120 Iber Road, Suite 103
Ottawa, Ontario K2S 1E9
Tel. (613)836-0856
Fax (613) 836-7183
www.DSEL.ca

FUNCTIONAL SERVICING REPORT

FOR

4497 O'KEEFE COURT

MATTAMY HOMES

CITY OF OTTAWA

DSEL PROJECT NO.: 14-746

JULY 2025
1ST SUBMISSION

120 Iber Road, Suite 103
Ottawa, Ontario K2S 1E9
Tel. (613)836-0856
Fax (613) 836-7183
www.DSEL.ca

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1.0 INTRODUCTION & BACKGROUND

Mattamy Homes has retained David Schaeffer Engineering Ltd. (*DSEL*) to prepare this Functional Servicing Report (*FSR*) in support of their application for draft plan approval for an urban residential development at 4497 O'Keefe Court.

The subject property is located east of Highway 416, south of West Hunt Club Road, west of Cedarview Road, and north of Fallowfield Road and O'Keefe Court. The O'Keefe Drain is located to the south of the subject property. The subject property was previously contemplated to be developed as Phase 2 of a country lot subdivision. Phase 1 of the country lot subdivision has been constructed and is located immediately to the north-east, see ***Figure 1*** for the subject property limits.

The Phase 1 country lot subdivision is serviced by municipal watermains but relies on private lot-level septic systems for wastewater disposal and treatment. The subject property currently has draft plan of subdivision approval for development as a country lot subdivision, which was planned to follow the same municipal water and private lot-level septic system servicing strategy that was approved for the existing Phase 1 country lot subdivision. The proposed development represents an updated and urbanized concept, independent of the country lot subdivision.

The proposed development includes a mix of residential areas with varying densities, mixed-use blocks, parks, conservation areas, an employment block, and a road network that includes proposed street connections to O'Keefe Court to the south and Onassa Circle to the north of the subject property. The Draft Plan of Subdivision and latest development concept plan can be found in ***Appendix A,*** and the latest projected development statistics are summarized in ***Table 1.1*** below***.*** The development is expected to advance in phases, subject to market demand and the owner's preferred timing.

Table 1.1: Development Statistics Projections

Land Use	Total Area (ha)	Units						Projected Population
		SFH	Towns[1]	Back-to-Back	Stacked	Mixed Use	TOTAL	
		3.4 ppu	2.7 ppu	2.7 ppu	2.7 ppu	1.8 ppu		
Low Density Residential	25.73	327	302	46	-	-	675	2052
Mixed Use Blocks	3.46	-	-	-	132	100	232	537
Condo Blocks	6.18	264	15	110	-	-	389	1236
Medium Density Blocks[2]	2.63	-	-	-	-	-	197	355
Commercial[3]	0.37							
Park	4.99							
SWM Pond	5.21							
Conservation Lands	5.84							
Other Undevelopable Area	11.71							
Total	**65.75**	**591**	**317**	**156**	**132**	**100**	**1493**	**4180**

Notes:
[1] Includes standard townhomes and rear lane townhomes
[2] A population density of 1.8 ppu has been assumed for the medium-density blocks (unknown unit types)
[3] The site commercial area is also considered in the mixed-use blocks total area

This *FSR* is provided to demonstrate the serviceability of the proposed development concept in conformance with the design criteria of the City of Ottawa, the Jock River Subwatershed Study, other background studies, and general industry practices. This *FSR* has also been prepared per the City of Ottawa's Servicing Study Guidelines for Development Applications, as demonstrated by the checklist in ***Appendix A.***

There is an existing City park, as well as a vacant parcel owned by others directly south of the subject property. In an effort to consider all potential development opportunities in the area surrounding the subject properties in this report, a potential residential concept for the vacant parcel has been prepared and can be found in ***Appendix A***. This vacant parcel will be herein referred to as the Cedarview Employment Lands.

As part of the application for draft plan approval for the subject property, **Stantec Consulting Ltd.** has prepared a water servicing analysis provided under separate cover. **Paterson Group** have also prepared a geotechnical investigation and hydrogeological report to be submitted under separate cover.

1.1 Existing Conditions

The subject property includes two parcels of land (often referred to as 4497A & 4497B O'Keefe Court), bisected by a Hydro One corridor, in Barrhaven West, with pre-development grades varying between approximately 120.5 m and 104.0 m. The existing land use consists of open space, forested area, an existing wetland, as well as an abandoned quarry. A geotechnical investigation for the study area has been completed with the results and recommendations documented in *Geotechnical Investigation, Proposed Residential Development, 800 Cedarview Road, Rev. 1 (Geotechnical Investigation)* (Paterson Group, June 3, 2024).

The subject property is under the jurisdiction of the Rideau Valley Conservation Authority (RVCA), primarily within the Jock River catchment area, with a small northern portion of the property located within the Graham Creek catchment. Drainage from external properties currently drain towards the subject property, the majority of which drain directly to the existing wetlands. Refer to ***Drawing 2*** for the existing drainage patterns.

The O'Keefe Municipal Drain is located southeast of the subject property and ultimately drains to the Jock River. The *Cedarview: Environmental Impact Study (EIS)* (Kilgour & Associates Ltd., October 18, 2024), provided under separate cover, includes a headwater drainage feature assessment for the subject property. See ***Section 5.1*** and the *EIS* for additional details. South of O'Keefe Court, the O'Keefe Municipal Drain is located within a dedicated corridor owned by the City.

Hydro One has been made aware of the proposed development. See ***Appendix A*** for record of the preliminary correspondence. Any required approvals for proposed works crossing the Hydro Corridor will be coordinated as part of the detailed design process.

1.2 Required Permits / Approvals

The permits and approvals listed below are expected to be required. In addition to permits and approvals listed in ***Table 1.2***, given the proposed development's stormwater runoff is tributary to the existing O'Keefe Municipal Drain, the Drainage Act change in land use process will be followed as part of the detailed design for the development.

Table 1.2: Required Permits / Approvals

Agency	Approval Type	Trigger	Remarks
City of Ottawa	Commence Work Notification (CWN)	Construction of new sanitary and storm sewers throughout the subdivision, including any required upgrades to existing sewers.	The City of Ottawa will issue a commence work notification for construction of the sanitary and storm sewers as well as the SWM Ponds.
City of Ottawa	MECP Form 1 – Record of Watermains Authorized as a Future Alteration	Construction of watermains throughout the subdivision.	The City of Ottawa is expected to review the watermains on behalf of the MECP through the Form 1 – Record of Watermains Authorized as a Future Alteration.
City of Ottawa & Ministry of the Environment, Conservation and Parks (MECP)	Consolidated Linear Infrastructure - Environmental Compliance Approval for sanitary and storm sewers & Stormwater Management Ponds	Construction of new sanitary and storm sewers, throughout the subdivision, including any required upgrades to existing sewers & construction of new stormwater management ponds.	The City of Ottawa is expected to review the sanitary and storm sewers, and stormwater management ponds on behalf of the MECP through the CLI-ECA process.
Rideau Valley Conservation Authority (RVCA)	Permit under Ontario Regulation 174/06, RVCA's Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation.	Closure of water features on site and construction of the stormwater management ponds and outlet(s) to the O'Keefe Drain.	Authorization related to the relocation/closure of water features on site to allow for development & construction of a new outlet(s) to the O'Keefe Drain.

2.0 BACKGROUND INFORMATION

2.1 Existing Studies, Guidelines, and Reports

The following studies were utilized in the preparation of this report.

- **Ottawa Sewer Design Guidelines**
  City of Ottawa, October 2012
  (Sewer Design Guidelines)
- **Technical Bulletin ISDTB-2014-01**
  City of Ottawa, February 5, 2014
  (ITSB-2014-01)
- **Technical Bulletin PIEDTB-2016-01**
  City of Ottawa, September 6, 2016
  (PIEDTB-2016-01)
- **Technical Bulletin ISTB-2018-01**
  City of Ottawa, March 21, 2018
  (PIEDTB-2016-01)
- **Technical Bulletin ISTB-2018-04**
  City of Ottawa, June 27, 2018
  (PIEDTB-2016-01)
- **Technical Bulletin ISTB-2019-02**
  City of Ottawa, July 8, 2019
  (ITSB-2019-02)
- **Technical Bulletin IWSTB-2024-04**
  City of Ottawa, July 8, 2019
  (IWTSB-2024-04)
- **Ottawa Design Guidelines – Water Distribution**
  City of Ottawa, July 2010
  (*Water Supply Guidelines*)
- **Technical Bulletin ISD-2010-2**
  City of Ottawa, December 15, 2010
  (ISDTB-2010-2)
- **Technical Bulletin ISDTB-2014-02**
  City of Ottawa, May 27, 2014
  (ISDTB-2014-02)

- **Technical Bulletin ISTB-2018-02**
  City of Ottawa, March 21, 2018
  (ISTB-2018-02)
- **Technical Bulletin IWSTB-2024-05**
  City of Ottawa, August 18, 2021
  (*IWSDTB-2024-05)*
- **City of Ottawa Official Plan**
  Adopted by Council November 2022, amended from time to time.
  (*Official Plan*)
- **Stormwater Management Planning and Design Manual**
  Ministry of Environment, March 2003
  (*SWMP Design Manual*)
- **Design Guidelines for Sewage Works,**
  Ministry of the Environment, 2008.
  (MECP Design Guidelines)
- **Jock River Reach One Subwatershed Study**
  Stantec, June 2007
- **O'Keefe Drain Environmental and Stormwater Management Plan**
  CH2M Hill, May 2013
- **Mattamy Cedarview Water Servicing Analysis**
  Stantec, February 8, 2024
  (Stantec Water Servicing Analysis)
- **Geotechnical Investigation**
  Paterson Group, June 3, 2024
- **Cedarview: Environmental Impact Study**
  Kilgour & Associates Ltd., October 18, 2024
- **Hydrogeological Study**
  Paterson Group, June 12 2024
- **Assessment of Adequacy of Public Services Report for 4497 O'Keefe Court**
  DSEL, October 2024
- **O'Keefe Urban Expansion Area Assessment Memo [Water]**
  City of Ottawa, May 30, 2025
- **O'Keefe Urban Expansion Area Assessment Memo [Wastewater]**
  City of Ottawa, May 27, 2025

- **Mattamy Cedarview Lands – Interpretation of City's O'Keefe Urban Expansion Area Assessment Memo**
  Stantec, July 4, 2025
  (Stantec Water Servicing Memo)

3.0 WATER SUPPLY SERVICING

3.1 Existing Water Services

The subject property is in the Pressure Zone 3SW. The existing water services in the vicinity of the proposed development include a 600mm diameter watermain within O'Keefe Court and a 305mm diameter watermain within Onassa Circle at Trilby Court. The 600mm watermain within O'Keefe Court is connected to the Moodie Drive elevated tank, located approximately 1 km to the west, across Hwy 416. For further details on the existing watermain network in the area, refer to ***Figure 3***.

3.2 Proposed Water Supply Strategy

The subject property is proposed to be serviced by connections to existing watermains within Pressure Zone 3SW. Specifically, connections are to be made to the existing 600mm diameter watermain within O' Keefe Court, and the existing 305mm diameter watermain within Onassa Circle, at Trilby Court.

The proposed internal watermain network can be seen in ***Figure 3*** and was sized and modeled by Stantec as part of the *Mattamy Cedarview Water Servicing Analysis* (*Stantec Water Servicing Analysis*) (Stantec, February 8, 2024). Water demand details, design parameters, and modeling results can all be found in the *Stantec Water Servicing Analysis*.

As part of Mattamy's Urban Boundary Expansion Official Plan Amendment application, the City of Ottawa (with Stantec modeling support) conducted hydraulic assessments summarized in the *O'Keefe (Mattamy) Urban Expansion Area Assessment* (City of Ottawa & Stantec, May 30, 2025). In response to this assessment, Stantec prepared the *Mattamy Cedarview Lands – Interpretation of City's O'Keefe Urban Expansion Area Assessment Memo* (*Stantec Water Servicing Memo)* (Stantec, July 4, 2025), interpreting the results of the City's assessment. The *Stantec Water Servicing Memo*, provided under separate cover, concludes that the proposed watermain network and connections to existing 3SW watermain infrastructure can service approximately 96% of the proposed development at acceptable pressure levels without any off-site watermain upgrades. These localized service limitations are planned to be addressed by site-specific solutions (e.g. optimized land use planning, strategic grading, or localized pressure-boosting systems) as the design process advances.

As detailed in the *Stantec Water Servicing Memo*, continued coordination between Mattamy, the City of Ottawa and nearby future developments (e.g. planned expansion of the Canadian Food Inspection Agency laboratory at 3851 Fallowfield Road) related to off-site demands and upgrades will be conducted as the design process advances. See the *Stantec Water Servicing Memo* for additional details.

Any required approvals/agreements related to the proposed watermain crossing of the Hydro One corridor will be coordinated with the Hydro One and any other required parties as part of the detailed design process.

3.3 Water Supply Conclusion

An internal watermain distribution network with multiple connections to the external watermain network will service the proposed development. The subject property will connect to existing watermains in Pressure Zone 3SW, specifically a 600mm watermain on O'Keefe Court and a 305mm watermain on Onassa Circle at Trilby Court. The 600mm main is serviced by the Moodie Drive elevated tank, approximately 1 km west of the site.

Stantec's analysis, supported by the City's hydraulic assessment, confirms that the existing infrastructure can service the majority of the proposed development (~96%) at acceptable pressure levels without off-site watermain infrastructure upgrades. Any localized service limitations are expected to be resolved through site-specific design measures (e.g. optimized land use planning, strategic grading, or localized pressure-boosting systems) to be determined as part of the detailed design process.

4.0 WASTEWATER SERVICING

4.1 Existing Wastewater Services

The existing wastewater services in the vicinity of the subject lands include a 525mm diameter South Nepean Collector (SNC) sanitary sewer located on Strandherd Drive at the Maravista Drive intersection, approximately 1.8 km south of the subject property. Additionally, there is a nearby sanitary sewer on Citigate Drive, about 1.4 km south of the property, that varies in diameter from 250 to 375 mm. For details on the existing sewer network, refer to ***Drawing 1***.

The design of the SNC was detailed in the *Strandherd Drive Widening Project – South Nepean Collector Phase 3: Sanitary Flow Calculations* report (Novatech, May 2019). DSEL recreated the SNC drainage plan and sewer design sheet, using recorded as-built information, to investigate the capacity of the SNC to accommodate the wastewater flows from the subject property as part of the *Assessment of Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024). The residual free-flowing capacity within the critical sewer segment of the downstream SNC (MHSA 9 to MHSA 10, part of SNC Phase 2, located within Chapman Mills Drive) was identified as 121.21 L/s.

Since the time the May 2019 *Strandherd Drive Widening Project – South Nepean Collector Phase 3* sanitary analysis was prepared, the Barrhaven Conservancy development project has been added to the planned SNC drainage area. With the wastewater flows from Barrhaven Conservancy considered, per the *Assessment of Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024), the residual free-flowing capacity within the critical SNC sewer segment is reduced to 32.85 L/s.

JFSA prepared a Sanitary Hydraulic Gradeline (HGL) analysis in October of 2023 to assess the existing sanitary system HGL as well as the impact of the proposed development. This analysis was included in the *Assessment of Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024) and determined that under both existing and proposed conditions, the sanitary sewer is not surcharged, and that the existing sanitary infrastructure is sufficiently sized to safely convey sanitary flows from the proposed development.

4.2 Proposed Wastewater Servicing Strategy

The subject property is proposed to be serviced via a gravity sewer connection to the SNC sanitary sewer on Strandherd Drive, with an internal network of sanitary sewers collecting wastewater and directing flows south to a proposed off-site watermain running through an existing City-owned corridor for the O'Keefe Drain, which is roughly 60m wide. See ***Drawing 1*** for details of the proposed sanitary sewer network. Sanitary sewer design sheets have been prepared utilizing the City of Ottawa Sewer Design Guidelines parameters, which are outlined in ***Table 4.1*** below. The design sheets can be found in ***Appendix C***.

Table 4.1: Wastewater Design Criteria

Design Parameter	Value
Residential - Single Family	3.4 persons/unit
Residential – Semi-Detached Home / Townhome	2.7 persons/unit
Residential - Average Daily Demand	280 L/d/per
Residential - Peaking Factor	Harmon's Peaking Factor. Max 4.0, Min 2.0
Harmon - Correction Factor	0.80
Commercial / Institutional – Average Flow	28,000 L/ha/day
Commercial / Institutional – Peaking Factor	1.5 if ICI in contributing area is >20% 1.0 if ICI in contributing area is <20%
Infiltration and Inflow Allowance	0.33 L/s/ha
Park Flow	9,300 L/ha/day
Sanitary sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} AR^{2/3} S^{1/2}$
Minimum Sewer Size	200 mm diameter
Minimum Manning's 'n'	0.013
Service Lateral Size	135 mm diameter PVC SDR 28 with a minimum slope of 1.0%
Minimum Depth of Cover	2.5 m from crown of sewer to grade
Minimum Full Flowing Velocity	0.6 m/s
Maximum Full Flowing Velocity	3.0 m/s
Additional Considerations	Min slope of 0.65% for the furthest upstream public sewer when there are less than 10 residential connections in this length of pipe.
	The impact of groundwater levels and potential for exfiltration will be reviewed by a geotechnical engineer at detailed design and any required mitigation measures will be implemented.
• *Extracted from Sections 4 and 6 of the City of Ottawa Sewer Design Guidelines, October 2012 and Technical Bulletin ISTB-2018-01.*	

Consistent with the sanitary capacity analysis completed as part of the *Assessment of Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024), potential wastewater flows from the Cedarview Employment Lands have been considered in the proposed sanitary sewer design.

The *Assessment of Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024) demonstrated two possible alignments for the off-site trunk sanitary sewer. Option 1 was for external sanitary sewers to be installed on O'Keefe Court, Fallowfield Drive, and Strandherd Drive before connecting to the existing SNC on Strandherd Drive at the Maravista Drive intersection. Option 2 was for external sanitary sewers to be installed on O'Keefe Court, Fallowfield Road, and Citigate Drive before connecting to the existing sanitary sewer on Citigate Drive and ultimately connecting to the existing SNC via Systemhouse Street. The alignment of the off-site trunk sewer in this *FSR* has been presented to minimize the amount of proposed off-site infrastructure within existing roadways. Given that the proposed alignment runs through City-owned land, coordination with the City will be required as part of the design process.

Applying the wastewater design criteria in ***Table 4.1***, the projected peak wastewater flow from the subject property and the Cedarview Employment Lands directed toward the SNC

trunk sanitary sewer is 62.73 L/s. This represents a reduction to the 68.97 L/s considered in the *Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024) and confirms there is sufficient capacity within the SNC to accommodate wastewater flows from both the urbanized development of the subject property and the potential development of the Cedarview Employment Lands to the south. See ***Appendix C*** for more details on the downstream sanitary capacity comparison.

4.3 Wastewater Servicing Conclusion

The proposed development will be serviced by a gravity-fed sanitary sewer system connecting to the existing South Nepean Collector (SNC). The proposed routing extends from the subject property east along O'Keefe Court and south through the City-owned O'Keefe Drain corridor to connect at Strandherd Drive. This alignment minimizes disturbance to recently completed road works and leverages existing municipal corridors.

The design adheres to the City of Ottawa Sewer Design Guidelines and accounts for projected wastewater flows from the subject property as well as planned developments in the surrounding area, including the Cedarview Employment Lands. As the proposed development results in a net reduction in population compared to earlier capacity analyses, there is confirmed to be capacity in the SNC.

5.0 STORM SERVICING & STORMWATER MANAGEMENT

5.1 Existing Stormwater Drainage Conditions

The subject property is under the jurisdiction of the Rideau Valley Conservation Authority (RVCA), primarily within the Jock River catchment area, with a small northern portion of the property located within the Graham Creek catchment. Under existing conditions, the northern 10.05 ha of the subject property drains north to the Hwy 416 roadside ditch, and the remainder of the site drains south, ultimately into the O'Keefe Drain. The pre-development storm drainage areas are illustrated in ***Drawing 2.*** The O'Keefe Drain is defined as a Municipal Drain under the Drainage Act.

Within the subject property, there are existing wetlands that collect runoff from a portion of the site, and external drainage areas, before ultimately conveying flow to the O'Keefe Drain. There is also an abandoned quarry within the subject property, which spills into the wetlands during Spring snowmelt via an existing water feature. The locations of the existing wetlands and the O'Keefe Drain can be seen in ***Figure 2***.

There are existing water features within the subject property, which have been assessed as part of the *Cedarview: Environmental Impact Study (EIS)* (Kilgour & Associates, October 18, 2024). Based on the recommendations in the *EIS* and coordination with **Kilgour & Associates**, the function of existing water features located within the identified Conservation Lands in the development concept are to be maintained for environmental purposes. Under existing conditions, these features ultimately outlet to the O'Keefe drain via an existing ditch in the location of the proposed road connection from the subject property to O'Keefe Court. To accommodate the proposed road connection while preserving these water features' function, the existing features will be redirected to drain eastward, directly to the O'Keefe Drain. The locations of the existing features and the proposed re-alignment are detailed in ***Drawing 5***.

5.2 Proposed Stormwater Servicing Strategy

Consistent with pre-development conditions, runoff from the proposed development of the subject property will be conveyed to the existing Hwy 416 roadside ditch and to the O'Keefe Drain via the existing wetlands and proposed stormwater management (SWM) Pond outlets.

5.2.1 Minor System

Minor system flows from the majority of the proposed development will be captured and conveyed to the proposed wet ponds for quantity and quality control, before being directed into the O'Keefe Drain. Minor system flows from a 6.35 Ha portion of the development will be captured and treated before being directed to the Hwy 416 roadside ditch. The development will be serviced by a storm sewer network designed in accordance with the *City Sewer Design Guidelines*. ***Table 5.1*** summarizes the design criteria that will be employed in the detailed design of the sewer network. The conceptual

storm sewer network is shown in ***Drawing 3***, and Rational Method design sheets are provided in ***Appendix D***.

Table 5.1: Stormwater Management Design Criteria

Design Parameter	Value
Minor System Design Return Period	2-Year (Local Streets), 5-Year (Collector Streets), 10-Year (Arterial Streets) – PIEDTB-2016-01
Major System Design Return Period	100-Year
Intensity Duration Frequency Curve (IDF) 2-year storm event: A = 723.951, B = 6.199, C = 0.810 5-year storm event: A = 998.071, B = 6.053, C = 0.814	$i = \frac{A}{(t_c + B)^C}$
Minimum Time of Concentration	10 minutes
Rational Method	$Q = CiA$
Runoff coefficient for paved and roof areas	0.90
Runoff coefficient for landscaped areas	0.20
Storm sewers are to be sized employing the Manning's Equation	$Q = \frac{1}{n} A R^{2/3} S^{1/2}$
Minimum Sewer Size	250 mm diameter
Minimum Manning's 'n'	0.013
Service Lateral Size	100 mm dia PVC SDR 28 with a minimum slope of 1.0%, and a preferred slope of 2.0%.
Minimum Depth of Cover	2 m from the crown of the sewer to grade (or 1.5m where USF freeboard to HGL is not a constraint, such as in slab-on-grade products)
Minimum Full Flowing Velocity	0.8 m/s
Maximum Full Flowing Velocity	6.0 m/s
Clearance from 100-Year Hydraulic Grade Line to Building Opening	0.30 m
Max. Allowable Flow Depth on Municipal Roads	35 cm above gutter (PIEDTB-2016-01)
Extent of Major System	To be contained within the municipal right-of-way or adjacent to the right-of-way provided that the water level must not touch any part of the building envelope and must remain below the lowest building opening during the stress test event (100-year + 20%) and 15cm vertical clearance is maintained between spill elevation on the street and the ground elevation at the nearest building envelope (PIEDTB-2016-01)
Imperviousness	Based on runoff coefficient (C) where Percent Imperviousness = (C - 0.2) / 0.7 x 100%.
Stormwater Management Model	PCSWMM
Design Storms	Chicago 3-hour Design Storms and 24-hour SCS Type II Design Storms.
Historical Events	July 1st, 1979, August 4th, 1988, and August 8th, 1996

Extracted from City of Ottawa Sewer Design Guidelines, October 2012, as amended by PIEDTB-2016-01, *and based on recently approved residential subdivision designs in the City of Ottawa.*

All private residential blocks, including the condominium, mixed-use, and medium-density blocks, and the Cedarview Employment Lands have been assumed to capture the 2-year storm event, while the park and school blocks are assumed to capture the 5-year storm event.

Inlet control devices (ICD) will be employed to ensure that storm flows entering the minor system are limited to the flows described in ***Table 5.1*** and above.

A detailed hydraulic gradeline (HGL) analysis will be completed for the proposed system at the detailed design level, based on the 100-year 3-hour Chicago, 12-hour SCS, and 24-hour SCS design storms. Other design storms and/or historical events may be considered at detailed design, as required. Detailed grading design and storm sewer design will be modified as required to achieve the freeboard requirements set out in ***Table 5.1***.

5.2.2 Major System and Grading

Major system conveyance, or overland flow (OLF), will be provided to accommodate flows in excess of the minor system capacity. OLF is accommodated by generally routing surface flow along the road network and service easements to the proposed SWM Ponds and the existing Hwy 416 roadside ditch. Conceptual OLF routing is shown in ***Drawing 5***. Runoff from the dedicated wetlands within the development and the adjacent park lands is to be directed to the wetland, consistent with pre-development conditions.

It is assumed that all private residential (condo, mixed-use, and medium-density blocks), school blocks, and the Cedarview Employment Lands will provide on-site storage for storm events up to and including the 100-year event.

Per the Geotechnical Investigation (Paterson Group, June 3, 2024), there are no grade raise restrictions for the subject property.

The following grading criteria and guidelines will be applied at the time of detailed design as per *City Sewer Design Guidelines*:

- Driveway slopes will have a maximum slope of 6%;
- Slope in grassed areas will be between 2% and 5%;
- Grades in excess of 7% will require terracing to a maximum of a 3:1 slope;
- Swales are to be 0.15m deep with 3:1 side slopes unless otherwise indicated on the drawings; and,
- Perforated pipe will be required for drainage swales if they are less than 1.5% in slope.

5.2.3 Proposed Outlets

Consistent with existing conditions, the majority of the subject property will ultimately drain to the Jock River via the O'Keefe Municipal Drain. Per the Jock River Reach 1 Subwatershed Study (Stantec, June 2007), the Jock River does not have quantity control requirements and requires an Enhanced Treatment level of quality control, defined as 80% removal of Total Suspended Solids (TSS).

While there are no quantity control requirements for the Jock River, capacity constraints within the O'Keefe Drain were considered based on peak flows to the 1000 mm diameter culvert under O'Keefe Court, as detailed in the *O'Keefe Drain Environmental and Stormwater Management Plan* (CH2M, May 2013). Allowable release rates to the O'Keefe Court culvert (Node 0007) were established based on the subject property's contribution to the CH2M peak flows. See ***Table 5.2*** below. Relevant excerpts from the CH2M report are provided in ***Appendix D***. The pre-development drainage area contributing to the O'Keefe Drain from the subject property, totaling 58.23 Ha and including the potential future development of the Cedarview Employment Lands, is illustrated in ***Drawing 2***.

Table 5.2: Allowable Release Rates to the O'Keefe Drain

Storm Event	CH2M May 2013		Unitary Flow rate (L/s/Ha)	DSEL July 2025	
	Peak Flow at Node 0007 (cms)	Total Area to Node 0007 (Ha)		Pre-development Drainage to O'Keefe Drain from subject property (Ha)	Total Allowable Release Rate (cms)
2-year	0.622	139.27	4.47	58.23	0.26
5-year	1.185	139.27	8.51	58.23	0.50
10-year	1.619	139.27	11.62	58.23	0.68
25-year	2.232	139.27	16.03	58.23	0.93
50-year	2.75	139.27	19.75	58.23	1.15
100-year	3.332	139.27	23.92	58.23	1.39

It is anticipated that as part of the detailed design, in accordance with the Drainage Act, an engineer's report will need to be prepared by a Drainage Engineer to account for the proposed land use changes and modifications to the O'Keefe Drain.

SWM Pond 1, in the south-east corner of the proposed development will service 28.3 Ha of the subject lands, and ultimately outlet to the O'Keefe Drain. The abandoned quarry north-west of the Hydro Corridor is to be converted to SWM Pond 2, which will service 20.39 Ha of the subject lands, and also outlet to the O'Keefe Drain via an outlet sewer that follows the trunk sanitary sewer south to O'Keefe Court before outflowing to the O'Keefe Drain. The proposed SWM Ponds have been sized to provide Enhanced

Treatment (80% TSS removal) and quantity control to respect a drainage area weighted distribution of the allowable 100-year release rate to the O'Keefe Drain. The Cedarview Employment Lands are considered to have independent quality and quantity controls onsite, and have been considered in the weighted distribution of the allowable 100-year release rate.

The 100-year peak flow contribution from the wetlands was removed from the total allowable release rate of 1.39 cms, resulting in a remaining capacity of 0.7614 cms. This remaining allowable release rate was then proportionally distributed between the two proposed SWM ponds, and the Cedarview Employment Lands based on their respective drainage areas. Preliminary pond sizing details can be found in ***Appendix D***.

A comparison between pre- and post-development runoff directed to the existing wetland can be found in ***Table 5.3*** below. As the design process continues, the hydrological balance of the wetlands will be monitored and confirmed. There is potential for the diversion of partial SWM Pond 2 outflows to the wetlands.

Table 5.3: Drainage Comparison to Wetland Pre- and Post-Development

Condition	Area Draining to Wetland (Ha)	Runoff Coefficient	A*C
Pre-Development	40.75	0.28	11.49
Post-Development	26.62	0.38	10.19

Consistent with existing conditions, an external drainage area of 6.35 Ha will continue to discharge to the Hwy 416 roadside ditch through the subject property. Runoff from 3.3 Ha at the north of the development will also be directed to the Hwy 416 roadside ditch. Enhanced quality control will be provided for all internal runoff directed to this ditch prior to release, and quantity control will be provided to match pre-development flows from the subject property as required. Quality and quantity control measures will be determined at the detailed design stage when detailed runoff volumes and surface storage can be determined. Possible control alternatives include LIDs, oil and grit separators, underground stormwater storage chambers or equivalent systems. See ***Table 5.4*** below. The post-development runoff coefficient was conservatively assumed for this preliminary design level. The preliminary storage estimate for the portion of the development tributary to the Hwy 416 ditch can be seen in ***Appendix D.***

Table 5.4: Drainage Comparison to Hwy 416 Ditch Pre- and Post-Development

Condition	Area Draining to Hwy 416 (Ha)	Runoff Coefficient	A*C
Pre-Development	10.7	0.2	2.14
Post-Development	3.30	0.7	2.31

5.3 Low Impact Development Measures

The suitability of Low Impact Development Measures (LIDs) for the proposed development has been evaluated from a geotechnical and hydrogeological perspective by Paterson Group, in the *Hydrogeological Study* (Paterson Group, June 12, 2024). The study concludes that there is potential for implementing infiltration-based LIDs in portions of the site, and additional site-specific testing may be required to confirm feasibility based on suitable locations in the approved concept plan. Coordination between DSEL and Paterson Group will continue as the design process advances to best incorporate LIDs in the stormwater management strategy, consistent with the design criteria in the CLI-ECA.

5.4 Storm Servicing & Stormwater Management Conclusion

The stormwater management strategy for the subject property, under the jurisdiction of the RVCA, will maintain existing drainage patterns by directing treated flows via an internal storm sewer network from the majority of the site to the O'Keefe Municipal Drain. Two stormwater management ponds will service a combined area of 58.23 Ha, providing Enhanced Treatment (80% TSS removal) and post-to-pre development quantity control discharging to the O'Keefe Drain.

Consistent with existing flow conditions, 3.3 ha from the north end of the site will continue to discharge to the Hwy 416 roadside ditch, with enhanced quality control and quantity control measures to be implemented on-site to match pre-development flows.

Runoff from a portion of the site will continue to drain to the existing wetlands to maintain their pre-development hydrologic function. As the design process advances, the hydrological balance of the wetlands will be monitored and confirmed.

A detailed HGL assessment will be completed as part of the detailed design process. In addition, it is anticipated that an engineer's report, as required under the Drainage Act, will need to be prepared to address land use changes and modifications to the O'Keefe Drain.

6.0 UTILITIES

Utility services extending to the site may require connections to multiple existing infrastructure points: consultation with Enbridge gas, Hydro One, Rogers, and Bell is proceeding as part of the functional servicing design process to confirm the servicing plan for the subject property.

In October 2023, Hydro One was consulted to gather information about the existing utility equipment in the vicinity of the development. This consultation also aided in determining the future requirements for any access or proposed uses within the Hydro One corridor lands within the development area. Correspondence with Hydro One can be found in ***Appendix A.***

7.0 EROSION AND SEDIMENT CONTROL

Soil erosion occurs naturally and is a function of soil type, climate and topography. The extent of erosion losses is exaggerated during construction where vegetation has been removed and the top layer of soil becomes agitated.

Prior to topsoil stripping, earthworks or underground construction, erosion and sediment controls will be implemented and will be maintained throughout construction.

Silt fence will be installed around the perimeter of the active part of the site and will be cleaned and maintained throughout construction. Silt fence will remain in place until the working areas have been stabilized and re-vegetated.

Catchbasins will have catchbasin inserts installed during construction to protect from silt entering the storm sewer system.

Specifically, the following recommendations to the Contractor will be included in contract documents.

- Limit extent of exposed soils at any given time.
- Re-vegetate exposed areas as soon as possible.
- Minimize the area to be cleared and grubbed.
- Protect exposed slopes with plastic or synthetic mulches.
- Install silt fence to prevent sediment from exiting the construction area and entering existing ditches/stormwater systems.
- Install mud mat at the construction access in order to prevent mud tracking onto adjacent roads.
- No refueling or cleaning of equipment near existing watercourses.
- Provide sediment traps and basins during dewatering.
- Install catchbasin inserts.
- Plan construction at proper time to avoid flooding.

The Contractor will, at every rainfall, complete inspections and guarantee proper performance. The inspection is to include:

- Verification that water is not flowing under silt barriers.
- Clean and change inserts at catch basins.

8.0 CONCLUSIONS AND RECOMMENDATIONS

This Functional Servicing Study (FSR) (DSEL, July 2025) provides details on the planned on-site and off-site municipal services for the subject property and demonstrates that adequate municipal infrastructure capacity is available for the planned development of the study area, building on the findings of the *Assessment of Adequacy of Public Services Report for 4497 O'Keefe* (DSEL, October 2024).

Prior to the detailed design of the infrastructure presented in this report, this *FSR* will require approval under the Planning Act as supporting information for the development applications. Project-specific approvals are also expected to be required for the infrastructure presented in this report from the City of Ottawa, Ministry of Environment, Conservation, and Parks, and the Rideau Valley Conservation Authority.

Prepared by,

David Schaeffer Engineering Ltd.

Per: Hannah Bulmer, B.A.Sc.

David Schaeffer Engineering Ltd.

Per: Braden Kaminski, P.Eng.

Z:\Projects\14-746_800_Cedarview\B_Design\B3_Reports\B3-2_Servicing (DSEL)\2025-07-18_FSR

Appendix A

- City of Ottawa Development Servicing Study Checklist
- Draft Plan of Subdivision, prepared by J.D. Barnes, received July 22, 2025
- Cedarview - Community Masterplan Concept, Rev. 6, prepared by Urbantypology, dated August 17, 2023
- Cedarview – Concept Employment Block, Rev. 5, prepared by Urbantypology, dated August 4, 2023
- Pre-consultation correspondence with Hydro One (October 2023)

DEVELOPMENT SERVICING STUDY CHECKLIST

4.1 General Content		
☐	Executive Summary (for larger reports only).	N/A
☒	Date and revision number of the report.	Title Page
☒	Location map and plan showing municipal address, boundary, and layout of proposed development.	Appendix A & Figure 1
☒	Plan showing the site and location of all existing services.	Drawing 1, Figure 3, Drawing 3
☒	Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	Section 1.0
☒	Summary of Pre-consultation Meetings with City and other approval agencies.	Appendix A
☒	Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria.	Section 3.0, Section 4.0, Section 5.0
☒	Statement of objectives and servicing criteria.	Section 1.0, Section 3.0, Section 4.0, Section 5.0
☒	Identification of existing and proposed infrastructure available in the immediate area.	Sections 3.1, Section 4.1, and Section 5.1
☒	Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	Section 1.0
☒	Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	Drawing 5
☐	Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A
☐	Proposed phasing of the development, if applicable.	To be provided once available.
☒	Reference to geotechnical studies and recommendations concerning servicing.	Section 1.0, Section 5.0
☒	All preliminary and formal site plan submissions should have the following information: -Metric scale -North arrow (including construction North) -Key plan -Name and contact information of applicant and property owner -Property limits including bearings and dimensions -Existing and proposed structures and parking areas -Easements, road widening and rights-of-way -Adjacent street names	Drawings & Figures

*Extracted from the City of Ottawa-Servicing Study Guidelines for Development Applications

4.2 Development Servicing Report: Water		
☐	Confirm consistency with Master Servicing Study, if available	N/A
☒	Availability of public infrastructure to service proposed development	Section 3.2
☒	Identification of system constraints	Section 3.2
☒	Identify boundary conditions	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Confirmation of adequate domestic supply and pressure	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Address reliability requirements such as appropriate location of shut-off valves	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Check on the necessity of a pressure zone boundary modification	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range	Section 3.2 & Appendix B
☒	Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Section 3.2, Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024) & Figure 3
☒	Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Section 3.2 & Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
☒	Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	Mattamy Cedarview Water Servicing Analysis (Stantec, February 8, 2024)
4.3 Development Servicing Report: Wastewater		
☐	Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).	Section 4.2

*Extracted from the City of Ottawa-Servicing Study Guidelines for Development Applications

☐	Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
☐	Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
☒	Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 4.2, Appendix C
☒	Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	Section 4.2, Appendix C
☒	Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	Appendix C
☒	Description of proposed sewer network including sewers, pumping stations, and forcemains.	Section 4.2 & Appendix C
☐	Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A
☐	Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
☐	Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
☐	Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A
☐	Special considerations such as contamination, corrosive environment etc.	N/A

4.4 Development Servicing Report: Stormwater Checklist		
☒	Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)	Section 1.0 & Section 5.2
☒	Analysis of available capacity in existing public infrastructure.	Section 5.2
☒	A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Drawing 2, Drawing 3
☒	Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Section 5.2
☒	Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Section 5.2
☒	Description of the stormwater management concept with facility locations and descriptions with references and supporting information	Section 5.2 & Drawing 3
☐	Set-back from private sewage disposal systems.	N/A
☒	Watercourse and hazard lands setbacks.	Figure 2
☐	Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	To be provided at detailed design stage.
☒	Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	Section 5.2

*Extracted from the City of Ottawa-Servicing Study Guidelines for Development Applications

☒	Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period).	Section 5.2, Appendix D
☒	Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Section 1.0, Section 5.2, Section 7.0
☒	Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Section 5.2
☒	Any proposed diversion of drainage catchment areas from one outlet to another.	Section 5.2
☒	Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Drawing 2
☐	If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A
☒	Identification of potential impacts to receiving watercourses	Section 5.2
☒	Identification of municipal drains and related approval requirements.	Section 1.0, Section 1.2 & Section 5.2
☒	Descriptions of how the conveyance and storage capacity will be achieved for the development.	Section 5.2
☒	100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Section 5.2
☐	Inclusion of hydraulic analysis including hydraulic grade line elevations.	To be provided as part of the detailed design stage.
☒	Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Section 7.0
☐	Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
☐	Identification of fill constraints related to floodplain and geotechnical investigation.	To be provided as part of the detailed design stage.

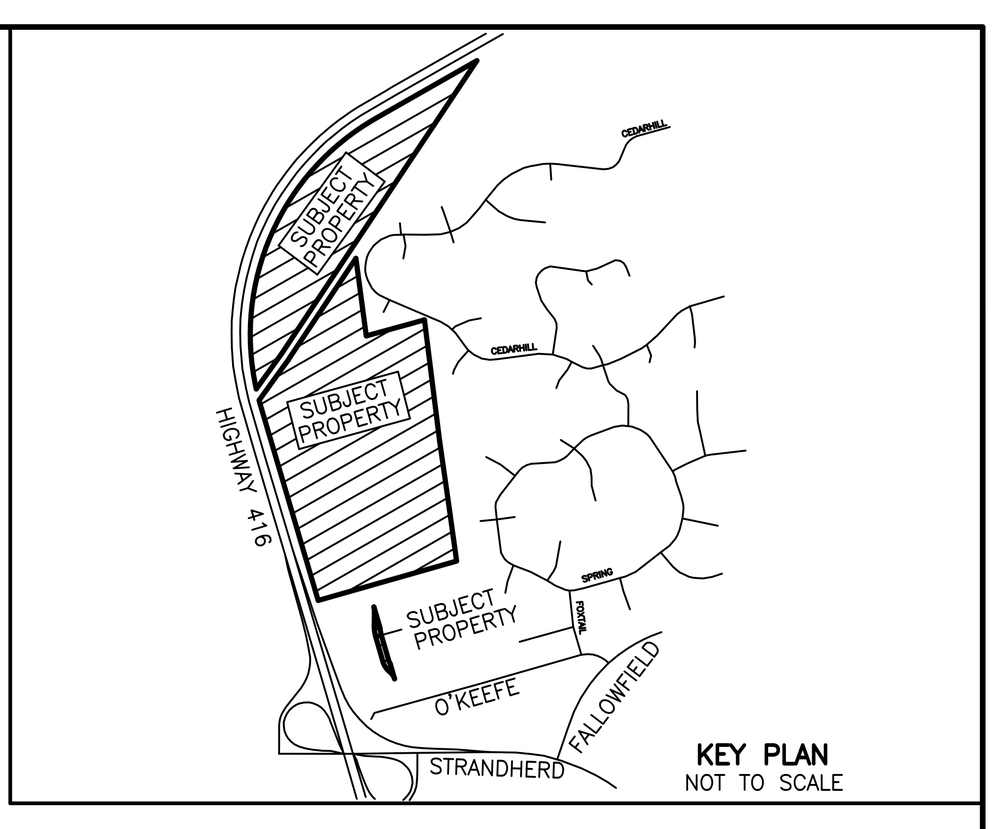
4.5 Approval and Permit Requirements: Checklist

☐	Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement ct. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.	Section 1.2
☐	Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A
☐	Changes to Municipal Drains.	Section 1.2
☐	Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)	Section 1.2

4.6 Conclusion Checklist

*Extracted from the City of Ottawa-Servicing Study Guidelines for Development Applications

☒	Clearly stated conclusions and recommendations	Section 8.0
☐	Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	N/A
☒	All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	Pg. 24



KEY PLAN
NOT TO SCALE

DRAFT PLAN OF SUBDIVISION

PART OF LOTS 21, 22, 23, 24 AND 25 CONCESSION 4 (RIDEAU FRONT)

GEOGRAPHIC TOWNSHIP OF NEPEAN

CITY OF OTTAWA

J.D. BARNES LIMITED
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METRIC DISTANCES AND/OR COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

SCALE 1 : 1500
25 0 25 50 75 100 metres

SCHEDULE OF PROPOSED LAND USES		
LAND USE	BLOCK(S)	AREA (Sq. m)
SINGLES (DETACHED)	1 TO 35 (BOTH INCLUSIVE)	120,397.63
TOWNHOMES	36 TO 48 (BOTH INCLUSIVE)	42,399.19
REAR LANE TOWNHOMES	49 TO 53 (BOTH INCLUSIVE)	8,285.84
BACK TO BACK TOWNHOMES	54 TO 61 (BOTH INCLUSIVE)	13,060.77
MIXED USE	62 TO 63	34,703.38
MEDIUM DENSITY	64 TO 65	26,328.37
CONDO BLOCKS	66 TO 67	61,992.76
WALKWAYS	68 TO 69	373.58
PARKS & OPEN SPACES	70 TO 75 (BOTH INCLUSIVE) AND 81	49,933.15
WETLAND AND CONSERVATION AREAS	76 TO 78 (BOTH INCLUSIVE)	148,046.31
SWM POND	79 TO 80 (BOTH INCLUSIVE)	51,716.15
MTO BUFFER	82 TO 85	27,641.30
STREETS	1 TO 24 (BOTH INCLUSIVE)	137,876.77
LANES	1 TO 4 (BOTH INCLUSIVE)	1,726.40
TOTAL AREA OF SUBDIVISION		724,481.60

ADDITIONAL INFORMATION AS REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT R.S.O. 2001

(A)(B)(E)(F)(G)(J) AND (L) – AS SHOWN ON THIS PLAN.
(C) – AS SHOWN ON THIS DRAFT AND KEY PLAN
(D) – LAND TO BE USED IN ACCORDANCE WITH THE SCHEDULE OF LAND USE.
(H)(K) – FULL MUNICIPAL SERVICES
(I) – OFFSHORE MARINE DEPOSITS OF CLAY, SILTY CLAY AND SILT, BEDROCK OTTAWA FORMATION, LIMESTONE

SUBJECT TO THE CONDITIONS, IF ANY, SET FORTH IN OUR LETTER DATED......................,THIS DRAFT PLAN IS APPROVED BY THE CITY OF OTTAWA UNDER SECTION 51 OF THE PLANNING ACT THIS .... DAY OF ...., 2021.

SEAN MOORE, MCIP, RPP, MANAGER
DEVELOPMENT REVIEW SOUTH
PLANNING, INFRASTRUCTURE AND ECONOMIC DEVELOPMENT DEPARTMENT,
CITY OF OTTAWA

OWNER'S CERTIFICATE

2436091 ONTARIO LIMITED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS HEARBY AUTHORIZES J.D. BARNES LIMITED TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION FOR APPROVAL.

2436091 ONTARIO LIMITED

DATE

KEVIN MURPHY
"I HAVE THE AUTHORITY TO BIND THE CORPORATION"

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED ARE CORRECTLY SHOWN

JULY 16, 2025
DATE

SHAWN LEROUX
ONTARIO LAND SURVEYOR

J.D. BARNES LIMITED
SURVEYING MAPPING GIS
LAND INFORMATION SPECIALISTS
140 RENFREW DRIVE, SUITE 100, MARKHAM, ON L3R 6B3
T: (905) 477-3600 F: (905) 477-3882 www.jdbarnes.com

DRAWN BY:	CHECKED BY:	REFERENCE NO.:
JM/MC	CF/SL	23–10–099–01
		DATED: 7/16/2025

PLOT DATE: 7/22/2025 12:57 PM

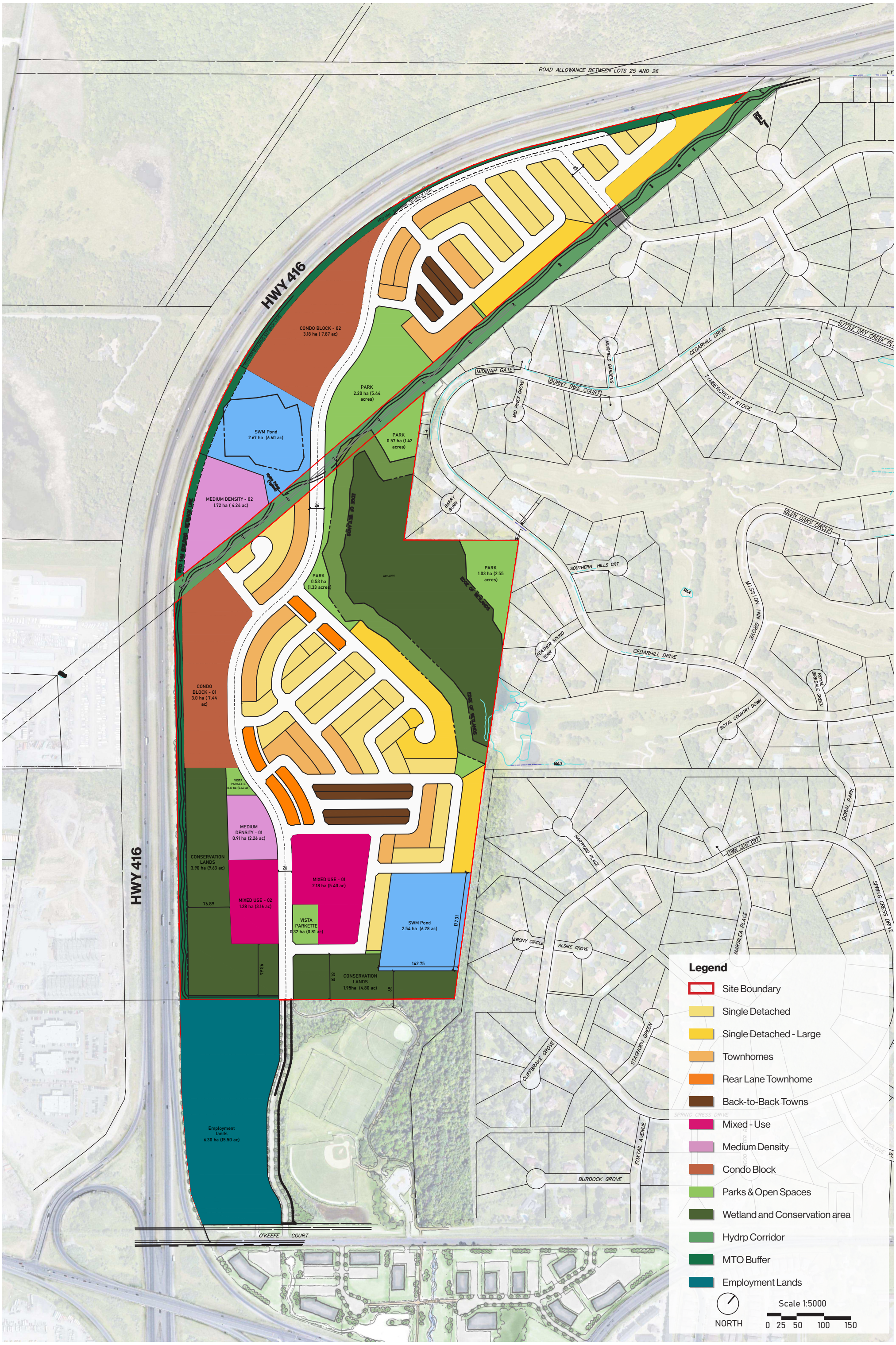
FILE: G:\23-10-099-01 Cedarview\Drawing\Draft Plan\V1\23-10-099-01- Draft Plan.dwg

Cedarview | Community Masterplan concept _ v6

Date : 17th August 2023

mattamyHOMES

Urbantypology



Mattamy Cedarview: Concept v6

Date: August 17th 2023

Client: Mattamy Ottawa

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**71.99**	**177.89**	**100%**
NHS & Buffer	8.91	**22.02**	12.38%
Conservation Lands	5.84	**14.43**	8.11%
MTO Building Setback Buffer	2.80	**6.92**	3.89%
Developable Area*	**54.43**	**134.51**	**75.61%**
Developable Area	**54.43**	**134.51**	**100%**
SWM Pond	5.213	**12.88**	9.58%
Park	4.990	**12.33**	9.17%
Medium Density Block	2.632	**6.50**	4.84%
Mixed-Use and Condo Block	9.670	**23.89**	17.76%
Condo Blocks	6.200	**15.32**	11.39%
Net Developable Area*	**25.73**	**63.58**	**35.74%**

** Percentage out of total site area*

Low Denisty Residential Summary			
Frontage & Unit Summary	***Meter***	***Units***	***%***
Single Detached	3645.15	327	48.44%
Townhomes	1425.15	184	27.26%
Rear Lane Towns	380.22	118	17.48%
Back-to-Back Towns	897.90	46	6.81%
Low density Units Total	**6348.42**	**675**	**100.00%**

Density	**10.6**	**UPA**

Road Summary	*Meter*	*%*
26m Collector Road	1960.11	28.90%
18m Local Road	4363.93	64.35%
15m Window Street	50.00	0.74%
6m Lane	407.42	6.01%
Total Roads	**6781.47**	**100.00%**

Frontage to Road Ration	**1.00**

Medium Density Summary

	Area (ac)	*Commercial (sqm)*	*Mixed-use Units*	*Stacked Units*	*Back-to-Back Towns*	*Rear Lane Towns*	*Total Units*	*Parking Required**	*Parking Provided*	*Density (UPA)*
Mixed Use Block - 01	5.39	2299.01	68	84			***152***	316	311	**28.2**
Mixed Use Block - 02	3.16	1358.44	32	48			***80***	175	175	**25.3**
Condo Block - 01	7.44			132	54		***186***	186	221	**25.0**
Condo Block - 02	7.88			132	56	15	***203***	186	203	**25.8**
Sub Total	***23.86***	***3657.45***	***100***	***396***	***110***	***15***	***621***	***863***	***910***	

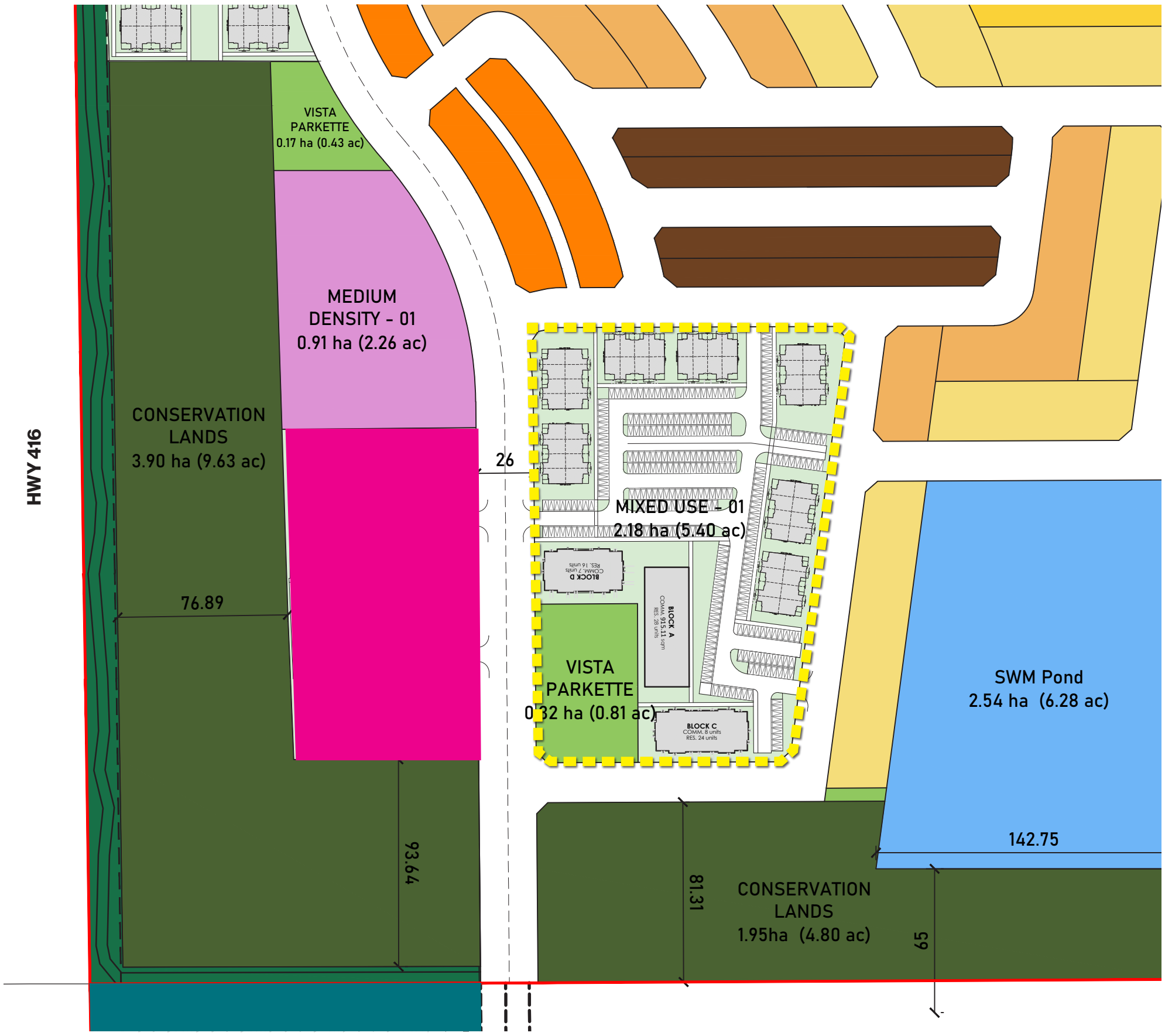
** Parking is provided for Stacked, mixed use unit and Commercial*

	Area (Ha)	*Area (Ac)*	*Target UPH*	*Units***
Medium Density Block - 01	0.91	2.25	75	**68**
Medium Density Block - 01	1.72	4.25	75	**129**
Sub Total	***2.63***	***6.50***		***197***

*** Unit Count based on Target UPH*

Cedarview Grand Total units	**1493**

Type of Lot	*Depth (m)*	*Width (m)*	*Units*	*%*	*Product %*
Single Detached					
30' Single	27	9.14	115	48%	**48.44%**
30' Corner Single	27	12	42		
36' Single	27	11	80	24%	
43' Single	27	13.10	90	28%	
		Sub Total	***327***	***100%***	
21' Front-Lane Townhome 2 Storey					
Corner Units	25	10.65	20	11%	**27.26%**
Interior Units	25	6.5	100	54%	
End Unit/ Lane Lot	25	8.2	64	35%	
		Sub Total	***184***	***100%***	
21' Back-to-Back Townhome					
Corner Units	14	10.2	16	14%	**17.48%**
Interior Units	14	6.4	62	53%	
End Unit/ Lane Lot	14	8.05	40	34%	
		Sub Total	***118***	***100%***	
20' Rear Lane towns					
Corner Units	20	9.5	10	22%	**6.81%**
Interior Units	20	6.0	26	57%	
End Unit/ Lane Lot	20	7.65	10	22%	
		Sub Total	***46***	***100%***	
		Low Density Residential Total Units:	***675***		**100%**



Mixed-Use Block- 01

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**2.18**	**5.39**	**100%**

Parking Ratio			
	Residential	*Visitors*	*Retail (stalls / 100m2)*
Mixed-Use Residential	1	0.2	
Stacked	1.2	0.2	
Back-to-Back			
Retail			5.05

	Retail (sqm)	*Res Units*	*Parking Required*	*Visitors Parking Required*	*Total Parking Required*	*Total Parking Provided*
Commecial	2299.0		116		198	***311***
Mixed Use Ressidential		68	68	14		
Stacked		84	101	17	119	
	Total	***152***	***285***	***30***	***316***	

Density	**28.22**	**UPA**

NORTH

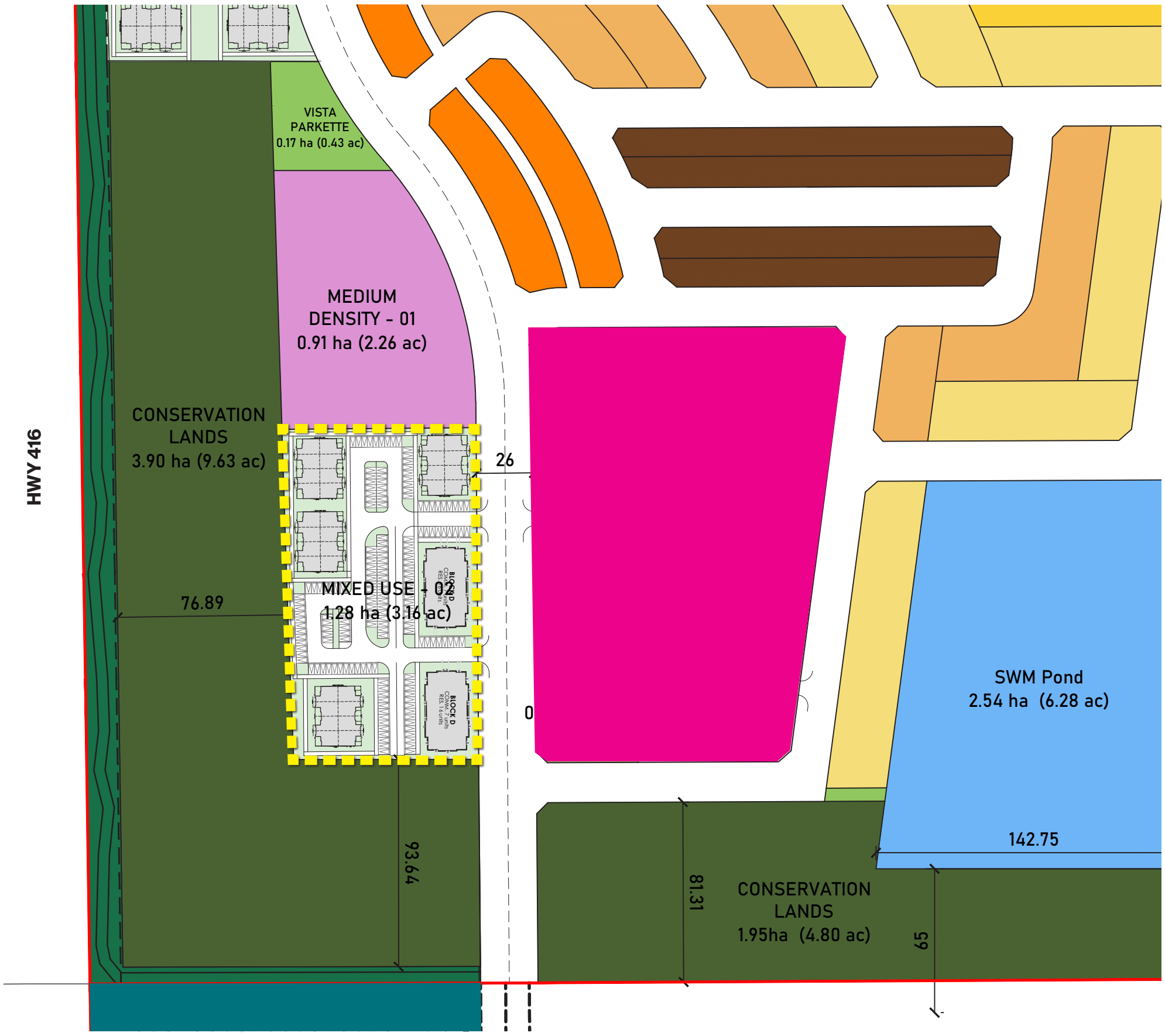
Scale 1:2000
0 25 50

mattamyHOMES

Cedarview | Concept _ v6 - Mixed Use Block - 01

Date : 17th August 2023

Urbantypology



Mixed-Use Block - 02

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**1.28**	**3.16**	**100%**

Parking Ratio			
	Residential	*Visitors*	*Retail (stalls / 100m2)*
Mixed-Use Residential	1	0.2	
Stacked	1.2	0.2	
Back-to-Back			
Retail			5.05

	Retail (sqm)	*Res Units*	*Parking Required*	*Visitors Parking Required*	*Total Parking Required*	*Total Parking Provided*
Commecial	1358.4		69		107	***175***
Mixed Use Ressidential		32	32	6		
Stacked		48	58	10	68	
	Total	***80***	***158***	***16***	***175***	

Density	**25.29**	**UPA**

NORTH

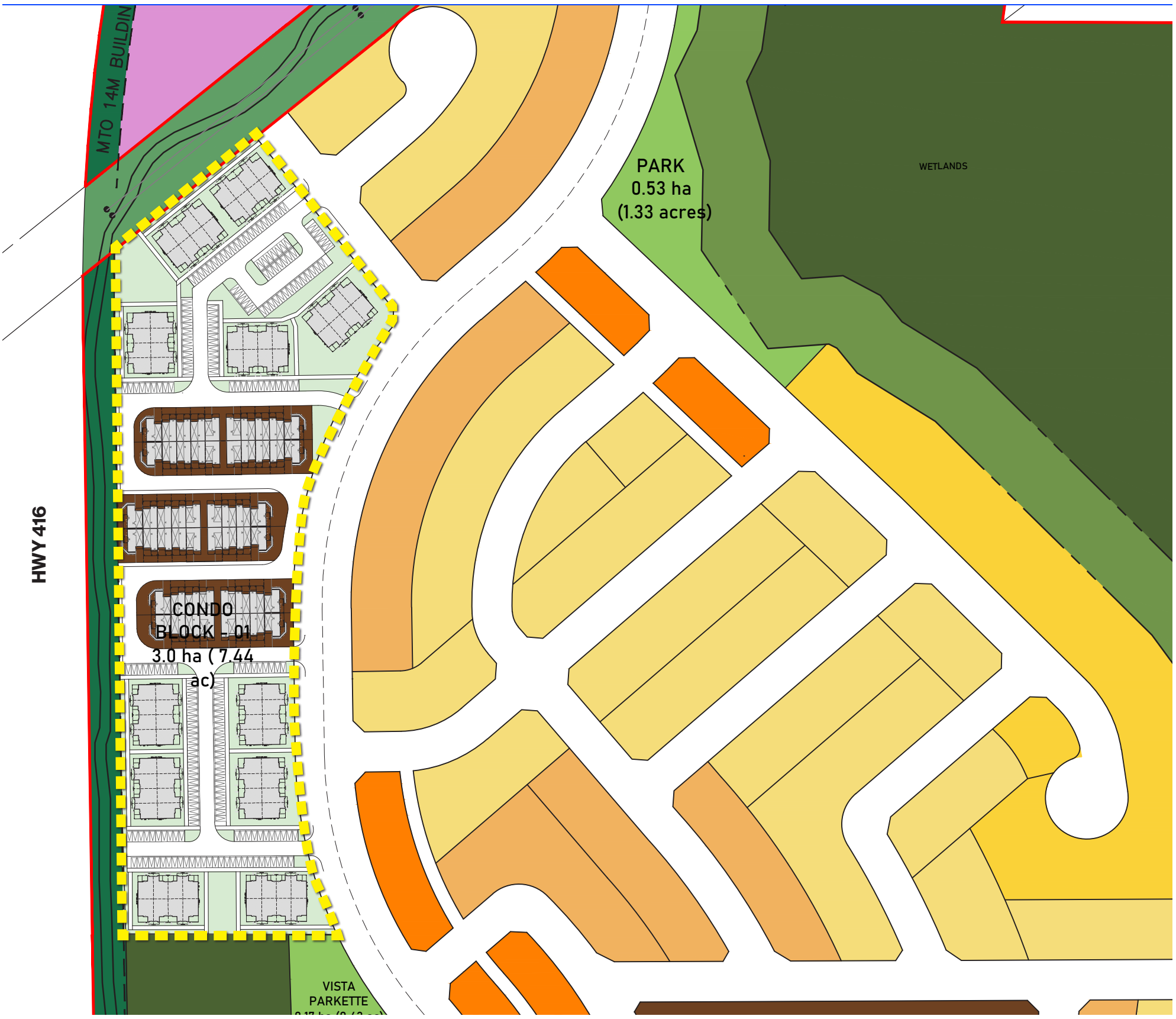
Scale 1:2000
0 25 50

mattamyHOMES

Cedarview | Concept _ v6 - Mixed Use Block - 02

Date : 17th August 2023

Urbantypology



Condo Block - 01

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**3.01**	**7.44**	**100%**

Parking Ratio			
	Residential	*Visitors*	*Retail (stalls / 100m2)*
Mixed-Use Residential	1	0.2	
Stacked	1.2	0.2	
Back-to-Back			
Retail			5.05

	Retail (sqm)	*Res Units*	*Parking Required*	*Visitors Parking Required*	*Total Parking Required*	*Total Parking Provided*
Stacked Back-to-back Towns Rear lane Towns		132 54	158	26	186	***221***
	Total	***186***	***158***	***26***	***186***	

Density	**25.01**	**UPA**

NORTH

Scale 1:2000

0 25 50

mattamyHOMES

Cedarview | Concept _ v6 - Condo Block - 02

Date : 17th August 2023

Urbantypology

Condo Block - 02

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**3.19**	**7.88**	**100%**

Parking Ratio			
	Residential	*Visitors*	*Retail (stalls / 100m2)*
Mixed-Use Residential	1	0.2	
Stacked	1.2	0.2	
Back-to-Back			
Retail			5.05

	Retail (sqm)	*Res Units*	*Parking Required*	*Visitors Parking Required*	*Total Parking Required*	*Total Parking Provided*
Stacked		132	158	26	186	
Back-to-back Towns		56				***203***
Rear lane Towns		15				
	Total	***203***	***158***	***26***	***186***	

Density	**25.78**	**UPA**

NORTH

Scale 1:2000

0 25 50

mattamyHOMES

Cedarview | Concept _ v6 - Condo Block - 02

Date : 17th August 2023

Urbantypology

Employment Land

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**6.30**	**15.57**	**100%**

Parking Ratio	*Residential*	*Visitors*	*Retail (stalls / 100m2)*
Mixed-Use Residential	1	0.2	
Stacked	1.2	0.2	
Back-to-Back			
Retail			5.05

	Retail (sqm)	*Res Units*	*Parking Required*	*Visitors Parking Required*	*Total Parking Required*	*Total Parking Provided*
Commecial	915.1		46		80	***409***
Mixed Use Ressidential		28	28	6		
Stacked		228	274	46	320	
Back-to-Back		110				
Rear lane Towns		18				
	Total	***384***	***348***	***51***	***400***	

Density	**24.67**	**UPA**

NORTH

Scale 1:2000

0 25 50

mattamyHOMES

Cedarview | Concept _ v6_Employment Block - 01

Date : 17th August 2023

Urbantypology

Employment Land

Statistics Summary			
	Ha	*Acres*	*%*
Site Area	**6.30**	**15.57**	**100%**

Parking Ratio			
	Residential	*Visitors*	*Retail (stalls / 100m2)*
Mixed-Use Residential	1	0.2	
Stacked	1.2	0.2	
Back-to-Back			
Retail			5.05

	Retail (sqm)	*Res Units*	*Parking Required*	*Visitors Parking Required*	*Total Parking Required*	*Total Parking Provided*
Commecial	915.1		46		80	***409***
Mixed Use Ressidential		28	28	6		
Stacked		228	274	46	320	
Back-to-Back		110				
Rear lane Towns		18				
	Total	***384***	***348***	***51***	***400***	

Density	**24.67**	**UPA**

NORTH

Scale 1:2000

0 25 50

mattamyHOMES

Cedarview | Concept _ Employment Block - 01

Date : 4th August 2023

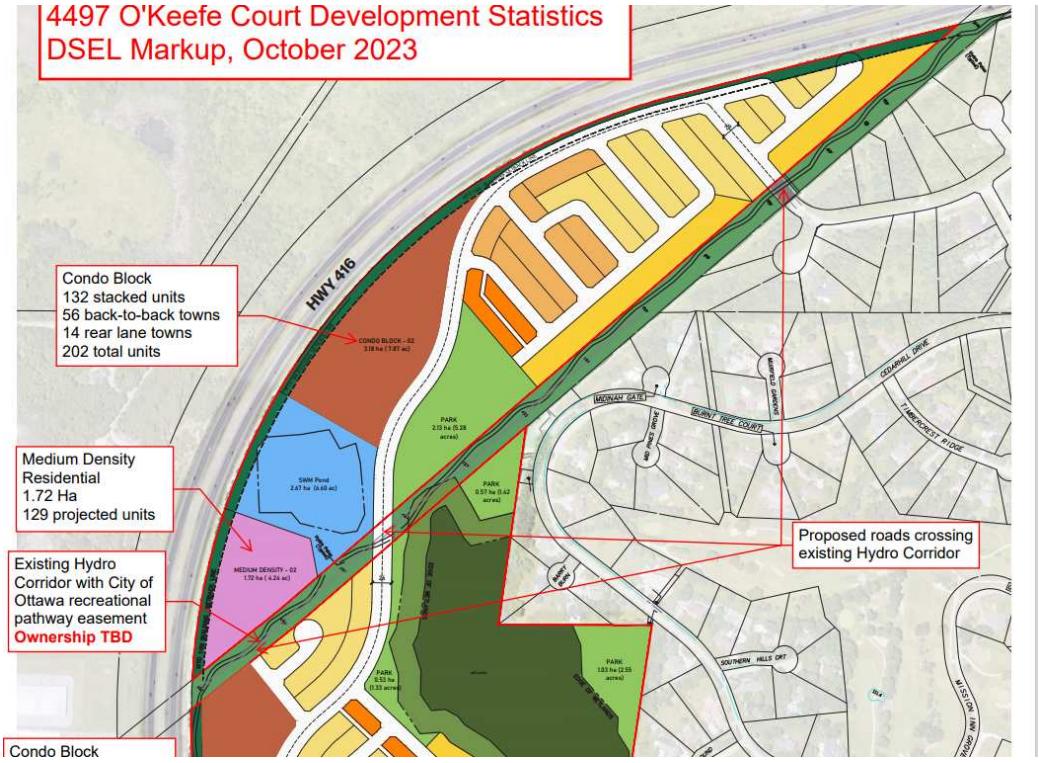
Urbantypology

Hannah Bulmer

From: DORFMAN Roman <Roman.Dorfman@hydroone.com>
Sent: October 24, 2023 9:39 AM
To: Hannah Bulmer
Cc: ZUFELT Deb; Anthony Temelini; Braden Kaminski; connor.gallagher@mattamycorp.com; kevin.murphy@mattamycorp.com; DE RANGO Dennis
Subject: FW: 4497 O'Keefe Court - Utility Servicing Kickoff (DSEL Job 746)
Attachments: DSEL_Disclaimer.pdf; 2023-08-02 - Cedarview _ Community Design_v4.dwg; 2023-10-20_ 4497O'KeefeCourt_Markup_ajt.pdf; Hydro One Technical Review Form_Version-2022.pdf; PSLUP - Planning Information Form - Mar 2022 (Fillable).pdf; EFT Payment Information (IO)v2-Licences.pdf; EFT Payment Information (IO)v2-Sale and Easement.pdf

Hannah, the subject Hydro One (HONI) corridor lands described in the attachments as well as in your email below are incorrectly identified as easement lands. These lands (PIN 046310409) are owned by the Province of Ontario and are subject to a Statutory right for HONI.

Any access or proposed uses within the subject lands require appropriate approvals and documentation. There are a number of proposed uses shown on the drawing below that will impact HONIs ROW that may require purchase (road crossings) as well as easements (ie sewers, watermains, swales, etc.) from the Province where each will require a formal submission to HONI for review and documentation



As well, I am not sure if you had submitted any circulations to HONIs Planning (abutting use review), but I have cc'd HONIs Planning Coordinator (Dennis Derango) for input

Please review the attached Technical Requirements that should be followed when submitting any and all proposals for utilizing the HONI corridor lands. When submitting proposal, please ensure to complete the attached Planning Form as well as submitting a non refundable Engineering and Review fee as per the attached instructions. The non refundable Engineering and Review Fees for submissions are as follows:

- Licensing: $1500+HST
- Easements: $2500+HST
- Sales: $2500+HST

When submitting any fees, please let me know so that I can ensure that they are applied to your submissions accordingly

If you would like to discuss the process or any other requirements for this project, please let me know and I will arrange for a meeting

Thank you

Roman Dorfman
Hydro One Real Estate Representative
Canacre Ltd.

(416) 433-8777
roman.dorfman@HydroOne.com

From: Hannah Bulmer <HBulmer@dsel.ca>
Sent: Monday, October 23, 2023 11:57 AM
To: Kevin Perez-Lau <kevinperez-lau@hydroottawa.com>; Subdivision Project Management <subdivision_pm@hydroone.com>; PROV LINE SUBDIVISION <ProvLineSubDivision@HydroOne.com>; BEAUDETTE Ryan <Ryan.Beaudette@HydroOne.com>; ZUFELT Deb <Deb.Zufelt@HydroOne.com>; Pozo Dickson, Julio <julio.dickson@bell.ca>; Jocelyn Bercier <Jocelyn.Bercier@rci.rogers.com>; Suzanne Renaud <Suzanne.Renaud@enbridge.com>; mark-ups@enbridge.com
Cc: Anthony Temelini <ATemelini@dsel.ca>; Braden Kaminski <BKaminski@dsel.ca>; connor.gallagher@mattamycorp.com; kevin.murphy@mattamycorp.com
Subject: 4497 O'Keefe Court - Utility Servicing Kickoff (DSEL Job 746)
Hello,

I hope this email finds you well. I am writing on behalf of Mattamy Homes, to inform you about the upcoming development at 4497 O'Keefe Court – see the concept plan attached. The site is located north of Fallowfield Road/Lytle Park, between Highway 416 and the existing Cedarhill Estates development. It should be noted that there is an existing Hydro corridor, including a City of Ottawa recreational pathway easement, that currently bisects the site – can you please confirm the ownership of the corridor?

The project is currently in the early stages and we are looking to gather information about the existing utility equipment in the vicinity of the development, including any cables/ducts/gas mains and the location of existing major structures (transformers, pedestals, etc.).

Can you please confirm the location of your existing equipment and if you foresee any issues with the current capacity of your respective networks? If so, please let us know the scope of potential network upgrades that would be required to service the proposed development.

Please let us know if you have any questions or if you would prefer that we set up a virtual meeting to discuss.

Thanks,

Hannah Bulmer
Project Coordinator
HBulmer@dsel.ca
613-898-4266

Toronto
600 Alden Road, Suite 700
Markham, ON L3R 0E7
905-475-3080

Ottawa
120 Iber Road, Suite 103
Stittsville, ON K2S 1E9
613-836-0856

Appendix B

- Excerpts from Mattamy Cedarview Water Servicing Analysis, prepared by Stantec, dated February 8, 2024

MATTAMY CEDARVIEW WATER SERVICING ANALYSIS

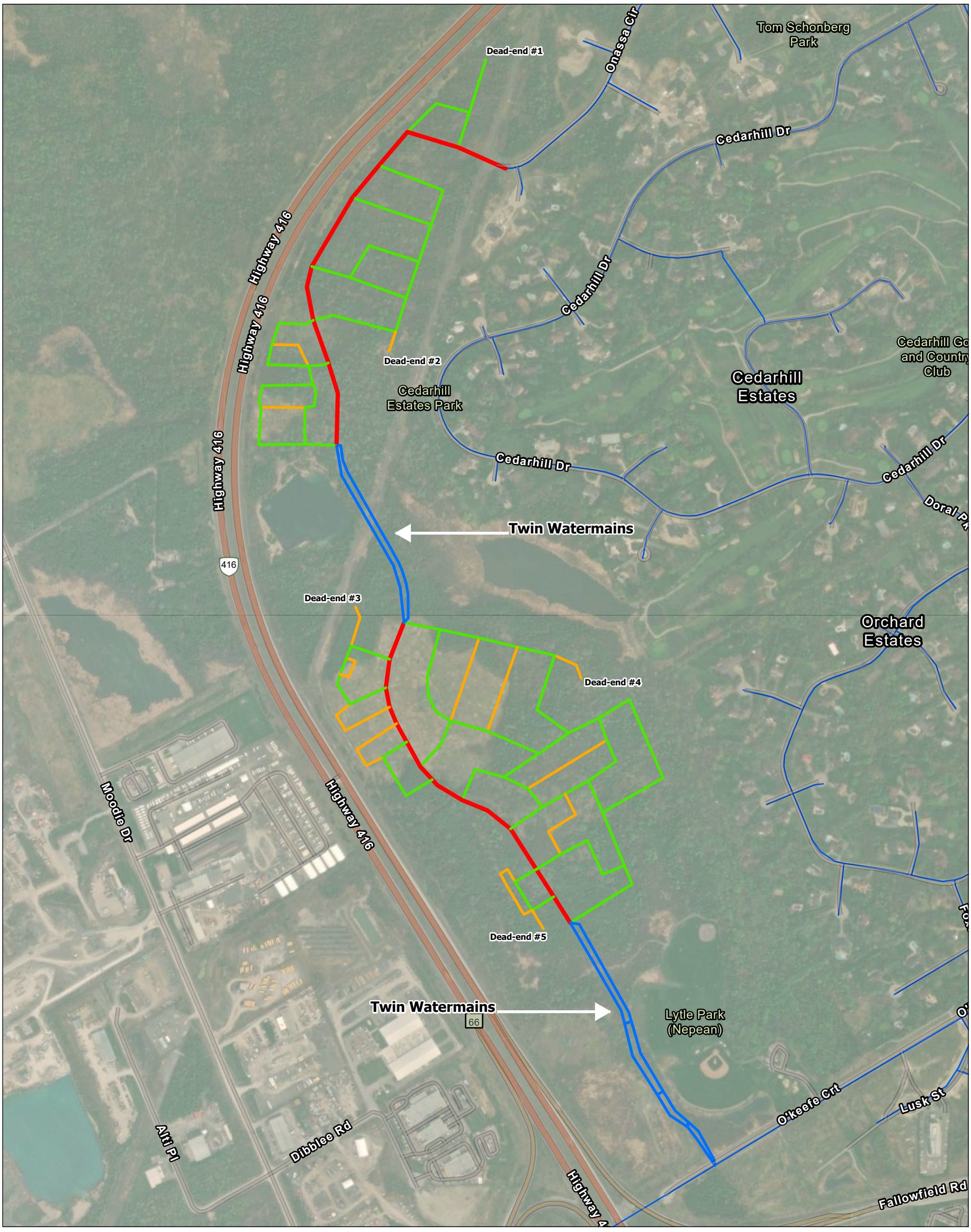
Final Report

February 8, 2024

Prepared for:
Mattamy Homes

Prepared by:
Stantec Consulting Ltd.

Project Number:
163401876



Legend

- City of Ottawa Water Network

Proposed Watermain Diameter (mm)

- 152
- 203
- 305
- 410

0 100 200 Meters

(At original document size of 11x17)
1:7,500

N

Stantec

Project Location
Ottawa, ON

Client/Project 163401876
Mattamy Homes
Mattamy Cedarview Lands Water Servicing Analysis

Figure No.
4-3

Title
Proposed Watermain Sizing – Phase 1 (Cedarview Lands)

Notes
1. Coordinate System: City of Ottawa

Appendix C

- Sanitary Design Sheet, prepared by DSEL, dated July 2025
- Downstream Sanitary Capacity Comparison, prepared by DSEL, dated July 2025

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
BLOCK 6																											
	112A	113A	6.30	384	692	6.30	692	3.3	7.44		0.00		0.00		0.00	0.00	6.30	6.30	2.08	9.52	16.0	200	0.65	26.44	0.36	0.84	0.77
To STREET 9, Pipe 113A - 114A						6.30	692				0.00		0.00		0.00			6.30									
BLOCK 4																											
	94A	95A	0.06		4	0.06	4	3.8	0.05		0.00		0.00	0.33	0.33	0.05	0.39	0.39	0.13	0.23	11.5	200	0.65	26.44	0.01	0.84	0.26
To STREET 23, Pipe 95A - 107A						0.06	4				0.00		0.00		0.33			0.39									
BLOCK 5																											
			0.06		4	0.06	4				0.00		0.00		0.00		0.06	0.06									
	92A	93A	2.19	152	393	2.25	397	3.4	4.40		0.00		0.00		0.00	0.00	2.19	2.25	0.74	5.14	11.5	200	0.65	26.44	0.19	0.84	0.65
To STREET 23, Pipe 93A - 95A						2.25	397				0.00		0.00		0.00			2.25									
POND 1 INLET S																											
Contribution From STREET 23, Pipe 90A - 91A						33.20	2624				0.00		0.00		2.74		35.94	35.94									
	91A	93A	0.08		5	33.28	2629	3.0	25.49		0.00		0.00		2.74	0.44	0.08	36.02	11.89	37.82	15.5	375	0.15	67.91	0.56	0.61	0.63
To STREET 23, Pipe 93A - 95A						33.28	2629				0.00		0.00		2.74			36.02									
STREET 12																											
	58A	59A	0.12		8	0.12	8	3.7	0.10		0.00		0.00		0.00	0.00	0.12	0.12	0.04	0.14	24.5	200	0.75	28.40	0.00	0.90	0.23
	59A	60A	0.13		9	0.25	17	3.7	0.20		0.00		0.00		0.00	0.00	0.13	0.25	0.08	0.29	27.0	200	0.35	19.40	0.01	0.62	0.21
	60A	61A	0.13		9	0.38	26	3.7	0.31		0.00		0.00		0.00	0.00	0.13	0.38	0.13	0.44	26.5	200	0.35	19.40	0.02	0.62	0.25
To STREET 16, Pipe 61A - 62A						0.38	26				0.00		0.00		0.00			0.38									
Contribution From STREET 9, Pipe 46A - 50A						19.51	1736				0.00		0.00		2.74		22.25	22.25									
Contribution From STREET 9, Pipe 49A - 50A						1.09	70				0.00		0.00		0.00		1.09	23.34									
	50A	53A	0.39		25	20.99	1831	3.1	18.35		0.00		0.00		2.74	0.44	0.39	23.73	7.83	26.62	79.0	375	0.15	67.91	0.39	0.61	0.57
Contribution From STREET 13, Pipe 52A - 53A						0.67	44				0.00		0.00		0.00		0.67	24.40									
	53A	55A	0.35		23	22.01	1898	3.1	18.96		0.00		0.00		2.74	0.44	0.35	24.75	8.17	27.57	72.5	375	0.15	67.91	0.41	0.61	0.58
Contribution From STREET 14, Pipe 54A - 55A						0.68	43				0.00		0.00		0.00		0.68	25.43									
	55A	57A	0.35		23	23.04	1964	3.1	19.56		0.00		0.00		2.74	0.44	0.35	25.78	8.51	28.51	72.5	375	0.15	67.91	0.42	0.61	0.59
Contribution From STREET 15, Pipe 56A - 57A						0.39	25				0.00		0.00		0.00		0.39	26.17									
	57A	61A	0.35		23	23.78	2012	3.1	20.00		0.00		0.00		2.74	0.44	0.35	26.52	8.75	29.19	72.0	375	0.15	67.91	0.43	0.61	0.59
To STREET 16, Pipe 61A - 62A						23.78	2012				0.00		0.00		2.74			26.52									
STREET 16																											
Contribution From STREET 12, Pipe 57A - 61A						23.78	2012				0.00		0.00		2.74		26.52	26.52									
Contribution From STREET 12, Pipe 60A - 61A						0.38	26				0.00		0.00		0.00		0.38	26.90									
	61A	62A	0.50		32	24.66	2070	3.1	20.52		0.00		0.00		2.74	0.44	0.50	27.40	9.04	30.01	102.5	375	0.15	67.91	0.44	0.61	0.60
	62A	63A	0.05		3	24.71	2073	3.1	20.55		0.00		0.00		2.74	0.44	0.05	27.45	9.06	30.05	9.5	375	0.15	67.91	0.44	0.61	0.60
	63A	72A	0.36		23	25.07	2096	3.1	20.76		0.00		0.00		2.74	0.44	0.36	27.81	9.18	30.38	75.0	375	0.15	67.91	0.45	0.61	0.60
To STREET 20, Pipe 72A - 73A						25.07	2096				0.00		0.00		2.74			27.81									
STREET 15																											
	56A	57A	0.39		25	0.39	25	3.7	0.30		0.00		0.00		0.00	0.00	0.39	0.39	0.13	0.43	80.0	200	1.05	33.61	0.01	1.07	0.36
To STREET 12, Pipe 57A - 61A						0.39	25				0.00		0.00		0.00			0.39									
	56A	68A	0.44		28	0.44	28	3.7	0.33		0.00		0.00		0.00	0.00	0.44	0.44	0.15	0.48	89.5	200	0.85	30.24	0.02	0.96	0.35
To STREET 13, Pipe 68A - 69A						0.44	28				0.00		0.00		0.00			0.44									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha			
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4	

Designed: CM

Checked: SM

Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1

PROJECT: **MATTAMY - CEDARVIEW**

LOCATION: **City of Ottawa**

File Ref: 17-746

Date: **25 Jul 2025**

Sheet No. 1 of 7

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
STREET 14																											
	54A	55A	0.68		43	0.68	43	3.7	0.51		0.00		0.00		0.00	0.00	0.68	0.68	0.22	0.73	140.0	200	3.70	63.09	0.01	2.01	0.67
To STREET 12, Pipe 55A - 57A						0.68	43				0.00		0.00		0.00			0.68									
	64A	65A	0.12		8	0.12	8	3.7	0.10		0.00		0.00		0.00	0.00	0.12	0.12	0.04	0.14	25.5	200	3.85	64.36	0.00	2.05	0.38
	65A	67A	0.19		12	0.31	20	3.7	0.24		0.00		0.00		0.00	0.00	0.19	0.31	0.10	0.34	39.0	200	1.70	42.76	0.01	1.36	0.39
To STREET 13, Pipe 67A - 68A						0.31	20				0.00		0.00		0.00			0.31									
STREET 13																											
	51A	52A	0.27		18	0.27	18	3.7	0.22		0.00		0.00		0.00	0.00	0.27	0.27	0.09	0.31	55.5	200	5.30	75.51	0.00	2.40	0.58
	52A	53A	0.40		26	0.67	44	3.7	0.52		0.00		0.00		0.00	0.00	0.40	0.67	0.22	0.74	83.0	200	3.10	57.75	0.01	1.84	0.61
To STREET 12, Pipe 53A - 55A						0.67	44				0.00		0.00		0.00			0.67									
	51A	66A	0.13		8	0.13	8	3.7	0.10		0.00		0.00		0.00	0.00	0.13	0.13	0.04	0.14	26.0	200	0.95	31.97	0.00	1.02	0.24
	66A	67A	0.15		10	0.28	18	3.7	0.22		0.00		0.00		0.00	0.00	0.15	0.28	0.09	0.31	30.5	200	1.05	33.61	0.01	1.07	0.33
Contribution From STREET 14, Pipe 65A - 67A						0.31	20				0.00		0.00		0.00		0.31	0.59									
	67A	68A	0.35		23	0.94	61	3.6	0.72		0.00		0.00		0.00	0.00	0.35	0.94	0.31	1.03	72.0	200	5.10	74.07	0.01	2.36	0.82
Contribution From STREET 15, Pipe 56A - 68A						0.44	28				0.00		0.00		0.00		0.44	1.38									
	68A	69A	0.20		13	1.58	102	3.6	1.19		0.00		0.00		0.00	0.00	0.20	1.58	0.52	1.71	42.0	200	4.95	72.97	0.02	2.32	0.96
	69A	71A	0.30		19	1.88	121	3.6	1.40		0.00		0.00		0.00	0.00	0.30	1.88	0.62	2.02	61.0	200	0.35	19.40	0.10	0.62	0.40
To STREET 20, Pipe 71A - 72A						1.88	121				0.00		0.00		0.00			1.88									
STREET 20																											
	70A	71A	0.27		18	0.27	18	3.7	0.22		0.00		0.00		0.00	0.00	0.27	0.27	0.09	0.31	56.0	200	1.90	45.21	0.01	1.44	0.39
Contribution From STREET 13, Pipe 69A - 71A						1.88	121				0.00		0.00		0.00		1.88	2.15									
	71A	72A	0.37		24	2.52	163	3.5	1.87		0.00		0.00		0.00	0.00	0.37	2.52	0.83	2.70	76.0	200	1.35	38.11	0.07	1.21	0.70
Contribution From STREET 16, Pipe 63A - 72A						25.07	2096				0.00		0.00		2.74		27.81	30.33									
	72A	73A	0.25		17	27.84	2276	3.0	22.37		0.00		0.00		2.74	0.44	0.25	30.58	10.09	32.91	52.0	375	0.15	67.91	0.48	0.61	0.61
	73A	74A	0.31		20	28.15	2296	3.0	22.55		0.00		0.00		2.74	0.44	0.31	30.89	10.19	33.19	63.0	375	0.15	67.91	0.49	0.61	0.61
	74A	75A	0.05		4	28.20	2300	3.0	22.59		0.00		0.00		2.74	0.44	0.05	30.94	10.21	33.24	10.5	375	0.15	67.91	0.49	0.61	0.61
	75A	76A	0.71		46	28.91	2346	3.0	23.00		0.00		0.00		2.74	0.44	0.71	31.65	10.44	33.88	146.5	375	0.15	67.91	0.50	0.61	0.61
	76A	77A	0.05		4	28.96	2350	3.0	23.03		0.00		0.00		2.74	0.44	0.05	31.70	10.46	33.94	11.0	375	0.15	67.91	0.50	0.61	0.61
	77A	90A	0.62		40	29.58	2390	3.0	23.39		0.00		0.00		2.74	0.44	0.62	32.32	10.67	34.50	127.5	375	0.15	67.91	0.51	0.61	0.61
To STREET 23, Pipe 90A - 91A						29.58	2390				0.00		0.00		2.74			32.32									
STREET 21																											
	84A	85A	0.31		20	0.31	20	3.7	0.24		0.00		0.00		0.00	0.00	0.31	0.31	0.10	0.34	63.5	200	1.45	39.49	0.01	1.26	0.38
	85A	86A	0.45		29	0.76	49	3.7	0.58		0.00		0.00		0.00	0.00	0.45	0.76	0.25	0.83	93.0	200	0.50	23.19	0.04	0.74	0.34
To STREET 22, Pipe 86A - 87A						0.76	49				0.00		0.00		0.00			0.76									
STREET 23																											
Contribution From STREET 22, Pipe 83A - 89A						1.29	84				0.00		0.00		0.00		1.29	1.29									
Contribution From STREET 22, Pipe 88A - 89A						1.28	83				0.00		0.00		0.00		1.28	2.57									
	89A	90A	0.34		22	2.91	189	3.5	2.16		0.00		0.00		0.00	0.00	0.34	2.91	0.96	3.12	70.5	200	4.10	66.41	0.05	2.11	1.07
Contribution From STREET 20, Pipe 77A - 90A						29.58	2390				0.00		0.00		2.74		32.32	35.23									
	90A	91A	0.71		45	33.20	2624	3.0	25.45		0.00		0.00		2.74	0.44	0.71	35.94	11.86	37.75	146.0	375	0.15	67.91	0.56	0.61	0.63
To POND 1 INLET S, Pipe 91A - 93A						33.20	2624				0.00		0.00		2.74			35.94									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha	Industrial Peak Factor = as per MOE Graph		
Average Daily Flow =	280	l/p/day					
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013 (Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4	

Designed: SM	PROJECT: **MATTAMY - CEDARVIEW**
Checked: CM	LOCATION: **City of Ottawa**
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1	File Ref: 17-746
Date: **25 Jul 2025**	Sheet No. 2 of 7

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Contribution From POND 1 INLET S, Pipe 91A - 93A						33.28	2629				0.00		0.00		2.74		36.02	36.02									
Contribution From BLOCK 5, Pipe 92A - 93A						2.25	397				0.00		0.00		0.00		2.25	38.27									
	93A	95A	0.33		21	35.86	3047	2.9	29.12		0.00		0.00		2.74	0.44	0.33	38.60	12.74	42.30	67.0	375	0.15	67.91	0.62	0.61	0.65
Contribution From BLOCK 4, Pipe 94A - 95A						0.06	4				0.00		0.00		0.33		0.39	38.99									
	95A	107A	0.26		17	36.18	3068	2.9	29.30		0.00		0.00		3.07	0.50	0.26	39.25	12.95	42.75	52.5	375	0.15	67.91	0.63	0.61	0.65
To STREET 9, Pipe 107A - 108A						36.18	3068				0.00		0.00		3.07			39.25									
BLOCK 3																											
			0.08		5	0.08	5				0.00		0.00		0.00		0.08	0.08									
	105A	106A	1.28	80	144	1.36	149	3.6	1.72		0.00		0.00		0.00	0.00	1.28	1.36	0.45	2.16	15.5	200	0.65	26.44	0.08	0.84	0.50
To STREET 9, Pipe 106A - 107A						1.36	149				0.00		0.00		0.00			1.36									
STREET 22																											
			0.08		5	0.08	5				0.00		0.00		0.00		0.08	0.08									
	102A	103A	0.92	68	123	1.00	128	3.6	1.48		0.00		0.00		0.00	0.00	0.92	1.00	0.33	1.81	15.5	200	0.65	26.44	0.07	0.84	0.48
To STREET 9, Pipe 103A - 104A						1.00	128				0.00		0.00		0.00			1.00									
Contribution From STREET 21, Pipe 85A - 86A						0.76	49				0.00		0.00		0.00		0.76	0.76									
	86A	87A	0.19		12	0.95	61	3.6	0.72		0.00		0.00		0.00	0.00	0.19	0.95	0.31	1.03	38.0	200	0.35	19.40	0.05	0.62	0.33
	87A	88A	0.05		4	1.00	65	3.6	0.77		0.00		0.00		0.00	0.00	0.05	1.00	0.33	1.10	11.0	200	0.35	19.40	0.06	0.62	0.33
	88A	89A	0.28		18	1.28	83	3.6	0.97		0.00		0.00		0.00	0.00	0.28	1.28	0.42	1.39	57.0	200	0.55	24.32	0.06	0.77	0.42
To STREET 23, Pipe 89A - 90A						1.28	83				0.00		0.00		0.00			1.28									
Contribution From STREET 19, Pipe 82A - 83A						0.81	53				0.00		0.00		0.00		0.81	0.81									
	83A	89A	0.48		31	1.29	84	3.6	0.98		0.00		0.00		0.00	0.00	0.48	1.29	0.43	1.41	99.0	200	2.25	49.20	0.03	1.57	0.69
To STREET 23, Pipe 89A - 90A						1.29	84				0.00		0.00		0.00			1.29									
STREET 19																											
	99A	100A	0.08		5	0.08	5	3.8	0.06		0.00		0.00	0.18	0.18	0.03	0.26	0.26	0.09	0.18	16.0	200	0.65	26.44	0.01	0.84	0.23
To STREET 9, Pipe 100A - 101A						0.08	5				0.00		0.00		0.18			0.26									
	78A	79A	0.07		5	0.07	5	3.8	0.06		0.00		0.00		0.00	0.00	0.07	0.07	0.02	0.08	15.0	200	0.65	26.44	0.00	0.84	0.19
	79A	80A	0.06		4	0.13	9	3.7	0.11		0.00		0.00		0.00	0.00	0.06	0.13	0.04	0.15	11.5	200	0.95	31.97	0.00	1.02	0.24
	80A	81A	0.23		15	0.36	24	3.7	0.29		0.00		0.00		0.00	0.00	0.23	0.36	0.12	0.41	48.0	200	3.95	65.19	0.01	2.07	0.57
	81A	82A	0.22		14	0.58	38	3.7	0.45		0.00		0.00		0.00	0.00	0.22	0.58	0.19	0.64	45.0	200	1.30	37.40	0.02	1.19	0.45
	82A	83A	0.23		15	0.81	53	3.6	0.63		0.00		0.00		0.00	0.00	0.23	0.81	0.27	0.89	46.5	200	1.55	40.83	0.02	1.30	0.52
To STREET 22, Pipe 83A - 89A						0.81	53				0.00		0.00		0.00			0.81									
BLOCK 2																											
			0.08		5	0.08	5				0.00		0.00		0.00		0.08	0.08									
	97A	98A	3.01	186	633	3.09	638	3.3	6.89		0.00		0.00		0.00	0.00	3.01	3.09	1.02	7.91	16.0	200	0.90	31.12	0.25	0.99	0.82
To STREET 9, Pipe 98A - 100A						3.09	638				0.00		0.00		0.00			3.09									
STREET 10																											
Contribution From STREET 11, Pipe 41A - 43A						0.19	12				0.00		0.00		0.00		0.19	0.19									
Contribution From STREET 11, Pipe 42A - 43A						1.89	244				0.00		0.00		0.00		1.89	2.08									
	43A	44A	0.40		26	2.48	282	3.5	3.17		0.00		0.00		0.00	0.00	0.40	2.48	0.82	3.99	82.5	200	0.85	30.24	0.13	0.96	0.67
To SERVICING BLOCK 1, Pipe 44A - 45A						2.48	282				0.00		0.00		0.00			2.48									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha			
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013 (Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4	

Designed:	CM	PROJECT:	**MATTAMY - CEDARVIEW**
Checked:	SM	LOCATION:	**City of Ottawa**
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1		File Ref: 17-746	Date: **25 Jul 2025** Sheet No 3 of 7

746_SAN.xlsx

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
SERVICING BLOCK 1																											
Contribution From STREET 10, Pipe 43A - 44A						2.48	282				0.00		0.00		0.00		2.48	2.48									
	44A	45A	0.37		24	2.85	306	3.5	3.43		0.00		0.00		0.00	0.00	0.37	2.85	0.94	4.37	75.0	200	1.60	41.49	0.11	1.32	0.85
To STREET 9, Pipe 45A - 46A						2.85	306				0.00		0.00		0.00			2.85									
BLOCK 1																											
			0.08		5	0.08	5				0.00		0.00		0.00		0.08	0.08									
	35A	36A	3.91	203	603	3.99	608	3.3	6.59		0.00		0.00		0.00	0.00	3.91	3.99	1.32	7.90	15.5	200	0.65	26.44	0.30	0.84	0.73
To STREET 9, Pipe 36A - 37A						3.99	608				0.00		0.00		0.00			3.99									
STREET 8																											
	24A	25A	0.39		25	0.39	25	3.7	0.30		0.00		0.00		0.00	0.00	0.39	0.39	0.13	0.43	76.0	200	2.10	47.53	0.01	1.51	0.46
To STREET 3, Pipe 25A - 26A						0.39	25				0.00		0.00		0.00			0.39									
STREET 6																											
	22A	23A	0.50		32	0.50	32	3.7	0.38		0.00		0.00		0.00	0.00	0.50	0.50	0.17	0.55	96.5	200	2.05	46.96	0.01	1.49	0.50
To STREET 3, Pipe 23A - 25A						0.50	32				0.00		0.00		0.00			0.50									
STREET 5-7																											
	21A	20A	0.21		14	0.21	14	3.7	0.17		0.00		0.00		0.00	0.00	0.21	0.21	0.07	0.24	41.0	200	1.05	33.61	0.01	1.07	0.29
	20A	28A	0.29		19	0.50	33	3.7	0.39		0.00		0.00		0.00	0.00	0.29	0.50	0.17	0.56	56.0	200	3.45	60.92	0.01	1.94	0.59
To STREET 3, Pipe 28A - 32A						0.50	33				0.00		0.00		0.00			0.50									
	16A	17A	0.22		15	0.22	15	3.7	0.18		0.00		0.00		0.00	0.00	0.22	0.22	0.07	0.25	43.0	200	0.65	26.44	0.01	0.84	0.26
	17A	18A	0.05		4	0.27	19	3.7	0.23		0.00		0.00		0.00	0.00	0.05	0.27	0.09	0.32	10.5	200	1.00	32.80	0.01	1.04	0.32
	18A	19A	0.50		32	0.77	51	3.7	0.60		0.00		0.00		0.00	0.00	0.50	0.77	0.25	0.86	98.0	200	1.75	43.39	0.02	1.38	0.54
To STREET 3, Pipe 19A - 23A						0.77	51				0.00		0.00		0.00			0.77									
STREET 4																											
Contribution From STREET 9, Pipe 12A - 13A						0.41	26				0.00		0.00		0.00		0.41	0.41									
	13A	14A	0.42		27	0.83	53	3.6	0.63		0.00		0.00		0.00	0.00	0.42	0.83	0.27	0.90	81.0	200	0.65	26.44	0.03	0.84	0.39
	14A	15A	0.42		27	1.25	80	3.6	0.94		0.00		0.00		0.00	0.00	0.42	1.25	0.41	1.35	81.0	200	2.10	47.53	0.03	1.51	0.66
To STREET 3, Pipe 15A - 19A						1.25	80				0.00		0.00		0.00			1.25									
STREET 2																											
	5A	6A	0.18		12	0.18	12	3.7	0.14		0.00		0.00		0.00	0.00	0.18	0.18	0.06	0.20	36.0	200	0.65	26.44	0.01	0.84	0.24
To SERVICING BLOCK 3, Pipe 6A - 11A						0.18	12				0.00		0.00		0.00			0.18									
	7A	6A	0.32		21	0.32	21	3.7	0.25		0.00		0.00		0.00	0.00	0.32	0.32	0.11	0.36	62.0	200	0.65	26.44	0.01	0.84	0.29
To SERVICING BLOCK 3, Pipe 6A - 11A						0.32	21				0.00		0.00		0.00			0.32									
STREET 1																											
	1A	2A	0.09		6	0.09	6	3.7	0.07		0.00		0.00		0.00	0.00	0.09	0.09	0.03	0.10	18.0	200	0.65	26.44	0.00	0.84	0.20
	2A	4A	0.47		30	0.56	36	3.7	0.43		0.00		0.00		0.00	0.00	0.47	0.56	0.18	0.61	91.0	200	0.35	19.40	0.03	0.62	0.28
Contribution From STREET 9, Pipe 3A - 4A						0.25	17				0.00		0.00		0.00		0.25	0.81									
	4A	6A	0.39		25	1.20	78	3.6	0.91		0.00		0.00		0.00	0.00	0.39	1.20	0.40	1.31	76.0	200	0.35	19.40	0.07	0.62	0.35
To SERVICING BLOCK 3, Pipe 6A - 11A						1.20	78				0.00		0.00		0.00			1.20									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha			
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph		
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013 (Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7	
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4	

Designed:	CM	PROJECT:	**MATTAMY - CEDARVIEW**
Checked:	SM	LOCATION:	**City of Ottawa**
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1		File Ref: 17-746	Date: **25 Jul 2025**
			Sheet No 4 of 7

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
SERVICING BLOCK 3																											
Contribution From STREET 1, Pipe 4A - 6A						1.20	78				0.00		0.00		0.00		1.20	1.20									
Contribution From STREET 2, Pipe 5A - 6A						0.18	12				0.00		0.00		0.00		0.18	1.38									
Contribution From STREET 2, Pipe 7A - 6A						0.32	21				0.00		0.00		0.00		0.32	1.70									
	6A	11A	0.43		28	2.13	139	3.6	1.60		0.00		0.00		0.00	0.00	0.43	2.13	0.70	2.31	84.0	200	0.35	19.40	0.12	0.62	0.41
To STREET 3, Pipe 11A - 15A						2.13	139				0.00		0.00		0.00			2.13									
STREET 3																											
Contribution From STREET 9, Pipe 8A - 9A						0.28	18				0.00		0.00		0.00		0.28	0.28									
	9A	10A	0.65		41	0.93	59	3.6	0.70		0.00		0.00		0.00	0.00	0.65	0.93	0.31	1.00	126.0	200	0.35	19.40	0.05	0.62	0.32
	10A	11A	0.06		4	0.99	63	3.6	0.74		0.00		0.00		0.00	0.00	0.06	0.99	0.33	1.07	11.5	200	0.35	19.40	0.06	0.62	0.33
Contribution From SERVICING BLOCK 3, Pipe 6A - 11A						2.13	139				0.00		0.00		0.00		2.13	3.12									
	11A	15A	0.33		21	3.45	223	3.5	2.53		0.00		0.00		0.00	0.00	0.33	3.45	1.14	3.67	64.0	200	0.35	19.40	0.19	0.62	0.47
Contribution From STREET 4, Pipe 14A - 15A						1.25	80				0.00		0.00		0.00		1.25	4.70									
	15A	19A	0.37		24	5.07	327	3.4	3.66		0.00		0.00		0.00	0.00	0.37	5.07	1.67	5.33	72.0	200	0.35	19.40	0.27	0.62	0.52
Contribution From STREET 5-7, Pipe 18A - 19A						0.77	51				0.00		0.00		0.00		0.77	5.84									
	19A	23A	0.37		24	6.21	402	3.4	4.45		0.00		0.00		0.00	0.00	0.37	6.21	2.05	6.50	72.0	200	0.35	19.40	0.34	0.62	0.55
Contribution From STREET 6, Pipe 22A - 23A						0.50	32				0.00		0.00		0.00		0.50	6.71									
	23A	25A	0.24		15	6.95	449	3.4	4.94		0.00		0.00		0.00	0.00	0.24	6.95	2.29	7.24	46.0	250	0.25	29.73	0.24	0.61	0.50
Contribution From STREET 8, Pipe 24A - 25A						0.39	25				0.00		0.00		0.00		0.39	7.34									
	25A	26A	0.19		13	7.53	487	3.4	5.34		0.00		0.00		0.00	0.00	0.19	7.53	2.48	7.83	38.0	250	0.25	29.73	0.26	0.61	0.51
	26A	27A	0.06		4	7.59	491	3.4	5.38		0.00		0.00		0.00	0.00	0.06	7.59	2.50	7.89	11.5	250	0.25	29.73	0.27	0.61	0.51
	27A	28A	0.27		18	7.86	509	3.4	5.57		0.00		0.00		0.00	0.00	0.27	7.86	2.59	8.16	52.5	250	0.25	29.73	0.27	0.61	0.51
Contribution From STREET 5-7, Pipe 20A - 28A						0.50	33				0.00		0.00		0.00		0.50	8.36									
	28A	32A	0.37		24	8.73	566	3.4	6.16		0.00		0.00		0.00	0.00	0.37	8.73	2.88	9.04	72.0	250	0.25	29.73	0.30	0.61	0.53
To STREET 9, Pipe 32A - 33A						8.73	566				0.00		0.00		0.00			8.73									
STREET 11																											
	41A	43A	0.19		12	0.19	12	3.7	0.14		0.00		0.00		0.00	0.00	0.19	0.19	0.06	0.21	38.0	200	2.80	54.88	0.00	1.75	0.39
To STREET 10, Pipe 43A - 44A						0.19	12				0.00		0.00		0.00			0.19									
	41A	49A	0.19		12	0.19	12	3.7	0.14		0.00		0.00		0.00	0.00	0.19	0.19	0.06	0.21	39.0	200	3.25	59.13	0.00	1.88	0.42
To STREET 9, Pipe 49A - 50A						0.19	12				0.00		0.00		0.00			0.19									
			0.17		11	0.17	11				0.00		0.00		0.00		0.17	0.17									
	42A	43A	1.72	129	233	1.89	244	3.5	2.76		0.00		0.00		0.00	0.00	1.72	1.89	0.62	3.39	35.0	200	0.65	26.44	0.13	0.84	0.58
To STREET 10, Pipe 43A - 44A						1.89	244				0.00		0.00		0.00			1.89									
STREET 9																											
	12A	13A	0.41		26	0.41	26	3.7	0.31		0.00		0.00		0.00	0.00	0.41	0.41	0.14	0.45	80.0	200	1.05	33.61	0.01	1.07	0.37
To STREET 4, Pipe 13A - 14A						0.41	26				0.00		0.00		0.00			0.41									
	3A	4A	0.25		17	0.25	17	3.7	0.20		0.00		0.00		0.00	0.00	0.25	0.25	0.08	0.29	49.5	200	0.65	26.44	0.01	0.84	0.27
To STREET 1, Pipe 4A - 6A						0.25	17				0.00		0.00		0.00			0.25									
	8A	9A	0.28		18	0.28	18	3.7	0.22		0.00		0.00		0.00	0.00	0.28	0.28	0.09	0.31	55.0	200	2.10	47.53	0.01	1.51	0.41
To STREET 3, Pipe 9A - 10A						0.28	18				0.00		0.00		0.00			0.28									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha	
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s	
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7		
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4		

Designed:	CM	PROJECT:	**MATTAMY - CEDARVIEW**
Checked:	SM	LOCATION:	**City of Ottawa**
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1		File Ref: 17-746	Date: **25 Jul 2025**
			Sheet No 5 of 7

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION				RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET		FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
		47A	48A	0.27		18	0.27	18	3.7	0.22		0.00		0.00		0.00	0.00	0.27	0.27	0.09	0.31	56.0	200	0.65	26.44	0.01	0.84	0.28
		48A	49A	0.24		15	0.51	33	3.7	0.39		0.00		0.00		0.00	0.00	0.24	0.51	0.17	0.56	49.0	200	4.90	72.60	0.01	2.31	0.67
Contribution From STREET 11, Pipe 41A - 49A							0.19	12				0.00		0.00		0.00		0.19	0.70									
		49A	50A	0.39		25	1.09	70	3.6	0.82		0.00		0.00		0.00	0.00	0.39	1.09	0.36	1.18	79.0	200	3.15	58.21	0.02	1.85	0.72
To STREET 12, Pipe 50A - 53A							1.09	70				0.00		0.00		0.00			1.09									
		12A	29A	0.15		10	0.15	10	3.7	0.12		0.00		0.00		0.00	0.00	0.15	0.15	0.05	0.17	29.0	200	0.65	26.44	0.01	0.84	0.23
		29A	30A	0.34		22	0.49	32	3.7	0.38		0.00		0.00		0.00	0.00	0.34	0.49	0.16	0.54	65.5	200	1.10	34.40	0.02	1.09	0.40
		30A	31A	0.30		20	0.79	52	3.6	0.61		0.00		0.00		0.00	0.00	0.30	0.79	0.26	0.88	59.0	200	1.85	44.61	0.02	1.42	0.55
		31A	32A	0.41		27	1.20	79	3.6	0.93		0.00		0.00		0.00	0.00	0.41	1.20	0.40	1.32	80.5	200	0.50	23.19	0.06	0.74	0.40
Contribution From STREET 3, Pipe 28A - 32A							8.73	566				0.00		0.00		0.00		8.73	9.93									
		32A	33A	0.22		15	10.15	660	3.3	7.12		0.00		0.00		0.00	0.00	0.22	10.15	3.35	10.47	43.5	300	0.20	43.25	0.24	0.61	0.50
		33A	34A	0.21		14	10.36	674	3.3	7.26		0.00		0.00		0.00	0.00	0.21	10.36	3.42	10.68	41.5	300	0.20	43.25	0.25	0.61	0.50
		34A	36A	0.35		22	10.71	696	3.3	7.48		0.00		0.00	2.20	2.20	0.36	2.55	12.91	4.26	12.10	68.0	300	0.20	43.25	0.28	0.61	0.52
Contribution From BLOCK 1, Pipe 35A - 36A							3.99	608				0.00		0.00		0.00		3.99	16.90									
		36A	37A	0.41		26	15.11	1330	3.2	13.68		0.00		0.00		2.20	0.36	0.41	17.31	5.71	19.75	79.5	300	0.20	43.25	0.46	0.61	0.60
		37A	38A	0.61		39	15.72	1369	3.2	14.05		0.00		0.00		2.20	0.36	0.61	17.92	5.91	20.32	119.0	375	0.15	67.91	0.30	0.61	0.53
		38A	39A	0.50		32	16.22	1401	3.2	14.35		0.00		0.00		2.20	0.36	0.50	18.42	6.08	20.78	102.0	375	0.15	67.91	0.31	0.61	0.54
		39A	45A	0.14		9	16.36	1410	3.2	14.44		0.00		0.00		2.20	0.36	0.14	18.56	6.12	20.92	28.5	375	0.15	67.91	0.31	0.61	0.54
Contribution From SERVICING BLOCK 1, Pipe 44A - 45A							2.85	306				0.00		0.00		0.00		2.85	21.41									
		45A	46A	0.12		8	19.33	1724	3.1	17.36		0.00		0.00		2.20	0.36	0.12	21.53	7.10	24.82	25.0	375	0.15	67.91	0.37	0.61	0.56
		46A	50A	0.18		12	19.51	1736	3.1	17.48		0.00		0.00	0.54	2.74	0.44	0.72	22.25	7.34	25.26	37.5	375	0.15	67.91	0.37	0.61	0.57
To STREET 12, Pipe 50A - 53A							19.51	1736				0.00		0.00		2.74			22.25									
		47A	96A	0.49		31	0.49	31	3.7	0.37		0.00		0.00		0.00	0.00	0.49	0.49	0.16	0.53	99.5	200	1.25	36.67	0.01	1.17	0.41
		96A	98A	0.25		16	0.74	47	3.7	0.56		0.00		0.00		0.00	0.00	0.25	0.74	0.24	0.80	52.0	200	2.40	50.81	0.02	1.62	0.59
Contribution From BLOCK 2, Pipe 97A - 98A							3.09	638				0.00		0.00		0.00		3.09	3.83									
		98A	100A	0.31		20	4.14	705	3.3	7.57		0.00		0.00		0.00	0.00	0.31	4.14	1.37	8.94	63.5	200	1.75	43.39	0.21	1.38	1.08
Contribution From STREET 19, Pipe 99A - 100A							0.08	5				0.00		0.00		0.18		0.26	4.40									
		100A	101A	0.15		10	4.37	720	3.3	7.72		0.00		0.00		0.18	0.03	0.15	4.55	1.50	9.25	31.5	200	2.70	53.89	0.17	1.72	1.28
		101A	103A	0.35		23	4.72	743	3.3	7.95		0.00		0.00		0.18	0.03	0.35	4.90	1.62	9.60	72.5	200	3.00	56.81	0.17	1.81	1.34
Contribution From STREET 22, Pipe 102A - 103A							1.00	128				0.00		0.00		0.00		1.00	5.90									
		103A	104A	0.56		36	6.28	907	3.3	9.59		0.00		0.00		0.18	0.03	0.56	6.46	2.13	11.75	115.5	200	2.90	55.85	0.21	1.78	1.40
		104A	106A	0.37		24	6.65	931	3.3	9.82		0.00		0.00		0.18	0.03	0.37	6.83	2.25	12.11	76.0	200	1.05	33.61	0.36	1.07	0.98
Contribution From BLOCK 3, Pipe 105A - 106A							1.36	149				0.00		0.00		0.00		1.36	8.19									
		106A	107A	0.09		6	8.10	1086	3.2	11.34		0.00		0.00		0.18	0.03	0.09	8.28	2.73	14.10	18.0	200	1.55	40.83	0.35	1.30	1.18
Contribution From STREET 23, Pipe 95A - 107A							36.18	3068				0.00		0.00		3.07		39.25	47.53									
		107A	108A	0.44		28	44.72	4182	2.9	38.66		0.00		0.00		3.25	0.52	0.44	47.97	15.83	55.02	90.5	375	0.15	67.91	0.81	0.61	0.68
		108A	109A				44.72	4182	2.9	38.66		0.00		0.00		3.25	0.52	0.00	47.97	15.83	55.02	104.0	375	0.15	67.91	0.81	0.61	0.68
		109A	110A				44.72	4182	2.9	38.66		0.00		0.00		3.25	0.52	0.00	47.97	15.83	55.02	96.5	375	0.15	67.91	0.81	0.61	0.68
		110A	111A				44.72	4182	2.9	38.66		0.00		0.00		3.25	0.52	0.00	47.97	15.83	55.02	118.0	375	0.15	67.91	0.81	0.61	0.68
		111A	113A				44.72	4182	2.9	38.66		0.00		0.00		3.25	0.52	0.00	47.97	15.83	55.02	54.5	375	0.15	67.91	0.81	0.61	0.68
Contribution From BLOCK 6, Pipe 112A - 113A							6.30	692				0.00		0.00		0.00		6.30	54.27									
		113A	114A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	58.0	375	0.20	78.41	0.80	0.71	0.79
To O'KEEFE COURT, Pipe 114A - 115A							51.02	4874				0.00		0.00		3.25			54.27									

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha		
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph	
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330 L/s/ha
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600 m/s
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013 (Pvc) 0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4

Designed: CM	PROJECT: **MATTAMY - CEDARVIEW**
Checked: SM	LOCATION: **City of Ottawa**
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1	File Ref: 17-746
Date: **25 Jul 2025**	Sheet No. 6 of 7

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
O'KEEFE COURT																											
Contribution From STREET 9, Pipe 113A - 114A						51.02	4874				0.00		0.00		3.25		54.27	54.27									
	114A	115A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	150.0	375	0.20	78.41	0.80	0.71	0.79
	115A	116A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	146.0	375	0.25	87.67	0.72	0.79	0.86
To O'KEEFE DRAIN CORRIDOR, Pipe 116A - 117A						51.02	4874				0.00		0.00		3.25			54.27									
O'KEEFE DRAIN CORRIDOR																											
Contribution From O'KEEFE COURT, Pipe 115A - 116A						51.02	4874				0.00		0.00		3.25		54.27	54.27									
	116A	117A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	109.0	450	0.15	110.42	0.57	0.69	0.71
	117A	118A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	141.5	450	0.55	211.44	0.30	1.33	1.15
To STRANDHERD DRIVE, Pipe 118A - 119A						51.02	4874				0.00		0.00		3.25			54.27									
STRANDHERD DRIVE																											
Contribution From O'KEEFE DRAIN CORRIDOR, Pipe 117A - 118A						51.02	4874				0.00		0.00		3.25		54.27	54.27									
	118A	119A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	103.5	525	0.10	136.00	0.46	0.63	0.61
	119A	120A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	80.0	525	0.25	215.03	0.29	0.99	0.86
	120A	121A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	104.0	525	0.10	136.00	0.46	0.63	0.61
	121A	122A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	100.5	525	0.90	407.99	0.15	1.88	1.37
	122A	123A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	101.0	525	0.10	136.00	0.46	0.63	0.61
	123A	124A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	105.0	525	0.10	136.00	0.46	0.63	0.61
	124A	125A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	105.0	525	0.30	235.55	0.27	1.09	0.92
	125A	126A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	90.5	525	0.30	235.55	0.27	1.09	0.92
	126A	127A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	81.5	525	1.30	490.35	0.13	2.27	1.55
	127A	10100A				51.02	4874	2.8	44.29		0.00		0.00		3.25	0.52	0.00	54.27	17.91	62.73	15.0	525	0.10	136.00	0.46	0.63	0.61

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha	
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s	
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7		
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4		

Designed: CM	PROJECT: **MATTAMY - CEDARVIEW**		
Checked: SM	LOCATION: **City of Ottawa**		
Dwg. Reference: Sanitary Drainage Plan, Dwgs. No. 1	File Ref: 17-746	Date: **25 Jul 2025**	Sheet No. 7 of 7

Downstream Sanitary Capacity Comparison

SANITARY SEWER CALCULATION SHEET

Manning's n=0.013

LOCATION			RESIDENTIAL AREA AND POPULATION							COMM		INSTIT		PARK		C+I+I	INFILTRATION				PIPE						
STREET	FROM M.H.	TO M.H.	AREA (ha)	UNITS	POP.	CUMULATIVE AREA (ha)	CUMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	TOTAL FLOW (l/s)	DIST (m)	DIA (mm)	SLOPE (%)	CAP. (FULL) (l/s)	RATIO Q act/Q cap	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)
Mattamy Cedarview per FSR Sub 1 (DSEL, July 2025)						44.72	4182				0.00		0.00		3.25		47.97	47.97									
Contribution From Cedarview Employment Lands						6.30	692				0.00		0.00		0.00		6.30	54.27									
Total Sanitary Flow						51.02	4874	2.80	44.29		0.00		0.00		3.25	0.52		54.27	17.91	62.73							
Mattamy Cedarview per AES (DSEL, October 2024)						49.50	4269				0.37		0.00		4.93		54.80	54.80									
Contribution From Cedarview Employment Lands						6.30	1038				0.09		0.00		0.00		6.39	61.19									
Total Sanitary Flow						55.80	5307	2.8	47.76		0.46		0.00		4.93	1.02		61.19	20.19	68.97							

DESIGN PARAMETERS

Park Flow =	9300	L/ha/da	0.10764	l/s/Ha				
Average Daily Flow =	280	l/p/day			Industrial Peak Factor = as per MOE Graph			
Comm/Inst Flow =	28000	L/ha/da	0.3241	l/s/Ha	Extraneous Flow =	0.330	L/s/ha	
Industrial Flow =	35000	L/ha/da	0.40509	l/s/Ha	Minimum Velocity =	0.600	m/s	
Max Res. Peak Factor =	4.00				Manning's n = (Conc)	0.013	(Pvc)	0.013
Commercial/Inst./Park Peak Factor =	1.50				Townhouse coeff=	2.7		
Institutional =	0.32	l/s/Ha			Single house coeff=	3.4		

Designed:

Checked:

Dwg. Reference:

PROJECT: **MATTAMY - CEDARVIEW**

LOCATION: **City of Ottawa**

File Ref: 17-746

Date: **25 Jul 2025**

Sheet No. 1 of 1

Appendix D

- Storm Design Sheet, prepared by DSEL, dated July 2025
- Excerpts from the O'Keefe Drain Environmental and Stormwater Management Plan, prepared by CH2M, dated May 2013
- Preliminary Pond Sizing Results Summary, prepared by DSEL, dated July 23, 2025

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA							
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
BLOCK 6																																
					0.00	0.00			0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.00						79									
	7301	730			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	79	450	450	CONC	0.60	12.5	220.8423	1.3886	0.1500	0.358
To STREET 9, Pipe 730 - 731						0.00				0.00				0.00				0.00	10.15					79									
POND 1 OUTLET																																
					0.00	0.00			0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.00						249									
	721	722			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	249	825	825	CONC	0.20	89.5	641.9463	1.2009	1.2421	0.388
To POND 1 INLET S, Pipe 722 - 723						0.00				0.00				0.00				0.00	11.24					249									
POND 2 OUTLET																																
					0.00	0.00			0.00	0.00			0.00	0.00	0.00	0.00	0.00	0.00						346									
	700	701			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	346	750	750	CONC	0.55	34.0	825.6283	1.8688	0.3032	0.419
To STREET 9, Pipe 701 - 702						0.00				0.00				0.00				0.00	10.30					346									
O'KEEFE COURT																																
Contribution From STREET 9, Pipe 730 - 731						0.00				0.00				0.00				0.00	33.30					674									
	731	732			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	33.30	37.31	50.21	58.69	85.49	674	1200	1200	CONC	0.15	94.0	1509.9717	1.3351	1.1734	0.446
	732	733			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	34.48	36.43	49.03	57.30	83.45	674	1200	1200	CONC	0.20	90.0	1743.5652	1.5417	0.9730	0.387
	733	734			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	35.45	35.74	48.09	56.20	81.84	674	1200	1200	CONC	0.20	62.5	1743.5652	1.5417	0.6757	0.387
	734	HW1			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	36.13	35.28	47.46	55.46	80.76	674	1200	1200	CONC	0.20	21.5	1743.5652	1.5417	0.2324	0.387
SERVICING BLOCK 2																																
					0.00	0.00			0.00	0.00			0.00	0.00	0.14	0.20	0.08	0.08														
			1.21	0.65	2.19	2.19			0.00	0.00			0.00	0.00			0.00	0.08														
	308	309	2.03	0.80	4.51	6.70			0.00	0.00			0.00	0.00			0.00	0.08	10.00	76.81	104.19	122.14	178.56	529	600	600	CONC	1.65	121.5	788.7121	2.7895	0.7259	0.670
To STREET 9, Pipe 309 - 310						6.70				0.00				0.00				0.08	10.73														
STREET 10																																
Contribution From STREET 11, Pipe 300 - 302						0.37				0.00				0.00				0.00	10.72														
Contribution From STREET 11, Pipe 301 - 302						0.29				0.00				0.00				0.00	10.66														
	302	303	0.39	0.70	0.76	1.42			0.00	0.00			0.00	0.00			0.00	0.00	10.72	74.16	100.56	117.86	172.28	105	375	375	PVC	0.80	85.0	156.8200	1.4199	0.9977	0.672
To SERVICING BLOCK 1, Pipe 303 - 305						1.42				0.00				0.00				0.00	11.71														
SERVICING BLOCK 1																																
Contribution From STREET 10, Pipe 302 - 303						1.42				0.00				0.00				0.00	11.71														
	303	305	0.34	0.70	0.66	2.08			0.00	0.00			0.00	0.00			0.00	0.00	11.71	70.80	95.94	112.42	164.28	147	375	375	PVC	1.60	74.5	221.7770	2.0080	0.6184	0.665
To STREET 9, Pipe 305 - 306						2.08				0.00				0.00				0.00	12.33														
BLOCK 1																																
					0.00	0.00	0.05	0.70	0.10	0.10			0.00	0.00			0.00	0.00														
					0.00	0.00			0.00	0.10			0.00	0.00	0.34	0.20	0.19	0.19														
	228	229	3.70	0.80	8.23	8.23			0.00	0.10			0.00	0.00			0.00	0.19	10.00	76.81	104.19	122.14	178.56	676	675	675	CONC	1.15	11.0	901.4304	2.5190	0.0728	0.750
To STREET 9, Pipe 229 - 230						8.23				0.10				0.00				0.19	10.07														
STREET 8																																
	217	218	0.35	0.70	0.68	0.68			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	52	300	300	PVC	2.10	77.0	140.1327	1.9825	0.6473	0.373
To STREET 3, Pipe 218 - 219						0.68				0.00				0.00				0.00	10.65														
STREET 6																																
	214	215	0.22	0.70	0.43	0.43			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	33	300	300	PVC	0.50	48.0	68.3778	0.9673	0.8270	0.481
	215	216	0.55	0.70	1.07	1.50			0.00	0.00			0.00	0.00			0.00	0.00	10.83	73.77	100.02	117.22	171.34	111	375	375	PVC	2.05	120.0	251.0346	2.2729	0.8799	0.440
To STREET 3, Pipe 216 - 218						1.50				0.00				0.00				0.00	11.71														
STREET 5-7																																
	213	212	0.27	0.70	0.53	0.53			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	40	300	300	PVC	1.05	40.5	99.0888	1.4018	0.4815	0.407

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 1 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	212	221	0.26	0.70	0.51	1.03			0.00	0.00			0.00	0.00			0.00	0.00	10.48	75.00	101.72	119.22	174.27	77	300	300	PVC	3.45	57.0	179.6137	2.5410	0.3739	0.431
To STREET 3, Pipe 221 - 225						1.03				0.00				0.00				0.00	10.86														
	208	209	0.20	0.70	0.39	0.39			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	30	300	300	PVC	0.50	43.5	68.3778	0.9673	0.7495	0.437
	209	210	0.05	0.70	0.10	0.49			0.00	0.00			0.00	0.00			0.00	0.00	10.75	74.04	100.39	117.67	171.99	36	300	300	PVC	0.35	11.5	57.2089	0.8093	0.2368	0.630
	210	211	0.46	0.70	0.90	1.38			0.00	0.00			0.00	0.00			0.00	0.00	10.99	73.21	99.26	116.33	170.02	101	375	375	PVC	1.75	101.5	231.9400	2.1000	0.8055	0.436
To STREET 3, Pipe 211 - 216						1.38				0.00				0.00				0.00	11.79														
STREET 4																																	
Contribution From STREET 9, Pipe 204 - 205						0.00				0.70				0.00				0.03	10.92														
	205	206	0.38	0.70	0.74	0.74			0.00	0.70			0.00	0.00			0.00	0.03	10.92	73.46	99.59	116.72	170.60	130	450	450	CONC	0.60	83.5	220.8423	1.3886	1.0022	0.588
	206	207	0.38	0.70	0.74	1.48			0.00	0.70			0.00	0.00			0.00	0.03	11.92	70.15	95.05	111.37	162.74	176	450	450	CONC	2.15	83.5	418.0477	2.6285	0.5294	0.420
To STREET 3, Pipe 207 - 211						1.48				0.70				0.00				0.03	12.45														
STREET 3																																	
Contribution From STREET 9, Pipe 200 - 201						0.00				0.51				0.00				0.06	10.57														
	201	202	0.59	0.70	1.15	1.15			0.00	0.51			0.00	0.00			0.00	0.06	10.57	74.69	101.29	118.72	173.54	147	600	600	CONC	0.15	129.0	237.8056	0.8411	2.5563	0.617
	202	203	0.06	0.70	0.12	1.26			0.00	0.51			0.00	0.00			0.00	0.06	13.12	66.58	90.16	105.61	154.29	138	600	600	CONC	0.15	13.5	237.8056	0.8411	0.2675	0.582
	203	207	0.31	0.70	0.60	1.87			0.00	0.51			0.00	0.00			0.00	0.06	13.39	65.85	89.14	104.42	152.54	177	600	600	CONC	0.75	67.0	531.7496	1.8807	0.5938	0.332
Contribution From STREET 4, Pipe 206 - 207						1.48				0.70				0.00				0.03	12.45														
	207	211	0.31	0.70	0.60	3.95			0.00	1.21			0.00	0.00			0.00	0.09	13.98	64.27	86.99	101.89	148.82	372	750	750	CONC	0.20	67.5	497.8726	1.1270	0.9983	0.747
Contribution From STREET 5-7, Pipe 210 - 211						1.38				0.00				0.00				0.00	11.79														
	211	216	0.35	0.70	0.68	6.01			0.00	1.21			0.00	0.00			0.00	0.09	14.98	61.81	83.61	97.92	142.99	485	825	825	CONC	0.20	76.5	641.9463	1.2009	1.0617	0.756
Contribution From STREET 6, Pipe 215 - 216						1.50				0.00				0.00				0.00	11.71														
	216	218	0.21	0.70	0.41	7.92			0.00	1.21			0.00	0.00			0.00	0.09	16.04	59.41	80.33	94.05	137.32	580	825	825	CONC	0.30	46.0	786.2205	1.4708	0.5213	0.737
Contribution From STREET 8, Pipe 217 - 218						0.68				0.00				0.00				0.00	10.65														
	218	219	0.17	0.70	0.33	8.93			0.00	1.21			0.00	0.00			0.00	0.09	16.57	58.30	78.82	92.28	134.72	628	825	825	CONC	0.35	36.5	849.2152	1.5886	0.3829	0.739
	219	220	0.06	0.70	0.12	9.05			0.00	1.21			0.00	0.00			0.00	0.09	16.95	57.52	77.75	91.02	132.87	626	825	825	CONC	0.35	13.5	849.2152	1.5886	0.1416	0.737
	220	221	0.24	0.70	0.47	9.52			0.00	1.21			0.00	0.00			0.00	0.09	17.09	57.24	77.36	90.57	132.20	650	900	900	CONC	0.25	53.5	905.1556	1.4228	0.6267	0.718
Contribution From STREET 5-7, Pipe 212 - 221						1.03				0.00				0.00				0.00	10.86														
	221	225	0.33	0.70	0.64	11.19			0.00	1.21			0.00	0.00			0.00	0.09	17.72	56.02	75.70	88.61	129.33	730	975	975	CONC	0.20	72.0	1002.2295	1.3424	0.8939	0.728
To STREET 9, Pipe 225 - 226						11.19				1.21				0.00				0.09	18.61														
POND 2 INLET																																	
Contribution From STREET 9, Pipe 309 - 310						8.78				2.72				0.00				0.08	14.54														
	310	HW3			0.00	8.78			0.00	2.72			0.00	0.00			0.00	0.08	14.54	62.87	85.06	99.62	145.49	795	975	975	CONC	0.25	26.0	1120.5266	1.5008	0.2887	0.710
Contribution From STREET 9, Pipe 230 - 231						19.42				5.72				0.00				0.32	21.36														
	231	HW2			0.00	19.42			0.00	5.72			0.00	0.00			0.00	0.32	21.36	49.95	67.41	78.87	115.06	1393	1200	1200	CONC	0.25	26.0	1949.3651	1.7236	0.2514	0.714
LANE 1-2																																	
	406	407	0.22	0.70	0.43	0.43			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	33	300	300	PVC	2.10	52.0	140.1327	1.9825	0.4372	0.235
To STREET 13, Pipe 407 - 408						0.43				0.00				0.00				0.00	10.44														
	410	411	0.24	0.70	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	300	300	PVC	0.80	56.5	86.4918	1.2236	0.7696	0.415
To STREET 14, Pipe 411 - 412						0.47				0.00				0.00				0.00	10.77														
STREET 11																																	
	300	302	0.19	0.70	0.37	0.37			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	28	300	300	PVC	0.50	41.5	68.3778	0.9673	0.7150	0.415
To STREET 10, Pipe 302 - 303						0.37				0.00				0.00				0.00	10.72														
	300	402	0.15	0.70	0.29	0.29			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	22	300	300	PVC	0.45	36.0	64.8688	0.9177	0.6538	0.346
To STREET 9, Pipe 402 - 403						0.29				0.00				0.00				0.00	10.65														
	301	302	0.15	0.70	0.29	0.29			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	22	300	300	PVC	0.35	32.0	57.2089	0.8093	0.6590	0.392
To STREET 10, Pipe 302 - 303						0.29				0.00				0.00				0.00	10.66														

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 2 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year											
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
STREET 12																																	
	415	416	0.12	0.70	0.23	0.23			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	18	300	300	PVC	0.50	27.5	68.3778	0.9673	0.4738	0.262
	416	417	0.12	0.70	0.23	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.47	75.03	101.75	119.27	174.34	35	300	300	PVC	0.35	28.5	57.2089	0.8093	0.5869	0.613
	417	418	0.12	0.70	0.23	0.70			0.00	0.00			0.00	0.00			0.00	0.00	11.06	72.96	98.91	115.91	169.41	51	300	300	PVC	0.50	29.0	68.3778	0.9673	0.4996	0.747
To STREET 16, Pipe 418 - 419						0.70				0.00				0.00				0.00	11.56														
Contribution From STREET 9, Pipe 304 - 403						0.00				0.29				0.00				0.00	10.75														
Contribution From STREET 9, Pipe 402 - 403						0.29				1.56				0.00				0.00	11.80														
	403	408	0.34	0.70	0.66	0.95			0.00	1.85			0.00	0.00			0.00	0.00	11.80	70.51	95.55	111.96	163.60	244	525	525	CONC	1.00	79.5	430.0623	1.9867	0.6669	0.567
Contribution From STREET 13, Pipe 407 - 408						1.60				0.00				0.00				0.00	11.25														
	408	412	0.31	0.70	0.60	3.15			0.00	1.85			0.00	0.00			0.00	0.00	12.47	68.47	92.74	108.65	158.75	387	750	750	CONC	0.25	72.5	556.6385	1.2600	0.9590	0.696
Contribution From STREET 14, Pipe 411 - 412						1.65				0.00				0.00				0.00	11.15														
	412	414	0.31	0.70	0.60	5.41			0.00	1.85			0.00	0.00			0.00	0.00	13.43	65.74	89.00	104.26	152.30	520	825	825	CONC	0.25	72.5	717.7178	1.3426	0.9000	0.725
Contribution From STREET 15, Pipe 413 - 414						0.97				0.00				0.00				0.00	10.83														
	414	418	0.31	0.70	0.60	6.99			0.00	1.85			0.00	0.00			0.00	0.00	14.33	63.40	85.79	100.48	146.75	602	900	900	CONC	0.20	72.5	809.5958	1.2726	0.9495	0.743
To STREET 16, Pipe 418 - 419						6.99				1.85				0.00				0.00	15.28														
Contribution From STREET 9, Pipe 704 - 705						0.00				0.00				0.00				0.00	13.56					346									
	705	706			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	13.56	65.38	88.50	103.67	151.43	346	975	975	CONC	0.15	107.5	867.9562	1.1625	1.5412	0.399
	706	707			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	15.11	61.52	83.22	97.45	142.31	346	975	975	CONC	0.15	107.5	867.9562	1.1625	1.5412	0.399
	707	708			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	16.65	58.14	78.59	92.01	134.32	346	975	975	CONC	0.15	80.0	867.9562	1.1625	1.1469	0.399
To STREET 16, Pipe 708 - 709						0.00				0.00				0.00				0.00	17.79					346									
STREET 16																																	
Contribution From STREET 12, Pipe 414 - 418						6.99				1.85				0.00				0.00	15.28														
Contribution From STREET 12, Pipe 417 - 418						0.70				0.00				0.00				0.00	11.56														
	418	419	0.45	0.70	0.88	8.56			0.00	1.85			0.00	0.00			0.00	0.00	15.28	61.12	82.67	96.81	141.36	676	900	900	CONC	0.55	105.5	1342.5627	2.1104	0.8332	0.504
	419	420	0.05	0.70	0.10	8.66			0.00	1.85			0.00	0.00			0.00	0.00	16.11	59.26	80.13	93.82	136.98	661	900	900	CONC	0.80	12.0	1619.1915	2.5452	0.0786	0.408
	420	429	0.30	0.70	0.58	9.24			0.00	1.85			0.00	0.00			0.00	0.00	16.19	59.09	79.90	93.55	136.58	694	900	900	CONC	0.85	70.5	1669.0244	2.6235	0.4479	0.416
To STREET 20, Pipe 429 - 430						9.24				1.85				0.00				0.00	16.64														
Contribution From STREET 12, Pipe 707 - 708						0.00				0.00				0.00				0.00	17.79					346									
	708	709			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	17.79	55.87	75.50	88.38	128.99	346	975	975	CONC	0.40	98.5	1417.3665	1.8984	0.8648	0.244
	709	710			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	18.66	54.29	73.34	85.84	125.27	346	975	975	CONC	0.65	7.5	1806.7949	2.4200	0.0517	0.191
	710	711			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	18.71	54.20	73.22	85.69	125.06	346	975	975	CONC	0.65	79.0	1806.7949	2.4200	0.5441	0.191
To STREET 20, Pipe 711 - 712						0.00				0.00				0.00				0.00	19.25					346									
STREET 15																																	
	413	414	0.50	0.70	0.97	0.97			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	75	375	375	PVC	1.05	81.0	179.6599	1.6267	0.8299	0.416
To STREET 12, Pipe 414 - 418						0.97				0.00				0.00				0.00	10.83														
	413	425	0.24	0.70	0.47	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	36	300	300	PVC	0.85	93.0	89.1537	1.2613	1.2289	0.402
To STREET 13, Pipe 425 - 426						0.47				0.00				0.00				0.00	11.23														
STREET 14																																	
	409	411	0.46	0.70	0.90	0.90			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	69	300	300	PVC	3.15	108.0	171.6268	2.4280	0.7413	0.401
Contribution From LANE 1-2, Pipe 410 - 411						0.47				0.00				0.00				0.00	10.77														
	411	412	0.15	0.70	0.29	1.65			0.00	0.00			0.00	0.00			0.00	0.00	10.77	73.97	100.30	117.55	171.82	122	450	450	CONC	0.75	35.5	246.9092	1.5525	0.3811	0.496
To STREET 12, Pipe 412 - 414						1.65				0.00				0.00				0.00	11.15														
	421	422	0.11	0.70	0.21	0.21			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	16	300	300	PVC	1.50	25.5	118.4338	1.6755	0.2537	0.139
	422	424	0.16	0.70	0.31	0.53			0.00	0.00			0.00	0.00			0.00	0.00	10.25	75.84	102.87	120.59	176.27	40	300	300	PVC	1.05	36.5	99.0888	1.4018	0.4340	0.402
To STREET 13, Pipe 424 - 425						0.53				0.00				0.00				0.00	10.69														
STREET 13																																	
	404	405	0.23	0.70	0.45	0.45			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	34	300	300	PVC	4.50	55.0	205.1333	2.9020	0.3159	0.168
	405	407	0.22	0.70	0.43	0.88			0.00	0.00			0.00	0.00			0.00	0.00	10.32	75.61	102.55	120.21	175.72	66	300	300	PVC	2.80	51.5	161.8113	2.2892	0.3750	0.409
Contribution From LANE 1-2, Pipe 406 - 407						0.43				0.00				0.00				0.00	10.44														
	407	408	0.15	0.70	0.29	1.60			0.00	0.00			0.00	0.00			0.00	0.00	10.69	74.25	100.68	118.00	172.48	118	450	450	CONC	0.35	35.5	168.6711	1.0605	0.5579	0.702
To STREET 12, Pipe 408 - 412						1.60				0.00				0.00				0.00	11.25														

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 3 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA							
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	404	423	0.11	0.70	0.21	0.21			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	16	300	300	PVC	0.80	26.5	86.4918	1.2236	0.3610	0.190
	423	424	0.13	0.70	0.25	0.47			0.00	0.00			0.00	0.00			0.00	0.00	10.36	75.45	102.32	119.94	175.33	35	300	300	PVC	0.80	30.0	86.4918	1.2236	0.4086	0.407
Contribution From STREET 14, Pipe 422 - 424						0.53				0.00				0.00				0.00	10.69														
	424	425	0.30	0.70	0.58	1.58			0.00	0.00			0.00	0.00			0.00	0.00	10.77	73.97	100.30	117.55	171.82	117	300	300	PVC	4.35	72.0	201.6854	2.8533	0.4206	0.578
Contribution From STREET 15, Pipe 413 - 425						0.47				0.00				0.00				0.00	11.23														
	425	426	0.16	0.70	0.31	2.35			0.00	0.00			0.00	0.00			0.00	0.00	11.23	72.39	98.12	114.99	168.05	170	375	375	PVC	3.55	38.0	330.3473	2.9910	0.2117	0.516
	426	428	0.26	0.70	0.51	2.86			0.00	0.00			0.00	0.00			0.00	0.00	11.44	71.68	97.15	113.85	166.38	205	525	525	CONC	0.65	62.5	346.7273	1.6017	0.6504	0.591
To STREET 20, Pipe 428 - 429						2.86				0.00				0.00				0.00	12.09														
STREET 20																																	
	435	436	0.44	0.70	0.86	0.86			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	66	375	375	PVC	0.45	103.0	117.6150	1.0649	1.6120	0.559
To POND 1 INLET N, Pipe 436 - 437						0.86				0.00				0.00				0.00	11.61														
	427	428	0.23	0.70	0.45	0.45			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	34	300	300	PVC	1.15	55.0	103.7000	1.4671	0.6248	0.331
Contribution From STREET 13, Pipe 426 - 428						2.86				0.00				0.00				0.00	12.09														
	428	429	0.32	0.70	0.62	3.93			0.00	0.00			0.00	0.00			0.00	0.00	12.09	69.61	94.31	110.50	161.46	274	600	600	CONC	0.55	76.0	455.3631	1.6105	0.7865	0.601
Contribution From STREET 16, Pipe 420 - 429						9.24				1.85				0.00				0.00	16.64														
	429	430	0.25	0.70	0.49	13.66			0.00	1.85			0.00	0.00			0.00	0.00	16.64	58.15	78.61	92.04	134.37	940	975	975	CONC	0.35	59.0	1325.8250	1.7758	0.5537	0.709
	430	431	0.26	0.70	0.51	14.17			0.00	1.85			0.00	0.00			0.00	0.00	17.19	57.04	77.09	90.24	131.73	951	975	975	CONC	0.35	62.0	1325.8250	1.7758	0.5819	0.717
	431	432	0.06	0.70	0.12	14.28			0.00	1.85			0.00	0.00			0.00	0.00	17.77	55.91	75.55	88.44	129.08	938	975	975	CONC	0.35	14.0	1325.8250	1.7758	0.1314	0.708
	432	433	0.03	0.70	0.06	14.34			0.00	1.85			0.00	0.00			0.00	0.00	17.90	55.67	75.21	88.04	128.50	937	975	975	CONC	0.35	8.0	1325.8250	1.7758	0.0751	0.707
	433	434	0.30	0.70	0.58	14.93			0.00	1.85			0.00	0.00			0.00	0.00	17.98	55.53	75.02	87.82	128.17	967	975	975	CONC	0.80	70.0	2004.4590	2.6847	0.4346	0.483
	434	436	0.33	0.70	0.64	15.57			0.00	1.85			0.00	0.00			0.00	0.00	18.41	54.73	73.94	86.54	126.30	989	975	975	CONC	0.95	78.5	2184.3085	2.9256	0.4472	0.453
To POND 1 INLET N, Pipe 436 - 437						15.57				1.85				0.00				0.00	18.86														
Contribution From STREET 16, Pipe 710 - 711						0.00				0.00				0.00				0.00	19.25					346									
	711	712			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	19.25	53.26	71.93	84.19	122.85	346	975	975	CONC	0.20	108.5	1002.2295	1.3424	1.3471	0.345
	712	713			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	20.60	51.08	68.96	80.69	117.72	346	975	975	CONC	0.20	8.0	1002.2295	1.3424	0.0993	0.345
	713	714			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	20.70	50.93	68.75	80.45	117.36	346	975	975	CONC	0.20	72.0	1002.2295	1.3424	0.8939	0.345
	714	715			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	21.59	49.60	66.94	78.32	114.24	346	975	975	CONC	0.20	72.0	1002.2295	1.3424	0.8939	0.345
	715	716			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	22.49	48.34	65.22	76.30	111.29	346	975	975	CONC	0.20	9.0	1002.2295	1.3424	0.1117	0.345
	716	717			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	22.60	48.19	65.02	76.06	110.94	346	975	975	CONC	0.20	64.5	1002.2295	1.3424	0.8008	0.345
	717	718			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	23.40	47.13	63.57	74.37	108.45	346	975	975	CONC	0.20	64.5	1002.2295	1.3424	0.8008	0.345
To STREET 23, Pipe 718 - 719						0.00				0.00				0.00				0.00	24.20					346									
POND 1 INLET N																																	
Contribution From STREET 20, Pipe 434 - 436						15.57				1.85				0.00				0.00	18.86														
Contribution From STREET 20, Pipe 435 - 436						0.86				0.00				0.00				0.00	11.61														
	436	437	0.05	0.70	0.10	16.52			0.00	1.85			0.00	0.00			0.00	0.00	18.86	53.94	72.85	85.27	124.43	1026	975	975	CONC	0.40	11.0	1417.3665	1.8984	0.0966	0.724
	437	HW4			0.00	16.52			0.00	1.85			0.00	0.00			0.00	0.00	18.96	53.77	72.62	85.00	124.04	1023	975	975	CONC	0.40	14.5	1417.3665	1.8984	0.1273	0.721
STREET 21																																	
	530	531	0.27	0.70	0.53	0.53			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	40	300	300	PVC	1.05	65.0	99.0888	1.4018	0.7728	0.407
	531	532	0.40	0.70	0.78	1.30			0.00	0.00			0.00	0.00			0.00	0.00	10.77	73.96	100.28	117.53	171.79	96	450	450	CONC	0.50	95.0	201.6005	1.2676	1.2491	0.478
To STREET 22, Pipe 532 - 533						1.30				0.00				0.00				0.00	12.02														
LANE 3-4																																	
	517	518	0.11	0.70	0.21	0.21			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	16	300	300	PVC	4.00	25.0	193.4015	2.7361	0.1523	0.085
	518	519	0.11	0.70	0.21	0.43			0.00	0.00			0.00	0.00			0.00	0.00	10.15	76.23	103.40	121.20	177.18	33	300	300	PVC	3.70	26.5	186.0076	2.6315	0.1678	0.175
	519	520	0.09	0.70	0.18	0.60			0.00	0.00			0.00	0.00			0.00	0.00	10.32	75.60	102.53	120.18	175.68	46	300	300	PVC	0.40	20.0	61.1589	0.8652	0.3853	0.746
To STREET 19, Pipe 520 - 521						0.60				0.00				0.00				0.00	10.71														
	525	526	0.17	0.70	0.33	0.33			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	25	300	300	PVC	0.40	41.0	61.1589	0.8652	0.7898	0.415
	526	527	0.14	0.70	0.27	0.60			0.00	0.00			0.00	0.00			0.00	0.00	10.79	73.90	100.20	117.44	171.65	45	300	300	PVC	4.50	32.5	205.1333	2.9020	0.1867	0.217
	527	528	0.16	0.70	0.31	0.91			0.00	0.00			0.00	0.00			0.00	0.00	10.98	73.25	99.30	116.38	170.10	67	375	375	PVC	0.85	38.5	161.6464	1.4636	0.4384	0.414
To STREET 22, Pipe 528 - 529						0.91				0.00				0.00				0.00	11.41														

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 4 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA							
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
BLOCK 5																																
			0.06	0.70	0.12	0.12			0.00	0.00			0.00	0.00			0.00	0.00														
	515	516	2.19	0.80	4.87	4.99			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	383	600	600	CONC	0.70	14.0	513.7189	1.8169	0.1284	0.746
To POND 1 INLET S, Pipe 516 - 538						4.99				0.00				0.00				0.00	10.13														
BLOCK 4																																
			0.06	0.70	0.12	0.12			0.00	0.00			0.00	0.00			0.00	0.00														
	513	514			0.00	0.12	0.33	0.40	0.37	0.37			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	47	300	300	PVC	0.50	13.5	68.3778	0.9673	0.2326	0.690
To STREET 23, Pipe 514 - 516						0.12				0.37				0.00				0.00	10.23														
BLOCK 3																																
					0.00	0.00	0.05	0.70	0.10	0.10			0.00	0.00			0.00	0.00														
	509	510	1.28	0.80	2.85	2.85			0.00	0.10			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	229	525	525	CONC	0.55	13.0	318.9427	1.4733	0.1471	0.717
To STREET 9, Pipe 510 - 512						2.85				0.10				0.00				0.00	10.15														
STREET 22																																
					0.00	0.00	0.05	0.70	0.10	0.10			0.00	0.00			0.00	0.00														
	506	507	0.92	0.80	2.05	2.05			0.00	0.10			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	167	600	600	CONC	0.15	12.0	237.8056	0.8411	0.2378	0.703
To STREET 9, Pipe 507 - 508						2.05				0.10				0.00				0.00	10.24														
Contribution From STREET 21, Pipe 531 - 532						1.30				0.00				0.00				0.00	12.02														
	532	533	0.18	0.70	0.35	1.65			0.00	0.00			0.00	0.00			0.00	0.00	12.02	69.83	94.60	110.85	161.97	115	525	525	CONC	0.20	41.5	192.3297	0.8885	0.7785	0.601
	533	534	0.05	0.70	0.10	1.75			0.00	0.00			0.00	0.00			0.00	0.00	12.80	67.50	91.41	107.09	156.46	118	525	525	CONC	0.20	12.5	192.3297	0.8885	0.2345	0.615
	534	535	0.24	0.70	0.47	2.22			0.00	0.00			0.00	0.00			0.00	0.00	13.03	66.83	90.49	106.01	154.87	148	525	525	CONC	0.25	55.5	215.0311	0.9933	0.9312	0.689
To STREET 23, Pipe 535 - 536						2.22				0.00				0.00				0.00	13.97														
Contribution From LANE 3-4, Pipe 527 - 528						0.91				0.00				0.00				0.00	11.41														
	528	529	0.15	0.70	0.29	1.21			0.00	0.00			0.00	0.00			0.00	0.00	11.41	71.77	97.27	113.99	166.58	87	375	375	PVC	1.45	35.5	211.1254	1.9116	0.3095	0.410
Contribution From STREET 19, Pipe 524 - 529						2.10				0.00				0.00				0.00	12.22														
	529	535	0.42	0.70	0.82	4.13			0.00	0.00			0.00	0.00			0.00	0.00	12.22	69.23	93.79	109.89	160.56	286	450	450	CONC	2.05	98.5	408.2099	2.5667	0.6396	0.700
To STREET 23, Pipe 535 - 536						4.13				0.00				0.00				0.00	12.85														
STREET 19																																
					0.00	0.00	0.06	0.70	0.12	0.12			0.00	0.00			0.00	0.00														
	503	504			0.00	0.00	0.18	0.40	0.20	0.32			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	33	300	300	PVC	0.35	13.5	57.2089	0.8093	0.2780	0.577
To STREET 9, Pipe 504 - 505						0.00				0.32				0.00				0.00	10.28														
Contribution From LANE 3-4, Pipe 519 - 520						0.60				0.00				0.00				0.00	10.71														
	520	521	0.09	0.70	0.18	0.78			0.00	0.00			0.00	0.00			0.00	0.00	10.71	74.20	100.61	117.92	172.36	58	375	375	PVC	0.55	22.0	130.0283	1.1773	0.3114	0.444
	521	522	0.06	0.70	0.12	0.90			0.00	0.00			0.00	0.00			0.00	0.00	11.02	73.11	99.11	116.16	169.77	65	375	375	PVC	0.85	13.0	161.6464	1.4636	0.1480	0.405
	522	523	0.20	0.70	0.39	1.28			0.00	0.00			0.00	0.00			0.00	0.00	11.16	72.60	98.42	115.34	168.57	93	375	375	PVC	3.50	47.0	328.0127	2.9699	0.2638	0.284
	523	524	0.20	0.70	0.39	1.67			0.00	0.00			0.00	0.00			0.00	0.00	11.43	71.72	97.21	113.91	166.48	120	375	375	PVC	1.40	46.0	207.4534	1.8783	0.4082	0.579
	524	529	0.22	0.70	0.43	2.10			0.00	0.00			0.00	0.00			0.00	0.00	11.84	70.41	95.40	111.78	163.35	148	450	450	CONC	1.60	51.5	360.6339	2.2675	0.3785	0.410
To STREET 22, Pipe 529 - 535						2.10				0.00				0.00				0.00	12.22														
BLOCK 2																																
			0.05	0.70	0.10	0.10			0.00	0.00			0.00	0.00			0.00	0.00														
					0.00	0.10			0.00	0.00			0.00	0.00	0.07	0.20	0.04	0.04														
	501	502	3.43	0.80	7.63	7.73			0.00	0.00			0.00	0.00			0.00	0.04	10.00	76.81	104.19	122.14	178.56	600	675	675	CONC	0.95	12.0	819.3040	2.2895	0.0874	0.733
To STREET 9, Pipe 502 - 504						7.73				0.00				0.00				0.04	10.09														
STREET 23																																
Contribution From STREET 9, Pipe 510 - 512						12.62				4.87				0.00				0.04	13.59														
Contribution From STREET 9, Pipe 511 - 512						0.00				0.66				0.00				0.00	11.26														
	512	514	0.24	0.70	0.47	13.09			0.00	5.53			0.00	0.00			0.00	0.04	13.59	65.31	88.41	103.56	151.27	1350	1050	1050	CONC	0.45	57.5	1831.8262	2.1155	0.4530	0.737
Contribution From BLOCK 4, Pipe 513 - 514						0.12				0.37				0.00				0.00	10.23														
	514	516	0.26	0.70	0.51	13.71			0.00	5.90			0.00	0.00			0.00	0.04	14.04	64.12	86.78	101.65	148.46	1397	1200	1200	CONC	0.25	61.0	1949.3651	1.7236	0.5898	0.717
To POND 1 INLET S, Pipe 516 - 538						13.71				5.90				0.00				0.04	14.63														

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW	
Checked: SM	LOCATION: City of Ottawa	
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025
		Sheet No. SHEET 5 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA							
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Contribution From STREET 22, Pipe 529 - 535						4.13				0.00				0.00				0.00	12.85														
Contribution From STREET 22, Pipe 534 - 535						2.22				0.00				0.00				0.00	13.97														
	535	536	0.30	0.70	0.58	6.93			0.00	0.00			0.00	0.00			0.00	0.00	13.97	64.32	87.05	101.96	148.93	446	675	675	CONC	0.50	70.5	594.3856	1.6610	0.7074	0.750
	536	537	0.31	0.70	0.60	7.53			0.00	0.00			0.00	0.00			0.00	0.00	14.67	62.55	84.63	99.11	144.74	471	750	750	CONC	0.40	73.5	704.0982	1.5938	0.7686	0.669
	537	538	0.31	0.70	0.60	8.13			0.00	0.00			0.00	0.00			0.00	0.00	15.44	60.74	82.16	96.20	140.48	494	825	825	CONC	0.50	73.5	1015.0063	1.8988	0.6452	0.487
To POND 1 INLET S, Pipe 538 - 539						8.13				0.00				0.00				0.00	16.09														
Contribution From STREET 20, Pipe 717 - 718						0.00				0.00				0.00				0.00	24.20					346									
	718	719			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	24.20	46.13	62.20	72.76	106.09	346	975	975	CONC	0.60	69.5	1735.9124	2.3250	0.4982	0.199
	719	720			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	24.70	45.52	61.38	71.79	104.68	346	975	975	CONC	0.60	69.5	1735.9124	2.3250	0.4982	0.199
	720	723			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	25.20	44.94	60.58	70.85	103.31	346	975	975	CONC	0.60	11.0	1735.9124	2.3250	0.0789	0.199
Contribution From POND 1 INLET S, Pipe 722 - 723						0.00				0.00				0.00				0.00	11.45					249									
	723	724			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	25.28	44.84	60.46	70.71	103.09	595	1200	1200	CONC	0.15	61.0	1509.9717	1.3351	0.7615	0.394
	724	725			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	26.04	43.98	59.29	69.33	101.08	595	1200	1200	CONC	0.15	61.0	1509.9717	1.3351	0.7615	0.394
To STREET 9, Pipe 725 - 726						0.00				0.00				0.00				0.00	26.80					595									
POND 1 INLET S																																	
Contribution From POND 1 OUTLET, Pipe 721 - 722						0.00				0.00				0.00				0.00	11.24					249									
	722	723			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	11.24	72.34	98.06	114.92	167.95	249	900	900	CONC	0.15	13.5	701.1305	1.1021	0.2042	0.355
To STREET 23, Pipe 723 - 724						0.00				0.00				0.00				0.00	11.45					249									
Contribution From STREET 23, Pipe 514 - 516						13.71				5.90				0.00				0.04	14.63														
Contribution From BLOCK 5, Pipe 515 - 516						4.99				0.00				0.00				0.00	10.13														
	516	538	0.09	0.70	0.18	18.87			0.00	5.90			0.00	0.00			0.00	0.04	14.63	62.65	84.76	99.27	144.97	1688	1200	1200	CONC	0.35	20.5	2306.5199	2.0394	0.1675	0.732
Contribution From STREET 23, Pipe 537 - 538						8.13				0.00				0.00				0.00	16.09														
	538	539	0.21	0.70	0.41	27.41			0.00	5.90			0.00	0.00			0.00	0.04	16.09	59.31	80.20	93.91	137.10	2104	1350	1350	CONC	0.30	50.5	2923.4155	2.0424	0.4121	0.720
	539	HW5			0.00	27.41			0.00	5.90			0.00	0.00			0.00	0.04	16.50	58.44	79.01	92.50	135.04	2073	1350	1350	CONC	0.30	28.0	2923.4155	2.0424	0.2285	0.709
STREET 2																																	
	103	105	0.41	0.70	0.80	0.80			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	61	375	375	PVC	0.50	65.0	123.9771	1.1225	0.9651	0.494
To STREET 1, Pipe 105 - 106						0.80				0.00				0.00				0.00	10.97														
	104	105	0.22	0.70	0.43	0.43			0.00	0.00			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	33	300	300	PVC	0.35	35.5	57.2089	0.8093	0.7310	0.575
To STREET 1, Pipe 105 - 106						0.43				0.00				0.00				0.00	10.73														
STREET 1																																	
Contribution From STREET 2, Pipe 103 - 105						0.80				0.00				0.00				0.00	10.97														
Contribution From STREET 2, Pipe 104 - 105						0.43				0.00				0.00				0.00	10.73														
	105	106	0.48	0.70	0.93	2.16			0.00	0.00			0.00	0.00			0.00	0.00	10.97	73.29	99.36	116.45	170.19	158	450	450	CONC	1.30	76.0	325.0710	2.0439	0.6197	0.487
Contribution From STREET 9, Pipe 102 - 106						0.80				1.60				0.00				0.08	11.69														
	106	107	0.56	0.70	1.09	4.05			0.00	1.60			0.00	0.00			0.00	0.08	11.69	70.86	96.02	112.52	164.43	453	675	675	CONC	0.65	89.5	677.7038	1.8938	0.7876	0.668
	107	108	0.18	0.70	0.35	4.40			0.00	1.60			0.00	0.00			0.00	0.08	12.48	68.43	92.69	108.60	158.66	461	900	900	CONC	0.20	28.5	809.5958	1.2726	0.3733	0.570
To NORTH OUTLET, Pipe 108 - 109						4.40				1.60				0.00				0.08	12.85														
NORTH OUTLET																																	
Contribution From STREET 1, Pipe 107 - 108						4.40				1.60				0.00				0.08	12.85														
					0.00	4.40			0.00	1.60			0.00	0.00	0.14	0.20	0.08	0.16															
	108	109	0.22	0.70	0.43	4.83			0.00	1.60			0.00	0.00			0.00	0.16	12.85	67.34	91.20	106.84	156.09	495	900	900	CONC	0.25	35.0	905.1556	1.4228	0.4100	0.547
	109	110			0.00	4.83			0.00	1.60			0.00	0.00			0.00	0.16	13.26	66.19	89.62	104.98	153.36	486	900	900	CONC	0.15	22.0	701.1305	1.1021	0.3327	0.694
STREET 9																																	
					0.00	0.00			0.00	0.00			0.00	0.00	0.10	0.20	0.06	0.06															
	200	201			0.00	0.00	0.26	0.70	0.51	0.51			0.00	0.00			0.00	0.06	10.00	76.81	104.19	122.14	178.56	63	300	300	PVC	1.50	57.0	118.4338	1.6755	0.5670	0.529
To STREET 3, Pipe 201 - 202						0.00				0.51				0.00				0.06	10.57														
					0.00	0.00			0.00	0.00			0.00	0.00	0.06	0.20	0.03	0.03															
	204	205			0.00	0.00	0.36	0.70	0.70	0.70			0.00	0.00			0.00	0.03	10.00	76.81	104.19	122.14	178.56	79	375	375	PVC	0.80	78.0	156.8200	1.4199	0.9156	0.503
To STREET 4, Pipe 205 - 206						0.00				0.70				0.00				0.03	10.92														

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 6 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year											
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
	304	403			0.00	0.00	0.15	0.70	0.29	0.29			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	30	300	300	PVC	0.35	36.5	57.2089	0.8093	0.7516	0.532
To STREET 12, Pipe 403 - 408						0.00				0.29				0.00				0.00	10.75														
	511	512			0.00	0.00	0.34	0.70	0.66	0.66			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	69	375	375	PVC	0.30	65.5	96.0323	0.8695	1.2555	0.718
To STREET 23, Pipe 512 - 514						0.00				0.66				0.00				0.00	11.26														
					0.00	0.00	0.22	0.80	0.49	0.49			0.00	0.00			0.00	0.00															
	601	602			0.00	0.00			0.00	0.49			0.00	0.00	4.24	0.20	2.36	2.36	10.00	76.81	104.19	122.14	178.56	472	900	900	CONC	0.15	96.5	701.1305	1.1021	1.4593	0.673
					0.00	0.00	0.21	0.80	0.47	0.96			0.00	0.00			0.00	2.36															
					0.00	0.00	0.26	0.80	0.58	1.53			0.00	0.00			0.00	2.36															
	602	603			0.00	0.00			0.00	1.53			0.00	0.00	2.60	0.20	1.45	3.80	11.46	71.62	97.07	113.75	166.24	781	975	975	CONC	0.25	94.5	1120.5266	1.5008	1.0494	0.697
To STREET 7-9-24 OUTLET, Pipe 603 - 606						0.00				1.53				0.00				3.80	12.51														
	605	604			0.00	0.00	0.19	0.80	0.42	0.42			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	44	375	375	PVC	0.30	54.5	96.0323	0.8695	1.0447	0.458
	604	603			0.00	0.00			0.00	0.42			0.00	0.00			0.00	0.00	11.04	73.01	98.98	116.00	169.54	42	375	375	PVC	0.30	22.5	96.0323	0.8695	0.4313	0.436
To STREET 7-9-24 OUTLET, Pipe 603 - 606						0.00				0.42				0.00				0.00	11.48														
					0.00	0.00			0.00	0.00			0.00	0.00	0.06	0.20	0.03	0.03															
	100	101			0.00	0.00	0.32	0.70	0.62	0.62			0.00	0.00			0.00	0.03	10.00	76.81	104.19	122.14	178.56	71	300	300	PVC	3.00	51.0	167.4906	2.3695	0.3587	0.423
					0.00	0.00			0.00	0.62			0.00	0.00	0.08	0.20	0.04	0.08															
	101	102			0.00	0.00	0.50	0.70	0.97	1.60			0.00	0.00			0.00	0.08	10.36	75.45	102.34	119.95	175.34	177	450	450	CONC	1.50	79.0	349.1823	2.1955	0.5997	0.507
	102	106	0.41	0.70	0.80	0.80			0.00	1.60			0.00	0.00			0.00	0.08	10.96	73.31	99.39	116.48	170.25	230	525	525	CONC	0.55	65.0	318.9427	1.4733	0.7353	0.722
To STREET 1, Pipe 106 - 107						0.80				1.60				0.00				0.08	11.69														
	400	401			0.00	0.00	0.25	0.70	0.49	0.49			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	51	300	300	PVC	0.50	59.0	68.3778	0.9673	1.0165	0.741
	401	402			0.00	0.00	0.20	0.70	0.39	0.88			0.00	0.00			0.00	0.00	11.02	73.11	99.11	116.16	169.77	87	300	300	PVC	3.00	46.0	167.4906	2.3695	0.3236	0.518
Contribution From STREET 11, Pipe 300 - 402						0.29				0.00				0.00				0.00	10.65														
	402	403			0.00	0.29	0.35	0.70	0.68	1.56			0.00	0.00			0.00	0.00	11.34	72.02	97.61	114.39	167.17	173	375	375	PVC	3.55	83.0	330.3473	2.9910	0.4625	0.524
To STREET 12, Pipe 403 - 408						0.29				1.56				0.00				0.00	11.80														
Contribution From POND 2 OUTLET, Pipe 700 - 701						0.00				0.00				0.00				0.00	10.30					346									
	701	702			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	10.30	75.66	102.62	120.29	175.83	346	900	900	CONC	0.20	76.5	809.5958	1.2726	1.0019	0.427
	702	703			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	11.31	72.13	97.77	114.58	167.45	346	900	900	CONC	0.20	76.5	809.5958	1.2726	1.0019	0.427
	703	704			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	12.31	68.95	93.40	109.44	159.90	346	900	900	CONC	0.20	54.5	809.5958	1.2726	0.7138	0.427
	704	705			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	13.02	66.87	90.55	106.08	154.97	346	900	900	CONC	0.20	41.5	809.5958	1.2726	0.5435	0.427
To STREET 12, Pipe 705 - 706						0.00				0.00				0.00				0.00	13.56					346									
	304	305			0.00	0.00	0.11	0.70	0.21	0.21			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	22	300	300	PVC	2.35	24.5	148.2395	2.0972	0.1947	0.150
Contribution From SERVICING BLOCK 1, Pipe 303 - 305						2.08				0.00				0.00				0.00	12.33														
	305	306			0.00	2.08	0.12	0.70	0.23	0.45			0.00	0.00			0.00	0.00	12.33	68.88	93.31	109.32	159.73	185	450	450	CONC	0.80	27.0	255.0067	1.6034	0.2807	0.726
	306	307			0.00	2.08	0.32	0.70	0.62	1.07			0.00	0.00			0.00	0.00	12.61	68.05	92.16	107.97	157.75	240	525	525	CONC	0.60	71.0	333.1248	1.5389	0.7690	0.721
					0.00	2.08	0.32	0.70	0.62	1.69			0.00	0.00			0.00	0.00															
	307	309			0.00	2.08	0.32	0.70	0.62	2.32			0.00	0.00			0.00	0.00	13.38	65.87	89.18	104.47	152.61	344	675	675	CONC	0.35	71.0	497.2987	1.3897	0.8515	0.691
Contribution From SERVICING BLOCK 2, Pipe 308 - 309						6.70				0.00				0.00				0.08	10.73														
	309	310			0.00	8.78	0.21	0.70	0.41	2.72			0.00	0.00			0.00	0.08	14.23	63.64	86.12	100.87	147.32	805	750	750	CONC	1.00	47.0	1113.2770	2.5199	0.3109	0.723
To POND 2 INLET, Pipe 310 - HW3						8.78				2.72				0.00				0.08	14.54														
	400	500			0.00	0.00	0.41	0.70	0.80	0.80			0.00	0.00			0.00	0.00	10.00	76.81	104.19	122.14	178.56	83	375	375	PVC	1.20	97.5	192.0645	1.7390	0.9345	0.433
	500	502			0.00	0.00	0.22	0.70	0.43	1.23			0.00	0.00			0.00	0.00	10.93	73.39	99.50	116.62	170.45	122	375	375	PVC	1.20	52.0	192.0645	1.7390	0.4984	0.635
Contribution From BLOCK 2, Pipe 501 - 502						7.73				0.00				0.00				0.04	10.09														
	502	504			0.00	7.73	0.27	0.70	0.53	1.75			0.00	0.00			0.00	0.04	11.43	71.71	97.19	113.89	166.44	731	675	675	CONC	1.60	65.0	1063.2692	2.9713	0.3646	0.687
Contribution From STREET 19, Pipe 503 - 504						0.00				0.32				0.00				0.00	10.28														
	504	505			0.00	7.73	0.15	0.70	0.29	2.36			0.00	0.00			0.00	0.04	11.80	70.53	95.57	111.99	163.64	777	675	675	CONC	1.60	34.5	1063.2692	2.9713	0.1935	0.731
	505	507			0.00	7.73	0.28	0.70	0.54	2.91			0.00	0.00			0.00	0.04	11.99	69.92	94.73	111.00	162.20	822	750	750	CONC	1.40	66.0	1317.2471	2.9816	0.3689	0.624
Contribution From STREET 22, Pipe 506 - 507						2.05				0.10				0.00				0.00	10.24														
	507	508			0.00	9.77	0.50	0.70	0.97	3.98			0.00	0.00			0.00	0.04	12.36	68.79	93.19	109.18	159.52	1049	825	825	CONC	1.20	119.0	1572.4410	2.9416	0.6742	0.667
	508	510			0.00	9.77	0.31	0.70	0.60	4.58			0.00	0.00			0.00	0.04	13.03	66.83	90.50	106.02	154.88	1073	825	825	CONC	1.20	72.5	1572.4410	2.9416	0.4108	0.683

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

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 7 OF 8

STORM SEWER CALCULATION SHEET (RATIONAL METHOD)

Local Roads Return Frequency = 2 years
Collector Roads Return Frequency = 5 years
Manning 0.013 Arterial Roads Return Frequency = 10 years

	LOCATION		AREA (Ha)																FLOW						SEWER DATA								
			2 YEAR				5 YEAR				10 YEAR				100 YEAR				Time of	Intensity	Intensity	Intensity	Intensity	Peak Flow	DIA. (mm)	DIA. (mm)	TYPE	SLOPE	LENGTH	CAPACITY	VELOCITY	TIME OF	RATIO
			AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	AREA	R	Indiv.	Accum.	Conc.	2 Year	5 Year	10 Year	100 Year										
Location	From Node	To Node	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(Ha)		2.78 AC	2.78 AC	(min)	(mm/h)	(mm/h)	(mm/h)	(mm/h)	Q (l/s)	(actual)	(nominal)		(%)	(m)	(l/s)	(m/s)	LOW (min	Q/Q full
Contribution From BLOCK 3, Pipe 509 - 510						2.85				0.10				0.00				0.00	10.15														
	510	512			0.00	12.62	0.10	0.70	0.19	4.87			0.00	0.00			0.00	0.04	13.44	65.70	88.94	104.19	152.19	1268	900	900	CONC	0.90	23.5	1717.4120	2.6996	0.1451	0.738
To STREET 23, Pipe 512 - 514						12.62				4.87				0.00				0.04	13.59														
					0.00	0.00			0.00	0.00			0.00	0.00	0.03	0.20	0.02	0.02														
	204	222			0.00	0.00	0.13	0.70	0.25	0.25			0.00	0.00			0.00	0.02	10.00	76.81	104.19	122.14	178.56	29	300	300	PVC	0.55	29.5	71.7152	1.0146	0.4846	0.409
					0.00	0.00			0.00	0.25			0.00	0.00	0.05	0.20	0.03	0.04														
	222	223			0.00	0.00	0.30	0.70	0.58	0.84			0.00	0.00			0.00	0.04	10.48	74.99	101.70	119.21	174.25	93	375	375	PVC	1.10	65.0	183.8878	1.6649	0.6507	0.505
	223	224			0.00	0.00	0.28	0.70	0.54	1.38			0.00	0.00			0.00	0.04	11.14	72.70	98.56	115.50	168.81	144	375	375	PVC	1.90	61.0	241.6759	2.1882	0.4646	0.595
	224	225			0.00	0.00	0.38	0.70	0.74	2.12			0.00	0.00			0.00	0.04	11.60	71.16	96.44	113.01	165.15	212	525	525	CONC	0.50	82.5	304.0999	1.4048	0.9788	0.697
Contribution From STREET 3, Pipe 221 - 225						11.19				1.21				0.00				0.09	18.61														
	225	226			0.00	11.19	0.19	0.70	0.37	3.70			0.00	0.00			0.00	0.13	18.61	54.38	73.46	85.98	125.47	897	1050	1050	CONC	0.20	41.0	1221.2174	1.4103	0.4845	0.734
	226	227			0.00	11.19	0.19	0.70	0.37	4.07			0.00	0.00			0.00	0.13	19.10	53.53	72.30	84.62	123.48	910	1050	1050	CONC	0.20	41.0	1221.2174	1.4103	0.4845	0.745
	227	229			0.00	11.19	0.32	0.70	0.62	4.69			0.00	0.00			0.00	0.13	19.58	52.72	71.19	83.31	121.56	940	1050	1050	CONC	0.25	71.0	1365.3626	1.5768	0.7505	0.688
Contribution From BLOCK 1, Pipe 228 - 229						8.23				0.10				0.00				0.19	10.07														
	229	230			0.00	19.42	0.35	0.70	0.68	5.47			0.00	0.00			0.00	0.32	20.33	51.51	69.53	81.37	118.72	1419	1200	1200	CONC	0.25	77.5	1949.3651	1.7236	0.7494	0.728
	230	231			0.00	19.42	0.13	0.70	0.25	5.72			0.00	0.00			0.00	0.32	21.08	50.36	67.97	79.53	116.02	1404	1200	1200	CONC	0.25	28.5	1949.3651	1.7236	0.2756	0.720
To POND 2 INLET, Pipe 231 - HW2						19.42				5.72				0.00				0.32	21.36														
Contribution From STREET 23, Pipe 724 - 725						0.00				0.00				0.00				0.00	26.80					595									
	725	726			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	26.80	43.16	58.17	68.02	99.15	595	1200	1200	CONC	0.15	99.0	1509.9717	1.3351	1.2359	0.394
	726	727			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	28.04	41.89	56.44	66.00	96.19	595	1200	1200	CONC	0.15	73.5	1509.9717	1.3351	0.9175	0.394
	727	728			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	28.95	41.01	55.24	64.58	94.12	595	1200	1200	CONC	0.15	121.5	1509.9717	1.3351	1.5167	0.394
	728	729			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	30.47	39.63	53.36	62.38	90.90	595	1200	1200	CONC	0.15	118.5	1509.9717	1.3351	1.4793	0.394
	729	730			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	31.95	38.38	51.66	60.39	87.98	595	1200	1200	CONC	0.15	51.5	1509.9717	1.3351	0.6429	0.394
Contribution From BLOCK 6, Pipe 7301 - 730						0.00				0.00				0.00				0.00	10.15					79									
	730	731			0.00	0.00			0.00	0.00			0.00	0.00			0.00	0.00	32.59	37.86	50.96	59.57	86.78	674	1200	1200	CONC	0.15	57.0	1509.9717	1.3351	0.7116	0.446
To O'KEEFE COURT, Pipe 731 - 732						0.00				0.00				0.00				0.00	33.30					674									
STREET 7-9-24 OUTLET																																	
Contribution From STREET 9, Pipe 602 - 603						0.00				1.53				0.00				3.80	12.51														
Contribution From STREET 9, Pipe 604 - 603						0.00				0.42				0.00				0.00	11.48														
	603	606			0.00	0.00			0.00	1.96			0.00	0.00			0.00	3.80	12.51	68.35	92.58	108.46	158.47	784	975	975	CONC	0.25	17.0	1120.5266	1.5008	0.1888	0.700

Definitions:
Q = 2.78 AIR, where
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R = Runoff Coefficient

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

Designed: CM	PROJECT: MATTAMY - CEDARVIEW		
Checked: SM	LOCATION: City of Ottawa		
Dwg. Reference: 3	File Ref: 17-746	Date: 25 Jul 2025	Sheet No. SHEET 8 OF 8

Final Report

O'Keefe Drain Environmental and Stormwater Management Plan

Prepared for

City of Ottawa

May 2013

Prepared by

CH2MHILL

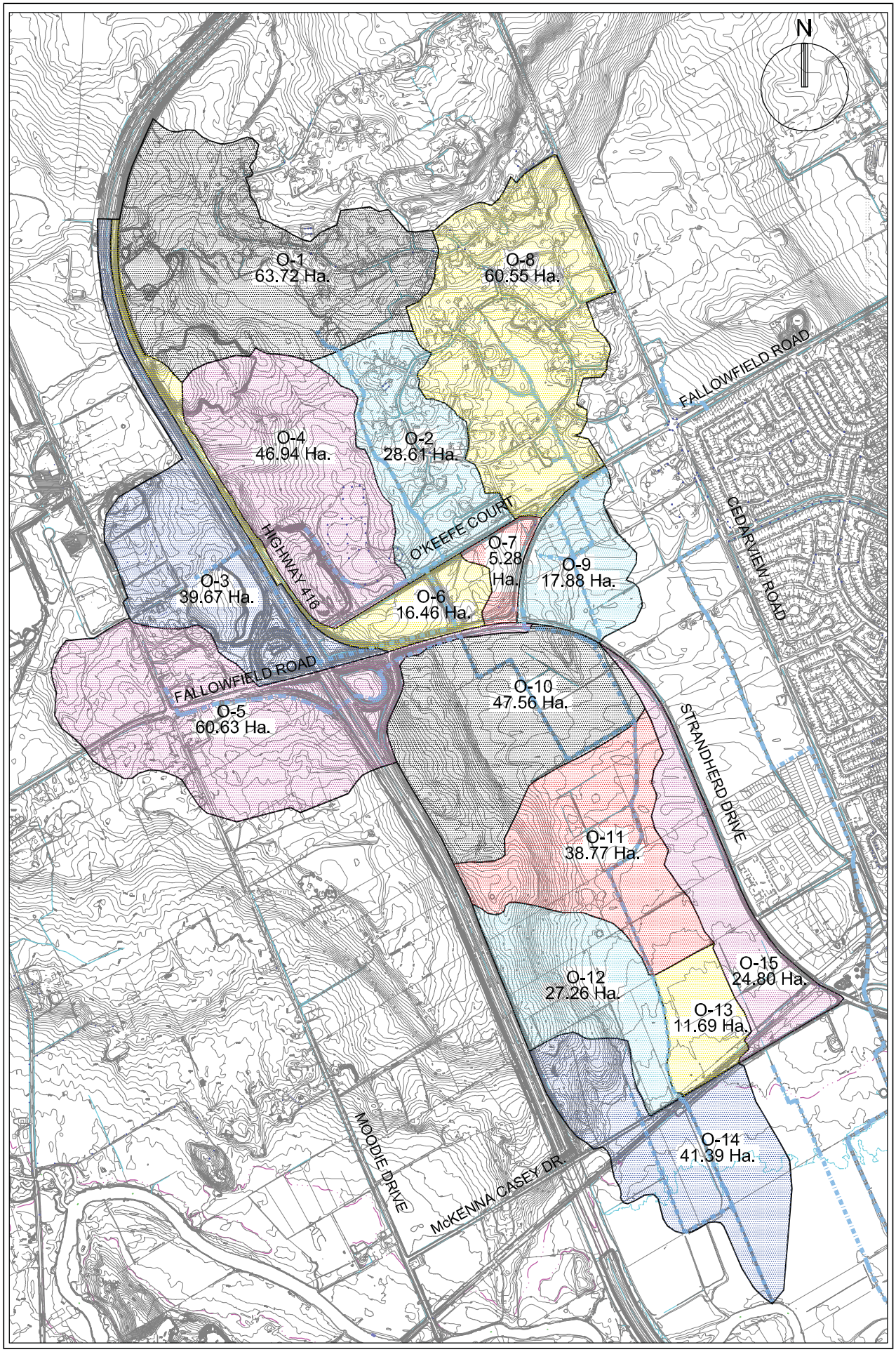


FIGURE 4.6
O'Keefe Drain
Catchment Area Plan
O'Keefe Drain - Environmental Management Plan
City of Ottawa

TABLE 4.9
SWMHYMO Hydrologic Model - Peak Flows at Key Locations in O'Keefe Catchment Area for Critical Design Rainfall Event

Design Rainfall Event	Rainfall Depth (mm)	Peak Flow (m^3/s) at key locations									
		0007	0011	0013	0014	0017	0019	0023	0026	0031	0034
SCS 12-hour 2-year	42.31	0.622	0.921	1.455	0.504	0.617	0.638	2.340	2.605	2.743	3.003
SCS 12-hour 5-year	56.21	1.185	1.734	2.691	0.871	1.091	1.130	4.303	4.819	5.103	5.618
SCS 12-hour 10-year	65.21	1.619	2.339	3.576	1.144	1.444	1.500	5.789	6.505	6.904	7.577
SCS 12-hour 25-year	76.41	2.232	3.213	4.905	1.517	1.927	2.004	7.903	8.860	9.391	10.246
SCS 12-hour 50-year	84.92	2.750	3.940	5.965	1.820	2.318	2.413	9.598	10.723	11.345	12.322
SCS 12-hour 100-year	93.91	3.332	4.775	7.155	2.158	2.755	2.870	11.520	12.826	13.556	14.650

TABLE 4.10
Hydraulic Capacity of Existing McKenna Casey/CNR Culvert

Headwater Elev. (m)	Headwater Description	West Culvert Capacity (m^3/s) at Varying Tailwater Elevations (Jock River)			East Culvert Capacity (m^3/s) at Varying Tailwater Elevations (Jock River)			Total Capacity (m^3/s) at Varying Tailwater Elevations(Jock River)		
		Jock 2-Yr (90.87 m)	Jock 5-Yr (91.30 m)	Jock 100-Yr (92.02 m)	Jock 2-Yr (90.87 m)	Jock 5-Yr (91.30 m)	Jock 100-Yr (92.02 m)	Jock 2-Yr (90.87 m)	Jock 5-Yr (91.30 m)	Jock 100-Yr (92.02 m)
90.93	West Culvert U/S Inv.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
91.05	East Culvert U/S Inv.	0.02	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00
92.00	West Bank Floodplain	1.41	1.41	0.00	1.22	1.22	0.00	2.63	2.63	0.00
92.40	East Culvert U/S Obv.	2.38	2.34	2.15	2.21	2.21	2.06	4.59	4.55	4.21
93.24	Top of Railroad	3.88	3.88	3.86	3.92	3.92	3.89	7.80	7.80	7.75

Note: Jock River 100-year water surface elevation is above top-of-bank for channel upstream of McKenna Casey Drive

Project Name:	Mattamy Cedarview
Project Number:	746
Designed By:	JC
Checked By:	VM
Date	23-Jul-25

David Schaeffer Engineering Limited
600 Alden Road, Suite 606
Markham, ON L3R 0E7

PRELIMINARY POND SIZING RESULTS SUMMARY - 100yr 12hr CHI

	O'Keefe Lands			North Lands
	Pond 1	Pond 2	Employment Lands	
Drainage Area (ha)	28.3	20.39	6.47	3.544
% of Total Catchment Area [(1)]	0.513	0.370	0.117	N/A
Target Release Rate (m^3/s) [(2), (3)]	0.346	0.249	0.079	0.25 [(4)]
Required Volume (m^3)	15904	10898	4029	1348
Provided Volume (m^3)	22213	19572	4029	1348
Required Permanent Pool Volume (m^3) [(5)]	5377	3629	1359	662
Provided Permanent Pool Volume (m^3) [(5)]	11,912	12785	N/A	N/A
Required Active Storage Volume (m^3) [(5)]	1132	816	259	142
Provided Active Storage Volume (m^3)	4475	4055	N/A	N/A

(1)Target release rates based on weighted drainage area to each SWMF

(2)Total allowable release rate for 100yr event = 1.39m3/s per O'Keefe Drain Environmental and Stormwater Management Plan, CH2M Hill, May 2013

(3)Target release rate = total allowable release rate - peak flow from unconrolled lands per PCSWMM model ((1.39-0.7164)*weighted area)

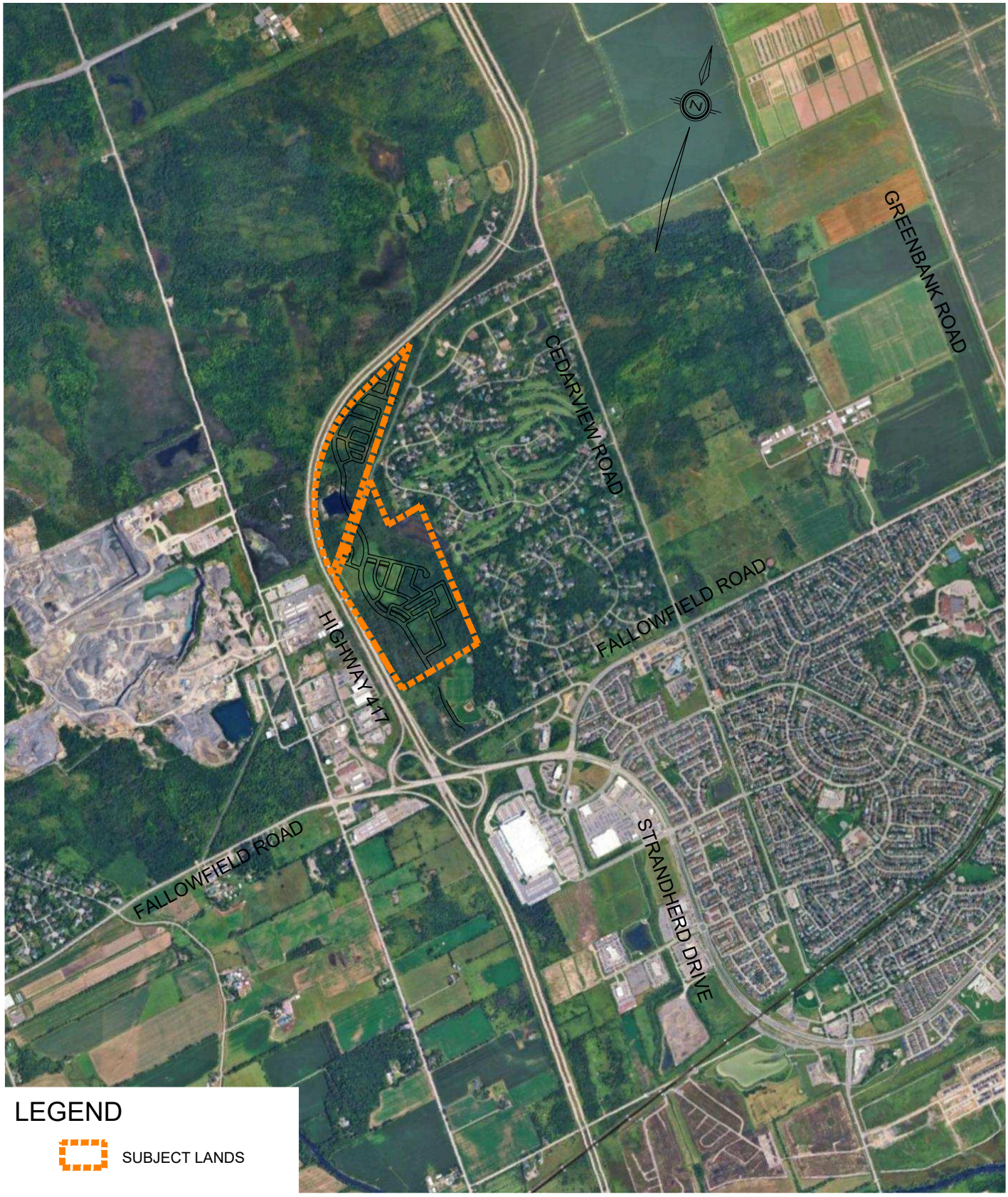
(4)North lands match pre development target release rate from predev model.

(5)Values taken from Pond Design Sheet.

Drawings / Figures

- Figure 1: Key Plan (DSEL, July 2025)
- Figure 2: Land Use Plan (DSEL, July 2025)
- Figure 3: Watermain Plan (DSEL, July 2025)
- Figure 4: SWM Pond 1 (DSEL, July 2025)
- Figure 5: SWM Pond 2 (DSEL, July 2025)

- Drawing 1: Conceptual Sanitary Servicing Plan (DSEL, July 2025)
- Drawing 2: Pre-Development Storm Drainage Plan (DSEL, July 2025)
- Drawing 3: Conceptual Storm Servicing Plan (DSEL, July 2025)
- Drawing 4: Overall Pond Drainage Plan (DSEL, July 2025)
- Drawing 5: Conceptual Grading Plan (DSEL, July 2025)
- Drawing 6: Plan and Profiles (DSEL, July 2025)
- Drawing 7: Plan and Profiles (DSEL, July 2025)



LEGEND

SUBJECT LANDS

DSEL
120 Iber Road, Unit 103
Stittsville, Ontario, K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
www.DSEL.ca

MATTAMY - CEDARVIEW

CITY OF OTTAWA

KEY PLAN

SCALE:	1:30000	PROJECT No.:	14-746
DATE:	JULY 2025	FIGURE:	1

LYTLE AVENUE

KING'S HIGHWAY NO. 416

EXISTING RESIDENTIAL

ONASSA CIRCLE

PARK

CEDARHILL DRIVE

HYDRO CORRIDOR

STREET 1
STREET 2
STREET 3
STREET 4
STREET 5
STREET 6
STREET 7
STREET 8
STREET 9
STREET 10
STREET 11
STREET 12
STREET 13
STREET 14
STREET 15
STREET 16
STREET 17
STREET 18
STREET 19
STREET 20
STREET 21
STREET 22
STREET 23
STREET 24
LANE 1
LANE 2
LANE 3
LANE 4
BLOCK A

CEDARHILL GOLF CLUB

CEDARHILL DRIVE

SPRING CRESS DRIVE

KING'S HIGHWAY NO. 416

FUTURE LANDS

PARK LAND

SPRING CRESS DRIVE

O'KEEFE COURT

FALLOWFIELD

LEGEND

- SUBJECT LANDS
- SINGLE DETACHED
- SINGLE DETACHED - LARGE
- TOWNHOME
- REAR LANE TOWNHOME
- BACK-TO-BACK TOWNHOME
- MIXED-USE
- MEDIUM DENSITY
- CONDO BLOCK
- PARKS & OPEN SPACE
- WETLANDAND & CONSERVATION AREA
- HYDRO CORRIDOR
- MTO BUFFER
- POND BLOCK

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120 Iber Road, Unit 103
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Tel. (613) 836-0856
Fax. (613) 836-7183
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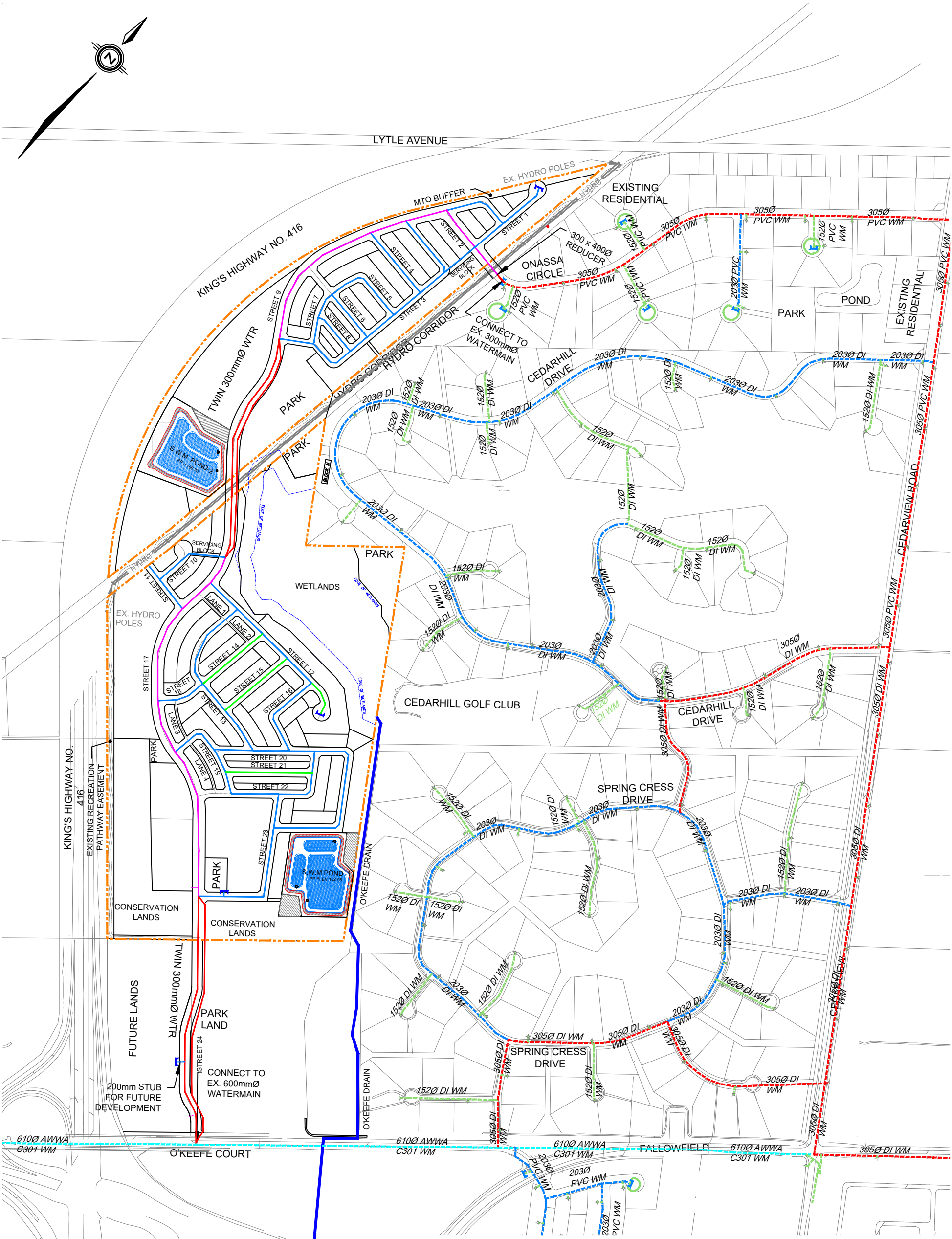
MATTAMY - CEDARVIEW

CITY OF OTTAWA

LAND USE PLAN

SCALE:	1:7000	PROJECT No.:	14-746
DATE:	JULY 2025	FIGURE:	2



LEGEND

- SITE BOUNDARY
- EXISTING PLUG
- PROPOSED PLUG
- PROPOSED 150Ø WATERMAIN
- PROPOSED 200Ø WATERMAIN
- PROPOSED 300Ø WATERMAIN
- PROPOSED 400Ø WATERMAIN
- EXISTING 150Ø WATERMAIN
- EXISTING 200Ø WATERMAIN
- EXISTING 300Ø WATERMAIN
- EXISTING 600Ø WATERMAIN

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120 Iber Road, Unit 103
Stittsville, Ontario, K2S 1E9
Tel. (613) 836-0856
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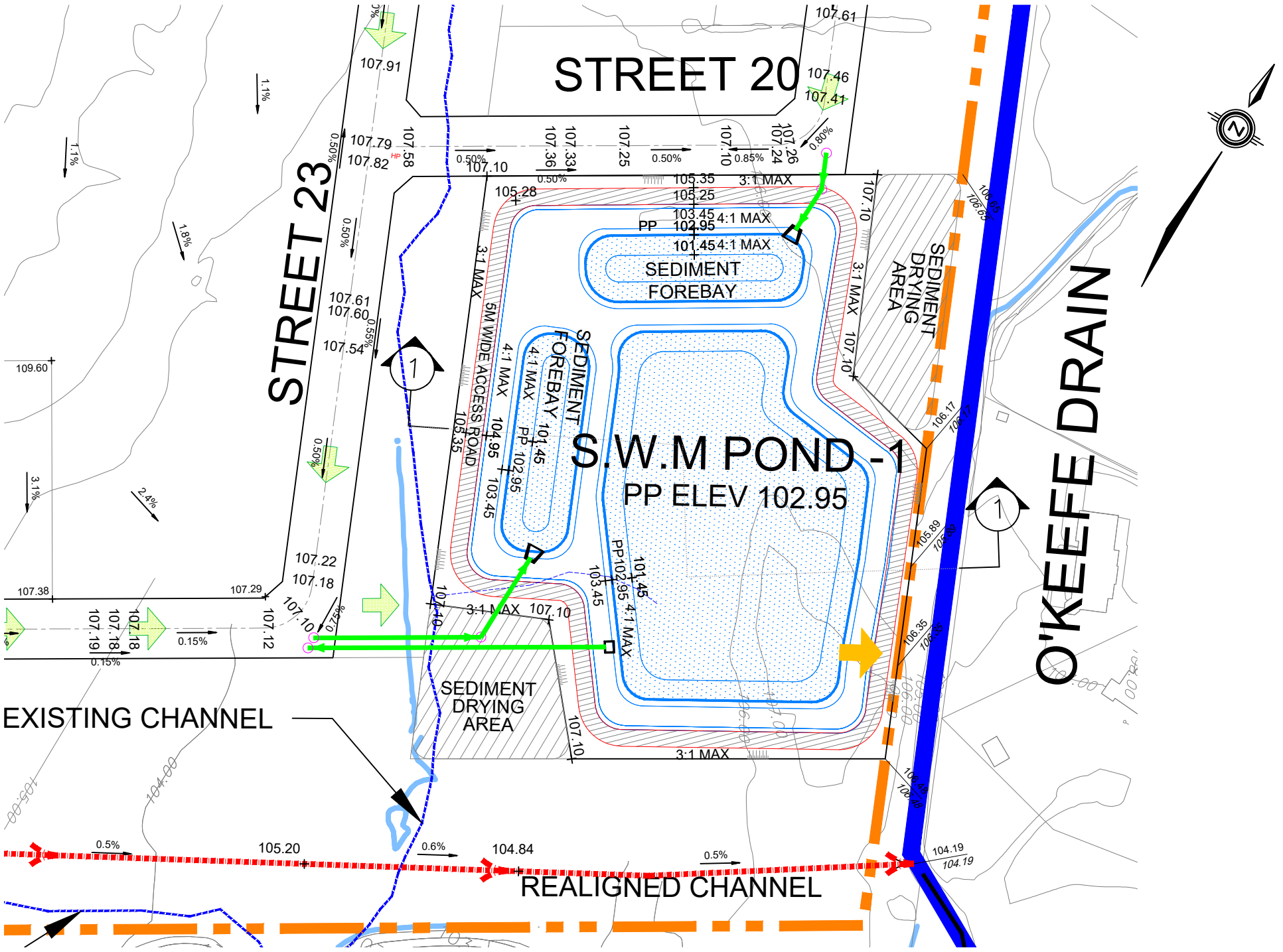
MATTAMY - CEDARVIEW

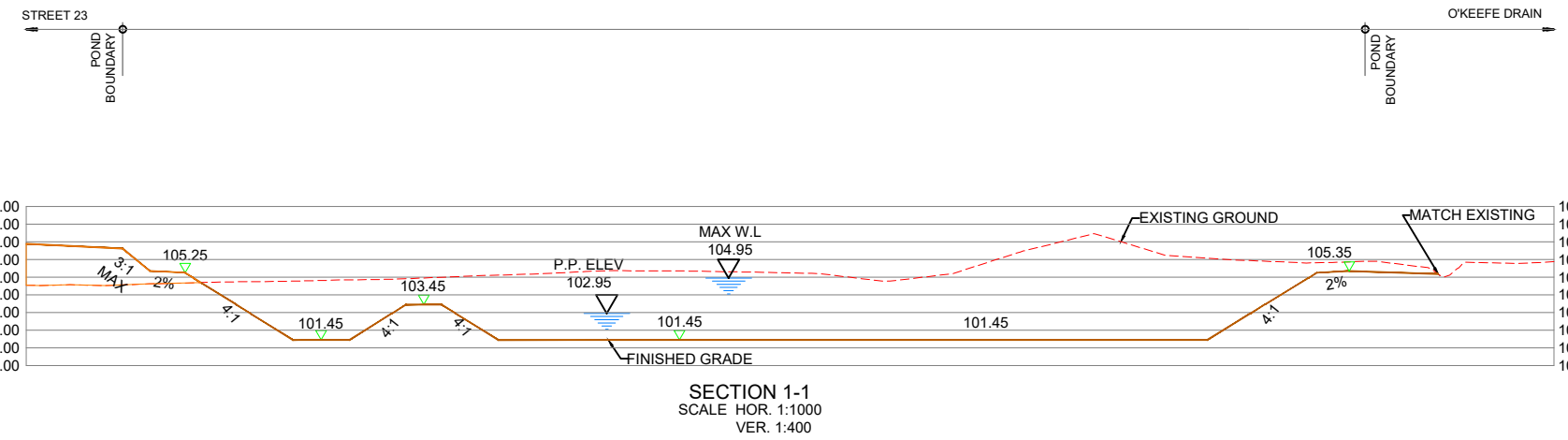
CITY OF OTTAWA

WATERMAIN PLAN

SCALE:	1:7500	PROJECT No.:	14-746
DATE:	JULY 2025	FIGURE:	3



POND CHARACTERISTICS				
	LOWER ELEVATION (m)	UPPER ELEVATION (m)	VOLUME REQUIRED (m^3)	VOLUME PROVIDED (m^3)
PERMANENT POOL	101.45	102.95	5,377	11,912
EXT. DET	102.95	103.45	1,132	4,475
MAX WL	102.95	104.95	15,904	22,213



SECTION 1-1
SCALE HOR. 1:1000
VER. 1:400

LEGEND

- SUBJECT LANDS
- EXISTING CHANNEL
- ACCESS ROAD
- PERMANENT POOL
- OVERLAND FLOW DIRECTION
- 165.12 PROPOSED GRADE
- [165.12] PROPOSED GRADE (B.O.)
- *165.12* EXISTING GRADE
- 168.00 EXISTING CONTOUR ELEVATION
- POND OUTLET
- POND INLET
- EMERGENCY OVERFLOW DIRECTION
- 107.98 / 107.98 MATCH EXISTING GRADE

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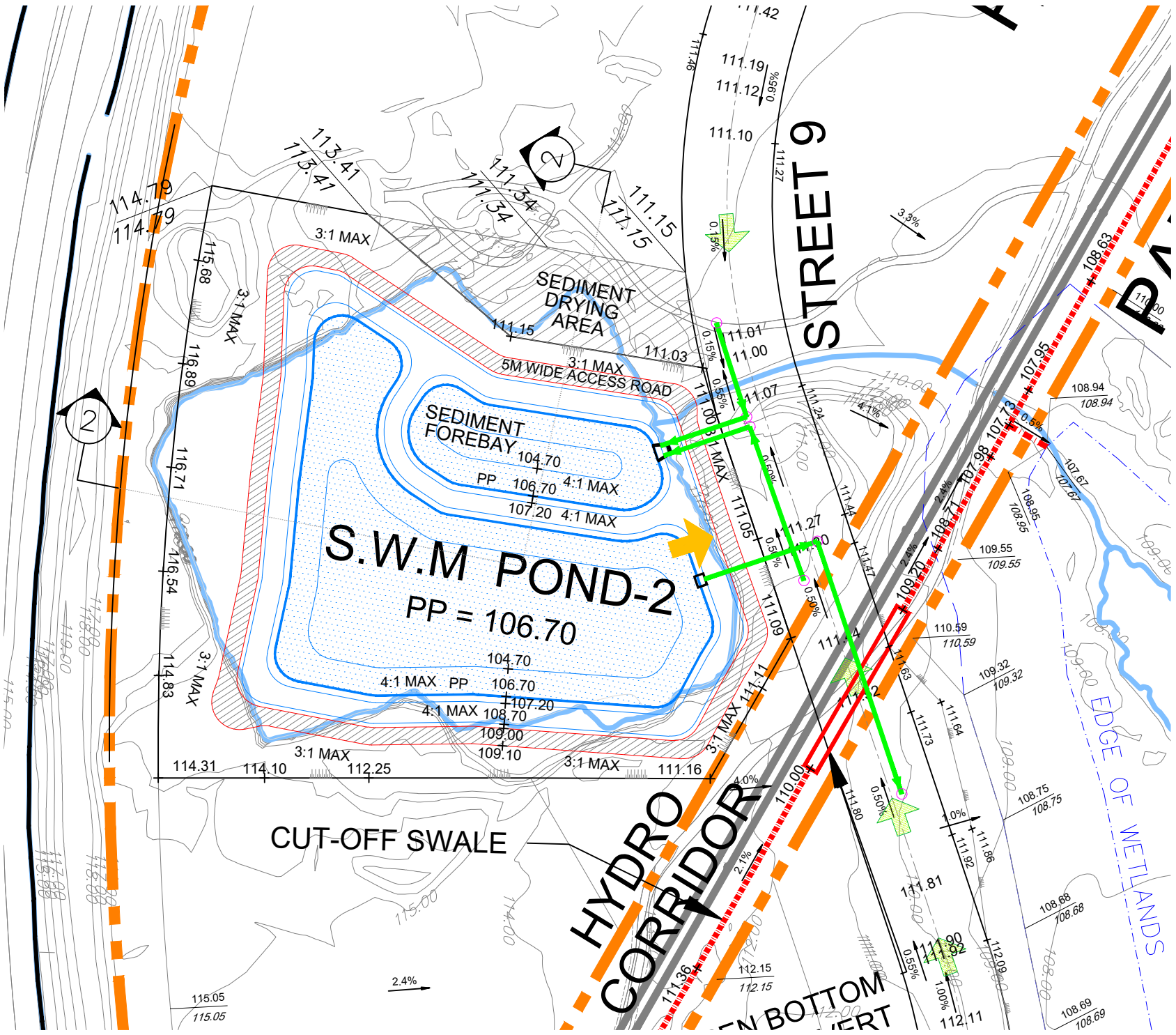
MATTAMY - CEDARVIEW

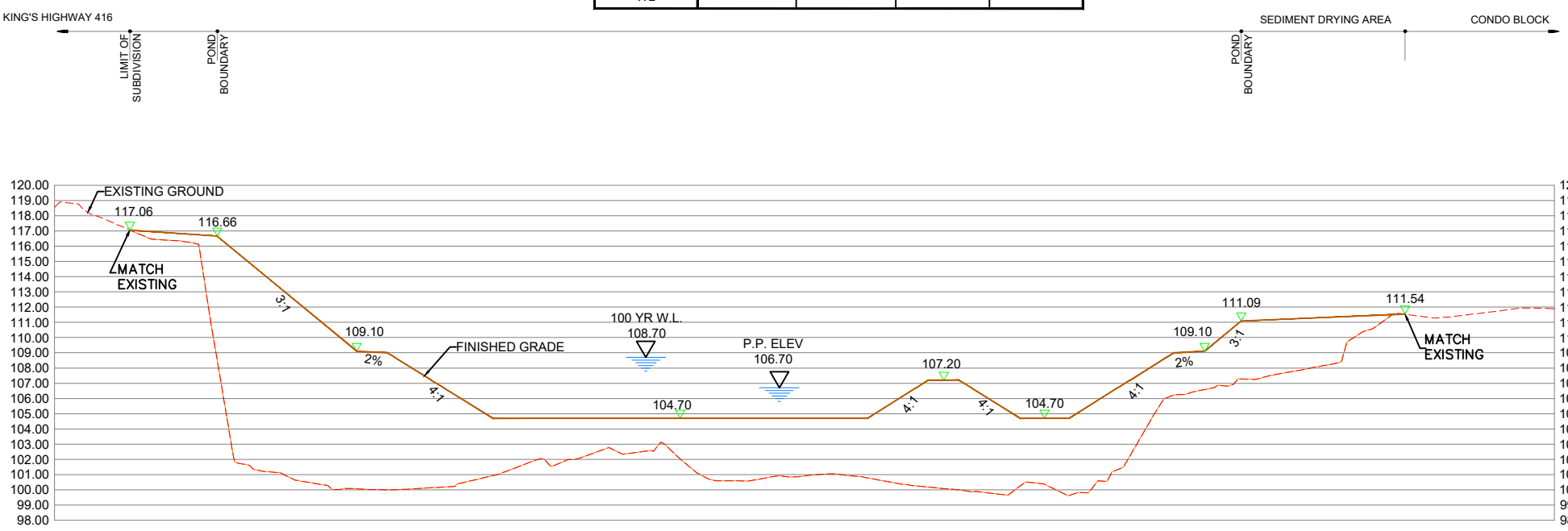
CITY OF OTTAWA

SWM POND 1

SCALE:	1:1500	PROJECT No.:	14-746
DATE:	JULY 2025	FIGURE:	4



POND CHARACTERISTICS				
	LOWER ELEVATION (m)	UPPER ELEVATION (m)	VOLUME REQUIRED (m^3)	VOLUME PROVIDED (m^3)
PERMANENT POOL	104.70	106.70	3,629	12,785
EXT. DET	106.70	107.20	816	4,055
MAX WL	106.70	108.70	10,898	19,572



SECTION 2-2
SCALE HOR. 1:1000
VER. 1:200

LEGEND

- SUBJECT LANDS
- EXISTING CHANNEL
- ACCESS ROAD
- PERMANENT POOL
- OVERLAND FLOW DIRECTION
- 165.12 PROPOSED GRADE
- [165.12] PROPOSED GRADE (B.O.)
- *165.12* EXISTING GRADE
- 168.00 EXISTING CONTOUR ELEVATION
- POND OUTLET
- POND INLET
- EMERGENCY OVERFLOW DIRECTION
- 107.98 / *107.98* MATCH EXISTING GRADE

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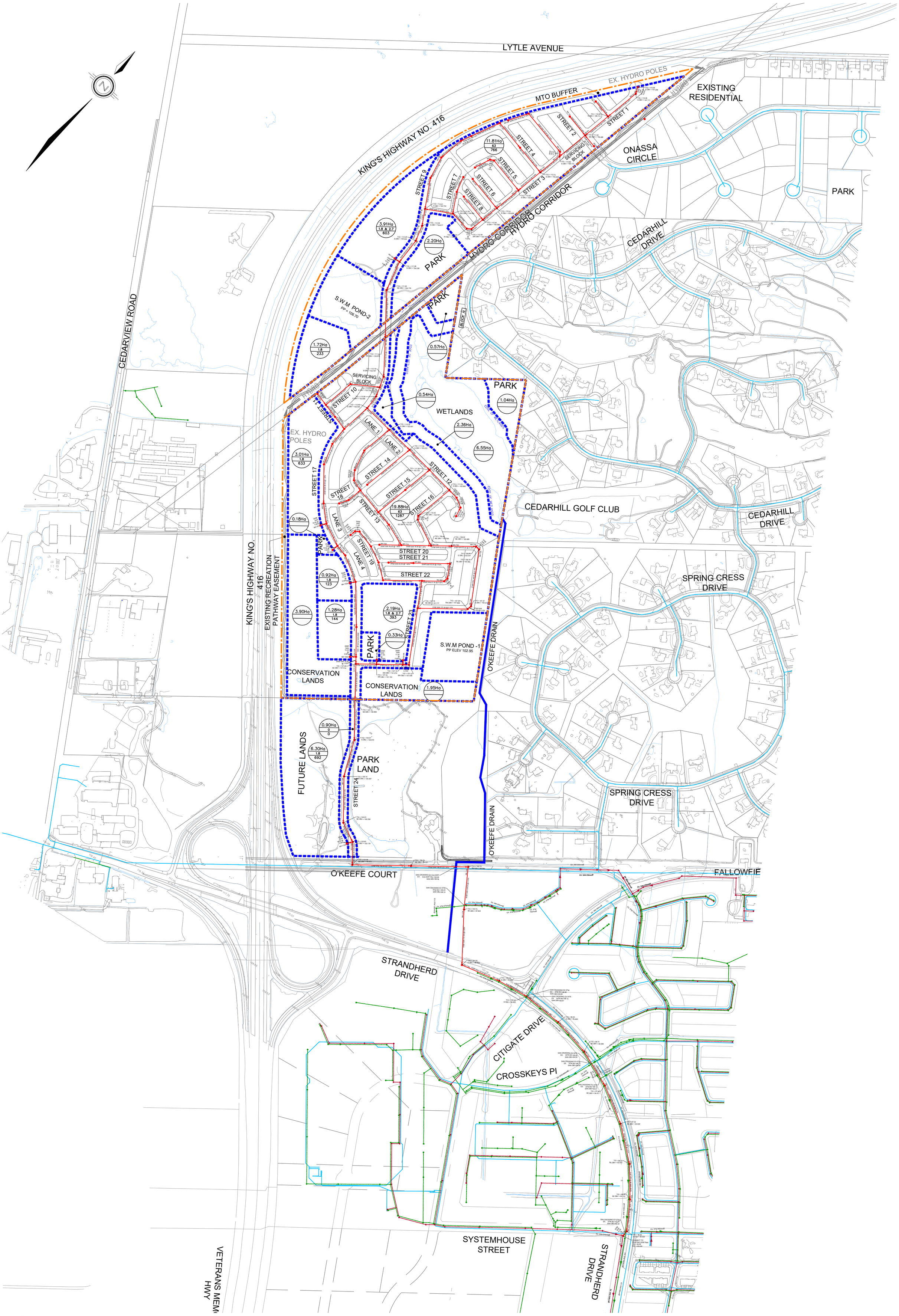
CITY OF OTTAWA

SWM POND 2

SCALE:	1:1500	PROJECT No.:	14-746
DATE:	JULY 2025	FIGURE:	5



LEGEND

- SITE BOUNDARY
- PROPOSED SANITARY SEWER
- PROPOSED SANITARY MANHOLE
- EXISTING SANITARY SEWER BY OTHERS
- EXISTING SANITARY MANHOLE BY OTHERS
- SANITARY DRAINAGE BOUNDARY
- EXISTING STORM SEWER BY OTHERS
- PROPOSED STORM MANHOLE BY OTHERS

0.63Ha / 110 / 70 — SANITARY DRAINAGE AREA IN HECTARES; POPULATION PER HECTARE; POPULATION

- EXISTING WATERMAIN BY OTHERS

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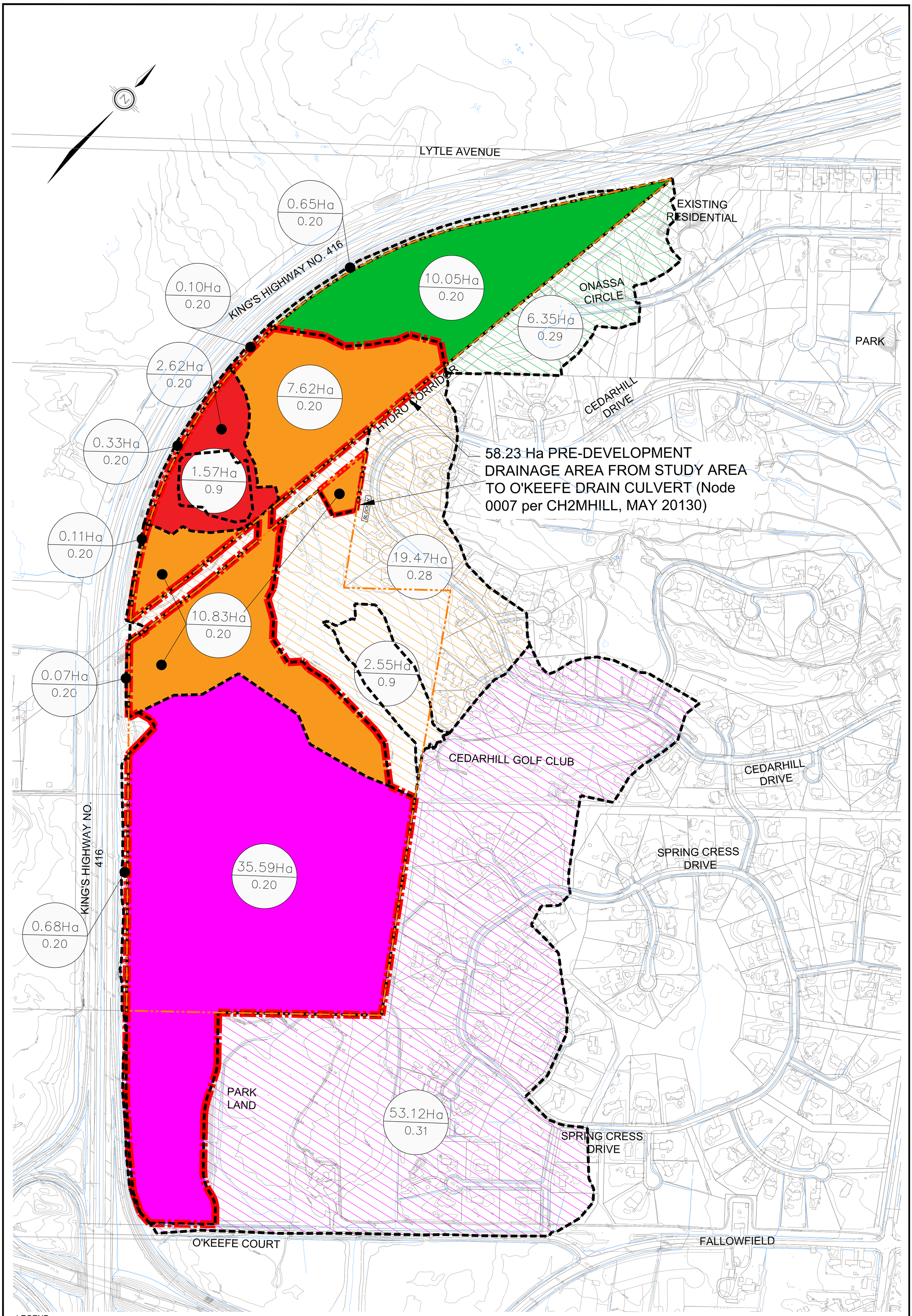
CITY OF OTTAWA

CONCEPTUAL SANITARY SERVICING PLAN

SCALE:	1:4000	PROJECT No.:	14-746
DATE:	JULY 2025	DRAWING:	1



LEGEND

- SITE BOUNDARY
- EXISTING DITCH
- PRE-DEVELOPMENT DRAINAGE BOUNDARY
- SOLID HATCHED AREA DENOTES INTERNAL PRE-DEVELOPMENT TO APPLICABLE OUTLET
- DASHED HATCHED AREA DENOTES EXTERNAL PRE-DEVELOPMENT TO APPLICABLE OUTLET
- TO NORTH-EAST OUTLET
- TO QUARRY
- TO WETLAND
- TO O'KEEFE COURT
- 33.36Ha / 0.23 — PRE-DEVELOPMENT DRAINAGE AREA
- PRE-DEVELOPMENT AREA TO O'KEEFE DI

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MATTAMY - CEDARVIEW

CITY OF OTTAWA

PRE-DEVELOPMENT STORM DRAINAGE PLAN

SCALE:	1:3000	PROJECT No.:	14-746
DATE:	JULY 2025	DRAWING:	2

LYTLE AVENUE

NORTH LANDS
TARGET RELEASE RATE=
0.25m³/s
REQUIRED VOLUME=
1348m³
PER 100-YEAR 12 HOUR
CHICAGO STORM

KING'S HIGHWAY NO. 416

MTO BUFFER

EX. HYDRO POLES

CUTOFF SWALE

EXISTING RESIDENTIAL

OBV. 106.99

400mmØ CSP

OBV. 107.07

ONASSA CIRCLE

PARK

HYDRO CORRIDOR

CEDARHILL DRIVE

WETLANDS

EDGE OF WETLANDS

CEDARHILL GOLF CLUB

SPRING CRESS DRIVE

FALLOWFIELD

O'KEEFE COURT

O'KEEFE DRAIN

EXISTING RECREATION PATHWAY EASEMENT

CONSERVATION LANDS

FUTURE LANDS

PARK LAND

EMPLOYMENT LANDS
TARGET RELEASE RATE=
0.079m³/s
REQUIRED VOLUME=
4029m³
PER 100-YEAR 12 HOUR
CHICAGO STORM

S.W.M POND 2
PP = 106.70

S.W.M POND 1
PP ELEV 102.95

SERVICING BLOCK

OPEN BOTTOM BOX CULVERT
NW.OBV = 109.076

OPEN BOTTOM BOX CULVERT
INV=106.35

EXISTING CHANNEL

REALIGNED CHANNEL

EX. DITCH

450mmØ CSP
INV. 101.06

1000mmØ CSP
INV. 99.90

INV. 101.23

INV. 100.13

EX. 1.0mØ CSP CULVERT
INV OUT =99.85

STREET 1 · STREET 2 · STREET 3 · STREET 4 · STREET 5 · STREET 6 · STREET 7 · STREET 8 · STREET 9 · STREET 10 · STREET 11 · STREET 12 · STREET 13 · STREET 14 · STREET 15 · STREET 16 · STREET 17 · STREET 18 · STREET 19 · STREET 20 · STREET 21 · STREET 22 · STREET 23 · STREET 24

LANE 1 · LANE 2 · LANE 3 · LANE 4

BLOCK M

0.28Ha 0.2
0.24Ha 0.2
3.20Ha 0.70
10.84Ha 0.70
0.34Ha 0.2 228 229
0.18Ha 0.2
3.70Ha 0.80 228 229
2.20Ha 0.40
6.35Ha 0.29
0.76Ha 0.7
0.73Ha 0.40
2.91Ha 0.50
0.57Ha 0.40
16.74Ha 0.28
0.14Ha 0.2 308 309
2.03Ha 0.80 308 309
0.96Ha 0.40
0.54Ha 0.40
1.04Ha 0.40
3.43Ha 0.80 501 502
0.07Ha 0.2 501 502
17.33Ha 0.70
0.53Ha 0.7
0.18Ha 0.40 503 504
0.92Ha 0.80 506 507
4.64Ha 0.2
2.19Ha 0.80 515 516
1.28Ha 0.80 509 510
0.33Ha 0.40 513 514
0.68Ha 0.2
2.51Ha 0.50
1.95Ha 0.2
6.30Ha 0.8 604 605
4.24 0.2 601 602
0.90Ha 0.8
2.60 0.2 602 603

LEGEND

- SITE BOUNDARY
- STORM DRAINAGE BOUNDARY
- PROPOSED STORM SEWER
- POND OUTFLOW SEWER
- PROPOSED STORM MANHOLE
- APPROX AREA OF RESIDENTIAL UNITS REQUIRING SUMP PUMPS

SWM 8 / 0.04 / 0.69 — DRAINAGE DESTINATION, TOTAL AREA, RUN-OFF COEFFICIENT

2 Yr — STORM FREQUENCY

TRIB AREA TO PROVIDE ON-SITE CONTROLS UP TO THE 100 YR STORM EVENT

DSEL
120 Iber Road, Unit 103
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Fax. (613) 836-7183
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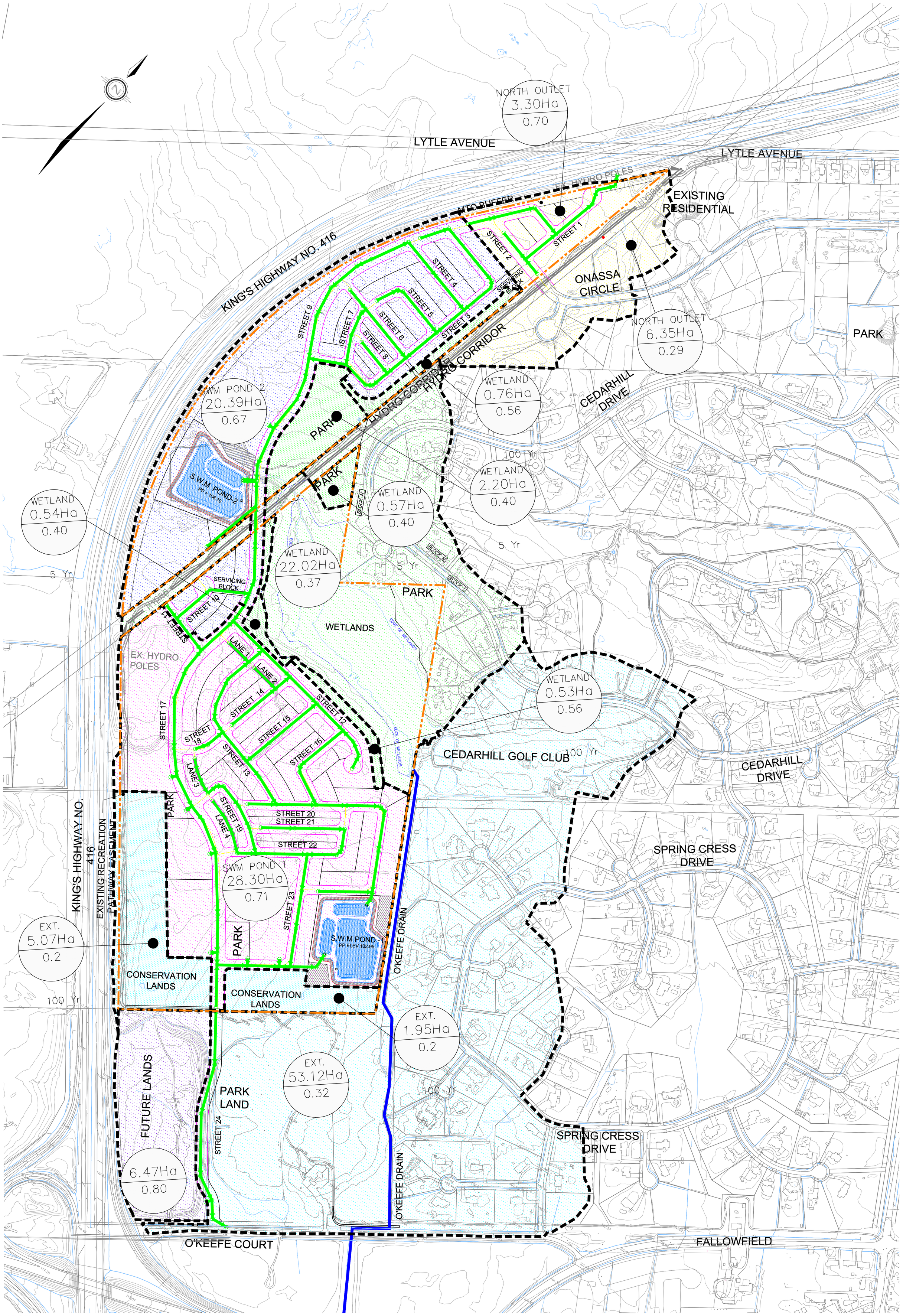
MATTAMY - CEDARVIEW

CITY OF OTTAWA

CONCEPTUAL STORM SERVICING PLAN

SCALE:	1:3000	PROJECT No.:	14-746
DATE:	JULY 2025	DRAWING:	3



LEGEND

- SUBJECT LANDS
- EXISTING DITCH
- STORM TRIBUTARY AREA
- STORM SEWER TRUNK
- STORM MANHOLE
- TOTAL POST-DEVELOPMENT DRAINAGE AREA TO SWM PONDS

70.15Ha / 0.69 — DRAINAGE DESTINATION / TOTAL AREA / RUN-OFF COEFFICIENT

100 Yr — FREQUENCY

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MATTAMY - CEDARVIEW

CITY OF OTTAWA

OVERALL POND DRAINAGE PLAN

SCALE:	1:3000	PROJECT No.:	14-746
DATE:	JULY 2025	DRAWING:	4

KING'S HIGHWAY NO. 416

MTO BUFFER

EX. HYDRO POLES

HYDRO

EXISTING RESIDENTIAL

OBV. 106.99

400mmØ CSP

OBV. 107.07

ONASSA CIRCLE

STREET 1

STREET 2

STREET 3

STREET 4

STREET 5

STREET 6

STREET 7

STREET 8

STREET 9

SERVICING BLOCK

HYDRO CORRIDOR

HYDRO CORRIDOR

CEDARHILL DRIVE

PARK

PARK

PARK

BLOCK 'N'

S.W.M POND-2

PP = 106.70

SEDIMENT FOREBAY

SEDIMENT DRYING AREA

CUT-OFF SWALE

EDGE OF WETLANDS

OPEN BOTTOM BOX CULVERT

SERVICING BLOCK

STREET 10

STREET 11

WETLANDS

EDGE OF WETLANDS

LANE 1

LANE 2

LANE 3

LANE 4

EX. HYDRO POLES

STREET 17

STREET 18

STREET 14

STREET 15

STREET 12

STREET 13

STREET 16

CEDARHILL GOLF CLUB

CEDARHILL DRIVE

PARK

STREET 20

STREET 21

STREET 22

STREET 19

SPRING CRESS DRIVE

KING'S HIGHWAY NO. 416

EXISTING RECREATION PATHWAY EASEMENT

PARK

STREET 23

S.W.M POND - 1

PP ELEV 102.95

SEDIMENT FOREBAY

SEDIMENT DRYING AREA

O'KEEFE DRAIN

CONSERVATION LANDS

EXISTING CHANNEL

CONSERVATION LANDS

OPEN BOTTOM BOX CULVERT INV=106.35

REALIGNED CHANNEL

EXISTING CHANNEL

FUTURE LANDS

PARK LAND

STREET 24

O'KEEFE DRAIN

SPRING CRESS DRIVE

INV. 101.23

INV. 100.13

450mmØ CSP

1000mmØ CSP

INV. 101.06

INV. 99.90

O'KEEFE COURT

FALLOWFIELD

LEGEND

- SITE BOUNDARY
- STORM OVERLAND FLOW ARROW
- EXTERNAL STORM OVERLAND FLOW ARROW
- EMERGENCY OVERLAND FLOW ARROW
- 187.60 PROPOSED CENTERLINE ELEVATION
- [187.60] PROPOSED CENTERLINE ELEVATION BY OTHERS
- PROPOSED ELEVATION
- EXISTING ELEVATION
- CL DELTA - SPLIT DRAINER LOTS
- CL DELTA - LOOK OUT LOTS
- CL DELTA - WALKOUTS LOTS
- CL DELTA - EXTENDED WALKOUTS
- RETAINING WALL
- TEMPORARY CUT-OFF SWALE
- MATCH EXISTING
- EXISTING CONTOUR ELEVATION

CUT-FILL DEPTH ALONG CENTER LINE:

CUT DEPTH (m)	FILL DEPTH (m)
0.00~0.50:	0.00~0.50:
0.50~1.00:	0.50~1.00:
1.00~1.50:	1.00~1.50:
1.50~2.00:	1.50~2.00:
2.00~2.50:	2.00~2.50:
2.50~3.00:	2.50~3.00:
>3.00	>3.00

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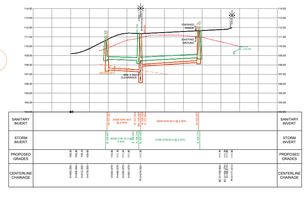
MATTAMY - CEDARVIEW

CITY OF OTTAWA

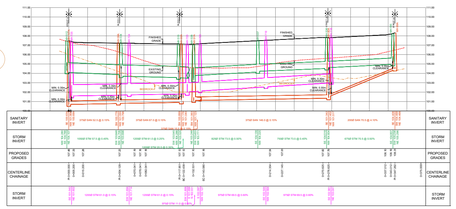
CONCEPTUAL GRADING PLAN

SCALE:	1:2500	PROJECT No.:	14-746
DATE:	JULY 2025	DRAWING:	5

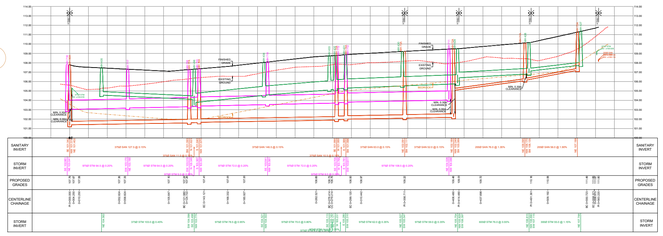
STREET 2



STREET 23



STREET 20



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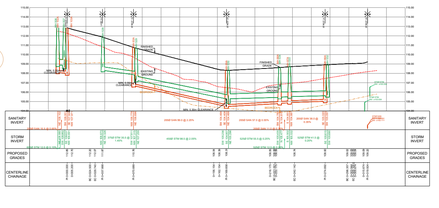
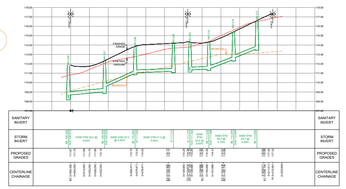


LANE 3-4



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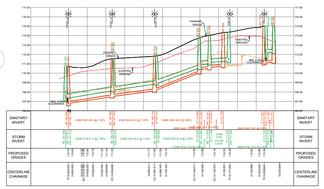

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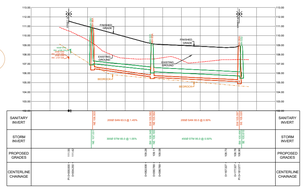

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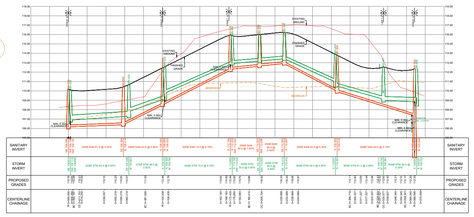

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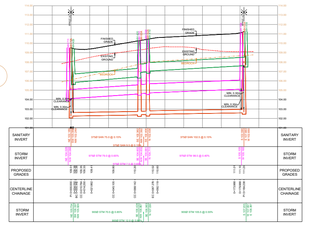

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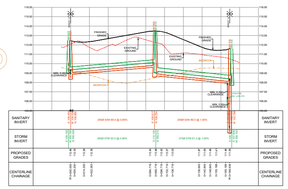

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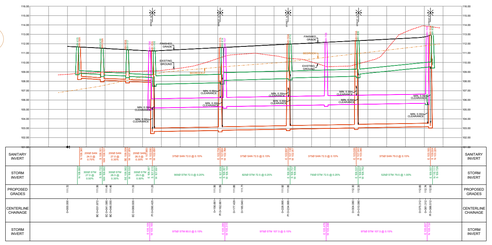

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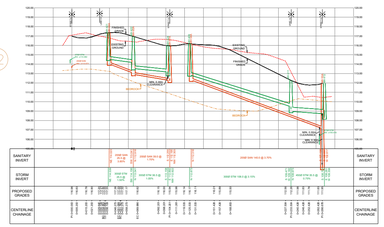

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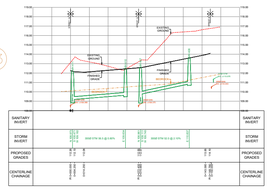

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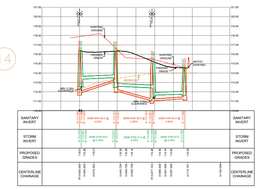

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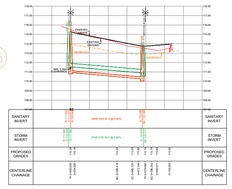

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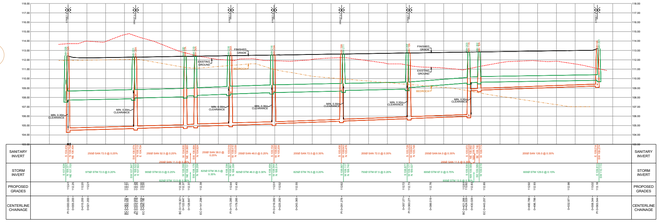

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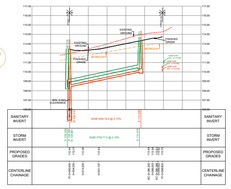

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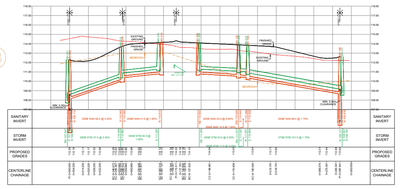

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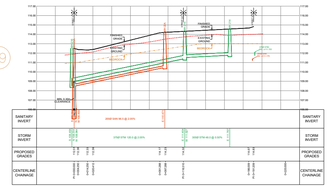

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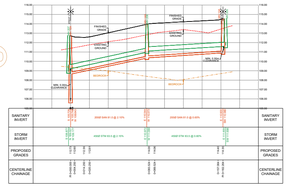

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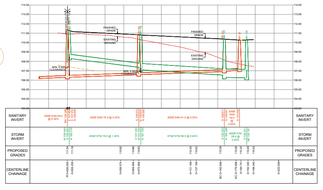
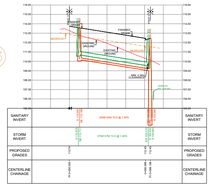


SERVICING BLOCK 1



DSEL
120 Iber Road, Unit 103
Stittsville, Ontario, K2S 1E9
Tel. (613) 836-0856
Fax. (613) 836-7183
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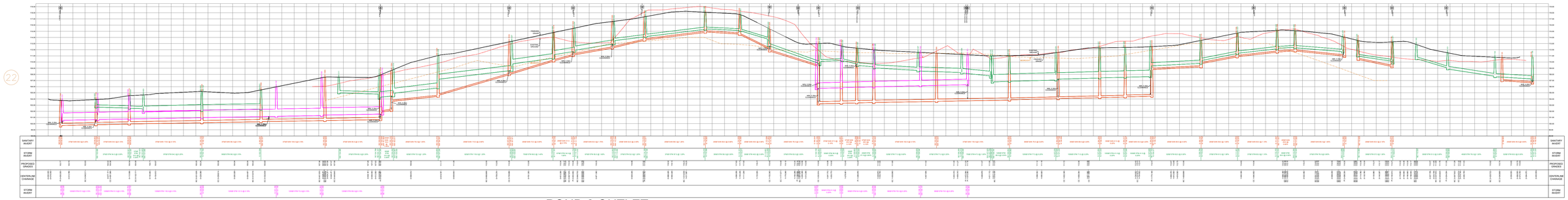
STREET 9



POND 2 OUTLET

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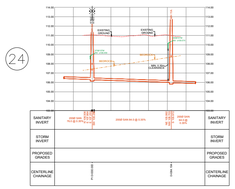

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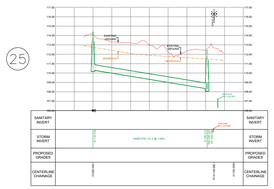
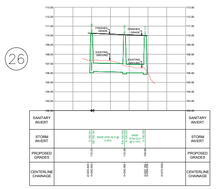
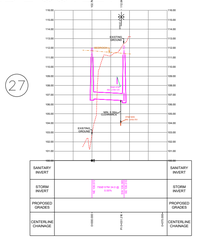


NORTH OUTLET





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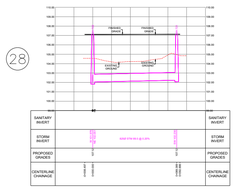

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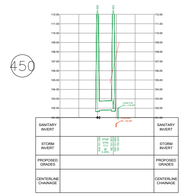

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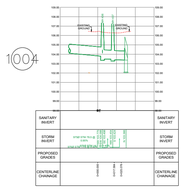

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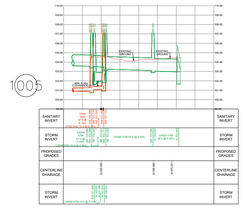

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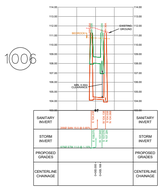
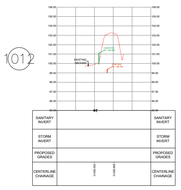
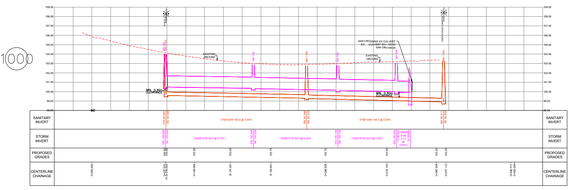


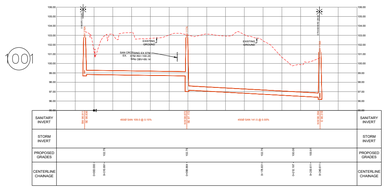
O'KEEFE OUTLET



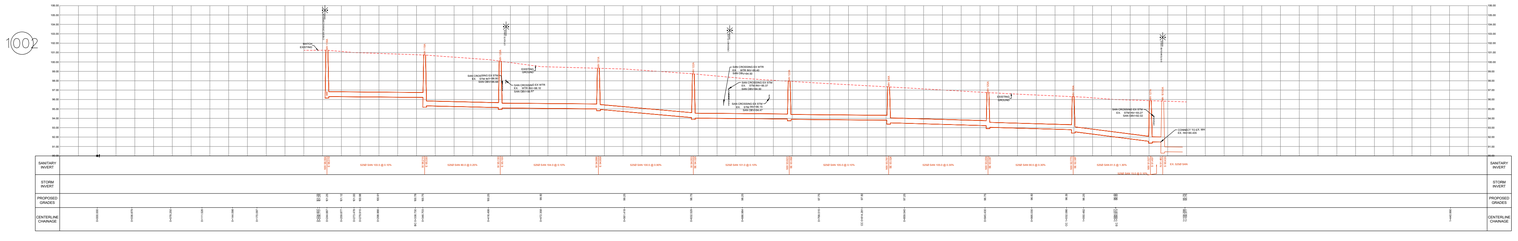
O'KEEFE COURT



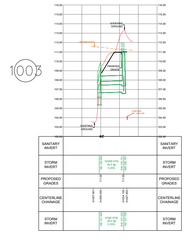
O'KEEFE DRAIN CORRIDOR



STRANDHERD DRIVE



POND 2 INLET



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120 Iber Road, Unit 103
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