Stormwater Management Report and Site Servicing Study

6 Storey Mixed-Use Apartment Building
129 Main Street
Ottawa, Ontario

Prepared for:

The Properties Group
236 Metcalfe Street
Ottawa, ON

Attention: Andrew Glass

LRL File No.: 240195

October 11th, 2024
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1 INTRODUCTION AND SITE DESCRIPTION

LRL Associates Ltd. was retained by The Properties Group to complete a Stormwater Management Analysis and Servicing Brief for the development of a proposed 6-storey mixed-use apartment building with underground parking area within the site boundary, located at 129 Main Street.

The subject property lot can be legally described as lot 18 and part of lot 19 Registered Plan 28, in the City of Ottawa. The subject lots are zoned TM7 (Traditional Mainstreet).

Figure 1: ***Aerial View of Proposed Development***

The subject property, as a whole, is rectangular shaped and measures approximately 34.0 m in frontage along Main Street, 33.0 m in frontage along Springhurst Avenue. The total site area is approximately **0.14 Ha**.

The proposed development will be constructed in a single phase, which includes a 6-storey mixed-use apartment building consisting of a total of 74 units, total commercial area of 360.6 m^2 and two (2) levels of underground parking.

This report has been prepared in consideration of the terms and conditions noted above and with the civil drawings prepared for the new development. Should there be any changes in the design features, which may relate to the stormwater and servicing considerations, LRL Associates Ltd. should be advised to review the report recommendations.

2 BACKGROUND DOCUMENTS

The following background documents were available for consideration for the SWM design of the proposed development.

- Pre-consultation with the City of Ottawa dated July 16, 2024 (attached in ***Appendix A***)
- Topographical survey of the subject site prepared by Annis O'Sullivan Vollebekk Ltd. dated September 06, 2024 (attached in ***Appendix F***)
- Site Plan prepared by Roderick Lahey Architect Inc. (attached in ***Appendix F***)
- Geotechnical report prepared by Paterson Group dated July 25, 2018.
- Phase 1 Environmental ESA prepared by Paterson Group dated July 26, 2018.
- Civil 'Issued for SPC' plans prepared by David Schaeffer Engineering Ltd. dated November 15, 2021.
- Structural 'Issued for Building Permit' plans prepared by Sense Engineering dated December 03, 2021.
- Mechanical & Electrical 'Issued for Permit' plans prepared by Quasar Consulting Group dated November 23, 2021.

3 EXISTING SITE AND DRAINAGE DESCRIPTION

The subject site measures ***0.14 ha*** and the property lot is currently vacant. Elevations of the existing site are generally flat and range between 65.43 m at the north-west to 64.26 m at the south-east end of the subject property. The subject site is generally sloping from the north-west to south-east in the pre-development conditions.

Sewer and watermain mapping, along with as-built information collected from the City of Ottawa indicate the following existing infrastructure located within the adjacent right-of-ways:

Springhurst Avenue:

- 203 mm diameter PVC Watermain
- 450 mm diameter concrete Sanitary sewer

- 1350 mm diameter concrete Storm sewer

Main Street:

- 400 mm diameter PVC Watermain
- 300 mm diameter concrete Sanitary sewer
- 1200 mm diameter concrete Storm sewer

4 SCOPE OF WORK

As per applicable guidelines, the scope of work includes the following:

Stormwater management

- Calculate the allowable stormwater release rate.
- Calculate the anticipated post-development stormwater release rates.
- Demonstrate how the target quantity objectives will be achieved.

Water services

- Calculate the expected water supply demand at average and peak conditions.
- Calculate the required fire flow as per the Fire Underwriters Survey (FUS) method.
- Confirm the adequacy of water supply and pressure during peak flow and fire flow.
- Describe the proposed water distribution network and connection to the existing system.

Sanitary services

- Describe the existing sanitary sewers available to receive wastewater from the building.
- Calculate peak flow rates from the development.
- Describe the proposed sanitary sewer system.
- Review the impact of increased sanitary flow on downstream sanitary sewer.

5 REGULATORY APPROVALS

An MECP Environmental Compliance Approval is not expected to be required for the installation of the proposed storm and sanitary sewers within the site. A Permit to take water is not anticipated to be required for pumping requirements for sewer installation. No other approval requirements from other regulatory agencies are anticipated.

6 GEOTECHNICAL CONSIDERATIONS

A geotechnical investigation was completed by Paterson Group and a report prepared entitled 'Geotechnical Investigation' dated July 25, 2018. The report provides several recommendations/ considerations which are as folloCA:

- A permissible grade raise restriction of 1.5 m is recommended for the proposed development. The grade raise restriction is imposed to reduce or limit the consolidation settlement of the existing soils.
- The groundwater levels were observed at a depth of 3.38-3.96 m below surface. It is anticipated that groundwater infiltration into the excavation shall be low to moderate and controllable using pumping from open sumps.
- A perimeter drainage pipe and an underfloor drainage system may be required to control water infiltration due to the groundwater lowering within the subject site.
- Based on the field investigation through localized borings it is anticipated that a PTTV permit issued by MOECC might be required for this development if the pumping rate exceeds 400,000 L/day.

7 WATER SUPPLY AND FIRE PROTECTION

7.1 Existing Water Supply Services and Fire Hydrant Coverage

The subject property lies within the City of Ottawa 1W water distribution network pressure zone. There is an existing 200 mm diameter watermain within Springhurst Avenue. There are currently 2 existing fire hydrants within close proximity of the subject property. Refer to ***Appendix B*** for the location of fire hydrants.

7.2 Water Supply Servicing Design

The subject site is intended to house 74 residential units, and the basic day demand is more than 50 m^3/day. Hence, two (2) 200 mm diameter water service lateral connected to the existing 203mm watermain located within Springhurst Avenue is proposed. Refer to *Site Servicing Plan* C.401 in ***Appendix E*** for servicing layout and connection points.

Table 1 below summarizes the City of Ottawa Design Guidelines design parameters employed in the preparation of the water demand estimate.

Table 1: ***City of Ottawa Design Guidelines Design Parameters***

Design Parameter	Value
Residential Bachelor / 1 Bedroom Apartment	1.4 P/unit
Residential 2 Bedroom Apartment	2.1 P/unit
Other Commercial Average Daily Demand	2.5 L/m^2/d
Average Daily Demand	280 L/d/per
Minimum Depth of Cover	2.4 m from top of watermain to finished grade
Desired operating pressure range during normal operating conditions	350 kPa and 480 kPa
During normal operating conditions pressure must not drop below	275 kPa
During normal operating conditions pressure shall not exceed	552 kPa
During fire flow operating conditions pressure must not drop below	140 kPa
**Table updated to reflect technical Bulletin ISDTB-2018-02*	

The interior layout and architectural floor plans have been reviewed, and it was determined that the building will house ***37*** one-bedroom units, ***16*** two-bedroom units, ***21*** studio units and a total commercial space of **360.6 m^2**. Based on the City of Ottawa Design guidelines for population projection, this translates to approximately **114.8** residents. Table 2 below summarizes the proposed development as interpreted using Table 4.1 of the City of Ottawa Design Guidelines, and Appendix 4-A of the Sewer Design Guidelines.

Table 2: ***Development Residential Population Estimate***

Proposed Unit type	Persons Per Unit	Number of Units	Population
Studio/1 Bedroom	1.4	58	81.2
2 Bedroom Apartment	2.1	16	33.6
		Total Residential Population	114.8

The required water supply requirements for the residential units in proposed building have been calculated using the following formula:

$$\boldsymbol{Q = (q \times P \times M)}$$

Where,
q = average water consumption (L/capita/day)
P = design population (capita)
M = Peak factor

The following factors were used in calculations as per Table 3-3 in the MOECP Guidelines;

- Maximum Daily Demand Residential Factor = **5.41**

- Peak Hour Demand Residential Factor = **8.12**
- Maximum Daily Demand Commercial Factor = **1.5**
- Peak Hour Demand Commercial Factor = **1.8**

Using the above-mentioned factors and design parameters listed in Table 1, anticipated demands were calculated as folloCA:

- Average daily domestic water demand is **0.38** L/s,
- Maximum daily demand is **2.03** L/s, and
- Maximum hourly is **3.05** L/s.

Refer to ***Appendix B*** for water demand calculations.

The City of Ottawa was contacted to obtain boundary conditions associated with the estimated water demand, as indicated in the boundary request correspondence included in ***Appendix A***.

Table 3 below summarizes boundary conditions for the proposed development.

Table 3: ***Summary of Anticipated Demands and Boundary Conditions***

Design Parameter	**Anticipated Demand (L/s)**	**Boundary Conditions at Springhurst Avenue**
		Connection (m H2O / kPa)
Average Daily Demand	0.38	50.7/ 497.1
Max Day + Fire Flow (per FUS)	2.03 + 125.6	41.4 / 405.9
Peak Hour	3.05	41.7 / 408.8
Assumed Ground elevation at connection = 64.10 m* *Water demand calculation per City of Ottawa Water Design guidelines.* ***See Appendix B* *for details*		

As indicated in Table 3, pressures in all scenarios meet the required pressure range stated in Table 1 as per the City of Ottawa Design Guidelines. Refer to ***Appendix A*** for Boundary Conditions.

The estimated fire flow for the proposed buildings was calculated in accordance with *ISTB-2018-02*. The following parameters were provided by the Architect, see ***Appendix B*** for collaborating correspondence:

- Type of construction – Non-Combustible.
- Occupancy type – Non-combustible Contents; and

The estimated fire flow demand was estimated to be **7,536 L/min**, see ***Appendix B*** for details.

There are two (2) existing fire hydrants in close proximity to the proposed buildings that are available to provide the required fire flow demands of 7,536 L/min. Refer to ***Appendix B*** for fire

hydrant locations. Table 4 below summarizes the aggregate fire flow of the contributing hydrants in close proximity to the proposed development based on *ISTB-2018-02*.

Table 4: ***Fire Protection Summary Table***

Building	Fire Flow Demand (L/min)	Fire Hydrants(s) within 75m	Fire Hydrant(s) within 150m	Available Combined Fire Flow (L/min)
Proposed 6-storey building	9,000	2	-	(2 x 5678) = 11,356

The total available fire flow from contributing hydrants is equal to **11,356 L/min** which is sufficient to provide adequate fire flow for the proposed development. A certified fire protection system specialist will need to be employed to design the building's fire suppression system and confirm the actual fire flow demand.

The proposed water supply design conforms to all relevant City Guidelines and Policies.

8 SANITARY SERVICE

8.1 Existing Sanitary Sewer Services

The subject property is tributary to the Innes Road Trunk. There is an existing 450mm diameter sanitary sewer within Springhurst Avenue.

The post-development wet total flow was calculated to be is **1.40 L/s** as a result of the proposed residential population and a small portion of infiltration.

8.2 Sanitary Sewer Servicing Design

The proposed development will be serviced via a 200mm diameter. sanitary service connected to the existing 450mm diameter sanitary sewer within Springhurst Avenue. Refer to LRL drawing C401, included in **Appendix F,** for the proposed sanitary servicing.

The parameters used to calculate the anticipated sanitary flow are; residential average population per unit of 1.4 person for single units/ studio, 2.1 persons for two-bedroom units, a residential daily demand of 280 L/p/day, a residential peaking factor of 3.6 and a total infiltration rate of 0.33 L/s/ha. Based on these parameters and the total site area of 0.14 ha, the total anticipated wet wastewater flow was estimated **1.40 L/s**. Refer to ***Appendix C*** for the site sanitary sewer design sheet.

As requested in the pre-consultation with City staff, the calculated sanitary demands for the proposed development were coordinated with the City of Ottawa to confirm there is sufficient capacity in the downstream municipal sewers. The increased demand was reconfirmed with the city official. As per the correspondence attached in ***Appendix A***, the downstream municipal sewers can sufficiently accommodate the increase in sanitary flow from the proposed development.

As requested in the pre-consultation with City staff, a Sanitary sewer monitoring maintenance hole is required to be installed at the property line. For the subject site, the building envelope extends almost up to the property line and there isn't adequate space within the site to accommodate a traditional manhole. As per the coordination with the City attached in ***Appendix A***, it was recommended to propose an internal sampling port at the sanitary service lateral.

9 STORMWATER MANAGEMENT

9.1 Existing Stormwater Infrastructure

The subject property is tributary to the Lower Rideau sub-catchment. Stormwater runoff from the subject property is tributary to the City of Ottawa sewer system as such, approvals for the proposed development within this area are under the approval authority of the City of Ottawa.

In pre-development conditions, drainage from subject lots is depicted by existing catchment ECA-01 (0.141 ha), drains uncontrolled overland towards Springhurst Avenue right-of-way. Refer to plan C701 included in ***Appendix E*** for pre-development drainage characteristics. There is currently an existing 1350 mm diameter. storm sewer within the Springhurst Avenue right-of-way. Refer to ***Appendix D*** for pre- and post-development catchment information.

9.2 Design Criteria

The stormwater management criteria for this development are based on the pre-consultation with City of Ottawa officials, the City of Ottawa Sewer Design Guidelines including City of Ottawa Stormwater Management Design Guidelines, Environment Canada IDF data, as well as the Ministry of the Environment's Stormwater Management Planning and Design Manual, 2003 (SWMP Manual).

9.2.1 Water Quantity

Based on pre-consultation with the City on May 27, 2024, and subsequent coordination with the City on July 16, 2024, the following stormwater management requirements were identified for the subject site:

- Meet an allowable release rate based on a Rational Method with a maximum allowed Coefficient of 0.50, employing the City of Ottawa IDF parameters for a 5-year storm with a calculated time of concentration of a minimum of 10 minutes;

- Attenuate all storms up to and including the City of Ottawa 100-year storm event on site.

Refer to ***Appendix A*** for Pre-consultation meeting Engineering notes dated May 27, 2024 and subsequent meeting notes.

9.3 Method of Analysis

The Modified Rational Method has been used to calculate the runoff rate from the site to quantify the detention storage required for quantity control of the development. Refer to ***Appendix D*** for storage calculations.

9.4 Proposed Stormwater Quantity Controls

The proposed stormwater management quantity control for this development will be accomplished using the proposed cistern in the underground garage with an Inlet Control Device (ICD) which will release flow at a specified constant release rate.

The subject site is proposed to be serviced via an area drain at the north-west and a catch basin at the north-east of the building, and roof drains; which will collect and direct runoff to the proposed cistern via the building's mechanical system. A proposed 250 mm diameter free-flowing storm sewer service is proposed south-west of the proposed building, to outlet the captured flow from the cistern and the foundation drain to the existing 1350 mm diameter storm sewer within Springhurst Avenue. The proposed servicing layout and connection points are shown on drawing C401 in ***Appendix E,*** and detailed calculations can be found in ***Appendix D***.

The stormwater quantity controls also take into account the off-site stormwater flow entering the subject site. Specifically, the flow originating from the neighboring property located to the north of the site is included in the calculations. This northern property is situated at a higher elevation than the subject site, resulting in stormwater draining onto the subject site. Some portion of the pavement and the southern half of the roof of the northern neighboring property slopes toward the subject site, contributing to the additional stormwater flow; therefore, these flows are incorporated in the calculations.

In contrast, the neighboring properties to the east of the subject site are situated at a lower elevation, as confirmed by the topographical survey. Consequently, stormwater flow from the eastern neighbor are not considered in the calculations. In the post-development scenario, the eastern property line will serve as a high point, directing all stormwater westward into the subject site and dispersing the remainder according to their respective drainage directions.

As the subject site currently receives off-site stormwater flow from the northern neighbor in its pre-development state, the post-development allowable release rate considers the pre-development release rate for the subject site as well as the flow from the northern property. The release rate has been allocated to catchment ECA-02. For further details on the pre-development catchments, please refer to Drawing C701 attached in ***Appendix E***.

The site has been analyzed, and six (6) post-development catchments have been allocated.

CATCHMENT CA-01 (0.014ha) consisting of concrete interlocking pavers at the west and the south face of the building, will flow uncontrolled. Runoff will surface drain to the Springhurst Avenue right-of-way.

CATCHMENT CA-02 (0.006 ha), comprises of the ramp leading to the underground garage and concrete interlocking pavers located on the southwestern face of the building, equipped with a catch-basin (CB-02) to direct flow to the city storm sewer. The stormwater from this catchment

will flow overland, uncontrolled, towards the Springhurst Avenue right-of-way. The proposed grading within the interlocking pavers, along with the proposed catch-basin and the existing retaining wall positioned along the property line adjacent to the western neighbor, will effectively prevent stormwater from flowing off-site to the neighbouring property. This setup ensures that stormwater is directed towards the city ROW as intended. The stormwater management design for this catchment aims to mimic pre-development conditions, directing flow towards the city ROW to maintain consistency in drainage patterns.

CATCHMENT CA-03A (0.098 ha) mainly consists of the building envelope. Runoff generated from this catchment will be collected via roof drains. All captured flow will be directed to an underground cistern through the building's mechanical system.

CATCHMENT CA-04A (0.020 ha) comprises grass, landscaping, and the patio area located on the eastern face of the building. Stormwater will be captured through a network of grass swales designed to convey flow to the landscape catch-basin (CB-01) and would eventually be directed to the underground cistern via the building's mechanical system. It is important to note that the neighboring property to the east is situated at a lower elevation compared to the proposed elevations on the subject site. As a result, no off-site stormwater runoff from the East will be directed towards this catchment. Furthermore, the grading has been designed along the existing elevations at the property line to ensure that runoff from the site does not flow towards the neighboring property.

CATCHMENT CA-04B (0.003 ha) comprises of a controlled concrete area in front of the northern commercial unit. Stormwater from this catchment will be captured by an area drain (AD-01) before being conveyed to the underground cistern.

CATCHMENT CA-05 (0.016 ha) accounts for off-site stormwater flow originating from the northern neighboring property. This catchment includes the building roof and the asphalt parking lot from which stormwater drains onto the subject site. Stormwater from this catchment will be captured by the grass swale and directed to the landscape catch-basin (CB-01) before being conveyed to the underground cistern.

In order to achieve the allowable post-development stormwater release rate established in *Section 9.2.1,* above, the proposed development will utilize internal cistern located within the underground parking to be designed by a mechanical engineer using the specified release rates determined in this analysis.

The site will be serviced via a free-flowing network of two (2) 250 mm diameter storm pipes proposed at the south-west and south-east corner of the building. The building's storm service conveys flow from;

1. The proposed cistern conveying stormwater at a specific release rate;
2. Foundation drain outlet to be connected *downstream* of cistern;
3. Uncontrolled flow captured from the catch-basin at the east of the building.

Refer to C401 in ***Appendix E*** for servicing layout and connection points.

Table 5 below summarizes post-development drainage areas. Refer to ***Appendix D*** for calculations.

Table 5: ***Drainage Areas***

Drainage Area Name	Area (ha)	Weighted Runoff Coefficient	100 Year Weighted Runoff Coefficient (25% increase)
CA-01 (UNCONTROLLED)	0.014	0.80	1.00
CA-02 (UNCONTROLLED)	0.006	0.90	1.00
CA-03 (CONTROLLED)	0.098	0.90	1.00
CA-04A (CONTROLLED)	0.020	0.44	0.55
CA-04B (CONTROLLED)	0.003	0.90	1.00
CA-05 (CONTROLLED)	0.016	0.90	1.00

With the total area of 0.157 Ha, an allowable release rate of **22.74 L/s** was determined. Table 6 below summarizes the release rates and storage volumes required to meet the allowable release rate of **22.74 L/s** for 100-year flow rates. The rainfall intensity for the 100-year and 5-year storm event was calculated using the IDF Curve Interpolation Equation from Environment Canada. The Environment Canada data sheet is included in ***Appendix D***.

Table 6: ***Stormwater Release Rate & Storage Volume Summary (100 Year)***

Catchment	Total Drainage Area (ha)	100-year Release Rate (L/s)	100-Year Required Storage (m^3)	Total Available Storage (m^3)
CA-03, 04A & 04B	0.157	13.00	53.68	74.80

To attenuate flow to the controlled release rate of **13.00 L/s**, it is calculated that a total of **53.68m^3** of storage will be required for a 100-year storm event. The required storage is proposed to be met via internal building cistern. The spillover from the cistern will flow towards the Springhurst Avenue Right-of-way via a cistern access cover located at the South-West corner of the building. An average 50% of the controlled release rate (***6.50 L/s)*** is considered for cistern storage calculations. For additional details on the stormwater storage calculations, refer to ***Appendix D***.

The cistern is proposed to discharge the captured run-off at a constant release rate of **13.00L/s** towards the storm outlet pipe. A **Hydrovex 100VHV-1 ICD** (or approved equivalent) is proposed to restrict flow outletting the cistern. The proposed ICD will serve to control flow rates up to the 100-year storm events. The device is designed to operate under a head of **2.04 m**, which corresponds to the high water level (HWL) with the required storage of 53.68 m^3 above the cistern outlet invert elevation of 60.60 m. This design head is both hydraulically feasible, given the vertical separation from the city sewer spring line at 59.26 m, and essential to meet the required 53.68 m^3

of storage. With a cistern base area of 26.3 m², a head of 2.04 m is sufficient to provide the required storage volume, ensuring that the proposed ICD headroom is adequate. Excess of stormwater storage has been provided in the cistern, including a 0.5m high freeboard. From the ICD, the stormwater will be conveyed to the proposed 250 mm diameter storm service, and ultimately, the city storm sewer. Refer to servicing plan C401 in ***Appendix E*** for reference.

10 Erosion and Sediment Control

During construction, erosion and sediment controls will be provided primarily via a sediment control fence to be erected along the perimeter of the site where runoff has the potential of leaving the site. Inlet sediment control devices are also to be provided in any catch basin and/or manholes in and around the site that may be impacted by the site construction. Construction and maintenance requirements for erosion and sediment controls are to comply with Ontario Provincial Standard Specification OPSS 577. Refer to LRL Associates drawing C101 for erosion and sediment control details.

11 Conclusion

This Stormwater Management and Servicing Report for the development proposed at 129 Main Street presents the rationale and details for the servicing requirements for the subject property.

In accordance with the report objectives, the servicing requirements for the development are summarized below:

Water Service

- The minimum required fire flow was calculated at **7,536 L/min** using the FUS method.
- There are at least two (2) existing fire hydrants available to service the proposed development. They will provide a combined fire flow of **11,356 L/min** to the site.
- The new development will be serviced with two (2) 200 mm diameter water services to be connected to the existing 200 mm diameter watermain within Springhurst Avenue.
- Boundary conditions received from the City of Ottawa indicate that sufficient pressure is available to service the proposed site.

Sanitary Service

- The total calculated wet wastewater flow from the proposed development is **1.40 L/s.**
- The proposed development will discharge **1.40 L/s** to the existing 450 mm diameter sanitary sewer within Springhurst Avenue via a proposed 200 mm diameter sanitary service lateral.

Stormwater Management

- Stormwater quantity control objectives will be met through stormwater storage on site within the internal building cistern located in the underground parking.

- Post-development flow for the 100-yr and 5-yr storm events will be equal to less than the pre-development 5-yr release rate.
- The required stormwater storage volume is 53.68m^3 and the underground cistern will provide a total storage of 74.80m^3 .
- The stormwater quantity control objectives will be met via Hydrovex 100VHV-1 ICD (or approved equivalent) which will limit flow at a controlled release rate of **13.00 L/s.**

12 REPORT CONDITIONS AND LIMITATIONS

The report conclusions are applicable only to this specific project described in the preceding pages. Any changes, modifications or additions will require a subsequent review by LRL Associates Ltd. to ensure the compatibility with the recommendations contained in this document. If you have any questions or comments, please contact the undersigned.

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APPENDIX A

Pre-consultation / Correspondence

File No.: PC2024-0289

July 24, 2024

Andrew Glass
The Properties Group Management Ltd
Via email: aglass@prpgrp.com

Subject: **Phase 1 Pre-Consultation: Meeting Feedback**
Proposed Site Plan Control Application – 129 Main Street

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on July 16, 2024.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☐	**4** ☒	**5** ☐

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

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. It is recommended that you complete a Phase 3 Pre-consultation Application Form and submit it together with the necessary studies and/or plans to planningcirculations@ottawa.ca.

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

3. Please note, if your development proposal changes significantly in scope, design, or density before the Phase 3 pre-consultation, it may be best to complete a Phase 2 pre-consultation process.

Supporting Information and Material Requirements

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

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

Consultation with Technical Agencies

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

Planning

1. Policies and Guidelines

    a. The property is located within the Inner Urban Transect Policy Area under the Official Plan, and is designated Corridor Mainstreet. The property is also affected by the Evolving Neighbourhood designation.

    b. The property is located within the Old Ottawa East Secondary Plan, and is designated Mainstreet under Schedule A.

    c. The property is currently zoned TM7 [1839] (Traditional Mainstreet, Subzone 7, Exception 1839) under the Zoning By-law.

    d. Consider the Urban Design Guidelines for Development along Traditional Mainstreets

2. A minor variance granted in 2019 related to the step back above the 5th floor should be reviewed. Please contact Committee of Adjustment Staff (cofa@ottawa.ca, 613-580-2436) to confirm if the variance is still relevant to the new design or if a resolution is needed.

3. Additional articulation or step back would be appreciated and could help support a Minor Variance application in this regard.

4. The open area at the corner of the building near the intersection should be designed to be entirely at grade so as to improve the pedestrian experience and remove the need for handrails.

5. The Secondary Plan asks for sidewalk improvements. Mainstreet has undergone a recent renewal; However, Springhurst could benefit from wider sidewalks and street furniture.

6. The proposal includes 36 bicycle parking spaces, which is slightly above the required amount. Nevertheless, a 1:1 bicycle parking ratio is recommended and expected due to the location and proximity to active transportation routes and

transit system. A stacked system for bicycle parking is recommended to make the development more affordable.

7. Consider combining the two garage doors on the Springhurst side to avoid a large blank wall.

8. Include on all plans the neighbouring property and building at 55 Springhurst Avenue in order to show surrounding building context. Massing and privacy impacts to that property shall be taken into consideration when further sculpting the proposed building.

9. When considering rooftop amenity areas, please ensure compliance with current policies.

10. A thorough analysis and compliance report in support of the development should include provisions for terraces, which might require setbacks and fencing.

11. Section 197(11) of the Zoning By-law states that "*the façade facing the main street must include at least one active entrance serving each residential or non-residential use occupying any part of the ground floor*". While staff are not offended by having the commercial entrances facing Main Street and the residential lobby entrance facing Springhurst, zoning relief will be required should this arrangement be proposed.

12. Section 37 requirements / Community Benefits Charge The former Section 37 regime has been replaced with a "Community Benefits Charge", By-law No. 2022-307, of 4% of the land value. This charge will be required for ALL buildings that are 5 or more storeys and 10 or more units and will be required at the time of building permit unless the development is subject to an existing registered Section 37 agreement. Questions regarding this change can be directed to Ranbir.Singh@ottawa.ca.

Urban Design

1. An Urban Design Brief is required. Please see attached customized Terms of Reference to guide the preparation. a. The Urban Design Brief should be structured by generally following the headings highlighted under Section 3 – Contents of these Terms of Reference.

    a. The following elements are particularly important for this development application
        i. A response to the Secondary Plan and Community Design Plan for how transition will happen to the adjacent low-rise context.
        ii. Proposing materiality that is consistent with the neighbourhood.
        iii. Providing a well-designed public realm.

2. Additional drawings and studies are required as shown on the ASPIL. Please follow the terms of references (Planning application submission information and materials | City of Ottawa) the prepare these drawings and studies. These include:
    a. Site Plan
    b. Building Elevations
    c. Landscape Plan
    d. Design Brief (updated)

Comments:

13. A discussion of how the proposal meets the objectives of the Secondary Plan, Community Design Plan, and Traditional Mainstreet Design Guidelines will need to be included in the Design Brief.

14. The critical root zone of the neighbouring tree should be shown on the plans.

15. Please provide a stepback above the first floor to continue the datum line along the street. Development along the street either incorporate a stepback or a stronger materiality change and articulation.

16. The building corner at Main and Springhurst could be better addressed. The corner should have a stronger presence and relationship to the street.

17. Please use building materials and colours found within the neighbourhood. New development in the neighbourhood is utilizing red and sand brick.

18. If the patio space at the corner cannot be designed without a retaining wall due to grade changes, rather than a glass wall, consider using a planted retaining wall. Using plant material could make the space more comfortable and attractive, and there is already very little vegetation on the site.

19. Please consolidate the garage doors to one.

20. If possible, please widen the sidewalk along Springhurst to reestablish the public realm.

21. Please find opportunities for more vegetated areas within the site. Can additional street trees be planted along Springhurst, could planters be included along Main? Please explore options.

22. The Site Plan project stats don't accurately reflect what is proposed, be mindful if additional storeys are being shown or incorrect information.

Engineering

Deficiencies:

23. There are lot issues on the east side of the drainage treatment and subsequent catch basin and pipe arrangement, it did not comply with City's by-law.

Comments:

24. Grading - Please mark the overland flow route.

25. Geotechnical (including sensitive marine clay, where appropriate)

26. Slope stability, it will be needed.

27. Major concerns are the side yard drainage and how that go to the street (the drainage area maybe bigger than its inside the property line).

28. Overland flow route should be marked.

Noise

29. Noise study will be required

Feel free to contact John Wu or Shawn Wessel, Infrastructure Project Manager, for follow-up questions.

Transportation

30. Right-of-way protection.

    a. See Schedule C16 of the Official Plan.

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

31. The Screening Form has indicated that TIA Triggers have been met. Please proceed with the TIA Step 2 – Scoping Report.

32. During the Analysis, ensure that both TDM checklists are filled out and appropriate measures are taken to achieve the target modal shares. In the future, please contact Tim Wei (tim.wei@ottawa.ca) to obtain a local snapshot of the Long-Range Transportation model to help inform background growth rates.

33. Springhurst Avenue is classified as a Local Road. There are no additional protected ROW limits identified in the OP.

34. Main Street is designated as an Arterial Road within the City's Official Plan with a ROW protection limit of 23.0 metres between Highway 417 and Clegg Street. The ROW protection limit and the offset distance (11.5 metres) are to be dimensioned from the existing centerline of pavement and shown on the drawings. The Certified Ontario Land Surveyor is to confirm the ROW protected limits and any portion that may fall within the private property to be conveyed to the City. Ensure that the development proposal complies with the Right-of-Way protection requirements of the Official Plan's Schedule C16.

35. ROW interpretation – Land for a road widening will be taken equally from both sides of a road, measured from the centreline in existence at the time of the widening if required by the city. The centreline is a line running down the middle of a road surface, equidistant from both edges of the pavement. In determining the centreline, paved shoulders, bus lay-bys, auxiliary lanes, turning lanes and other special circumstances are not included in the road surface.

36. All underground and above ground building footprints and permanent walls need to be shown on the plan to confirm that any permanent structure does not extend either above or below into the sight triangles and/or future road widening protection limits.

37. The purchaser, tenant or sub-lessee acknowledges the unit being rented/sold is not provided with any on-site parking and should a tenant/purchaser have a vehicle for which they wish to have parking that alternative and lawful arrangements will need to be made to accommodate their parking need at an alternative location. The Purchaser/Tenant also acknowledges that the availability and regulations governing on-street parking vary; that access to on-street parking, including through residential on-street parking permits issued by the City cannot be guaranteed now or in the future; and that a purchaser, tenant, or sub-lessee intending to rely on on-street parking for their vehicle or vehicles does so at their own risk.

38. Ensure that potential tenants who are not assigned a parking space are aware that on street parking is not a viable option for tenants.

39. Permanent structures such as curbing, stairs, retaining walls, and underground parking foundation also bicycle parking racks are not to extend into the City's right-of-way limits.

40. The consultant should review the sight distance to the access and any obstructions that may hinder the view of the driver.

41. The concrete sidewalks should be 2.0 metres in width and be continuous and depressed through the proposed access (please refer to the City's sidewalk and curb standard drawing).

42. The closure of an existing private approach shall reinstate the sidewalk, shoulder, curb, and boulevard to City standards.

43. The Owner acknowledges and agrees that all private accesses to Roads shall comply with the City's Private Approach By-Law being By-Law No. 2003-447 as amended https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/private-approach-law-no-2003-447 or as approved through the Site Plan control process.

44. The proponent is to provide an access grade that does not exceed 2% within the private property for a minimum distance of 6.0 metres from the ROW limits. This is a critical safe distance to allow a driver to stop at the top of the ramp and have a good sight angle of pedestrians.

45. The Owner is responsible for identifying the type and location of existing signage that will be removed from within the Right-of-Way to accommodate the development site. The Owner is responsible for providing the General Manager with a detailed drawing identifying the type and position of the existing signs and roadway pavement markings along the site frontage.

46. A separate pavement markings and signage drawings are to be provided.

47. The Owner shall be required to enter into maintenance and liability agreement for all pavers, plant and landscaping material placed in the City right-of-way and the Owner shall assume all maintenance and replacement responsibilities in perpetuity.

48. Bicycle parking spaces are required as per Section 111 of the Ottawa Comprehensive Zoning By-law. Bicycle parking spaces should be in safe, secure places near main entrances and preferably protected from the weather.

49. Should the property Owner wish to use a portion of the City's Road allowance for construction staging, prior to obtaining a building permit, the property Owner must obtain an approved Traffic Management Plan from the Manager, Traffic Management, Transportation Services Department. The city has the right for any reason to deny use of the Road Allowance and to amend the approved Traffic Management Plan as required.

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

Forestry

50. Tree preservation / distinctive trees

    a. An updated Tree Conservation must be supplied

    b. If trees are to be removed a tree permit will be required and made available at site plan approval

    c. Note that the tree at 55 Springhurst is to be retained and protected – it is recommended that a Registered Professional Forester (RPF) be

contracted to evaluate the tree and determine if the proposed development will potentially impact it.

d. Any proposed excavation and work within the critical root zone of the Springhurst tree must be fully documented in the TCR

51. Tree Planting Specifications

a. Please ensure all retained trees are shown on the LP

b. Minimum Setbacks

i. Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.

ii. Maintain 2.5m from curb

iii. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.

b. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.

c. Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.

d. Tree specifications

i. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.

ii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage

e. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; if possible, include watering and warranty as described in the specification.

f. No root barriers, dead-man anchor systems, or planters are permitted.

g. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

h. Hard surface planting

i. If there are hard surface plantings, a planting detail must be provided

ii. Curb style planter is highly recommended

iii. No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

iv. Trees are to be planted at grade

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

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

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

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

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

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

Parkland

Comments:

52. Cash-in-lieu of parkland (CILP) will be required, at the rate specified in the Parkland Dedication By-law No. 2022-280, as amended.
    a. CILP rate for residential uses > 18units/net ha = one hectare per 1,000 net residential units but shall not exceed a maximum of 10% of the gross land area where the land is less than of equal to five hectares.
    b. CILP rate for commercial/retail uses = 2% of Gross Floor Area.
    c. Where land is developed for a mix of uses within a building, the conveyance requirement shall be the cumulative sum for each uses, as calculated using the applicable rate prorated proportionally to the gross floor area allocated to each use.

53. For all future submissions, PFP requests the following information to confirm and calculate the CILP:

    a. Gross land area subject to development, in quare metres.
    b. Number of proposed residential units.
    c. Total Gross Floor Area.
    d. Gross Floor Area of residential.
    e. Gross Floor Area of commercial/retail uses.

54. CILP payment will be due prior to registration of a Site Plan Agreement, plus applicable CREO appraisal fee(s).

Feel free to contact Mike Russett, Parks Planner, for follow-up questions.

Community Association

55. We made the following points at the last pre-consult in December 2023:

    a. the Secondary Plan limit of 6 storeys on Main Street should be respected

    b. the elevation drawings need to reference 55 Springhurst

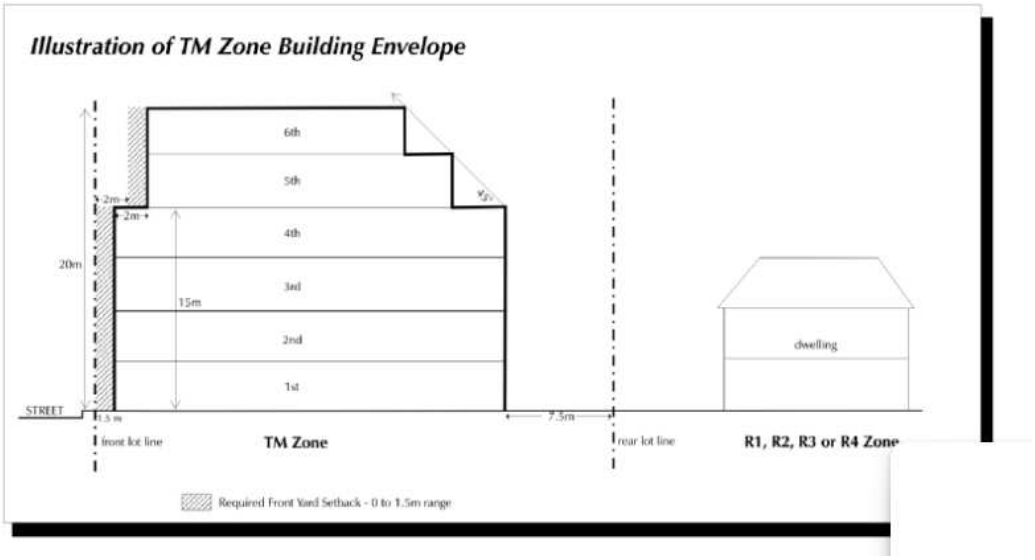
    c. landscaping and trees on the eastern edge of the property are important

    d. there should be at least a 1 to 1 ratio of bike parking spots with the number of units

    e. we agreed with the city's comments on the need for more transitions and step backs.

56. Only the first of these points has been dealt with in the new design. The elimination by the proponents of the 9 storey height request is tremendously important for the community. The 6 storey height limit on Main Street is one of the fundamental features of our Secondary Plan.

57. We would like to reference two of the existing Zoning provisions for Traditional Main streets in Table 197, zoning mechanism (g)(ii)(2) and (3) which highlight the need for a step back above the fourth floor and the illustration of the 45 degree angular plane (which support our last point in the feedback in December, I.e., the importance of step backs).
see:
https://documents.ottawa.ca/sites/documents/files/zoning_bylaw_part10_section197-198_en.pdf - TABLE 197 – TM ZONE PROVISIONS - 197(g)(ii)(2) and (3)



58. In addition to these comments, we request:

    a. Any patio area (currently envisaged on the northeast corner of the Main and Springhurst intersection) be accessible.

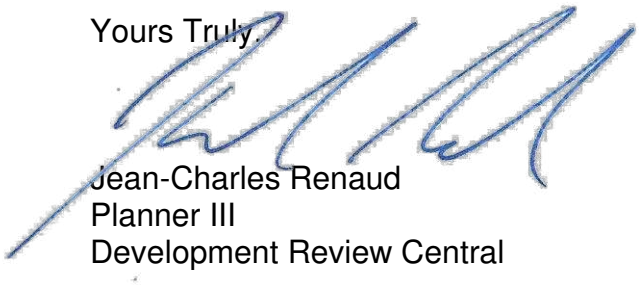
    b. If there is a physical barrier constructed for this patio, we support the city's recommendation that it be a planted wall (rather than glass).

    c. Balcony fronts should incorporate bird friendly design techniques, particularly on the Main Street side of the building where tree reflections may result in increased bird strikes.

We look forward to further discussing your project with you.

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

Yours Truly,



Jean-Charles Renaud
Planner III
Development Review Central

c.c.
John Bernier, Planning
Jonathan Chan, Planning
Molly Smith, Urban Design
John Wu, Infrastructure
Shawn Wessel, Infrastructure
Wally Dubyk, Transportation
Mark Richardson, Forestry
Mike Russett, Parks
Phyllis Odenbach Sutton, OOECA

APPLICANT'S STUDY AND PLAN IDENTIFICATION LIST

Proposed Zoning-By-law and Site Plan Control Application – 129 Main Street – PC2024-0289

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

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

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

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

Commented [CJ1]: Bolded are required and completed studies.

Highlighted are required but missing studies.

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

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

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

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

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

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

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

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

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

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

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

From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: Wednesday, June 12, 2024 10:09 AM
To: Sarthak Vora; Jhamb, Nishant
Cc: Andrew Glass; Virginia Johnson
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)
Attachments: Sample Dwg - Interior Sampling Portal Detail.pdf

Hello Sarthak

When building footprint extends to property line, we ask for an internal sampling port be installed and a note on the drawing speaking to this.

See attached detail that shows this.

If you require additional information or clarification, please do not hesitate to contact me anytime.

Thank you

Regards,

Shawn Wessel, A.Sc.T.,rcji
Pronouns: he/him | Pronom: il
Project Manager - Infrastructure Approvals
Gestionnaire de projet – Approbation des demandes d'infrastructures

Development Review Central Branch | Direction de l'examen des projets d'aménagement, Centrale
Planning, Development & Building Services Department (PDBS) | Direction générale des services de la planification, de l'aménagement et du bâtiment (DGSPAB)
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(613) 580 2424 Ext. | Poste 33017
Int. Mail Code | Code de Courrier Interne 01-14
shawn.wessel@ottawa.ca

From: Sarthak Vora <svora@lrl.ca>
Sent: Wednesday, June 12, 2024 8:49 AM
To: Jhamb, Nishant <nishant.jhamb@ottawa.ca>; Wessel, Shawn <shawn.wessel@ottawa.ca>
Cc: Andrew Glass <aglass@prpgrp.com>; Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Hello Nishant and Shawn,

I kindly want to follow up with you on the boundary conditions request and the San monitoring MH conundrum. We have made significant progress on the civil plans and design and are nearing completion of our submission file.

Thank you for your attention. I look forward to your feedback.

Sarthak Vora, EIT
Civil Engineer-In-Training
LRL Engineering | lrl.ca
Cell: (613)915-7633 | svora@lrl.ca

From: Sarthak Vora
Sent: Monday, June 3, 2024 1:37 PM
To: 'Jhamb, Nishant' <nishant.jhamb@ottawa.ca>; 'Wessel, Shawn' <shawn.wessel@ottawa.ca>
Cc: 'Andrew Glass' <aglass@prpgrp.com>; Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Hello Shawn,

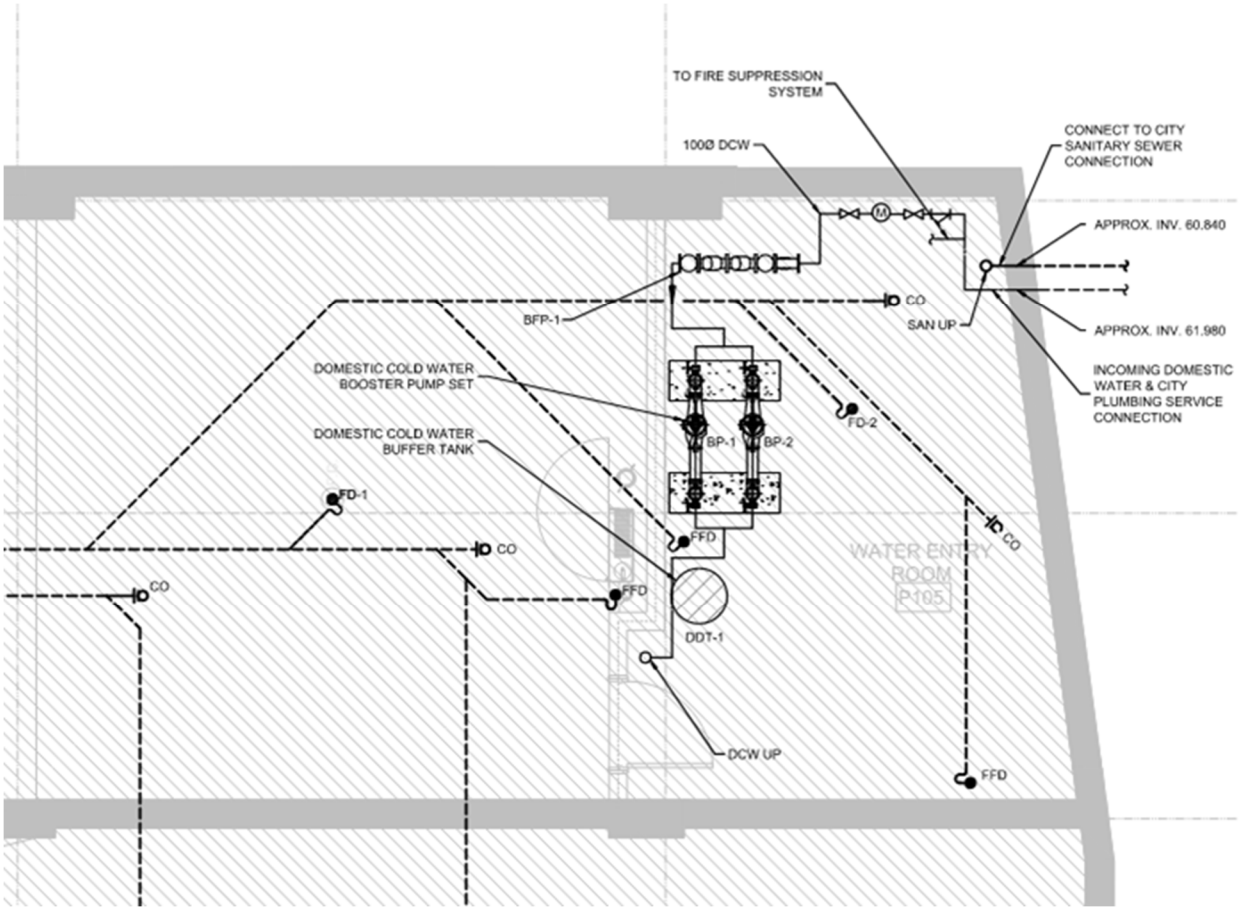
I hope you're the correct person to ask this to.

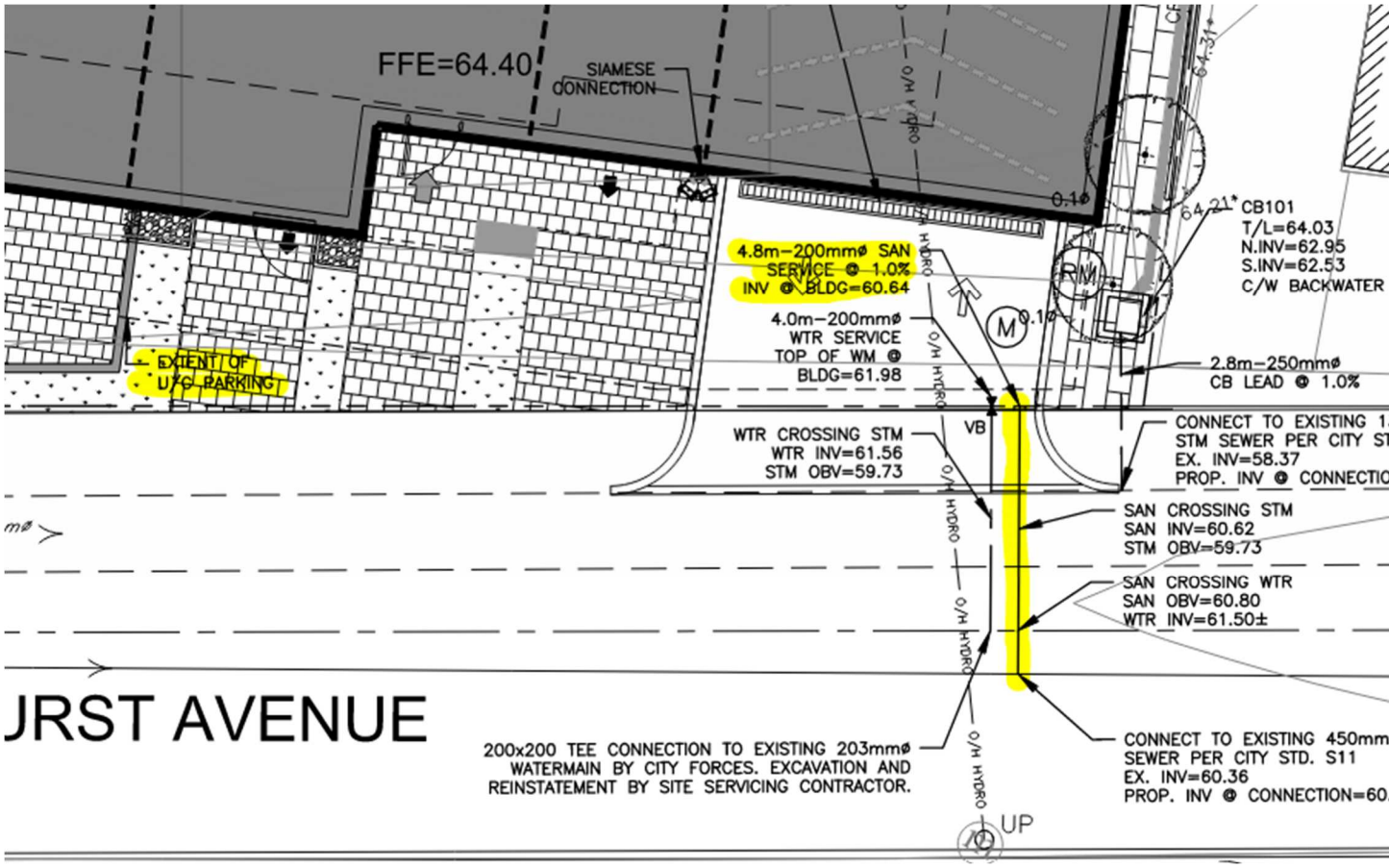
As per the pre-consultation notes ''Sanitary sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property)''.

For the proposed development, the building footprint with the underground parking extended almost up to the property line. Below are the snippets from the plumbing drawing for the interior of

the building and the anticipated location of the sanitary service lateral. Given that the building will be built almost up to the full building envelope and the property line, there is not sufficient space to provide a traditional SAN monitoring MH within the site.

Could you please advise on how to move forward on this?





Thanks.

Sarthak Vora, EIT
Civil Engineer-In-Training
LRL Engineering | lrl.ca
Cell: (613)915-7633 | svora@lrl.ca

Sarthak Vora

From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: Wednesday, May 7, 2025 8:02 AM
To: Sarthak Vora; Wu, John
Cc: Virginia Johnson
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Hello Sarthak

No concerns with proposed 1.4 L/s san peak flows.

Thank you

Regards,

Shawn Wessel, A.Sc.T.,rcji
Pronouns: he/him | Pronom: il
Project Manager - Infrastructure Approvals
Gestionnaire de projet – Approbation des demandes d'infrastructures

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shawn.wessel@ottawa.ca

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*****Please also note that, while my work hours may be affected by the current situation and am working from home, I still have access to email, video conferencing and telephone. Feel free to schedule video conferences and/or telephone calls, as necessary.*****

Une Ville, deux la
One City, two lang

From: Sarthak Vora <svora@lrl.ca>
Sent: Tuesday, May 6, 2025 3:36 PM

To: Wessel, Shawn <shawn.wessel@ottawa.ca>; Wu, John <John.Wu@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Hello Shwan,

Yes, we have received the comments from Nishant. The reason I was seeking reconfirmation of the sanitary sewer capacity is due to the increase in discharge from **1.13 L/s to 1.40 L/s**, due to the revised unit count.
If this minor increase does not require a reconfirmation, I will proceed with assembling the re-submission package. Please advise

Regards,

Sarthak Vora, Civil E.I.T

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From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: Tuesday, May 6, 2025 1:28 PM
To: Sarthak Vora <svora@lrl.ca>; Wu, John <John.Wu@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Hello Sarthak

Nishant had provided some comments, earlier to Virginia, I understand.

Water Resources made the following comments, regarding sewers in ROW and proposed flow rates:

Storm:

LRL – We are progressing with finalizing the Stormwater design for a slightly altered site plan for the parcel of land at 129 Main Street.

The previously site plan approved design (completed by DSEL) had stormwater quantity criteria of meeting the 5 year release rate. However, the pre consultation that took place in December of 2023, outlined that the stormwater criteria would be the 100 year event to a 2 year pre development rate. Given that this site with a similar design was previously approved with the 5 year pre development rate as the quantity criteria, and that the stormwater connection location will remain consistent with the past approval, can you please review and provide

and update to the site specific SWM requirements mentioned at the pre consultation to be consistent with previously approved requirements of meeting the 5 year pre development rate as opposed to the 2 year?

Water Resources –
The downstream storm sewers were built pre 1970 and were design for a 2-year event, so I asked for a 2-year control in my pre consultation notes.

We looked at the storm model and it can accommodate the 5-year flow, so for this site we can approve the 5-year release rate with max C=0.5.
Please note this is a partially separate area , a Driveway hump is required at the Underground parking entrance.

Sanitary:

LRL - We've determined that the revised sanitary sewer discharge from the site would be equal to **1.13 L/s**. We are proposing to tie it into the Existing 450mmØ Sanitary sewer located within Springhurst Avenue. Please confirm if the existing sanitary sewer will have sufficient capacity to accommodate our discharge. Attached is a copy of the design sheet.

Water Resources - There is sufficient capacity in Sanitary sewer to accommodate the proposed sanitary discharge.

Please let me know if you need anything further and have a nice day!

Regards,

Shawn Wessel, A.Sc.T.,rcji
Pronouns: he/him | Pronom: il
Project Manager - Infrastructure Approvals
Gestionnaire de projet – Approbation des demandes d'infrastructures

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shawn.wessel@ottawa.ca

Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Sarthak Vora <svora@lrl.ca>
Sent: Tuesday, May 6, 2025 8:52 AM
To: Wessel, Shawn <shawn.wessel@ottawa.ca>; Wu, John <John.Wu@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Thanks for the info, Shawn. Could you confirm the Sanitary sewer capacity too?

Regards,

Sarthak Vora, Civil E.I.T

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From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: Friday, May 2, 2025 11:05 AM
To: Sarthak Vora <svora@lrl.ca>; Wu, John <John.Wu@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Hello Sarthak

Just received this now:

The following are boundary conditions, HGL, for hydraulic analysis at 129 Main Street (zone 1W) assumed to be connected via a dual connection to the 203 mm watermain on Springhurst Avenue (see attached PDF for location).

Minimum HGL: 105.8 m
Maximum HGL: 114.8 m
Max Day + Fire Flow (125.6 L/s): 105.5 m

These are for current conditions and are based on computer model simulation.
Disclaimer:
The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account.
"The IWSD has recently updated their water modelling software. Any significant difference between previously received BC results and newly received BC results could be attributed to this update."

If you require additional information or clarification, please do not hesitate to contact me anytime.

Thank you

Regards,

Shawn Wessel, A.Sc.T.,rcji
Pronouns: he/him | Pronom: il
Project Manager - Infrastructure Approvals
Gestionnaire de projet – Approbation des demandes d'infrastructures

Development Review Central Branch | Direction de l'examen des projets d'aménagement, Centrale
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Please consider the environment before printing this email

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Une Ville, deux la
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Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Sarthak Vora <svora@lrl.ca>
Sent: Friday, May 2, 2025 9:19 AM
To: Wessel, Shawn <shawn.wessel@ottawa.ca>; Wu, John <John.Wu@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Good Morning Shawn,

Kindly following up on the status of the BC and Sanitary Capacity req. This is a critical item currently holding up our re-submission, and we would greatly appreciate an early answer.

Thanks,

Sarthak Vora, Civil E.I.T

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www.lrl.ca

Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: Monday, April 14, 2025 9:39 AM
To: Sarthak Vora <svora@lrl.ca>; Wu, John <John.Wu@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Thank you Sarthak

Your request has been forwarded to our Water Dept. for BC info.

Regards,

Shawn Wessel, A.Sc.T.,rcji
Pronouns: he/him | Pronom: il
Project Manager - Infrastructure Approvals
Gestionnaire de projet – Approbation des demandes d'infrastructures

Development Review Central Branch | Direction de l'examen des projets d'aménagement, Centrale
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shawn.wessel@ottawa.ca

Please consider the environment before printing this email

*****Please also note that, while my work hours may be affected by the current situation and am working from home, I still have access to email, video conferencing and telephone. Feel free to schedule video conferences and/or telephone calls, as necessary.*****

Une Ville, deux la
One City, two lang

Classified as City of Ottawa - Internal / Ville d'Ottawa - classé interne

From: Sarthak Vora <svora@lrl.ca>
Sent: Monday, April 14, 2025 7:30 AM
To: Wu, John <John.Wu@ottawa.ca>; Wessel, Shawn <shawn.wessel@ottawa.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>
Subject: RE: 129 Main Street (City of Ottawa File No, PC2023-0369) (LRL 240195)

Good Morning,

Following our previous request, please note that there has been a revision to the unit count and overall building floor area for the proposed development.

Boundary Conditions Request:

We are requesting updated boundary conditions based on the revised building statistics. The proposed development consists of a 6-storey mixed-use building, accommodating a total of 74 residential units and 360.6 m^2 of commercial space. We are proposing a dual water service connection to the 203mmØ municipal watermain on Springhurst Avenue.
Kindly provide the updated boundary conditions based on the following revised water demand figures:

	Demand (L/s)
Avg. Daily	0.38
Max. Day + FUS	2.03 + 125.6
Peak Hour	3.05

Sanitary Sewer Capacity confirmation:

We would also appreciate confirmation of capacity within the existing 450mmØ sanitary sewer on Springhurst Avenue to accommodate the revised discharge flow of **1.40 L/s** from the proposed development.

Please find the updated calculation sheets attached for your reference.

Regards,

Sarthak Vora, Civil E.I.T

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APPENDIX B

Water Supply Calculations/ Correspondence

Water Supply Calculations

LRL File No. : 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: April 12, 2025
Designed: S.Vora
Checked:
Dwg Reference: C.401

Water Demand based on the City of Ottawa Design Guidelines-Water Distribution, 2010

Domestic Demand

Unit Type	Persons Per Unit	Number of Units	Population
1 Bedroom+ Studio	1.4	58	81.2
2 Bedroom	2.1	16	33.6
	Total	**74**	**114.8**

erage Water Consumption Rate =	280	L/c/d		
Average Day Demand =	**32,144**	**L/d**	**0.37**	**L/s**
Maximum Day Factor =	5.41		(Table 3-3 MOE Peaking Factors)	
Maximum Daily Demand =	**174,013**	**L/d**	**2.01**	**L/s**
Peak Hour Factor =	8.12		(Table 3-3 MOE Peaking Factors)	
Maximum Hour Demand =	**260,960**	**L/d**	**3.02**	**L/s**

Commercial Demand

Property Type	Unit Rate (L/m2/d)	Area (m2)	Demand (L/d)
Commercial	**2.5**	**360.6**	**901.5**

Average Day Demand	**902**	**L/d**	**0.010**	**L/s**
Maximum Day Factor	1.5		(Design Guidelines-Water Distribution Table 4.2)	
Maximum Daily Demand	**1,352**	**L/d**	**0.016**	**L/s**
Peak Hour Factor	1.8		(Design Guidelines-Water Distribution Table 4.2)	
Maximum Hour Demand	**2,434**	**L/d**	**0.028**	**L/s**

TOTAL DEMAND				
Average Day Demand	**33,046**	**L/d**	**0.38**	**L/s**
Maximum Daily Demand	**175,365**	**L/d**	**2.03**	**L/s**
Maximum Hour Demand	**263,394**	**L/d**	**3.05**	**L/s**

Water Service Pipe Sizing

Q = VA

Where: V = velocity (m/s)
A = area of pipe (m^2)
Q = flow rate (L/s)

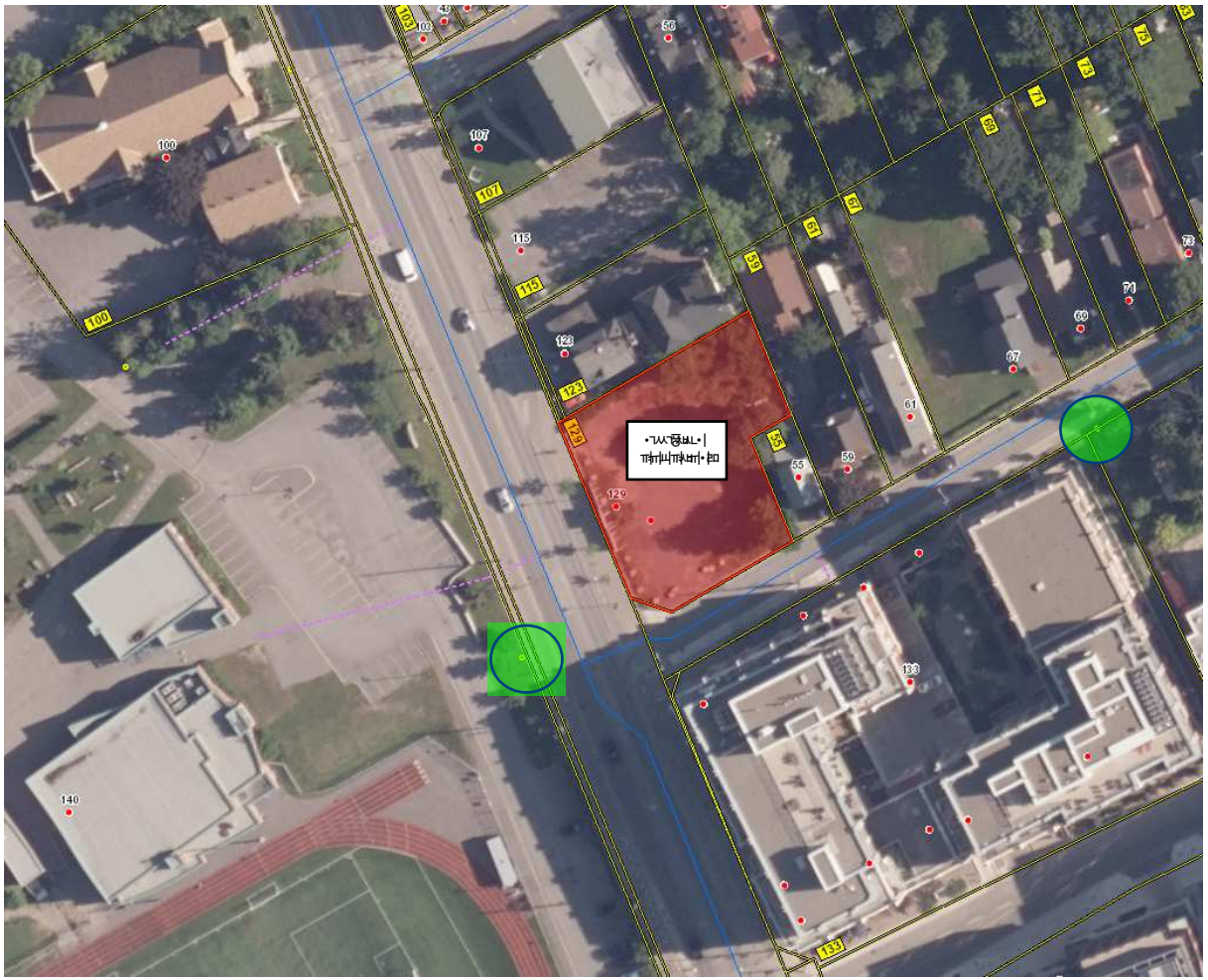
Assuming a maximum velocity of 1.8m/s, the diameter of pipe is calculated as:

Minimum pipe diameter (d) =	$(4Q/\pi V)^{1/2}$		
=	0.046	m	
=	46	mm	
Proposed pipe diameter (d) =	**150**	mm	(to be confirmed with hydraulic pressure analysis)
=	**6**	Inches	

Fire Flow Calculations

LRL File No. 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: April 12, 2025
Method: Fire Underwriter's Survey (FUS)
Prepared: S.Vora
Checked:

Step	Task	Term	Options	Multiplier	Choose:	Value	Unit	Fire Flow
Structural Framing Material								
1	Choose frame used for building	Coefficient C related to the type of construction	Wood Frame	1.5	Non-combustible constructio	**0.8**		
			Ordinary Construction	1.0				
			Non-combustible construction	0.8				
			Fire resistive construction <2 hrs	0.7				
			Fire resistive construction >2 hrs	0.6				
Floor Space Area (A)								
2	Total area					**2,694**	m^2	
3	Obtain fire flow before reductions	Required fire flow	Fire Flow = 220 x C x $A^{0.5}$				L/min	**9,135**
Reductions or surcharge due to factors affecting burning								
4	Choose combustibility of contents	Occupancy hazard reduction or surcharge	Non-combustible	-25%	Non-combustible	**-25%**	L/min	**6,851**
			Limited combustible	-15%				
			Combustible	0%				
			Free burning	15%				
			Rapid burning	25%				
5	Choose reduction for sprinklers	Sprinkler reduction	Full automatic sprinklers	-30%	True	**-30%**	L/min	**3,426**
			Water supply is standard for both the system and fire department hose lines	-10%	True	**-10%**		
			Fully supervised system	-10%	True	**-10%**		
6	Choose separation	Exposure distance between units	North side	0 to 3m	25%		L/min	**7,536**
			East side	3.1 to 10m	20%			
			South side	10.1 to 20m	15%			
			West side	>45m	0%	**60%**		
Net required fire flow								
7	Obtain fire flow, duration, and volume				Minimum required fire flow rate		L/min	**7,536**
					Minimum required fire flow rate		L/s	**125.6**
					Required duration of fire flow		hr	**2.0**



FIRE HYDRANT FIGURE

LEGEND

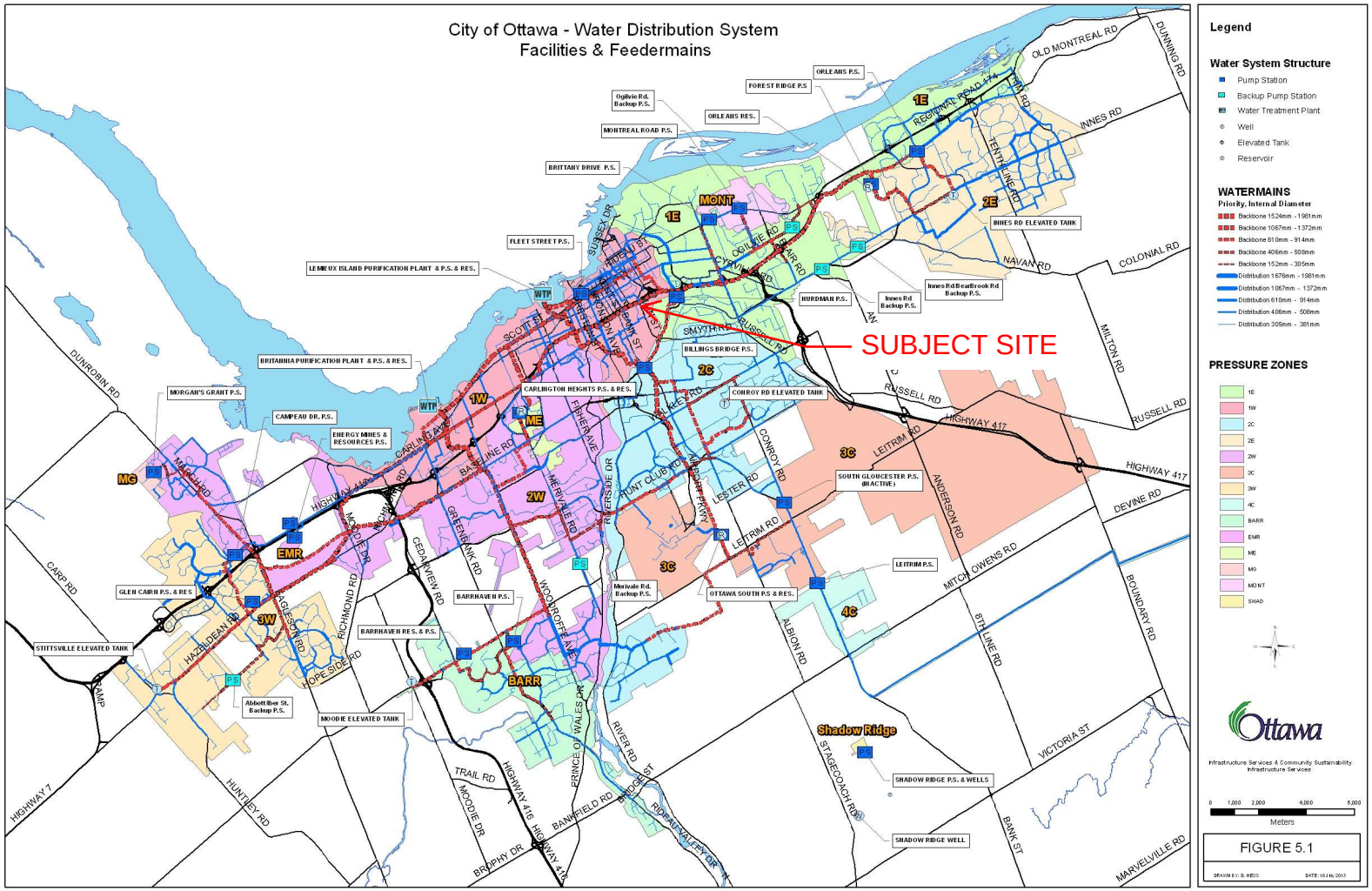
Hydrants within 75m

Hydrants within 150m

Distance to buildings[a]		Maximum capacity[b]	
(ft)	(m)	(gpm)	(L/min)
≤ 250	≤ 76	1500	5678
> 250 and ≤ 500	> 76 and ≤ 152	1000	3785
> 500 and ≤ 1000	> 152 and ≤ 305	750	2839

[a] Measured in accordance with 18.5.1.4 and 18.5.1.5.

[b] Minimum 20 psi (139.9 kPa) residual pressure.



Source: City of Ottawa GIS infrastructure database

Figure 5.1: City of Ottawa Water Distribution System, Facilities and Feedermains

From: Kevin Reid <kreid@rlaarchitecture.ca>
Sent: Wednesday, May 29, 2024 5:14 PM
To: Sarthak Vora
Cc: Virginia Johnson; Andrew Glass
Subject: RE: 129 Main Street, ottawa - proposed 6 storey 58 unit mixed use residential/commercial development

Hi Sarthak,

Please see my below responses in **blue**

Also – Here is a WeTransfer link to the Issued for Building Permit (IBP) Architectural and Mechanical files, which I believe you do not have in your review.

https://we.tl/t-jMr9v0Y2Bt

Best regards,

Kevin Reid MArch OAA NSAA AIBC MRAIC CPHC

rla/architecture
roderick lahey architect inc.

56 Beech Street,
Ottawa, Ontario K1S 3J6
Tel: 613.724.9932 x 249
Mob: 902.266.4307
kreid@rlaarchitecture.ca

From: Sarthak Vora <svora@lrl.ca>
Sent: May 28, 2024 3:04 PM
To: Kevin Reid <kreid@rlaarchitecture.ca>
Cc: Virginia Johnson <vjohnson@lrl.ca>; Andrew Glass <aglass@prpgrp.com>
Subject: RE: 129 Main Street, ottawa - proposed 6 storey 58 unit mixed use residential/commercial development

Hello Kevin,

We're working on calculating the fire demands for the proposed development. Could you please provide the following information to assist us?

1. Can you confirm if sprinklers are proposed for the building? **It appears as the intent was to have sprinklers based on the Code Matrix on sheet A002, and there are fire protection sheets that were prepared by the mechanical engineering team (sheets M550 – M556)**

If yes, will the sprinkler system be fully supervised and automatic? **The code matrix identifies the sprinkler system as being 'Single Stage'**

Choose reduction for sprinklers	Sprinkler reduction	Full automatic sprinklers	-30%
		Water supply is standard for both the system and fire department hose lines	-10%
		Fully supervised system	-10%

2. Can you confirm the ' Type of Building Construction'? The code matrix identifies the construction as being a **Combination of Combustible/ Non-Combustible,** but having scanned the Issued for Building Permit set (details and assemblies) it appears to be of primarily non-combustible construction. (concrete structure with steel stud framing and masonry and aluminum plate cladding.

The following Construction Types and Coefficients are used in the required fire flow formula:

C = 1.5 for **Type V** Wood Frame Construction
= 0.8 for **Type IV-A** Mass Timber Construction
= 0.9 for **Type IV-B** Mass Timber Construction
= 1.0 for **Type IV-C** Mass Timber Construction
= 1.5 for **Type IV-D** Mass Timber Construction
= 1.0 for **Type III** Ordinary Construction
= 0.8 for **Type II** Noncombustible Construction
= 0.6 for **Type I** Fire Resistive Construction

3. Can you please confirm the type of Occupancy contents? See info below.
I have also attached the Water Supply for Public Fire Protection Guide to this email. Table 3 on page 25 provides examples of the occupancy contents. It seems likely to be inthe 'Non-

combustible Contents category' below base on my reading of the IBP drawings

- *Noncombustible Contents* *-25%*
  - Includes merchandise or materials, including stock, or equipment, which in permissible quantities does not in themselves constitute an active fuel for the spread of fire.
  - May include limited or controlled amounts of combustible material, not exceeding 5% of the Total Effective Area of the occupancy. Combustible components of construction (ex. interior walls, finishes, etc.) should be included in the limit on combustible materials.
- *Limited Combustible Contents* *-15%*
  - Includes merchandise or materials, including furniture, stock, or equipment, of low combustibility, with limited concentrations of combustible materials.
- Combustible Contents 0% no adjustment
  - Includes merchandise or materials, including furniture, stock, or equipment, of moderate combustibility.
- *Free Burning Contents* *+15%*
  - Includes merchandise or materials, including furniture, stock, or equipment, which burn freely, constituting an active fuel.
- *Rapid Burning Contents* *+25%*
  - Includes merchandise or materials, including furniture, stock, or equipment, which either
    - Burn with great intensity
    - spontaneously ignite and are difficult to extinguish
    - give off flammable or explosive vapors at ordinary temperatures
    - as a result of an industrial processing, produce large quantities of dust or other finely divided debris subject to flash fire or explosion

Please let me know if there are any questions.

Thanks

Sarthak Vora, EIT
Civil Engineer-In-Training
LRL Engineering | lrl.ca
Cell: (613)915-7633 | svora@lrl.ca

APPENDIX C

Sanitary Service Calculations

LRL Associates Ltd.

Sanitary Sewer Design Sheet

LRL File No.: 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Designed: S.Vora
Checked:
Date: April 12, 2025
DWG. Reference: C401

Sanitary Design Parameters

Average Daily Flow = 280 L/p/day
Extraneous Flow = 0.33 L/s/ha
Commercial & Institutional Peak Factor = 1.5
Maximum Residential Peak Factor = 4.0

Pipe Design Parameters

Maximum Velocity = 3.00 m/s
Minimum Velocity = 0.60 m/s
Manning's n = 0.013

LOCATION			RESIDENTIAL						COMMERCIAL				INFILTRATION			TOTAL FLOW, Q	PIPE						
STREET	FROM	TO	AREA	POP.	ACCU. AREA	ACCU. POP.	PEAK FACT.	PEAK FLOW	AREA	ACCU. AREA	PEAK FACT.	PEAK FLOW	TOTAL AREA	ACCU. AREA	INFILT. FLOW		LENGTH	DIA.	SLOPE	MATERIAL	CAP. Q(FULL)	VEL. V(FULL)	RATIO Q /QFULL
			(Ha)		(Ha)			(L/s)	(Ha)	(Ha)		(L/s)	(Ha)	(Ha)	(L/s)	(L/s)	(m)	(mm)	(%)		(L/s)	(m/s)	
	BLDG	EX. 450mmØ SAN		114.8		114.8	3.6	1.33	0.036	0.036	1.5	0.02	0.142	0.142	0.05	1.40	5.0	200	1.00%	PVC	32.80	1.04	0.04

Notes: Existing inverts and slopes are estimated. They are to be confirmed on-site.

APPENDIX D

Stormwater Management Calculations
Hydrovex ICD

LRL Associates Ltd.

Storm Watershed Summary

LRL File No. 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: May 27, 2025
Designed: S.Vora
Checked: V.Johnson
Dwg Reference: C701, C702

Pre-Development Catchments

Watershed	C = 0.20	C = 0.80	C = 0.90	Total Area (ha)	Combined C
ECA-01 (un-controlled)	0.000	0.141	0.000	0.141	0.80
ECA-02 (un-controlled)	0.000	0.000	0.016	0.016	0.90
Total	**0.000**	**0.141**	**0.016**	**0.157**	**0.81**

Post-Development Catchments

Watershed	C = 0.20	C = 0.8	C = 0.90	Total Area (ha)	Combined C
CA-01 (un-controlled)	0.000	0.014	0.000	0.014	0.80
CA-02 (un-controlled)	0.000	0.000	0.006	0.006	0.90
CA-03 (controlled)	0.000	0.000	0.098	0.098	0.90
CA-04A (controlled)	0.013	0.000	0.007	0.020	0.44
CA-04B (controlled)	0.000	0.000	0.003	0.003	0.90
CA-05 (controlled)	0.000	0.000	0.016	0.016	0.90
Total	**0.013**	**0.014**	**0.130**	**0.157**	**0.83**

LRL File No. 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: May 27, 2025
Designed: S.Vora
Checked: V.Johnson
Drawing Ref.: C601

Stormwater Management Design Sheet

STORM - 100 YEAR

Runoff Equation

Q = 2.78CIA (L/s)

C = Runoff coefficient

I = Rainfall intensity (mm/hr) = $A / (T_d + C)^B$

A = Area (ha)

T_d = Time of duration (min)

Pre-Development Release Rate

IDF Curve Equations

$I_{100} = 1735.688 / (Td + 6.014)^{0.820}$ A = 1735.688 B = 0.820 C = 6.014

C =	0.50	(max of 0.5 as per City Guidelines)	
I_{100} =	178.6	mm/hr	
T_d =	10	min	
A =	0.16	ha	
100 Year Release Rate =	38.97	L/s	
5 Year Release Rate =	22.74	L/s	(Allowable Release Rate)

Post-development Stormwater Management

					$\sum R_{2\&5}$	$\sum R_{100}$
	Total Site Area =	**0.155**	**ha**	**$\sum R$ =**	**0.81**	**1.00**
	CA-03 (controlled)	0.098	ha	R =	0.90	1.00
	CA-04A (controlled)	0.020	ha	R =	0.44	0.55
	CA-04B (controlled)	0.003	ha	R =	0.90	1.00
	CA-05 (controlled)	0.016	ha	R =	0.90	1.00
	Total (controlled)	**0.137**	**ha**	**R =**	**0.81**	**1.00**
	CA-01 (un-controlled)	0.014	ha	R =	0.80	1.00
	CA-02 (un-controlled)	0.004	ha	R =	0.90	1.00
	Total (uncontrolled)	**0.018**	**ha**	**R =**	**0.82**	**1.00**
	Total	**0.155**	**ha**	**R =**	**0.81**	**1.00**

100 Year Post-development Stormwater Management (CA-03,04A , 04B, 05 Cistern)

Time (min)	Intensity (mm/hr)	Controlled Runoff (L/s)	Storage Volume (m^3)	Controlled Release Rate (L/s)	Uncontrolled Runoff (L/s)	Total Release Rate (L/s)
10	178.56	68.11	33.06	13.00	1.99	14.99
15	142.89	54.50	37.35	13.00	7.15	20.15
20	119.95	45.75	39.30	13.00	6.00	19.00
25	103.85	39.61	39.91	13.00	5.20	18.20
30	91.87	35.04	39.67	13.00	4.60	17.60
35	82.58	31.50	38.84	13.00	4.13	17.13
40	75.15	28.66	37.59	13.00	3.76	16.76
45	69.05	26.34	36.01	13.00	3.46	16.46
50	63.95	24.39	34.18	13.00	3.20	16.20
55	59.62	22.74	32.15	13.00	2.98	15.98
60	55.89	21.32	29.95	13.00	2.80	15.80
70	49.79	18.99	25.16	13.00	2.49	15.49
80	44.99	17.16	19.97	13.00	2.25	15.25
90	41.11	15.68	14.47	13.00	2.06	15.06
100	37.90	14.46	8.74	13.00	1.90	14.90
110	35.20	13.43	2.82	13.00	1.76	14.76
120	32.89	12.55	0.00	13.00	1.65	14.65

LRL File No. 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: May 27, 2025
Designed: S.Vora
Checked: V.Johnson
Drawing Ref.: C601

Stormwater Management Design Sheet

100 Year Post-development (CA-03,04A , 04B, 05 Cistern)- 50% of the Controlled Release Rate considered for Storage Calculations

Time (min)	Intensity (mm/hr)	Controlled Runoff (L/s)	Storage Volume (m^3)	Controlled Release Rate (L/s)	Uncontrolled Runoff (L/s)	Total Release Rate (L/s)
10	178.56	68.11	36.96	6.50	1.99	8.49
15	142.89	54.50	43.20	6.50	7.15	13.65
20	119.95	45.75	47.10	6.50	6.00	12.50
25	103.85	39.61	49.66	6.50	5.20	11.70
30	91.87	35.04	51.37	6.50	4.60	11.10
35	82.58	31.50	52.49	6.50	4.13	10.63
40	75.15	28.66	53.19	6.50	3.76	10.26
45	69.05	26.34	53.56	6.50	3.46	9.96
50	63.95	24.39	53.68	6.50	3.20	9.70
55	59.62	22.74	53.60	6.50	2.98	9.48
60	55.89	21.32	53.35	6.50	2.80	9.30
70	49.79	18.99	52.46	6.50	2.49	8.99
80	44.99	17.16	51.17	6.50	2.25	8.75
90	41.11	15.68	49.57	6.50	2.06	8.56
100	37.90	14.46	47.74	6.50	1.90	8.40
110	35.20	13.43	45.72	6.50	1.76	8.26
120	32.89	12.55	43.54	6.50	1.65	8.15

On-site stormwater detention

Storage required = **53.68** m^3

Available Cistern Storage = **62.00** m^3

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LRL File No. 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: May 27, 2025
Designed: S.Vora
Checked: V.Johnson
Drawing Ref.: C601

Stormwater Management Design Sheet

STORM - 5 YEAR

Runoff Equation

Q = 2.78CIA (L/s)

C = Runoff coefficient

I = Rainfall intensity (mm/hr) = $A / (T_d + C)^B$

A = Area (ha)

T_d = Time of duration (min)

Pre-Development Release Rate

IDF Curve Equations

$I_5 = 998.071 / (Td + 6.053)^{0.814}$ A = 998.071 B = 0.814 C = 6.053

C =	0.5	(max of 0.5 as per City Guidelines)	
I_5 =	104.2	mm/hr	
T_d =	10	min	
A =	0.16	ha	
5 Year Release Rate =	22.74	L/s	(Allowable Release Rate)

Post-development Stormwater Management

					$\sum R_{2\&5}$
	Total Site Area =	**0.157**	**ha**	**∑R =**	**0.81**
	CA-03 (controlled)	0.098	ha	R =	0.90
	CA-04A (controlled)	0.020	ha	R =	0.44
	CA-04B (controlled)	0.003	ha	R =	0.90
	CA-05 (controlled)	0.016	ha	R =	0.90
	Total (controlled)	**0.137**	**ha**	**R =**	**0.81**
	CA-01 (un-controlled)	0.014	ha	R =	0.80
	CA-02 (un-controlled)	0.006	ha	R =	0.90
	Total (uncontrolled)	**0.020**	**ha**	**R =**	**0.83**
	Total	**0.157**	**ha**	**R =**	**0.81**

5 Year Post-development Stormwater Management (CA-03,04A, 04B & 05 Cistern)

Time (min)	Intensity (mm/hr)	Controlled Runoff (L/s)	Storage Volume (m^3)	Controlled Release Rate (L/s)*	Uncontrolled Runoff (L/s)	Total Release Rate (L/s)
10	104.19	32.31	17.43	6.50	4.68	11.18
15	83.56	25.91	20.39	6.50	3.75	10.25
20	70.25	21.78	22.24	6.50	3.15	9.65
25	60.90	18.88	23.45	6.50	2.73	9.23
30	53.93	16.72	24.25	6.50	2.42	8.92
35	48.52	15.04	24.77	6.50	2.18	8.68
40	44.18	13.70	25.08	6.50	1.98	8.48
45	40.63	12.60	25.24	6.50	1.82	8.32
50	37.65	11.68	25.28	6.50	1.69	8.19
55	35.12	10.89	25.22	6.50	1.58	8.08
60	32.94	10.22	25.07	6.50	1.48	7.98
70	29.37	9.11	24.60	6.50	1.32	7.82
80	26.56	8.24	23.93	6.50	1.19	7.69
90	24.29	7.53	23.12	6.50	1.09	7.59
100	22.41	6.95	22.19	6.50	1.01	7.51
110	20.82	6.46	21.16	6.50	0.93	7.43
120	19.47	6.04	20.06	6.50	0.87	7.37

* 50% of the peak allowable release rate considered for storage calculations

On-site stormwater detention

Storage required =	**25.28**	**m^3**
Available Cistern storage =	**62.00**	**m^3**

LRL Associates Ltd.

Storm Sewer Design Sheet

LRL
ENGINEERING | INGÉNIERIE

LRL File No. 240195
Project: 6- Storey Mixed-Use Apartment Building
Location: 129 Main Street, Ottawa, ON
Date: May 27, 2025
Designed: S.Vora
Checked: V.Johnson
Dwg. Ref.: C401,C702

Rational Method
Q = 2.78CIA
Q = Peak flow (L/s)
A = Drainage area (ha)
C = Runoff coefficient
I = Rainfall intensity (mm/hr)

Runoff coefficient (C)
Grass = 0.2
Gravel = 0.8
Asphalt / rooftop = 0.9

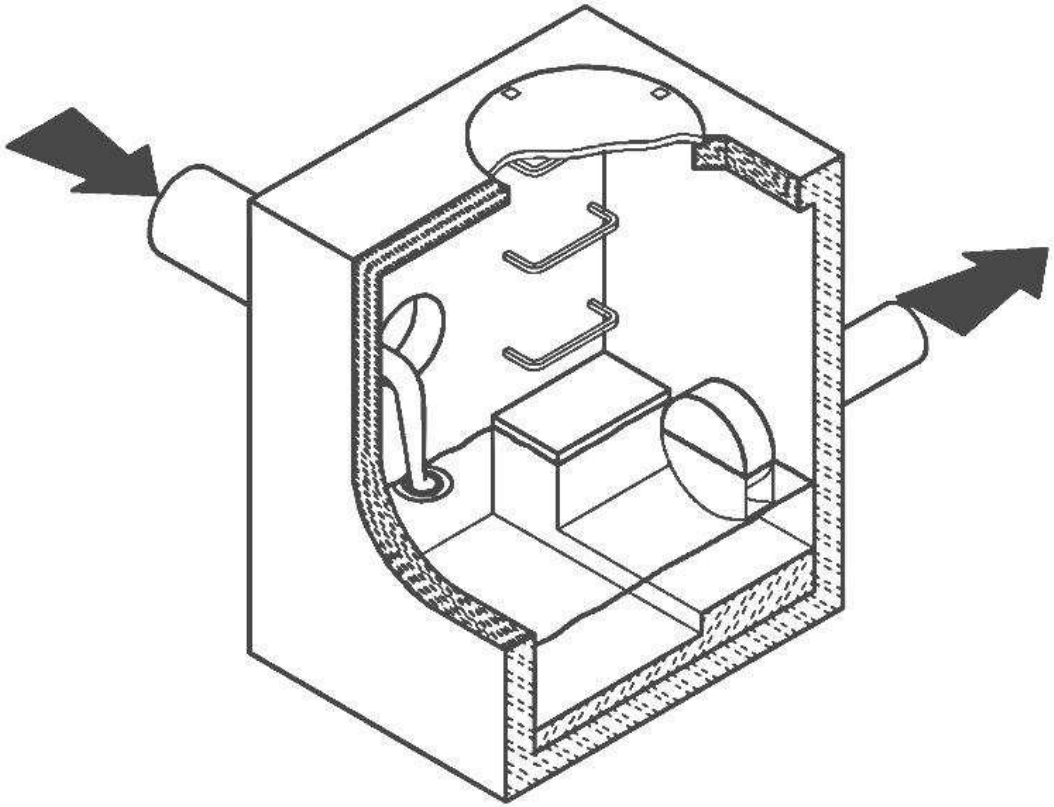
IDF curve
Ottawa Macdonald-Cartier International Airport
Storm event: 5 Years
Intensity equation:
$I_5 = 998.071 / (Td + 6.053)^{0.814}$ (mm/hr)

Pipe Design Parameters
Minimum velocity = 0.80 m/s
Manning's "n" = 0.013

LOCATION			AREA (ha)			FLOW						STORM SEWER							
WATERSHED / STREET	From	To	C = 0.20	C = 0.80	C = 0.90	Indiv. 2.78AC	Accum. 2.78AC	Time of Conc.	Rainfall Intensity	Peak Flow (Q)	Controlled Flow (Q)	Pipe Dia.	Type	Slope	Length	Capacity Full (Q_{FULL})	Velocity Full	Time of Flow	Ratio Q /Q_{FULL}
								(min)	(mm/hr)	(L/s)	(L/s)	(mm)		(%)	(m)	(L/s)	(m/s)	(min)	
CA-03	Building	Ex. 1350mmØ Street Sewer	0.000	0.000	0.137	0.34	0.34	10.00	104.19	35.77	13.00	250	PVC	1.00%	3.6	59.47	1.21	0.05	0.22

CSO/STORMWATER MANAGEMENT

HYDROVEX® VHV / SVHV
Vertical Vortex Flow Regulator



JOHN MEUNIER

HYDROVEX® VHV / SVHV VERTICAL VORTEX FLOW REGULATOR

APPLICATIONS

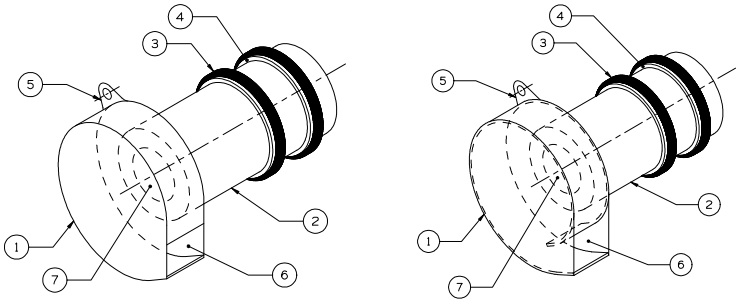
One of the major problems of urban wet weather flow management is the runoff generated after a heavy rainfall. During a storm, uncontrolled flows may overload the drainage system and cause flooding. Due to increased velocities, sewer pipe wear is increased dramatically and results in network deterioration. In a combined sewer system, the wastewater treatment plant may also experience significant increases in flows during storms, thereby losing its treatment efficiency.

A simple means of controlling excessive water runoff is by controlling excessive flows at their origin (manholes). **John Meunier Inc.** manufactures the **HYDROVEX® VHV / SVHV** line of vortex flow regulators to control stormwater flows in sewer networks, as well as manholes.

The vortex flow regulator design is based on the fluid mechanics principle of the forced vortex. This grants flow regulation without any moving parts, thus reducing maintenance. The operation of the regulator, depending on the upstream head and discharge, switches between orifice flow (gravity flow) and vortex flow. Although the concept is quite simple, over 12 years of research have been carried out in order to get a high performance.

The **HYDROVEX® VHV / SVHV** Vertical Vortex Flow Regulators **(refer to Figure 1)** are manufactured entirely of stainless steel, and consist of a hollow body (**1**) (in which flow control takes place) and an outlet orifice (**7**). Two rubber "O" rings (**3**) seal and retain the unit inside the outlet pipe. Two stainless steel retaining rings (**4**) are welded on the outlet sleeve to ensure that there is no shifting of the "O" rings during installation and use.

1. BODY
2. SLEEVE
3. O-RING
4. RETAINING RINGS (SQUARE BAR)
5. ANCHOR PLATE
6. INLET
7. OUTLET ORIFICE



VHV *SVHV*

FIGURE 1: HYDROVEX® VHV-SVHV VERTICAL VORTREX FLOW REGULATORS

ADVANTAGES

- The **HYDROVEX® VHV / SVHV** line of flow regulators are manufactured entirely of stainless steel, making them durable and corrosion resistant.
- Having no moving parts, they require minimal maintenance.
- The geometry of the **HYDROVEX® VHV / SVHV** flow regulators allows a control equal to an orifice plate, having a cross section area 4 to 6 times smaller. This decreases the chance of blockage of the regulator, due to sediments and debris found in stormwater flows. **Figure 2** illustrates the comparison between a regulator model 100 SVHV-2 and an equivalent orifice plate. One can see that for the same height of water, the regulator controls a flow approximately four times smaller than an equivalent orifice plate.
- Installation of the **HYDROVEX® VHV / SVHV** flow regulators is quick and straightforward and is performed after all civil works are completed.
- Installation requires no special tools or equipment and may be carried out by any contractor.
- Installation may be carried out in existing structures.

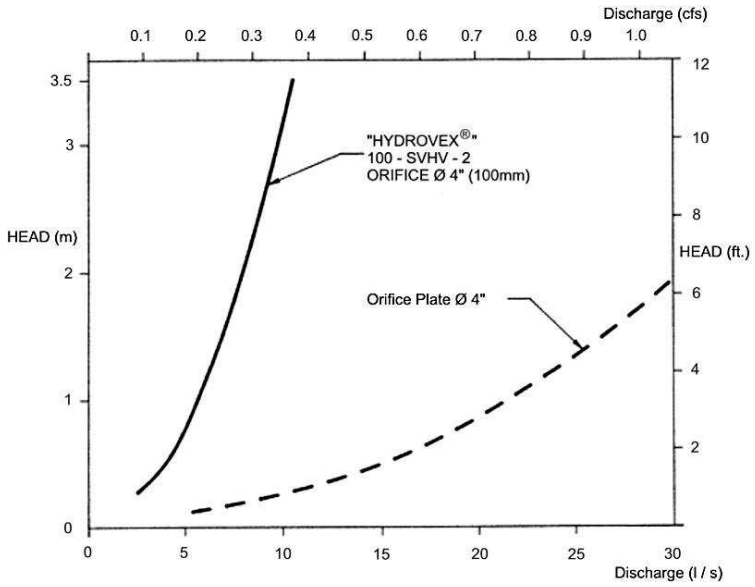


FIGURE 2: DISCHARGE CURVE SHOWING A HYDROVEX® FLOW REGULATOR VS AN ORIFICE PLATE

SELECTION

Selection of a **VHV or SVHV** regulator can be easily made using the selection charts found at the back of this brochure (see **Figure 3)**. These charts are a graphical representation of the maximum upstream water pressure (head) and the maximum discharge at the manhole outlet. The maximum design head is the difference between the maximum upstream water level and the invert of the outlet pipe. All selections should be verified by John Meunier Inc. personnel prior to fabrication.

Example:

✓ Maximum design head	2m (6.56 ft.)
✓ Maximum discharge	6 L/s (0.2 cfs)
✓ Using **Figure 3** - VHV	model required is a **75 VHV-1**

INSTALLATION REQUIREMENTS

All **HYDROVEX® VHV / SVHV** flow regulators can be installed in circular or square manholes. **Figure 4** gives the various minimum dimensions required for a given regulator. ***It is imperative to respect the minimum clearances shown to ensure easy installation and proper functioning of the regulator.***

SPECIFICATIONS

In order to specify a **HYDROVEX®** regulator, the following parameters must be defined:

- The model number (ex: 75-VHV-1)
- The diameter and type of outlet pipe (ex: 6" diam. SDR 35)
- The desired discharge (ex: 6 l/s or 0.21 CFS)
- The upstream head (ex: 2 m or 6.56 ft.) *
- The manhole diameter (ex: 36" diam.)
- The minimum clearance "H" (ex: 10 inches)
- The material type (ex: 304 s/s, 11 Ga. standard)

* ***Upstream head is defined as the difference in elevation between the maximum upstream water level and the invert of the outlet pipe where the HYDROVEX® flow regulator is to be installed.***

PLEASE NOTE THAT WHEN REQUESTING A PROPOSAL, WE SIMPLY REQUIRE THAT YOU PROVIDE US WITH THE FOLLOWING:

- ***project design flow rate***
- ***pressure head***
- ***chamber's outlet pipe diameter and type***

Typical VHV model in factory

OPTIONS

FV – SVHV (mounted on sliding plate)

VHV-1-O (standard model with odour control inlet)

FV – VHV-O (mounted on sliding plate with odour control inlet)

VHV with Gooseneck assembly in existing chamber without minimum release at the bottom

VHV with air vent for minimal slopes

HYDROVEX®

VHV Vertical Vortex Flow Regulator

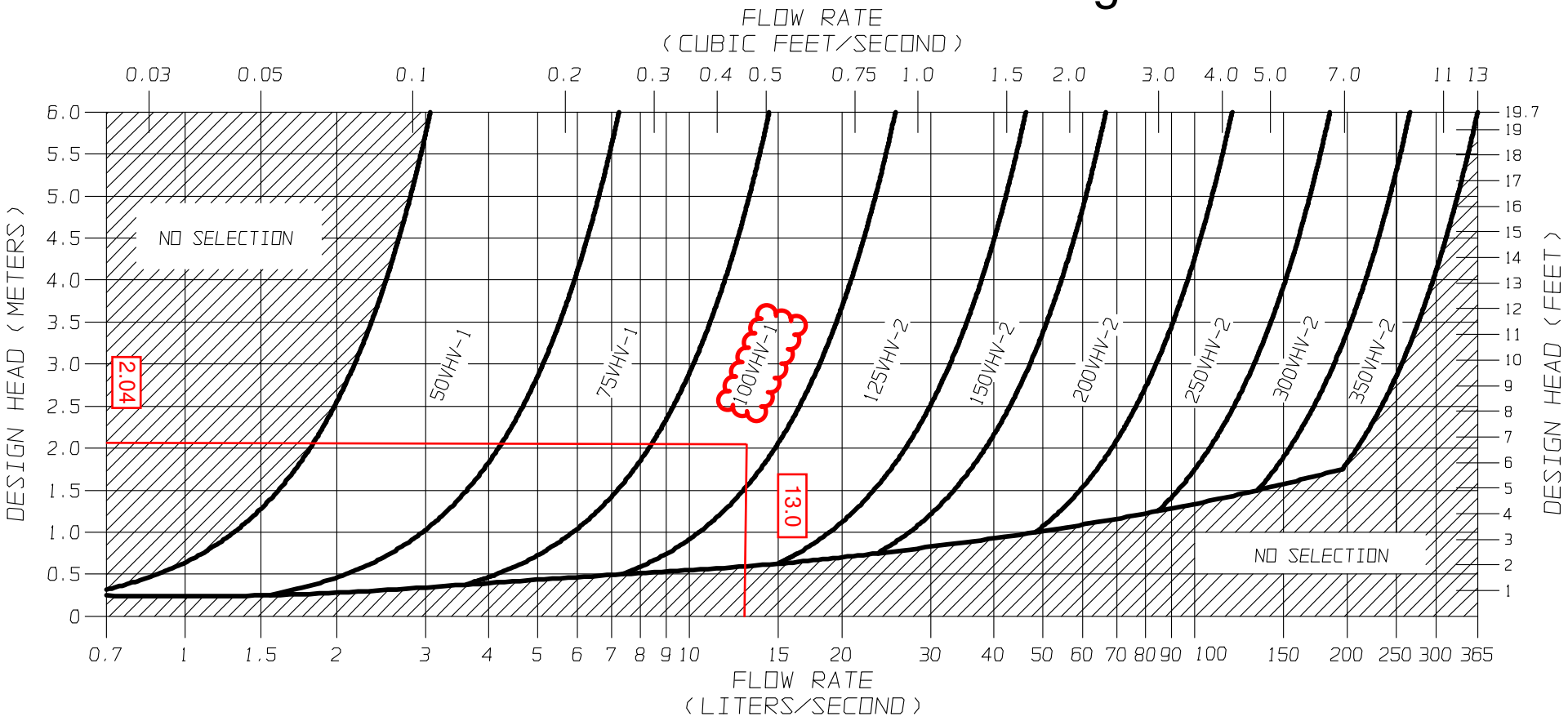
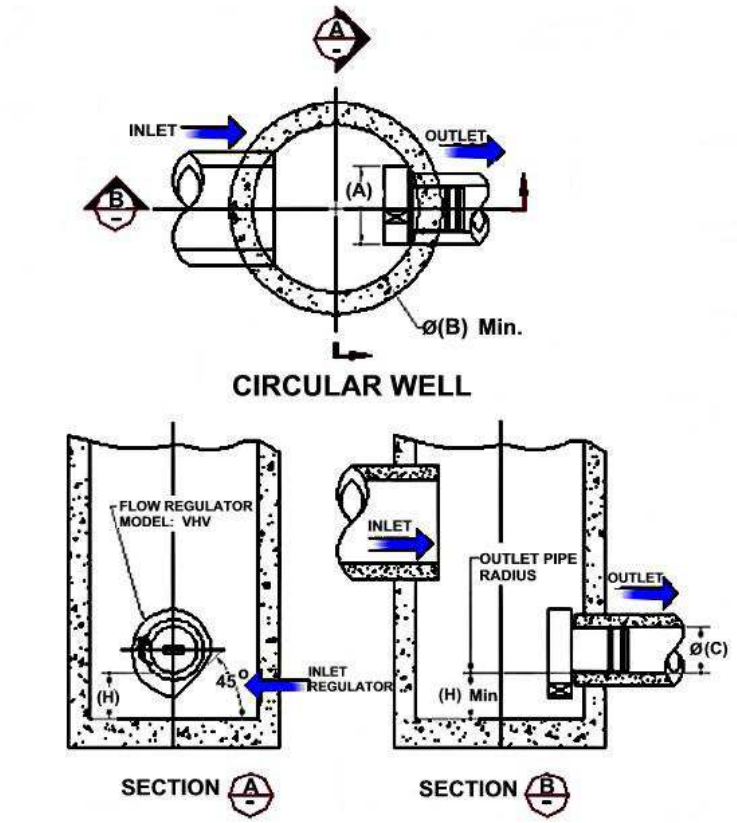


FIGURE 3 - VHV

JOHN MEUNIER

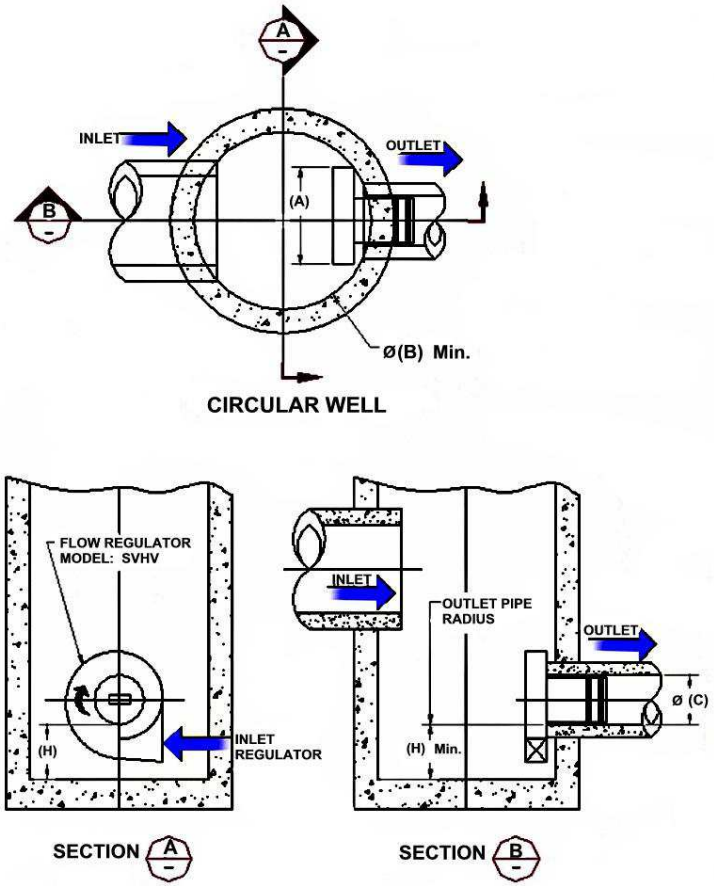
FLOW REGULATOR TYPICAL INSTALLATION IN CIRCULAR MANHOLE
FIGURE 4 (MODEL VHV)

Model Number	Regulator Diameter		Minimum Manhole Diameter		Minimum Outlet Pipe Diameter		Minimum Clearance	
	A (mm)	**A** (in.)	**B** (mm)	**B** (in.)	**C** (mm)	**C** (in.)	**H** (mm)	**H** (in.)
50VHV-1	150	6	600	24	150	6	150	6
75VHV-1	250	10	600	24	150	6	150	6
100VHV-1	325	13	900	36	150	6	200	8
125VHV-2	275	11	900	36	150	6	200	8
150VHV-2	350	14	900	36	150	6	225	9
200VHV-2	450	18	1200	48	200	8	300	12
250VHV-2	575	23	1200	48	250	10	350	14
300VHV-2	675	27	1600	64	250	10	400	16
350VHV-2	800	32	1800	72	300	12	500	20



FLOW REGULATOR TYPICAL INSTALLATION IN CIRCULAR MANHOLE
FIGURE 4 (MODEL SVHV)

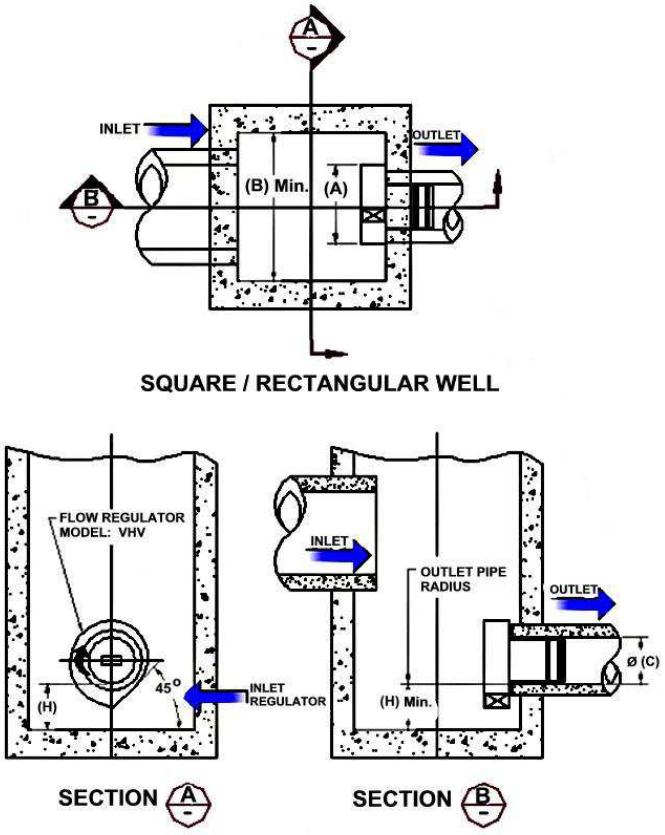
Model Number	Regulator Diameter		Minimum Manhole Diameter		Minimum Outlet Pipe Diameter		Minimum Clearance	
	A (mm)	**A** (in.)	**B** (mm)	**B** (in.)	**C** (mm)	**C** (in.)	**H** (mm)	**H** (in.)
25 SVHV-1	125	5	600	24	150	6	150	6
32 SVHV-1	150	6	600	24	150	6	150	6
40 SVHV-1	200	8	600	24	150	6	150	6
50 SVHV-1	250	10	600	24	150	6	150	6
75 SVHV-1	375	15	900	36	150	6	275	11
100 SVHV-2	275	11	900	36	150	6	250	10
125 SVHV-2	350	14	900	36	150	6	300	12
150 SVHV-2	425	17	1200	48	150	6	350	14
200 SVHV-2	575	23	1600	64	200	8	450	18
250 SVHV-2	700	28	1800	72	250	10	550	22
300 SVHV-2	850	34	2400	96	250	10	650	26
350 SVHV-2	1000	40	2400	96	250	10	700	28



FLOW REGULATOR TYPICAL INSTALLATION IN SQUARE MANHOLE
FIGURE 4 (MODEL VHV)

Model Number	Regulator Diameter		Minimum Chamber Width		Minimum Outlet Pipe Diameter		Minimum Clearance	
	A (mm)	**A** (in.)	**B** (mm)	**B** (in.)	**C** (mm)	**C** (in.)	**H** (mm)	**H** (in.)
50VHV-1	150	6	600	24	150	6	150	6
75VHV-1	250	10	600	24	150	6	150	6
100VHV-1	325	13	600	24	150	6	200	8
125VHV-2	275	11	600	24	150	6	200	8
150VHV-2	350	14	600	24	150	6	225	9
200VHV-2	450	18	900	36	200	8	300	12
250VHV-2	575	23	900	36	250	10	350	14
300VHV-2	675	27	1200	48	250	10	400	16
350VHV-2	800	32	1200	48	300	12	500	20

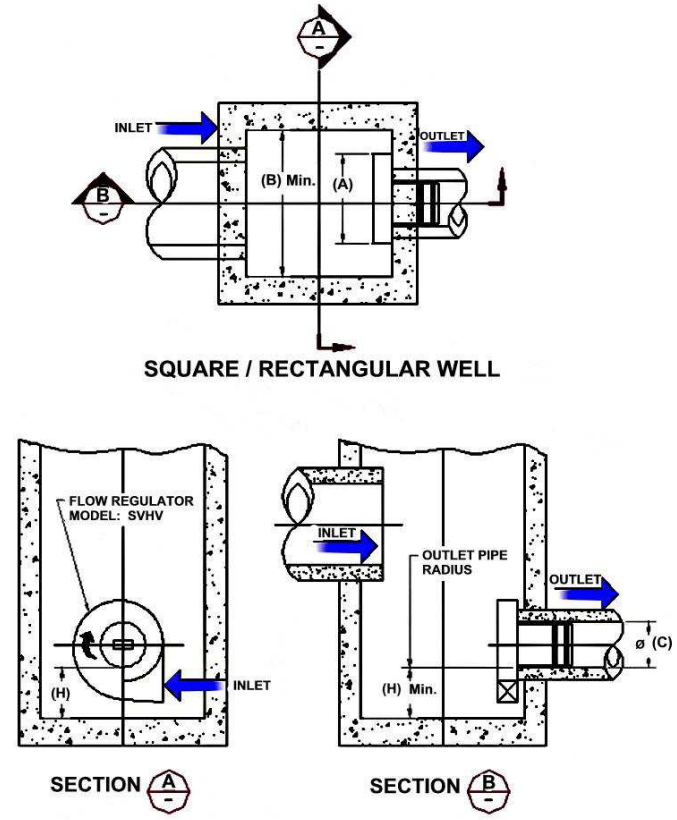
NOTE: ***In the case of a square manhole, the outlet flow pipe must be centered on the wall to ensure enough clearance for the unit.***



FLOW REGULATOR TYPICAL INSTALLATION IN SQUARE MANHOLE
FIGURE 4 (MODEL SVHV)

Model Number	Regulator Diameter		Minimum Chamber Width		Minimum Outlet Pipe Diameter		Minimum Clearance	
	A (mm)	**A** (in.)	**B** (mm)	**B** (in.)	**C** (mm)	**C** (in.)	**H** (mm)	**H** (in.)
25 SVHV-1	125	5	600	24	150	6	150	6
32 SVHV-1	150	6	600	24	150	6	150	6
40 SVHV-1	200	8	600	24	150	6	150	6
50 SVHV-1	250	10	600	24	150	6	150	6
75 SVHV-1	375	15	600	24	150	6	275	11
100 SVHV-2	275	11	600	24	150	6	250	10
125 SVHV-2	350	14	600	24	150	6	300	12
150 SVHV-2	425	17	600	24	150	6	350	14
200 SVHV-2	575	23	900	36	200	8	450	18
250 SVHV-2	700	28	900	36	250	10	550	22
300 SVHV-2	850	34	1200	48	250	10	650	26
350 SVHV-2	1000	40	1200	48	250	10	700	28

NOTE: ***In the case of a square manhole, the outlet flow pipe must be centered on the wall to ensure enough clearance for the unit.***



INSTALLATION

The installation of a **HYDROVEX®** regulator may be undertaken once the manhole and piping is in place. Installation consists of simply fitting the regulator into the outlet pipe of the manhole. **John Meunier Inc.** recommends the use of a lubricant on the outlet pipe, in order to facilitate the insertion and orientation of the flow controller.

MAINTENANCE

HYDROVEX® regulators are manufactured in such a way as to be maintenance free; however, a periodic inspection (every 3-6 months) is suggested in order to ensure that neither the inlet nor the outlet has become blocked with debris. The manhole should undergo periodically, particularly after major storms, inspection and cleaning as established by the municipality

GUARANTY

The **HYDROVEX®** line of **VHV / SVHV** regulators are guaranteed against both design and manufacturing defects for a period of 5 years. Should a unit be defective, **John Meunier Inc.** is solely responsible for either modification or replacement of the unit.

John Meunier Inc.
ISO 9001 : 2008

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Revised: 2011-05-03

APPENDIX E

Civil Engineering Drawings

6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET, OTTAWA, ON

KEY PLAN (N.T.S.)

DRAWING INDEX	
TITLE PAGE	
SEDIMENT AND EROSION CONTROL PLAN	C101
GRADING AND DRAINAGE PLAN	C301
SERVICING PLAN	C401
STORMWATER MANAGEMENT PLAN	C601
PRE-DEVELOPMENT CATCHMENT PLAN	C701
POST-DEVELOPMENT CATCHMENT PLAN	C702
CONSTRUCTION DETAIL PLAN	C901

LRL
ENGINEERING | INGÉNIERIE
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6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET, OTTAWA, ON
REV.02 - RE-ISSUED FOR APPROVAL - MAY 2025
LRL PROJECT no: 240195

LICENSED PROFESSIONAL ENGINEER
S. GODIN
100574017
PROVINCE OF ONTARIO
2025-05-28
NOT AUTHENTIC UNLESS SIGNED AND DATED

GENERAL NOTES

1. ALL WORKS MATERIALS SHALL CONFIRM TO THE LAST REVISION OF THE STANDARDS AND SPECIFICATIONS FOR THE CITY OF OTTAWA, ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS), WHERE APPLICABLE. LOCAL UTILITY STANDARDS AND MINISTRY OF TRANSPORTATION STANDARDS WILL APPLY WHERE REQUIRED.
2. THE CONTRACTORS SHALL CONFIRM THE LOCATION OF ALL EXISTING UTILITIES WITHIN THE SITE AND ADJACENT WORK AREAS. THE CONTRACTORS SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR OR REPLACEMENT OF ANY SERVICES OR UTILITIES DISTURBED DURING CONSTRUCTION , TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION.
3. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION, ANY DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER. LOST TIME DUE TO FAILURE OF THE CONTRACTORS TO CONFIRM UTILITY LOCATIONS AND NOTIFY ENGINEER OF POSSIBLE CONFLICTS PRIOR TO CONSTRUCTION WILL BE AT CONTRACTORS EXPENSE.
4. ANY AREA BEYOND THE LIMIT OF THE SITE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTOR'S EXPENSE.
   RELOCATING OF EXISTING SERVICES AND/OR UTILITIES SHALL BE AS SHOWN ON THE DRAWINGS OR DETECTED BY THE ENGINEER AT THE EXPENSE OF DEVELOPERS.
5. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE 'OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS'. THE GENERAL CONTRACTORS SHALL BE DEEMED TO BE THE 'CONTRACTOR' AS DEFINED IN THE ACT.
6. ALL THE CONSTRUCTION SIGNAGE MUST CONFIRM TO THE MINISTRY OF TRANSPORTATION OF ONTARIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PER LATEST AMENDMENT.
7. THE CONTRACTOR IS ADVISED THAT WORKS BY OTHERS MAY BE ONGOING DURING THE PERIOD OF THE CONTRACT. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES TO PREVENT CONFLICTS.
8. ALL DIMENSIONS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
9. THERE WILL BE NO SUBSTITUTION OF MATERIALS UNLESS PRIOR WRITTEN APPROVAL IS RECEIVED FROM THE ENGINEER.
10. ALL CONSTRUCTION SHALL BE CARRIED OUT IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHNICAL REPORT.
11. FOR DETAILS RELATING TO STORMWATER MANAGEMENT AND ROOF DRAINAGE REFER TO THE SITE SERVICING AND STORMWATER MANAGEMENT REPORT.
12. ALL SEWERS CONSTRUCTED WITH GRADES LESS THAN 1.0% SHALL BE INSTALLED USING LASER ALIGNMENT AND CHECKED WITH LEVEL INSTRUMENT PRIOR TO BACKFILLING.
13. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED AND TO BEAR THE COST OF THE SAME.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL BEDDING, OR ADDITIONAL STRENGTH PIPE IF THE MAXIMUM TRENCH WIDTH AS SPECIFIED BY OPSD IS EXCEEDED.
15. ALL PIPE/CULVERT SECTION SIZES REFER TO INSIDE DIMENSIONS.
16. SHOULD DEEPLY BURIED ARCHAEOLOGICAL REMAINS BE FOUND ON THE PROPERTY DURING CONSTRUCTION ACTIVITIES, THE HERITAGE OPERATIONS UNIT OF THE ONTARIO MINISTRY OF CULTURE MUST BE NOTIFIED IMMEDIATELY.
17. ALL NECESSARY CLEARING AND GRUBBING SHALL BE COMPLETED BY THE CONTRACTOR. REVIEW WITH CONTRACT ADMINISTRATOR AND THE CITY OF OTTAWA PRIOR TO ANY TREE CUTTING/REMOVAL.
18. DRAWINGS SHALL BE READ ON CONJUNCTION WITH ARCHITECTURAL SITE PLAN.
19. THE CONTRACTOR SHALL PROVIDE THE PROJECT ENGINEER ON SET OF AS CONSTRUCTED SITE SERVICING AND GRADING DRAWINGS.
20. BENCHMARKS: IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THAT THE SITE BENCHMARK(S) HAS NOT BEEN ALTERED OR DISTURBED AND THAT ITS RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION DEPICTED ON THIS PLAN.

EROSION AND SEDIMENT CONTROL NOTES

GENERAL

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

THE CONTRACTOR ACKNOWLEDGES THAT SURFACE EROSION AND SEDIMENT RUNOFF RESULTING FROM THEIR CONSTRUCTION OPERATIONS HAS POTENTIAL TO CAUSE A DETRIMENTAL IMPACT TO ANY DOWNSTREAM WATERCOURSE OR SEWER, AND THAT ALL CONSTRUCTION OPERATIONS THAT MAY IMPACT UPON WATER QUALITY SHALL BE CARRIED OUT IN MANNER THAT STRICTLY MEETS THE REQUIREMENT OF ALL APPLICABLE LEGISLATION AND REGULATIONS.

AS SUCH, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CARRYING OUT THEIR OPERATIONS, AND SUPPLYING AND INSTALLING ANY APPROPRIATE CONTROL MEASURES, SO AS TO PREVENT SEDIMENT LADEN RUNOFF ENTERING ANY SEWER OR WATERCOURSE WITHIN OR DOWNSTREAM OF THE WORKING AREA.

THE CONTRACTOR ACKNOWLEDGES THAT NO ONE MEASURE IS LIKELY TO BE 100% EFFECTIVELY FOR EROSION PROTECTION AND CONTROLLING SEDIMENT RUNOFF AND DISCHARGES FROM THE SITE. THEREFORE, WHERE NECESSARY THE CONTRACTOR SHALL IMPLEMENT ADDITIONAL MEASURES ARRANGED IN SUCH MANNER AS TO MITIGATE SEDIMENT RELEASE FROM THE CONSTRUCTION OPERATIONS AND ACHIEVE SPECIFIC MAXIMUM PERMITTED CRITERIA WHERE APPLICABLE. SUGGESTED ON-SITE MEASURES MAY INCLUDE, BUT SHALL NOT BE LIMITED TO, THE FOLLOWING METHODS: SEDIMENT PONDS, FILTER BAGS, PUMP FILTERS, SETTLING TANKS, SILT FENCE, STRAW BALES, FILTER CLOTHS, CATCH BASIN FILTERS, CHECK DAMS AND/OR OTHER RECOGNIZED TECHNOLOGIES AND METHOD AVAILABLE AT THE TIME OF CONSTRUCTION. SPECIFIC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF OPSS 577 WHERE APPROPRIATE, OR IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

WHERE, IN THE OPINION OF THE CONTRACT ADMINISTRATOR OR REGULATORY AGENCY, THE INSTALLED CONTROL MEASURES FAIL TO PERFORM ADEQUATELY, THE CONTRACTOR SHALL SUPPLY AND INSTALL ADDITIONAL OR ALTERNATIVE MEASURES AS DIRECTED BY THE CONTRACT ADMINISTRATOR OR REGULATORY AGENCY, AS SUCH, THE CONTRACTOR SHALL HAVE ADDITIONAL CONTROL MATERIALS ON SITE AT ALL TIME WHICH ARE EASILY ACCESSIBLE AND MAY BE IMPLEMENTED BY HIM AT THE MOMENT'S NOTICE.

PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL SUBMIT TO THE CONTRACT ADMINISTRATOR SIX COPIES OF A DETAILED EROSION AND SEDIMENT CONTROL PLAN (ESCP). THE ESCP WILL CONSIST OF WRITTEN DESCRIPTION AND DETAILED DRAWINGS INDICATING THE ON-SITE ACTIVITIES AND MEASURES TO BE USED TO CONTROL EROSION AND SEDIMENT MOVEMENT FOR EACH STEP OF THE WORK.

CONTRACTOR'S RESPONSIBILITIES

THE CONTRACTOR SHALL ENSURE THAT ALL WORKERS, INCLUDING SUB-CONTRACTOR, IN THE WORKING ARE AWARE OF THE IMPORTANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES AND INFORMED OF THE CONSEQUENCES OF THE FAILURE TO COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AGENCIES.

THE CONTRACTOR SHALL PERIODICALLY, AND WHEN REQUESTED BY THE CONTRACT ADMINISTRATOR, CLEAN OUT ACCUMULATED SEDIMENT DEPOSITS AS REQUIRED AT THE SEDIMENT CONTROL DEVICES, INCLUDING THOSE DEPOSITS THAT MAY ORIGINATE FROM OUTSIDE THE CONSTRUCTION AREA. ACCUMULATED SEDIMENT SHALL BE REMOVED IN SUCH A MANNER THAT PREVENTS THE DEPOSITION OF THIS MATERIAL INTO THE SEWER WATERCOURSE AND AVOIDS DAMAGE TO CONTROL MEASURES. THE SEDIMENT SHALL BE REMOVED FROM THE SITE AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH REQUIREMENTS FOR EXCESS EARTH MATERIAL, AS SPECIFIED ELSEWHERE IN THE CONTRACT.

THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE CONTRACT ADMINISTRATOR ANY ACCIDENTAL DISCHARGES OF SEDIMENT MATERIAL INTO EITHER THE WATERCOURSE OR THE STORM SEWER SYSTEM. FAILURE TO REPORT WILL BE CONSTITUTE A BRACH OF THIS SPECIFICATION AND THE CONTRACTOR MAY ALSO BE SUBJECT TO THE PENALTIES IMPOSED BY THE APPLICABLE REGULATORY AGENCY. APPROPRIATE RESPONSE MEASURES, INCLUDING ANY REPAIRS TO EXISTING CONTROL MEASURES OR THE IMPLEMENTATION OF ADDITIONAL CONTROL MEASURES, SHALL BE CARRIED OUT BY THE CONTRACTOR WITHOUT DELAY.

THE SEDIMENT CONTROL MEASURES SHALL ONLY BE REMOVED WHEN, IN THE OPINION OF THE CONTRACT ADMINISTRATOR, THE MEASURE OR MEASURES, IS NO LONGER REQUIRED. NO CONTROL MEASURE MAY BE PERMANENTLY REMOVED WITHOUT PRIOR AUTHORIZATION FROM THE CONTRACT ADMINISTRATOR. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS THE ENTRY OF ANY EQUIPMENT, OTHER THAN HAND-HELD EQUIPMENT, INTO ANY WATERCOURSE, AND PREVENTS THE RELEASE OF ANY SEDIMENT OR DEBRIS INTO ANY SEWER OR WATERCOURSE WITHIN OR DOWNSTREAM OF THE WORKING AREA. ALL ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE WORKING AREA AT THE CONTRACTOR'S EXPENSE AND MANAGED IN COMPLIANCE WITH THE REQUIREMENTS FOR EXCESS EARTH MATERIAL

WHERE, IN THE OPINION OF EITHER THE CONTRACT ADMINISTRATOR OR A REGULATORY AGENCY, ANY OF THE TERMS SPECIFIED HEREIN HAVE NOT BEEN COMPLIED WITH OR PERFORMED IN A SUITABLE MANNER, OR TAT ALL, THE CONTRACTOR ADMINISTRATOR OR A REGULATORY AGENCY HAS THE RIGHT TO IMMEDIATELY WITHDRAW ITS PERMISSION TO CONTINUE THE WORK BUT MAY RENEW ITS PERMISSION UPON BEING SATISFIED THAT THE DEFAULTS OR DEFICIENCIES IN THE PERFORMANCE OF THIS SPECIFICATION BY THE CONTRACTOR HAVE BEEN REMEDIED.

SPILL CONTROL NOTES

1. ALL CONSTRUCTION EQUIPMENT SHALL BE RE-FUELED, MAINTAINED, AND STORED NO LESS THAN 30 METERS FROM WATERCOURSE, STEAMS, CREEKS, WOODLOTS, AND ANY ENVIRONMENTALLY SENSITIVE AREAS, OR AS OTHERWISE SPECIFIED.
2. THE CONTRACTOR MUST IMPLEMENT ALL NECESSARY MEASURES IN ORDER TO PREVENT LEAKS, DISCHARGES OR SPILLS OF POLLUTANTS, DELETERIOUS MATERIALS, OR OTHER SUCH MATERIALS OR SUBSTANCES WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT.
3. IN THE EVENT OF A LEAK, DISCHARGE OR SPILL OF POLLUTANT, DELETERIOUS MATERIAL OR OTHER SUCH MATERIAL OR SUBSTANCE WHICH WOULD OR COULD CAUSE AN ADVERSE IMPACT TO THE NATURAL ENVIRONMENT, THE CONTRACTOR SHALL:
   - 3.1. IMMEDIATELY NOTIFY APPROPRIATE FEDERAL, PROVINCIAL, AND LOCAL GOVERNMENT MINISTRIES, DEPARTMENTS, AGENCIES, AND AUTHORITIES OF THE INCIDENT IN ACCORDANCE WITH ALL CURRENT LACA, LEGISLATION, ACTS, BY-LACA, PERMITS, APPROVALS, ETC.
   - 3.2. TAKE IMMEDIATE MEASURES TO CONTAIN THE MATERIAL OR SUBSTANCE, AND TO TAKE SUCH MEASURES TO MITIGATE AGAINST ADVERSE IMPACTS TO THE NATURAL ENVIRONMENT.
   - 3.3. RESTORE THE AFFECTED AREA TO THE ORIGINAL CONDITION OR BETTER TO THE SATISFACTION OF THE AUTHORITIES HAVING JURISDICTION.

MUD MAT NOTES

1. THE GRANULAR MATERIAL WILL REQUIRE PERIODIC REPLACEMENT AS IT BECOMES CONTAMINATED BY VEHICLE TRAFFIC.
2. SEDIMENT SHALL BE CLEANED FROM PUBLIC ROADS AT THE END OF EACH DAY.
3. SEDIMENT SHALL BE REMOVED FROM PUBLIC ROADS BY SHOVELING OR SWEEPING AND DISPOSED OR PROPERLY IN A CONTROLLED SEDIMENT DISPOSAL AREA.

SITE GRADING NOTES

1. PRIOR TO THE COMMENCEMENT OF THE SITE GRADING WORKS, ALL SILTATION CONTROL DEVICES SHALL BE INSTALLED AND OPERATIONAL PER EROSION CONTROL PLAN.
2. ALL GRANULAR AND PAVEMENT FOR ROADS/PARKING AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.
3. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD AND PARKING AREAS ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
4. CONCRETE CURB SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. SC1.1 PROVISION SHALL BE MADE OR CURB DEPRESSIONS AS INDICATED ON ARCHITECTURAL SITE PLAN. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STD SC1.4. ALL CURBS, CONCRETE ISLANDS, AND SIDEWALKS SHOWN O THIS DRAWING ARE TO BR PRICED IN SITE WORKS PORTION OF THE CONTRACT.
5. PAVEMENT REINSTATEMENT FOR SERVICE AND UTILITY CUTS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. R10 AND OPSD 509.010 AND OPSS 310.
6. GRANULAR 'A' SHALL BE PLACED TO A MINIMUM THICKNESS OF 30MM AROUND ALL STRUCTURES WITHIN THE PAVEMENT AREA.
7. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'B' COMPACTED IN MAXIMUM 30MM LIFTS.
8. ALL WORK ON THE MUNICIPAL RIGHT OF WAY AND EASEMENTS TO BE INSPECTED BY THE MUNICIPALITY PRIOR BACKFILLING.
9. CONTRACTOR TO OBTAIN A ROAD OCCUPANCY PERMIT 48 HOURS PRIOR TO COMMENCING ANY WORK WITHIN THE MUNICIPAL ROAD ALLOWANCE, IF REQUIRED BY THE MUNICIPALITY.
10. ALL PAVEMENT MARKING FEATURES AND SITE SIGNAGE SHALL BE PLACED PER ARCHITECTURAL SITE PLAN. LINE PAINTING AND DIRECTIONAL SYMBOLS SHALL BE APPLIED WITH A MINIMUM OF TWO COATS OF ORGANIC SOLVENT PAINT.
11. REFER TO ARCHITECTURAL SITE PLAN FOR DIMENSIONS AND SITE DETAILS.
12. STEP JOINTS ARE TO BE USED WHERE PROPOSED ASPHALT MEETS EXISTING ASPHALT. ALL JOINTS MUST BE SEALED.
13. SIDEWALKS TO BE 13MM & BEVELED AT 2:1 OR 6MM WITH NO BEVEL REQUIRED BELOW THE FINISHED FLOOR SLAB ELEVATION AT ENTRANCES REQUIRED TO BE BARRIER-FREE, UNLESS OTHERWISE NOTED. ALL IN ACCORDANCE WITH OBC 3.8.1.3 & OTTAWA ACCESSIBILITY DESIGN STANDARDS.
14. WHERE APPLICABLE THE CONTRACTOR IS TO SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. SHOP DRAWINGS MUST BE SITE SPECIFIC, SIGNED AND SEALED BY A LICENSED STRUCTURAL ENGINEER. THE CONTRACTOR WILL ALSO BE REQUIRED TO SUPPLY AND GEOTECHNICAL CERTIFICATION OF THE AS-CONSTRUCTED RETAINING WALL TO THE ENGINEER PRIOR TO FINAL ACCEPTANCE.
15. ROADWORK TO BE COMPLETED IN ACCORDANCE WITH GEOTECHNICAL REPORT.
16. ALL TOPSOIL AND ORGANIC MATERIAL SHALL BE STRIPPED WITHIN THE ROAD ALLOWANCE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND STOCK PILLED ON SITE AS DIRECTED BY NATIONAL MUNICIPALITY.
17. SUB-EXCAVATE SOFT AREAS AND FILL WITH GRANULAR 'A', TYPE II COMPACTED IN MAXIMUM 300MM LIFTS.
18. ALL GRANULAR FOR ROADS SHALL BE COMPACTED TO MINIMUM OF 100% STANDARD PROCTOR DENSITY MAXIMUM DRY DENSITY (SPMDD).

SANITARY, FOUNDATION DRAIN, STORM SEWER AND WATERMAIN NOTES

GENERAL

1. LASER ALIGNMENT CONTROL TO BE UTILIZED ON ALL SEWER INSTALLATIONS.
2. CLAY SEALS TO BE INSTALLED AS PER CITY STANDARD DRAWING S8. THE SEALS SHOULD BE AT LEAST 1.5M LONG (IN THE TRENCH DIRECTION) AND SHOULD EXTEND FROM TRENCH WALL TO TRENCH WALL. THE SEALS SHOULD EXTEND FROM THE FROST LINE AND FULLY PENETRATE THE BEDDING, SUB-BEDDING, AND COVER MATERIAL. THE BARRIERS SHOULD CONSIST OF RELATIVELY DRY AND COMPATIBLE BROWN SILTY CLAY PLACED IN MAXIMUM 225MM LIFTS AND COMPACTED TO A MINIMUM OF 95% SPMDD. THE CLAY SEALS SHOULD BE PLACED AT THE SITE BOUNDARIES AND AT 60M INTERVALS IN THE SERVICE TRENCHES.
3. SERVICES TO BUILDING TO BE TERMINATED 1.0M FROM THE OUTSIDE FACE OF BUILDING UNLESS OTHERWISE NOTED.
4. ALL MAINTENANCE STRUCTURE AND CATCH BASIN EXCAVATIONS TO BE BACKFILLED WITH GRANULAR MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY. A MINIMUM OF 300MM AROUND STRUCTURES.
5. "MODULOC" OR APPROVED PRE-CAST MAINTENANCE STRUCTURE AND CATCH BASIN ADJUSTERS TO BE USED IN LIEU OF BRICKING. PARGE ADJUSTING UNITS ON THE OUTSIDE ONLY.
6. SAFETY PLATFORMS SHALL BE PER OPSD 404.02.
7. DROP STRUCTURES SHALL BE IN ACCORDANCE WITH OPSD 1003.01, IF APPLICABLE.
8. THE CONTRACTOR IS TO PROVIDE CCTV CAMERA INSPECTIONS OF ALL SEWERS, INCLUDING PICTORIAL REPORT, ONE (1) CD COPY AND TWO (2) VIDEO RECORDING IN A FORMAT ACCEPTABLE TO ENGINEER. ALL SEWER ARE TO BE FLUSHED PRIOR TO CAMERA INSPECTION. ASPHALT WEAR COURSE SHALL NOT BE PLACED UNTIL THE VIDEO INSPECTION OF SEWERS AND NECESSARY REPAIRS HAVE BEEN COMPLETED TO THE SATISFACTION OF THE ENGINEER.
9. CONTRACTOR SHALL PERFORM LEAKAGE TESTING, IN THE PRESENCE OF THE CONSULTANT, FOR SANITARY SEWERS IN ACCORDANCE WITH OPSS 407. CONTRACTOR SHALL PERFORM VIDEO INSPECTION OF ALL SEWERS. A COPY OF THE VIDEO AND INSPECTION REPORT SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW AND APPROVAL PRIOR TO PLACEMENT OF WEAR COURSE ASPHALT.

SANITARY

10. ALL SANITARY SEWER INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD). AND SPECIFICATIONS (OPSS).
11. ALL SANITARY GRAVITY SEWER SHALL BE PVC SDR 35, IPEX 'RING-TITE' (OR APPROVED EQUIVALENT) PER CSA STANDARD B182.2 OR LATEST AMENDMENT, UNLESS SPECIFIED OTHERWISE.
12. EXISTING MAINTENANCE STRUCTURES TO BE RE-BENCHED WHERE A NEW CONNECTION IS MADE.
13. SANITARY GRAVITY SEWER TRENCH AND BEDDING SHALL BE PER CITY OF OTTAWA STD. S6 AND S7 CLASS 'B' BEDDING, UNLESS SPECIFIED OTHERWISE.
14. SANITARY MAINTENANCE STRUCTURE FRAME AND COVERS SHALL BE PER CITY OF OTTAWA STD. S24 AND S25.
15. SANITARY MAINTENANCE STRUCTURES SHALL BE BENCHED PER OPSD 701.021.
16. 100MM THICK HIGH-DENSITY GRADE 'A' POLYSTYRENE INSULATION TO BE INSTALLED IN ACCORDANCE WITH CITY STD W22 WHERE INDICATED ON DRAWING.

STORM

17. ALL REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.2, OR LATEST AMENDMENT. ALL NON-REINFORCED CONCRETE STORM SEWER PIPE SHALL BE IN ACCORDANCE WITH CSA A257.1, OR LATEST AMENDMENT. PIPE SHALL BE JOINED WITH STD. RUBBER GASKETS AS PER CSA A257.3, OR LATEST AMENDMENT.
18. ALL STORM SEWER TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. S6 AND S7 CLASS 'B' UNLESS OTHERWISE SPECIFIED. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY PROJECT GEOTECHNICAL ENGINEER.
19. ALL PVC STORM SEWERS ARE TO BE SDR 35 APPROVED PER C.S.A. B182.2 OR LATEST AMENDMENT, UNLESS OTHERWISE SPECIFIED.
20. CATCH BASIN SHALL BE IN ACCORDANCE WITH OPSD 705.010.
21. CATCH BASIN LEADS SHALL BE IN 200MM DIA. AT 1% SLOPE (MIN) UNLESS SPECIFIED OTHERWISE.
22. ALL CATCH BASINS SHALL HAVE 600MM SUMPS, UNLESS SPECIFIED OTHERWISE.
23. ALL CATCH BASIN LEAD INVERTS TO BE 1.5M BELOW FINISHED GRADE UNLESS SPECIFIED OTHERWISE.
24. THE STORM SEWER CLASSES HAVE BEEN DESIGNED BASED ON BEDDING CONDITIONS SPECIFIED ABOVE. WHERE THE SPECIFIED TRENCH WIDTH IS EXCEEDED , THE CONTRACTOR IS REQUIRED TO PROVIDE AND SHALL BE RESPONSIBLE FOR EXTRA TEMPORARY AND/OR PERMANENT REPAIRS MADE NECESSARY BY THE WIDENED TRENCH.
25. ALL ROAD AND PARKING LOT CATCH BASINS TO BE INSTALLED WITH ORTHOGONALLY PLACED SUBDRAINS IN ACCORDANCE WITH DETAIL. PERFORATED SUBDRAIN FOR ROAD AND PARKING LOT CATCH BASIN SHALL BE INSTALLED PER CITY STD R1 UNLESS OTHERWISE NOTED.
26. PERFORATED SUBDRAIN FOR REAR YARD AND LANDSCAPING APPLICATIONS SHALL BE INSTALLED PER CITY STD S29, S30 AND S31, WHERE APPLICABLE.
27. RIP-RAP TREATMENT SEWER AND CULVERT OUTLETS PER OPSD 810.010.
28. ALL STORM SEWER/ CULVERTS TO BE INSTALLED WITH FROST TREATMENT PER OPSD 803.031 WHERE APPLICABLE.
29. ALL STORM MANHOLES WITH PIPE LESS THAN 900MM IN DIAMETER SHALL BE CONSTRUCTED WITH A 300MM SUMP AS PER SDG, CLAUSE 6.2.6.

WATERMAIN

30. ALL WATERMAIN INSTALLATION SHALL CONFORM TO THE LATEST REVISIONS OF THE CITY OF OTTAWA AND THE ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD) AND SPECIFICATIONS (OPSS).
31. ALL PVC WATERMAINS SHALL BE AWWA C-900 CLASS 150, SDR 18 OR APPROVED EQUIVALENT.
32. ALL WATER SERVICES LESS THAN OR EQUAL TO 50MM IN DIAMETER TO BE TYPE 'K' COPPER.
33. WATERMAIN TRENCH AND BEDDING SHALL BE IN ACCORDANCE WITH CITY OF OTTAWA STANDARD W17. UNLESS SPECIFIED OTHERWISE. BEDDING AND COVER MATERIAL SHALL BE SPECIFIED BY THE PROJECT GEOTECHNICAL ENGINEER.
34. ALL PVC WATERMAINS, SHALL BE INSTALLED WITH A 10 GAUGE STRANDED COPPER TWU OR RWU TRACER WIRE IN ACCORDANCE WITH CITY OF OTTAWA STD. W.36.
35. CATHODIC PROTECTION IS REQUIRED ON ALL METALLIC FITTINGS PER CITY OF OTTAWA STD.25.5 AND W25.6.
36. VALVE BOXES SHALL BE INSTALLED PER CITY OF OTTAWA STD W24.
37. WATERMAIN IN FILL AREAS TO BE INSTALLED WITH RESTRAINED JOINTS PER CITY OF OTTAWA STD.25.5 AND W25.6.
38. THRUST BLOCKING OF WATERMAINS TO BE INSTALLED PER CITY OF OTTAWA STD. W25.3 AND W25.4.
39. THE CONTRACTOR SHALL PROVIDE ALL TEMPORARY CAPS, PLUGS, BLOW-OFFS, AND NOZZLES REQUIRED FOR TESTING AND DISINFECTION OF THE WATERMAIN.
40. WATERMAIN CROSSING OVER AND BELOW SEWERS SHALL BE IN ACCORDANCE WITH THE CITY OF OTTAWA STD. W25,2 AND W25, RESPECTIVELY.
41. WATER SERVICES ARE TO BE INSULATED PER CITY STD. W23 WHERE SEPARATION BETWEEN SERVICES AND MAINTENANCE HOLES ARE LESS THAN 2.4M.
42. THE MINIMUM VERTICAL CLEARANCE BETWEEN WATERMAIN AND SEWER/UTILITY IS 0.5M PER MOE GUIDELINES. FOR CROSSING UNDER SEWERS, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER IS REQUIRED TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING. THE LENGTH OF WATER PIPE SHALL BE CENTERED AT THE POINT OF CROSSING TO ENSURE THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.
43. ALL WATERMAINS SHALL HAVE A MINIMUM COVER OF 2.4M, OTHERWISE THERMAL INSULATION IS REQUIRED AS PER STD DWG W22.
44. GENERAL WATER PLANT TO UTILITY CLEARANCE AS PER STD DWG R20.
45. FIRE HYDRANT INSTALLATION AS PER STD DWG W19, ALL BOTTOM OF HYDRANT FLANGE ELEVATIONS TO BE INSTALLED 0.10M ABOVE PROPOSED FINISHED GRADE AT HYDRANT; FIRE HYDRANT LOCATION AS PER STD DWG W18.
46. BUILDING SERVICE TO BE CAPPED 1.0M OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED AND MUST BE RESTRAINED A MINIMUM OF 12M BACK FROM STUB.
47. ALL WATERMAINS SHALL BE HYDROSTATICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES UNLESS OTHERWISE DIRECTED. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED.
48. ALL WATERMAINS SHALL BE BACTERIOLOGICALLY TESTED IN ACCORDANCE WITH THE CITY OF OTTAWA AND ONTARIO GUIDELINES. ALL CHLORINATED WATER TO BE DISCHARGED AND PRETREATED TO ACCEPTABLE LEVELS PRIOR TO DISCHARGE. ALL DISCHARGED WATER MUST BE CONTROLLED AND TREATED SO AS NOT TO ADVERSELY EFFECT ENVIRONMENT. IT IS RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL MUNICIPAL AND/OR PROVINCIAL REQUIREMENTS ARE FOLLOWED.
49. ALL WATERMAIN STUBS SHALL BE TERMINATED WITH A PLUG AND 50MM BLOW OFF UNLESS OTHERWISE NOTED.

GENERAL NOTES:

EXISTING SERVICES AND UTILITIES SHOWN ON THESE DRAWINGS ARE TAKEN FROM THE BEST AVAILABLE RECORDS, BUT MAY NOT BE COMPLETE OR TO DATE. CONTRACTOR SHALL VERIFY IN FIELD FOR LOCATION AND ELEVATION OF PIPES AND CHECK WITH THE UTILITY COMPANIES BEFORE DIGGING OR PERFORMING WORK.

CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

THE ENGINEER WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS WHICH ARISE FROM FAILURE TO FOLLOW THESE PLANS, SPECIFICATIONS AND THE DESIGN INTENT THEY CONVEY, OR FOR PROBLEMS WHICH ARISE FROM OTHERS' FAILURE TO OBTAIN AND/OR FOLLOW THE ENGINEER'S GUIDANCE WITH RESPECT TO ANY ERRORS, OMISSIONS, INCONSISTENCIES AMBIGUITIES OR CONFLICTS WHICH ARE ALLEGED.

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE WORK COMMENCES. DO NOT SCALE DRAWINGS.

NOT FOR CONSTRUCTION TENDER OR PERMIT

No.	REVISIONS	BY	DATE
02	RE- ISSUED FOR APPROVAL	S.V.	27 MAY 2025
01	ISSUED FOR APPROVAL	S.V.	11 OCT 2024

LICENSED PROFESSIONAL ENGINEER
S. GODIN
100574017
PROVINCE OF ONTARIO
2025-05-28

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

CLIENT
THE PROPERTIES GROUP

DESIGNED BY:	DRAWN BY:	APPROVED BY:
S.V.	S.V.	S.G.

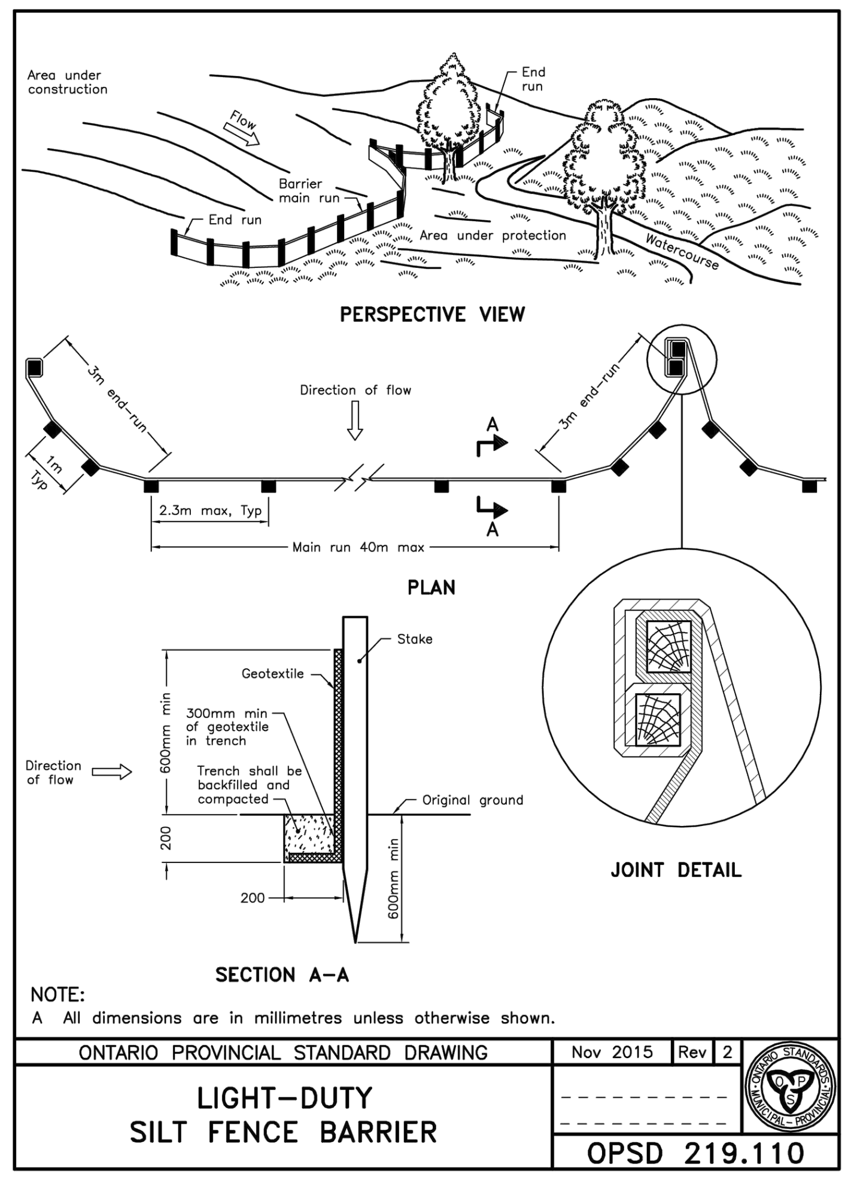
PROJECT
6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET,
OTTAWA, ON

DRAWING TITLE
GENERAL NOTES

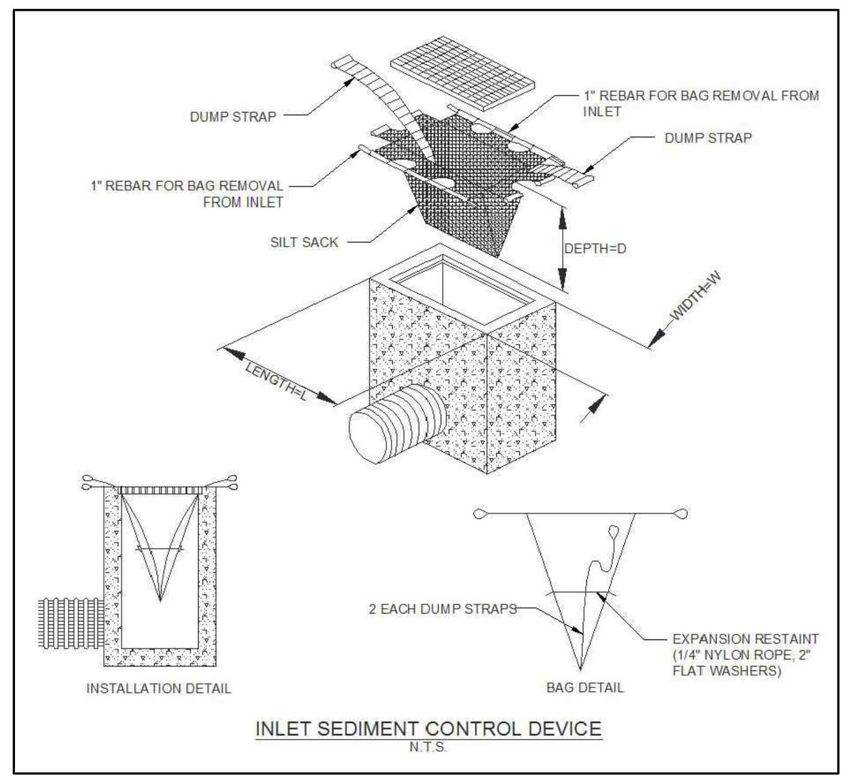
PROJECT NO.
240195

DATE
JUNE 2024

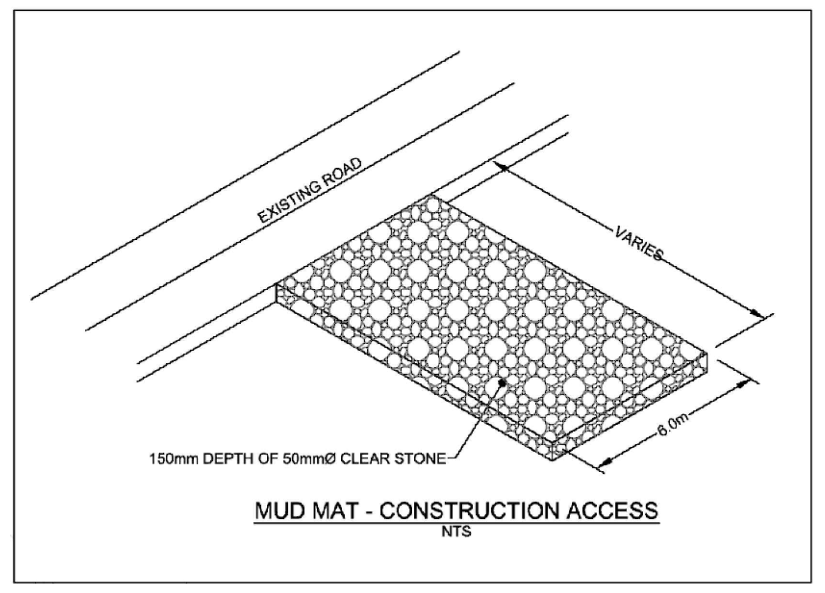
C001



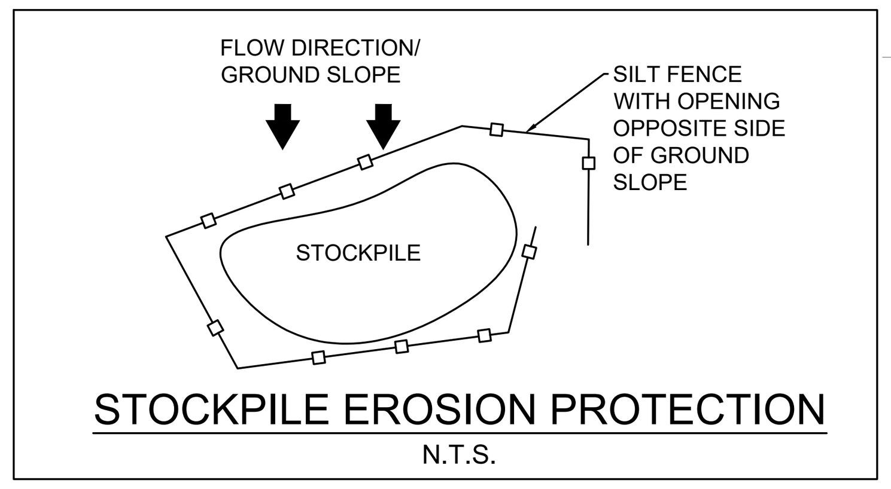
DETAIL 01



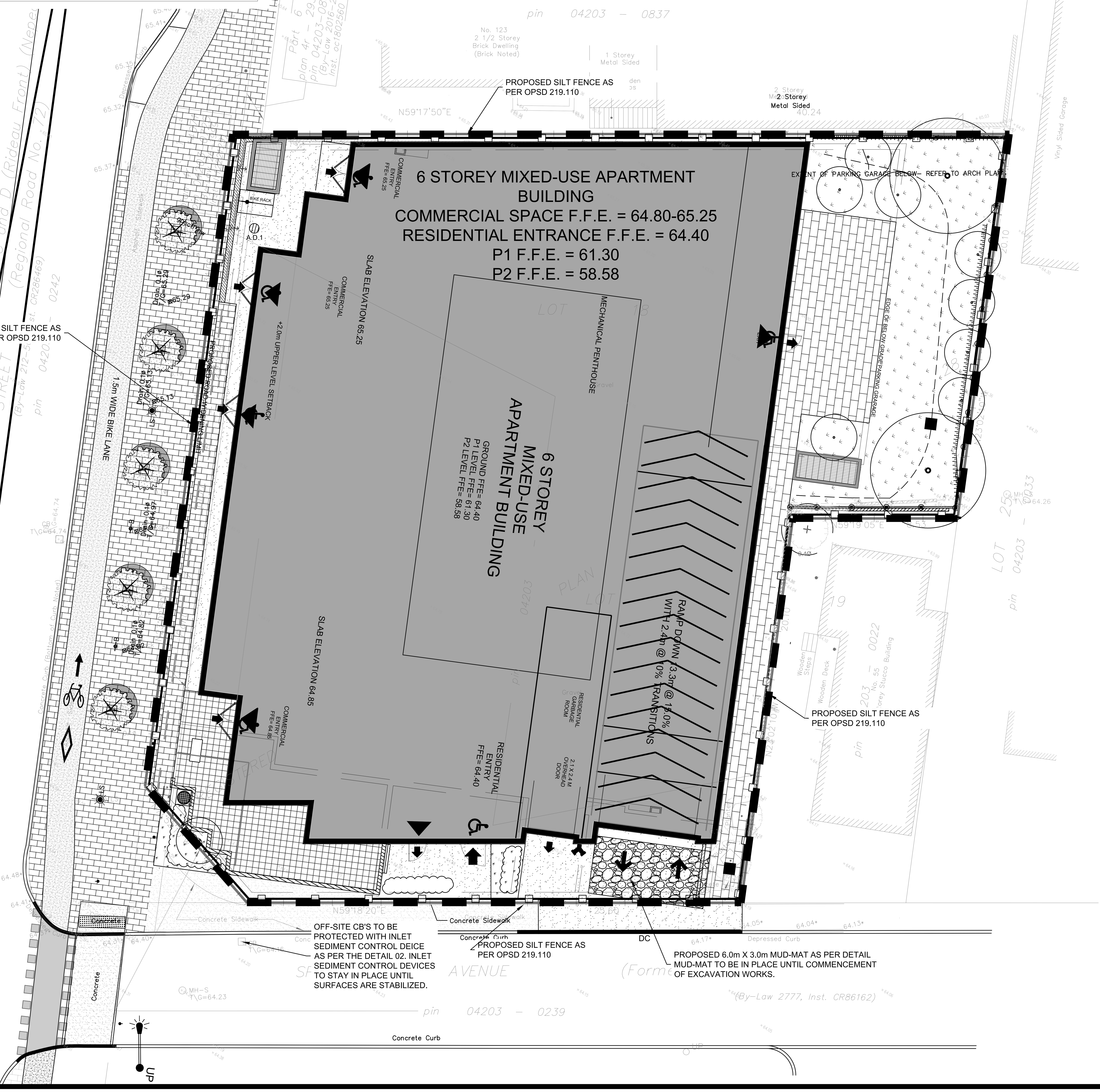
DETAIL 02

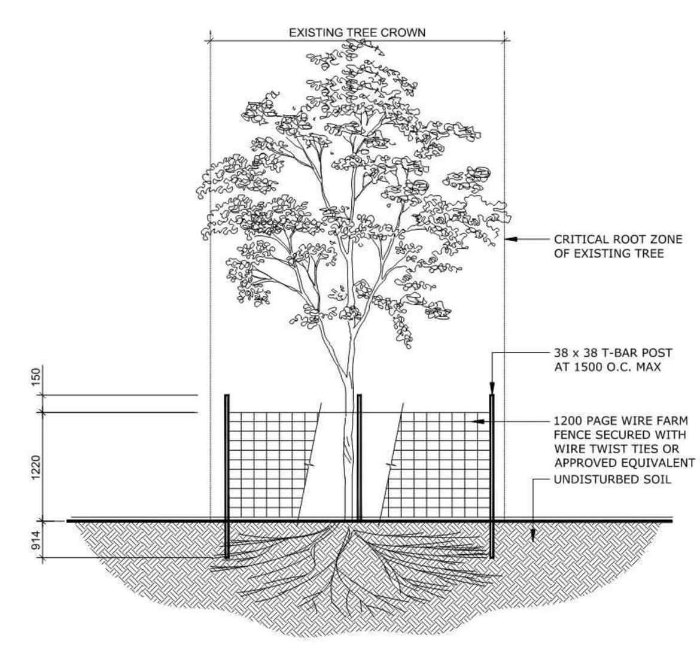


DETAIL 03



STOCKPILE EROSION PROTECTION
N.T.S.





NOTES:

1. ALL MEASUREMENTS ARE IN MILLIMETRES UNLESS OTHERWISE NOTED
2. THE AREA WITHIN THE CRITICAL ROOT ZONE OF ALL EXISTING TREES SHALL BE PROPERLY PROTECTED WITH TEMPORARY FENCING AS PER THE APPROVED LANDSCAPE PLAN
3. THE SURVEY SHALL SHOW EXISTING ELEVATION AT BASE OF ALL TREES TO BE PRESERVED AS SHOWN BY "+"
4. THE AREA WITHIN THE PROTECTED FENCING SHALL REMAIN UNDISTURBED AND SHALL NOT BE USED FOR THE STORAGE OF BUILDING MATERIALS OR EQUIPMENT. REMOVE ALL DEBRIS
5. PRUNE BRANCHES TO REMOVE DAMAGED OR OBJECTIONABLE BRANCHES. DO NOT PRUNE LEADERS
6. TREE PROTECTION SHALL REMAIN UNTIL SUBSTANTIAL PERFORMANCE OF THE PROJECT
7. IF CUTTING OF ROOTS OR CHANGING OF GRADES AROUND EXISTING TREES IS CALLED FOR, FOLLOW APPROPRIATE DETAILS AS DIRECTED BY LANDSCAPE ARCHITECT
8. IF TREES ARE BEING AFFECTED BY CONSTRUCTION, A WATER AND FERTILIZING PROGRAM WILL BE REQUIRED TO THE SATISFACTION OF THE CITY

Ottawa | TITLE: TREE PRESERVATION PROTECTION FENCE | DATE: FEB 2013 | REV: FEB2017 | DWG No: F7

LEGEND:

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED DOOR ENTRANCE/EXIT
- PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- PROPOSED PRECAST CONCRETE UNIT PAVERS
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED CONCRETE FEATURES/SLAB
- PROPOSED RIP RAP
- ×50.00 PROPOSED ELEVATION
- ×50.00HP PROPOSED HIGH POINT ELEVATION
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- ×50.00BW PROPOSED EXPOSED BOTTOM OF RETAINING/ PLANTER WALL
- ×50.00TW PROPOSED TOP OF RETAINING/ PLANTER WALL
- ×50.00T/G PROPOSED TOP OF GRATE ELEVATION
- ×50.00EX MATCH INTO EXISTING ELEVATION
- ×70.19 EXISTING ELEVATION
- EXISTING OVERLAND MAJOR FLOW ROUTE
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- STM PROPOSED STORM SEWER
- SAN PROPOSED SANITARY SEWER
- WTR PROPOSED WATERMAIN
- STM EXISTING STORM SEWER
- SAN EXISTING SANITARY SEWER
- WTR EXISTING WATERMAIN
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- PROPOSED CATCHBASIN
- A.D. PROPOSED AREA DRAIN
- PROPOSED PIPE INSULATION
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM CATCHMENT EXTENT
- WS-XX: CATCHMENT NAME
- CONTROLLED / RUNOFF: RUNOFF COEFFICIENT
- AREA: AREA IN HECTARES

EROSION AND SEDIMENT CONTROL MEASURES:

** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES **

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

1. PRIOR TO START OF CONSTRUCTION:

- PRIOR TO THE REMOVAL OF ANY VEGETATIVE COVER, MOVING OF SOIL AND CONSTRUCTION:
- INSTALL SILT FENCE IMMEDIATELY DOWNSTREAM FROM AREAS TO BE DISTURBED (SEE PLAN FOR LOCATION).
- INSTALL GEOSOCK INSERTS WITH AN OVERFLOW IN ALL THE DOWNSTREAM CATCHBASINS AND MANHOLES
- INSTALL SILTSACK FILTERS IN ALL CONCRETE CATCH BASINS STRUCTURES
- INSPECT MEASURES IMMEDIATELY AFTER INSTALLATION.

2. DURING CONSTRUCTION:

- MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE.
- PROTECT DISTURBED AREAS FROM RUNOFF.
- PROVIDE TEMPORARY COVER SUCH AS SEEDING OR MULCHING IF DISTURBED AREA WILL NOT BE REHABILITATED WITHIN 30 DAYS.
- INSPECT SILT FENCES, FILTER CLOTHS AND CATCH BASIN SUMPS WEEKLY AND AFTER EVERY MAJOR STORM EVENT. CLEAN AND REPAIR WHEN NECESSARY.
- PLAN TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION
- EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
- DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
- CONTROL WIND-BLOWN DUST OFF SITE TO ACCEPTABLE LEVELS BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED).
- ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
- NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THIS CONSULTING ENGINEER AND THE CITY DEPARTMENT OF PUBLIC WORKS.
- CONTRACTOR RESPONSIBLE FOR CITY ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING ETC. AT THE END OF EACH WORK DAY.
- PROVIDE GRAVEL ENTRANCE WHEREVER EQUIPMENT LEAVES THE SITE TO PREVENT MUD TRACKING ONTO PAVED SURFACES. GRAVEL BED SHALL BE A MINIMUM OF 15m LONG, 4M WIDE AND 0.3m DEEP AND SHALL CONSIST OF COARSE (50mm CRUSHERT-RUN LIMESTONE) MATERIAL. MAINTAIN GRAVEL ENTRANCE IN CLEAN CONDITION.
- DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
- ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
- TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.

3. AFTER CONSTRUCTION:

- PROVIDE PERMANENT COVER CONSISTING OF TOPSOIL AND SEED TO DISTURBED AREAS.
- REMOVE STRAW BALE FLOW CHECK DAMS, SILT FENCES AND FILTER CLOTHS ON CATCH BASINS AND MANHOLE COVERS AFTER DISTURBED AREAS HAVE BEEN REHABILITATED AND STABILIZED.
- INSPECT AND CLEAN CATCH BASIN SUMPS AND STORM SEWERS.

USE AND INTERPRETATION OF DRAWINGS

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD FILES OR OTHER ELECTRONIC MEDIA AND COPIED THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THESE DRAWINGS ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRL'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

GENERAL NOTES:

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CONTRACTOR IS ADVISED TO COLLECT INFORMATION ON SOIL CONDITIONS BEFORE START OF CONSTRUCTION.

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1.5m 0 3.0 6.0m

SCALE: 1:125

NOT FOR CONSTRUCTION TENDER OR PERMIT

No.	REVISIONS	BY	DATE
02	RE-ISSUED FOR APPROVAL	S.V.	27 MAY 2025
01	ISSUED FOR APPROVAL	S.V.	11 OCT 2024

LICENSED PROFESSIONAL ENGINEER
S. GODIN
100574017
PROVINCE OF ONTARIO
2025-05-28

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

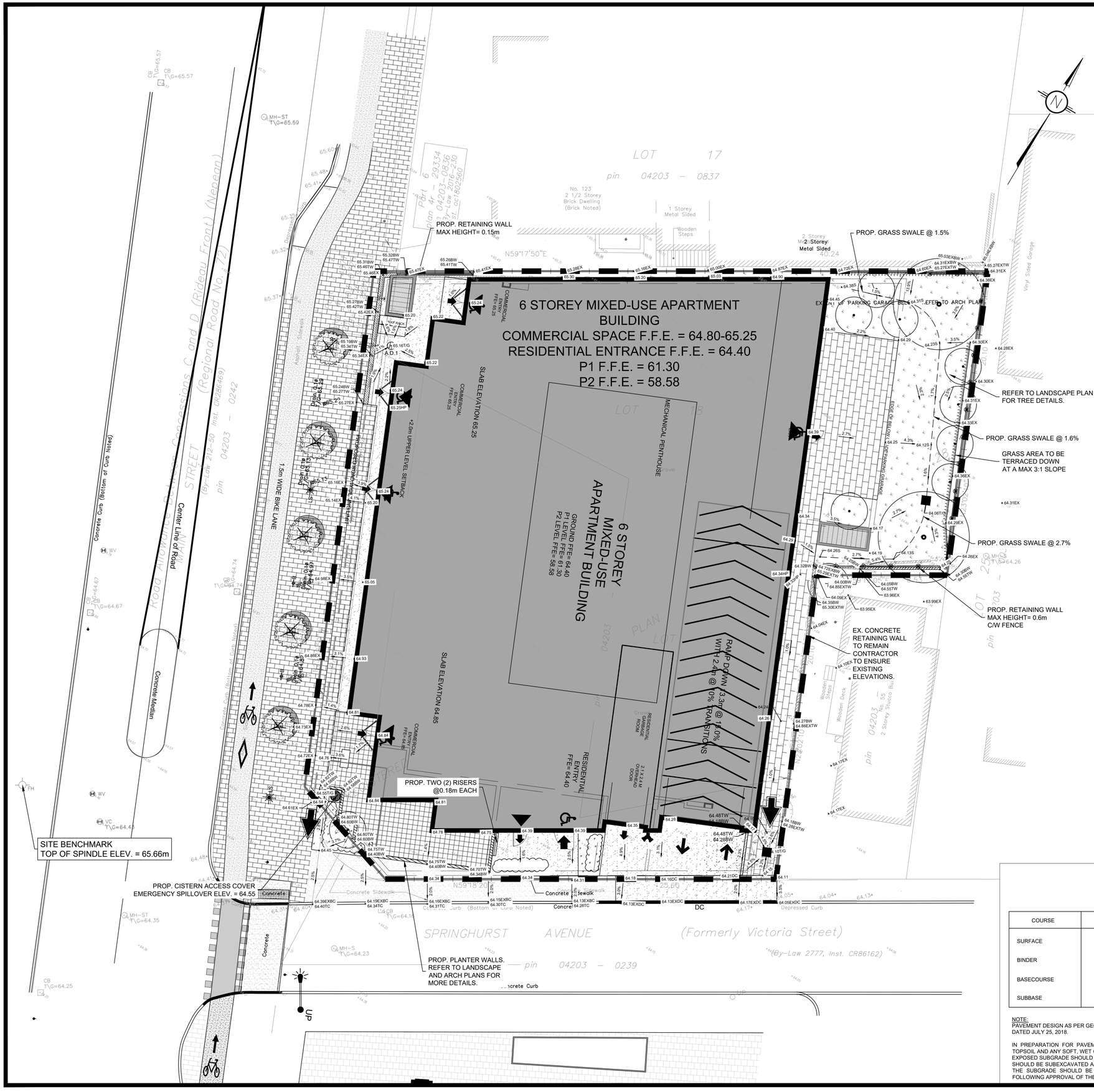
CLIENT
THE PROPERTIES GROUP

DESIGNED BY:	DRAWN BY:	APPROVED BY:
S.V.	S.V.	S.G.

PROJECT
6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET, OTTAWA, ON

DRAWING TITLE
EROSION AND SEDIMENT CONTROL PLAN

PROJECT NO.
240195
C101



LEGEND:

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED DOOR ENTRANCE/EXIT
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- PROPOSED LIGHT DUTY ASPHALT
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- WTR WTR EXISTING WATERMAIN
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- PROPOSED CATCHBASIN
- PROPOSED AREA DRAIN
- PROPOSED PIPE INSULATION
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM CATCHMENT EXTENT
- WS-XX CONTROLLED AREA RUNOFF — CATCHMENT NAME; RUNOFF COEFFICIENT; AREA IN HECTARES

PAVEMENT STRUCTURE

COURSE	MATERIAL	THICKNESS (mm) AUTOMOBILE PARKING	THICKNESS (mm) ACCESS LANE
SURFACE	HL.3 A/C (PG 58-34)	50	40
BINDER	HL.8 A/C (PG 58-34)	--	50
BASECOURSE	OPSS GRANULAR "A"	150	150
SUBBASE	OPSS GRANULAR "B" TYPE II	300	400

NOTE:
PAVEMENT DESIGN AS PER GEOTECHNICAL INVISTIGATION REPORT # PG2036-1 REVISION 1, BY PATERSON GROUP, DATED JULY 25, 2018.

IN PREPARATION FOR PAVEMENT CONSTRUCTION AT THIS SITE, ANY SURFICIAL OR NEAR SURFACE/SUBGRADE LEVEL TOPSOIL AND ANY SOFT, WET OR DELETERIOUS MATERIALS SHOULD BE REMOVED FROM THE PROPOSED PAVED AREAS. THE EXPOSED SUBGRADE SHOULD BE INSPECTED AND APPROVED BY GEOTECHNICAL PERSONNEL AND ANY SOFT AREAS EVIDENT SHOULD BE SUBEXCAVATED AND REPLACED WITH SUITABLE EARTH BORROW APPROVED BY THE GEOTECHNICAL ENGINEER. THE SUBGRADE SHOULD BE SHAPED AND CROWNED TO PROMOTE DRAINAGE OF THE SITE DRAINAGE STRUCTURES. FOLLOWING APPROVAL OF THE PREPARATION OF THE SUBGRADE, THE PAVEMENT GRANULARS MAY BE PLACED.

TOPOGRAPHIC INFORMATION:

TOPOGRAPHIC INFORMATION PROVIDED BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
JOB NO. 24743-24 PGM Lts 18 & 19 PL 28 T F,
DATED: September 4th, 2024.

ELEVATION NOTES:

1. ELEVATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO THE CGVD28 GEODETIC DATUM.
2. IT IS THE RESPONSIBILITY OF THE USER OF THIS INFORMATION TO VERIFY THAT THE JOB BENCHMARK HAS NOT BEEN ALTERED OR DISTURBED AND THAT IT'S RELATIVE ELEVATION AND DESCRIPTION AGREES WITH THE INFORMATION SHOWN ON THIS DRAWING.

UTILITY NOTES:

1. THIS DRAWING CANNOT BE ACCEPTED AS ACKNOWLEDGING ALL OF THE UTILITIES AND IT WILL BE THE RESPONSIBILITY OF THE USER TO CONTACT THE RESPECTIVE UTILITY AUTHORITIES FOR CONFIRMATION.
2. ONLY VISIBLE SURFACE UTILITIES WERE LOCATED.
3. A FIELD LOCATION OF THE UNDERGROUND PLANT BY THE PERTINENT UTILITY AUTHORITY IS MANDATORY BEFORE ANY WORK INVOLVING BREAKING GROUND PROBING, EXCAVATING ETC.

USE AND INTERPRETATION OF DRAWINGS

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SCALE: 1:125

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No.	REVISIONS	BY	DATE
02	RE-ISSUED FOR APPROVAL	S.V.	27 MAY 2025
01	ISSUED FOR APPROVAL	S.V.	11 OCT 2024

LICENSED PROFESSIONAL ENGINEER
S. GODIN
100574017
PROVINCE OF ONTARIO
2025-05-28
NOT AUTHENTIC UNLESS SIGNED AND DATED

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ENGINEERING | INGÉNIERIE
5430 Canotek Road I Ottawa, ON, K1J 9G2
www.lrl.ca I (613) 842-3434

CLIENT
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DESIGNED BY:	DRAWN BY:	APPROVED BY:
S.V.	S.V.	S.G.

PROJECT
6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET,
OTTAWA, ON

DRAWING TITLE
GRADING AND DRAINAGE PLAN

PROJECT NO.
240195

C301

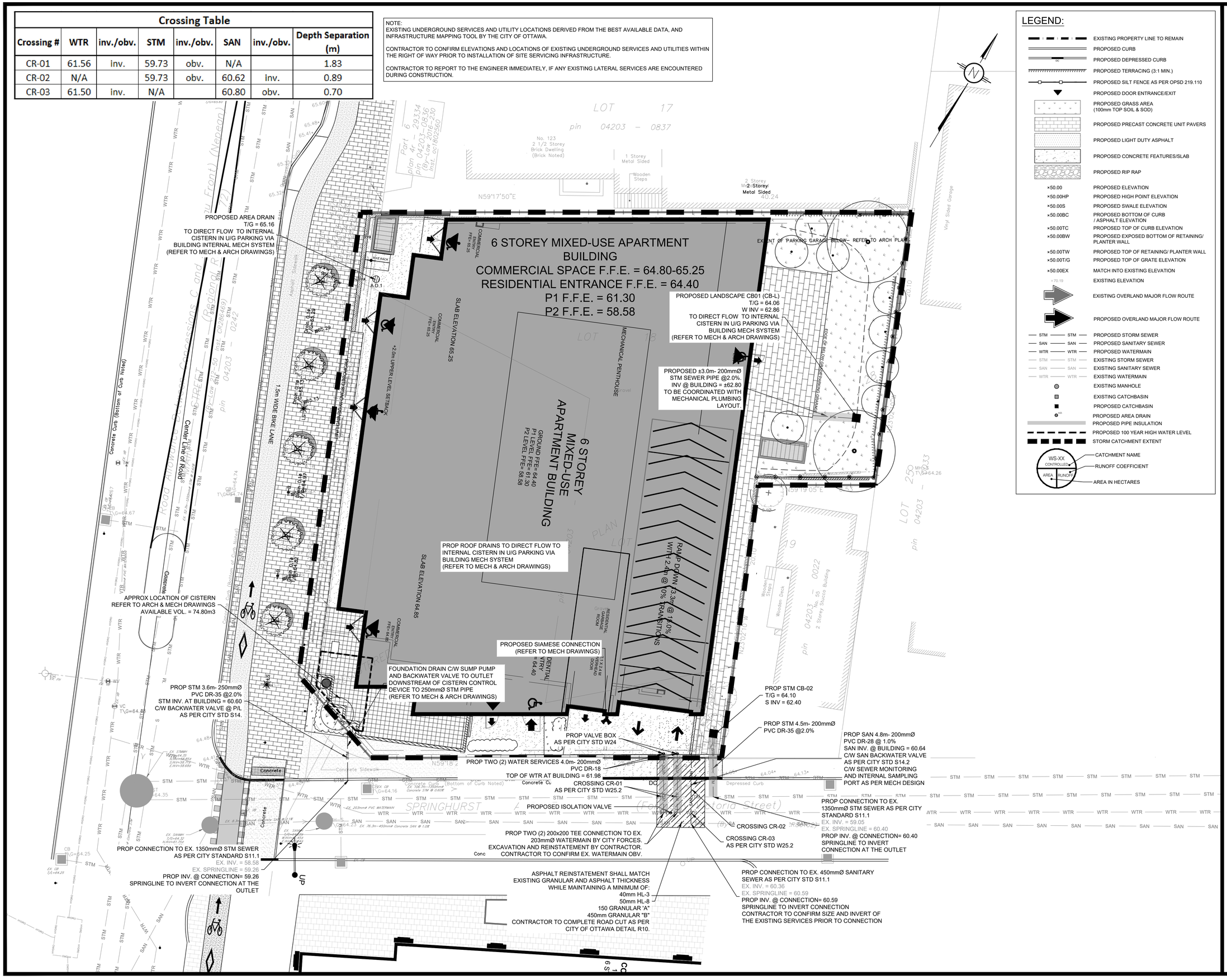
Crossing Table

Crossing #	WTR	inv./obv.	STM	inv./obv.	SAN	inv./obv.	Depth Separation (m)
CR-01	61.56	inv.	59.73	obv.	N/A		1.83
CR-02	N/A		59.73	obv.	60.62	inv.	0.89
CR-03	61.50	inv.	N/A		60.80	obv.	0.70

NOTE:
EXISTING UNDERGROUND SERVICES AND UTILITY LOCATIONS DERIVED FROM THE BEST AVAILABLE DATA, AND INFRASTRUCTURE MAPPING TOOL BY THE CITY OF OTTAWA.

CONTRACTOR TO CONFIRM ELEVATIONS AND LOCATIONS OF EXISTING UNDERGROUND SERVICES AND UTILITIES WITHIN THE RIGHT OF WAY PRIOR TO INSTALLATION OF SITE SERVICING INFRASTRUCTURE.

CONTRACTOR TO REPORT TO THE ENGINEER IMMEDIATELY, IF ANY EXISTING LATERAL SERVICES ARE ENCOUNTERED DURING CONSTRUCTION.



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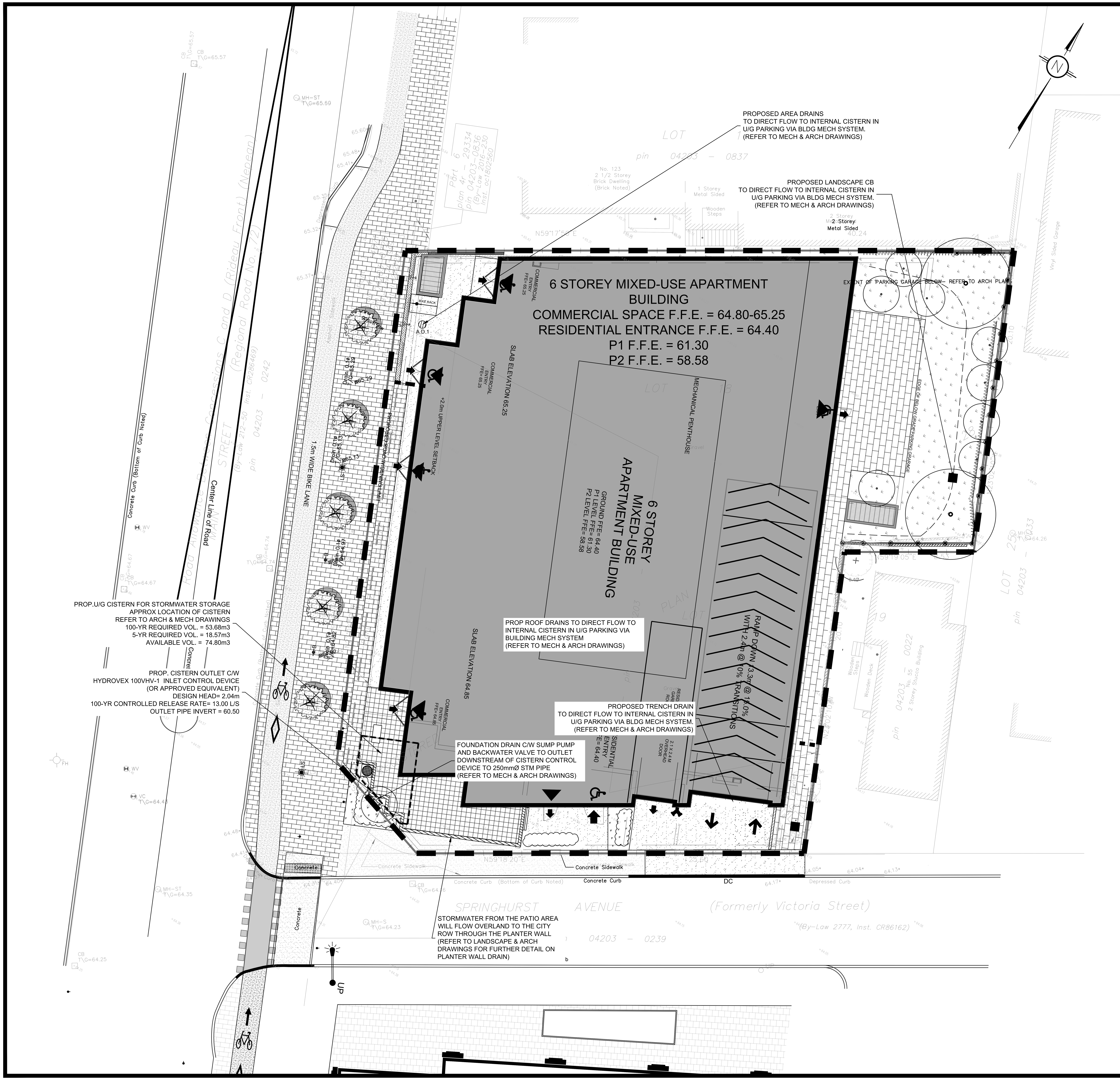
129 MAIN STREET,
OTTAWA, ON

DRAWING TITLE
SERVICING PLAN

PROJECT NO.
240195

C401



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PROJECT
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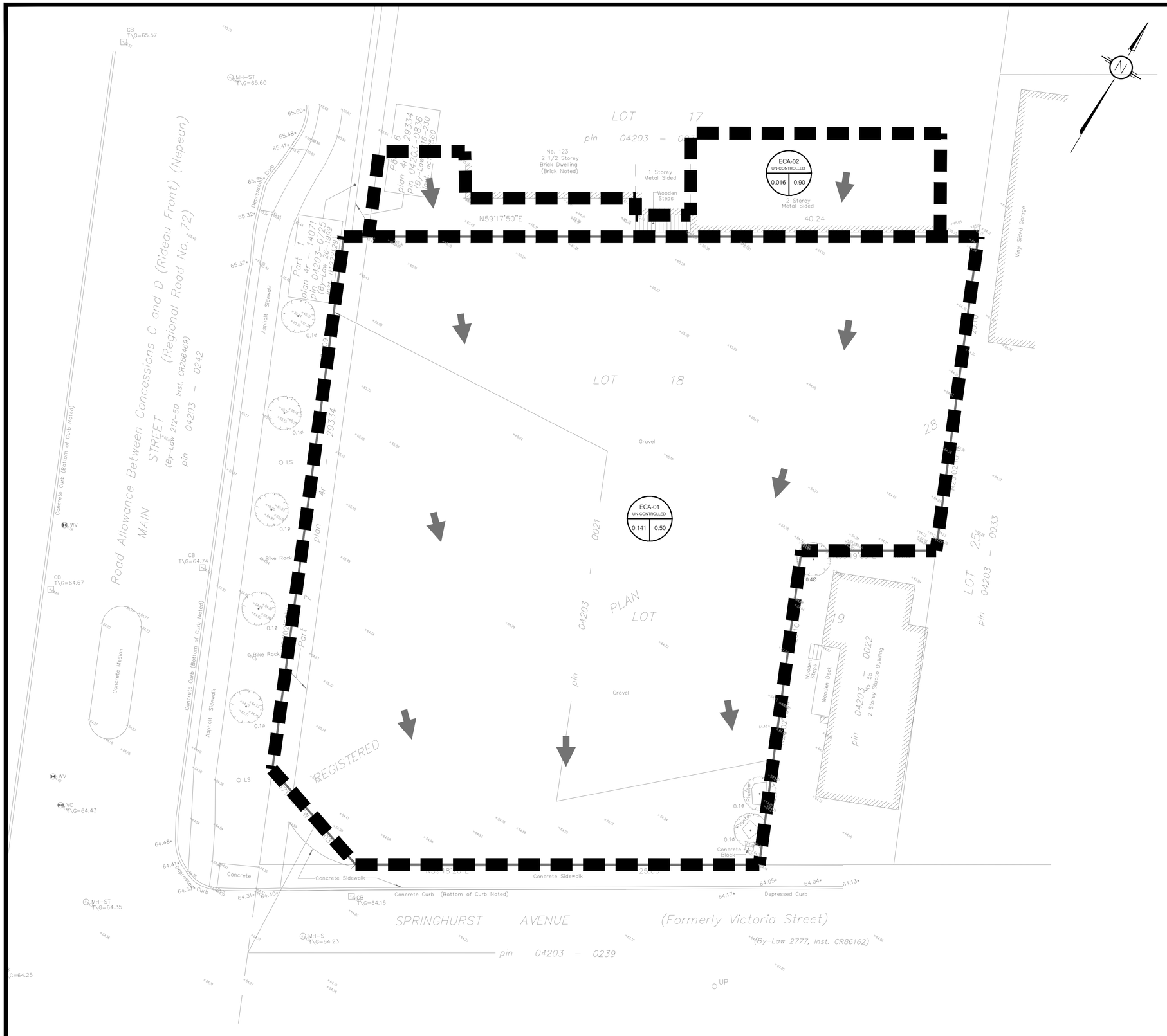
129 MAIN STREET,
OTTAWA, ON

DRAWING TITLE
STORMWATER MANAGEMENT PLAN

PROJECT NO.
240195
C601



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1.5m 0 3.0 6.0m

SCALE: 1:125

NOT FOR CONSTRUCTION TENDER OR PERMIT

No.	REVISIONS	BY	DATE
02	RE-ISSUED FOR APPROVAL	S.V.	27 MAY 2025
01	ISSUED FOR APPROVAL	S.V.	11 OCT 2024

LICENSED PROFESSIONAL ENGINEER
S. GODIN
100574017
PROVINCE OF ONTARIO
2025-05-28

NOT AUTHENTIC UNLESS SIGNED AND DATED

LRL
ENGINEERING | INGÉNIERIE
5430 Canotek Road | Ottawa, ON, K1J 9G2
www.lrl.ca | (613) 842-3434

CLIENT
THE PROPERTIES GROUP

DESIGNED BY:	DRAWN BY:	APPROVED BY:
S.V.	S.V.	S.G.

PROJECT
6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET,
OTTAWA, ON

DRAWING TITLE
PRE-DEVELOPMENT CATCHMENT PLAN

PROJECT NO.
240195

C701

LEGEND:

- EXISTING PROPERTY LINE TO REMAIN
- PROPOSED CURB
- PROPOSED DEPRESSED CURB
- PROPOSED TERRACING (3:1 MIN.)
- PROPOSED SILT FENCE AS PER OPSD 219.110
- PROPOSED DOOR ENTRANCE/EXIT
- PROPOSED GRASS AREA (100mm TOP SOIL & SOD)
- PROPOSED PRECAST CONCRETE UNIT PAVERS
- PROPOSED LIGHT DUTY ASPHALT
- PROPOSED CONCRETE FEATURES/SLAB
- PROPOSED RIP RAP
- ×50.00 PROPOSED ELEVATION
- ×50.00HP PROPOSED HIGH POINT ELEVATION
- ×50.00S PROPOSED SWALE ELEVATION
- ×50.00BC PROPOSED BOTTOM OF CURB / ASPHALT ELEVATION
- ×50.00TC PROPOSED TOP OF CURB ELEVATION
- ×50.00BW PROPOSED EXPOSED BOTTOM OF RETAINING/ PLANTER WALL
- ×50.00TW PROPOSED TOP OF RETAINING/ PLANTER WALL
- ×50.00T/G PROPOSED TOP OF GRATE ELEVATION
- ×50.00EX MATCH INTO EXISTING ELEVATION
- ×70.19 EXISTING ELEVATION
- EXISTING OVERLAND MAJOR FLOW ROUTE
- PROPOSED OVERLAND MAJOR FLOW ROUTE
- STM — STM PROPOSED STORM SEWER
- SAN — SAN PROPOSED SANITARY SEWER
- WTR — WTR PROPOSED WATERMAIN
- STM — STM EXISTING STORM SEWER
- SAN — SAN EXISTING SANITARY SEWER
- WTR — WTR EXISTING WATERMAIN
- EXISTING MANHOLE
- EXISTING CATCHBASIN
- PROPOSED CATCHBASIN
- A.D. PROPOSED AREA DRAIN
- PROPOSED PIPE INSULATION
- PROPOSED 100 YEAR HIGH WATER LEVEL
- STORM CATCHMENT EXTENT
- WS-XX — CATCHMENT NAME
- CONTROLLED — RUNOFF COEFFICIENT
- AREA / RUNOFF — AREA IN HECTARES

USE AND INTERPRETATION OF DRAWINGS

GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION ARE PART OF THE CONTRACT DOCUMENTS AND DESCRIBE USE AND INTENT OF THE DRAWING. THE CONTRACT DOCUMENTS INCLUDE NOT ONLY THE DRAWINGS, BUT ALSO THE OWNER-CONTRACTOR AGREEMENTS, CONDITIONS OF THE CONTRACT, THE SPECIFICATIONS, ADDENDA, AND MODIFICATIONS ISSUED AFTER EXECUTION OF THE CONTRACT. THESE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ANY ONE SHALL BE BINDING AS IF REQUIRED BY ALL. WORK NOT COMPLETELY DELINEATED HEREON SHALL BE CONSTRUCTED OF THE SAME MATERIALS AND DETAILED SIMILARLY AS WORK SHOWN MORE COMPLETELY ELSEWHERE IN THE CONTRACT DOCUMENTS.

BY USE OF THE DRAWINGS FOR CONSTRUCTION OF THE PROJECT, THE OWNER CONFIRMS THAT HE HAS REVIEWED AND APPROVED THE DRAWINGS. THE CONTRACTOR CONFIRMS THAT HE HAS VISITED THE SITE, FAMILIARIZED HIMSELF WITH THE LOCAL CONDITIONS, VERIFIED FIELD DIMENSIONS AND CORRELATED HIS OBSERVATIONS WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS.

AS INSTRUMENTS OF SERVICE, ALL DRAWINGS, SPECIFICATIONS, CADD FILES OR OTHER ELECTRONIC MEDIA AND COPIED THERE OF FURNISHED BY THE ENGINEER ARE HIS PROPERTY. THEY ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED ON ANY OTHER PROJECT, INCLUDING REPEATS OF THE PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ENGINEER.

UNLESS THE REVISION TITLE IS "ISSUED FOR CONSTRUCTION", THESE DRAWINGS SHALL BE CONSIDERED PRELIMINARY AND SHALL NOT BE USED AS A CONSTRUCTION DOCUMENT.

THESE DRAWINGS ILLUSTRATES THE WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THESE DRAWINGS EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS ACKNOWLEDGEMENT OF THE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

UNAUTHORIZED CHANGES:

IN THE EVENT THE CLIENT, THE CLIENT'S CONTRACTORS OR SUBCONTRACTORS, OR ANYONE FOR WHOM THE CLIENT IS LEGALLY LIABLE MAKES OR PERMITS TO BE MADE ANY CHANGES TO ANY REPORTS, PLANS, SPECIFICATIONS OR OTHER CONSTRUCTION DOCUMENTS PREPARED BY LRL ASSOCIATES LTD. (LRL) WITHOUT OBTAINING LRL'S PRIOR WRITTEN CONSENT, THE CLIENT SHALL ASSUME FULL RESPONSIBILITY FOR THE RESULTS OF SUCH CHANGES. THEREFORE THE CLIENT AGREES TO WAIVE ANY CLAIM AGAINST LRL AND TO RELEASE LRL FROM ANY LIABILITY ARISING DIRECTLY OR INDIRECTLY FROM SUCH UNAUTHORIZED CHANGES.

IN ADDITION, THE CLIENT AGREES, TO THE FULLEST EXTENT PERMITTED BY LAW, TO INDEMNIFY AND HOLD HARMLESS LRL FROM ANY DAMAGES, LIABILITIES OR COST, INCLUDING REASONABLE ATTORNEY'S FEES AND COST OF DEFENSE, ARISING FROM SUCH CHANGES.

IN ADDITION, THE CLIENT AGREES TO INCLUDE IN ANY CONTRACTS FOR CONSTRUCTION APPROPRIATE LANGUAGE THAT PROHIBITS THE CONTRACTOR OR ANY SUBCONTRACTORS OF ANY TIER FROM MAKING ANY CHANGES OR MODIFICATIONS TO LRL'S CONSTRUCTION DOCUMENTS WITHOUT THE PRIOR WRITTEN APPROVAL OF LRL AND THAT FURTHER REQUIRES THE CONTRACTOR TO INDEMNIFY BOTH LRL AND THE CLIENT FROM ANY LIABILITY OR COST ARISING FROM SUCH CHANGES MADE WITHOUT SUCH PROPER AUTHORIZATION.

GENERAL NOTES:

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1.5m 0 3.0 6.0m

SCALE: 1:125

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LICENSED PROFESSIONAL ENGINEER
S. GODIN
100574017
PROVINCE OF ONTARIO
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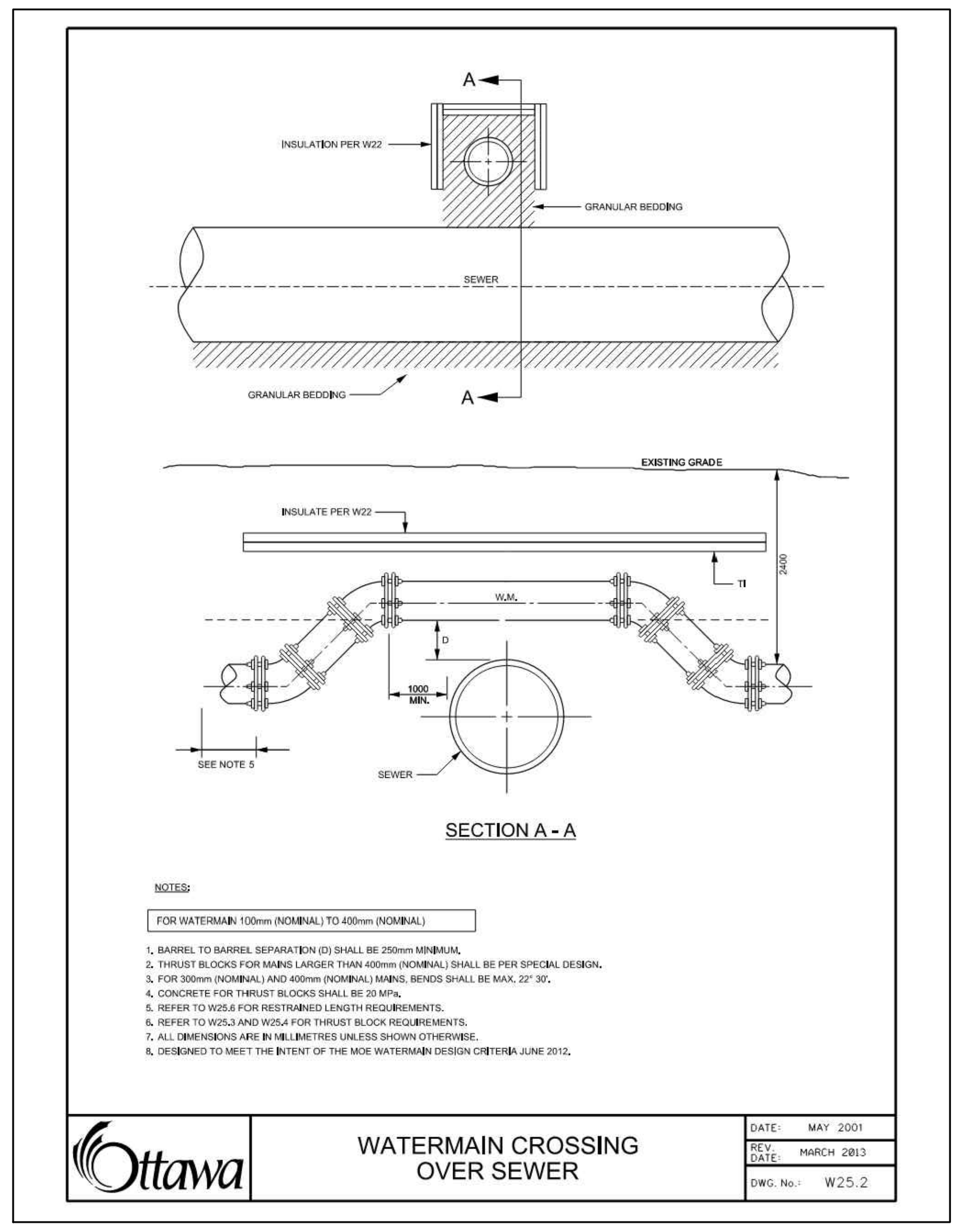
CLIENT
THE PROPERTIES GROUP

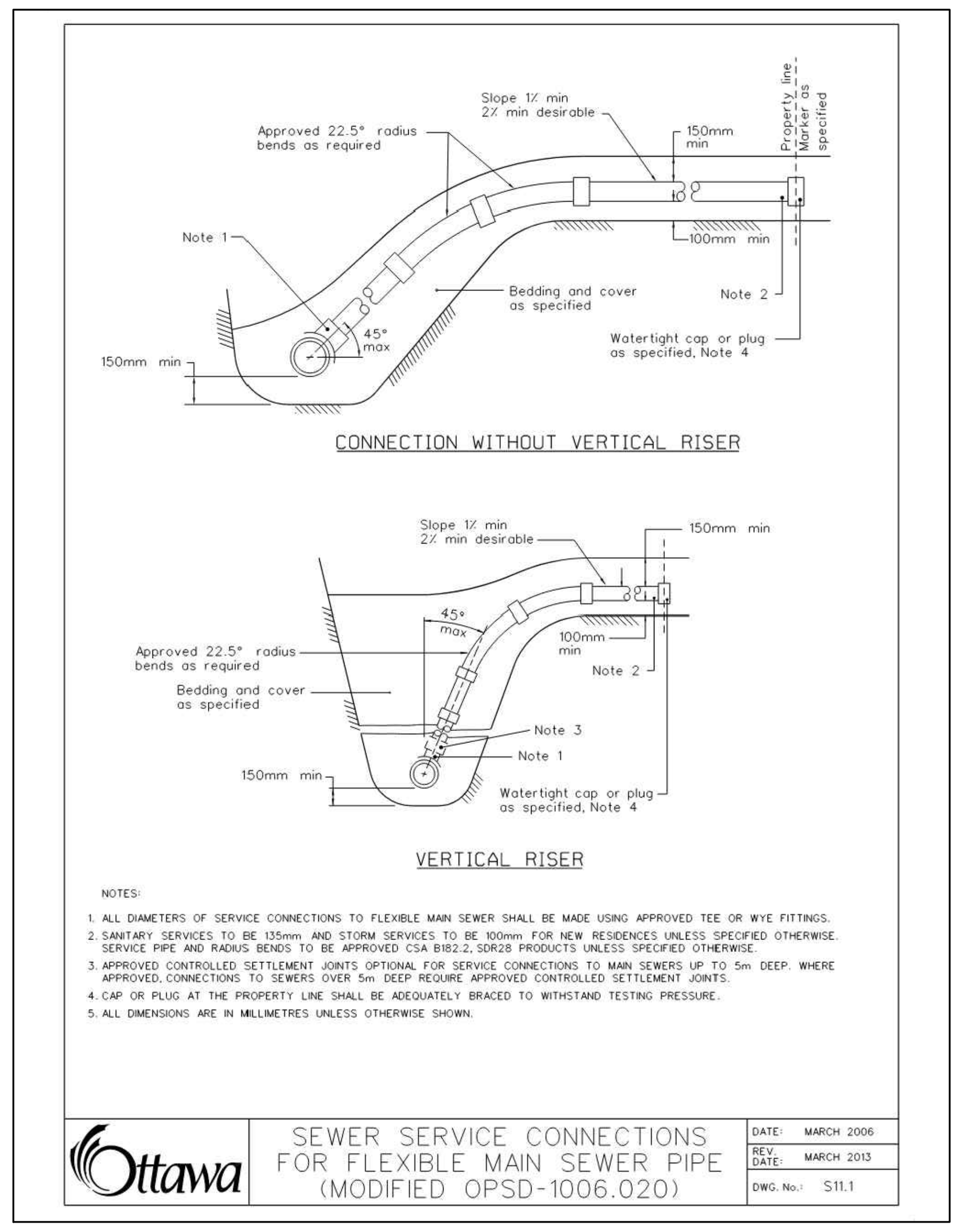
DESIGNED BY:	DRAWN BY:	APPROVED BY:
S.V.	S.V.	S.G.

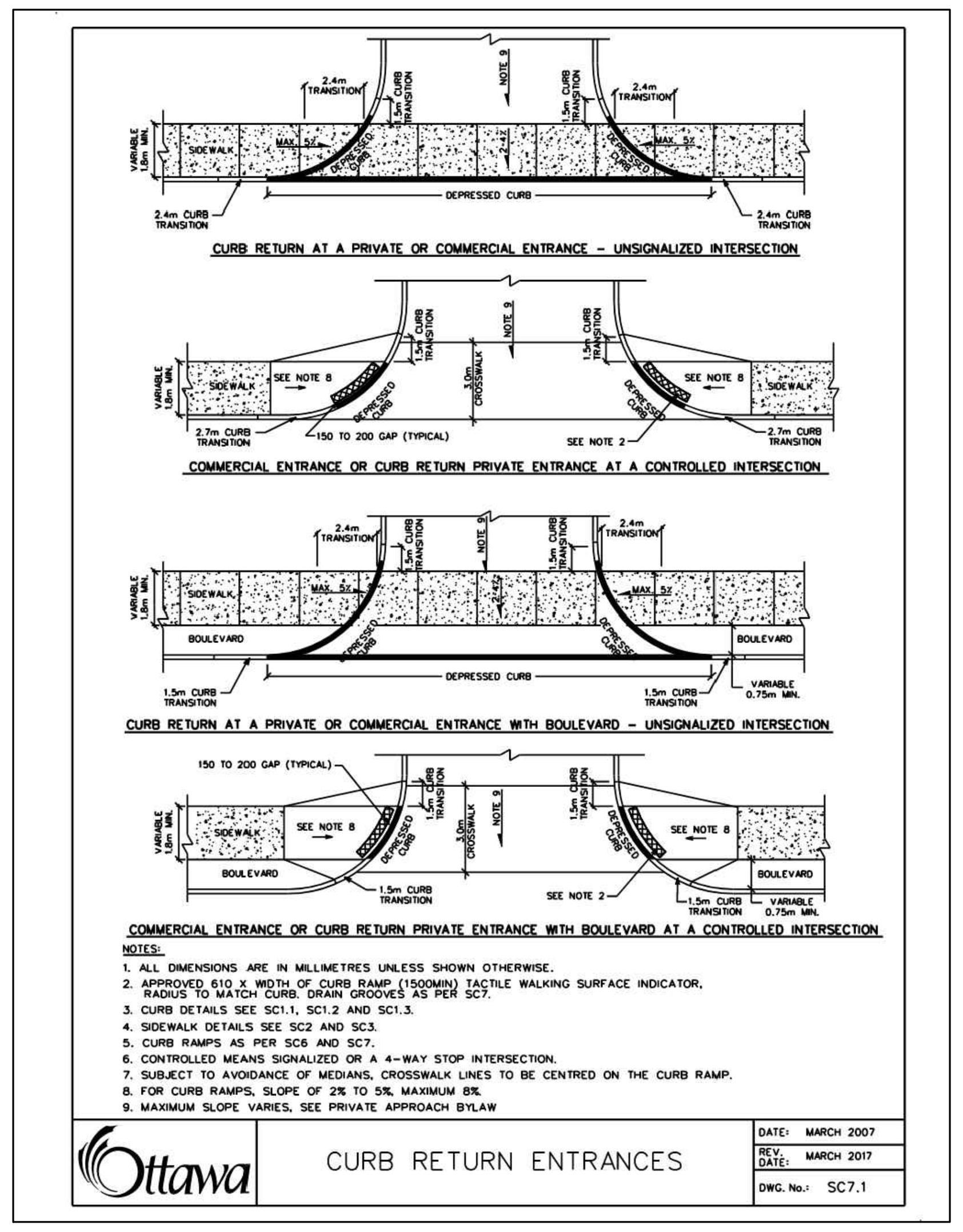
PROJECT
6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET, OTTAWA, ON

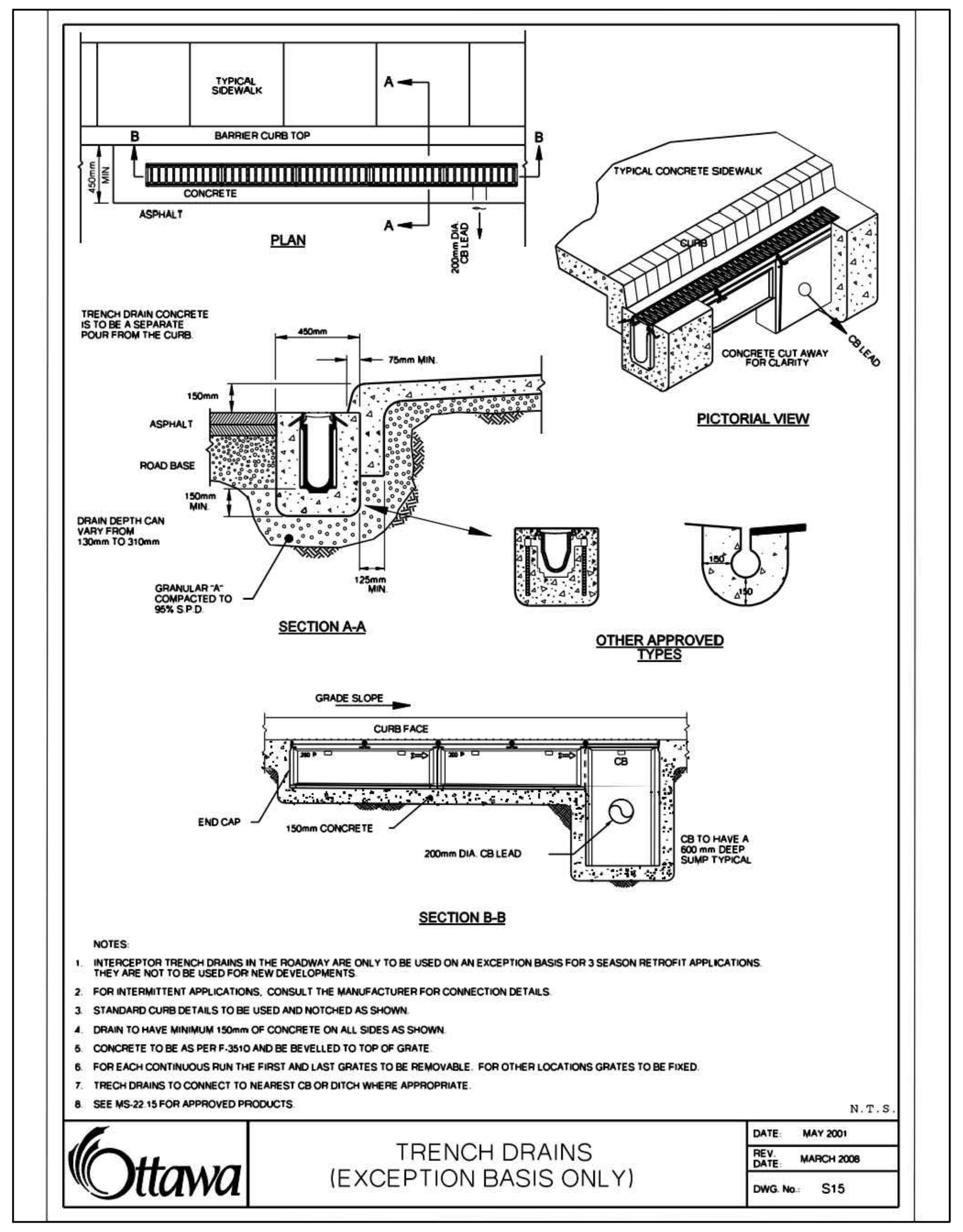
DRAWING TITLE
POST-DEVELOPMENT CATCHMENT PLAN

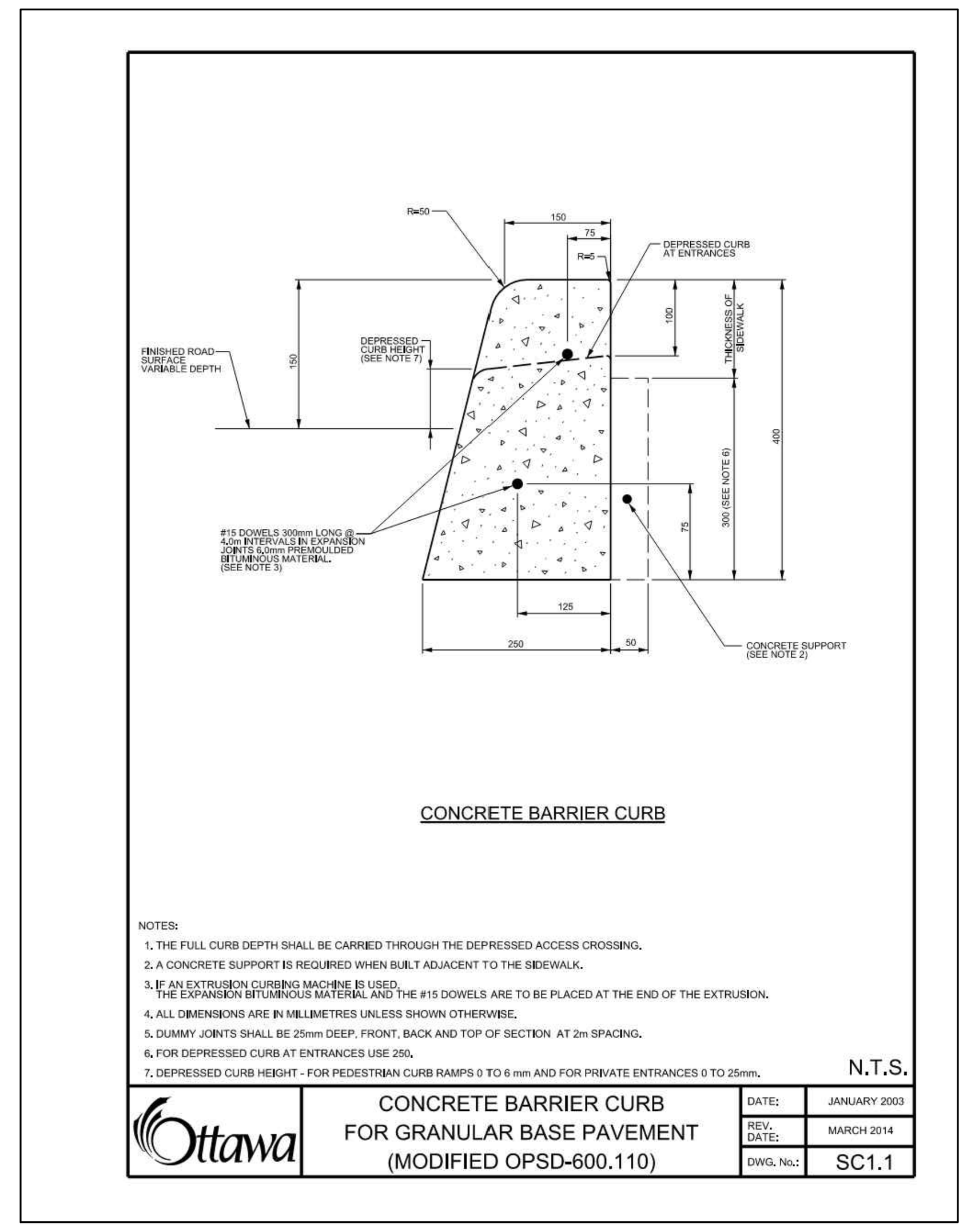
PROJECT NO.
240195
C702

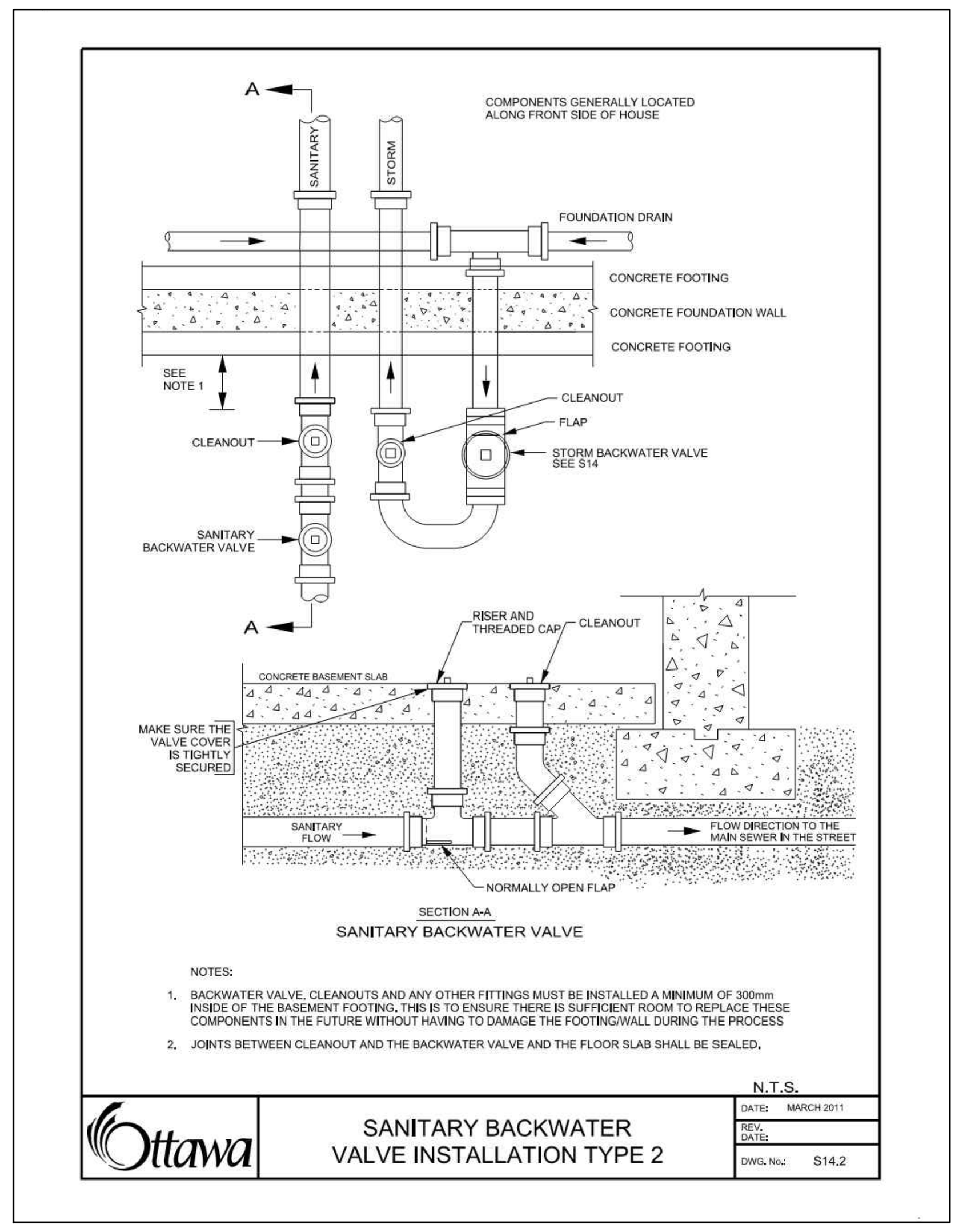


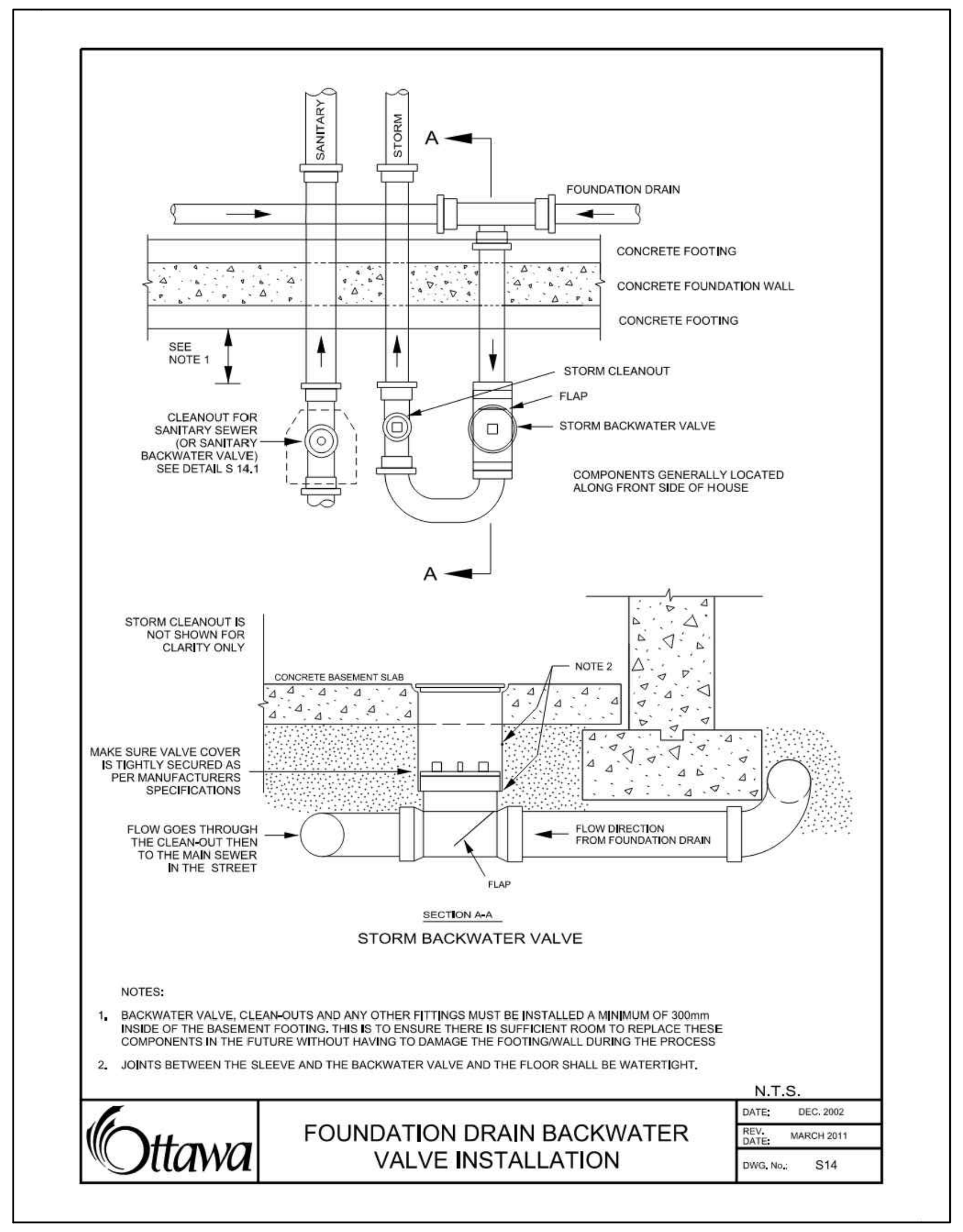


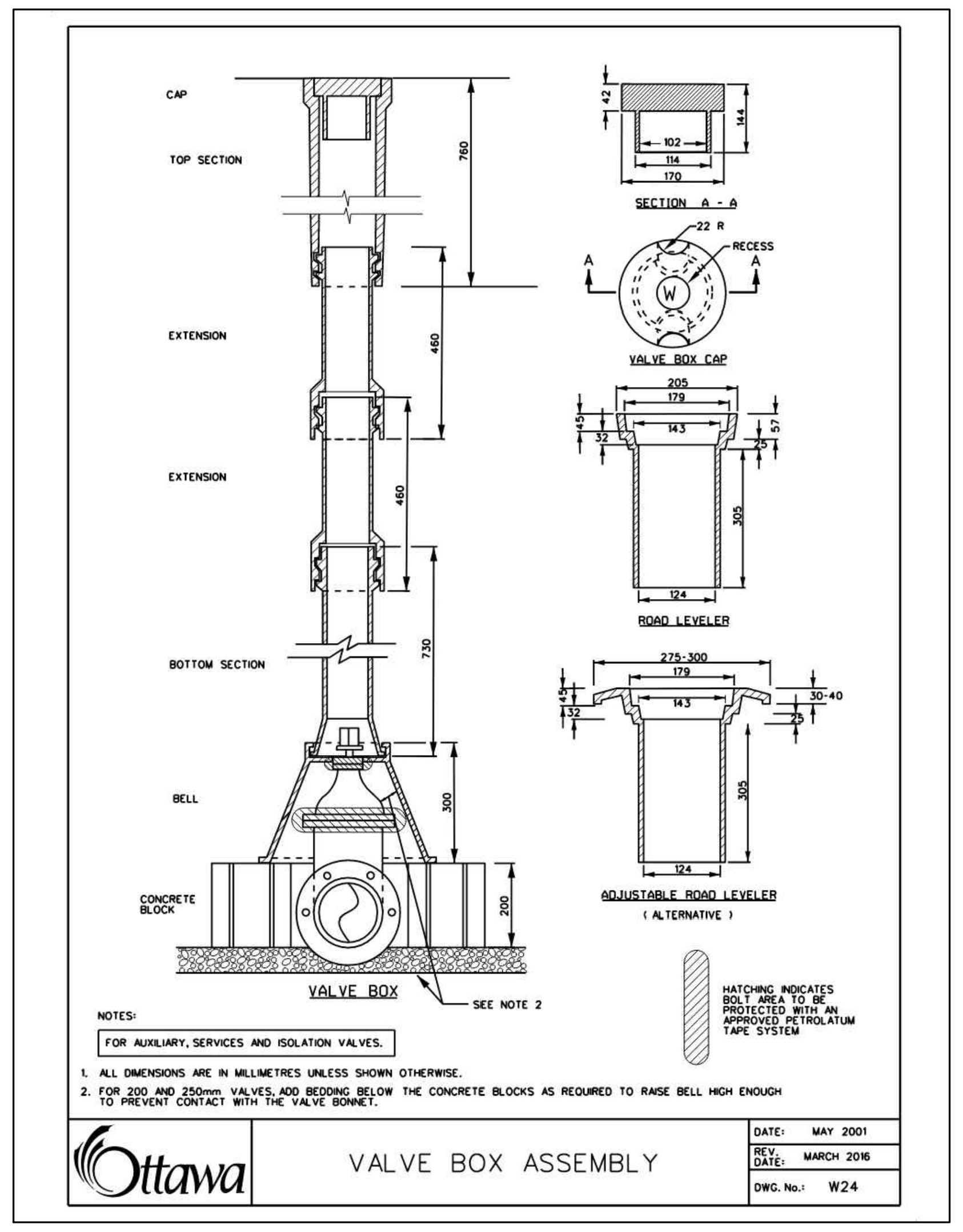


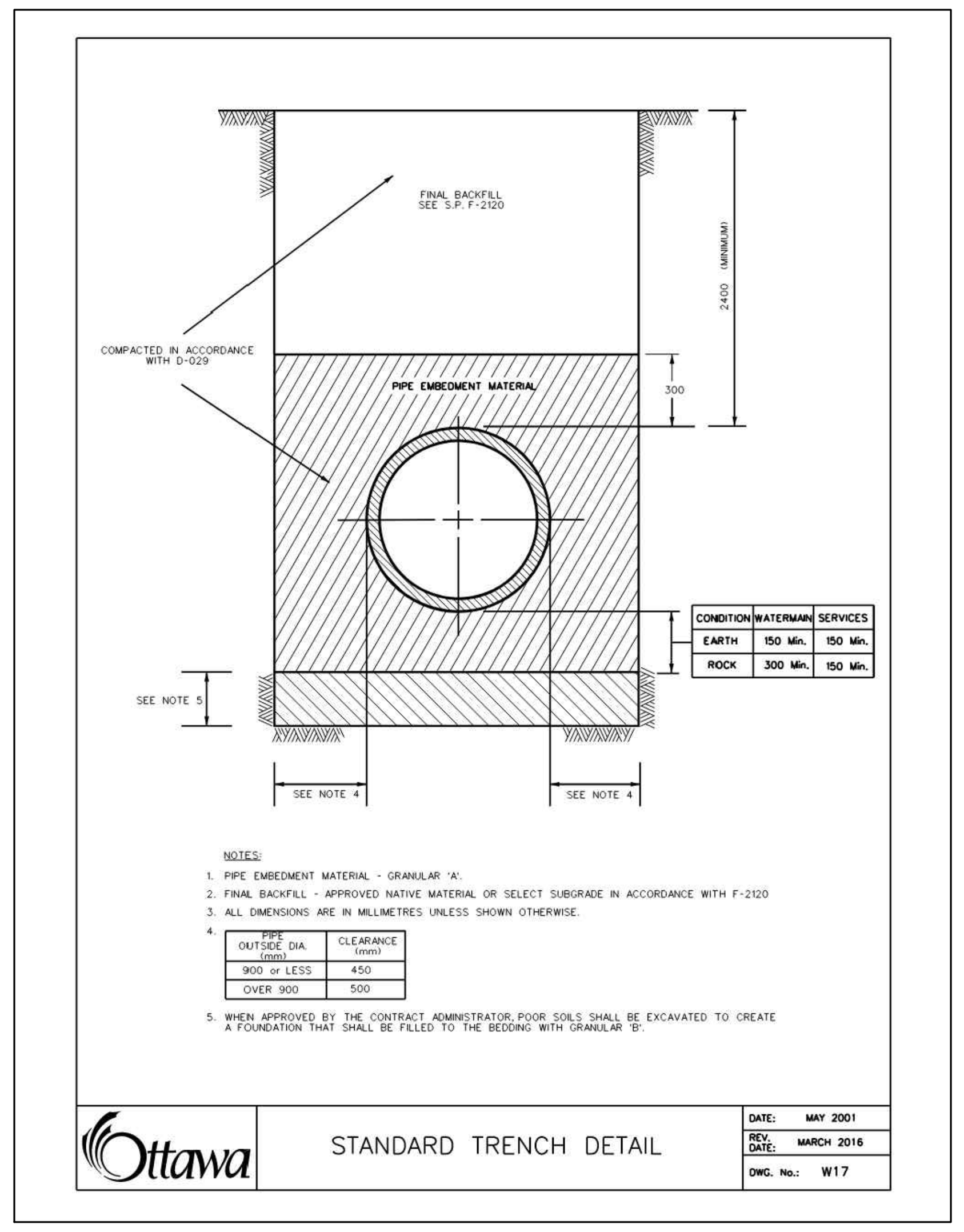






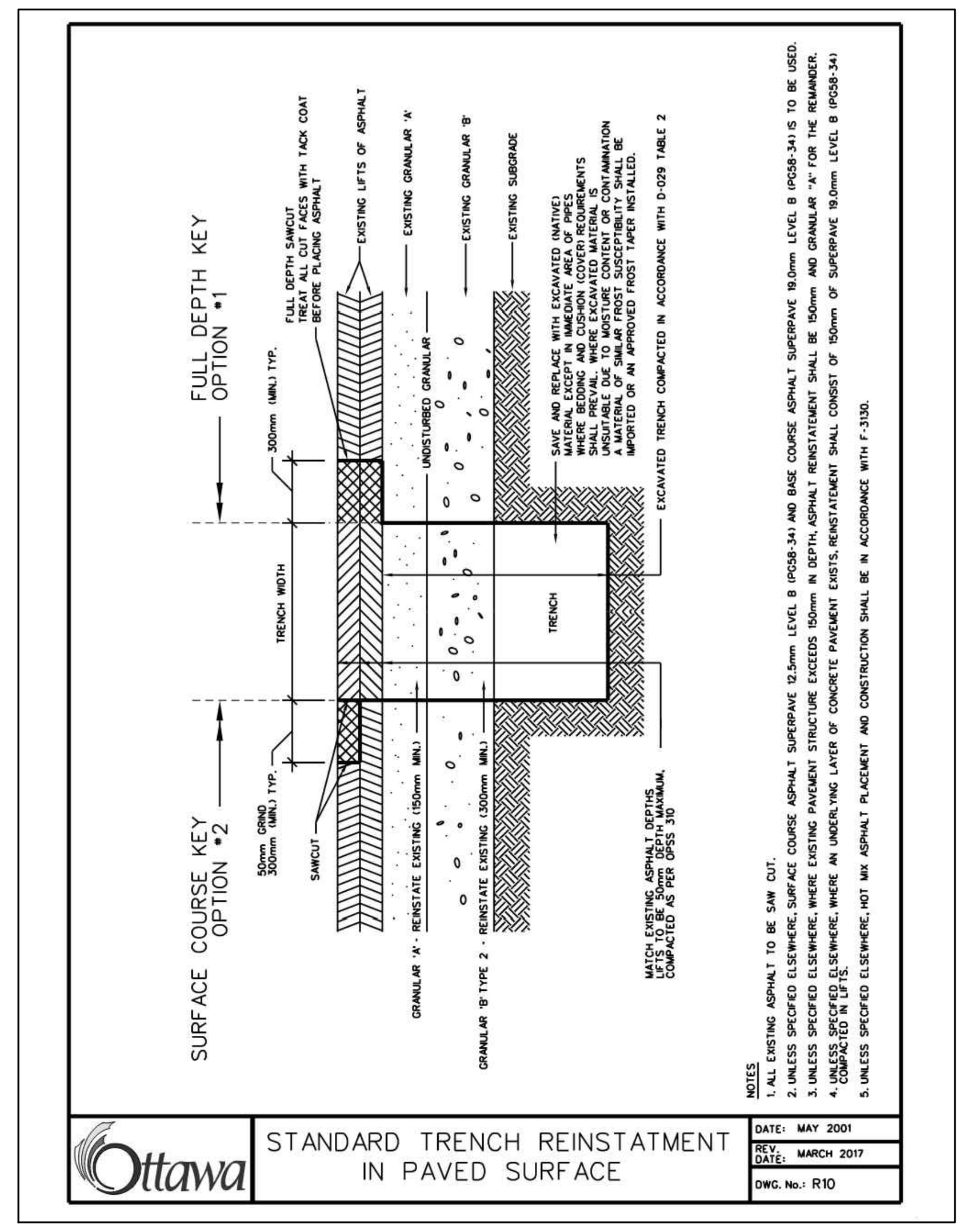


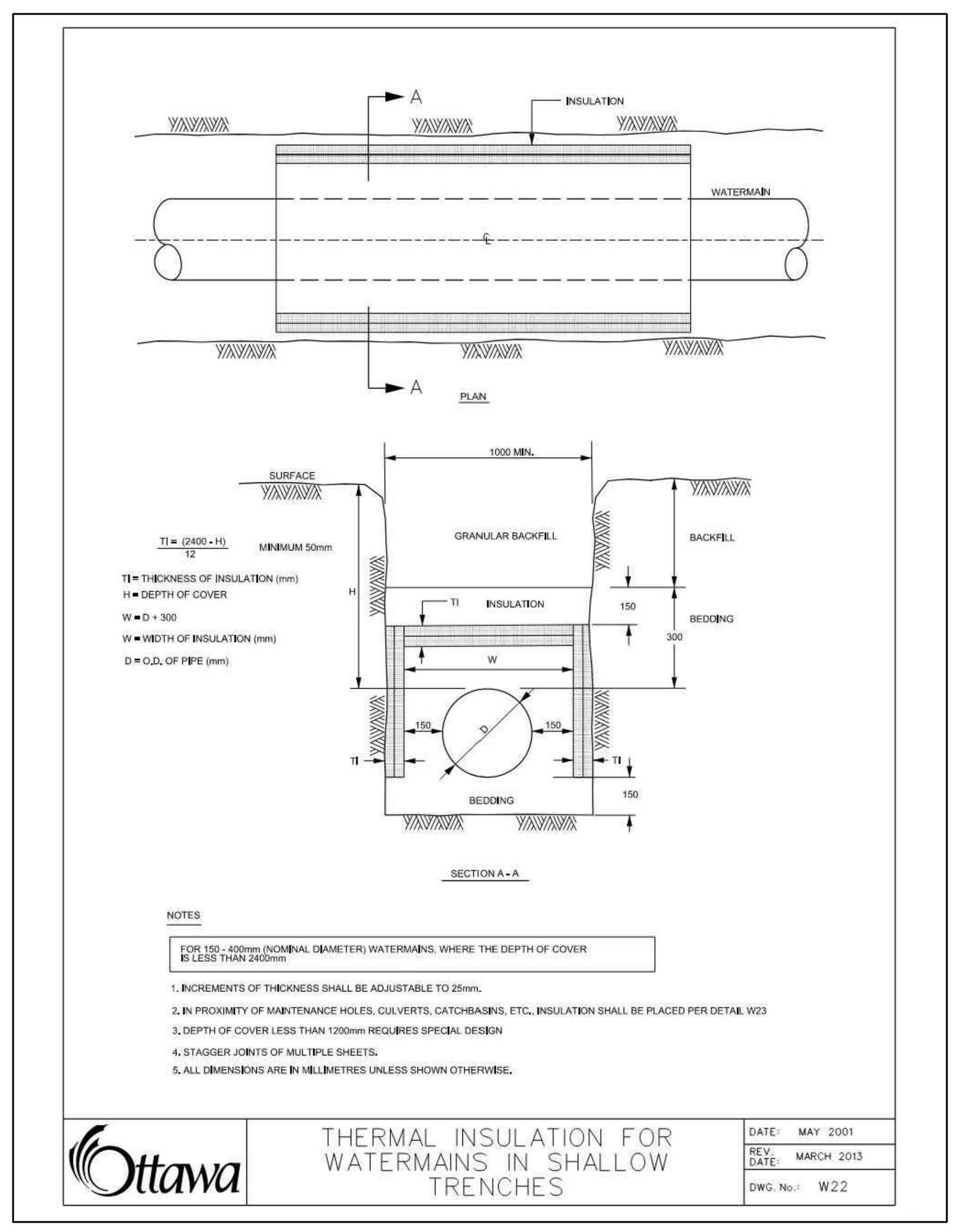


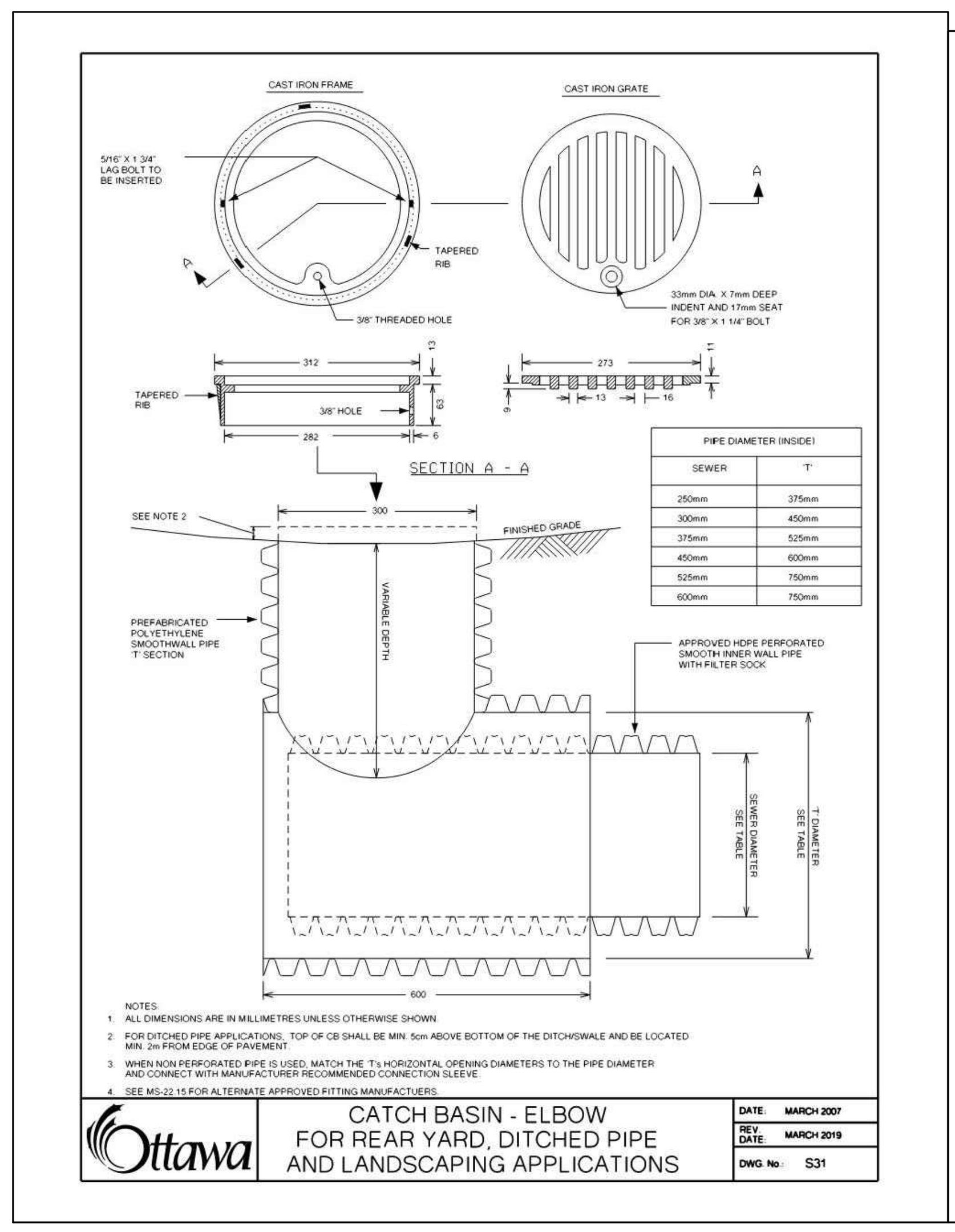


CONDITION	WATERMAIN	SERVICES
EARTH	150 Min.	150 Min.
ROCK	300 Min.	150 Min.

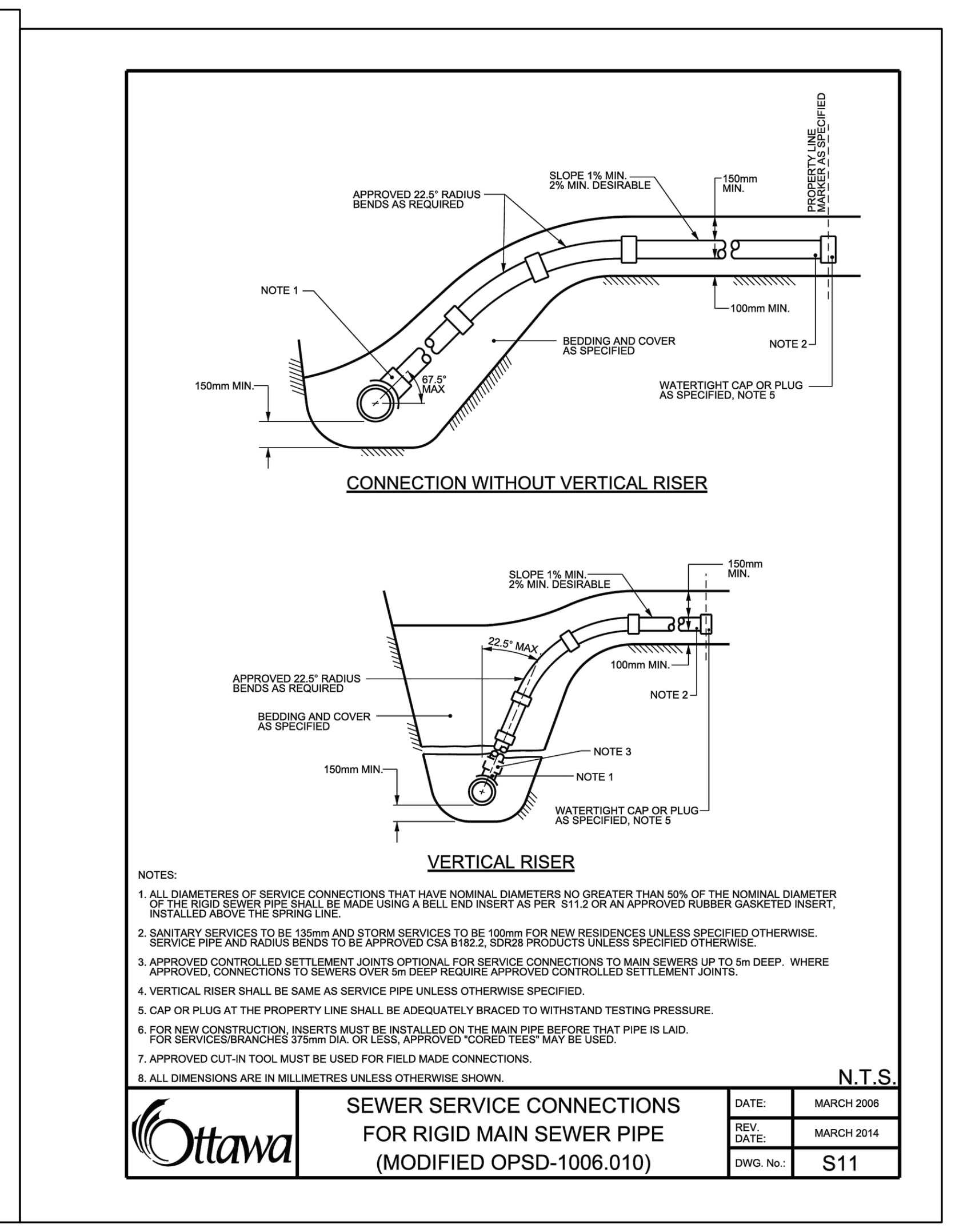
PIPE OUTSIDE DIA. (mm)	CLEARANCE (mm)
900 or LESS	450
OVER 900	500







PIPE DIAMETER (INSIDE)	
SEWER	'T'
250mm	375mm
300mm	450mm
375mm	525mm
450mm	600mm
525mm	750mm
600mm	750mm



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S.V.	S.V.	S.G.

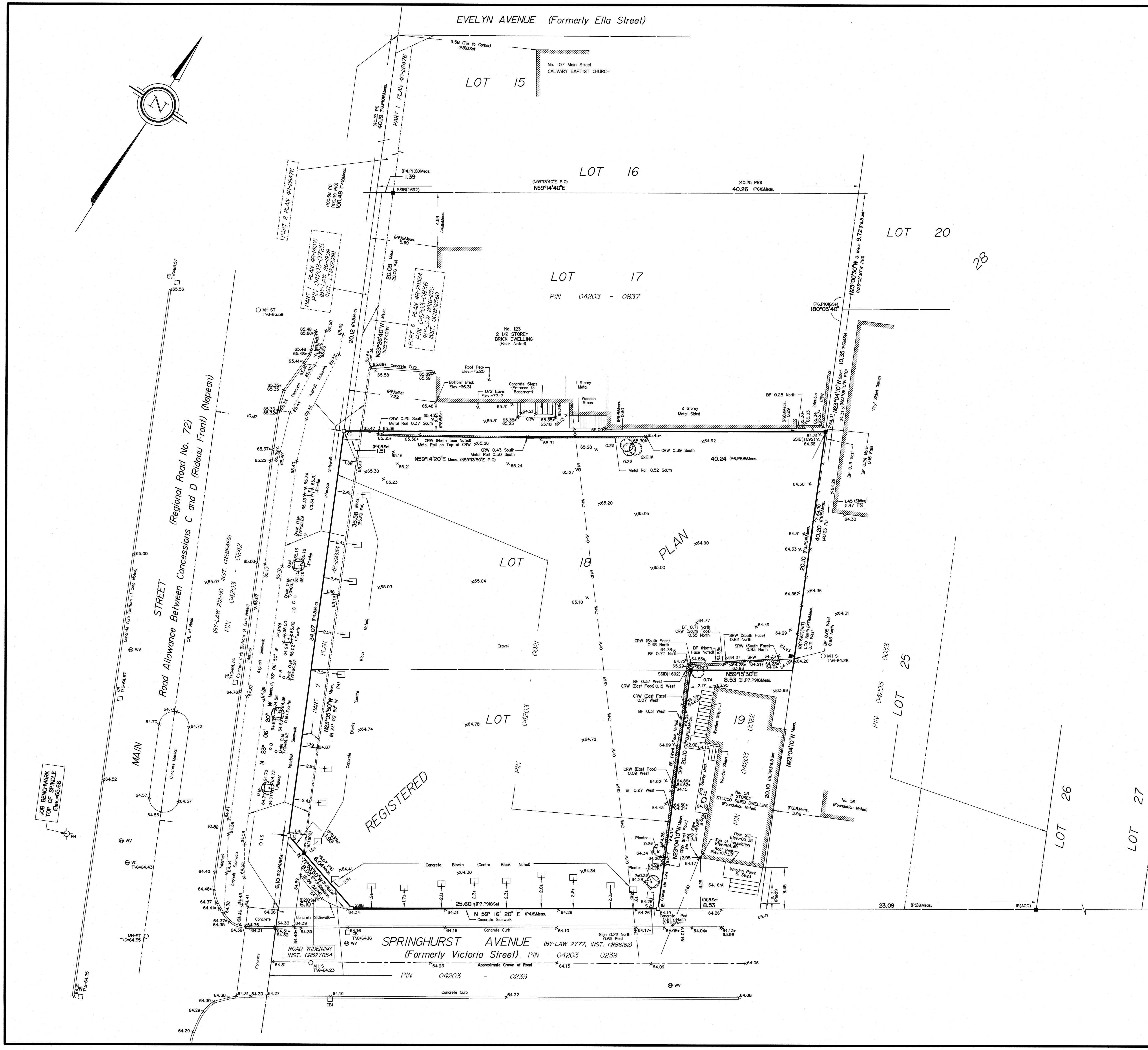
PROJECT
6 STOREY MIXED-USE APARTMENT BUILDING
129 MAIN STREET, OTTAWA, ON

DRAWING TITLE
CONSTRUCTION DETAIL PLAN

PROJECT NO.
240195
C901

APPENDIX F

Legal Survey



TOPOGRAPHIC PLAN OF SURVEY OF
LOT 18 and PART OF LOT 19
REGISTERED PLAN 28
CITY OF OTTAWA
Surveyed by Annis, O'Sullivan, Vollebekk Ltd.

Notes & Legend

	Denotes	
—□—	"	Survey Monument Planted
—■—	"	Survey Monument Found
SIB	"	Standard Iron Bar
SSIB	"	Short Standard Iron Bar
IB	"	Iron Bar
CP	"	Concrete Pin
Meas.	"	Measured
(AOG)	"	Annis, O'Sullivan, Vollebekk Ltd.
(P1)	"	Registered Plan 28
(P2)	"	(990) Plan August 14, 1987
(P3)	"	(AOG) Plan July 31, 1992
(P4)	"	Plan 4R-29334
(P5)	"	(AOG) Plan July 5, 1994
(P6)	"	(AOG) Plan July 24, 1997
(P7)	"	(1692) Plan April 30, 2007
(P8)	"	(857) Plan November 2, 1976
(P9)	"	(AOG) Plan August 11, 2006
(P10)	"	Plan 4R-28476
(P11)	"	Plan 4R-14071
(D1)	"	Inst. CR320361
(D2)	"	Inst. CR527854
FH	"	Fire Hydrant
WV	"	Water Valve
MH-ST	"	Maintenance Hole (Storm Sewer)
MH-S	"	Maintenance Hole (Sanitary)
VC	"	Valve Chamber (Watermain)
—— OHW ——	"	Overhead Wires
CB	"	Catch Basin
CBI	"	Catch Basin Inlet
o B	"	Bollard
△ S	"	Sign
GM	"	Gas Meter
AC	"	Air Conditioner
BF	"	Board Fence
SRW	"	Stone Retaining Wall
CRW	"	Concrete Retaining Wall
Ø	"	Diameter
+65.00	"	Location of Elevations
+65.00*	"	Top of Concrete Curb / Wall Elevation
C/L	"	Centreline
———	"	Property Line
T/G	"	Top of Grate
o LS	"	Light Standard
U/S	"	Underside
(tree symbol)	"	Deciduous Tree

Scale 1 : 150

6 4.5 3.0 1.5 0 3 6 Metres

Metric

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048

Surveyor's Certificate

I CERTIFY THAT :

1. This survey and plan are correct and in accordance with the Surveys Act and the Surveyors Act and the regulations made under them.
2. The survey was completed on the 4th day of September, 2024.

Sept 6/24
Date

V. Andrew Shelp
Ontario Land Surveyor

Bearings are grid, derived from Can-Net 2016 Real Time Network GPS observations and are referenced to Specified Control Points 01919680005 and 01919680105, MTM Zone 9 (76°30' West Longitude) NAD-83 (original).

ELEVATION NOTES

1. Elevations shown are geodetic and are referred to the CGVD28 geodetic datum.
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that it's relative elevation and description agrees with the information shown on this drawing.

UTILITY NOTES

1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

SITE AREA = 1388.6 m²

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V-84347

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR In accordance with Regulation 1026, Section 29 (3).

Ontario Land Surveyors
ANNIS, O'SULLIVAN, VOLLEBEKK LTD.
14 Concourse Gate, Suite 500
Nepean, Ont. K2E 7S6
Phone: (613) 727-0850 / Fax: (613) 727-1079
Email: Nepean@aovltd.com

Job No. 24743-24 PGM Lts 18 & 19 PL 28 T F | ig