

**58 FLORENCE STREET  
3 STOREY APARTMENT BUILDING**

**DEVELOPMENT SERVICING AND  
STORMWATER MANAGEMENT REPORT**

Prepared by:

**NOVATECH**

Suite 200, 240 Michael Cowpland Drive  
Kanata, Ontario  
K2M 1P6

July 18, 2019  
Revised March 25, 2020

Ref: R-2019-103  
Novatech File No. 119051  
City of Ottawa File No. D07-12-19-0141

March 25, 2020

City of Ottawa  
Planning and Growth Management Department  
Infrastructure Approvals Division  
110 Laurier Avenue West, 4<sup>th</sup> Floor  
Ottawa, Ontario  
K1P 1J1

**Attention: Mr. Mark Fraser**

Dear Sir:

**Re: Development Servicing and Stormwater Management Report  
58 Florence Street  
Ottawa, Ontario  
Our File No.: 119051**

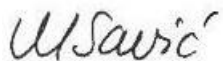
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Enclosed herein is the revised 'Development Servicing and Stormwater Management Report' for the proposed 3-storey apartment building development at 58 Florence Street, in the City of Ottawa. This report addresses the approach to site servicing and stormwater management for the subject property and is submitted in support of the site plan approval application.

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

Yours truly,

**NOVATECH**



Miroslav Savic, P. Eng.  
Project Manager

MS/sm

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- Appendix A: Correspondence
- Appendix B: Site Plan
- Appendix C: Sanitary Sewer, Watermain and Fire Flow Calculations
- Appendix D: Stormwater Management Calculations
- Appendix E: Hydrovex Vortex Flow Regulator
- Appendix F: Development Servicing Study Checklist
- Appendix G: Engineering Drawings

## LIST OF DRAWINGS

- Grading, Servicing and Erosion & Sediment Control Plan (119051-GS)
- Stormwater Management Plan (119051-SWM)
- Pre-Development Drainage Area Plan Plan (119051-PRE)

## 1.0 INTRODUCTION

Novatech has been retained to prepare the site servicing, grading and stormwater management design in support of a Site Plan Control application for the proposed 3-storey apartment building at 58 Florence Street in the City of Ottawa.

This report outlines the servicing aspects of the proposed development with respect to water, sanitary and storm drainage and addresses the approach to stormwater management. This report is being submitted in support of the site plan application for the subject property.

### 1.1 Location and Site Description

The subject site is located in City of Ottawa Ward 14 – Somerset. The legal description of the subject site is designated Lot 8 and part of Lot 9 South Side of Florence Street, Registered Plan No. 21612, City of Ottawa.

The subject site is currently occupied by a two and a half storey single family dwelling. An aerial photo of the subject site is shown in **Figure 1** below.

**Figure 1: Aerial Photo**



## 1.2 Consultation and Reference Material

A pre-consultation meeting was held with the City of Ottawa March 6, 2019, at which time the owner was advised of the general submission requirements. Refer to **Appendix A** for e-mail correspondence with the City of Ottawa.

Based on review of **O. Reg. 525/98: Approval Exemptions**, a Ministry of the Environment, Conservation and Parks (MECP) Environmental Compliance Approval (ECA) will be required since the stormwater management facility from the site will outlet into a combined sewer.

The subject site is located within the jurisdiction of the Rideau Valley Conservation Authority (RVCA). The City of Ottawa has circulated the site plan application to the RVCA and the RVCA had no objections to the development proposal. Refer to **Appendix A** for e-mail correspondence with the City of Ottawa.

Reference Material:

- Geotechnical Investigation Proposed Multi-Unit Residential Building, prepared by Kollaard Associates Engineers, dated June 5, 2019.

## 2.0 PROPOSED DEVELOPMENT

The proposed development is a 3 storey 9-unit apartment building with associated landscaped areas. The apartment building will have 6 - one bedroom units and 3 two bedroom units. An accessory building for waste and storage will be constructed at the rear of the property. A copy of the site plan is included in **Appendix B**.

## 3.0 SITE SERVICING

The objective of the site servicing design is to conform to the requirements of the City of Ottawa servicing design guidelines by providing a suitable domestic water supply, proper sewage outlets and ensuring that appropriate fire protection is provided.

The servicing criteria expected sewage flows and water demands for the site have been established using the City of Ottawa municipal design guidelines for sewer and water distribution. The City of Ottawa Servicing Study Guidelines for Development Applications requires a Development Servicing Study Checklist to confirm that each applicable item is deemed complete and ready for review by City of Ottawa Infrastructure Approvals. A completed checklist is enclosed in **Appendix F**.

### 3.1 Water

The site is currently serviced by an existing water service connected to the 203mm diameter municipal watermain in Florence Street. The existing water service is likely 19mm in diameter typical for a single house and it will be replaced with a new 75mm diameter service in the same trench. Fire protection for the site is provided from the existing municipal fire hydrants in Florence Street.

The water demands for the proposed development were calculated and provided to the City of Ottawa to obtain boundary conditions to confirm serviceability.

The required fire flow is calculated using the Fire Underwriter's Survey method and is based on 3-storey above ground wood frame construction. The calculated fire flow demand is 10,000 L/min

(167 L/s). Refer to **Appendix C** for detailed calculations. The two hour fire walls will be provided at the east and west façade due to separation being less than three meters from the adjacent wood frame buildings.

The fire protection will be provided from the existing municipal fire hydrants. There are three fire hydrants in Florence Street within 150m the proposed building. Refer to the Fire Hydrant Coverage Figure enclosed in **Appendix C** for the hydrant locations and approximate distances to the building. All the hydrants are rated AA (painted in blue). As per *Table 1 Maximum flow to be considered from a given hydrant* in *Appendix I of Technical Bulletin ISTB-2018-02*, the combined flows from the three hydrants are summarized in **Table 3.1.1**.

**Table 3.1.1: Combined Hydrant Flow Summary**

Fire Hydrants < 75m from Building	Fire Hydrants > 75m < 150m from Building	Combined Fire Flow
2 x 5,700 L/min	1 x 3,800 L/min	15,200 L/min

Therefore, the combined fire flow from the three existing hydrants of 15,200 L/min exceeds the required fire flow of 10,000 L/min.

The domestic water demands for the proposed development, calculated as per the Ottawa Design Guidelines – Water Distribution are summarized in **Table 3.1.2**.

**Table 3.1.2: Water Demand**

Average Day Demand	Maximum Day Demand	Peak Hour Demand
0.06 L/s	0.15 L/s	0.33 L/s

The detailed water demand calculations, boundary conditions and watermain analysis calculations for the existing public infrastructure are provided in **Appendix C**.

The results of the hydraulic analysis are summarized below in **Table 3.1.3**.

**Table 3.1.3 Water Analysis Results Summary**

Condition	Water Demand	Min/Max Allowable Operating Pressures	Limits of Design Operating Pressures
High Pressure	0.06 L/s	80 psi (Max)	62.1 psi
Peak Hour	0.33 L/s	40 psi (Min)	50.5 psi
Max Day + Fire Flow	167.15 L/s	20 psi (Min)	44.8 psi

The results of the water analysis show there is adequate flow and pressure in the existing 200mm watermain in Florence Street to meet the required water demands.

### 3.2 Sanitary Sewer

The proposed building will be serviced by a new 150mm diameter sanitary service connected to the existing 900mm x 750mm combined sewer in Florence Street.

The calculated peak sanitary flow from the proposed development, including infiltration, is 0.18 L/s. The flow has been calculated as per the City of Ottawa Sewer Design Guidelines. Refer to **Appendix C** for detailed calculations.

The City of Ottawa Water Resources Department has advised that the existing combined sewer in Florence Street surcharges during large storm event. Refer to **Appendix A** for e-mail correspondence with the City of Ottawa. The existing 1:100 year hydraulic grade line (HGL) is approximately at the street level. Therefore, the sanitary sewer lateral will be equipped with backflow prevention device in accordance with the City of Ottawa standards.

### **3.3 Stormwater Management**

The proposed development will be serviced by a new 200mm diameter storm service connected to the existing 900mm x 750mm combined sewer in Florence Street.

The stormwater management design for the proposed development will include on-site water quantity control prior to releasing flows from the site. Stormwater management will be provided by a storage tank. Further details on the sub catchment drainage areas are explained in subsequent sections of the report. See the Stormwater Management Plan (11905-SWM) included in **Appendix G**, for catchment locations, areas, and runoff coefficients.

#### **3.3.1 Existing Conditions**

The subject site is presently occupied by a single two storey house. The existing site drainage is split in two directions. Approximately the front half of the site drains towards the municipal catch basins in Florence Street, while the remainder of the site sheet drains towards the back property line. Refer to **Appendix D** for Pre-Development Drainage Area Plan.

##### **Areas PRE 1 – Runoff to Florence Street**

The pre-development runoff to Florence Street (sub-catchment area PRE 1) was calculated using the Rational Method to be 3.2 L/s and 6.3 L/s for the 1:5 year and 1:100 year design events respectively. Refer to **Appendix D** for Rational Method tables and calculations.

##### **Areas PRE 2 – Runoff to Back Property Line**

The pre-development runoff to back property line (sub-catchment area PRE 2) was calculated using the Rational Method to be 2.2 L/s and 4.5 L/s for the 1:5 year and 1:100 year design events respectively. Refer to **Appendix D** for Rational Method tables and calculations.

#### **3.3.2 Stormwater Management Objectives**

The proposed stormwater management design is based on the latest City of Ottawa Sewer Design Guidelines and are as follows:

- Control 1:100 year post-development flow from the site to the maximum 1:2 year allowable release rate and calculated using a runoff coefficient of 0.4. Post-development runoff in excess of the allowable release rate will be stored and controlled on site prior to being released into the municipal storm sewer system.
- Provide guidelines to ensure that site preparation and construction is in accordance with the current Best Management Practices for Erosion and Sediment Control.

### 3.3.3 Storm Drainage Areas

The proposed site has been subdivided into three distinct storm drainage areas for the post-development condition. The size and location of the catchment areas are based on the proposed site plan and grading design for the site. The runoff coefficients for each catchment area were calculated for the proposed conditions and the catchment areas are shown on the Stormwater Management Plan (119051-SWM). A brief description of the subcatchment areas are as follows:

- Runoff from the landscaped area (Area A1) will sheet drain towards Florence Street.
- Runoff from the backyard and a portion of the accessory building roof (Area A2) will sheet drain towards the back of the property maintaining the existing drainage pattern.
- Runoff from the majority of the site including the building roof, the front yard, the asphalt pathway and a portion of the accessory building roof (Area A3) will be directed to the proposed stormwater management tank where it will be stored and controlled prior to being released to the municipal combined sewer in Florence Street.

### 3.3.4 Allowable Release Rate

The allowable release rate for the 0.035 ha site was calculated using the Rational Method to be 3.0 L/s. This release rate was based on a runoff coefficient of  $C=0.4$  and a 1:2 year rainfall intensity of 76.81 mm/hr, based on City of Ottawa IDF Curves using a time of concentration ( $t_c$ ) of 10 minutes. Refer to **Appendix A** for correspondence from the City of Ottawa.

### 3.3.5 Post-Development Conditions

In order to mitigate the stormwater related impacts due to the proposed development, post-development flows will have to be controlled and stored on site via storage tank prior to the runoff entering the municipal combined sewer. Refer to **Appendix D** for uncontrolled runoff calculations for the sub catchments areas for the site.

#### **Areas A1 –Uncontrolled Landscaped Area**

The post-development runoff from sub-catchment A1 was calculated using the Rational Method to be 0.1 L/s and 0.2 L/s for the 1:5 year and 1:100 year design events respectively. Refer to **Appendix D** for Rational Method tables and calculations.

#### **Areas A2 –Uncontrolled Landscaped Backyard**

The post-development runoff from the landscaped backyard (sub-catchment Area A2) was calculated using the Rational Method to be 0.5 L/s and 1.0 L/s for the 1:5 year and 1:100 year design events respectively. Refer to **Appendix D** for Rational Method tables and calculations.

The runoff from the backyard will sheet drain towards the back property line maintaining the existing drainage pattern. Due to larger building footprint, the backyard area will be reduced resulting in significant reduction of flows toward the back property line compared to the pre-development condition. Refer to section **3.3.1 Existing Conditions** for summary of the pre-development flows



### **Areas A3 –Controlled Building Roof and Landscaped Area**

The post-development flows from sub-catchment Areas A3 will be attenuated by the use of a Hydrovex Vortex ICD installed within the outlet pipe of the proposed stormwater CBMH1. Stormwater runoff from this drainage area will be temporarily stored underground within the CBMH 1, CBMH2 and the 750mm diameter storm pipe prior to being discharged into the municipal combined sewer system.

The Modified Rational Method was used to determine the storage volume required for this catchment area. Refer to **Appendix D** for detailed tables and calculations. As required by the City of Ottawa due to the presence of underground storage, the required storage volume was calculated using an assumed average release rate equal to 50% of the peak allowable flow. It is noted that this approach is considered overly conservative and is likely to overestimate the required storage volume and maximum water level. The ICD was selected using the peak allowable flow allocated to this sub-catchment area and a maximum water elevation calculated using 50% of the allowable flow rate.

**Table 3.2** summarizes the post-development design flows, the type of ICD, and storage volumes required, and storage volume provided for both the 1:5 year and the 1:100 year design events.

**Table 3.2: Area A3 Design Flow and ICD Information**

Design Event	Post-Development Flow			
	ICD Type	Design Flow (L/s)	Storage Volume Required (m <sup>3</sup> )	Volume Provided (m <sup>3</sup> )
1:5 Year	Hydrovex 32 SVHV-1	1.1 L/s	5.7 m <sup>3</sup>	11.8 m <sup>3</sup>
1:100 Year	Hydrovex 32 VHV-1	1.6 L/s	11.8 m <sup>3</sup>	11.8 m <sup>3</sup>

Refer to **Appendix D** for Modified Rational Method calculations and **Appendix E** for Hydrovex Vortex ICD Information.

### **Summary of Post-Development Flows**

**Table 3.3: Post-Development Stormwater Flow Table**

Post - Development Flows						
Area	Description	Post-Development Flow (L/s)		Storage Required (m <sup>3</sup> )		Provided (m <sup>3</sup> )
		5 year	100 year	5 year	100 year	
A1	Uncontrolled Landscaped Area	0.1	0.2	N/A	N/A	N/A
A2	Uncontrolled Backyard Area	0.5	1.0	N/A	N/A	N/A
A3	Controlled Building Roof and Landscaped Area	1.1	1.6	5.7	11.8	11.8
<b>Total Flow</b>		<b>1.7</b>	<b>2.8</b>			

As indicated in **Table 3.3** the total post-development flow from the proposed development will be released to the Florence Street combined sewer at a maximum rate of 2.8 L/s during the 1:100 year design event and 1.7 L/s during the 1:5 year design event; neither of which exceeds the allowable flow for the site of 3.0 L/s.

The total pre-development flows from the site were calculated to be 5.4 L/s during the 1:5-year design event and 10.8 L/s during the 1:100-year design event. Refer to **Appendix D** for detailed calculations. Therefore, there will be a significant reduction in the total site flow rates when compared to the pre-development conditions.

## 4.0 SITE GRADING

The intent of the grading design was to propose the building finished floor elevation to best tie into the elevations along the existing adjacent roadways and surrounding property lines. The proposed grading design provides positive drainage away from the building. Refer to the enclosed Servicing, Grading and Erosion & Sediment Control Plan (119051-GS) for details.

### 4.1 Major System Overland Flow Route

In the case of a major rainfall event exceeding the design storms provided for, the stormwater located within the front yard landscaped areas will overflow towards Florence Street. Stormwater from the landscaped backyard will overflow towards the adjacent property to the south as per the existing conditions.

### 4.2 Erosion and Sediment Control

Erosion and sediment control measures will be implemented during construction in accordance with the "Guidelines on Erosion and Sediment Control for Urban Construction Sites" (Government of Ontario, May 1987). Details are provided on the Grading and Erosion & Sediment Control Plan (113023-GR).

- All erosion and sediment control measures are to be installed to the satisfaction of the engineer, the municipality and the conservation authority prior to undertaking any site alterations (filling, grading, removal of vegetation, etc.) and remain present during all phases of site preparation and construction.
- A qualified inspector should conduct regular visits during construction to ensure that the contractor is working in accord with the design drawings and that mitigation measures are being implemented as specified.
  - A light duty silt fence is to be installed as per OPSS 577 and OPSD 219.110 along the surrounding construction limits.
  - Filter cloth is to be placed under the grates of all proposed and existing catchbasins structures.
  - Street sweeping and cleaning will be performed, as required, to suppress dust and to provide safe and clean roadways adjacent to the construction site.
- The contractor shall immediately report to the engineer or inspector any accidental discharges of sediment material into any ditch or sewer system. Appropriate response measures shall be carried out by the contractor without delay.

The proposed temporary erosion and sediment control measures will be implemented prior to construction and will remain in place during all phases of construction.

## 5.0 GEOTECHNICAL INVESTIGATIONS

A geotechnical investigation report has been prepared for the proposed site. Refer to 'Geotechnical Investigation Proposed Multi-Unit Residential Building', prepared by Kollaard Associates Engineers, dated June 5, 2019 for the existing subsurface conditions, construction recommendations and geotechnical inspection requirements for the proposed development.

## 6.0 SUMMARY AND CONCLUSIONS

This report has been prepared in support of the site plan application for the proposed development located at 58 Florence Street, in the City of Ottawa.

The conclusions are as follows:

- The proposed apartment building will be serviced by connecting to the existing watermain and combined sewer in Florence Street.
- Based on hydraulic boundary conditions provided by the City of Ottawa, the existing municipal watermain network is adequate to service the proposed development.
- The total post-development flow from the site outleting to the Florence Street combined sewer will be controlled to a maximum of 2.8 L/s during the 1:100 year design event and to 1.7 L/s during the 1:5 year design event. Neither of which exceed the maximum allowable release rate of 3.0 L/s required by the City of Ottawa.
- The total combined flow from the site (storm and sanitary) will not exceed the allowable release rate.
- Temporary erosion and sediment controls are to be provided during construction.

Servicing assessments discussed in the preceding sections show that there are no major obstacles to servicing the proposed development. It is recommended that the proposed site servicing and stormwater management design be approved for implementation.

## NOVATECH

Prepared by:



Miroslav Savic, P. Eng.  
Senior Project Manager | Land Development

Reviewed by:

A handwritten signature in black ink, appearing to read 'Lee Sheets'.

Lee Sheets, C.E.T.  
Director | Land Development & Public Sector Infrastructure

## **APPENDIX A**

### **Correspondence**

## Miro Savic

---

**From:** Wessel, Shawn <shawn.wessel@ottawa.ca>  
**Sent:** Wednesday, July 10, 2019 1:36 PM  
**To:** Miro Savic  
**Cc:** Lee Sheets; Murray Chown; Danna SeeHar  
**Subject:** RE: Pre-consult follow up - 58 Florence Street

Good afternoon Mr. Savic.

Further to your inquiry, the City's Water Resources Dept. had the following comments:

This area is part of the O'Connor Street flood study. HGLs are high in this area, which is why we are implementing flood control measures, but we are still years away from completion. The existing 100 HGL is basically at surface level. In the future it will be 2.5 m below surface (once all measures are implemented).

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

Thank you

*Regards,*

**Shawn Wessel, A.Sc.T.,rcji**

**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, Infrastructure and Economic Development Department | Direction générale de la planification  
de l'infrastructure et du développement économique

City of Ottawa | Ville d'Ottawa

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Int. Mail Code | Code de Courrier Interne 01-14

[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)

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**From:** Miro Savic <m.savic@novatech-eng.com>

**Sent:** July 10, 2019 8:42 AM

**To:** Wessel, Shawn <shawn.wessel@ottawa.ca>

**Cc:** Lee Sheets <l.sheets@novatech-eng.com>; Murray Chown <m.Chown@novatech-eng.com>; Danna SeeHar

<d.seehar@novatech-eng.com>

**Subject:** RE: Pre-consult follow up - 58 Florence Street

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Thank you Shawn.

I was expecting that we would be provided with the 100 year HGL for the 900mmx750mm combined sewer in Florence Street. Can this be provided to us?

A concrete ramp is being proposed down to basement for garbage pick up where we would need to install a drain and connect to the city sewer. We are concerned with the city sewer surcharging and backing up into the basement of the building.

Regards,

**Miroslav Savic**, P.Eng., Senior Project Manager | Land Development Engineering

**NOVATECH** Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 265 | Fax: 613.254.5867

The information contained in this email message is confidential and is for exclusive use of the addressee.

---

**From:** Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>

**Sent:** Thursday, July 04, 2019 10:54 AM

**To:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>

**Subject:** RE: Pre-consult follow up - 58 Florence Street

Good morning Mr. Savic.

Please see the response from our Water Resources Dept. in regard to SWM criteria and sanitary HGL info below:

No issues for Sanitary.

As for storm, Owner(s) will have to control the 100 year to the 2 year. They can assume C= existing in this case.

For this site the following apply to this site and any development within a combined sewer area:

- Total (San & Stm) allowable release rate will be 2 year pre-development rate.
- Coefficient (C) of runoff will need to be determined **as per existing conditions** but in no case more than 0.4 (see comment above in this case)
- TC = 20 minutes or can be calculated  
TC should be not be less than 10 minutes, since IDF curves become unrealistic at less than 10 min.

- Any storm events greater than 2 year, up to 100 year, and including 100 year storm event must be detained on site.
- Two separate sewer laterals (one for sanitary and other for storm) will be required.

1. An MECP ECA will be required.

Please have applicant provide one copy of the following for our review:

MECP ECA Application Form - Direct Submission tied to SPC

Fees - Certified Cheque made out to Ministry of Finance

Proof of Applicant's Identification (if no Certificate of Incorporation)

Certificate of Incorporation (if Applicable)

NAICS Code (If Applicable)

Plan & Profile

Grading and Servicing Plans

Survey Plan

Pipe Data Form

Draft ECA (City of Ottawa Expanded Works Form)

Source Protection Policy Screening & Significant Threat Report

Sewer Drainage Area Plan

SWM Report

Services Report

Geotechnical Report & any other supportive documentation

Correspondence: City of Ottawa including ROW, Water Resources Dept., ISD etc., MNR, Conservation Authority & MECP.

Please note that once the review has been completed and the Sr. Engineer is satisfied and ready to sign off on the application, after the PM recommendations 4 final bound copies including 4 CD Rom disks will be required to accompany the applications with MECP and for City of Ottawa records.

**Footer of ECA Application should have reference #: 8551E (2019/05)**

Re RVCA:

Applicant to contact Rideau Valley Conservation Authority (RVCA) for possible restrictions due to quality control. Provide correspondence in Report.

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

Thank you

***Regards,***

**Shawn Wessel, A.Sc.T.,rcji**  
**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, Infrastructure and Economic Development Department | Direction générale de la planification  
de l’infrastructure et du développement économique  
City of Ottawa | Ville d’Ottawa  
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(613) 580 2424 Ext. | Poste 33017  
Int. Mail Code | Code de Courrier Interne 01-14  
[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)

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**From:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>  
**Sent:** July 03, 2019 3:20 PM  
**To:** Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>  
**Subject:** RE: Pre-consult follow up - 58 Florence Street

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Thank you Shawn, your follow up is much appreciated.

**Miroslav Savic**, P.Eng., Senior Project Manager | Land Development Engineering  
**NOVATECH** Engineers, Planners & Landscape Architects  
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 265 | Fax: 613.254.5867  
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---

**From:** Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>  
**Sent:** Wednesday, July 03, 2019 2:06 PM  
**To:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>  
**Cc:** Lee Sheets <[l.sheets@novatech-eng.com](mailto:l.sheets@novatech-eng.com)>; Danna SeeHar <[d.seehar@novatech-eng.com](mailto:d.seehar@novatech-eng.com)>; Murray Chown <[m.Chown@novatech-eng.com](mailto:m.Chown@novatech-eng.com)>  
**Subject:** RE: Pre-consult follow up - 58 Florence Street

Good afternoon Mr. Savic

I have re-requested this information from our Water Resources Dept. on your behalf and will follow up tomorrow if needed.

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



Thank you

*Regards,*

**Shawn Wessel, A.Sc.T.,rcji**  
**Project Manager - Infrastructure Approvals**  
**Gestionnaire de projet – Approbation des demandes d’infrastructures**

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(613) 580 2424 Ext. | Poste 33017  
Int. Mail Code | Code de Courrier Interne 01-14  
[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)



Please consider the environment before printing this email

---

**From:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>  
**Sent:** July 03, 2019 1:23 PM  
**To:** Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>  
**Cc:** Lee Sheets <[l.sheets@novatech-eng.com](mailto:l.sheets@novatech-eng.com)>; Danna SeeHar <[d.seehar@novatech-eng.com](mailto:d.seehar@novatech-eng.com)>; Murray Chown <[m.Chown@novatech-eng.com](mailto:m.Chown@novatech-eng.com)>  
**Subject:** RE: Pre-consult follow up - 58 Florence Street

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Hi Shawn,

I’m following up on the sewer modeling and capacity information for the 58 Florence. Please advice when we can expect to receive the information.

We are aiming to file the site plan application in a couple of week and would need the information as soon as possible.

Thank you,

**Miroslav Savic**, P.Eng., Senior Project Manager | Land Development Engineering  
**NOVATECH** Engineers, Planners & Landscape Architects  
240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 265 | Fax: 613.254.5867  
The information contained in this email message is confidential and is for exclusive use of the addressee.

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**From:** Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>  
**Sent:** Monday, June 10, 2019 9:07 AM

**To:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>

**Cc:** Lee Sheets <[l.sheets@novatech-eng.com](mailto:l.sheets@novatech-eng.com)>; Danna SeeHar <[d.seehar@novatech-eng.com](mailto:d.seehar@novatech-eng.com)>; Murray Chown <[m.Chown@novatech-eng.com](mailto:m.Chown@novatech-eng.com)>

**Subject:** RE: Pre-consult follow up - 58 Florence Street

Good morning Mr. Savic

I have sent the request and description of the applicant's proposal to our Water Resources Dept. for comment on capacity etc.

Once I have their comments, I will pass them along to you.

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

Thank you

*Regards,*

**Shawn Wessel, A.Sc.T.,rcji**

**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, Infrastructure and Economic Development Department | Direction générale de la planification  
de l'infrastructure et du développement économique

City of Ottawa | Ville d'Ottawa

110 Laurier Ave. W. | 110, avenue Laurier Ouest, Ottawa ON K1P 1J1

(613) 580 2424 Ext. | Poste 33017

Int. Mail Code | Code de Courrier Interne 01-14

[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)



Please consider the environment before printing this email

---

**From:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>

**Sent:** June 07, 2019 10:32 AM

**To:** Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>

**Cc:** Lee Sheets <[l.sheets@novatech-eng.com](mailto:l.sheets@novatech-eng.com)>; Danna SeeHar <[d.seehar@novatech-eng.com](mailto:d.seehar@novatech-eng.com)>; Murray Chown <[m.Chown@novatech-eng.com](mailto:m.Chown@novatech-eng.com)>

**Subject:** FW: Pre-consult follow up - 58 Florence Street

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Shawn,

As per the notes from the pre-consultation meeting (highlighted in green below) I understated that the City will model the sewer system and provide the capacity information to us.

Please confirm and let us the process to obtain the information.

Regards,

**Miroslav Savic**, P.Eng., Senior Project Manager | Land Development Engineering

**NOVATECH** Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 265 | Fax: 613.254.5867

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---

**From:** Danna SeeHar

**Sent:** Friday, May 31, 2019 1:30 PM

**To:** Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)>

**Subject:** FW: Pre-consult follow up - 58 Florence Street

Miro, Please see attached and below for pre-consultation follow up comments. Thanks.

**Danna See-Har**, M.PL., Planner

**NOVATECH** Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 296

The information contained in this email message is confidential and is for exclusive use of the addressee.

---

**From:** Sam Falsetto <[falsettohomes@rogers.com](mailto:falsettohomes@rogers.com)>

**Sent:** Monday, March 25, 2019 10:06 AM

**To:** Danna SeeHar <[d.seehar@novatech-eng.com](mailto:d.seehar@novatech-eng.com)>

**Subject:** Fwd: Pre-consult follow up - 58 Florence Street

Sent from my iPhone

Begin forwarded message:

**From:** Chris Jalkotzy <[cjalk52@gmail.com](mailto:cjalk52@gmail.com)>

**Date:** March 16, 2019 at 9:35:53 AM EDT

**To:** Sam Falsetto <[falsettohomes@rogers.com](mailto:falsettohomes@rogers.com)>

**Subject:** Fwd: Pre-consult follow up - 58 Florence Street

----- Forwarded message -----

**From:** Kluge, Jenny <[jennifer.kluge@ottawa.ca](mailto:jennifer.kluge@ottawa.ca)>

**Date:** Fri, 15 Mar 2019 at 15:47

**Subject:** Pre-consult follow up - 58 Florence Street

To: Chris Jalkotzy <[cjalk52@gmail.com](mailto:cjalk52@gmail.com)>

Cc: Maloney, David <[David.Maloney@ottawa.ca](mailto:David.Maloney@ottawa.ca)>, Wessel, Shawn <[shawn.wessel@ottawa.ca](mailto:shawn.wessel@ottawa.ca)>

Hi Chris,

Further to our meeting on March 6, 2019 regarding the proposal to construct a three-storey, 14-unit apartment building at 58 Florence Street, please find below a summary of what was discussed.

### **Planning (Jenny Kluge)**

- The property is zoned R4S [479], which permits a low-rise apartment building.
- The property is designated as General Urban in the Official Plan
- The property is within the Centretown Secondary Plan area.
- A Streetscape Character Analysis will be required, as the property is within the Mature Neighbourhoods Overlay
- It is understood that variances are required for lot width and lot area, as well as parking if 14 units are provided. When you have more refined plans, please send them to us for further review. We want to see that the proposed development is meeting all other zoning provisions, particularly amenity area requirements. The proposed units should be livable and the desired density may not be possible on this size of a property and within the building mass permitted by zoning.

### **Heritage (David Maloney)**

- The property is located within the Centretown Heritage Conservation District
- As a designated property (under Part V of the *Ontario Heritage Act*), the applicant will be required to apply for a heritage permit to alter the property.
  - The application will address the demolition of the existing building, as well as the construction of a new building.
  - As discussed, the application for heritage permit could be submitted about a month after the site plan application is submitted, so that the timing of the site plan, heritage, and minor variance applications are coordinated.
  - The application for heritage permit must include, a site plan, detailed elevations, a streetscape elevation, and colour renderings of the proposed building within its existing context.

- The property has been evaluated as a Grade 2 building, and typically heritage staff would not support demolition.
  - Staff is however aware of extensive structural damage to the house, that may be attributed to the construction of a building on the adjacent property to the west/south.
  - Please submit evidence of the condition of the building (structural engineering report, etc.) that will inform our assessment of the demolition proposal.
  
- Given the lot dimensions, and streetscape context, it is advised that the setbacks, and height provisions be respected, in order to allow the proposed building to fit the context of the streetscape, which is dominated by two-and-a-half storey detached houses red brick houses.
  - Given the adjacency to the contemporary four storey building to the west, there is an opportunity to design a building that transitions appropriately between the contemporary structure at the corner of Kent and Florence, and the two-and-a-half storey red brick house to the east.
  
- The front entrance of the building should face the street, either at grade, or elevated by two to four steps to a porch.
  
- Red brick is a preferred building material for new construction in the HCD

Key guidelines from the Centretown HCD Plan:

#### **VII.5.6 Residential Infill**

1. All infill should be of contemporary design, distinguishable as being of its own time. However, it must be sympathetic to the heritage character of the area, and designed to enhance these existing properties rather than calling attention to itself.

2. The form of the new infill should reflect the **character of existing buildings on adjoining and facing properties**. The buildings should normally be **three or four storeys in height**, with massing and setbacks matching earlier rather than later patterns still evident in the immediate area.

3. Single family homes, rowhouses, and townhouses developments should reflect the rhythm of early lot development, with gables, balconies, or other features providing an appropriate scale. Small multiple-unit residential developments should reflect the U-shaped and H-shaped patterns of earlier examples, with emphasis on the entrances.

4. **Brick veneer** should be the primary finish material in most areas, to maintain continuity with existing buildings. **Trim materials would commonly be wood or metal; the details at cornices, eaves, and entrances should be substantial and well detailed**. Colours should be rich and sympathetic to existing patterns. Lighting should be discreet and can be used to highlight architectural features.

Please also note that the requirement of a *Cultural Heritage Impact Statement* will be determined after a preliminary design is submitted to heritage staff. As per Official Plan policy, a CHIS is required when a develop has the potential to negatively impact cultural heritage values of designated properties or districts.

Please find the application for heritage permit, and the heritage and evaluation survey form, attached. Let me know if you have any questions.

### **Engineering (Shawn Wessel)**

- Provide property survey that illustrates existing grades on this, and if possible neighbouring properties, in conjunction with property lines, Lot #s & Parts and Property Report that was provided.
- Infrastructure:

750 mm dia. Brick Combined Sewer Main is available on Florence St., which connects to the Rideau River Trunk Collector and then to the Interceptor Sewer at Stanley Ave.

**Modeling is required! City Dept. to provide capacity information to applicant.**

- The following apply to this site and any development within a combined sewer area:

- Total (San & Stm) allowable release rate will be 2 year pre-development rate.
- Coefficient (C) of runoff will need to be determined as per existing conditions but in no case more than 0.4
- TC = 20 minutes or can be calculated

TC should be not be less than 10 minutes, since IDF curves become unrealistic at less than 10 min.

- Any storm events greater than 2 year, up to 100 year, and including 100 year storm event must be detained on site.
- Two separate sewer laterals (one for sanitary and other for storm) will be required.

\*Please note:

Foundation drains are to be independently connected to sewermain (separated or combined) unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention.

- Roof drains are to be connected downstream of any incorporated ICD within the SWM system.
- Due to combined sewer connection, an MECP Environmental Compliance Approval (ECA) is required, Direct Submission.
- For MECP ECA:

Please provide one copy of the following:

MECP ECA Application Form - Direct Sub tied to SPC Application.

Fees - Certified Cheque made out to "Minister of Finance" – generated from application.

Proof of Applicant's Identification (Copy of Passport or Drivers Lic. (Both Sides – in colour)

Certificate of Incorporation (if Applicable)

NAICS Code (If Applicable)

Plan & Profile

Grading and Servicing Plans

Survey Plan

Pipe Data Form

Draft ECA (City of Ottawa Expanded Works Form)

Source Protection Policy Screening & Significant Threat Report

Sewer Drainage Area Plan

SWM Report

Services Report

Geotechnical Report & any other supportive documentation

Correspondence: City of Ottawa including ROW, Water Resources Dept., ISD etc., MNR, Conservation Authority (RCVA) & MECP.

Please note that once the review has been completed 3 final copies including 3 CD Rom disks will be required to accompany the applications with MECP and for City of Ottawa records.

203 mm dia. PVC watermain is available on Florence St.

Please note: When average daily demand meets or exceeds 50 m<sup>3</sup> (0.58 l/s – avg. day) a second water service is required for redundancy and in the event both services are on the same street, will need to be separated by an inline water valve chamber for isolation.



Boundary Conditions will be provided at request of consultant after providing Average Daily Demands, Peak Hour Demands & Max Day + Fire Flow Demands

- Other:

Traffic Noise Study required due to within 100m proximity of Kent and Bank Sts. and within 500 m of Hwy #417.

Stationary Noise Study – consultant to speak to this in their report as per City NCG and NPC 300 Guidelines.

Underground storage and surface ponding:

Show all ponding for 5 and 100 year events

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

- Provide information on type of underground storage system including product name and model, number of chambers, chamber configuration, confirm invert of chamber system, top of chamber system, required cover over system and details, interior bottom slope (for self-cleansing), chart of storage values, length, width and height, capacity, entry ports (maintenance) etc.
- Provide a cross section of underground chamber system showing invert and obvert/top, major and minor HWLs, top of ground, system volume provided during major and minor events. UG storage to provide actual 2 and 100 year event storage requirements.

- In regards to all proposed UG storage, ground water levels (and in particular HGW levels) will need to be reviewed to ensure that the proposed system does not become surcharged and thereby ineffective.
- Modeling can be provided to ensure capacity for both storm and sanitary sewers for the proposed development by City's Water Distribution Dept. – Modeling Group, upon request.
- Rideau Valley Conservation Authority (RVCA) to be contacted by applicant to ensure there are no restrictions due to quality control requirements and if so, to comply accordingly. Please provide all correspondence with RVCA.
- FYI:

A gas blow-off station is required now for buildings that exceed 12 units. Be sure to include this on the Grading, Site Servicing, SWM and Landscape plans.

Feel free to contact Shawn Wessel at [Shawn.Wessel@ottawa.ca](mailto:Shawn.Wessel@ottawa.ca) or ext. 33017 for follow-up questions.

#### **Transportation (Wally Dubyk)**

- A Transportation Impact Assessment is not required for the proposed development.

Feel free to contact Wally Dubyk at [Wally.Dubyk@ottawa.ca](mailto:Wally.Dubyk@ottawa.ca) or ext. 13783 for follow-up questions.

#### **Community representative comments (Centretown Community Association)**

- They would like to see two bedroom units and affordable units

- Sustainability measures would be ideal
- The design of the building is important and should respect the character of the surrounding neighbourhood
- Respect the front setback along Florence Street.

### **Development Applications Required**

To move forward with this proposal, a [Site Plan Control, Manager Approval, Public Consultation Application](#) will be required. Please review the fees associated with this [here](#).

Attached is the *Applicant's Study and Plan Identification List*, which identifies the required studies and plans to support your application. For additional information on preparing studies and plans, please click on the following hyperlink: [Guide to Preparing Studies and Plans](#).

As you may know, the property is in Ward 14-Somerset, with Councillor Catherine McKenney. It is in your best interest to initiate contact with close neighbours as well as the Councillor and Registered Community Groups. In addition, it may be beneficial to contact key technical agencies that may be involved in this file to discuss the proposal before submitting an application.

The above pre-consultation comments are valid for one year. If you submit a development application after this time, you may be required to meet for another pre-consultation meeting and/or the submission requirements may change. You are as well encouraged to contact us for a follow-up meeting if the plan/concept will be further refined.

Additional information is available related to [building permits](#), [development charges](#), and [the Accessibility Design Standards](#). Be aware that other fees and permits may be required, outside of the development review process. You may obtain background drawings by contacting [informationcentre@ottawa.ca](mailto:informationcentre@ottawa.ca).

Please do not hesitate to contact me if you have any questions.

**Jenny Kluge** MCIP, RPP

Planner

Development Review – Central Branch

Planning, Infrastructure and Economic Development Department

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West, Ottawa, ON K1P 1J1

613.580.2424 ext./poste 27184

E-mail: [jenny.kluke@ottawa.ca](mailto:jenny.kluke@ottawa.ca)

[ottawa.ca/planning](http://ottawa.ca/planning) / [ottawa.ca/urbanisme](http://ottawa.ca/urbanisme)

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Chris Jalkotzy LEED AP  
Planning By People  
City Villages  
[www.cityvillages.org](http://www.cityvillages.org)  
1 613 869 4965

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**APPLICANT’S STUDY AND PLAN IDENTIFICATION LIST**

Legend: **S** indicates that the study or plan is required with application submission.  
**A** indicates that the study or plan may be required to satisfy a condition of approval/draft approval.

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

<http://ottawa.ca/en/development-application-review-process-0/guide-preparing-studies-and-plans>

S/A	Number of copies	ENGINEERING		S/A	Number of copies
<b>S</b>	5	1. Site Servicing Plan	2. Assessment of Adequacy of Public Services / Site Servicing Study / Brief	<b>S</b>	3
<b>S</b>	5	3. Grade Control and Drainage Plan	4. Geotechnical Study / Slope Stability Study	<b>S</b>	3
		5. Composite Utility Plan	6. Groundwater Impact Study		
		7. Servicing Options Report	8. Wellhead Protection Study		
		9. Community Transportation Study and / or Transportation Impact Study / Brief	10.Erosion and Sediment Control Plan / Brief	<b>S</b>	5
<b>S</b>	3	11.Storm water Management Report / Brief	12.Hydro geological and Terrain Analysis		
		13.Hydraulic Water main Analysis	14.Noise / Vibration Study	<b>S</b>	3
		15.Roadway Modification Design Plan	16.Confederation Line Proximity Study		

S/A	Number of copies	PLANNING / DESIGN / SURVEY		S/A	Number of copies
		17.Draft Plan of Subdivision	18.Plan Showing Layout of Parking Garage		
		19.Draft Plan of Condominium	20.Planning Rationale	<b>S</b>	3
<b>S</b>	5	21.Site Plan	22.Minimum Distance Separation (MDS)		
		23.Concept Plan Showing Proposed Land Uses and Landscaping	24.Agrology and Soil Capability Study		
		25.Concept Plan Showing Ultimate Use of Land	26.Cultural Heritage Impact Statement		
<b>S</b>	5	27.Landscape Plan	28.Archaeological Resource Assessment Requirements: <b>S</b> (site plan) <b>A</b> (subdivision, condo)		
<b>S</b>	2	29.Survey Plan	30.Shadow Analysis		
<b>S</b>	5	31.Architectural Building Elevation Drawings (dimensioned)	32.Design Brief (includes the Design Review Panel Submission Requirements)	<b>S</b>	Available online
		33.Wind Analysis			

S/A	Number of copies	ENVIRONMENTAL		S/A	Number of copies
<b>S</b>	3	34.Phase 1 Environmental Site Assessment	35.Impact Assessment of Adjacent Waste Disposal/Former Landfill Site		
<b>A</b>	3	36.Phase 2 Environmental Site Assessment (depends on the outcome of Phase 1)	37.Assessment of Landform Features		
		38.Record of Site Condition	39.Mineral Resource Impact Assessment		
		40.Tree Conservation Report	41.Environmental Impact Statement / Impact Assessment of Endangered Species		
		42.Mine Hazard Study / Abandoned Pit or Quarry Study	43.Integrated Environmental Review (Draft, as part of Planning Rationale)		

S/A	Number of copies	ADDITIONAL REQUIREMENTS		S/A	Number of copies
		44.	45.		

Meeting Date: March 6, 2019  
 File Lead (Assigned Planner): Jenny Kluke  
 Site Address (Municipal Address): 58 Florence Street

Application Type: Site Plan Control, Manager Approval with Public Consultation  
 Infrastructure Approvals Project Manager: Shawn Wessel  
 \*Preliminary Assessment: 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

\*One (1) indicates that considerable major revisions are required before a planning application is submitted, while five (5) suggests that 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.**

It is important to note that the need for additional studies and plans may result during application review. If following the submission of your application, it is determined that material that is not identified in this checklist is required to achieve complete application status, in accordance with the Planning Act and Official Plan requirements, the Planning, Infrastructure and Economic Development Department will notify you of outstanding material required within the required 30 day period. Mandatory pre-application consultation will not shorten the City’s standard processing timelines, or guarantee that an application will be approved. It is intended to help educate and inform the applicant about submission requirements as well as municipal processes, policies, and key issues in advance of submitting a formal development application. This list is valid for one year following the meeting date. If the application is not submitted within this timeframe the applicant must again pre-consult with the Planning, Infrastructure and Economic Development Department.

## Miro Savic

---

**From:** Spencer Galipeau <spencer@evolutiondesigndrafting.com>  
**Sent:** Wednesday, February 26, 2020 5:33 PM  
**To:** Miro Savic  
**Cc:** Murray Chown; Falsettohomes@rogers.com; Teresa Thomas  
**Subject:** Re: 58 Florence - GFA and Unit Breakdown Conformation

Hi Miro,

Excluding the basement I have 560m2 for the GFA

The unit breakdown is as follows

Basement: 1 two bedroom unit, 1 one bedroom unit

Ground Floor: 2 one bedroom units

Second Floor: 2 Two bedroom units

Third Floor: 3 one bedroom units

Total: 3 two bedroom units, 6 one bedroom units

Regards,

On Wed, Feb 26, 2020 at 2:42 PM Miro Savic <[m.savic@novatech-eng.com](mailto:m.savic@novatech-eng.com)> wrote:

Hi Spencer,

The City has requested written correspondence from the architect confirming the following building information (see to the attached City comments 14 and 15):

- total gross floor area of the building (all floors excluding basement)
- the unit breakdown (No. of 1bdr, 2bdr units etc.)

Can you please provide when you have a moment.

Regards,

**Miroslav Savic**, P.Eng., Senior Project Manager | Land Development Engineering

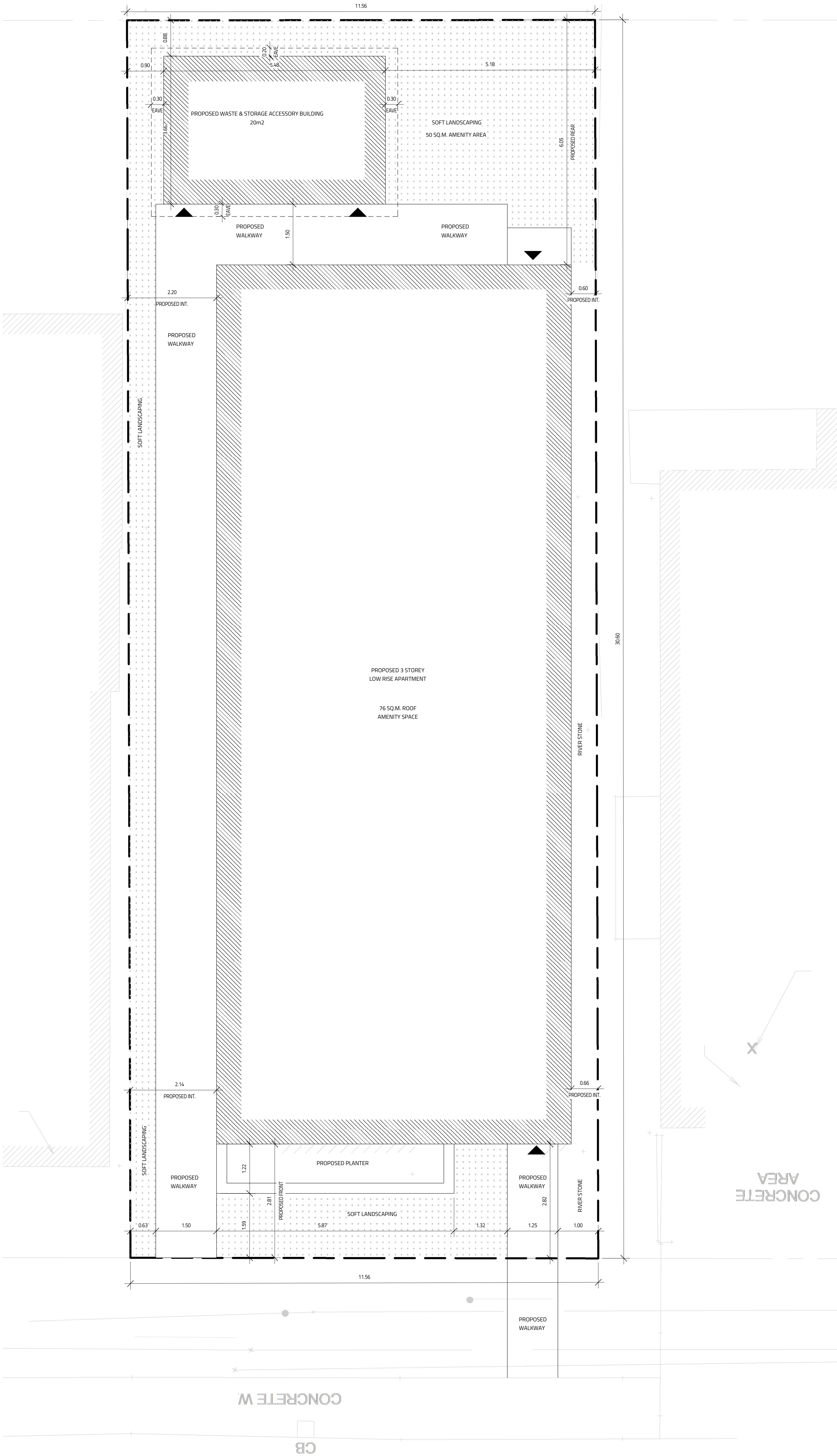
**NOVATECH** Engineers, Planners & Landscape Architects

240 Michael Cowpland Drive, Suite 200, Ottawa, ON, K2M 1P6 | Tel: 613.254.9643 x 265 | Fax: 613.254.5867

## **APPENDIX B**

### **Site Plan**





\*\*ALL TOPOGRAPHIC INFORMATION IS DERIVED FROM J.D BARNES LIMITED LAND INFORMATION SPECIALISTS  
DRAWING NUMBER 19-100-09-00 DATED MARCH 25, 2019\*\*

NOT FOR CONSTRUCTION

NO.	REVISION	DATE
3	ACCESSORY BUILDING REVISION	DEC 16, 2019
2	RE-ISSUED FOR SITE PLAN CONTROL	OCT 18, 2019
1	ISSUED FOR SITE PLAN CONTROL	JULY 25, 2019

MODEL
58 FLORENCE
GROUND FLOOR: 1890 SQ. FT.
SECOND FLOOR: 1960 SQ. FT.
THIRD FLOOR: 1960 SQ. FT.
ROOF TOP: 220 SQ. FT.
OTTAWA, ON



**Evolution**  
DESIGN & DRAFTING  
613-808-7185 // 613-884-7068

DRAWING TITLE	
SITE PLAN	
DATE: 08/15/2019	SCALE: 1"=50'
DRAWN BY: SS	FILE NAME: 58 FLORENCE
CHECKED BY: MV	DWG. NO: D0.0



## **APPENDIX C**

### **Sanitary Sewer, Watermain and Fire Flow Calculations**

## 58 FLORENCE STREET

### SANITARY FLOW

#### PROPOSED 3-STOREY APPARTNET BUILDING

Number of 2 Bedroom Units	3
Persons per 1bdr Unit	2.1
Number of 1 Bedroom Units	6
Persons per 1bdr Unit	1.4
Total Population	15
Average Daily Flow	280 L/c/day
Peak Factor (Harmon Formula)	3.52
<b>Peak Sanitary Flow</b>	<b>0.17 L/s</b>
Site Area	0.04 ha
Infiltration Allowance	0.33 L/s/ha
<b>Peak Extraneous Flows</b>	<b>0.01 L/s</b>
<b>Total Peak Sanitary Flow</b>	<b>0.18 L/s</b>

# FUS - Fire Flow Calculations

As per 1999 Fire Underwriter's Survey Guidelines



Engineers, Planners &amp; Landscape Architects

Novatech Project #: 119051

Project Name: 58 Florence Street

Date: 4/18/2019

Input By: Miroslav Savic

Reviewed By:

Legend

Input by User

No Information or Input Required

Building Description: 3-Storey Apartment Building

Wood frame

Step			Input		Value Used	Total Fire Flow (L/min)
<b>Base Fire Flow</b>						
1	<b>Construction Material</b>	<b>Coefficient related to type of construction</b> <b>C</b>	Wood frame	Yes	1.5	1.5
			Ordinary construction		1	
			Non-combustible construction		0.8	
			Modified Fire resistive construction (2 hrs)		0.6	
			Fire resistive construction (> 3 hrs)		0.6	
2	<b>Floor Area</b>	<b>A</b>	Building Footprint (m <sup>2</sup> )	187	580	8,000
			Number of Floors/Storeys	3		
			Accessory Building Area (m2)	20		
			Area of structure considered (m <sup>2</sup> )			
			<b>F</b>	<b>Base fire flow without reductions</b>		
				<b>F = 220 C (A)<sup>0.5</sup></b>		
<b>Reductions or Surcharges</b>						
3	<b>Occupancy hazard reduction or surcharge</b>	<b>(1)</b>	Non-combustible		-25%	-15%
			Limited combustible	Yes	-15%	
			Combustible		0%	
			Free burning		15%	
			Rapid burning		25%	
4	<b>Sprinkler Reduction</b>	<b>(2)</b>	Adequately Designed System (NFPA 13)	No	-30%	0
			Standard Water Supply	No	-10%	
			Fully Supervised System	No	-10%	
			<b>Cumulative Total</b>		0%	
5	<b>Exposure Surcharge (cumulative %)</b>	<b>(3)</b>	North Side	20.1 - 30 m	10%	3,400
			East Side	2Hr Fire Wall	10%	
			South Side	3.1 - 10 m	20%	
			West Side	2Hr Fire Wall	10%	
			<b>Cumulative Total</b>		50%	
<b>Results</b>						
6	<b>(1) + (2) + (3)</b>	<b>Total Required Fire Flow, rounded to nearest 1000L/min</b>			L/min	10,000
		(2,000 L/min < Fire Flow < 45,000 L/min)			or	L/s
					or	USGPM
7	<b>Storage Volume</b>	Required Duration of Fire Flow (hours)			Hours	2
		Required Volume of Fire Flow (m <sup>3</sup> )			m <sup>3</sup>	1200

## 58 FLORENCE STREET

### WATER ANALYSIS

#### WATER DEMND

Number of 2 Bedroom Units	3
Persons per 1bdr Unit	2.1
Number of 1 Bedroom Units	6
Persons per 1bdr Unit	1.4
Total Population	15
Average Day Demand	350 L/c/day
Average Day Demand	0.06 L/s
Maximum Day Demand (2.5 x avg. day)	0.15 L/s
Peak Hour Demand (2.2 x avg. day)	0.33 L/s

#### BOUNDAY CONDITIONS

Maximum HGL =	115.2 m
Minimum HGL =	107 m
Max Day + Fire Flow =	103 m

#### PRESSURE TESTS

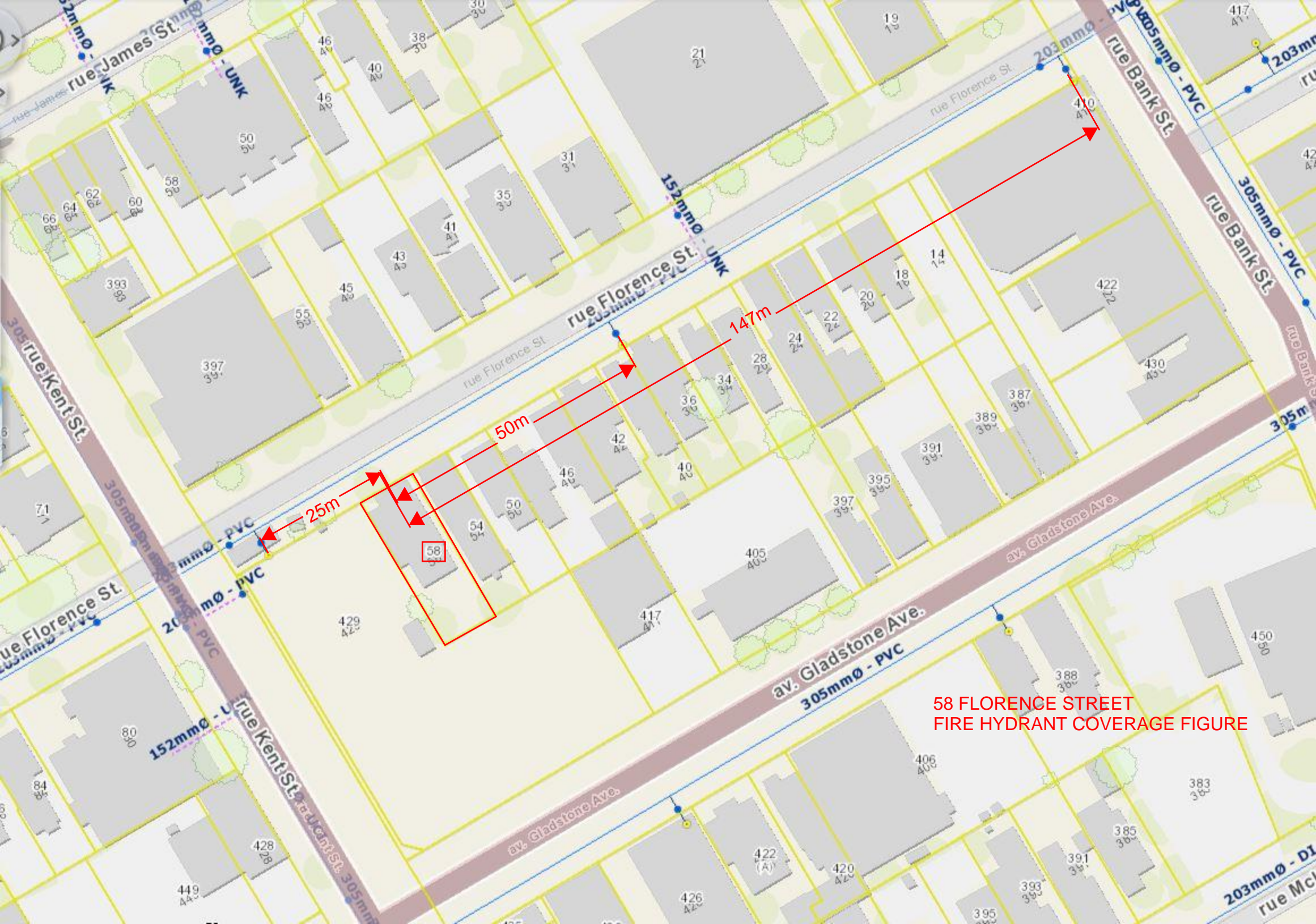
AVERAGE GROUND ELEVATION 71.5 m

HIGH PRESSURE TEST = MAX HGL - AVG GROUND ELEV x 1.42197 PSI/m < 80 PSI  
HIGH PRESSURE = **62.1 PSI**

LOW PRESSURE TEST = MIN HGL - AVG GROUND ELEV x 1.42197 PSI/m > 40 PSI  
LOW PRESSURE = **50.5 PSI**

MAX DAY + FIRE FLOW TEST = MAX DAY + FIRE - AVG GROUND ELEV x 1.42197 PSI/m > 20 PSI  
MAX DAY + FIRE PRESSURE = **44.8 PSI**





58 FLORENCE STREET  
FIRE HYDRANT COVERAGE FIGURE

## Miro Savic

---

**From:** Fraser, Mark <Mark.Fraser@ottawa.ca>  
**Sent:** Friday, March 20, 2020 2:00 PM  
**To:** Miro Savic  
**Cc:** Murray Chown; Teresa Thomas; Kluke, Jenny  
**Subject:** RE: 58 Florence Street - Boundary Conditions  
**Attachments:** 58 Florence March 2020.pdf

Hi Miro,

The following are boundary conditions, HGL, for hydraulic analysis at **58 Florence Street** (zone 1W) assumed to be connected to the 203mm watermain on Florence St. (see attached PDF for location).

**Minimum HGL = 107.0m**

**Maximum HGL = 116.0m**

**MaxDay + FireFlow (167 L/s) = 106.0m**

**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.*

Regards,

**Mark Fraser**, P. Eng.

Project Manager, Planning Services  
Development Review Central Branch  
City of Ottawa | Ville d'Ottawa  
Planning, Infrastructure and Economic Development Department  
110 Laurier Avenue West, 4th Floor, Ottawa ON, K1P 1J1  
[Tel:613.580.2424](tel:613.580.2424) ext. 27791  
Fax: 613-580-2576  
Mail: Code 01-14  
Email: [Mark.Fraser@ottawa.ca](mailto:Mark.Fraser@ottawa.ca)

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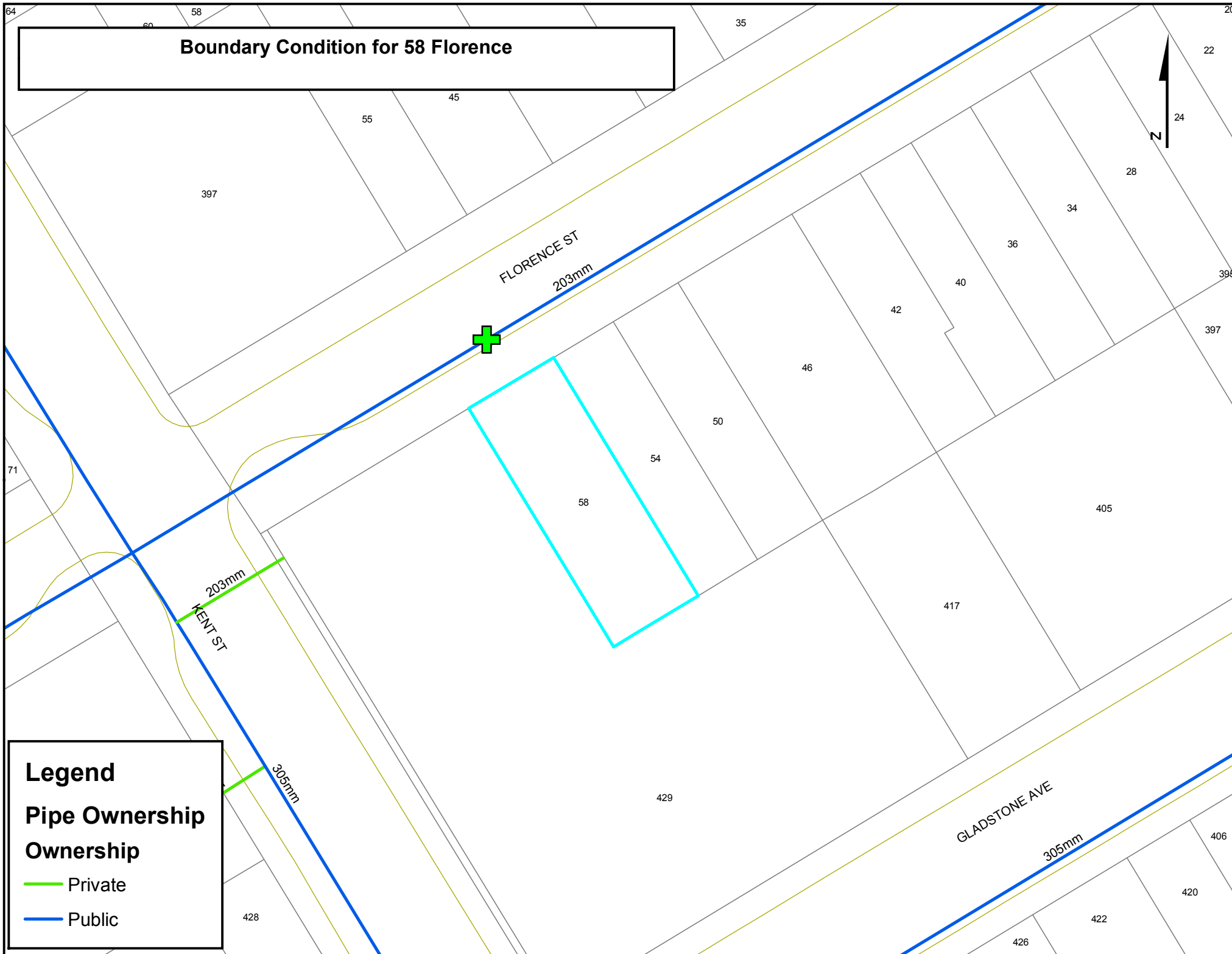
---

**From:** Miro Savic <m.savic@novatech-eng.com>  
**Sent:** March 16, 2020 9:53 AM  
**To:** Fraser, Mark <Mark.Fraser@ottawa.ca>  
**Cc:** Murray Chown <m.Chown@novatech-eng.com>; Teresa Thomas <t.thomas@novatech-eng.com>  
**Subject:** RE: 58 Florence Street - Boundary Conditions

**CAUTION: This email originated from an External Sender. Please do not click links or open attachments unless you recognize the source.**



## Boundary Condition for 58 Florence



## **APPENDIX D**

### **Stormwater Management Calculations**



## Proposed 3 - Storey Apartment Building 58 Florence Street

Allowable Flow					
Description	A (ha)	C	2 year (l/s)	5 year (L/s)	100 year (L/s)
Site Area	0.035	0.40	3.0	3.0	3.0

Pre - Development Flow								
Area	Description	A (ha)	A imp (ha) C=0.9	A perv (ha) C=0.2	C <sub>5</sub>	C <sub>100</sub>	Uncontrolled Flow (L/s)	
							5 year	100 year
PRE 1	Runnof to Florence Street	0.014	0.012	0.002	0.80	0.89	3.2	6.3
PRE 2	Runnof to Back Property Line	0.021	0.005	0.016	0.37	0.43	2.2	4.5
Totals =							5.4	10.8

Post - Development : Total Uncontrolled Site Flows								
Area	Description	A (ha)	A imp (ha) C=0.9	A perv (ha) C=0.2	C <sub>5</sub>	C <sub>100</sub>	Uncontrolled Flow (L/s)	
							5 year	100 year
A1	Uncontrolled Landscaped Area	0.001	0.000	0.001	0.20	0.25	0.1	0.2
A2	Uncontrolled Backyard Area	0.005	0.001	0.004	0.34	0.40	0.5	1.0
A3	Controlled Roof and Landscaped Area	0.029	0.025	0.004	0.80	0.90	6.8	13.0

Summed Area Check: 0.035

t<sub>c</sub>=10mins

Post - Development : Total Flows for Controlled Site							
Area	Description	Flow (L/s)		Storage Required (m <sup>3</sup> )		Provided (m <sup>3</sup> )	
		5 year	100 year		5 year	100 year	
A1	Uncontrolled Landscaped Area	0.1	0.2		N/A	N/A	N/A
A2	Uncontrolled Backyard Area	0.5	1.0		N/A	N/A	N/A
A3	Controlled Roof and Landscaped Area	1.1	1.6		5.7	11.8	11.8
Totals =		1.7	2.8		5.7	11.8	11.8

Over-Controlled by: 1.3 0.2

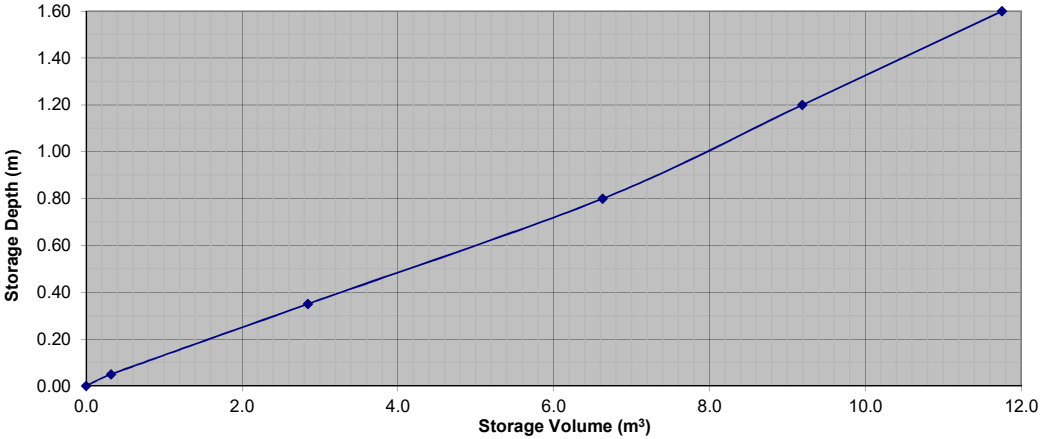
<b>50 FLORENCE STREET</b>					
<b>3-STOREY APARTMENT BUILDING</b>					
<b>REQUIRED STORAGE - 1:5 YEAR EVENT</b>					
<b>AREA A3</b>		<b>Controlled Roof &amp; Landscaped Area</b>			
<b>OTTAWA IDF CURVE</b>					
Area =	0.029	ha	Qpeak =	1.10	L/s
C =	0.80		Qaverage =	0.55	L/s
			Vol(max) =	5.7	m3
Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)	
5	141.18	9.14	8.59	2.58	
10	104.19	6.75	6.20	3.72	
15	83.56	5.41	4.86	4.38	
20	70.25	4.55	4.00	4.80	
25	60.90	3.94	3.39	5.09	
30	53.93	3.49	2.94	5.30	
35	48.52	3.14	2.59	5.44	
40	44.18	2.86	2.31	5.55	
45	40.63	2.63	2.08	5.62	
50	37.65	2.44	1.89	5.67	
55	35.12	2.28	1.73	5.69	
60	32.94	2.13	1.58	5.70	
65	31.04	2.01	1.46	5.70	
70	29.37	1.90	1.35	5.68	
75	27.89	1.81	1.26	5.65	
90	24.29	1.57	1.02	5.53	
105	21.58	1.40	0.85	5.34	
110	20.82	1.35	0.80	5.27	

<b>50 FLORENCE STREET</b>					
<b>3-STOREY APARTMENT BUILDING</b>					
<b>REQUIRED STORAGE - 1:100 YEAR EVENT</b>					
<b>AREA A3</b>		<b>Controlled Roof &amp; Landscaped Area</b>			
<b>OTTAWA IDF CURVE</b>					
Area =	0.029	ha	Qpeak =	1.60	L/s
C =	0.90		Qaverage =	0.80	L/s
			Vol(max) =	11.8	m3
Time (min)	Intensity (mm/hr)	Q (L/s)	Qnet (L/s)	Vol (m3)	
5	242.70	17.54	16.74	5.02	
10	178.56	12.91	12.11	7.26	
15	142.89	10.33	9.53	8.58	
20	119.95	8.67	7.87	9.44	
25	103.85	7.51	6.71	10.06	
30	91.87	6.64	5.84	10.51	
35	82.58	5.97	5.17	10.85	
40	75.15	5.43	4.63	11.12	
45	69.05	4.99	4.19	11.32	
50	63.95	4.62	3.82	11.47	
55	59.62	4.31	3.51	11.58	
60	55.89	4.04	3.24	11.66	
65	52.65	3.81	3.01	11.72	
70	49.79	3.60	2.80	11.75	
75	47.26	3.42	2.62	11.77	
90	41.11	2.97	2.17	11.73	
105	36.50	2.64	1.84	11.58	
110	35.20	2.54	1.74	11.51	

<b>Hydrovex Flow Regulator</b>				32 SVHV-1	
Design Event	Total Flow (L/s)	Head (m)	Elevation (m)	Storage (m³)	
				Required	Provided
1:5 Year	1.10	0.7	68.80	5.7	11.8
1:100 Year	1.60	1.6	69.70	11.8	11.8

Elevation	Storage Depth	CBMH 1		CBMH 2		750mm STM	TOTAL
		Area	Volume	Area	Volume	Volume	Volume
m	m	m²	m³	m²	m³	m³	m³
68.10	0.00	4.645	0.0	1.76	0.0	0.0	0.0
68.15	0.05	4.645	0.2	1.76	0.1	0.0	0.3
68.50	0.35	4.645	1.6	1.76	0.6	0.6	2.8
68.90	0.80	4.645	3.7	1.76	1.4	1.5	6.6
69.35	1.20	4.645	5.6	1.76	2.1	1.5	9.2
69.70	1.60	4.645	7.4	1.76	2.8	1.5	11.8

**Stage Storage Curve: Area A3  
Controlled Landscaped Area**

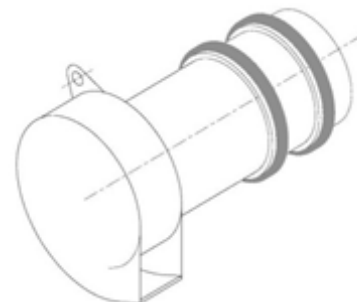


**APPENDIX E**

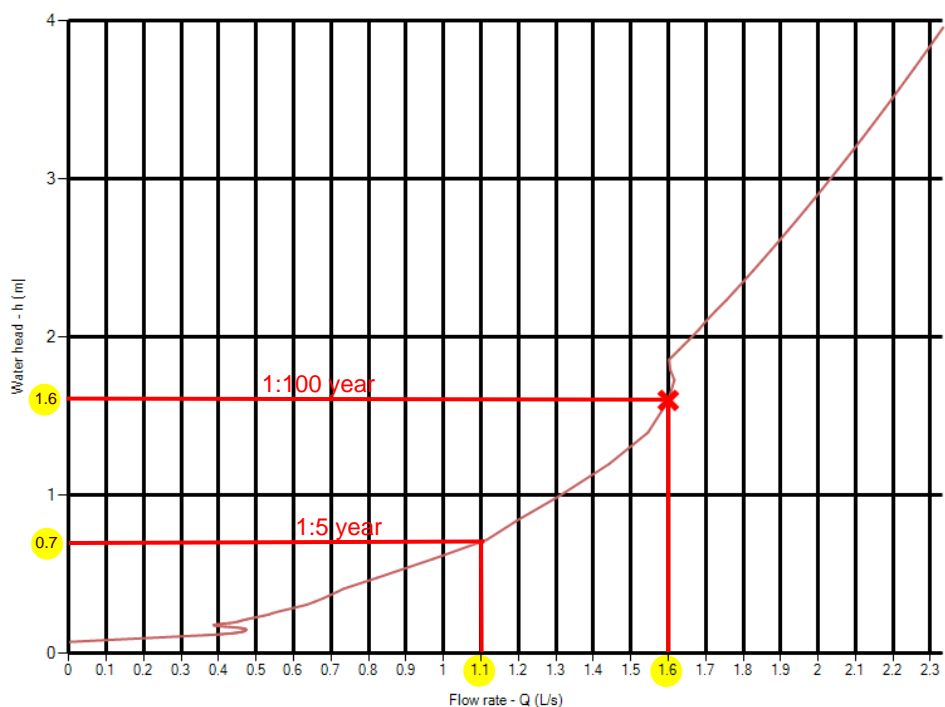
**Hydrovex Vortex Flow Regulator**

### GENERAL INFORMATION

Application	Stormwater	
Project name	58 FLORENCE STREET, OTTAWA, ON	
Project number	20000872 SQ	
Comment		
Regulator ID		
Design flow (Q)	1.6	L/s
Design head (h)	1.6	m
Outlet pipe diameter (C)	200	mm
Outlet pipe type	PVC	
Model	32 SVHV-1,8,OF	
item #	PRIPHY200521	
Quantity	1	
Minimum clearance (H)	150	mm
Minimum manhole diameter (B)	600	mm

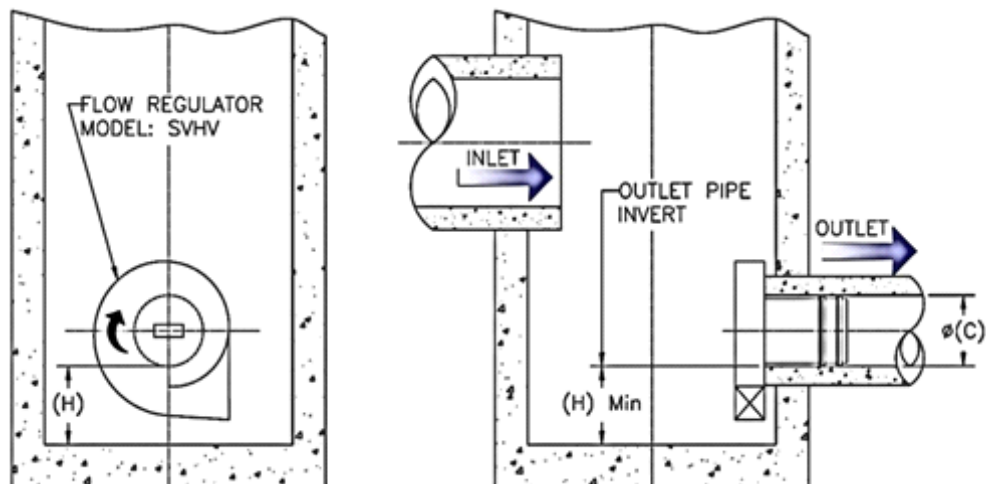


### RATING CURVE



Q (L/s)	h (m)
0.000	0.072
0.426	0.124
0.462	0.135
0.467	0.156
0.386	0.179
0.491	0.223
0.715	0.387
1.605	1.793
1.851	2.488
2.096	3.192
2.315	3.896
2.515	4.600
2.700	5.304
2.873	6.008
2.963	6.392

### TYPICAL INSTALLATION



### SPECIFICATIONS

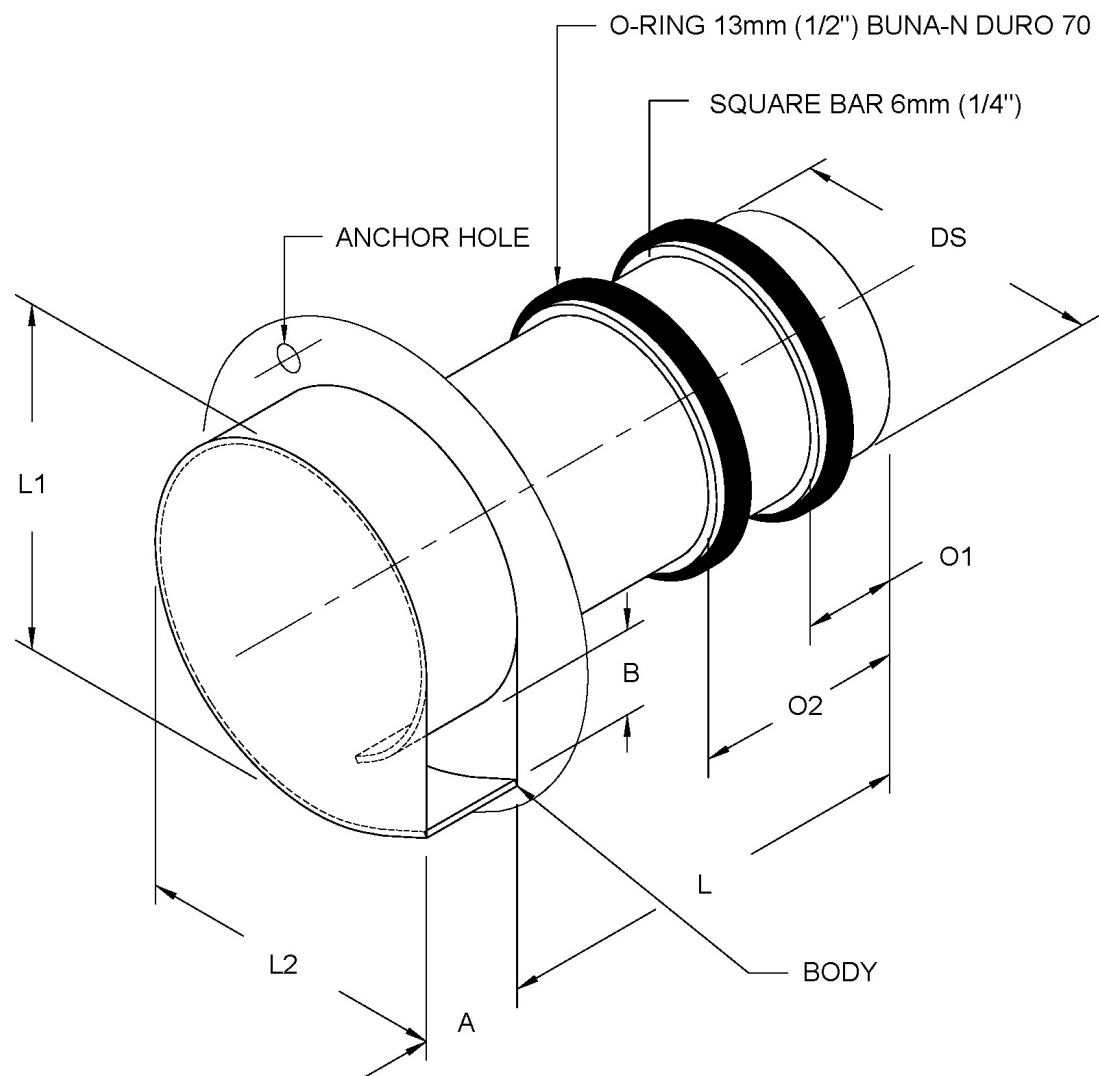
The regulator shall be of the static type and shall operate using vortex principles with no moving parts. The flow will be regulated over the entire head range using only the hydraulic properties of the unit and the fluid flowing through it. The regulator shall be self-activating and shall not require instrumentation or external power.

Each regulator is comprised of a vortex chamber where flow control occurs. An outlet sleeve is welded to the vortex chamber to allow the regulator to be installed into a standard outlet pipe. Water tightness shall be obtained using two Neoprene o-rings located on the outlet sleeve and held in place using welded square bars.

The regulator shall be fabricated entirely of stainless steel type 304 and continuously welded, as manufactured by Veolia Water Technologies Canada Inc. (John Meunier), 514-334-7230, [cso@veolia.com](mailto:cso@veolia.com).

Project name: 58 FLORENCE STRE  
 ET, OTTAWA, ON  
 Project number: 20000872 SQ  
 Regulator ID:  
 Flow rate (Q): 1.6 L/s  
 Design head (h): 1.6 m  
 Model: 32 SVHV-1,8,OF  
 Item #: PRIPHY200521  
 Quantity: 1

Dimensions (mm)	
A	32
B	32
L1	174
L2	158
L	200
DS	175
O1	38
O2	100
Ø VENT	N/A



All dimensions in millimeters unless otherwise specified

**APPENDIX F**  
**Development Servicing Study Checklist**

**58 FLORENCE STREET, OTTAWA  
DEVELOPMENT SERVICING STUDY CHECKLIST**

<b>4.1 General Content</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Executive Summary (for larger reports only).	N/A	
Date and revision number of the report.	Y	
Location map and plan showing municipal address, boundary, and layout of proposed development.	Y	
Plan showing the site and location of all existing services.	Y	
Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere.	N	
Summary of Pre-consultation Meetings with City and other approval agencies.	Y	
Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defensible design criteria.	N/A	
Statement of objectives and servicing criteria.	Y	
Identification of existing and proposed infrastructure available in the immediate area.	Y	
Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available).	N/A	
Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighboring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths.	N/A	

<b>4.1 General Content</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A	
Proposed phasing of the development, if applicable.	N/A	
Reference to geotechnical studies and recommendations concerning servicing.	Y	
All preliminary and formal site plan submissions should have the following information:		
Metric scale	Y	
North arrow (including construction North)	Y	
Key plan	Y	
Name and contact information of applicant and property owner	Y	
Property limits including bearings and dimensions	Y	



**58 FLORENCE STREET, OTTAWA  
DEVELOPMENT SERVICING STUDY CHECKLIST**

Existing and proposed structures and parking areas	Y	
Easements, road widening and rights-of-way	Y	
Adjacent street names	Y	

<b>4.2 Water</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Confirm consistency with Master Servicing Study, if available.	N/A	
Availability of public infrastructure to service proposed development.	Y	
Identification of system constraints.	N/A	
Identify boundary conditions.	Y	Provided by City of Ottawa
Confirmation of adequate domestic supply and pressure.	Y	
Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow at locations throughout the development.	Y	
Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	Y	
Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design.	N/A	
Address reliability requirements such as appropriate location of shut-off valves.	Y	
Check on the necessity of a pressure zone boundary modification.	N/A	
Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range.	Y	
Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	Y	
Description of off-site required feeder mains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A	
Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Y	
Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A	

**58 FLORENCE STREET, OTTAWA  
DEVELOPMENT SERVICING STUDY CHECKLIST**

<b>4.3 Wastewater</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed)	Y	
Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A	
Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A	
Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Y	
Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	N/A	
Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	Y	
Description of proposed sewer network including sewers, pumping stations, and forcemains.	Y	
Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A	
Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A	
Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A	
Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A	
Special considerations such as contamination, corrosive environment etc.	N/A	

**58 FLORENCE STREET, OTTAWA  
DEVELOPMENT SERVICING STUDY CHECKLIST**

<b>4.4 Stormwater</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Description of drainage outlets and downstream constraints including legality of outlet (i.e. municipal drain, right-of-way, watercourse, or private property).	Y	
Analysis of the available capacity in existing public infrastructure.	N/A	The allowable flow was provided by the City of Ottawa.
A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns and proposed drainage patterns.	Y	
Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Y	
Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	N/A	
Description of stormwater management concept with facility locations and descriptions with references and supporting information.	Y	
Set-back from private sewage disposal systems.	N/A	
Watercourse and hazard lands setbacks.	N/A	
Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A	
Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A	
Storage requirements (complete with calcs) and conveyance capacity for 5 yr and 100 yr events.	Y	
Identification of watercourse within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	N/A	
Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Y	
Any proposed diversion of drainage catchment areas from one outlet to another.	N/A	
Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and SWM facilities.	Y	
If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A	

**58 FLORENCE STREET, OTTAWA  
DEVELOPMENT SERVICING STUDY CHECKLIST**

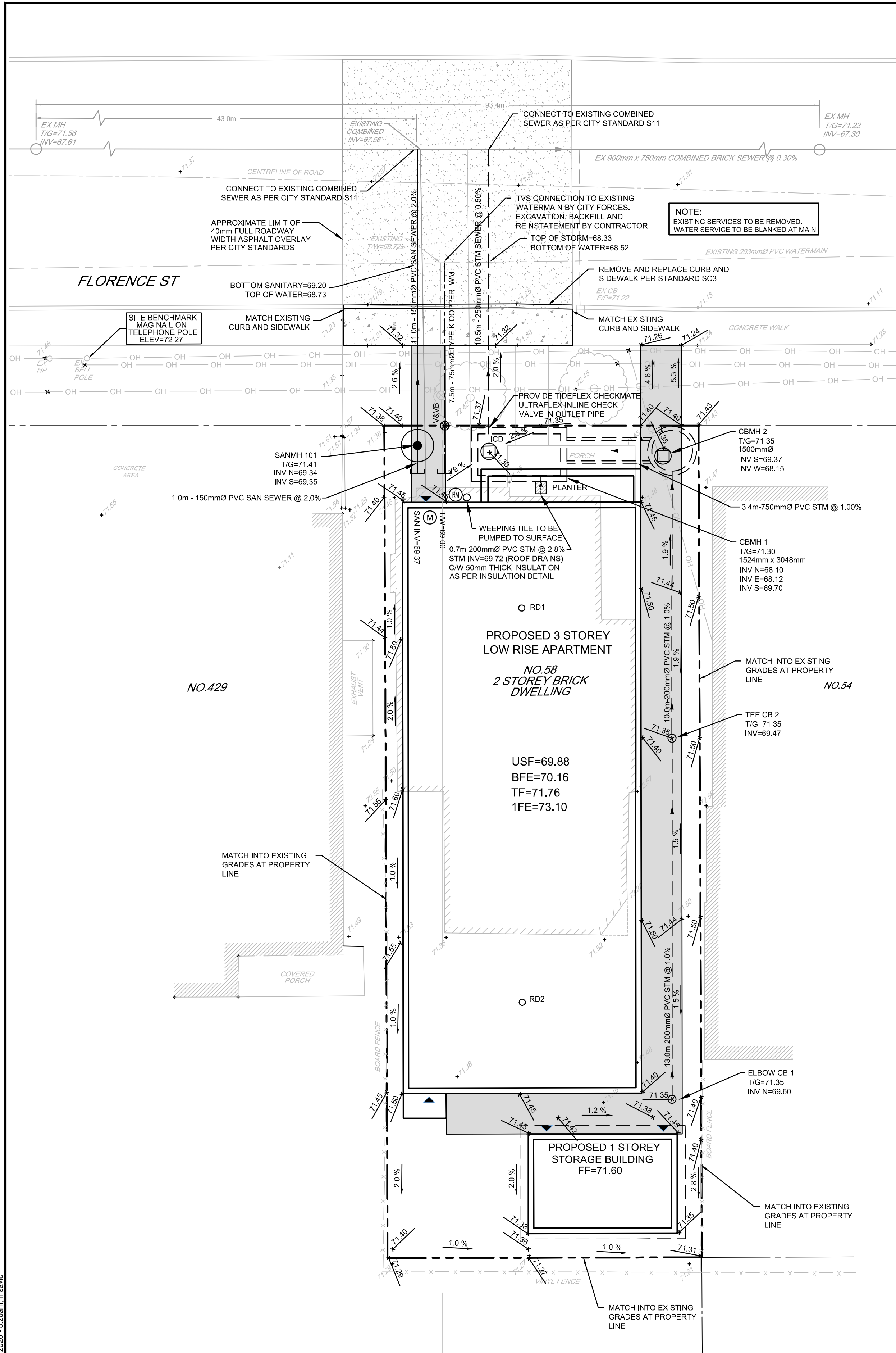
<b>4.4 Stormwater</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Identification of municipal drains and related approval requirements.	N/A	
Description of how the conveyance and storage capacity will be achieved for the development.	Y	
100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	N/A	
Inclusion of hydraulic analysis including HGL elevations.	N/A	
Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Y	
Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A	
Identification of fill constraints related to floodplain and geotechnical investigation.	N/A	

<b>4.5 Approval and Permit Requirements</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not the approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act.	N/A	
Application for Certificate of Approval (CofA) under the Ontario Water Resources Act.	N/A	
Changes to Municipal Drains.	N/A	
Other permits (National Capital Commission, Parks Canada, Public Works and Government Services Canada, Ministry of Transportation etc.)	N/A	

<b>4.6 Conclusion</b>	<b>Addressed (Y/N/NA)</b>	<b>Comments</b>
Clearly stated conclusions and recommendations.	Y	
Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	N	TBD
All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario.	Y	

**APPENDIX G**  
**Engineering Drawings**





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

OWNER INFORMATION  
SALVATORE FALSETTO  
62 SULLIVAN AVENUE,  
NEPEAN, ONTARIO, K2G 1V2  
PHONE: (613) 324-3570  
falsettohomes@rogers.com

INLET CONTROL DEVICE DATA - CBMH 1			
DESIGN EVENT	ICD TYPE (VORTEX MODEL)	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)
1.5 YR	HYDROVEX 32 SVHV-1	250	1.1
1:100 YR	HYDROVEX 32 SVHV-1	250	1.6

SCALE			
1:100			
0 1 2 3 4			

DESIGN			
LSC/MS	CHECKED	MS	
DRAWN	LSC		
CHECKED	MS		
APPROVED	MS		

#### GENERAL NOTES:

- COORDINATE AND SCHEDULE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
- DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES WHETHER OR NOT SHOWN ON THIS DRAWING.
- OBTAIN ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
- BEFORE COMMENCING CONSTRUCTION OBTAIN AND PROVIDE PROOF OF COMPREHENSIVE, ALL RISK AND OPERATIONAL LIABILITY INSURANCE FOR \$5,000,000.00. INSURANCE POLICY TO NAME OWNERS, ENGINEERS AND ARCHITECTS AS CO-INSURED.
- RESTORE ALL DISTURBED AREAS ON-SITE AND OFF-SITE, INCLUDING TRENCHES AND SURFACES ON PUBLIC ROAD ALLOWANCES TO EXISTING CONDITIONS OR BETTER TO THE SATISFACTION OF THE CITY OF OTTAWA AND ENGINEER.
- REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL, ORGANIC MATERIAL AND DEBRIS UNLESS OTHERWISE INSTRUCTED BY ENGINEER. EXCAVATE AND REMOVE FROM SITE ANY CONTAMINATED MATERIAL. ALL CONTAMINATED MATERIAL SHALL BE DISPOSED OF AT A LICENSED LANDFILL FACILITY.
- ALL ELEVATIONS ARE GEODETIC.
- REFER TO GEOTECHNICAL REPORT (#190186, DATED JUNE 05, 2019), PREPARED BY KOLLARD ASSOCIATES FOR SUBSURFACE CONDITIONS, CONSTRUCTION RECOMMENDATIONS, AND GEOTECHNICAL INSPECTION REQUIREMENTS. THE GEOTECHNICAL CONSULTANT IS TO REVIEW ON-SITE CONDITIONS AFTER EXCAVATION PRIOR TO PLACEMENT OF THE GRANULAR MATERIAL.
- REFER TO ARCHITECT'S AND LANDSCAPE ARCHITECT'S DRAWINGS FOR BUILDING AND HARD SURFACE AREAS AND DIMENSIONS.
- REFER TO STORMWATER MANAGEMENT REPORT (R-2019-103, DATED MARCH 16, 2020) PREPARED BY NOVATECH ENGINEERING CONSULTANTS LTD.
- SAW CUT AND KEY GRIND ASPHALT AT ALL ROAD CUTS AND ASPHALT TIE IN POINTS AS PER CITY OF OTTAWA STANDARDS (R10).
- REFER TO TOPOGRAPHICAL SURVEY NO. 19-10-009-00 PREPARED BY J.D. BARNES DATED MARCH 25, 2019.

#### SEWER NOTES:

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

ITEM	SPEC. No.	REFERENCE
SEWER TRENCH	S6	CITY OF OTTAWA
100mmØ STORM SERVICE	PVC DR 28	
135mmØ SANITARY SERVICE	PVC DR 28	
- ALL STORM AND SANITARY SERVICE LATERALS SHALL BE EQUIPPED WITH BACKFLOW PREVENTION DEVICES AS PER THE CITY OF OTTAWA STANDARD DETAILS S14 AND S14.1 OR S14.2.
- INSULATE ALL PIPES (SAN/STM) THAT HAVE LESS THAN 1.5m COVER WITH HI-40 INSULATION PER INSULATION DETAIL FOR SHALLOW SEWERS. PROVIDE 150mm CLEARANCE BETWEEN PIPE AND INSULATION.
- SERVICES ARE TO BE CONSTRUCTED TO 1.0m FROM FACE OF BUILDING AT A MINIMUM SLOPE OF 1.0%.
- PIPE BEDDING, COVER AND BACKFILL ARE TO BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE USE OF CLEAR CRUSHED STONE AS A BEDDING LAYER SHALL NOT BE PERMITTED.
- FLEXIBLE CONNECTIONS ARE REQUIRED FOR CONNECTING PIPES TO MANHOLES (FOR EXAMPLE KOR-N-SEAL, PSX: POSITIVE SEAL AND DURASEAL), THE CONCRETE CRADLE FOR THE PIPE CAN BE ELIMINATED.
- THE OWNER SHALL REQUIRE THAT THE SITE SERVICING CONTRACTOR PERFORM FIELD TESTS FOR QUALITY CONTROL OF ALL SANITARY SEWERS. LEAKAGE TESTING SHALL BE COMPLETED IN ACCORDANCE WITH OPSS 410.07.16, 410.07.16.04 AND 407.07.24. DYE TESTING IS TO BE COMPLETED ON ALL SANITARY SERVICES TO CONFIRM PROPER CONNECTION TO THE SANITARY SEWER MAIN. THE FIELD TESTS SHALL BE PERFORMED IN THE PRESENCE OF A CERTIFIED PROFESSIONAL ENGINEER WHO SHALL SUBMIT A CERTIFIED COPY OF THE TEST RESULTS.

#### WATERMAIN NOTES:

- SUPPLY AND CONSTRUCT ALL WATERMANS AND APPURTENANCES IN ACCORDANCE WITH THE CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. EXCAVATION, INSTALLATION, BACKFILL AND RESTORATION OF ALL WATERMANS BY THE CONTRACTOR. CONNECTIONS, SHUT-OFFS AT THE MAIN AND CHLORINATION OF THE WATER SYSTEM SHALL BE PERFORMED BY CITY OF OTTAWA FORCES.
- SPECIFICATIONS:

ITEM	SPEC. No.	REFERENCE
WATERMAIN TRENCHING	W17	CITY OF OTTAWA
THERMAL INSULATION IN SHALLOW TRENCHES	W22	CITY OF OTTAWA
INSULATION ADJACENT TO OPEN STRUCTURES	W23	CITY OF OTTAWA
75mmØ WATER SERVICE COPPER TYPE K		CITY OF OTTAWA
- WATERMAIN SHALL BE MINIMUM 2.4m DEPTH BELOW GRADE UNLESS OTHERWISE INDICATED.
- PROVIDE MINIMUM 0.5m CLEARANCE BETWEEN OUTSIDE OF PIPES AT ALL CROSSINGS.
- PROPOSED WATER SERVICES ARE TO BE CONSTRUCTED TO WITHIN 1.0m OF FOUNDATION WALL AND CAPPED, UNLESS OTHERWISE INDICATED.

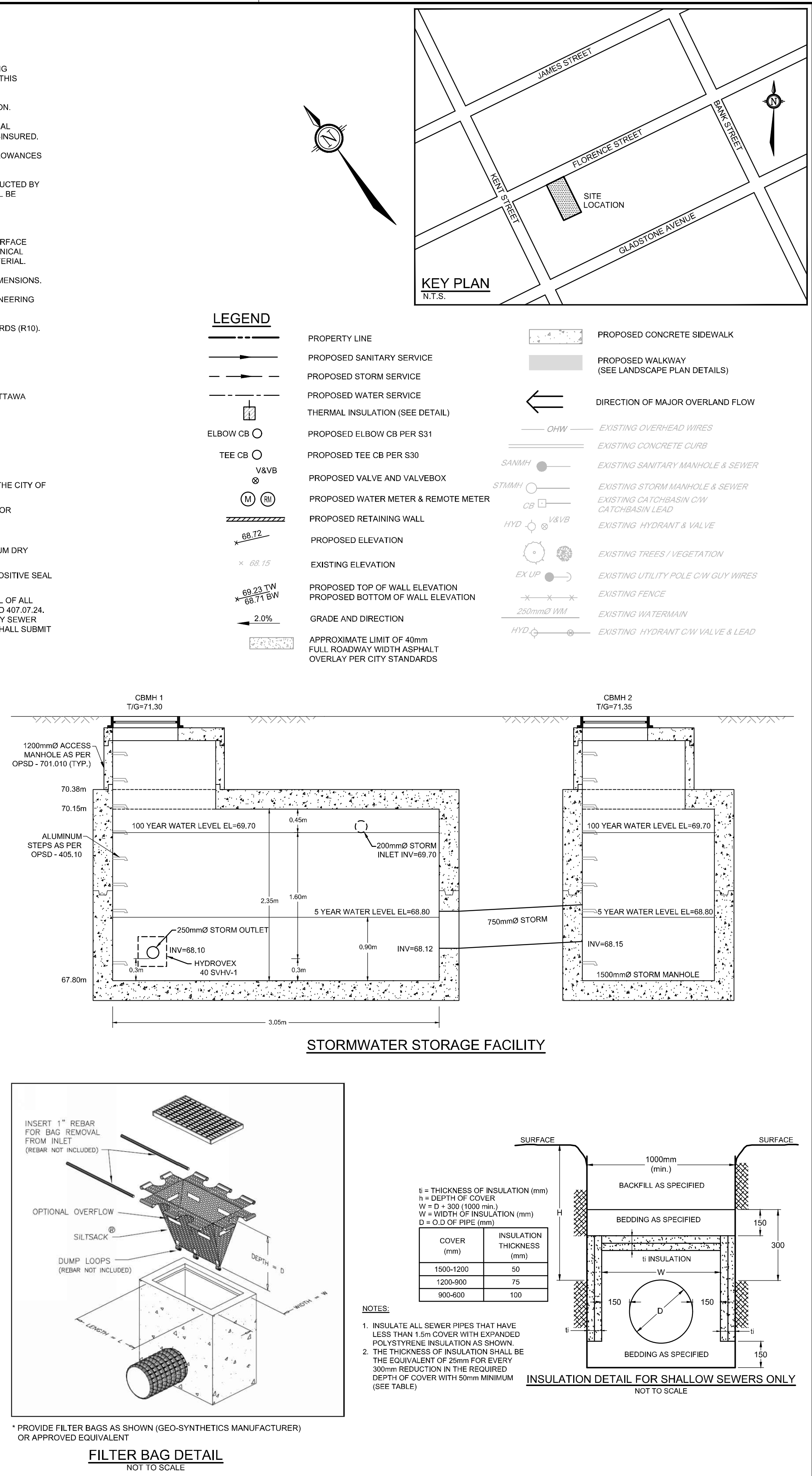
#### GRADING NOTES:

- ALL TOPSOIL, ORGANIC OR DELETERIOUS MATERIAL MUST BE ENTIRELY REMOVED FROM BENEATH THE PROPOSED PAVED AREAS AS DIRECTED BY THE SITE ENGINEER OR GEOTECHNICAL ENGINEER.
- EXPOSED SUBGRADES IN PROPOSED PAVED AREAS SHOULD BE PROOF ROLLED WITH A LARGE STEEL DRUM ROLLER AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF GRANULARS.
- ANY SOFT AREAS EVIDENT FROM THE PROOF ROLLING SHOULD BE SUB-EXCAVATED AND REPLACED WITH SUITABLE MATERIAL THAT IS FROST COMPATIBLE WITH THE EXISTING SOILS AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- THE GRANULAR BASE SHOULD BE COMPACTED TO AT LEAST 100% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE. ANY ADDITIONAL GRANULAR LIFT USED BELOW THE PROPOSED PAVEMENT SHOULD BE COMPACTED TO AT LEAST 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY VALUE.
- MINIMUM OF 2% GRADE FOR ALL GRASS AREAS UNLESS OTHERWISE NOTED.
- MAXIMUM TERRACING GRADE TO BE 3:1 UNLESS OTHERWISE NOTED.
- ALL GRADES BY CURBS ARE EDGE OF PAVEMENT GRADES UNLESS OTHERWISE INDICATED.
- ALL CURBS SHALL BE BARRIER CURB (150mm) UNLESS OTHERWISE NOTED AND CONSTRUCTED AS PER CITY OF OTTAWA STANDARDS (SC1.1).
- REFER TO LANDSCAPE PLAN FOR PLANTING AND OTHER LANDSCAPE FEATURE DETAILS.
- CONTRACTOR TO PROVIDE THE CONSULTANT WITH A GRADING PLAN INDICATING AS-BUILT ELEVATIONS OF ALL DESIGN GRADES SHOWN ON THIS PLAN.
- NO EXCESS DRAINAGE, EITHER DURING OR AFTER CONSTRUCTION, WILL BE DIRECTED TOWARDS NEIGHBOURING PROPERTIES. NO ALTERATION OF EXISTING GRADES AND DRAINAGE PATTERNS ON PROPERTY BOUNDARIES. ENSURE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS.

#### EROSION AND SEDIMENT CONTROL NOTES:

- THE OWNER AGREES TO PREPARE AND IMPLEMENT AN EROSION AND SEDIMENT CONTROL PLAN TO THE SATISFACTION OF THE CITY OF OTTAWA, APPROPRIATE TO THE SITE CONDITIONS, PRIOR TO UNDERTAKING ANY SITE ALTERATIONS (FILLING, GRADING, REMOVAL OF VEGETATION, ETC.) AND DURING ALL PHASES OF SITE PREPARATION AND CONSTRUCTION IN ACCORDANCE WITH THE CURRENT BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENT CONTROL, SUCH AS BUT NOT LIMITED TO INSTALLING FILTER CLOTHS ACROSS MANHOLE/CATCHBASIN LIDS TO PREVENT SEDIMENTS FROM ENTERING STRUCTURES AND INSTALL AND MAINTAIN A LIGHT DUTY SILT FENCE BARRIER AS REQUIRED.
- THE CONTRACTOR SHALL PLACE SEDIMENT CAPTURE FILTER SOCKS IN ALL CATCHBASINS IN PROXIMITY TO THE SITE FOR THE DURATION OF CONSTRUCTION AND WILL REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION.
- SILT FENCING FOR ENTIRE PERIMETER OF SITE, SHALL BE UTILIZED TO CONTROL EROSION FROM THE SITE DURING CONSTRUCTION.
- THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.
- CONTRACTOR IS RESPONSIBLE TO KEEP THE ROADS FREE AND CLEAN FROM MUD OR DEBRIS.
- SEDIMENT AND EROSION CONTROL MEASURES MAY BE MODIFIED IN THE FIELD AT THE DISCRETION OF THE CITY OF OTTAWA SITE INSPECTOR OR CONSERVATION AUTHORITY.

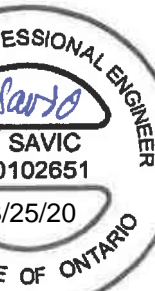
DESIGN EVENT	ICD TYPE (VORTEX MODEL)	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	DESIGN HEAD (m)	STORAGE VOLUME (m³)
1.5 YR	HYDROVEX 32 SVHV-1	250	1.1	0.7	5.7
1:100 YR	HYDROVEX 32 SVHV-1	250	1.6	1.6	11.8



\* PROVIDE FILTER BAGS AS SHOWN (GEO-SYNTHETICS MANUFACTURER) OR APPROVED EQUIVALENT

#### FILTER BAG DETAIL

NOT TO SCALE



#### FOR REVIEW ONLY



LOCATION  
CITY OF OTTAWA  
58 FLORENCE STREET

DRAWING NAME

GRADING, SERVICING AND EROSION  
& SEDIMENT CONTROL PLAN

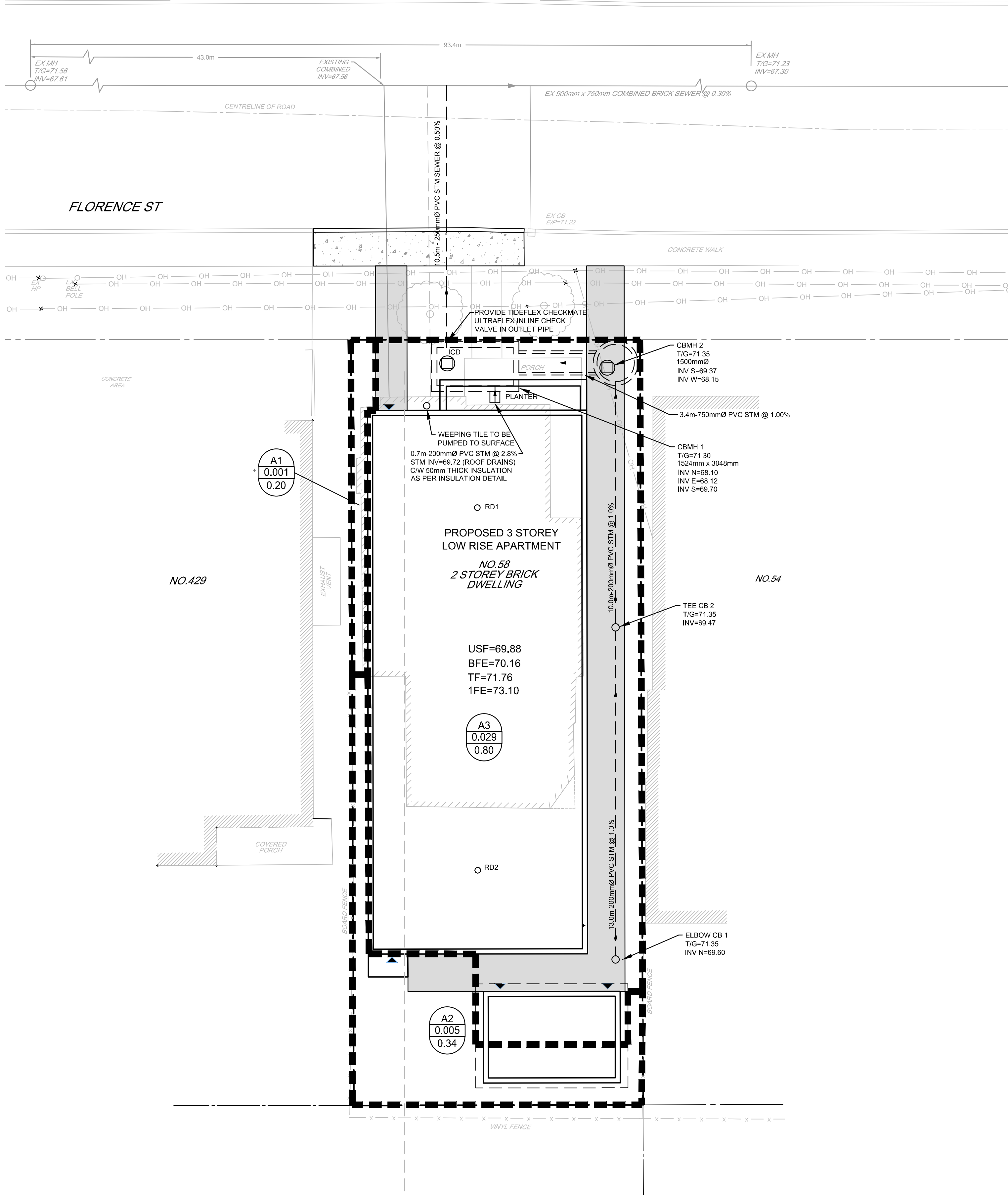
PROJECT No.  
119051

REV  
REV 4

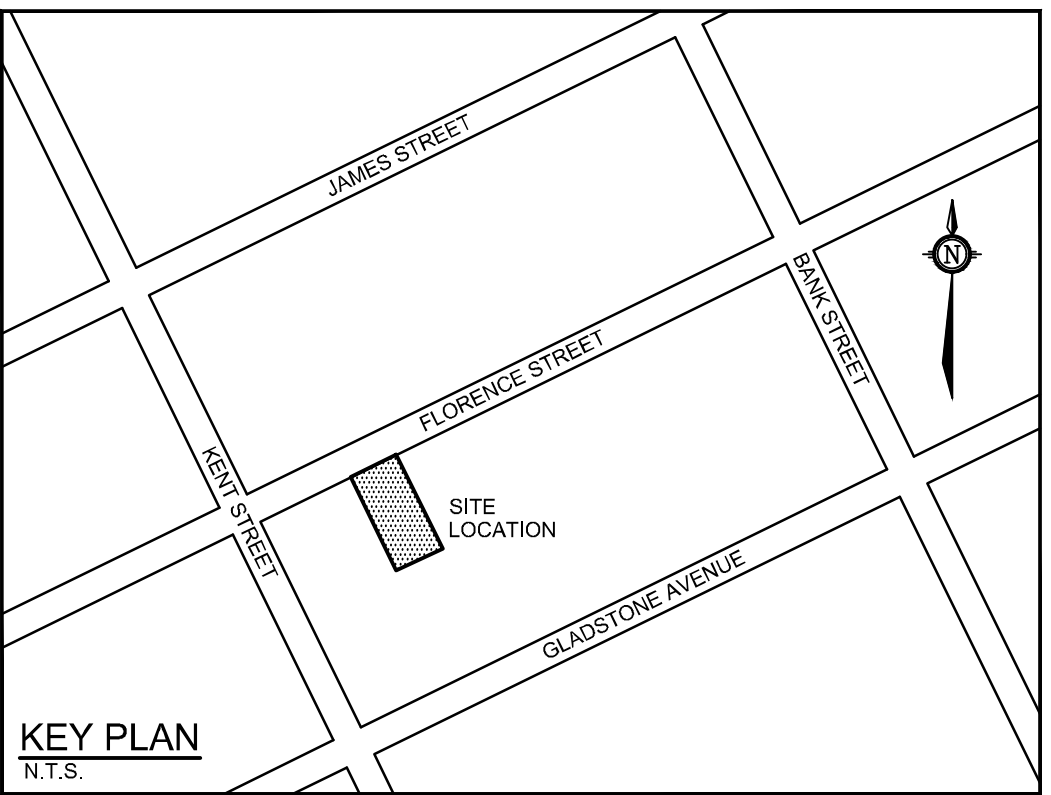
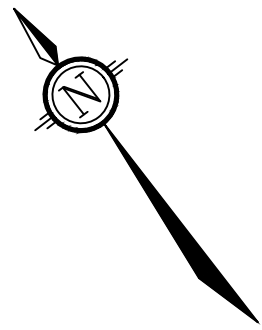
DRAWING No.  
119051-GS



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INLET CONTROL DEVICE DATA - CBMH 1					
DESIGN EVENT	ICD TYPE (VORTEX MODEL)	DIAMETER OF OUTLET PIPE (mm)	DESIGN FLOW (L/s)	DESIGN HEAD (m)	STORAGE VOLUME (m³)
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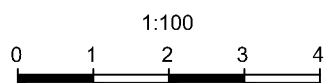
- LEGEND**
- PROPERTY LINE
  - PROPOSED STORM SERVICE
  - PROPOSED RETAINING WALL
  - DIRECTION OF MAJOR OVERLAND FLOW
  - EXISTING OVERHEAD WIRES
  - EXISTING CONCRETE CURB
  - EXISTING SANITARY MANHOLE & SEWER
  - EXISTING STORM MANHOLE & SEWER
  - EXISTING CATCHBASIN C/W CATCHBASIN LEAD
  - EXISTING HYDRANT & VALVE
  - EXISTING TREES / VEGETATION
  - EXISTING UTILITY POLE C/W GUY WIRES
  - EXISTING FENCE
  - PROPOSED DRAINAGE AREA
  - CATCHMENT I.D. DRAINAGE AREA IN HECTARES C VALUE

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

OWNER INFORMATION  
SALVATORE FALSETTO  
52 SULLIVAN AVENUE,  
NEPEAN, ONTARIO, K2G 1V2  
PHONE: (613) 324-3570  
falsettohomes@rogers.com

No.	REVISION	mm/dd/yy	BY
2	REVISED PER CITY COMMENTS	MAR 25/20	MS
1	ISSUED FOR SITE PLAN APPLICATION	JULY 18/19	MS

SCALE  
1:100



DESIGN	LSC/MS
CHECKED	MS
DRAWN	LSC
CHECKED	MS
APPROVED	MS

FOR REVIEW ONLY



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

LOCATION  
CITY OF OTTAWA  
58 FLORENCE STREET

DRAWING NAME  
**STORMWATER MANAGEMENT PLAN**

PROJECT No.	119051
REV	REV 2
DRAWING No.	119051-SWM

PLAN\119051 - SWM\119051.dwg

#18002

D07-12-19-0141

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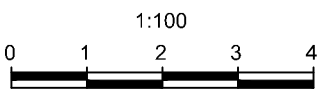
NOTE:  
THE POSITION OF ALL POLE LINES, CONDUITS,  
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1	REVISED PER CITY COMMENTS	MAR 25/20	MS
No.	REVISION	mm/dd/yy	BY

SCALE

1:100



DESIGN	LSC/MS
CHECKED	MS
DRAWN	LSC
CHECKED	MS
APPROVED	MS

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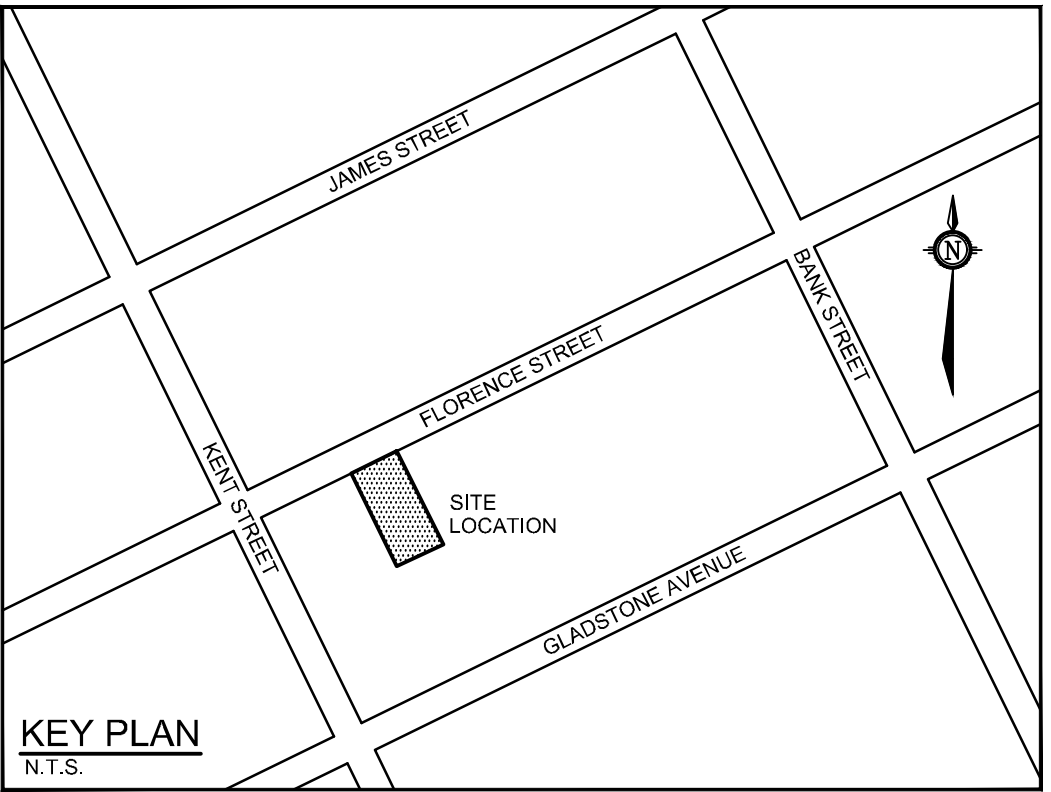
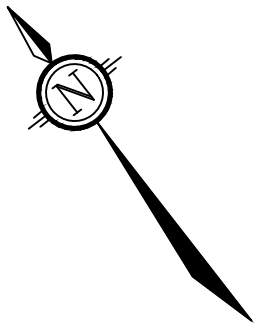
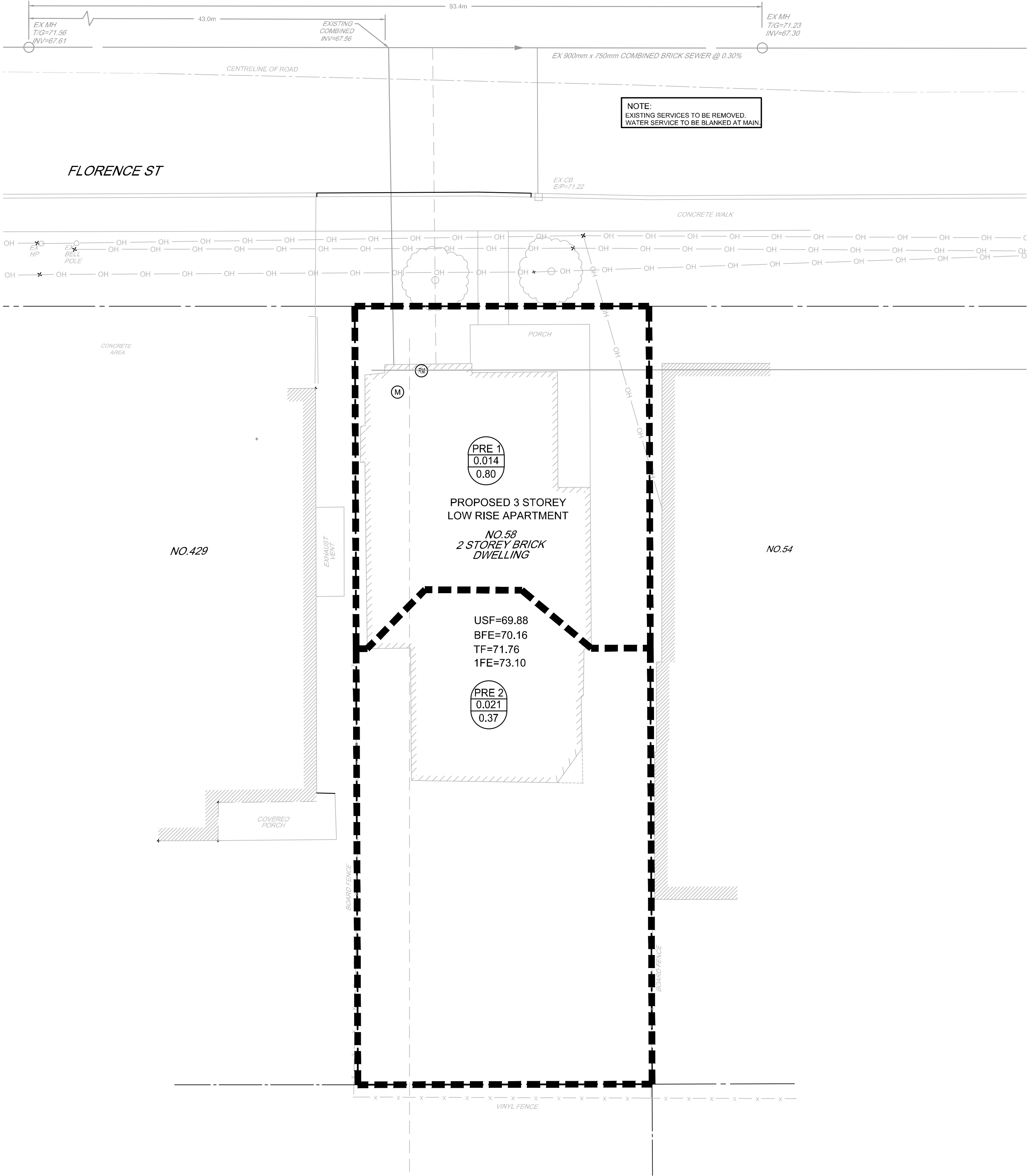
LOCATION  
CITY OF OTTAWA  
58 FLORENCE STREET

DRAWING NAME  
**PRE-DEVELOPMENT  
DRAINAGE AREA PLAN**

PROJECT No.	119051
REV	REV 1
DRAWING No.	119051-PRE

PLAN-1-LOW-2-38mmx50mm

#18002



LEGEND

- PROPERTY LINE
- PROPOSED STORM SERVICE
- PROPOSED RETAINING WALL
- DIRECTION OF MAJOR OVERLAND FLOW
- EXISTING OVERHEAD WIRES
- EXISTING CONCRETE CURB
- EXISTING SANITARY MANHOLE & SEWER
- EXISTING STORM MANHOLE & SEWER
- EXISTING CATCHBASIN C/W CATCHBASIN LEAD
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D07-12-19-0141