #1	151.4	78.9

[1] Ground Elevation = 95.9 m

Connection 2 – Cranesbill Road

Demand Scenario	Head (m)	Pressure[1] (psi)
Maximum HGL	161.3	92.7
Peak Hour	156.5	85.9
Max Day plus Fire Flow #1	148.9	75.1

[1] Ground Elevation = 96.1 m

Notes

1. Demands for proposed Connection 1 at proposed future water main were assigned to upstream junction at Abbott Street & Metric Circle off the public looped watermains. The engineer must calculate headloss off the proposed future watermain network.
2. Demands for proposed Connection 2 at Adstock Heights were assigned to upstream junction at Cranesbill Road & Malahat Way off the public looped watermains. The engineer must calculate headloss off the proposed future watermain network.
3. As per the Ontario Building Code in areas that may be occupied, the static pressure at any fixture shall not exceed 552 kPa (80 psi.) Pressure control measures to be considered are as follows, in order of preference:
    - If possible, systems to be designed to residual pressures of 345 to 552 kPa (50 to 80 psi) in all occupied areas outside of the public right-of-way without special pressure control equipment.
    - Pressure reducing valves to be installed immediately downstream of the isolation valve in the home/ building, located downstream of the meter so it is owner maintained.

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.

FUS - Fire Flow Calculations

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123
Date: 1/14/2026
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

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

Building Description: Building 1 - 3-storey
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)	423			
		Number of Floors/Storeys	3			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**1,269**	
	F	**Base fire flow without reductions**				**12,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**10,200**
		Limited combustible	Yes	-15%		
		Combustible		0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**0**
		Standard Water Supply	No	-10%		
		Fully Supervised System	No	-10%		
				Cumulative Sub-Total	**0%**	
		Area of Sprinklered Coverage (m^2)	0	0%		
				Cumulative Total	**0%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	3.1 - 10 m		20%	**7,140**
		East Side	20.1 - 30 m		10%	
		South Side	3.1 - 10 m		20%	
		West Side	3.1 - 10 m		20%	
				Cumulative Total	**70%**	
Results						
6	**(1) + (2) + (3)**	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**17,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**283**
				or	USGPM	4,491

FUS - Fire Flow Calculations

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123
Date: 1/14/2026
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

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

Building Description: Building 2 - 3-storey
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)	423			
		Number of Floors/Storeys	3			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**1,269**	
	F	**Base fire flow without reductions**				**12,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**10,200**
		Limited combustible	Yes	-15%		
		Combustible		0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**0**
		Standard Water Supply	No	-10%		
		Fully Supervised System	No	-10%		
				Cumulative Sub-Total	**0%**	
		Area of Sprinklered Coverage (m^2)	0	0%		
				Cumulative Total	**0%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	3.1 - 10 m		20%	**4,080**
		East Side	>30m		0%	
		South Side	3.1 - 10 m		20%	
		West Side	>30m		0%	
				Cumulative Total	**40%**	
Results						
6	**(1) + (2) + (3)**	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**14,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**233**
				or	USGPM	3,699

FUS - Fire Flow Calculations

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123
Date: 1/14/2026
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

Building Description: Building 3 - 3-storey
Type V - Wood frame

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

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)	423			
		Number of Floors/Storeys	3			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**1,269**	
	F	**Base fire flow without reductions**				**12,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**10,200**
		Limited combustible	Yes	-15%		
		Combustible		0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**0**
		Standard Water Supply	No	-10%		
		Fully Supervised System	No	-10%		
				Cumulative Sub-Total	**0%**	
		Area of Sprinklered Coverage (m^2)	0	0%		
				Cumulative Total	**0%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	>30m		0%	**3,570**
		East Side	>30m		0%	
		South Side	3.1 - 10 m		20%	
		West Side	10.1 - 20 m		15%	
				Cumulative Total	**35%**	
Results						
6	**(1) + (2) + (3)**	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**14,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**233**
				or	USGPM	3,699

FUS - Fire Flow Calculations

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123
Date: 1/14/2026
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

Building Description: Building 4 - 3-storey
Type V - Wood frame

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

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)	423			
		Number of Floors/Storeys	3			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**1,269**	
	F	**Base fire flow without reductions**				**12,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**10,200**
		Limited combustible	Yes	-15%		
		Combustible		0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**0**
		Standard Water Supply	No	-10%		
		Fully Supervised System	No	-10%		
				Cumulative Sub-Total	**0%**	
		Area of Sprinklered Coverage (m^2)	0	0%		
				Cumulative Total	**0%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	3.1 - 10 m		20%	**3,570**
		East Side	>30m		0%	
		South Side	10.1 - 20 m		15%	
		West Side	>30m		0%	
				Cumulative Total	**35%**	
Results						
6	**(1) + (2) + (3)**	**Total Required Fire Flow, rounded to nearest 1000L/min**			**L/min**	**14,000**
		(2,000 L/min < Fire Flow < 45,000 L/min)		or	L/s	**233**
				or	USGPM	3,699

FUS - Fire Flow Calculations

NOVATECH
Engineers, Planners & Landscape Architects

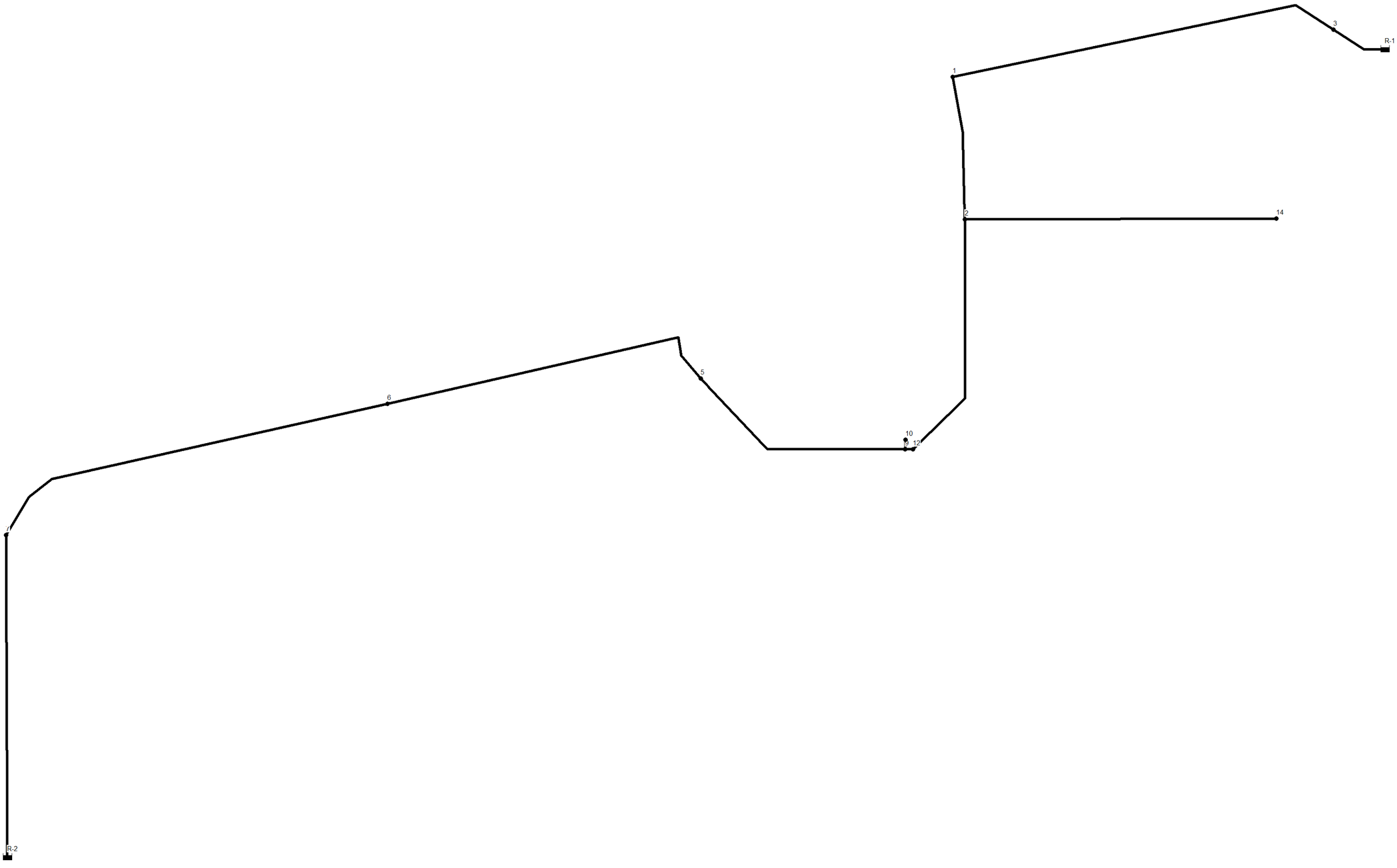
Novatech Project #: 110037
Project Name: Block 123
Date: 1/14/2026
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

Building Description: Building 5 - 3-storey
Type V - Wood frame

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

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)	423			
		Number of Floors/Storeys	3			
		Protected Openings (1 hr) if C<1.0	No			
		Area of structure considered (m^2)			**1,269**	
	F	**Base fire flow without reductions**				**12,000**
		F = 220 **C** (**A**)$^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**10,200**
		Limited combustible	Yes	-15%		
		Combustible		0%		
		Free burning		15%		
		Rapid burning		25%		
4	**Sprinkler Reduction**		**FUS Table 4**	**Reduction**		
	(2)	Adequately Designed System (NFPA 13)	No	-30%		**0**
		Standard Water Supply	No	-10%		
		Fully Supervised System	No	-10%		
				Cumulative Sub-Total	**0%**	
		Area of Sprinklered Coverage (m^2)	0	0%		
				Cumulative Total	**0%**	
5	**Exposure Surcharge**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	>30m		0%	**2,040**
		East Side	>30m		0%	
		South Side	3.1 - 10 m		20%	
		West Side	>30m		0%	
				Cumulative Total	**20%**	
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

EPANET Model Schematic
110037
May 2025



Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 110037
Project Name: Block 123 - Trail View Subdivision
Date: 4/30/2025
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

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

Location	Total Water Demand													
	Residential Input & Average Demand							Maximum Day & Peak Hour Demand				Design Fire Demand		
Node	Singles	Semis / Towns	Apts (2-BR)	Apts (1-BR)	Apts (Avg)	Pop. Equiv.	Res. Average Day Flow Demand (L/s)	Maximum Day Demand		Peak Hour Demand		Required Fire Flow (RFF)		Max Day + RFF (L/s)
								Res. Peaking Factor	Max Day Flow Demand (L/s)	Res. Peaking Factor	Peak Hour Flow Demand (L/s)	FUS (L/min)		
Existing														
J-1						0.00	0.00	2.50	0.00	5.50	0.00			0.00
J-3 (Ex. Hydrant #3)						0.00	0.00	2.50	0.00	5.50	0.00	3,800		63.33
J-5 (Ex. Hydrant #1)						0.00	0.00	2.50	0.00	5.50	0.00	5,700		95.00
J-6 (Ex. Hydrant #2)	17					57.80	0.19	2.50	0.47	5.50	1.03	3,800		63.80
J-7						0.00	0.00	2.50	0.00	5.50	0.00			0.00
Block 123														
J-2			12			25.20	0.08	2.50	0.20	5.50	0.45			0.20
J-9						0.00	0.00	2.50	0.00	5.50	0.00			0.00
J-10 (Proposed Hydrant)						0.00	0.00	2.50	0.00	5.50	0.00	5,700		95.00
J-12			24			50.40	0.16	2.50	0.41	5.50	0.90			0.41
J-14			24			50.40	0.16	2.50	0.41	5.50	0.90			0.41
Total			**60**			**75.60**	**0.25**	2.50	**0.61**	5.50	**1.35**			
CumulativeTotals	**17**	**0**	**60**	**0**	**0**	**183.80**	**0.60**	**2.50**	**1.49**	**5.50**	**3.28**			

Demand Parameters

Residential					
Unit Type	**Singles**	**Semis/ Towns**	**Apts (2-BR)**	**Apts (1-BR)**	**Apts (Avg)**
Population Equiv.	3.4	2.7	2.1	1.4	1.8
Dailly Demand	L/per person/day				
Average Demand	280				
Basic Demand	200				

Residential Peaking Factors		Max Day (x Avg Day)	Peak Hour (x Avg Day)
	Pop.		
Small System (If Applicable)	0	9.50	14.30
	30	9.50	14.30
	150	4.90	7.40
Modified	300	3.60	*5.50*
	450	3.00	*5.50*
	500	2.90	*5.50*
Large System (Default)	> 500	2.50	5.50

Quick Fire Flow Reference Guide			
FUS (L/min)	**Comments**	**OBC (L/min)**	**Comments**
> 2,000	**Min FUS**	**< 9,000**	**Unsprinklered Non- Combustible**
10,000	**Low Density** - Singles/Towns Complies w/ TB2014-01 Cap. (10m rear spacing, 6 units max, <600 m²)		
13,000	Non-complying w/TB2014-01. Calculate.		
15,000	**Medium Density** Back-to-back Towns.		
20,000	**High Density** Wood Frame 4-Storey		
5,000	Fire-Resisitve Podium/Multi-Storey		
30,000	**High Contiguous / Hazard Areas**		
< 45,000	**Max FUS**		

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Maximum Pressure During Average Day (AVDY) Conditions

Novatech Project #: 110037
Project Name: Block 123 (4829 Abbott)
Date: 4/30/2025
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

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)
Existing					
J-1	97.70	0.00	161.30	63.60	90
J-3 (Ex. Hydrant #3)	97.80	0.00	161.30	63.50	90
J-5 (Ex. Hydrant #1)	97.70	0.00	161.30	63.60	90
J-6 (Ex. Hydrant #2)	97.60	0.19	161.30	63.70	91
J-7	97.60	0.00	161.30	63.70	91
Block 123					
J-2	98.00	0.08	161.30	63.30	90
J-9	97.80	0.00	161.30	63.50	90
J-10 (Proposed Hydrant)	97.90	0.00	161.30	63.40	90
J-12	97.80	0.16	161.30	63.50	90
J-14	98.30	0.16	161.30	63.00	90

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

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

Novatech Project #: 110037
Project Name: Block 123 - Trail View Subdivision
Date: 4/30/2025
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

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)
Existing					
J-1	97.70	0.00	143.16	45.46	65
J-3 (Ex. Hydrant #3)	97.80	63.33	149.49	51.69	74
J-5 (Ex. Hydrant #1)	97.70	95.00	136.44	38.74	55
J-6 (Ex. Hydrant #2)	97.60	63.80	137.84	40.24	57
J-7	97.60	0.00	144.28	46.68	66
Block 123					
J-2	98.00	0.20	140.84	42.84	61
J-9	97.80	0.00	136.75	38.95	55
J-10 (Proposed Hydrant)	97.90	95.00	133.39	35.49	50
J-12	97.80	0.41	136.87	39.07	56
J-14	98.30	0.41	140.84	42.54	60

Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Minimum Pressure During Peak Hour (PKHR) Conditions

Novatech Project #: 110037
Project Name: Block 123 - Trail View Subdivision
Date: 4/30/2025
Input By: MJB
Reviewed By: ARM
Drawing Reference: 110037-GP123

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

Note: Hydraulic modelling completed using EPANET 2.0.

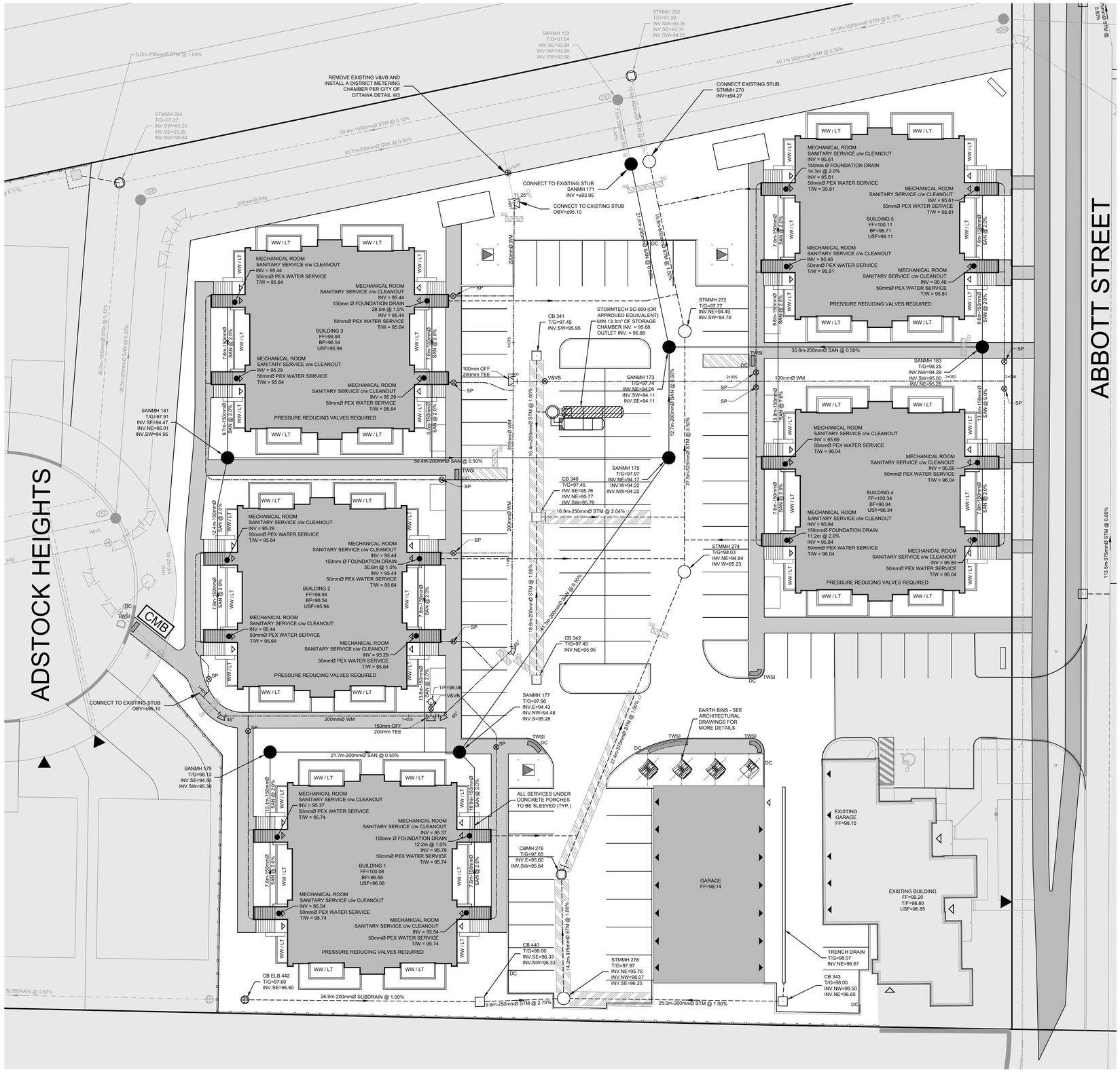
Node	Elevation (m)	Demand (L/s)	Total Head (m)	Pressure (m)	Pressure (psi)
Existing					
J-1	97.70	0.00	156.50	58.80	84
J-3 (Ex. Hydrant #3)	97.80	0.00	156.50	58.70	83
J-5 (Ex. Hydrant #1)	97.70	0.00	156.50	58.80	84
J-6 (Ex. Hydrant #2)	97.60	1.03	156.50	58.90	84
J-7	97.60	0.00	156.50	58.90	84
Block 123					
J-2	98.00	0.45	156.50	58.50	83
J-9	97.80	0.00	156.50	58.70	83
J-10 (Proposed Hydrant)	97.90	0.00	156.50	58.60	83
J-12	97.80	0.90	156.50	58.70	83
J-14	98.30	0.90	156.48	58.18	83

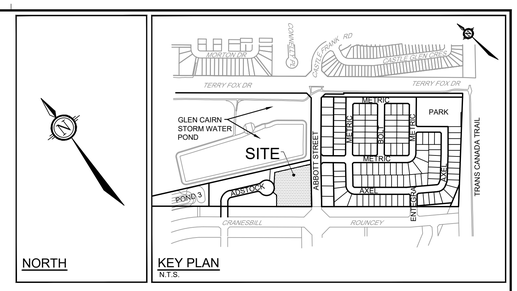
Appendix G

General Plan of Services, 110017-GP123 rev 9

Grading and Servicing Plan, 110037-GR123 rev 9

Erosion and Sediment Control Plan, 110037-ESC123 rev 4





LEGEND

- 200mmØ WM — PROPOSED WATERMAIN AND DIAMETER
- V&VB — PROPOSED VALVE AND VALVE BOX
- PROPOSED HYDRANT C/W VALVE & LEAD
- T/F = 98.45 — PROPOSED TOP OF BOTTOM FLANGE
- PROPOSED BEND AND THRUSTBLOCK 11.25°, 22.5°, 45° or TEE
- SP — PROPOSED WATER SERVICE STANDPOST
- 200mmØ STM — PROPOSED STORM SEWER AND FLOW DIRECTION
- 200mmØ SAN — PROPOSED SANITARY SEWER AND FLOW DIRECTION
- PROPOSED SANITARY MH
- PROPOSED STORM MH
- PROPOSED CATCHBASIN
- WW / LT — WINDOW WELL / LOWERED TERRACE - SEE ARCHITECTURAL DRAWING FOR MORE DETAILS
- PROPOSED SEEPAGE BARRIER
- THERMAL INSULATION PER CITY OF OTTAWA STANDARD DETAIL S35
- PROPOSED TRANSFORMER c/w PAD AND BOLLARDS
- BARRIER CURB
- DEVELOPMENT BY OTHERS PART OF SEPARATE APPLICATION

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 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. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL REPORT (No. PG2855-3, DATED FEBRUARY 21, 2025), PREPARED BY PATERSON GROUP 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. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
10. REFER TO STORMWATER MANAGEMENT REPORT (R-2025-013) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
11. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
12. PROVIDE LINE/PARKING PAINTING.
13. 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.

ICD DATA TABLE

STRUCTURE No.	T/G ELEVATIAON	INVERT OUT ELEVATION	ICD DIA. (mm)	OUTLET DIA. (mm)
CB 340	97.65	95.76	135	200
CBMH 276	97.65	95.60	117	375

WATERMAIN NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25 & W25.2	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 0.5m 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.
6. All 50mmØ WATER SERVICES SHALL HAVE A MINIMUM OF 0.3m CLEARANCE AT SEWER CROSSINGS PER CITY OF OTTAWA DETAIL W38

SEWER NOTES:

1. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
CATCHBASIN (600x600mm)	705.010	OPSD
STORM / SANITARY MANHOLE (1200Ø)	701.010	OPSD
CB, FRAME & COVER	S19.1, S22, & S 23	CITY OF OTTAWA
STORM / SANITARY MH FRAME & COVER	S24, S24.1, & S25	CITY OF OTTAWA
SEWER TRENCH - BEDDING (GRANULAR A) COVER (GRANULAR A OR GRANULAR B TYPE I, WITH MAXIMUM PARTICLE SIZE=25mm)		
STORM SEWER	PVC DR 35, CONC. (> 450mmØ)	
SANITARY SEWER	PVC DR 35	
CATCHBASIN LEAD	PVC DR 35	

2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
4. 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.
5. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KORA-SEAL, PSX POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
6. 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 407.24. 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.
7. STORM MANHOLES AND CBMHS ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED.
8. 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.

100mmØ WATERMAIN TABLE

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
2+000	97.51	95.00	100 OFF 200 TEE c/w ISOLATION VALVE
2+002.6	97.48	95.00	CROSS UNDER 200mmØ CB LEAD (INV = 95.93, 0.9m CLEARANCE)
2+004	97.50	95.00	100mmØ VALVE AND VALVE BOX
2+018	97.80	95.30 ✱✱	CROSS OVER 200mmØ SAN (OBV = 94.32, 0.9m CLEARANCE)
2+020	97.85	95.95 ✱✱	CROSS OVER 525mmØ STM (OBV = 95.41, 0.5m CLEARANCE) c/w VERTICAL BENDS AND INSULATION
2+025	98.00	96.00 ✱✱	100mmØ WM
2+028	98.17	95.80 ✱✱	50 OFF 100 CROSS (BUILDING 4 & 5 SERVICE) c/w STANDPOSTS
2+030	98.24	95.80 ✱✱	CROSS OVER 150mmØ SAN SERV (OBV = 95.15, 0.5m CLEARANCE)
2+050	98.40	95.95	100mmØ WM
2+054	98.35	95.95	CROSS OVER 150mmØ SAN SERV (OBV = 94.35, 0.m CLEARANCE)
2+056.1	98.28	95.85	100 OFF 50 TEE (BUILDING 4 & 5 SERVICE) c/w STANDPOSTS

200mmØ WATERMAIN TABLE

STATION	SURFACE ELEVATION	TOP OF WM ELEVATION	DESCRIPTION
1+000	97.95	95.10 ✱	CONNECT TO EXISTING 200mmØ WM STUBOUT
1+001	97.96	95.10	50 OFF 200 TEE (BUILDING 2 SERVICE) c/w STANDPOST
1+004	97.98	95.25	45° HORIZONTAL BEND
1+008	97.99	95.40	50 OFF 200 TEE (BUILDING 1 SERVICE) c/w STANDPOST
1+025	97.97	95.40	200mmØ WM
1+027	97.95	94.55	CROSS UNDER 150mmØ SAN SERV (INV = 95.00, 0.5m CLEARANCE) c/w VERTICAL BENDS
1+028	97.93	94.70	150 OFF 200 FIRE HYDRANT TEE
1+029	97.91	94.70	45° HORIZONTAL BEND
1+032	97.74	95.10	50 OFF 200 TEE (BUILDING 1 SERVICE) c/w STANDPOST
1+037	97.63	95.10	50 OFF 200 TEE (BUILDING 2 SERVICE) c/w STANDPOST
1+040	97.56	95.10	45° HORIZONTAL BEND
1+050	97.59	95.00	200mmØ WM
1+050.3	97.58	95.00	CROSS UNDER 150mmØ STM SERV (INV = 95.33, 0.5m CLEARANCE) c/w VERTICAL BENDS
1+050.9	97.57	95.00	50 OFF 200 TEE (BUILDING 2 SERVICE) c/w STANDPOST
1+059	97.53	95.10	50 OFF 200 TEE (BUILDING 3 SERVICE) c/w STANDPOST
1+061	97.56	95.25 ✱✱	CROSS OVER 200mmØ SAN (OBV = 94.51, 0.5m CLEARANCE) c/w VERTICAL BENDS AND INSULATION
1+068	97.53	95.00	50 OFF 200 TEE (BUILDING 3 SERVICE) c/w STANDPOST
1+069	97.51	95.00	100 OFF 200 TEE c/w ISOLATION VALVE
1+075	97.53	95.00	200mmØ WM
1+079.7	97.54	94.70	CROSS UNDER 150mmØ STM SERV (INV = 95.20, 0.6m CLEARANCE) c/w VERTICAL BENDS
1+080.3	97.55	94.70	50 OFF 200 TEE (BUILDING 3 SERV.) c/w STANDPOST
1+090.9	97.71	95.10	11.25° HORIZONTAL BEND
1+091.0	97.71	295.10 ✱	CONNECTION TO EXISTING 200mmØ WM STUBOUT

✱ CONNECTION TO EXISTING 200mmØ WATERMAIN. EXACT ELEVATION TO BE FIELD DETERMINED.
✱✱ PROVIDE THERMAL INSULATION AS PER CITY OF OTTAWA DETAIL W23 AND DETAIL W22 WHERE COVER IS LESS THAN 2.4m AND/OR ADJACENT TO OPEN STRUCTURES.

REVIEWED BY DEVELOPMENT REVIEW BRANCH
Signed _____
Date _____ 2026
Plan Number 19360

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
9.	REVISED PER CITY AND MVCA COMMENTS	APR 24/26	ARM
8.	REVISED PER CITY AND MVCA COMMENTS	FEB 12/26	ARM
7.	REVISED PER CITY AND MVCA COMMENTS	FEB 2/26	ARM
6.	ISSUED FOR COORDINATION	DEC 5/25	ARM
5.	ISSUED FOR REVIEW	JUN 13/25	ARM
4.	ISSUED FOR COORDINATION	JUN 05/25	ARM
3.	ISSUED FOR COORDINATION	FEB 18/25	ARM
2.	ISSUED WITH ADDENDUM #3	OCT 19/22	ARM
1.	ISSUED FOR PHASE 4/5 TENDER	OCT 6/22	ARM

SCALE 1:200 (1:200 0 2 4 6 8)
DESIGN MJB
CHECKED ARM
DRAWN MJB
CHECKED ARM
APPROVED ARM

LICENSED PROFESSIONAL ENGINEER A.R. MCAULEY 100141256 April 24, 2026 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

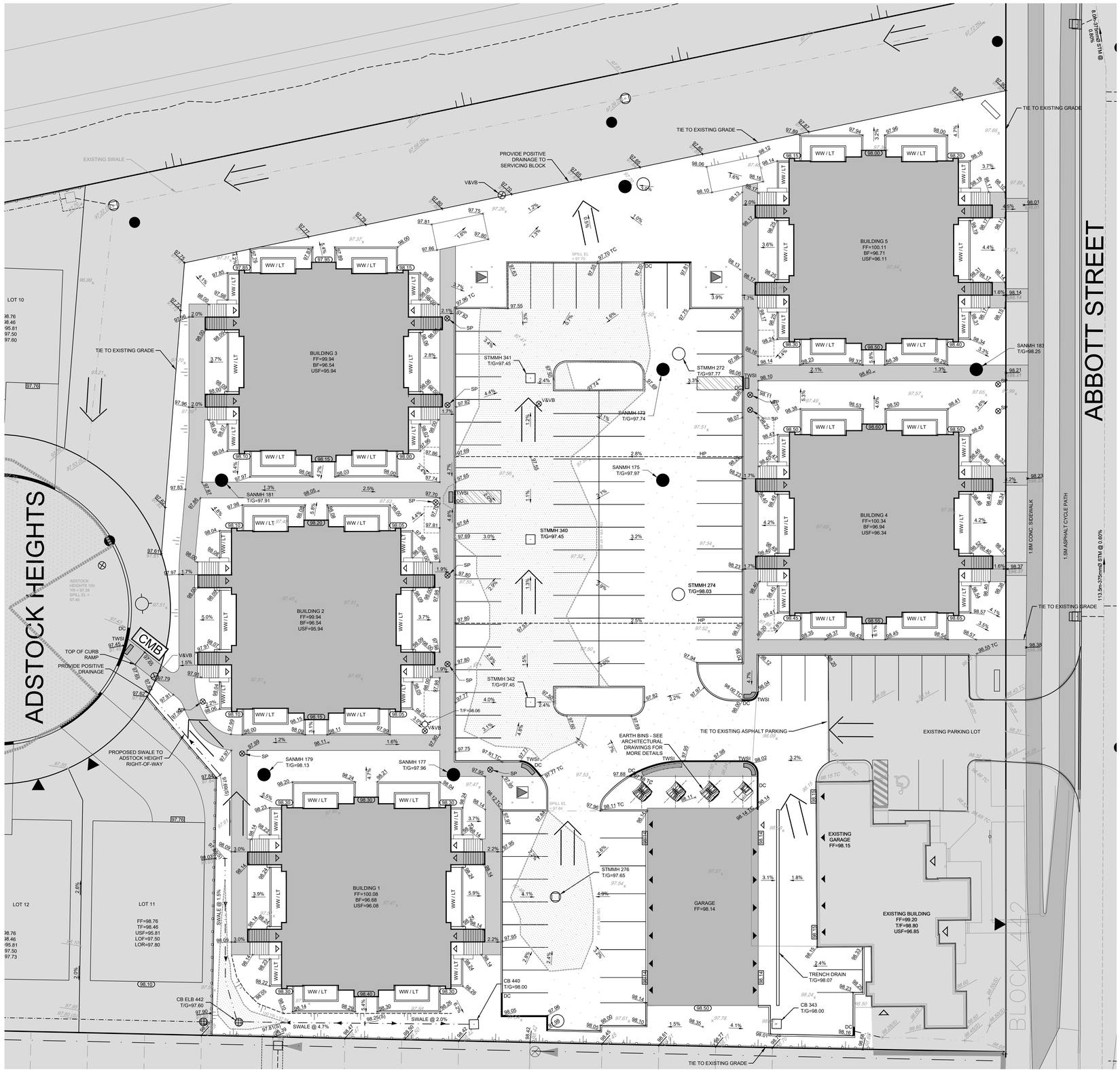
SPB DEVELOPMENT INC.
(METRIC HOMES) SUBDIVISION - BLOCK 123
950 TERRY FOX DRIVE

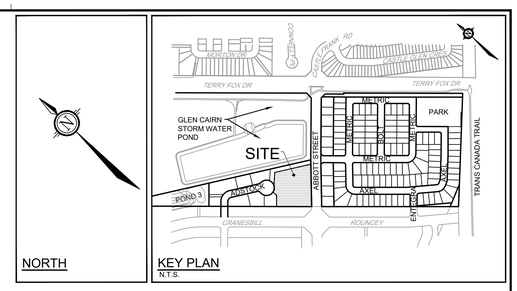
DRAWING NAME
GENERAL PLAN OF SERVICES
BLOCK 123

PROJECT No. 110037
REV REV # 9
DRAWING No. 110037-GP123

D02-02-25-0040/D07-12-25-0084
#19360

M:\2019\110037\CAD\Design_Block123\110037-GP123.dwg, GP, Apr 17, 2026, 2:04pm, mblanton





LEGEND

- EXISTING GRADE
- PROPOSED ELEVATION
- PROPOSED TOP OF CURB ELEVATION
- PROPOSED SWALE ELEVATION
- PROPOSED ELEVATION BY OTHERS
- PROPOSED TERRACE ELEVATION
- PROPOSED GARAGE ELEVATION
- LO — REAR LOOKOUT, FOOTING INSULATION MAY BE REQUIRED
- BF= — BASEMENT FINISHED FLOOR ELEVATION
- USF= — UNDERSIDE OF FOOTING ELEVATION
- FF= — FINISHED FLOOR ELEVATION
- GRADE AND DIRECTION
- PROPOSED TERRACE GRADING (3:1 MAX)
- BARRIER CURB
- DEPRESSED CURB
- DEVELOPMENT BY OTHERS PART OF SEPARATE APPLICATION
- PROPOSED TRANSFORMER c/w PAD AND BOLLARDS
- PROPOSED HYDRANT C/W VALVE & LEAD
- T/F = 98.45 — PROPOSED TOP OF BOTTOM FLANGE
- PROPOSED CATCH BASIN
- PROPOSED CATCH BASIN WITH INLET CONTROL DEVICE
- TEE — PROPOSED LANDSCAPE TEE CATCH BASIN
- ELB — PROPOSED LANDSCAPE ELBOW CATCH BASIN
- PROPOSED SWALE c/w SUBDRAIN
- PROPOSED SWALE
- FH — EXISTING FIRE HYDRANT
- VC EX — EXISTING VALVE CHAMBER
- DIRECTION OF EMERGENCY OVERLAND FLOW
- 100 YEAR PONDING LIMIT
- 100 YR = 97.99 — 100 YEAR PONDING ELEVATION
- SPILL EL =97.71 — OVERLAND SPILL ELEVATION
- TWSI — TACTILE WALKING SURFACE INDICATOR PER CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS
- WW / LT — WINDOW WELL / LOWERED TERRACE - SEE ARCHITECTURAL DRAWING FOR MORE DETAILS

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 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. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
7. ALL ELEVATIONS ARE GEODETIC.
8. REFER TO GEOTECHNICAL REPORT (No. PG2855-3, DATED FEBRUARY 21, 2025), PREPARED BY PATERSON GROUP 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. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARDSURFACE AREAS AND DIMENSIONS.
10. REFER TO STORMWATER MANAGEMENT REPORT (R-2025-013) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
11. SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
12. PROVIDE LINE/PARKING PAINTING.

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 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR FILL USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
5. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
6. MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
7. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
8. ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
9. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
13. 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
50mm HL-3 OR SUPERPAVE 12.5
150mm GRAN "A"
300mm GRAN "B" TYPE II

HEAVY DUTY
40mm HL-3 OR SUPERPAVE 12.5
50mm HL-8 OR SUPERPAVE 19.0
150mm GRAN "A"
450mm GRAN "B" TYPE II

REVIEWED BY DEVELOPMENT REVIEW BRANCH
Signed _____
Date _____ 2026
Plan Number 19360

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
9.	REVISED PER CITY AND MVCA COMMENTS	APR 24/26	ARM
8.	REVISED PER CITY AND MVCA COMMENTS	FEB 11/26	ARM
7.	REVISED PER CITY AND MVCA COMMENTS	FEB 2/26	ARM
6.	ISSUED FOR COORDINATION	DEC 5/25	ARM
5.	ISSUED FOR REVIEW	JUN 13/25	ARM
4.	ISSUED FOR COORDINATION	JUN 05/25	ARM
3.	ISSUED FOR COORDINATION	MAY 16/25	ARM
2.	ISSUED FOR COORDINATION	FEB 18/25	ARM
1.	ISSUED FOR PHASE 4/5 TENDER	OCT 6/22	ARM

SCALE 1:200 (1:200 0 2 4 6 8)

DESIGN MJB
CHECKED ARM
DRAWN MJB
CHECKED ARM
APPROVED ARM

LICENSED PROFESSIONAL ENGINEER A.R. MCAULEY 100141256 April 24, 2026 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

SPB DEVELOPMENTS INC.
(METRIC HOMES) SUBDIVISION - BLOCK 123
950 TERRY FOX DRIVE

DRAWING NAME
GRADING PLAN

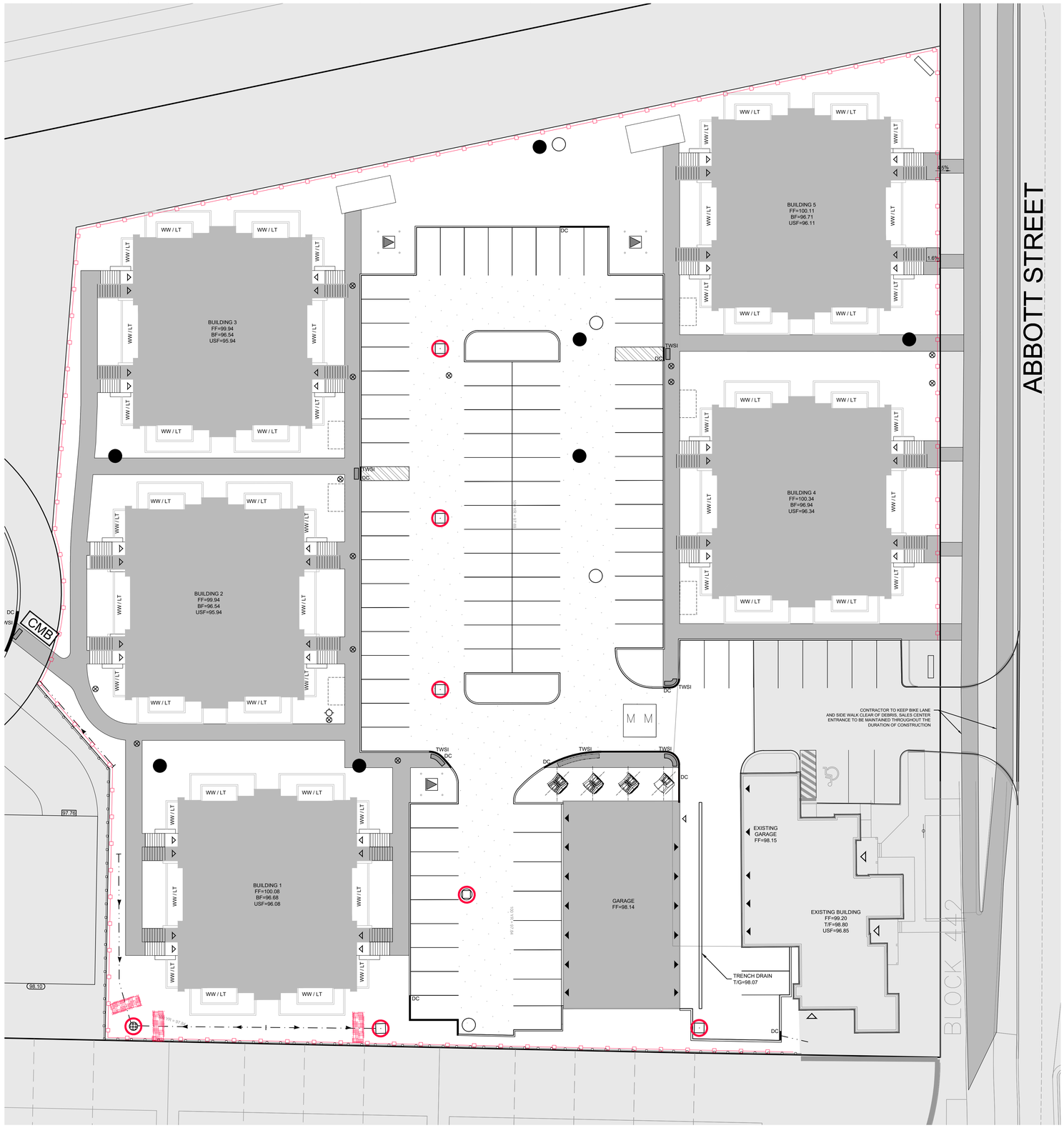
PROJECT No. 110037
REV REV # 9
DRAWING No. 110037-GR123

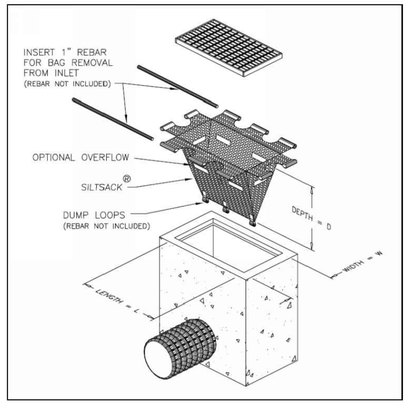
M:\2001\110037\CAD\Design_Block123\110037-GR123.dwg, GR, Apr 17, 2026, 5:17pm, mbainton

D02-02-25-0040/D07-12-25-0084

© NOVATECH, [2026] - Intellectual Property

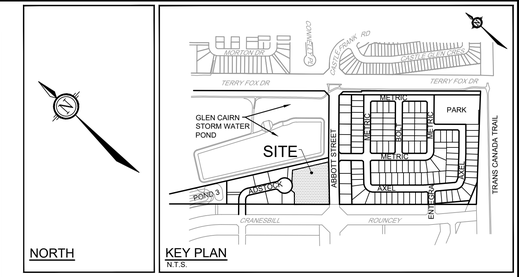
#19360





FILTER BAG DETAIL

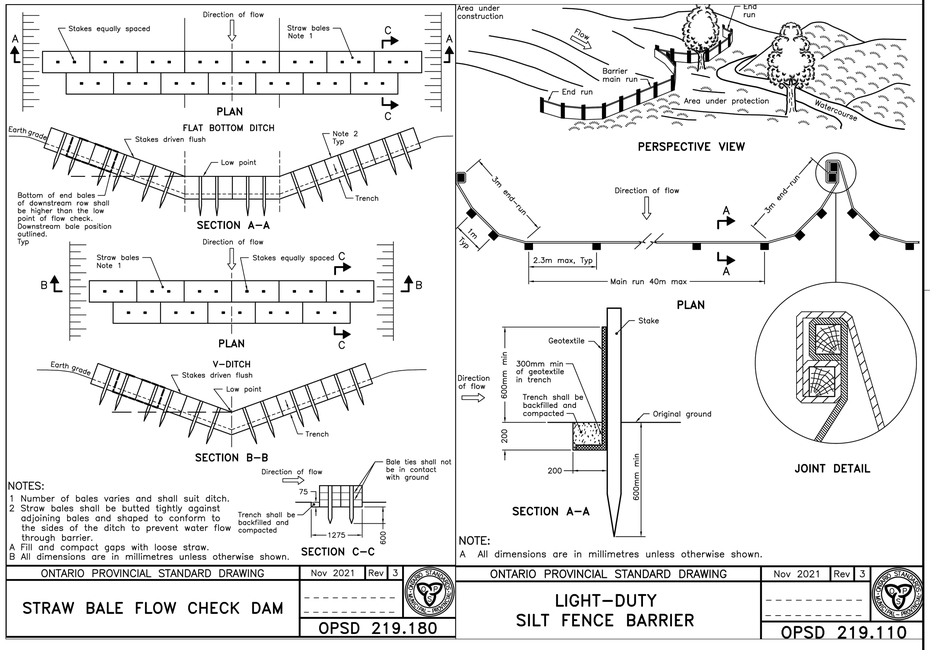
NOT TO SCALE



EROSION AND SEDIMENT CONTROL NOTES:

1. THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, 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 CONTRACTOR SHALL PLACE FILTER BAGS UNDER THE CATCHBASIN AND MANHOLE GRATES FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.
3. SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE DURING CONSTRUCTION.
4. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
5. CONTRACTOR TO INSPECT ALL ESC DAILY AND IMMEDIATELY AFTER EVERY RAINFALL EVENT AND REPAIR ANY DAMAGED OR NON-FUNCTIONING MEASURES IMMEDIATELY.
6. THE PLAN IS TO BE CONSIDERED A 'LIVING DOCUMENT' WHICH MAY BE MODIFIED IN THE EVENT THE EROSION AND SEDIMENT CONTROL MEASURES ARE INSUFFICIENT.
7. ROADWAYS ARE TO BE SWEPT AS REQUIRED OR AS DIRECTED BY THE ENGINEER AND/OR THE REPRESENTATIVE OF THE CITY OF OTTAWA.

				During Construction		After Construction Prior to Final Acceptance		After Final Acceptance
	ESC Measure	Symbol	OPSD No.	Installation Responsibility	Inspection Responsibility	Inspection/Maintenance Responsibility	Removal Responsibility	Inspection/Maintenance Responsibility
Temporary Measures	Light-Duty Silt Fence		219.110	Developer's Contractor	Developer's Contractor	Builder	Builder	N/A
	Straw Bale Flow Check Dam		219.180	Developer's Contractor	Developer's Contractor	Builder	Builder	N/A
	Filter Bags		Erosion and Sediment Control Notes and Details	Developer's Contractor	Developer's Contractor	Builder	Builder	N/A
	Mud Mats		N/A	Developer's Contractor	Developer's Contractor	N/A	N/A	N/A
Permenant Measures	Roof Leaders Directed to Grassed Areas	N/A	N/A	Builder	Builder	Developer/Site Owner	N/A	Developer/Site Owner



ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev 3
STRAW BALE FLOW CHECK DAM		OPSD 219.180

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2021	Rev 3
LIGHT–DUTY SILT FENCE BARRIER		OPSD 219.110

REVIEWED BY DEVELOPMENT REVIEW BRANCH

Signed _____

Date _____ 2026

Plan Number 19360

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
4.	REVISED PER CITY AND MVCA COMMENTS	APR 24/26	ARM
3.	REVISED PER CITY AND MVCA COMMENTS	FEB 11/26	ARM
2.	REVISED PER CITY AND MVCA COMMENTS	FEB 2/26	ARM
1.	ISSUED FOR REVIEW	JUL 22/25	ARM

SCALE 1:200

1:200
0 2 4 6 8

DESIGN DKM
CHECKED MJB
DRAWN DKM
CHECKED ARM
APPROVED ARM

LICENSED PROFESSIONAL ENGINEER
A.R. MCAULEY
100141256
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
(METRIC HOMES) SUBDIVISION - BLOCK 123
4829 ABBOTT ST EAST

DRAWING NAME
EROSION & SEDIMENT CONTROL PLAN

PROJECT No. 110037
REV REV # 4
DRAWING No. 110037-ESC

D02-02-25-0040/D07-12-25-0084

M:\2025\110037\CAD\Design - Block 123\110037-ESC123.dwg, ESC-SHEET B1, Apr 17, 2026 - 3:13pm, mbaston

PLANP-2002 - Version: 2.2

#19360