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Proposed Residential Development (Phase 2)
1500 Merivale Road

Servicing and Stormwater Management Report

Prepared for: Claridge Homes

Proposed Residential Development
(Phase 2)
1500 Merivale Road

Servicing and Stormwater Management Report

Prepared By:

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

September 25, 2026

Novatech File: 121009
Ref: R-2026-078

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September 25, 2026

City of Ottawa
Planning, Infrastructure and Economic Development Department
Planning and Infrastructure Approvals Branch
110 Laurier Avenue West, 4th Floor
Ottawa ON, K1P 1J1

Attention: **Evan Saunders, Planner**

Reference: **1500 Merivale Road (Phase 2)**
Servicing and Stormwater Management Report
Our File No.: 121009

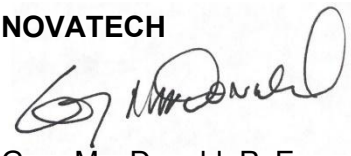
Please find enclosed the revised 'Servicing and Stormwater Management Report' for the above noted project. This report is submitted in support of the site plan application and outlines how the site will be serviced with public infrastructure.

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

Yours truly,

Yours truly,

NOVATECH



Greg MacDonald, P. Eng.
Director, Land Development and Public Sector Infrastructure

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

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Grading Plan (Phase 2)	121009-PH2-GR
Plan & Profile Street 1 1+000.00 - 1+125.00	121009-PR1

1.0 INTRODUCTION

Novatech has been retained by Claridge Homes to prepare a Servicing and Stormwater Management Report for the proposed development located at 1500 Merivale Road within the City of Ottawa. The proposed site is denoted as Part of Lots 18,19, 20, and 21, Registered Plan 30, City of Ottawa. This report is prepared in support of the site plan application for Phase 2 exclusively. **Figure 1 Key Plan** shows the site location.

1.1 Existing Conditions

The site is bound by Street 1 to the west, Baseline Road to the north, existing retail (Loblaws) to the east, future developments, and Merivale Road to the south. **Figure 2** shows the existing site conditions. The Overall Site Servicing Report was prepared by Novatech and design information is provided in the following report:

- 'Serviceability and Stormwater Master Plan, 1500 Merivale Road prepared By Novatech dated September 10, 2026, Report Number R-2021-121 (Referenced as **Master Plan**).

1.2 Proposed Development

The subject site is designated as 'General Urban Area' on Schedule B of the City of Ottawa's Official Plan, with frontage onto Baseline Road, Clyde Avenue, and Merivale Road, all of which have an Arterial Mainstreet designation. The property is zoned 'Arterial Mainstreet' (AM10[2217] H(34)).

The proposed Phase 2 development will consist of one (1) residential development, nine (9) storeys in height, complete with 264 units, and approximately 175 m^2 of commercial and 670 m^2 of amenity space (staff office, bistro bar, kitchen and swimming pool) dedication. Refer to **Figure 3 Site Plan** for details.

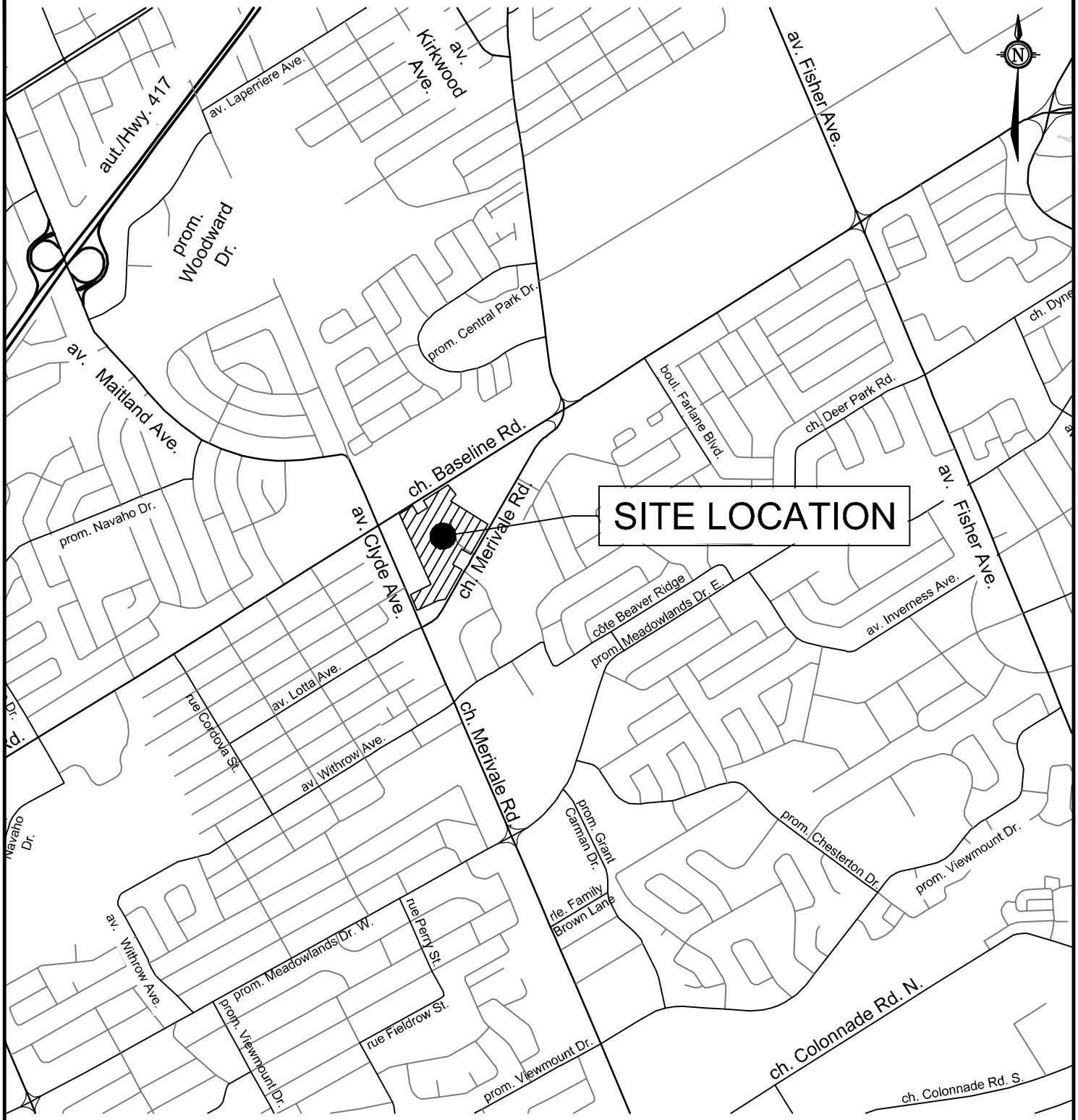
2.0 SITE CONSTRAINTS

A geotechnical investigation was completed by Paterson Group Inc. and a report prepared entitled 'Geotechnical Investigation, Proposed Multi-Storey Building Complex, 1500 Merivale Road' dated February 23, 2021. The report included the following findings:

- Generally, the subsurface profile across the site consists of an approximate 0.8 to 2.6 m thickness of fill underlain by bedrock.

- The long-term groundwater table can be expected at approximate depths of 2.5 to 3.5 m below the existing ground surface. However, it should be noted that groundwater levels are subject to seasonal fluctuations. Therefore, the groundwater level could vary at the time of construction.

- Existing foundation walls and other construction debris should be entirely removed from within the perimeters of the proposed buildings. Under paved areas, existing construction remnants, such as foundation walls, should be excavated to a minimum of 1 m below final grade.



NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
1500 MERIVALE RD

KEYPLAN

SCALE		
N.T.S		
DATE	JOB	FIGURE
DEC 2022	121009	FIGURE-1

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NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
1500 MERIVALE ROAD

EXISTING CONDITIONS PHASE 2

SCALE 1 : 500 (0, 5m, 10m, 20m)

DATE	JOB	FIGURE
SEPT 2026	121009	FIGURE-2

SHT11X17.DWG - 279mmX432mm

BASELINE RD.

BUILDING B
PHASE 2
9 STOREY
MIDRISE

1 STOREY

TERRACE
RELAXATION

COMMUNITY
GARDEN

ROSE
GARDEN

PERGOLA

EXTERNAL
TRANING
ZONE

1
STOREY

DROP-OFF
AREA

RESTURANT
TERRACE

LOADING/DELIVERY
AREA

DROP-OFF
AREA

NO. 1384
1 STOREY
EX. BUILDING
"TIM HORTONS"

NO. 1374
1 STOREY
EX. BUILDING

FUTURE BOULEVARD
FUTURE BIKE LANE

PART 3

PART 4

PART 5

BASELINE ROAD

PUBLIC ROAD
PHASE 1
EXTENTS

EX. CONCRETE CURB
EX. DEPRESSED CURB
EX. 1.5m CONC SIDEWALK
EX. 100mm HYDRO
EX. 25mm GAS
EX. V&VC
EX. V&VB
ASPHALT
EDGE OF ASPHALT
TOP OF SLOPE
BOTTOM OF SLOPE
WOODED AREA
GATE
RWC

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

CITY OF OTTAWA
1500 MERIVALE RD

SITE PLAN - PHASE 2

SCALE 1 : 500 (0, 5m, 10m, 20m)
DATE AUG 2026
JOB 121009
FIGURE FIGURE-3

SHT11X17.DWG - 279mmX432mm

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- The excavation side slopes above the groundwater level extending to a maximum depth of 3 m should be excavated at 1H:1V or shallower. The shallower slope is required for excavation below groundwater level. The subsurface soils are considered to be a Type 2 and 3 soil according to the Occupational Health and Safety Act and Regulations for Construction Projects.

- A temporary Ministry of Environment, Conservation and Parks (MECP) permit to take water (PTTW) may be required if more than 400,000 L/day of ground and/or surface water are to be pumped during the construction phase. At least 4 to 5 months should be allowed for completion of the application and issuance of the permit by the MECP.

- For typical ground or surface water volumes being pumped during the construction phase, typically between 50,000 to 400,000 L/day, it is required to register on the Environmental Activity and Sector Registry (EASR). A minimum of two to four weeks should be allotted for completion of the EASR registration and the Water Taking and Discharge Plan to be prepared by a Qualified Person as stipulated under O.Reg. 63/16. If a project qualifies for a PTTW based upon anticipated conditions, an EASR will not be allowed as a temporary dewatering measure while awaiting the MECP review of the PTTW application.

3.0 WATER SERVICING

The Phase 2 property is within the City of Ottawa pressure Zone 2W2C. There is an existing 400 mm diameter cast iron watermain within the Baseline Road right-of-way along the frontage of the Phase 2 site. The proposed development will also include a 200 mm public watermain within the proposed Street 1.

Water demands have been calculated using criteria from Section 4 of the City of Ottawa Water Distribution Guidelines and the Ontario Building Code. The required fire demands have been calculated using the Fire Underwriters Survey (FUS) Guidelines. The water demand and fire flow calculations are provided in **Appendix B** for reference. A summary of the water demand and fire flows are provided in **Table 3.1,** below.

Table 3.1: Merivale Road Domestic Water Demand Summary

Phase	Population	Ave. Daily Demand (L/s)	Max. Daily Demand (L/s)	Peak Hour Demand (L/s)	Fire Flow (L/s)
Phase 2	482	2.16	5.43	10.21	283

As per the City of Ottawa Guidelines (2025), the proposed building service will consist of twin 200 mm watermains separated by an isolation valve in the right-of-way. As Phase 2 is located at the intersection of Street 1 and Baseline Road it is proposed to achieve the required redundancy by providing one service from the proposed Street 1 watermain, and the second from the existing watermain within Baseline Road. The proposed building will be sprinkled and equipped with Siamese connections. The proposed Siamese connection has been placed to be within 45 m of a fire hydrant. Refer to the General Plan of Services drawing (121009-PH2-GP).

Per City of Ottawa Guidelines (2025) the fire flow was distributed among several surrounding hydrants during modelling as outlined within **Table 3.2**. For the purpose of the model, and considering the available pressures, it was assumed that all proposed onsite and offsite hydrants would be rated as class AA. As the fire flow is calculated as 283 L/s, four (4) hydrants will be required to achieve the required flow. There is presently 1 existing class AA hydrant in the boulevards of Baseline Road within 75 m of the proposed building. Additionally, there are two (2) hydrants proposed within Street 1 within 75 m of the proposed building and one (1) hydrant proposed within 75 m to 150 m of the proposed building. Refer to Appendix B for calculations and the hydrant coverage figure.

Table 3.2: Maximum Flow Hydrant Flows to be Considered

Hydrant Class	Distance to building (m)	Contribution to Fire Flow	
		(L/min)	(L/s)
AA	≤75	5700	95.00
	<75and ≥150	3800	63.33
A	≤75	3800	63.33
	>75and ≥150	2850	47.50
B	≤75	1900	31.67
	>75and ≥150	1500	25.00
C	≤75	800	13.33
	>75and ≥150	800	13.33

The water demand information for the overall site as outlined in the **Master Plan** was submitted to the City of Ottawa for boundary conditions from the City's water model.

The boundary condition information for the connection adjacent to Phase 2 is summarized in **Table 3.3** below:

Table 3.3: Water Boundary Conditions

Criteria	Demand (L/s)	Head (m)
Connection 4 (Baseline Road) – Zone 2W2C		
Max HGL	2.16	133.2
Min HGL	10.21	125.1
Max Day + Fire Flow (283L/s)	287.6	125.6

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

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

The following **Table 3.4** provides a summary of the results from the hydraulic water model.

Table 3.4: Water Boundary Conditions and Hydraulic Analysis Summary for Phase 2

Criteria	Head (m)	Pressure[1] (psi)	Pressure Requirements (psi)
Connection 4 (Baseline Road) – Zone 2W2C [Phase 2]			
Max HGL	133.2	44.79	< 80psi
Min HGL	125.1	33.27	> 40psi
Max Day + Fire Flow (283L/s)	125.6	33.99	> 20psi

[1]Pressure based on a Finished Floor elevation of 101.70 m

The hydraulic analysis indicates that the system can provide adequate pressures and flow to meet the domestic and fire flow requirements for the site.

Refer to **Appendix B** for detailed water demand calculations, and City of Ottawa boundary conditions.

4.0 SANITARY SERVICING

There is an existing 300 mm diameter sanitary sewer within Baseline Road right-of-way along the phase 2 frontage. Through correspondence with the City of Ottawa, it is understood that there are capacity issues within the surrounding sanitary systems that will affect the design of the development.

4.1 Design Criteria

Sanitary flows for the proposed development were calculated using criteria from Section 4 of the City of Ottawa Sewer Design Guidelines (2025) and the Ontario Building Code as follows:

- Residential Average Flow = 280 L/capita/day
- Studio Apartment = 1.4 Person/unit
- 1 Bed apartment = 1.4 Person/unit
- 2 Bed apartment = 2.1 Person/unit
- Commercial flow = Varies (Refer to Design Sheet in Appendix C)
- Residential Peaking Factor = Harmon Equation (max peaking factor = 4.0)
- Commercial Peaking Factor = 1.0
- Peak Extraneous Flows (Infiltration) = 0.33 L/s/ha

4.2 Baseline System (Phase 2)

The Phase Two (2) portion of the site will be serviced by a proposed 200 mm diameter service on the site which connects to the Baseline Road sanitary sewer along the northern property boundary. Based on the data available the existing sewer was installed in 1965 and is composed of reinforced concrete. The sewer flows to the west down Baseline Road and has capacity for future developments.

The peak sanitary flow including infiltration for the Phase Two (2) development was calculated to be **6.16 L/s**. Through correspondence with the City of Ottawa Senior Water Resources Engineer, it is understood that the Baseline system has capacity for the Phase Two (2) development.

Detailed sanitary flow calculations, and correspondence are provided in **Appendix C** for reference.

5.0 STORM SERVICING

Storm servicing for the Phase Two (2) development will be provided using a dual drainage system: Runoff will be stored and conveyed by an underground storm sewers and storage cisterns (minor system), while flows from large storm events which exceed the capacity of the minor system will be conveyed overland along defined overland flow routes (major system). Runoff from the Phase 2 site is tributary the Pinecrest Creek subwatershed via the storm sewers on Baseline Road. There is an existing 300 mm diameter storm sewers within the Baseline Road right-of-way. In the present condition the majority of Phase 2 site sheet drains Clyde Avenue right-of-way.

The proposed development will have 3 services to 3 separate storm sewers. An uncontrolled outlet for the foundation drainage will connect to the Pinecrest Creek system at the northwest corner of the site. Rooftop flows will be directed to a controlled cistern within the underground parking garage at the northeast end of the building before outletting to the Ottawa West storm sewer system. Landscape and parking lot areas will be directed to another controlled cistern at the southwest corner of the site prior to outletting to the storm sewer on Street 1, ultimately connecting to the Parkwood Hills system. Refer to the General Plan of Services drawing (121009-PH2-GP) for details.

5.1 Stormwater Management Criteria

The stormwater management criteria used in the design of the proposed development have been based on the *City of Ottawa Sewer Design Guidelines* (City of Ottawa, December 2025).

5.1.1 Minor System (Storm Sewers)

- Storm sewers are to be designed using the Rational Method for a 2-year return period;
- Underground storage chambers are to be provided to store runoff and attenuate peak flows which exceed the following allowable release rates:
    - For areas tributary to the Parkwood Hills and Ottawa West subwatershed:
        - Peak flows are not to exceed the pre-development peak flow calculated using either the pre-development runoff coefficient or a coefficient of C=0.5, whichever is lower, for a 2-year storm event with a 10-minute time of concentration;

5.1.2 Major System

- Provide on-site storage for storm runoff which exceeds the allowable minor system release rate from the site up to and including the 100-year design event;
- Ponding depths are not to exceed 0.35 m (static + dynamic) and are not to be within 0.30 m (vertical) to the nearest building opening;
- No surface ponding for storms up to and including the 2-year event.

5.2 Water Quality Control

- A minimum depth of 300 mm amended soil shall be provided below all landscaped areas;
- Where possible, implement lot-level and conveyance best management practices to maximize the potential for water quality treatment.

5.3 Storm Sewer Design (Minor System)

The proposed storm sewers have been designed using the Rational Method to convey peak flows associated with a 2-year return period. The storm sewer design sheet is provided in **Appendix D**. The corresponding Storm Drainage Area Plan (**121009-PH2-STM**) is provided at the back of this report.

The design criteria used in sizing the storm sewers are summarized below in **Table 5.1.**

Table 5.1:Storm Sewer Design Parameters

Parameter	Design Criteria
Local Roads	2 Year Return Period
Storm Sewer Design	Rational Method
IDF Rainfall Data	Ottawa Sewer Design Guidelines
Initial Time of Concentration (Tc)	10 min
Minimum Velocity	0.8 m/s
Maximum Velocity	3.0 m/s
Minimum Diameter	200 mm

5.3.1 Allowable Release Rate

Under pre-development conditions, most of Phase 2 flows overland south toward Merivale Road, with only the existing 1374 and 1380 Baseline Road flowing toward Baseline Road. Considering the property limits of the original parcel, we assume that the site would have been accounted for in the design of the Baseline Road sewer as there would have been no other legal outlet available for the site at the time of the development of the master servicing for Baseline Road. As such, flows from the proposed building in the post-development condition will be sent to the Ottawa West subwatershed on Baseline Road and the remaining rear parking lot and landscape flows will be directed to the Parkwood Hills subwatershed via Street 1 to reduce impacts to the Merivale system as there are pre-existing capacity constraints in the Merivale Road sewer system. The allowable release rates for Phase 2 are outlined in **Tables 5.2 & 5.3** below:

Table 5.2: Allowable Release Rates (Ottawa West)

Phase	Total Area (ha)	Allowable Release Rate (L/s)
PH02	0.402	42.9

Table 5.3: Allowable Release Rates (Parkwood Hills)

Phase	Total Area (ha)	Allowable Release Rate (L/s)
PH02	0.423	14.0

5.3.2 Phase 2 Cisterns

As noted within the Master Plan, the allowable release rates for Phase 2 on Ottawa West and Parkwood Hills are 42.9 L/s and 14.0 L/s, respectively. The cistern collecting rooftop flows will outlet to the Ottawa West system via gravity in combination with a backwater valve to eliminate the effects of the high HGL. A grate has been provided outside of the building face as an emergency overflow and will direct flows overland to Baseline. Based on the modified rational method, the cistern requires a minimum storage of 158.92 m^3, and 58 m^2 has been provided. The cistern will require a 102 mm round plate orifice to contain flows to the allowable release rate.

The cistern collecting landscape and parking lot flows will outlet to the Parkwood Hills system via gravity. A catch basin connected directly to the cistern will provide an emergency overflow location and direct flows overland to the Parkwood Hills system. Based on the modified rational method, the cistern requires a minimum storage of 153.73 m^3, and 75 m^3 has been provided. The cistern will require a 105 mm LMF orifice to contain flows to the allowable release rate.

A summary of the sizing details for the Phase 2 cisterns can be found in **Tables 5.6 and 5.7** below. Detailed rational method calculations are provided in **Appendix E**.

Table 5.4: Phase 2 Cistern Summary (Ottawa West)

Design Event	Flow (L/s)	Depth (m)	Storage Required (m^3)
1:2	21.2	0.88	53.90
1:5	25.4	1.26	76.18
1:100	37.0	2.69	158.92

Table 5.5: Phase 2 Cistern Summary (Parkwood Hills)

Design Event	Flow (L/s)	Depth (m)	Storage Required (m^3)
1:2	7.8	0.60	53.76
1:5	9.4	0.89	74.60
1:100	13.8	1.95	153.73

Detailed Rational method calculations are provided in **Appendix E**.

5.3.3 Water Quality Controls

For outflows tributary to the sewer on Merivale Road, water quality treatment will be provided by OGS units installed upstream of the final outlet to the Merivale Road storm sewer. A Stormceptor EFO6 is proposed in place of MH101 (to be constructed during Phase 1 development) and a Stormceptor EFO8 is proposed in place of MH301 (future private road). Details of the proposed OGS units have been provided in **Appendix D**.

6.0 EROSION AND SEDIMENT CONTROL

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

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

Erosion and sediment control measures should be inspected daily and after every rain event to determine maintenance, repair or replacement requirements. Sediments or granulars that enter site sewers shall be removed immediately by the contractor. These measures will be implemented prior to the commencement of construction and maintained in good order until vegetation has been established. Refer to the Erosion and Sediment Control Plan (drawing 121009-PH2-ESC) for additional information.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Watermain

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

- The proposed 200 mm diameter water main proposed under Street 1 connecting to the existing watermain within the Baseline Road right-of-way has capacity to service the development. The dual water service system will have one (1) connection to Street 1 and one (1) connection directly to Street 1.
- There are adequate pressures in the existing watermain infrastructure to meet the required domestic demands for the development.
- There is adequate flow to service the proposed fire protections system.

Sanitary Servicing

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

- It is proposed to service the development with a proposed 200 mm service discharges directly into existing sewers within the Baseline Road right-of-way. It is anticipated there is adequate capacity within the existing sanitary infrastructure to service.

Stormwater Management

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

- The proposed development will have 3 services to 3 separate storm sewers. An uncontrolled outlet for the foundation drainage will connect to the Pinecrest Creek system at the northwest corner of the site. Rooftop flows will be directed to a controlled cistern within the underground parking garage at the northeast end of the building before outletting to the Ottawa West storm sewer system. Landscape and parking lot areas will be directed to another controlled cistern at the southwest corner of the site prior to outletting to the storm sewer on Street 1, ultimately connecting to the Parkwood Hills system.
- Stormwater control for Phase 2 will be provided by cisterns within the P1 parking levels.
- As per the proposed grading plans, major overland flow routes have been provided to the surrounding rights-of-way.

Erosion and Sediment control

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

8.0 CLOSURE

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

NOVATECH

Prepared by:



Curtis Ferguson, P.Eng.
Project Engineer
Land Development Engineering

Reviewed by:



Greg MacDonald, P.Eng.
Director, Land Development and Public Sector Infrastructure

Appendix A
Pre - Consultation Meeting Minutes

File No.: PC2021-0089
Date: April 15, 2021

ADDRESS 1500 Merivale Road
Pre-Consultation Meeting Minutes
Meeting Date: March 25, 2021

Attendee	Role	Organization
Lisa Stern	File Lead	City of Ottawa
Mark Young	Urban Designer	
Santosh Kuruvilla	Infrastructure Project Manager	
Mike Giampa	Transportation Project Manager	
Louise Cerveny	Parks Planner	
Kersten Nitsche	Planner	Fotenn
Brian Casagrande	Planner	
Vincent Denomme	Landowner	Claridge Homes
Neil Malhotra	Landowner	
Nathan Godlovitch	Architect	Evoq Architecture
Sayeh Jolan		
Etienne Forget		
Brad Byvelds		Novatech
Jennifer Luong		
Doug Yonson	Community Association Representative	Fisher Heights Area Community Association
Tony Sroka	Community Association Representative	

Comments from the Applicant:

1. Have proposed a built form that meets the zoning.
2. Have proposed a mainly a mid-rise residential built form with approximately 2000 units.
3. A public park is proposed at the south end of the site.
4. The build out of the site will occur over time. Build out may take 20 years.

Planning Comments:

1. The application will require a complex site plan application. The application form, timeline and fees can be found here.
2. The subject lands are designated Arterial Mainstreet in the City's Official Plan and are zoned Zoning: AM10[2217] H(34)
    a. Exception: - for lots greater in area than 1250 m^2, 2% of the total lot area must be provided as outdoor communal space located at grade anywhere on the lot and such area can also be used towards complying with any amenity area requirements
3. The site is within the boundaries of the Merivale Road Secondary Plan.
4. Please keep apprised of the direction in the draft Official Plan.
5. Guidelines for Arterial Mainstreets, TOD development, Bird Friendly Design Guidelines apply.
6. There was a motion made at Council to *"add the completion of an urban design analysis of the Merivale Triangle to the Planning, Infrastructure and Economic Development Department's multi-year workplan, and direct staff to undertake this analysis as soon as feasible"*.

7. Please provide a Planning Rationale which discusses how the proposal meets the intent of policy and guidelines. A high quality built form and pedestrian oriented public realm is expected.
8. In light of the amenity space requirements of the site specific zoning exception and the requirement to provide parkland on site, please discuss the objectives/rationale for the open space network provided in the Planning Rationale report and how it meets the intent of the Secondary Plan and relevant guidelines.
9. While it is recognized that the proposal conforms to the Zoning of the site, staff strongly recommend consideration of varying building typologies and heights to visually break up the site, provide opportunities for placemaking and to provide increased densities in proximity to Rapid Transit.
10. Both the Arterial Mainstreet designation and the Secondary Plan speak to providing a mix of uses a mix of uses that is compact in urban form, and pedestrian-oriented and transit friendly places. Please examine providing commercial/retail uses at grade to animate roadway frontages and public space.
11. The secondary plan recognizes that this property is very complex and are subject to a number of development constraints arising from the existing development pattern and the complexity of the land ownership. The secondary plan states that as a result, proposals to develop this area may be considered on a staged basis to accommodate a transition to a more coordinated and integrated built form. It is not clear that the proposed plan considers transitions to surrounding properties.
    - Please provide a concept and phasing plan for the entire triangle area to ensure that non-participatory properties can be developed in a logical and cohesive fashion.
    - Provide a concept plan to show how surrounding properties will develop and be integrated with park uses and illustrate how loading and access on adjacent sites can be integrated/buffered.
12. Connectivity through the site to BRT is important to provide for active transportation connections and to meet the objectives of the OP, Secondary Plan and applicable guidelines. The Secondary Plan specifically contemplates a roadway and cycling access through the site. Public access should be provided through the site. Public Roadway would be preferable to provide public frontage on Park, consolidate accesses between sites and provide public access to BRT.
13. Please consider building placement and orientation to frame public/private roadways to compliment the configuration of adjacent buildings. Please consider orienting buildings so that the massing reinforces the street/private way edge.
14. Please consider breaking up the long buildings provide opportunities for physical and visual connections. Connections should be provided to create pedestrian and cycling links and overall site permeability. Connections to/from surrounding properties to the park/open space and BRT should be considered in design.
15. Staff appreciates the provision of underground parking. Please ensure that the extent of underground parking structures will not inhibit the provision of large tree planting on the site.
16. Staff would appreciate the opportunity for further consultation/discussion as the proposal is refined in order provide more detailed comments regarding public space, infrastructure and access.
17. Please consult with the Ward Councillor and Community Association prior to submission.

Urban Design:

1. Please ensure that the proposed applications conform to the Merivale Road Secondary Plan.

2. Please consult and address the Design Guidelines prepared for the Secondary Planning area by the Planning Partnership in 1998. These guidelines provide additional guidance that should be considered and addressed based on Secondary Plan policy 5.2:

   5.2 The Urban Design Guidelines developed as part of the Secondary Plan process are instrumental in the formulation and achievement of the land use and design vision for the Merivale Road Corridor. Although some of the policies of this Plan derived difficulty from the Urban Design Guidelines and are intended to assist in the achievement of this vision, it must be demonstrated to the satisfaction of the City that development proposals comply with their specific direction and general intent.

3. A site of this size requires a Neighbourhood Approach to Planning vs. a Site Planning Approach.
4. The current approach appears to be rooted in a Campus approach and does not appear to consider a higher-level approach to neighbourhood building.
5. There is a need to look at the entire picture and the surrounding context of this site and use this to inform the design. This should consider how abutting sites can be integrated into the new neighbourhood fabric if and when they redevelop. Many of the adjacency relationships shown are not appropriate. This is considered in the Secondary Plan policies and should be provided as part of a design brief submission.

   3.1.1.2 1.a. viii. Lands within the triangle formed by Merivale Road, Clyde Avenue and Baseline Road are subject to a number of development constraints arising from the existing development pattern and the complexity of the land ownership. As a result, proposals to develop this area may be considered on a staged basis to accommodate a transition to a more coordinated and integrated built room.

6. Additional Connectivity and permeability should be sought, in the form of additional publicly accessible connections, including public streets as indicated in the Secondary Plan.

   3.1.4.1.1.a.ii Road systems should be introduced within large blocks, particularly those on the east side of Merivale Road and the Clyde Avenue/Merivale Road/Baseline Road "triangle", to increase their permeability and to distribute traffic more evenly while minimizing the number of driveways on Merivale Road and Clyde Avenue.

   3.1.3.1.1.a.i. Council shall require that new roads be incorporated in proposals for development and redevelopment along Merivale Road. Conceptual corridors for some of these roads have been identified on Schedule 2 while others, such as in the area of the triangle of lands formed by Merivale Road, Clyde Avenue and Baseline Road will be identified during the review of development applications.

   3.1.3.1.1.a.ii. New roads required by Council are not necessarily intended to be in public ownership in all cases but may be privately-built roads designed to public road standards.

7. Creation of a meaningful public realm both internal and external to the site is key to the success of the project. Need to consider which elements will make that public realm a success. Elements should include:

a. At grade activation and animation both internal and external to the site. Secondary Plan 3.1.1.2.1.a.vii
b. Enhancements in the treatment of the public realm along all three arterial road frontages. Secondary Plan 3.1.1.3
c. Active transportation connections through the site for pedestrians and cyclists. Secondary Plan 3.1.2.2
d. Provision of an urban tree canopy in the neighbourhood.
e. The incorporation of a public park as a focal point for the neighbourhood.
f. Built form relationships to the public realm.
g. Shadowing and Wind – impacts on the public realm.
h. The provision of grade related units.
i. Ensuring that parking and "functional" (loading, refuse collection etc.) elements to the project are not prominent in the public realm.

8. The proposal will be subject to Urban Design Review Panel. A pre-consultation with the Panel is recommended as a first step in the design process.
9. A Design Brief will be required in support of the application. A Terms of Reference is attached.
10. PRUD staff support the concept of a green passage and pedestrian connectivity in a north/south orientation across the site. There is a serious concern that this grand design gesture will be pinched at north end in the vicinity of the Tim Horton's Site. The connection point to Baseline Road needs to be strengthened.
11. PRUD staff appreciate the applicants desire to locate as much parking below grade as possible.
12. PRUD are concerned with a lack of mixed uses on-site. The approach to solely residential is not appropriate in the planning of a site/neighbourhood of this size. Secondary Plan Policy 3.2.1.2 requires the following:

    Residential uses located adjacent to Merivale Road shall only be permitted to be located above ground level retail or office uses. Stand alone residential uses may not be permitted at locations fronting onto Merivale Road or Clyde Avenue.

13. PRUD staff are concerned with the lack of consideration and setbacks to abutting sites, and the proposed orientation of dwelling units.
14. PRUD staff question the use of only a Bar built form for the entire site. Consideration should be given to a combination of built forms, and buildings including the use of high-rise typologies.
15. Please consider buffering from existing and proposed loading areas/back of house functions early in the design process. Secondary Plan 3.1.3.3.
16. Please be aware of the recent Council adopted motion related to the design of these lands.

Parks

1. Further Parks conditions and requirements for parkland dedication will apply upon review of formal development submission.
2. Maximum Parkland dedication will be taken on the development site, based on the total amount of land developed or the number of units per hectare, which ever is greatest.
3. In the event that there is a change in the proposed use, block area, residential product and/or number of dwelling units within the Final Plan, the required parkland dedication will also be subject to change.
4. The surrounding streets of Baseline, Clyde and Merivale are busy, often congested and do not provide the necessary and safe frontage for a park. One large and centrally located park parcel is required to provide maximum benefit to the new community and surrounding neighbourhoods.

5. Small parkettes on remnant, undevelopable land will not be considered.
6. A facility fit plan for the park is required. The overall plan shall include park layout, proposed amenities, grading plan and tree planting plan.
7. No encumbrances on the park land are permitted including utilities, stormwater management facilities, or overland drainage from the development.
8. Park servicing is required.
9. Pedestrian linkages (as registered easements) from the surrounding roads offering access to the park and circulation through the site are required. As indicated in the, "useable and clearly identifiable network of open space" as indicated in the Merivale Road Secondary Plan (P.9).
10. Consider impact of north wind/tunnel effect through the development and to the park location and open spaces.

Transportation:

1. Proceed to TIA step2, scoping. The application will not be deemed complete until the submission of the draft step 2-4, including the functional draft RMA package (if applicable) and/or monitoring report (if applicable).
2. Although a full review of the TIA Strategy report (Step 4) is not required prior to an application, it is strongly recommended.
3. Synchro files are required at Step 4.
4. Please note that all new applications (pre-consultation meetings dated after March 3, 2021) must use the NEW TRANS Trip Generation Manual when forecasting site generated trips using this manual. The TRANS committee (a joint transportation planning committee serving the National Capital region) finalized a new manual early in March 2021. The document will be available in French and English on the TRANS website http://www.ncr-trans-rcn.ca/surveys/2009-trip-generation.
5. Any access to Baseline Road must be coordinated with the Baseline BRT reconstruction and will be right in right out only due to the ultimate center median. Full movement access may be provided on Merivale Road subject to the TIA analysis and enough spacing from any existing traffic control. All road modifications are at the applicant's cost.
6. ROW protection on Baseline and Merivale is 44.5 m and 37.5m.
7. Corner sight triangles: 5m x 5m minimum.
8. A Road Noise Impact Study is required
9. ROW protections are:
   - Baseline is 30 m, protected for 44.5 m
   - Clyde is 30 m, protection is 34 m
   - Merivale is 30 m, protection is 44.5 m

Infrastructure:

1. The Servicing Study Guidelines for Development Applications are available at the following link: https://ottawa.ca/en/city-hall/planning-and-development/information-developers/development-application-review-process/development-application-submission/guide-preparing-studies-and-plans
2. Record drawings and utility plans are available for purchase from the City's Information Centre. Contact the City's Information Centre by email at informationcentre@ottawa.ca or by phone at (613) 580-2424 x44455
3. Stormwater quantity control criteria:

a. Discharge to the north (baseline) will have to follow the very strict Pinecrest creek criteria (full retention/infiltation of first 10 mm and then control the remainder of the flow to 34.5 L/s/ha).
b. Discharge to Merivale, will go into Parkwood hills, which only has 2 year capacity. Will need to control to the 2 year using C=0.5, but we will also need to enter their flow into our flood risk model to see what the downstream impact is. Most of the site already drains there, so we will just confirm the impact of their flows in the model.



4. Potential outlets and allowable sanitary discharge - Please see attached email from Eric Tousignant, dated March 19, 2021.
5. Existing sanitary sewers are available on Merivale Road (200 mm dia.), Clyde Ave. (200 mm dia.), and Baseline Road (300 mm dia.).
6. Existing storm sewers are available on Merivale Road (900 mm dia.), Clyde Ave. (375 mm dia.), and Baseline Rd. (300 mm dia.).
7. Existing watermains are available on Merivale Road (203 mm dia., 305 mm dia.), Clyde Ave. (305 mm dia.), and Baseline Road (406 mm dia.).
8. Looping is required for water.
9. Stormwater quality control – Consult with the Conservation Authority (RVCA) for their requirements. Include the correspondence with RVCA in the stormwater/site servicing report.
10. Please note that as per Technical Bulletin PIEDTB-2016-01 section 8.3.11.1 (p.12 of 14) there shall be no surface ponding on private parking areas during the 2-year storm rainfall event. Depending on the SWM strategy proposed underground or additional underground storage may be required to satisfy this requirement.

11. 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.
12. Please provide an Existing Conditions/Removals Plan as part of the engineering drawing set. Any existing services are to be removed or abandoned in accordance with City standards.
13. As per the City of Ottawa Slope Stability Guidelines for Development Applications an engineering report is required for any retaining walls proposed 1.0 m or greater in height within the subject site that addresses the global stability of the wall and provides structural details. A Retaining Wall Stability Analysis Report and Retaining Wall Structural Details are required to be provided from a Professional Engineer licensed in the Province of Ontario that demonstrates the proposed retaining wall structure has been assessed for global instability as per City standards. Please ensure the analysis and required documentation are provided as part of the submission to address this comment.
14. Emergency routes will need to be satisfactory to Fire Services. Please show fire routes on the site plan. For information regarding fire route provisions, please consult with Kevin Heiss at kevin.heiss@ottawa.ca.
15. Clearly show and label the property lines on all sides of the property.
16. Clearly show and label all the easements (if any) on the property, on all plans.
17. When calculating the post development composite runoff coefficient (C), please provide a drawing showing the individual drainage area and its runoff coefficient.
18. When using the modified rational method to calculate the storage requirements for the site, the underground storage should not be included in the overall available storage. The modified rational method assumes that the restricted flow rate is constant throughout the storm which, in this case, underestimates the storage requirement prior to the 1:100-year head elevation being reached. Alternately, if you wish to include the underground storage, you may use an assumed average release rate equal to 50% of the peak allowable rate. Otherwise, disregard the underground storage as available storage or provide modeling to support the design.
19. Engineering plans are to be submitted on standard A1 size (594mm x 841mm) sheets.
20. Phase 1 ESA and Phase 2 ESA must conform to clause 4.8.4 of the Official Plan that requires that development applications conform to Ontario Regulation 153/04.
21. Provide the following information for water main boundary conditions:
    a. Location map with water service connection location(s).
    b. Average daily demand (l/s).
    c. Maximum daily demand (l/s).
    d. Maximum hourly demand (l/s).
    e. Fire flow demand (provide detailed fire flow calculations based on Fire Underwriters survey (FUS) Water Supply for Public Fire Protection). Exposure separation distances shall be defined on a figure to support the FUS calculation and required fire flow (RFF).
22. Hydrant capacity shall be assessed to demonstrate the RFF can be achieved. Please identify which hydrants are being considered to meet the RFF on a fire hydrant coverage plan as part of the boundary conditions request.
23. If you are proposing any exterior light fixtures, all must be included and approved as part of the site plan approval. Therefore, the lights must be clearly identified by make, model and part number. All external light fixtures must meet the criteria for full cut-off classification as recognized by the Illuminating Engineering Society of North America (IESNA or IES), and must result in minimal light spillage onto adjacent properties (as a guideline, 0.5 fc is normally the maximum allowable spillage). In order to satisfy these criteria, the applicant must provide certification from an acceptable professional engineer. The location of all exterior fixtures, a

table showing the fixture types (including make, model, part number), and the mounting heights must be included on a plan.

24. As per Ottawa Sewer Design Guideline section 4.4.4.7, a monitoring maintenance hole shall be required just inside the property line for all non-residential and multi residential buildings connections from a private sewer to a public sewer. See the sewer use By-law 2003-514(14) monitoring devices for details.

Forestry

TCR requirements:

1. a Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City
    a. an approved TCR is a requirement of Site Plan approval.
2. As of January 1 2021, any removal of privately or publicly (City) owned trees 10cm or larger in diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.
3. The Planning Forester from Planning and Growth Management as well as foresters from Forestry Services will review the submitted TCR
    a. If tree removal is required, both municipal and privately-owned trees will be addressed in a single permit issued through the Planning Forester
    b. Compensation may be required for city owned trees – if so, it will need to be paid prior to the release of the tree permit
4. the TCR must list all trees on site by species, diameter and health condition
5. the TCR must list all trees on adjacent sites if they have a critical root zone that extends onto the development site
6. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained
7. All retained trees must be shown and all retained trees within the area impacted by the development process must be protected as per City guidelines available at Tree Protection Specification or by searching Ottawa.ca
    a. securities may be required for retained trees
    b. the location of tree protection fencing must be shown on a plan
    c. show the critical root zone of the retained trees if they are in/near disturbance areas
    d. if excavation will occur within the critical root zone, please indicate the limits of excavation
8. the City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.
9. For more information on the process or help with tree retention options, contact Mark Richardson mark.richardson@ottawa.ca or on City of Ottawa

LP tree planting requirements:

For additional information on the following please contact Adam.Palmer@Ottawa.ca

Minimum Setbacks

- Maintain 1.5m from sidewalk or MUP/cycle track.
- Maintain 2.5m from curb
- Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.

- Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing.
- Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.

Tree specifications

- Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
- Maximize the use of large deciduous species wherever possible to maximize future canopy coverage
- Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and include watering and warranty as described in the specification (can be provided by Forestry Services).
- Plant native trees whenever possible
- No root barriers, dead-man anchor systems, or planters are permitted.
- No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

Hard surface planting

- Curb style planter is highly recommended
- No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.
- Trees are to be planted at grade

Soil Volume

- Please ensure adequate soil volumes are met:

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

Please note that these soil volumes are not applicable in cases with Sensitive Marine Clay.

Sensitive Marine Clay

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

Fisher Heights Area Community Association:

1. Please see attached letters from D. Yonson and T. Sroka representing the interests of the CA.

Please refer to the links to "Guide to preparing studies and plans" and fees for general information. Additional information is available related to building permits, development charges, and the Accessibility Design Standards. Be aware that other fees and permits may be required, outside of the development review process. You may obtain background drawings by contacting informationcentre@ottawa.ca.

These pre-con comments are valid for one year. If you submit a development application(s) after this time, you may be required to meet for another pre-consultation meeting and/or the submission

requirements may change. You are as well encouraged to contact us for a follow-up meeting if the plan/concept will be further refined.
Please contact me at Lisa.Stern@ottawa.ca or at 613-580-2424 extension 21108 if you have any questions.

Appendix B
Water Servicing

FUS - Fire Flow Calculations

As per 2020 Fire Underwriter's Survey Guidelines

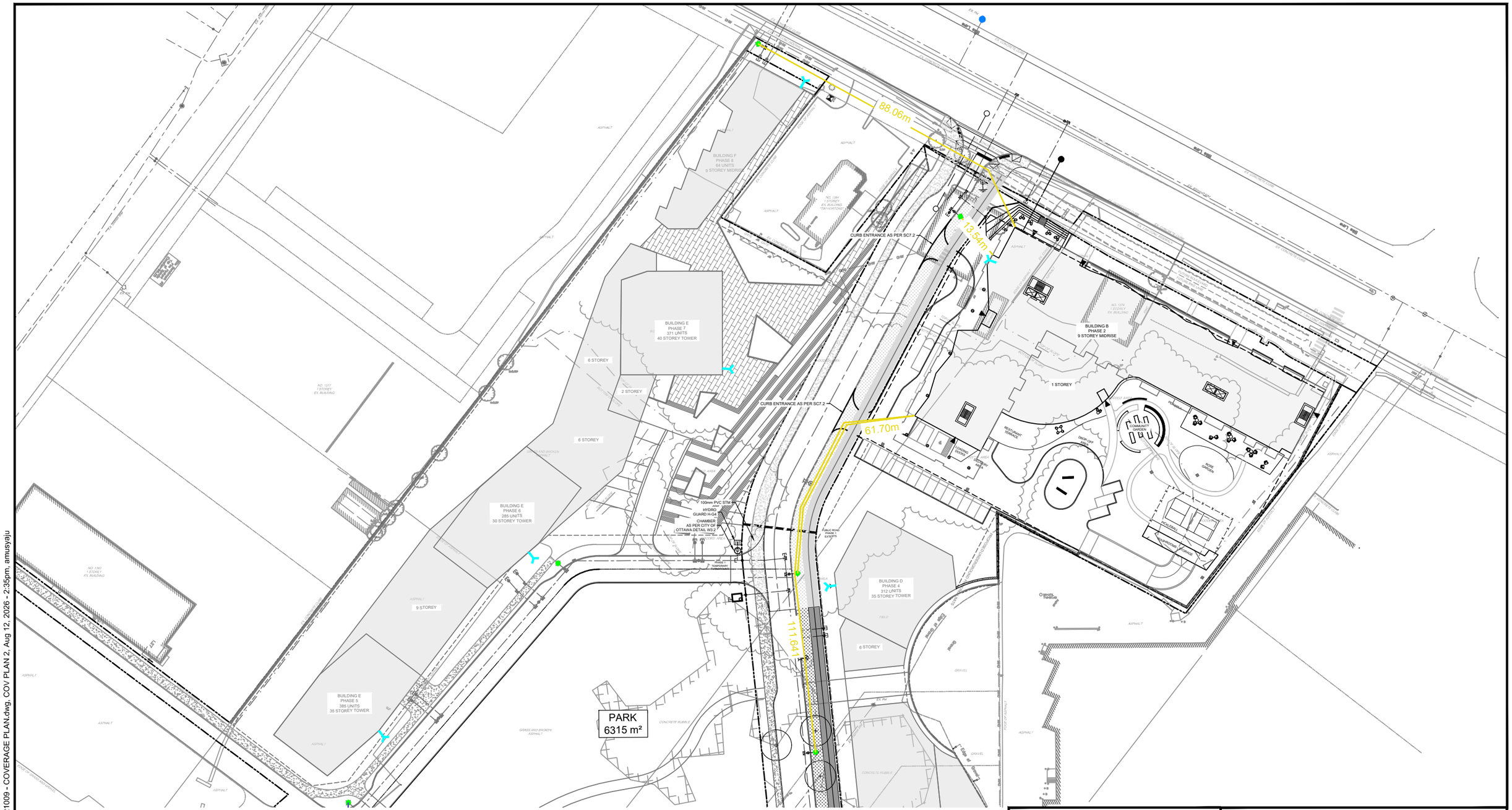
NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 121009
Project Name: 1500 Merivale Road
Date: 9/25/2026
Input By: Curtis Ferguson,P.Eng
Reviewed By: Nicole Wells, C.E.T.

Legend: Input by User; No Information or Input Required

Building Description: Phase 2 - 9 Storey Building (Podium and Tower)
Type II - Non-combustible construction

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		1.5	0.8	
		Type IV - Mass Timber		Varies		
		Type III - Ordinary construction		1		
		Type II - Non-combustible construction	Yes	0.8		
		Type I - Fire resistive construction (2 hrs)		0.6		
2	**Floor Area**					
	A	Podium Level Footprint (m^2)	3146			
		Total Floors/Storeys (Podium)	1			
		Tower Footprint (m^2)	3212			
		Total Floors/Storeys (Tower)	8			
		Protected Openings (1 hr)	No			
		A, Total Effective Floor Area (m^2)			**17,600**	
	F	**Base fire flow without reductions**				**23,000**
		$F = 220\ C\ (A)^{0.5}$				
Reductions or Surcharges						
3	**Occupancy hazard reduction or surcharge**		**FUS Table 3**	**Reduction/Surcharge**		
	(1)	Non-combustible		-25%	-15%	**19,550**
		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)	Yes	-30%	-30%	**-7,331**
		Standard Water Supply	Yes	-10%	-10%	
		Fully Supervised System	Yes	-10%	-10%	
				Cumulative Sub-Total	**-50%**	
		Area of Sprinklered Coverage (m^2)	21631.5	75%		
				Cumulative Total	**-38%**	
5	**Exposure Surcharge per**		**FUS Table 5**		**Surcharge**	
	(3)	North Side	>30m		0%	**4,888**
		East Side	10.1 - 20 m		15%	
		South Side	20.1 - 30 m		10%	
		West Side	>30m		0%	
				Cumulative Total	**25%**	
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
7	**Storage Volume**	Required Duration of Fire Flow (hours)			Hours	3.5
		Required Volume of Fire Flow (m^3)			m^3	3570



LEGEND

- PROPERTY LINE
- PROPOSED SIAMESE CONNECTION
- EXISTING CLASS AA HYDRANT
- PROPOSED HYDRANT
- DISTANCE FROM HYDRANT TO SIAMESE CONNECTION/ BUILDING ENTRANCE

NORTH

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

CITY OF OTTAWA
1500 MERIVALE ROAD

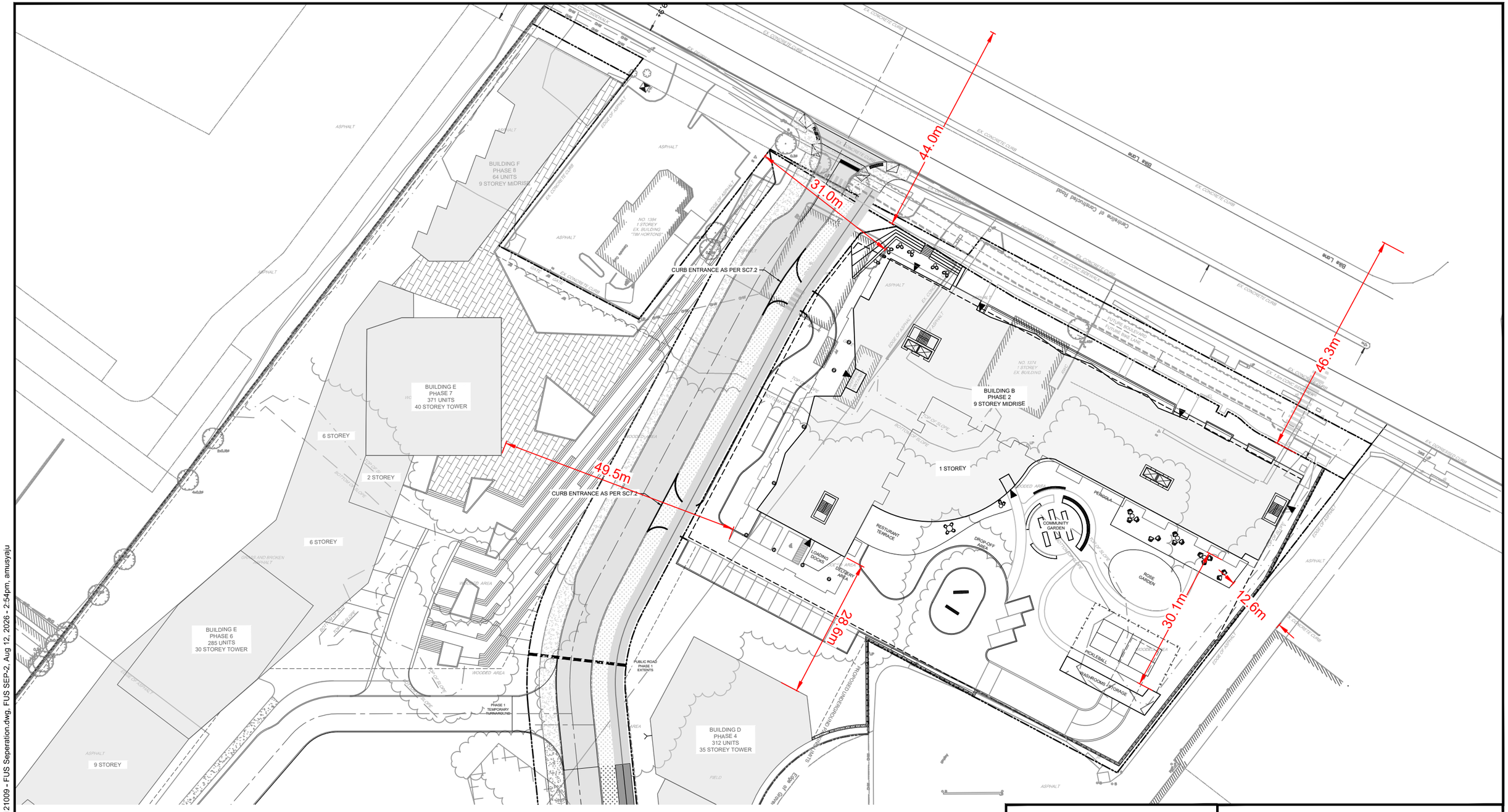
COVERAGE PLAN

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

DATE MAY 2026 | JOB 121009 | FIGURE COV2

SHT11X17.DWG - 279mmX432mm

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LEGEND

- PROPERTY LINE
- PROPOSED TACTILE INDICATOR
- PROPOSED ENTRANCE
- DC — PROPOSED DEPRESSED CURB

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6

Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

CITY OF OTTAWA
1500 MERIVALE ROAD

FUS SEPARATION

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

DATE AUG 2026 | JOB 121009 | FIGURE SEP-2

SHT11X17.DWG - 279mmX432mm

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Water Demand Design Sheet

NOVATECH
Engineers, Planners & Landscape Architects

Boundary Condition Request

Novatech Project #: 121009
Project Name: 1500 Merivale Rd - Phase 2 □
Date: 8/18/2026
Input By: Anjush Musyaju, E.I.T.
Reviewed By: Curtis Ferguson, P.Eng.
Drawing Reference: 121009-GP-Phase 2

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 = YES

	# of Dwellings	Area (ha.)	Pop. Equiv.	Average Day Demand (L/s)	Maximum Day Demand (L/s)	Peak Hour Demand (L/s)	Basic Day Demand (m^3/day)
Residential Input							
Singles			0.00	0.00	0.00	0.00	0.0
Semis / Townhomes			0.00	0.00	0.00	0.00	0.0
Apartments (2-BR)	160		336.00	1.09	3.16	5.99	94.1
Apartments (1-BR)	88		123.20	0.40	1.16	2.20	34.5
Apartments (Studio)	16		22.40	0.07	0.21	0.40	6.3
Total	**264**		**481.60**	**1.56**	**4.53**	**8.58**	**134.85**
Industrial / Commercial / Institutional (ICI) Input							
		Area (m^2)	**Seats**	**Average Day Demand (L/s)**	**Maximum Day Demand (L/s)**	**Peak Hour Demand (L/s)**	**Basic Day Demand (m^3/day)**
Industrial Area - Light				0.00	0.00	0.00	0.0
Industrial Area - Heavy				0.00	0.00	0.00	0.0
Commercial Area				0.00	0.00	0.00	0.0
Institutional Area				0.00	0.00	0.00	0.0
Other Area				0.00	0.00	0.00	0.0
Café		175.12	145.93	0.23	0.35	0.62	0.5
Office		77.76	8.36	0.01	0.01	0.02	0.2
Bistro/Bar		103.77	86.48	0.13	0.19	0.34	0.3
Kitchen		136.10	14.63	0.02	0.03	0.05	0.4
Swimming Pool		354.24	472.32	0.22	0.33	0.59	1.1
Total		**846.99**	**727.72**	**0.60**	**0.90**	**1.63**	**2.5**
Grand Total	**264**			**2.16**	**5.43**	**10.21**	**137.39**

Summary

i. Type of Development and Units:	9 Storey senior living building with Ground floor commercial		
ii. Site Address:			
iii. Proposed Water Service Connection Location(s):	200mm service connection to tie into the existing 400mm diameter watermain on Baseline road.Another connection on proposed Street 1 to tie into proposed 200mm water main		
iv. Average Day Flow Demand:		2.16	L/s
v. Peak Hour Flow Demand:		10.21	L/s
vi. Maximum Day Flow Demand:		5.43	L/s
vii. Required Fire Flow #1:		283	L/min
viii. Required Fire Flow #2:			L/min
ix. Required Fire Flow #3:			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 (Studio)**
Population Equiv.	3.4	2.7	2.1	1.4	1.4
Dailly Demand	L/per person/day				
Average Demand	280				
Basic Demand	280				

Vulnerable Service Area (VSA)
50
< 50 m³/day
> 50 m³/day

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

Institutional / Commercial / Industrial				
Industrial		**Commercial**	**Institutional**	**Other Use**
Light	**Heavy**			
35,000	55,000	28,000	28,000	5
10,000	17,000	17,000	17,000	3

	1.50	2.70

Occupant load in accordance with OBC Table 3.1.17.1.

Commercia Area	**Area per person (m^2)**
Café	1.2
Office	9.3
Bistro/Bar	1.2
Kitchen	9.3
Swimming pool	0.75

Daily sewage flow in accordance with Ottawa Sewer Design Guideline 2025, Appendix 4-A.

Establishment	**Café**	**Office**	**Bar/Cocktail Lounge**	**Kitchen**	**Swimming Pool**
L/seat/day	137	75	125	115	40

Appendix C
Sanitary Servicing

BASELINE ROAD

BASELINE RD.

CURB ENTRANCE AS PER SC7.2

CURB ENTRANCE AS PER SC7.2

BUILDING B
PHASE 2
9 STOREY MIDRISE

1 STOREY

0.83
PH2
264 | 482

RESTURANT TERRACE

LOADING DOCKS

DELIVERY AREA

PERGOLA

COMMUNITY GARDEN

ROSE GARDEN

PICKLEBALL

WASHROOMS + STORAGE

FUTURE BOULEVARD

FUTURE BIKE LANE

PROPOSED UNDERGROUND PARKING LIMITS

PUBLIC ROAD PHASE 1 EXTENTS

74.5m - 200mmØ SAN @ 0.36%

LEGEND

- PROPERTY LINE
- PROPOSED SANITARY SEWER AND MANHOLE
- DIRECTION OF FLOW
- SAN MH — EXISTING SANITARY MANHOLE & SEWER
- SANITARY SEWER DRAINAGE AREA BOUNDARY
- 6.388 / A-01 / 5 | 10 — DRAINAGE AREA (ha) / AREA ID / POPULATION / NO. UNITS

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

CITY OF OTTAWA
1500 MERIVALE RD

SANITARY DRAINAGE AREA PLAN - PHASE 2

SCALE 1 : 500 (0, 5m, 10m, 20m)
DATE AUG 2026
JOB 121009
FIGURE SAN-PH2

SHT11X17.DWG - 279mmX432mm

M:\2021\121009\CADDesign\121009-SAN.dwg, SAN - PHASE 2, Jul 21, 2026 - 2:58pm, cferguson

SANITARY SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 121009
Project Name: 1500 Merivale Rd - Phase 2 □
Date: 8/19/2026
Input By: Anjush Musyaju, E.I.T.
Reviewed By: Curtis Ferguson, P.Eng.
Drawing Reference: 121009-SAN

Legend:
- Design Input by User
- As-Built Input by User
- Cumulative Cell
- Calculated Design 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	Appartment(1BR)	Appartment(2BR)	Appartment(Studio)	Park Area	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.)	Café m^2	Office m^2	Bistro/Bar m^2	Kitchen m^2	Swimming Pool m^2	Average Design Commercial / Institutional Flow (L/s)	Commercial / Institutional Peaking Factor	Cumulative ICI Area (ha.)	Peak Design ICI Flow Q (ici) (L/s)	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
Baseline Road	A1	Building	602	88	160	16		0.482	0.482	1.56	3.39	5.28	0.836	0.836	175.1	77.76	103.77	136.1	354.24	0.60	1.00	0.000	0.60	0.836	0.28	6.16	19.9	250 PVC	0.254	0.013	2.50	98.1	1.94	6.3%
Totals				**88**	**160**	**16**	**0.000**	**0.482**	**0.482**	**1.56**	**3.39**	**5.28**	**0.836**	**0.836**						**0.60**	**1.50**	**0.000**	**0.90**	**0.836**	**0.28**	**6.46**	**19.9**						

Demand Equation / Parameters

1. **Q(D) =** Q(p) + Q(ici) + Q(e)
2. **Q(p) =** (P x q x M x K / 86,400)
3. **q =** 280 L/per person/day (design)
4. **M = Harmon Formula (maximum of 4.0)**
5. **K =** 0.8 (design)
6. **Park flow is considered equivalent to a single unit / ha**
   Park Demand = 4 single unit equivalent / park ha (~ 3,600 L/ha/day)
7. **Q(ici) =** ICI Area x ICI Flow x ICI Peak
8. **Q(e) =** 0.33 L/s/ha (design)

Definitions

Q(D) = Peak Design Flow (L/s)
Q(p) = Peak Design Population Flow (L/s)
Q(q) = Average Population Flow (L/s)

	Apts(1BR)	Apts(2BR)	Apts(Studio)
P = Residential Population =	1.4	2.1	1.4

q = Average Capita Flow
M = Harmon Formula
K = Harmon Correction Factor
Q(ici) = Industrial / Commercial / Institutional Flow (L/s)
Q(e) = Extraneous Flow (L/s)

Institutional / Commercial / Industrial	Industrial	Commercial / Institutional	
Design =	35000	28000	L/gross ha/day
ICI Peak *			
Design =	1.0	1.5	* ICI Peak = 1.0 Default, 1.5 if ICI in contributing area is >20% (design only)

Movie Theatre	Office	Bistro/Bar	Kitchen	Swimming Pool	
15	75	125	115	40	L/seat/day

Occupant load in accordance with OBC Table 3.1.17.1.

Commercia Area	Area per person (m^2)
Café	1.2
Movie Theatre	0.75
Office	9.3
Bistro/Bar	1.2
Kitchen	9.3
Swimming pool	0.75

Capacity Equation

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

Definitions

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

Appendix D
Storm Servicing

STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

Novatech Project #: 121009
Project Name: 15000 Merivale Road - Claridge Inc.
Date Prepared: 12/21/2021
Date Revised: 11/18/2022
Date Revised: 3/21/2024
Date Revised 7/31/2024
Date Revised 11/28/2024
Date Revised 03/28/2025 (Anthony Mestwarp)
Date Revised 6/30/2026
Date Revised 8/12/2026
Input By: Curtis Ferguson, P.Eng
Reviewed By: Anthony Mestwarp, P.Eng
Drawing Reference: 121009-STM

Legend:
- PROJECT SPECIFIC INFO
- USER DESIGN INPUT
- CUMILATIVE CELL
- CALCULATED DESIGN CELL OUTPUT
- USER AS-BUILT INPUT

LOCATION			DEMAND														CAPACITY						
			AREA								FLOW						PROPOSED SEWER PIPE SIZING / DESIGN						
From MH	To MH	Area ID	Hardscape	Landscaping	Parkland	Total Area	Weighted Runoff Coefficient	Indivi 2.78 AR	Accum 2.78 AR	Time of Concentration	Rain Intensity (mm/hr) 2yr	5yr	100yr	Peak Flow	TOTAL UNRESTRICTED PEAK FLOW (QDesign)	PIPE PROPERTIES LENGTH	SIZE / MATERIAL	ID ACTUAL	ROUGHNESS	DESIGN GRADE	CAPACITY	FULL FLOW VELOCITY	TIME OF FLOW	QPEAK DESIGN / QFULL
			0.90	0.20	0.40	(ha)				(min.)				(L/s)	(L/s)	(m)	(mm / type)	(m)		(%)	(L/s)	(m/s)	(min.)	(%)
STREET 1 - PUBLIC SEWER RUN (100 SERIES)																								
110	109	A-06A	0.028	0.015		0.043	0.66	0.08																
			0.000					0.00																
			0.000					0.00																
		A-06B	0.025	0.010		0.035	0.70	0.07	0.15	10.00	76.81			11.27										
			0.000					0.00	0.00	10.00				0.00	**11.3**	46.4	300 PVC	0.3048	0.013	3.00	174.7	2.39	0.32	6.4%
			0.000					0.00	0.00	10.00				0.00										
Building E3	109	BLDG E3	0.129	0.000		0.129	0.90	0.32																
			0.000					0.00																
			0.000					0.00																
		P7-1	0.035	0.000		0.035	0.90	0.09																
			0.000					0.00																
			0.000					0.00																
		P7-2	0.093	0.000		0.093	0.90	0.23																
			0.000					0.00																
			0.000					0.00																
		P7-3	0.010	0.059		0.069	0.30	0.06																
			0.000					0.00																
			0.000					0.00																
		P7-5	0.092	0.000		0.092	0.90	0.23	0.93	10.00	76.81			71.30										
			0.000					0.00	0.00	10.00				0.00	**83.6**	7.2	300 PVC	0.3048	0.013	2.00	142.7	1.96	0.06	58.6%
			0.000					0.00	0.07	10.00			178.56	12.26										
Building B	109	P2-2	0.271	0.152		0.423	0.65	0.76	0.76	10.00	76.81			58.64										
			0.000					0.00	0.00	10.00				0.00	**58.6**	12.8	250 PVC	0.254	0.013	2.00	87.7	1.73	0.12	66.8%
			0.000					0.00	0.00	10.00				0.00										
109	108	A-05A	0.028	0.011		0.039	0.70	0.08																
			0.000					0.00																
			0.000					0.00																
		P7-7	0.042	0.000		0.042	0.90	0.11																
			0.000					0.00																
			0.000					0.00																
		A-05B	0.036	0.014		0.050	0.70	0.10	2.12	10.32	75.59			160.20										
			0.000					0.00	0.00	10.32				0.00	**172.3**	32.0	375 PVC	0.381	0.013	3.00	316.8	2.78	0.19	54.4%
			0.000					0.00	0.07	10.32			175.66	12.06										
108	107		0.000	0.000		0.000		0.00	2.12	10.51	74.88			158.71										
			0.000					0.00	0.00	10.51				0.00	**158.7**	13.0	375 PVC	0.381	0.013	3.00	316.8	2.78	0.08	50.1%
			0.000					0.00	0.00	10.51				0.00										
107	106	A-04A	0.027	0.011		0.038	0.69	0.07																
			0.000					0.00																
			0.000					0.00																
		P7-6	0.028	0.000		0.028	0.90	0.07																
			0.000					0.00																
			0.000					0.00																
		A-04B	0.031	0.028		0.058	0.57	0.09	2.35	10.59	74.60			175.61										
			0.000					0.00	0.00	10.59				0.00	**175.6**	17.9	375 PVC	0.381	0.013	3.00	316.8	2.78	0.11	55.4%
			0.000					0.00	0.00	10.59				0.00										
106	105		0.000	0.000		0.000		0.00	2.35	10.70	74.22			174.71										
			0.000					0.00	0.00	10.70				0.00	**174.7**	13.1	375 PVC	0.381	0.013	3.00	316.8	2.78	0.08	55.1%
			0.000					0.00	0.00	10.70				0.00										
BLDG3	105	BLDG D	0.100	0.000		0.100	0.90	0.25																
			0.000					0.00																
			0.000					0.00																
		P4-1	0.009	0.052		0.061	0.30	0.05	0.30	10.00	76.81			23.24										
			0.000					0.00	0.00	10.00				0.00	**23.2**	12.8	250 PVC	0.254	0.013	1.00	62.0	1.22	0.17	37.5%
			0.000					0.00	0.00	10.00				0.00										

STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			DEMAND													CAPACITY						
			AREA								FLOW					PROPOSED SEWER PIPE SIZING / DESIGN						
From MH	To MH	Area ID	Hardscape	Landscaping	Parkland	Total Area	Weighted Runoff Coefficient	Indivi 2.78 AR	Accum 2.78 AR	Time of Concentration	Rain Intensity (mm/hr)			Peak Flow	TOTAL UNRESTRICTED PEAK FLOW (QDesign)	PIPE PROPERTIES					CAPACITY	FULL FLOW VELOCITY	TIME OF FLOW	QPEAK DESIGN / QFULL
											2yr	5yr	100yr			LENGTH	SIZE / MATERIAL	ID ACTUAL	ROUGHNESS	DESIGN GRADE				
			0.90	0.20	0.40	(ha)				(min.)				(L/s)	(L/s)	(m)	(mm / type)	(m)		(%)	(L/s)	(m/s)	(min.)	(%)
105	104	A-03a	0.023	0.006		0.029	0.75	0.06																
			0.000					0.00																
			0.000					0.00																
		A-03b	0.024	0.028		0.052	0.52	0.08																
			0.000					0.00																
			0.000					0.00																
		A-02a	0.028	0.011		0.039	0.70	0.08																
			0.000					0.00																
			0.000					0.00																
		A-02b	0.034	0.038		0.071	0.53	0.11	2.97	10.78	73.94			219.96										
			0.000					0.00	0.00	10.78				0.00	**220.0**	57.6	450 PVC	0.4572	0.013	2.00	420.6	2.56	0.37	52.3%
			0.000					0.00	0.00	10.78				0.00										
PARK	104	PARK1	0.000	0.000	0.639	0.639	0.40	0.71	0.71	10.00	76.81			54.55										
			0.000					0.00	0.00	10.00				0.00	**54.6**	8.3	300 PVC	0.3048	0.013	1.00	100.9	1.38	0.10	54.1%
			0.000					0.00	0.00	10.00				0.00										
104	103		0.000	0.000		0.000		0.00	3.69	11.15	72.64			267.70										
			0.000					0.00	0.00	11.15				0.00	**267.7**	29.9	600 CONC	0.6096	0.013	0.30	350.8	1.20	0.41	76.3%
			0.000					0.00	0.00	11.15				0.00										
BLDG A	103	BLDG 1	0.165	0.000		0.165	0.90	0.41																
			0.000					0.00																
			0.000					0.00																
		P1-1	0.043	0.060		0.103	0.49	0.14																
			0.000					0.00																
			0.000					0.00																
		P1-2	0.008	0.015		0.024	0.45	0.03	0.59	10.00	76.81			44.96										
			0.000					0.00	0.00	10.00				0.00	**45.0**	5.8	250 PVC	0.254	0.013	1.00	62.0	1.22	0.08	72.5%
			0.000					0.00	0.00	10.00				0.00										
103	102	A-01a	0.052	0.013		0.065	0.76	0.14																
			0.000					0.00																
			0.000					0.00																
		A-01b	0.050	0.072		0.122	0.49	0.16	4.57	11.57	71.27			325.91										
			0.000					0.00	0.00	11.57				0.00	**325.9**	20.5	675 CONC	0.6858	0.013	0.30	480.3	1.30	0.26	67.9%
			0.000					0.00	0.00	11.57				0.00										
BLDGC	102	BLDG C	0.308	0.000		0.308	0.90	0.77																
			0.000					0.00																
			0.000					0.00																
		P3-1	0.003	0.020		0.024	0.30	0.02	0.79	10.00	76.81			60.72										
			0.000					0.00	4.57	10.00				0.00	**60.7**	12.8	250 PVC	0.254	0.013	1.00	62.0	1.22	0.17	97.9%
			0.000					0.00	0.00	10.00				0.00										
102	101		0.000	0.000		0.000		0.00	5.36	11.83	70.43			377.73										
			0.000					0.00	0.00	11.83				0.00	**377.7**	4.1	675 CONC	0.6858	0.013	0.30	480.3	1.30	0.05	78.6%
			0.000					0.00	0.00	11.83				0.00										
101	EXMH		0.000	0.000		0.000		0.00	5.36	11.88	70.26			376.84										
			0.000					0.00	0.00	11.88				0.00	**376.8**	26.3	675 CONC	0.6858	0.013	0.30	480.3	1.30	0.34	78.5%
			0.000					0.00	0.00	11.88				0.00										

STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

LOCATION			DEMAND													CAPACITY						
			AREA								FLOW					PROPOSED SEWER PIPE SIZING / DESIGN						
From MH	To MH	Area ID	Hardscape	Landscaping	Parkland	Total Area	Weighted Runoff Coefficient	Indivi 2.78 AR	Accum 2.78 AR	Time of Concentration	Rain Intensity (mm/hr) 2yr	5yr	100yr	Peak Flow	TOTAL UNRESTRICTED PEAK FLOW (QDesign)	PIPE PROPERTIES LENGTH	SIZE / MATERIAL	ID ACTUAL	ROUGHNESS	DESIGN GRADE	CAPACITY	FULL FLOW VELOCITY	TIME OF FLOW	QPEAK DESIGN / QFULL
			0.90	0.20	0.40	(ha)				(min.)				(L/s)	(L/s)	(m)	(mm / type)	(m)		(%)	(L/s)	(m/s)	(min.)	(%)
Private Road (300 SERIES)																								
311	310	B-04a	0.007	0.009		0.017	0.51	0.02																
			0.000					0.00																
			0.000					0.00																
		B-04b	0.008	0.000		0.008	0.90	0.02	0.04	10.00	76.81			3.27										
			0.000					0.00	0.00	10.00				0.00	3.3	38.0	300 PVC	0.3048	0.013	2.00	142.7	1.96	0.32	2.3%
			0.000					0.00	0.00	10.00				0.00										
310	309	P7-4	0.023	0.000		0.023	0.90	0.06	0.10	10.32	75.58			7.64										
			0.000					0.00	0.00	10.32				0.00	7.6	9.7	300 PVC	0.3048	0.013	2.00	142.7	1.96	0.08	5.4%
			0.000					0.00	0.00	10.32				0.00										
BLDG E	309	BLDG E2	0.130	0.000		0.130	0.90	0.33																
			0.000					0.00																
			0.000					0.00																
		P6-1	0.008	0.048		0.056	0.30	0.05	0.37	10.00	76.81			28.61										
			0.000					0.00	0.00	10.00				0.00	28.6	14.3	250 PVC	0.254	0.013	1.00	62.0	1.22	0.19	46.1%
			0.000					0.00	0.00	10.00				0.00										
309	308	B-03a	0.098	0.059		0.157	0.64	0.28																
			0.000					0.00																
			0.000					0.00																
		B-03b	0.039	0.000		0.039	0.90	0.10	0.85	10.41	75.28			63.84										
			0.000					0.00	0.00	10.41				0.00	63.8	54.6	375 PVC	0.381	0.013	0.80	163.6	1.43	0.63	39.0%
			0.000					0.00	0.00	10.41				0.00										
BLDG E	308	BLDG E1	0.143	0.000		0.143	0.90	0.36																
			0.000					0.00																
			0.000					0.00																
		P5-1	0.013	0.081		0.094	0.30	0.08	0.44	10.00	76.81			33.51										
			0.000					0.00	0.00	10.00				0.00	33.5	13.6	300 PVC	0.3048	0.013	1.00	100.9	1.38	0.16	33.2%
			0.000					0.00	0.00	10.00				0.00										
308	307		0.000	0.000		0.000		0.00	1.28	11.04	73.03			93.79										
			0.000					0.00	0.00	11.04				0.00	93.8	39.9	450 PVC	0.4572	0.013	0.30	162.9	0.99	0.67	57.6%
			0.000					0.00	0.00	11.04				0.00										
307	306	B-02a	0.021	0.009		0.029	0.69	0.06																
			0.000					0.00																
			0.000					0.00																
		B-02b	0.015	0.004		0.019	0.75	0.04	1.38	11.71	70.81			97.73										
			0.000					0.00	0.00	11.71				0.00	97.7	20.0	525 CONC	0.5334	0.013	0.20	200.6	0.90	0.37	48.7%
			0.000					0.00	0.00	11.71				0.00										
BLDG G	306	BLDG G	0.120	0.000		0.120	0.90	0.30																
			0.000					0.00																
			0.000					0.00																
		P9-1	0.013	0.083		0.096	0.30	0.08	0.38	10.00	76.81			29.11										
			0.000					0.00	0.00	10.00				0.00	29.1	5.8	250 PVC	0.254	0.013	1.00	62.0	1.22	0.08	46.9%
			0.000					0.00	0.00	10.00				0.00										
306	305		0.000	0.000		0.000		0.00	1.76	12.08	69.64			122.52										
			0.000					0.00	0.00	12.08				0.00	122.5	29.4	600 CONC	0.6096	0.013	0.20	286.5	0.98	0.50	42.8%
			0.000					0.00	0.00	12.08				0.00										
305	303	B-01a	0.030	0.029		0.059	0.55	0.09																
			0.000					0.00																
			0.000					0.00																
		B-01b	0.035	0.019		0.054	0.65	0.10	1.95	12.58	68.14			132.82										
			0.000					0.00	0.00	12.58				0.00	132.8	17.9	675 CONC	0.6858	0.013	0.20	392.2	1.06	0.28	33.9%
			0.000					0.00	0.00	12.58				0.00										
303	302		0.000	0.000		0.000		0.00	1.95	12.86	67.32			131.24										
			0.000					0.00	0.00	12.86				0.00	131.2	9.8	675 CONC	0.6858	0.013	0.20	392.2	1.06	0.15	33.5%
			0.000					0.00	0.00	12.86				0.00										
302	301		0.000	0.000		0.000		0.00	1.95	13.02	66.89			130.39										
			0.000					0.00	0.00	13.02				0.00	130.4	3.9	675 CONC	0.6858	0.013	0.20	392.2	1.06	0.06	33.2%
			0.000					0.00	0.00	13.02				0.00										
301	300		0.000	0.000		0.000		0.00	1.95	13.08	66.71			130.05										
			0.000					0.00	0.00	13.08				0.00	130.0	21.5	750 CONC	0.762	0.013	0.25	580.7	1.27	0.28	22.4%
			0.000					0.00	0.00	13.08				0.00										

STORM SEWER DESIGN SHEET

NOVATECH
Engineers, Planners & Landscape Architects

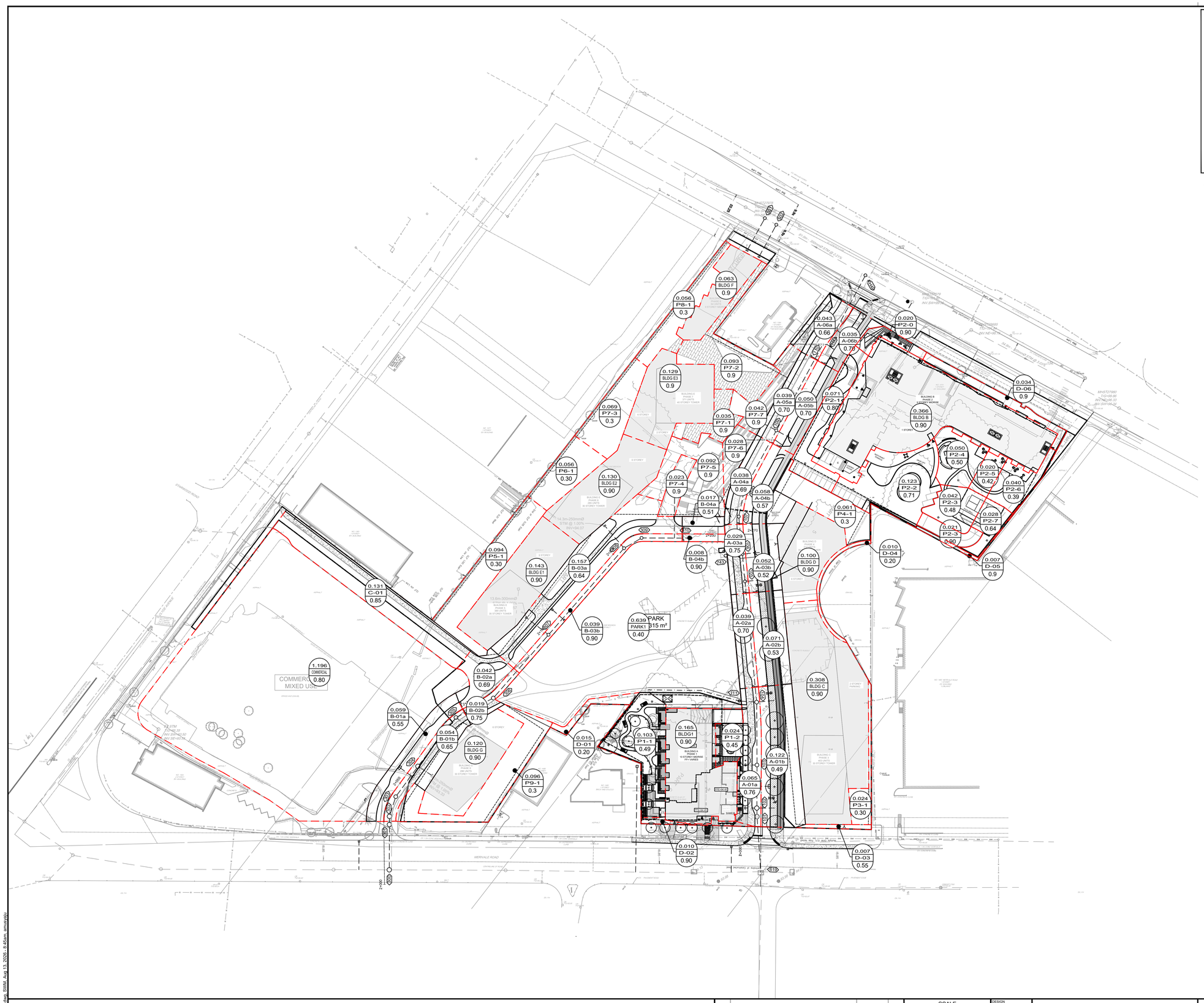
LOCATION			DEMAND													CAPACITY				
			AREA								FLOW					PROPOSED SEWER PIPE SIZING / DESIGN				
From MH	To MH	Area ID	Hardscape	Landscaping	Parkland	Total Area	Weighted Runoff Coefficient	Indivi 2.78 AR	Accum 2.78 AR	Time of Concentration	Rain Intensity (mm/hr) 2yr	5yr	100yr	Peak Flow	TOTAL UNRESTRICTED PEAK FLOW (QDesign)	PIPE PROPERTIES LENGTH	SIZE / MATERIAL	ID ACTUAL	ROUGHNESS	DESIGN GRADE	CAPACITY	FULL FLOW VELOCITY	TIME OF FLOW	QPEAK DESIGN / QFULL
			0.90	0.20	0.40	(ha)				(min.)				(L/s)	(L/s)	(m)	(mm / type)	(m)		(%)	(L/s)	(m/s)	(min.)	(%)
BASELINE SEWER RUN (Building B)																								
BLDG B	EX MH 27979	BLDG B	0.363	0.000		0.363	0.90	0.91	0.91	10.00	76.81			69.82	69.8	15.9	250 PVC	0.254	0.013	1.50	76.0	1.50	0.18	91.9%
			0.000					0.00	0.00	10.00				0.00										
			0.000					0.00	0.00	10.00				0.00										
BASELINE SEWER RUN (BUILDING F)																								
BLDG F	502	BLDG F	0.063	0.000		0.063	0.90	0.16																
			0.000					0.00																
			0.000					0.00																
		P8-1	0.056	0.000		0.056	0.90	0.14	0.30	10.00	76.81			22.80	22.8	17.6	300 PVC	0.3048	0.013	1.00	100.9	1.38	0.21	22.6%
			0.000					0.00	0.00	10.00				0.00										
			0.000					0.00	0.00	10.00				0.00										
CLYDE SEWER RUN (COMMERCIAL)																								
Commercial Area	EX	Commercial	1.016	0.179		1.196	0.80	2.64																
			0.000					0.00																
			0.000					0.00																
		C-01	0.122	0.009		0.131	0.85	0.31	2.95	10.00	76.81			226.73	226.7		450 PVC	0.4572	0.013	1.00	297.4	1.81	0.00	76.2%
			0.000					0.00	0.00	10.00				0.00										
			0.000					0.00	0.00	10.00				0.00										

DEMAND EQUATION
Q = 2.78 AIR

Where : **Q = Peak flow in litres per second (L/s)**
A = Area in hectares (ha)
R = Weighted runoff coefficient (increased by 25% for 100-year)
I = Rainfall intensity in millimeters per hour (mm/hr)
Rainfall Intensity (I) is based on City of Ottawa IDF data presented in the City of Ottawa Sewer Design Guidelines (Oct. 2012)

CAPACITY EQUATION
Q full= (1/n) A R^(2/3)So^(1/2

Where : **Q full = Capacity (L/s)**
n = Manning coefficient of roughness (0.013)
A = Flow area (m^2)
R = Wetter perimenter (m)
So = Pipe Slope/gradient



LEGEND

- PROPERTY LINE
- PROPOSED STORM SEWER AND MANHOLE
- DIRECTION OF FLOW
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN
- *EXISTING STORM MANHOLE & SEWER*
- *EXISTING CATCHBASIN*
- STORM SEWER DRAINAGE AREA BOUNDARY
- 0.085 / A-16 / 0.78 — DRAINAGE AREA (ha) / DRAINAGE AREA ID / RUNOFF COEFFICIENT

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.

CLARIDGE HOMES
505 PRESTON STREET,
2ND FLOOR
OTTAWA , ONTARIO
K1S 4N7

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
5.	SPA RESUBMISSION - PUBLIC ROAD UPDATES	JULY 15/2026	GJM
4.	REVISED PER CITY COMMENTS	SEPT 27/2024	GJM
3.	REISSUED PHASE 1 ONLY	OCT 27/2023	GJM
2.	REVISED AND ISSUED FOR CITY APPROVAL	DEC 09/2022	GJM
1.	ISSUED FOR SITE PLAN SUBMISSION	SEPT 03/2021	JAG

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

DESIGN ARM
CHECKED GJM
DRAWN CJF/ARM
CHECKED ARM
APPROVED GJM

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
1500 MERIVALE
1500 MERIVALE, CITY OF OTTAWA

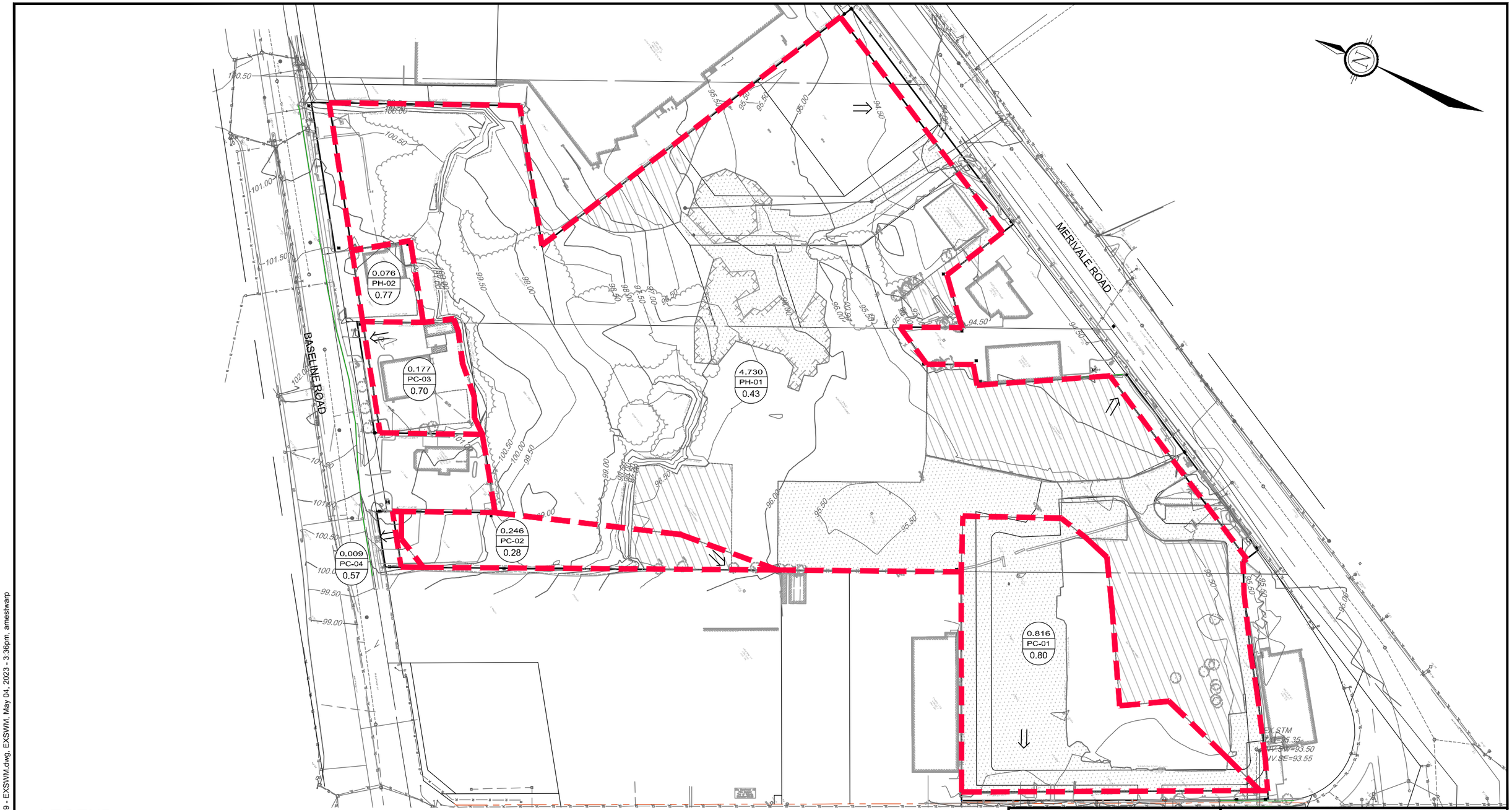
DRAWING NAME
STORM DRAINAGE AREA PLAN

PROJECT No. 121009
REV REV#5
DRAWING No. SWM

CITY FILE No.D07-12-21-0152
CITY PLAN No. 18612

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Appendix E
Stormwater Management



LEGEND

- PROPERTY LINE
- *EXISTING STORM MANHOLE & SEWER* (STM MH)
- *EXISTING CATCHBASIN* (CB 1)
- STORM SEWER DRAINAGE AREA BOUNDARY
- DRAINAGE AREA (ha) / DRAINAGE AREA ID / RUNOFF COEFFICIENT (0.085 / A-16 / 0.78)
- EXISTING GRASS AND BROKEN ASPHALT / BUILDING RUBBLE
- EXISTING ASPHALT

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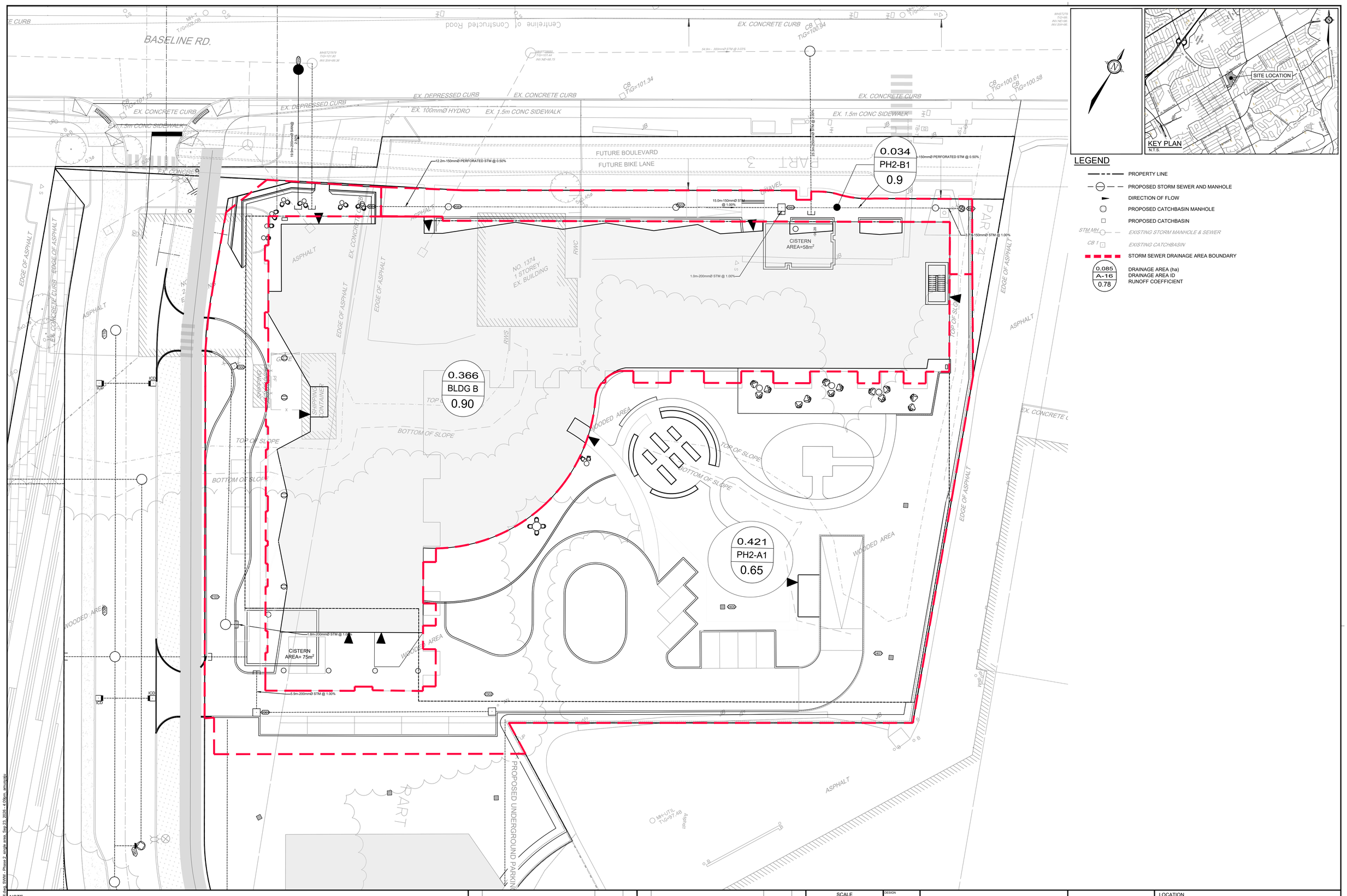
1500 MERIVALE ROAD

EXISTING STORMWATER MANAGEMENT PLAN

SCALE 1 : 1500 (0 15 30 45 60)
DATE MAY 2023
JOB 121009
FIGURE FIGURE 5

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SHT11X17.DWG - 279mmX432mm



LEGEND

- PROPERTY LINE
- PROPOSED STORM SEWER AND MANHOLE
- DIRECTION OF FLOW
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN
- STM MH — EXISTING STORM MANHOLE & SEWER
- CB 1 — EXISTING CATCHBASIN
- STORM SEWER DRAINAGE AREA BOUNDARY
- 0.085 / A-16 / 0.78 — DRAINAGE AREA (ha) / DRAINAGE AREA ID / RUNOFF COEFFICIENT

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.

CLARIDGE HOMES

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505 PRESTON STREET,
2ND FLOOR
OTTAWA , ONTARIO
K1S 4N7

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
1.	ISSUED FOR SPA	SEP 25/2026	GJM

SCALE 1:200 (1:200, 0 2 4 6 8)

DESIGN CJF/AM
CHECKED NSW
DRAWN AM
CHECKED NSW/CJF
APPROVED GJM

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
1500 MERIVALE
1500 MERIVALE, CITY OF OTTAWA

DRAWING NAME
STORM DRAINAGE AREA PLAN

PROJECT No. 121009
REV. REV#1
DRAWING No. 121009-PH2-SWM

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PROJECT #: 121009
PROJECT NAME: 1500 Merivale Road - Phase 2
LOCATION: 1500 Merivale Road, City of Ottawa

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: September 18 2026

TABLE 1A: Post-Development Runoff Coefficient "C" - Phase 2 (Parkwood Hills)

			5 Year Event		100 Year Event	
Area	Type	Ha	"C"	C_{avg}	"C" + 25%	$*C_{avg}$
Total	Hard	0.271	0.90		1.00	
0.421	Roof	0.000	0.90	0.65	1.00	0.73
	Soft	0.150	0.20		0.25	

* Remainder assumed hard due to amount of underground parking
* Roof area based on building footprint

TABLE 1B: 2 YEAR EVENT QUANTITY STORAGE REQUIREMENT - Phase 2 (Parkwood Hills)

0.421 =Area (ha)
0.65 = 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	65	23.15	17.63	3.9	13.73	53.54
	70	21.91	16.69	3.9	12.79	53.70
	75	**20.81**	**15.85**	**3.9**	**11.95**	**53.77**
	80	19.83	15.10	3.9	11.20	53.76
	85	18.94	14.43	3.9	10.53	53.68

TABLE 1C: 5 YEAR EVENT QUANTITY STORAGE REQUIREMENT - Phase 2 (Parkwood Hills)

0.421 =Area (ha)
0.65 = 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	75	27.89	21.24	4.7	16.56	74.50
	80	26.56	20.23	4.7	15.55	74.62
	85	**25.37**	**19.32**	**4.7**	**14.64**	**74.65**
	90	24.29	18.49	4.7	13.81	74.60
	95	23.31	17.75	4.7	13.07	74.47

TABLE 1D: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - Phase 2 (Parkwood Hills)

0.421 =Area (ha)
0.73 = 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	95	39.43	33.82	6.90	26.92	153.45
	100	37.90	32.51	6.90	25.61	153.64
	105	**36.50**	**31.30**	**6.90**	**24.40**	**153.73**
	110	35.20	30.19	6.90	23.29	153.72
	115	34.01	29.16	6.90	22.26	153.62

*Allowable run-off is 50% of the actual flow to calculate the required volume as per City of Ottawa Guidelines for underground storage.

Equations:

Flow Equation

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

Where:

C is the runoff coefficient

I is the rainfall intensity, City of Ottawa IDF

A is the total drainage area

Runoff Coefficient Equation

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

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

PROJECT #: 121009
PROJECT NAME: 1500 Merivale Road
LOCATION: 1500 Merivale Road, City of Ottawa

NOVATECH
Engineers, Planners & Landscape Architects

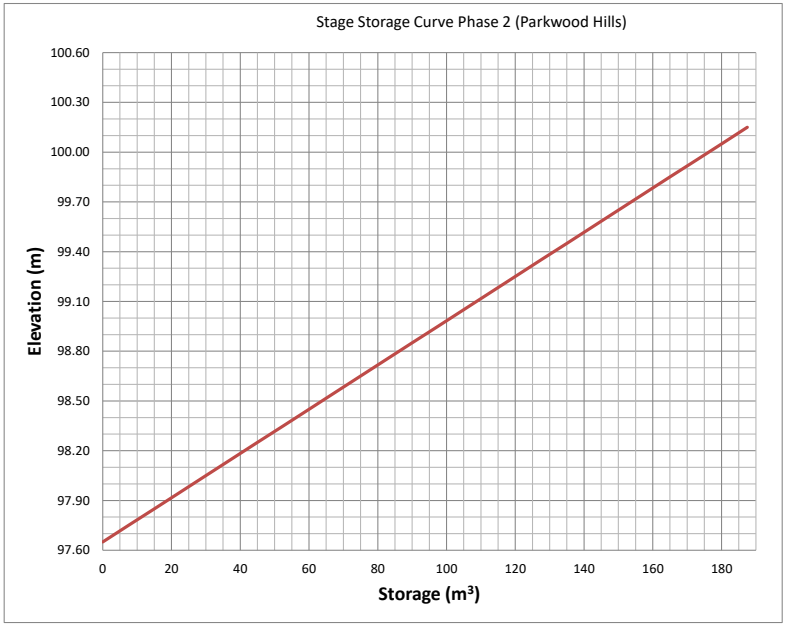
Date Prepared: September 18 2026

TABLE 1F: Structure information - Phase 2 (Parkwood Hills)

Structures	Size Dia.(mm)	Area (m^2)	T/G	Inv IN	Inv OUT
STORAGE TANK	200	75.00	100.55	N/A	97.65

TABLE 1G: Storage Provided - Phase 2 (Parkwood Hills)

Area A-2: Storage Table				
Elevation (m)	System Depth (m)	TANK Volume (m^3)	Underground Volume (m^3)*	
97.650	0.00	0.00	0.00	
97.750	0.10	7.50	7.50	
97.850	0.20	15.00	15.00	
97.950	0.30	22.50	22.50	
98.050	0.40	30.00	30.00	
98.150	0.50	37.50	37.50	
98.250	0.60	45.00	45.00	
98.350	0.70	52.50	52.50	
98.450	0.80	60.00	60.00	
98.550	0.90	67.50	67.50	
98.650	1.00	75.00	75.00	
98.750	1.10	82.50	82.50	Tank Storage
98.850	1.20	90.00	90.00	
98.950	1.30	97.50	97.50	
99.050	1.40	105.00	105.00	
99.150	1.50	112.50	112.50	
99.250	1.60	120.00	120.00	
99.350	1.70	127.50	127.50	
99.450	1.80	135.00	135.00	
99.550	1.90	142.50	142.50	
99.650	2.00	150.00	150.00	
99.750	2.10	157.50	157.50	
99.850	2.20	165.00	165.00	
99.950	2.30	172.50	172.50	
100.050	2.40	180.00	180.00	
100.150	2.50	187.50	187.50	
100.250	2.60	187.61	187.61	
100.350	2.70	187.73	187.73	Riser
100.450	2.80	187.84	187.84	
100.550	2.90	187.95	187.95	Lid



98.36675109
98.64461877 0.72
99.69970614 98.37

TABLE 2G: Orifice Sizing information - A-1

Control Device							
LMF				105 mm			
Design Event	**Flow (L/S)**	**Head (m)**	**Elev (m)**	**Outlet dia. (mm)**	**Volume (m³)**	**Area (m²)**	**Dia. (mm)**
1:2 Year	7.8	0.60	98.35	200.00	53.76	0.0037	68.0
1:5 Year	9.4	0.89	98.64	200.00	74.60	0.0036	68.0
1:100 Year	13.8	1.95	99.70	200.00	153.73	0.0036	68.0

The design Head is calculated based on the centre of the orifice at the bottom of the pipe

Orifice Control Sizing
Q = 0.62 x A x (2gh) ^ 0.5
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 centre in m
d is the diameter of the orifice in m

TABLE 2A: Allowable Flows - Ottawa West

Area	C_{avg}
Total	0.50
0.402	

*As per coordination with City for SWM criteria provided.

TABLE 2B: Post-Development Allowable Flows - Ottawa West

Outlet Options	Area (ha)	C_{avg}	Tc (min)	$Q_{2\ Year}$ (L/s)
Merivale Road	0.402	0.50	10	**42.9**

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

PROJECT #: 121009
PROJECT NAME: 1500 Merivale Road - Phase 2
LOCATION: 1500 Merivale Road, City of Ottawa

NOVATECH
Engineers, Planners & Landscape Architects

DATE PREPARED: September 18 2026

TABLE 3A: Post-Development Runoff Coefficient "C" - Phase 2 (Ottawa West)

			5 Year Event		100 Year Event	
Area	Type	Ha	"C"	C_{avg}	"C" + 25%	*C_{avg}
Total	Hard	0.039	0.90		1.00	
0.402	Roof	0.363	0.90	0.90	1.00	1.00
	Soft	0.000	0.20		0.25	

* Remainder assumed hard due to amount of underground parking
* Roof area based on building footprint

TABLE 3B: 2 YEAR EVENT QUANTITY STORAGE REQUIREMENT - Phase 2 (Ottawa West)

0.402 =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)
2 YEAR	25	45.17	45.43	10.6	34.83	52.24
	30	40.04	40.28	10.6	29.68	53.42
	35	**36.06**	**36.27**	**10.6**	**25.67**	**53.90**
	40	32.86	33.05	10.6	22.45	53.89
	45	30.24	30.41	10.6	19.81	53.50

TABLE 3C: 5 YEAR EVENT QUANTITY STORAGE REQUIREMENT - Phase 2 (Ottawa West)

0.402 =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)
5 YEAR	30	53.93	54.24	12.7	41.54	74.77
	35	48.52	48.80	12.7	36.10	75.81
	40	**44.18**	**44.44**	**12.7**	**31.74**	**76.18**
	45	40.63	40.86	12.7	28.16	76.04
	50	37.65	37.87	12.7	25.17	75.52

TABLE 3D: 100 YEAR EVENT QUANTITY STORAGE REQUIREMENT - Phase 2 (Ottawa West)

0.402 =Area (ha)
1.00 = C

Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Allowable Runoff (L/s)	Net Flow to be Stored (L/s)	Storage Req'd (m^3)
100 YEAR	40	75.15	83.98	18.5	65.48	157.15
	45	69.05	77.17	18.5	58.67	158.40
	50	**63.95**	**71.47**	**18.5**	**52.97**	**158.92**
	55	59.62	66.63	18.5	48.13	158.84
	60	55.89	62.47	18.5	43.97	158.28

*Allowable run-off is 50% of the actual flow to calculate the required volume as per City of Ottawa Guidelines for underground storage.

Equations:

Flow Equation

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

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

Runoff Coefficient Equation

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

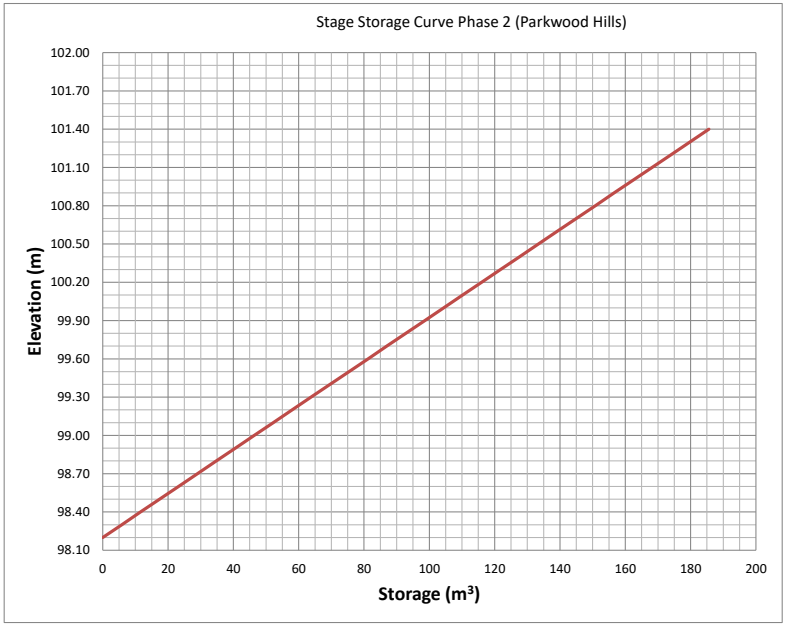
$C_{100} = (A_{hard} \times 1.0 + A_{soft} \times 0.25)/A_{Tot}$

TABLE 3F: Structure information - Phase 2 (Baseline East)

Structures	Size Dia.(mm)	Area (m^2)	T/G	Inv IN	Inv OUT
STORAGE TANK	N/A	58.00	101.90	N/A	98.20

TABLE 3G: Storage Provided - Phase 2 (Baseline East)

Area A-2: Storage Table				
Elevation (m)	System Depth (m)	TANK Volume (m^3)	Underground Volume (m^3)*	
98.200	0.00	0.00	0.00	
98.300	0.10	5.80	5.80	
98.400	0.20	11.60	11.60	
98.500	0.30	17.40	17.40	
98.600	0.40	23.20	23.20	
98.700	0.50	29.00	29.00	
98.800	0.60	34.80	34.80	
98.900	0.70	40.60	40.60	
99.000	0.80	46.40	46.40	
99.100	0.90	52.20	52.20	
99.200	1.00	58.00	58.00	
99.300	1.10	63.80	63.80	
99.400	1.20	69.60	69.60	
99.500	1.30	75.40	75.40	
99.600	1.40	81.20	81.20	
99.700	1.50	87.00	87.00	Tank Storage
99.800	1.60	92.80	92.80	
99.900	1.70	98.60	98.60	
100.000	1.80	104.40	104.40	
100.100	1.90	110.20	110.20	
100.200	2.00	116.00	116.00	
100.300	2.10	121.80	121.80	
100.400	2.20	127.60	127.60	
100.500	2.30	133.40	133.40	
100.600	2.40	139.20	139.20	
100.700	2.50	145.00	145.00	
100.800	2.60	150.80	150.80	
100.900	2.70	156.60	156.60	
101.000	2.80	162.40	162.40	
101.100	2.90	168.20	168.20	
101.200	3.00	174.00	174.00	
101.300	3.10	179.80	179.80	
101.400	3.20	185.60	185.60	
101.500	3.30	191.40	191.40	
101.600	3.40	191.51	191.51	Top of Tank
101.700	3.50	191.63	191.63	Riser
101.800	3.60	191.74	191.74	
101.900	3.70	191.85	191.85	Lid



99.13
99.51
100.94

0.93
99.13

TABLE 3G: Orifice Sizing information - A-1

Control Device							
Round Plate Orifice			102 mm				
Design Event	**Flow (L/S)**	**Head (m)**	**Elev (m)**	**Outlet dia. (mm)**	**Volume (m^3)**	**Area (m^2)**	**Dia. (mm)**
1:2 Year	21.2	0.88	99.13	250.00	53.90	0.0082	102.0
1:5 Year	25.4	1.26	99.51	250.00	76.18	0.0082	102.0
1:100 Year	37.0	2.69	100.94	250.00	158.92	0.0082	102.0

The design Head is calculated based on the centre of the orifice at the bottom of the pipe

Orifice Control Sizing
Q = 0.62 x A x (2gh) ^ 0.5
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 centre in m
d is the diameter of the orifice in m

Volume III: TEMPEST INLET CONTROL DEVICES



Municipal Technical Manual Series

SECOND EDITION

LMF (Low to Medium Flow) ICD

HF (High Flow) ICD

MHF (Medium to High Flow) ICD

IPEX
by aliaxis

IPEX Tempest™ Inlet Control Devices

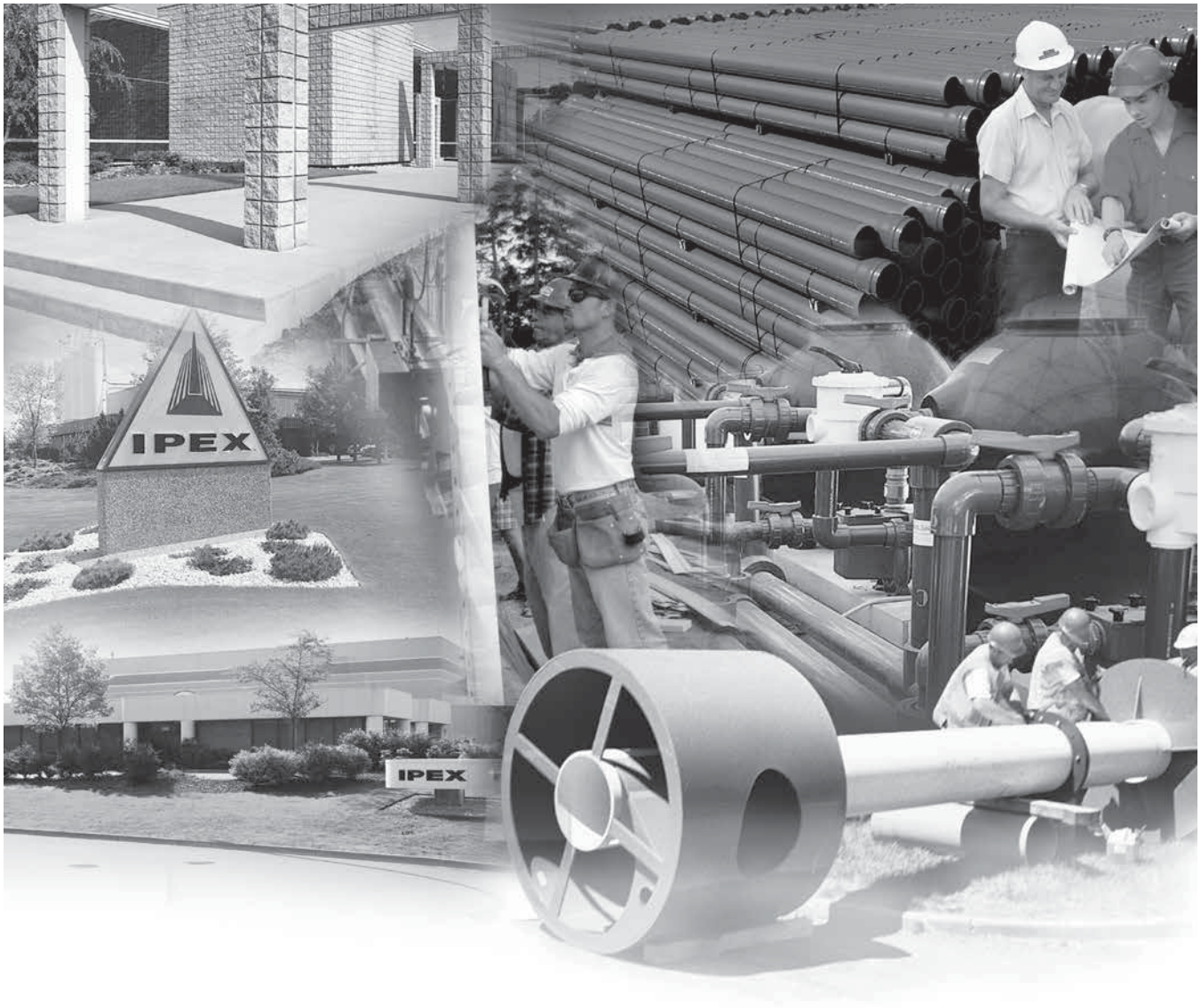
Municipal Technical Manual Series

Vol. I, 2nd Edition

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For information contact: IPEX, Marketing,
1425 North Service Road East, Oakville, Ontario, Canada, L6H 1A7

The information contained here within is based on current information and product design at the time of publication and is subject to change without notification. IPEX does not guarantee or warranty the accuracy, suitability for particular applications, or results to be obtained therefrom.



ABOUT IPEX

At IPEX, we have been manufacturing non-metallic pipe and fittings since 1951. We formulate our own compounds and maintain strict quality control during production. Our products are made available for customers thanks to a network of regional stocking locations throughout North America. We offer a wide variety of systems including complete lines of piping, fittings, valves and custom-fabricated items.

More importantly, we are committed to meeting our customers' needs. As a leader in the plastic piping industry, IPEX continually develops new products, modernizes manufacturing facilities and acquires innovative process technology. In addition, our staff take pride in their work, making available to customers their extensive thermoplastic knowledge and field experience. IPEX personnel are committed to improving the safety, reliability and performance of thermoplastic materials. We are involved in several standards committees and are members of and/or comply with the organizations listed on this page.

For specific details about any IPEX product, contact our customer service department.

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TEMPEST INLET CONTROL DEVICES Technical Manual

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NOTE: Do not use or test the products in this manual with compressed air or other gases including air-over-water-boosters

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

Purpose

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

Product Description

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

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

Product Function

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

Product Construction

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

Product Applications

Will accommodate both square and round applications:

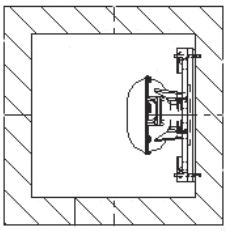


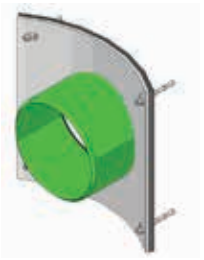
Square Application

Round Application



Universal Mounting Plate





+

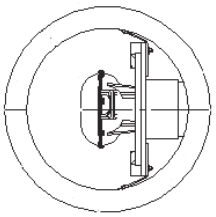


Spigot CB Wall Plate

=



Universal Mounting Plate Hub Adapter



NOTE: Do not use or test the products in this manual with compressed air or other gases including air-over-water-boosters

1500 Merivale Road - Phase 2 (Merivale / Parkwood Cistern)

Chart 1: LMF 14 Preset Flow Curves

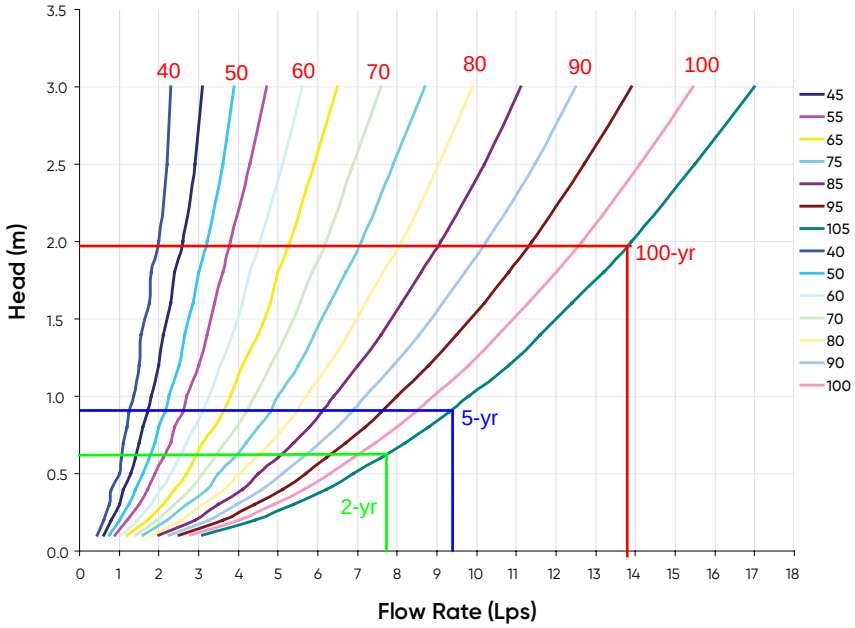
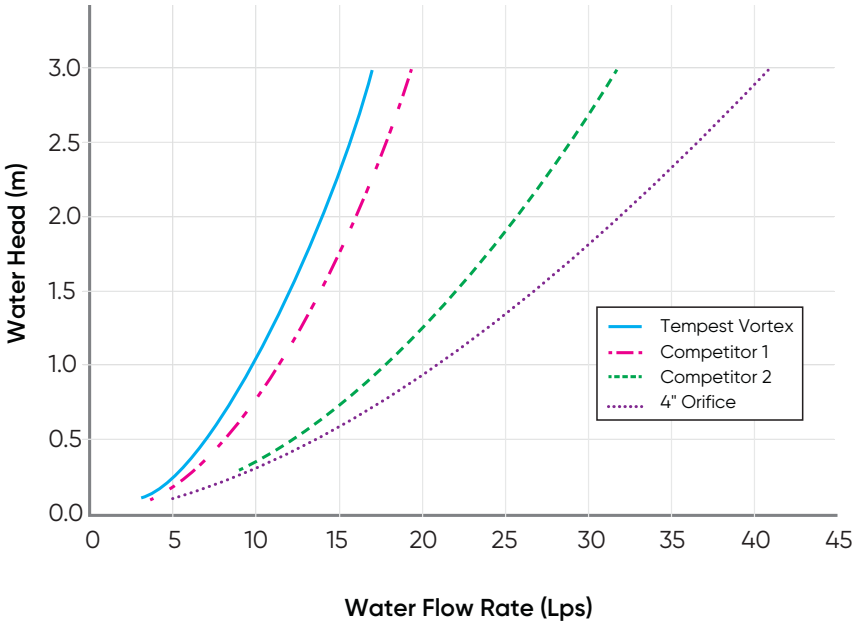


Chart 2: LMF Flow vs. ICD Alternatives



NOTE: Do not use or test the products in this manual with compressed air or other gases including air-over-water-boosters

PRODUCT INSTALLATION

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

STEPS:

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

⚠ WARNING

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

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

STEPS:

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

⚠ WARNING

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

NOTE: Do not use or test the products in this manual with compressed air or other gases including air-over-water-boosters

PRODUCT TECHNICAL SPECIFICATION

General

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

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

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

ICD's shall have no moving parts.

Materials

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

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

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

All hardware will be made from 304 stainless steel.

Dimensioning

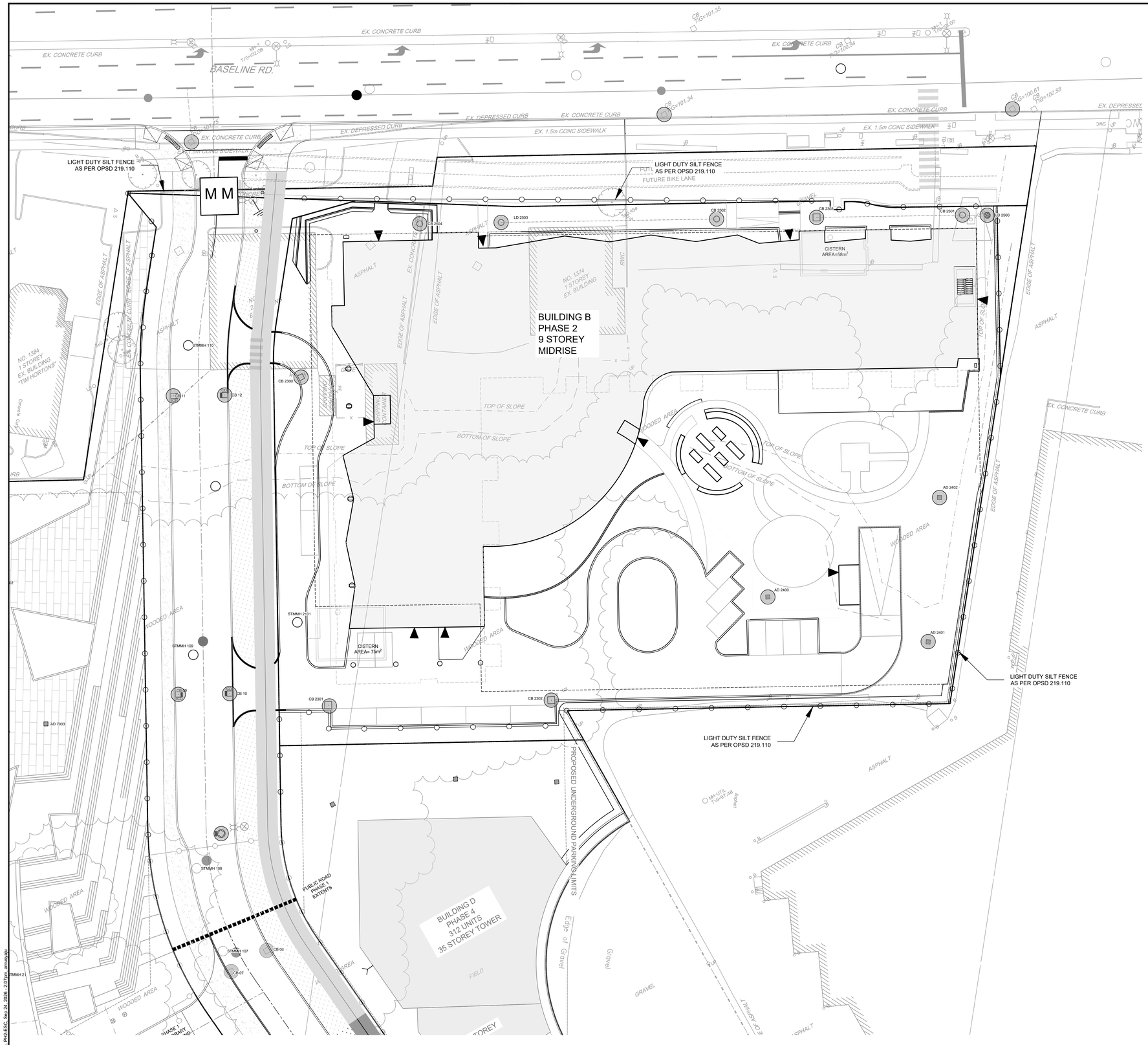
The Low Medium Flow (LMF), High Flow (HF) and the High Flow (HF) Sump shall allow for a minimum outlet pipe diameter of 200mm with a 600mm deep Catch Basin sump.

Installation

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

NOTE: Do not use or test the products in this manual with compressed air or other gases including air-over-water-boosters

Appendix F
Drawings



LEGEND

- PROPERTY LINE
- PROPOSED CURB
- PROPOSED DEPRESSED CURB (DC)
- PROPOSED FLUSH CURB (FC)
- PROPOSED RETAINING WALL C/W GUARD RAIL
- PROPOSED WALKWAY
- TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL SC7.3
- PROPOSED STORM MANHOLE
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED LANDSCAPE DRAIN
- PROPOSED AREA DRAIN
- PROPOSED TRENCH DRAIN
- PROPOSED FILTER BAGS AT CATCHBASINS, CATCHBASIN MANHOLES AND TRENCHDRAINS
- PROPOSED MUD MAT (M M)
- LIGHT DUTY SILT FENCE (OPSD 219.110)
- PROPOSED BUILDING ENTRANCE
- BOREHOLE LOCATION (REFER TO GEOTECH REPORT)
- *EXISTING STORM MANHOLE (STM MH)*
- *EXISTING CATCHBASIN (CB 1)*
- *EXISTING LIGHT STANDARD (LS)*
- *EXISTING FENCE (X)*
- *EXISTING LIGHT DUTY SILT FENCE*

EROSION AND SEDIMENT CONTROL NOTES:

THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

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.

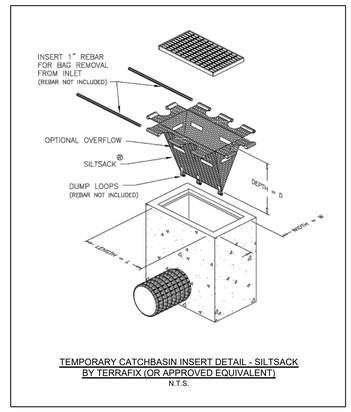
2) THE CONTRACTOR SHALL PLACE FILTER BAGS UNDER THE CATCHBASIN AND MANHOLE GRATES FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.

3) SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE DURING CONSTRUCTION.

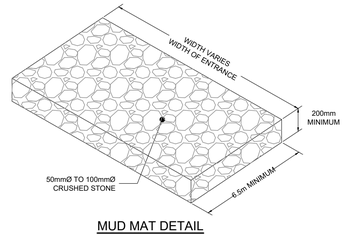
4) THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.

5) PROVIDE MUD MATS AT ALL CONSTRUCTION ACCESS POINTS TO MINIMIZE SEDIMENT TRANSPORT OFFSITE.

6) EROSION AND SEDIMENT CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY.



TEMPORARY CATCHBASIN INSERT DETAIL - SILTSACK
BY TERRAFIX (OR APPROVED EQUIVALENT)
N.T.S.



MUD MAT DETAIL
NOT TO SCALE

REFER TO121009-PH1-NDGPFOR ADDITIONAL NOTES & DETAILS

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.

CLARIDGE HOMES

CLARIDGE HOMES
505 PRESTON STREET,
2ND FLOOR
OTTAWA , ONTARIO
K1S 4N7

CLARIDGE HOMES

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY

No.	REVISION	DATE	BY
1.	ISSUED FOR SPA	SEP 25/2026	GJM

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

DESIGN	CJF/AM
CHECKED	NSW
DRAWN	AM
CHECKED	NSW/CJF
APPROVED	GJM

LICENSED PROFESSIONAL ENGINEER
G.J. MacDONALD
Sept. 25, 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

LOCATION
1500 MERIVALE
1500 MERIVALE, CITY OF OTTAWA

DRAWING NAME
EROSION AND SEDIMENT CONTROL (PHASE2)

PROJECT No. 121009
REV REV#1
DRAWING No. 121009-PH2-ESC

M:\2021\121009\CAD\Design\121009-ESC1.dwg, PH2-ESC, Sep 24, 2026 - 2:07pm, mmsayag
PLAMBT-25X0 - 1089mmx597mm

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 $2,000,000.00. 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 DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
8. ALL ELEVATIONS ARE GEODETIC. THE SITE BENCHMARKS ARE THE FIRE HYDRANT TOP OF SPINDLE . BM NO.1 IS LOCATED APPROXIMATELY 105m FROM MERIVALE RD AND CLYDE AVE INTERSECTION, LOCATED ON THE EAST SIDE OF CLYDE AVE. BM NO.2 IS LOCATED AT THE EAST SIDE OF CLYDE AVE AND APPROXIMATELY 155m FROM BASELINE ROAD AND CLYDE AVE INTERSECTION.(BM NO. 1 ELEV = 95.96, BM NO. 2 ELEV = 96.25). REFER TO ANNIS, O'SULLIVAN, VOLLEBEKK LTD. TOPOGRAPHICAL PLAN OF SURVEY PART OF LOTS 18 AND 19, 20 AND 21 REGISTERED PLAN 30 CITY OF OTTAWA.
9. REFER TO GEOTECHNICAL INVESTIGATION REPORT PATERSON GROUP, REPORT PG5561-1, DATED FEBRUARY 23, 2021 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.
10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
11. REFER TO THE STORMWATER MANAGEMENT REPORT R-2026-078, DATED SEPTEMBER 25, 2026 PREPARED BY NOVATECH.
12. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10 AND R25).
13. PROVIDE LINE/PARKING PAINTING.
14. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
15. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.

SEWER NOTES:

1. SUPPLY AND CONSTRUCT ALL SEWERS AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
SANITARY/STORM/CATCHBASIN MANHOLE (1200Ø)	701.010	OPSD
STORM MANHOLE (1500Ø)	701.011	OPSD
STORM MANHOLE (1800Ø)	701.012	OPSD
CATCHBASIN (600x600)	705.010	OPSD
DOUBLE CATCH BASIN (600 X 1450)	705.020	OPSD
CATCHBASIN FRAME AND COVER	400.020	OPSD
STORM/SANITARY MH FRAME	S25	CITY OF OTTAWA
SANITARY COVER	S24	CITY OF OTTAWA
STORM COVER (CLOSED)	S24.1	CITY OF OTTAWA
STORM COVER (OPEN)	S28.1	CITY OF OTTAWA
SEWER TRENCH	S6 &S7	CITY OF OTTAWA
STORM SEWER < 450mmØ	PVC DR 35(UNLESS SPECIFIED OTHERWISE)	
STORM SEWER >= 450mmØ	CONC 65D (UNLESS SPECIFIED OTHERWISE)	
SANITARY SEWER	PVC DR 35	CITY OF OTTAWA
CATCHBASIN LEAD	PVC DR 35	
CATCHBASIN COVER	S19	CITY OF OTTAWA
ROAD SUBDRAIN (CONTINUOUS)	R1	CITY OF OTTAWA
WATERTIGHT FRAME & COVER	401.030	OPSD

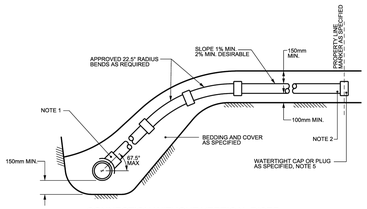
2. INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 2.0m COVER WITH 50mmX1200mm HI-40 INSULATION. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION (REFER TO DETAIL)
3. SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0% (2.0% PREFERRED)
4. ALL STORM AND SANITARY LATERALS SHALL BE EQUIPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14,1 OR S14.2.
5. A MINIMUM OF 150 mm OF OPSS GRANULAR A SHOULD BE PLACED FOR BEDDING FOR SEWER OR WATER PIPES WHEN PLACED ON SOIL SUBGRADE. IF THE BEDDING IS PLACED ON BEDROCK, THE THICKNESS OF THE BEDDING SHOULD BE INCREASED TO 300 mm FOR SEWER PIPES. THE BEDDING SHOULD EXTEND TO THE SPRING LINE OF THE PIPE. COVER MATERIAL, FROM THE OBVERT OF THE SPRING LINE TO A MINIMUM OF 300 mm ABOVE THE OBVERT OF THE PIPE SHOULD CONSIST OF OPSS GRANULAR A (CONCRETE OR PSM PVC PIPES) OR SAND (CONCRETE PIPE). THE BEDDING AND COVER MATERIALS SHOULD BE PLACED IN MAXIMUM 225 mm THICK LIFTS AND COMPACTED TO 95% OF THE SPMDD. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
6. WHERE HARD SURFACE AREAS ARE CONSIDERED ABOVE THE TRENCH BACKFILL, THE TRENCH BACKFILL MATERIAL WITHIN THE FROST ZONE (ABOUT 1.8 m BELOW FINISHED GRADE) SHOULD MATCH THE SOILS EXPOSED AT THE TRENCH WALLS TO REDUCE THE POTENTIAL DIFFERENTIAL FROST HEAVING. THE TRENCH BACKFILL SHOULD BE PLACED IN MAXIMUM 300 mm THICK LOOSE LIFTS AND COMPACTED TO A MINIMUM OF 95% OF THE SPMDD.
7. FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL). THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
8. ALL STORM MANHOLES MANHOLES WITH PIPE SIZES LESS THAN 900mm ARE TO HAVE 300mm SUMPS UNLESS OTHERWISE INDICATED. ALL STORM MANHOLES WITH PIPE SIZES 900mm AND LARGER ARE TO BE BENCHED.
9. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS 200mm OR GREATER IN DIAMETER PRIOR TO BASE COURSE ASPHALT TO ENSURE THAT THEY ARE CLEAN AND OPERATIONAL. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES AND RE CCTV PRIOR TO ACCEPTANCE. OBTAIN APPROVAL FROM THE CITY'S SEWER OPERATIONS. PROVIDE THE CCTV INSPECTION AND REPORT TO THE ENGINEER FOR REVIEW AND APPROVAL.
10. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL APPLICABLE 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 AND ANY ALIGNMENT CHANGES, ETC.
11. 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, 410.07.15.04 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.
12. ALL CATCHBASINS AND CATCHBASIN MANHOLES TO BE PROVIDED WITH MINIMUM 3 METER LONG PERFORATED SUBDRAINS EXTENDING IN TWO DIRECTIONS AT THE SUBGRADE LEVEL. SUBDRAIN IS TO BE PROVIDED AT THE TRANSITIONS BETWEEN DIFFERENT PAVEMENT COMPOSITIONS. THE SUBGRADE SURFACE SHOULD BE SHAPED TO PROMOTE WATER FLOW TO THE DRAINAGE LINES.
11. ALL WORKS SHALL BE PERFORMED AS APPLICABLE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD SPECIFICATIONS, AND IN PARTICULAR O.P.S.S. 407 AND 410.

WATERMAIN NOTES:

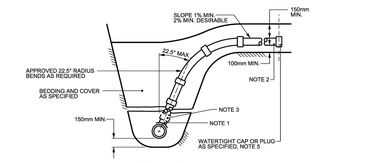
1. SUPPLY AND CONSTRUCT ALL WATERMAIN AND APPURTENANCES IN ACCORDANCE WITH THE MOST CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS.
2. SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
THERMAL INSULATION BY OPEN STRUCTURES	W23	CITY OF OTTAWA
WATERMAIN CROSSING BELOW SEWER	W25	CITY OF OTTAWA
WATERMAIN CROSSING ABOVE SEWER	W25.2	CITY OF OTTAWA
HYDRANT	WSD-24	CITY OF OTTAWA
VALVE AND VALVE BOX	WSD-19	CITY OF OTTAWA
WATERMAIN	PVC DR 18	

3. SUPPLY AND CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARD 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. ANY WATERMAIN WITH LESS THAN 2.4m COVER TO BE INSULATED PER THE SEWER AND WATERMAIN NOTES AND DETAIL.
4. PROVIDE MINIMUM CLEARANCE, BETWEEN OUTSIDE OF PIPES, AT ALL CROSSINGS AS PER CITY DETAILS W25 AND W25.2. WATERMAIN MUST HAVE A MINIMUM VERTICAL CLEARANCE OF 0.25m OVER AND 0.50m UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
5. WATER SERVICE IS TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.
6. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS CITY OF OTTAWA STANDARD DETAILS WSD-39, 40, 41, 42, 43 AND 44.
8. IF WATERMAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.



CONNECTION WITHOUT VERTICAL RISER

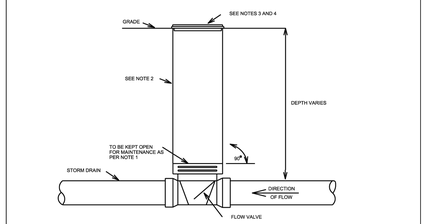


VERTICAL RISER

NOTES:
1. ALL DIAMETERS OF SERVICE CONNECTIONS THAT HAVE NOMINAL DIAMETERS NO GREATER THAN 50% OF THE NOMINAL DIAMETER OF THE SEWER SHALL BE MADE USING A BELL END INSERT AS PER S11.2 OR AN APPROVED RUBBER GASKETED INSERT, INSTALLED ABOVE THE SPRING LINE.
2. SANITARY SERVICES TO BE 135mm AND STORM SERVICES TO BE 100mm FOR NEW RESIDENCES UNLESS SPECIFIED OTHERWISE. SERVICE PIPE AND RADIUS BENDS TO BE APPROVED CSA B182.2, SDR28 PRODUCTS UNLESS SPECIFIED OTHERWISE.
3. APPROVED CONTROLLED SETTLEMENT JOINTS OPTIONAL FOR SERVICE CONNECTIONS TO MAIN SEWERS UP TO 5m DEEP. WHERE APPROVED, CONNECTIONS TO SEWERS OVER 5m DEEP REQUIRE APPROVED CONTROLLED SETTLEMENT JOINTS.
4. VERTICAL RISER SHALL BE SAME AS SERVICE PIPE UNLESS OTHERWISE SPECIFIED.
5. CAP OR PLUG AT THE PROPERTY LINE SHALL BE ADEQUATELY BRACED TO WITHSTAND TESTING PRESSURE.
6. FOR NEW CONSTRUCTION, INSERTS MUST BE INSTALLED ON THE MAIN PIPE BEFORE THAT PIPE IS LAID. FOR SERVICES/BRANCHES 375mm DIA. OR LESS, APPROVED "CORED TEES" MAY BE USED.
7. APPROVED CUT-IN TOOL MUST BE USED FOR FIELD MADE CONNECTIONS.
8. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.

N.T.S.

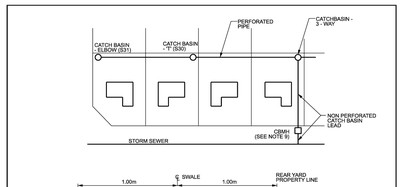
Ottawa	SEWER SERVICE CONNECTIONS FOR RIGID MAIN SEWER PIPE (MODIFIED OPSD-1006.010)	DATE:	MARCH 2006
		REV. DATE:	MARCH 2014
		DWG. No.:	S11



NOTES:
1. BACKWATER VALVE SHALL BE OF A TYPE THAT DOESN'T USE COVER TO SECURE FLAP IN PLACE. REMOVE BACKWATER VALVE COVER TO ENABLE VALVE MAINTENANCE AND ACCESS.
2. TO PREVENT AD-FREEZING DAMAGE, STANDPIPE SHALL BE ONE PIECE, NO MECHANICAL JOINTS, AND WRAPPED IN POLY OR OTHER SUITABLE MATERIAL. CONNECTION OF STANDPIPE TO BASE SHALL BE SOLVENT CEMENTED WITH A CEMENT MEETING APPROPRIATE CSA STANDARDS.
3. FOR STANDPIPES LOCATED IN GRASSED AREAS, COVERS SHALL BE WATERTIGHT AND REMOVABLE TO PREVENT INFILTRATION AND ALLOW ACCESS. TO SHALL BE FLUSH WITH OR SLIGHTLY ABOVE SURFACE DEPENDING ON PROPERTY OWNERS PREFERENCE.
4. FOR STANDPIPES LOCATED IN PAVED AREAS USE A SUITABLE COVER.
5. SEE MS 22.15 FOR APPROVED PRODUCTS.

N.T.S.

Ottawa	TYPICAL DEPRESSED DRIVEWAY BACKWATER VALVE AND STANDPIPE DETAIL	DATE:	MAY 2001
		REV. DATE:	MARCH 2016
		DWG. No.:	S18



NOTES:
1. SIDE SLOPE OF SWALE - MIN. 1.5%, MAX. 3:1.
2. LONGITUDINAL SLOPE OF SWALE WITHOUT PERFORATED PIPE 1.5% MIN.
3. LONGITUDINAL SLOPE OF SWALE WITH PERFORATED PIPE 0.5% MIN. WITH 1% OR GREATER PREFERRED.
4. UNDER DRIVEWAYS NON PERFORATED PIPE TO BE USED WITH 75mm BEDDING AND BACKFILLED WITH APPROVED NATIVE MATERIAL.
5. CB "T" TO BE SPACED ABOUT EVERY 20 TO 25m AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
6. CB ELBOW TO BE AT UPPER ENDS OF PERFORATED PIPE AND LOCATED 1m OFF REAR YARD AND SIDE YARD PROPERTY LINES.
7. GEOTEXTILE SHALL BE APPROVED NON-WOVEN CLASS 1 OR AS SPECIFIED.
8. MAXIMUM REAR YARD WATER DEPTH IS 300mm.
9. A STANDARD CATCHBASIN NO DEEPER THAN 2.4m OR A CATCHBASIN MAINTENANCE HOLE, STANDARD FRAMES C/W PERFORATED OR SOLID COVER AS SPECIFIED, STANDARD TOPS AS SPECIFIED.

N.T.S.

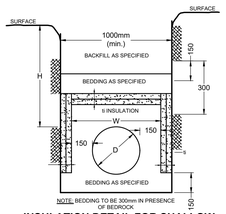
Ottawa	PERFORATED PIPE INSTALLATION FOR REAR YARD AND LANDSCAPING APPLICATIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2019
		DWG. No.:	S29

SEWER & WATERMAIN INSULATION NOTES:

1. INSULATE ALL SEWER PIPES THAT HAVE LESS THAN 2.0m COVER AND ALL WATERMAIN WITH LESS THAN 2.4m OF COVER WITH EXPANDED POLYSTYRENE INSULATION AS PER OPSD 1109.030.
2. THE THICKNESS OF INSULATION SHALL BE THE EQUIVALENT OF 25mm FOR EVERY 300mm REDUCTION IN THE REQUIRED DEPTH OF COVER WITH 50mm MINIMUM (SEE TABLE)

COVER SEWER / WATER	INSULATION THICKNESS (mm)
2000-1700 / 2400-2100	50
1700-1400 / 2100-1800	75
1400-1100 / 1800-1500	100

T = THICKNESS OF INSULATION (mm)
W = WIDTH OF INSULATION (mm)
W = D + 300 (1000 min.)
D = O.D OF PIPE (mm)



INSULATION DETAIL FOR SHALLOW SEWERS & WATERMAIN
N.T.S

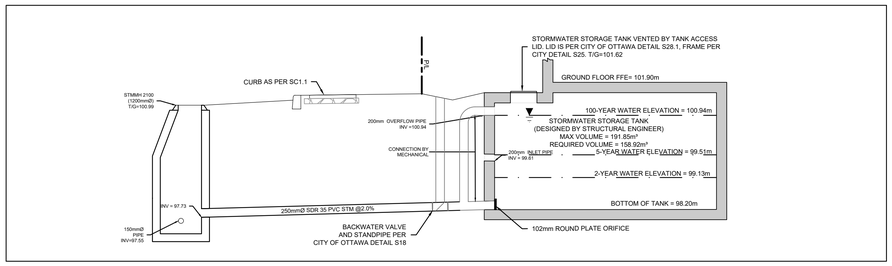
AREA DRAIN TABLE (PHASE 2)		
AD No.	T/G ELEVATION	INVERT
2400	101.20	REFER TO MECHANICAL FOR CONNECTION DETAILS
2401	101.44	REFER TO MECHANICAL FOR CONNECTION DETAILS
2402	101.34	REFER TO MECHANICAL FOR CONNECTION DETAILS

STM MANHOLE TABLE (PHASE 2)			
MANHOLE ID	SIZE (mm)	T/G ELEV (m)	INVERT (m)
2100	1200mmØ	100.99	SW=97.55 NE=97.55 SE=97.73
2101	1200mmØ	100.47	NW=98.63 NE=98.57

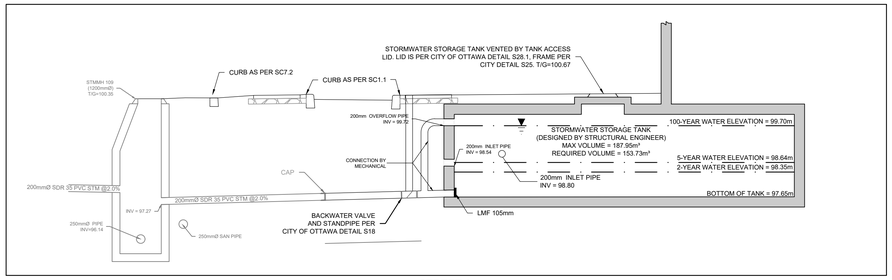
CATCHBASIN TABLE (PHASE 2)			
CB ID	SIZE (mm)	T/G ELEV (m)	INVERT (m)
2300	610X610	101.54	SE=99.54
2301	610X610	100.07	NW=98.87 NE=98.93
2302	610X610	100.39	SW=99.28
2303	610X610	101.00	SW=100.10 SE=99.63 NE=99.69

SAN MANHOLE TABLE (PHASE 2)			
MANHOLE ID	SIZE (mm)	T/G ELEV (m)	INVERT (m)
2200	1200mmØ	101.91	SE=95.50 NE=95.01 SW=95.01

LANDSCAPE DRAIN TABLE (PHASE 2)			
LD ID	SIZE (mm)	T/G ELEV (m)	INVERT (m)
2500	???X???	100.71	SW=99.84
2501	610X610	100.64	SW=99.80 NE=99.80
2502	610X610	101.18	NE=100.25 SW=100.25
2503	???X???	101.67	SW=100.41 NE=100.41
2504	610X610	101.65	NE=100.47



BASELINE ROAD PHASE 2 CISTERN
N.T.S



STREET 1 PHASE 2 CISTERN
N.T.S

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.

CLARIDGE HOMES

CLARIDGE HOMES
505 PRESTON STREET,
2ND FLOOR
OTTAWA , ONTARIO
K1S 4N7

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
1.	ISSUED FOR SPA	SEP 25/2026	GJM

SCALE: AS SHOWN

DESIGN: CJF/AM
CHECKED: NSW
DRAWN: AM
CHECKED: NSW/CJF
APPROVED: GJM

LICENSED PROFESSIONAL ENGINEER G.J. MacDONALD Sept. 25, 2009 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
1500 MERIVALE
1500 MERIVALE, CITY OF OTTAWA

DRAWING NAME
NOTES AND DETAILS GENERAL SERVICING (PHASE 2)

PROJECT No.: 121009
REV: REV#1
DRAWING No.: 121009-PH2-NDGP

M:\2021\121009\CAD\Design\121009-PH2-NDGP Sep 25, 2026 - 11:37am dfergason

PLANIT_2002 - xxxmm/25mm

GENERAL NOTES:

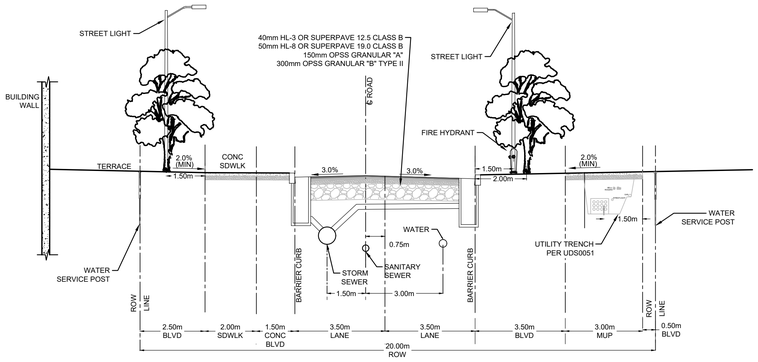
1. COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
2. DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
3. OBTAIN 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 $2,000,000.00. 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 DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
8. ALL ELEVATIONS ARE GEODETIC. THE SITE BENCHMARKS ARE THE FIRE HYDRANT TOP OF SPINDLE . BM NO.1 IS LOCATED APPROXIMATELY 105m FROM MERIVALE RD AND CLYDE AVE INTERSECTION, LOCATED ON THE EAST SIDE OF CLYDE AVE. BM NO.2 IS LOCATED AT THE EAST SIDE OF CLYDE AVE AND APPROXIMATELY 155m FROM BASELINE ROAD AND CLYDE AVE INTERSECTION.(BM NO. 1 ELEV = 95.96, BM NO. 2 ELEV = 96.25). REFER TO ANNIS, O'SULLIVAN, VOLLEBEKK LTD. TOPOGRAPHICAL PLAN OF SURVEY PART OF LOTS 18 AND 19, 20 AND 21 REGISTERED PLAN 30 CITY OF OTTAWA.
9. REFER TO GEOTECHNICAL INVESTIGATION REPORT PATERSON GROUP, REPORT PG5561-1, DATED FEBRUARY 23, 2021 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.
10. REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
11. REFER TO THE STORMWATER MANAGEMENT REPORT R-2026-078, DATED SEPTEMBER 25, 2026 PREPARED BY NOVATECH.
12. SAW CUT AND KEYGRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10 AND R25).
13. PROVIDE LINE/PARKING PAINTING.
14. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GENERAL PLAN OF SERVICES INDICATING ALL SERVICING AS-BUILT INFORMATION SHOWN ON THIS PLAN. AS-BUILT INFORMATION MUST INCLUDE: PIPE MATERIAL, SIZES, LENGTHS, SLOPES, INVERT AND T/G ELEVATIONS, STRUCTURE LOCATIONS, VALVE AND HYDRANT LOCATIONS, T/WM ELEVATIONS AND ANY ALIGNMENT CHANGES, ETC.
15. CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES.

GRADING NOTES:

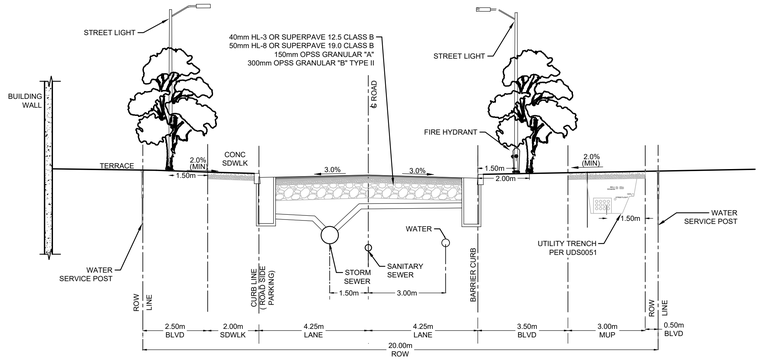
1. ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED BUILDING AND PAVED AREAS.
2. EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER . IF SOFT SPOTS DEVELOP IN THE SUBGRADE DURING COMPACTION OR DUE TO CONSTRUCTION TRAFFIC, THE AFFECTED AREAS SHOULD BE EXCAVATED AND REPLACED WITH OPSS GRANULAR B TYPE II MATERIAL. THE PAVEMENT GRANULAR BASE AND SUBBASE SHOULD BE PLACED IN MAXIMUM 300 mm THICK LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MATERIAL'S SPMDD USING SUITABLE VIBRATORY EQUIPMENT.
3. NON-SPECIFIED EXISTING FILL, ALONG WITH SITE-EXCAVATED SOIL, CAN BE USED AS GENERAL LANDSCAPING FILL WHERE SETTLEMENT OF THE GROUND SURFACE IS OF MINOR CONCERN. THIS MATERIAL SHOULD BE SPREAD IN THIN LIFTS AND AT LEAST COMPACTED BY THE TRACKS OF THE SPREADING EQUIPMENT TO MINIMIZE VOIDS. IF THIS MATERIAL IS TO BE USED TO BUILD UP THE SUBGRADE LEVEL FOR AREAS TO BE PAVED, IT SHOULD BE COMPACTED IN THIN LIFTS TO AT LEAST 95% OF THE MATERIAL'S SPMDD.
3. THE PAVEMENT GRANULAR BASE AND SUBBASE SHOULD BE PLACED IN MAXIMUM 300mm THICK LIFTS AND COMPACTED TO A MINIMUM OF 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
4. ALL CURBS AND SIDEWALKS TO BE BUILT AS PER CITY OF OTTAWA DETAIL DRAWINGS SC1.4 AND SC4.
5. GRADE AND/OR FILL BEHIND PROPOSED CURB AND BETWEEN BUILDINGS AND CURBS, WHERE REQUIRED TO PROVIDE POSITIVE DRAINAGE.
6. MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
7. ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
8. REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
9. CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING THE AS-BUILT ELEVATION OF EVERY DESIGN GRADE SHOWN ON THIS PLAN.

EROSION AND SEDIMENT CONTROL NOTES:

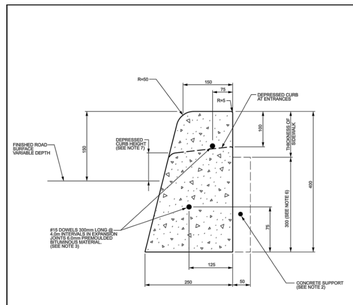
1. THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION 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 CLOTH 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.



TYPICAL PUBLIC ROAD SECTION
(7.5m ASPHALT - INTERSECTION OR MIDBLOCK NARROWING)
NTS



TYPICAL PUBLIC ROAD SECTION
(8.5m ASPHALT - C/W ROADSIDE PARKING)
NTS

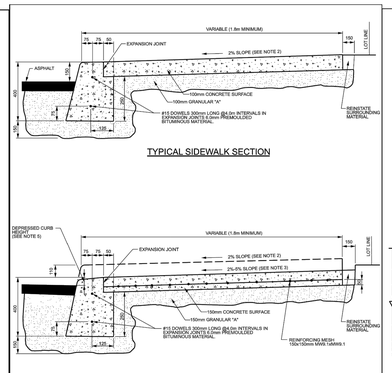


CONCRETE BARRIER CURB

NOTES:
1. THE FULL CURB DEPTH SHALL BE CARRIED THROUGH THE DEPRESSED ACCESS CROSSING.
2. A CONCRETE SUPPORT IS REQUIRED WHEN BUILT ADJACENT TO THE SIDEWALK.
3. IF AN EXTRUSION CURBING MACHINE IS USED,
THE EXPANSION BITUMINOUS MATERIAL AND THE #15 DOWELS ARE TO BE PLACED AT THE END OF THE EXTRUSION.
4. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
5. DUMMY JOINTS SHALL BE 25mm DEEP, FRONT, BACK AND TOP OF SECTION AT 4m SPACING OR MATCH JOINTING WHERE SIDEWALK IS ADJACENT.
6. FOR DEPRESSED CURB AT ENTRANCES USE 200.
7. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS 0 TO 6 mm AND FOR PRIVATE ENTRANCES 0 TO 13mm.

N.T.S.

Ottawa	CONCRETE BARRIER CURB FOR GRANULAR BASE PAVEMENT (MODIFIED OPSD-600.110)	DATE:	JANUARY 2005
		REV. DATE:	MARCH 2021
		DWG. No.:	SC1.1

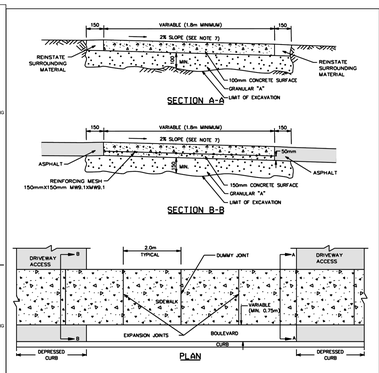


SECTION AT PRIVATE ENTRANCE AND PEDESTRIAN RAMPS

NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. THE MAXIMUM SLOPE IS NOT TO EXCEED 2%.
3. FOR CURB RAMPS, SLOPE OF 2% TO 5%, MAXIMUM 6%.
4. EXPANSION AND DUMMY JOINTS AS PER SC5.
5. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS 0 TO 6 mm AND FOR PRIVATE ENTRANCES 0 TO 13 mm.

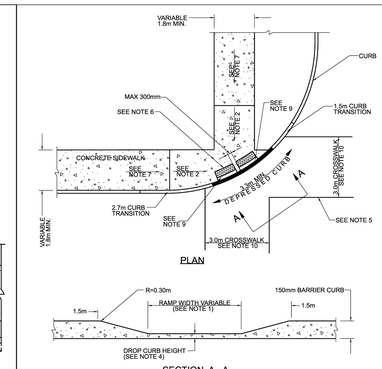
N.T.S.

Ottawa	CONCRETE BARRIER CURB WITH SIDEWALK	DATE:	JANUARY 2003
		REV. DATE:	MAY 2021
		DWG. No.:	SC1.4



NOTES:
1. CONCRETE AND GRANULAR "A" IS TO BE INCREASED TO 150mm AT THE ENTRANCE AND 150x150mm MW9.1 x MW9.1 REINFORCING MESH IS TO BE PLACED MID DEPTH WITHIN DRIVEWAY ACCESS.
2. TRANSVERSE EXPANSION JOINTS ARE REQUIRED AT THE ENDS, THE MIDPOINT, AT INTERVALS OF 4m MAXIMUM, AND ALSO TO ISOLATE OBSTRUCTIONS FROM SIDEWALK, HYDRANTS, POLES, BUILDINGS, ETC.
3. WHEN THE OVERALL SIDEWALK WIDTH EXCEEDS 2.5m, A LONGITUDINAL CONSTRUCTION JOINT SHALL BE CREATED AT ITS MIDPOINT.
4. EDGES AND JOINTS ARE TO BE FINISHED WITH A 75mm EDGING TOOL.
5. ALL CONCRETE SIDEWALKS ARE TO HAVE A BROOM FINISH UNLESS OTHERWISE SPECIFIED.
6. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
7. THE MAXIMUM SLOPE IS NOT TO EXCEED 2%.
8. INSTALL DUMMY TRANSVERSE JOINTS AS REQUIRED SO THERE IS A MAXIMUM SPACING OF 2m BETWEEN ALL JOINTS.
9. SIDEWALK NOT TO BE DEPRESSED ACROSS DRIVEWAY ACCESSES.
10. EXPANSION AND DUMMY JOINTS AS PER SC5

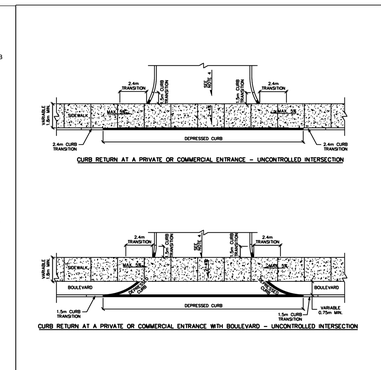
Ottawa	TYPICAL CONCRETE SIDEWALK IN BOULEVARD	DATE:	MAY 2001
		REV. DATE:	MARCH 2016
		DWG. No.:	SC4



NOTES:
1. CURB RAMP WIDTH MATCH SIDEWALK WIDTH, BE A MINIMUM OF 1.5m WIDE.
2. FOR TRANSITION AREA, MAXIMUM SLOPE OF 2%.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
4. DEPRESSED CURB HEIGHT - FOR PEDESTRIAN CURB RAMPS AND FOR PRIVATE ENTRANCES 0 TO 13mm. CROSSWALK WHERE APPLICABLE.
5. SUBJECT TO AVOIDANCE OF MEDIANS, CROSSWALK LINES TO CENTRED ON THE CURB RAMP.
6. APPROVED 610 x WIDTH OF CURB RAMP (1500 MIN.) TACTILE WALKING SURFACE INDICATOR (TWSI), RADIUS TO MATCH CURB. DRAIN GROOVES ASPEN SC7.
7. FOR CURB RAMPS SLOPE OF 2% TO 5% MAXIMUM 6%.
8. FOR RETROFIT APPLICATIONS ONLY.
9. 150 TO 200mm GAP. FOR MONOLITHIC SIDEWALK, TWSI SHALL BE 300 TO 350mm BACK FROM CURB FACE.
10. REFER TO R15 AND 15.1 FOR RAISED CROSSWALK AND R15.2 AT - GRADE CONCRETE CROSSWALK.

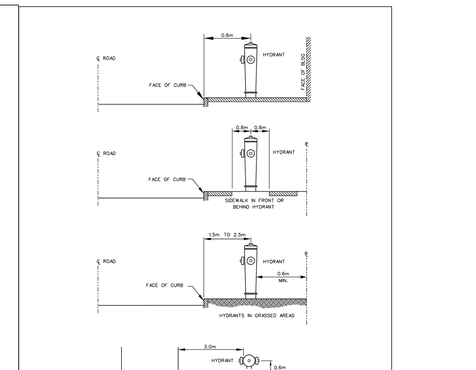
N.T.S.

Ottawa	PEDESTRIAN CURB RAMP AT INTERSECTION WITH BOULEVARD AND ADJACENT SIDEWALK	DATE:	MARCH 2007
		REV. DATE:	MARCH 2022
		DWG. No.:	SC7.2



NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS SHOWN OTHERWISE.
2. CURB DETAILS SEE SC1.1, SC1.2 AND SC1.3.
3. SIDEWALK DETAILS SEE SC2 AND SC3.
4. MAXIMUM SLOPE VARIES, SEE PRIVATE APPROACH BYLAW.
5. UNCONTROLLED INTERSECTION MEANS AN ENTRANCE NOT LOCATED AT A TRAFFIC SIGNAL OR ALL-WAY STOP CONTROL.

Ottawa	CURB RETURN ENTRANCES - UNCONTROLLED INTERSECTIONS	DATE:	MARCH 2007
		REV. DATE:	MARCH 2021
		DWG. No.:	SC7.1



NOTES:
1. REFER TO CONSTRUCTION SPECIFICATION F-4414

Ottawa	HYDRANT LOCATION	DATE:	MAY 2001
		REV. DATE:	MARCH 2013
		DWG. No.:	W18

NOTE:
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CLARIDGE HOMES

CLARIDGE HOMES
505 PRESTON STREET,
2ND FLOOR
OTTAWA , ONTARIO
K1S 4N7

NOT FOR CONSTRUCTION

No.	REVISION	DATE	BY
1.	ISSUED FOR SPA	SEP 25/2026	GJM

SCALE: AS SHOWN

DESIGN: CJF/AM
CHECKED: NSW
DRAWN: AM
CHECKED: NSW/CJF
APPROVED: GJM

PROFESSIONAL ENGINEER — G.J. MacDONALD — Sept. 25, 2026 — PROVINCE OF ONTARIO

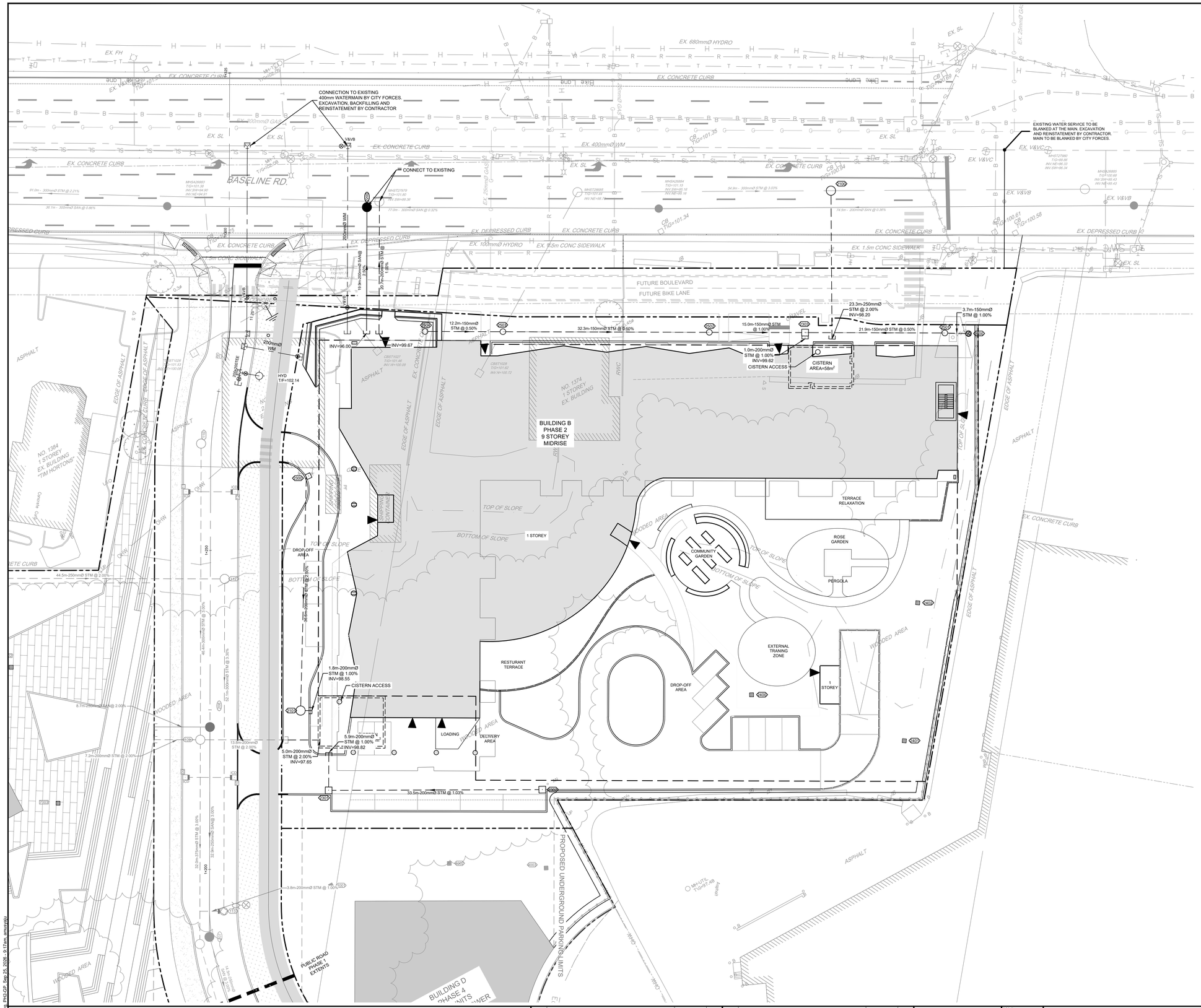
NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario, Canada K2M 1P6
Telephone (613) 254-9643
Facsimile (613) 254-5867
Website www.novatech-eng.com

LOCATION
1500 MERIVALE
1500 MERIVALE, CITY OF OTTAWA

DRAWING NAME
NOTES AND DETAILS GRADING PLAN (PHASE 2)

PROJECT No. 121009
REV REV#1
DRAWING No. 121009-PH2-NDGR

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LEGEND

- PROPERTY LINE
- PROPOSED CURB
- PROPOSED DEPRESSED CURB (DC)
- PROPOSED FLUSH CURB (FC)
- PROPOSED RETAINING WALL C/W GUARD RAIL
- PROPOSED WALKWAY
- TACTILE WALKING SURFACE INDICATOR (TWSI) PER CITY DETAIL SC7.3
- PROPOSED CAP
- PROPOSED SANITARY SERVICE c/w MANHOLE
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED OGS UNIT
- PROPOSED CATCHBASIN MANHOLE
- PROPOSED CATCHBASIN
- PROPOSED LANDSCAPE DRAIN
- PROPOSED AREA DRAIN
- PROPOSED TRENCH DRAIN
- PROPOSED INLET CONTROL DEVICE (ICD)
- PROPOSED SIAMESE CONNECTION
- PROPOSED WATER SERVICE
- PROPOSED TEST PORT
- PROPOSED HYDRANT c/w LEAD & VALVE
- PROPOSED VALVE AND VALVE BOX (V&VB)
- PROPOSED WATER METER
- PROPOSED REMOTE WATER METER (RM)
- PROPOSED BUILDING ENTRANCE
- DIRECTION OF FLOW
- BOREHOLE LOCATION (REFER TO GEOTECH REPORT)
- ASPHALT REINSTATEMENT AREA
- EXISTING UTILITY POLE C/W GUY WIRES
- EXISTING WATERMAIN C/W VALVE & VALVE CHAMBER (V&VC)
- EXISTING HYDRANT C/W VALVE & LEAD
- EXISTING SANITARY MANHOLE & SEWER (SAN.MH)
- EXISTING STORM MANHOLE & SEWER (STM.MH)
- EXISTING CATCHBASIN (CB 1)
- EXISTING GAS MAIN
- EXISTING HYDRO LINE
- EXISTING BELL LINE
- EXISTING TELECOMMUNICATIONS LINE
- EXISTING TRAFFIC LINE
- EXISTING HYDRO
- EXISTING STREETLIGHT LINE
- EXISTING ROGERS LINE
- EXISTING STREETLIGHT
- EXISTING PARKING LOT SIGNAGE

NOTE:
1. ALL SERVICE CONNECTIONS AND CATCHBASIN CONNECTIONS TO BE MADE PER CITY OF OTTAWA DETAIL S11 AND S11.2
2. BACKWATER VALVES TO BE PROVIDED ON ALL STORM AND SANITARY LATERALS AS PER CITY OF OTTAWA DETAILS S14, S14.1, AND S14.2. DOWNSTREAM OF ANY GRAVITY OUTLET FROM THE BUILDING. REFER TO MECHANICAL PLANS FOR DETAIL.
4. ALL FLOWS FROM THE UNDERGROUND PARKING GARAGE ARE TO BE PUMPED TO THE PROPOSED SANITARY SERVICE (TYP)
5. PROPOSED SERVICES TO BE SLEEVED THROUGH FOUNDATION WALL. FOUNDATION DRAINS TO BE PUMPED TO STORM SERVICE.
6. REFER TO MECHANICAL DRAWINGS FOR FURTHER DETAILS ON INTERNAL PLUMBING (TYP).
7. PROPOSED AREA DRAINS, AND TRENCH DRAINS ARE TO BE CONVEYED TO THE PROPOSED CISTERNS VIA THE INTERNAL PLUMBING, REFER TO THE MECHANICAL DRAWINGS FOR DETAILS
8. EXISTING WATER SERVICE TO BE BLANKED AT THE MAIN. EXCAVATION AND REINSTATEMENT BY CONTRACTOR. MAIN TO BE BLANKED BY CITY FORCES.

REFER TO 121009-NDGR-P2 FOR ADDITIONAL NOTES & DETAILS

NOTE:
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1.	ISSUED FOR SPA	SEP 25/2026	GJM

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

DESIGN CJF/AM
CHECKED NSW
DRAWN AM
CHECKED NSW/CJF
APPROVED GJM

LICENSED PROFESSIONAL ENGINEER G.J. MacDONALD Sept. 25, 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

LOCATION
1500 MERIVALE
1500 MERIVALE, CITY OF OTTAWA

DRAWING NAME
GENERAL PLAN OF SERVICES (PHASE 2)

PROJECT No. 121009
REV REV#1
DRAWING No. 121009-PH2-GP

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GRADING PLAN (PHASE 2)

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