



**ALL SAINTS**  
Adequacy of Public Services Report

November 14, 2023

Prepared for:  
Windmill Developments

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Stantec Project Number:  
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**All Saints  
Introduction**

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## 1.0 Introduction

### 1.1 Project Information

This report is prepared to demonstrate the Adequacy of Public Services in support of a Zoning By-law Amendment (ZBLA) application for the proposed development by Windmill Developments located at 315 (portion of 321) Chapel Street, in the City of Ottawa. The site is 0.27 ha in size and located in the Sandy Hill neighbourhood of the City of Ottawa.

Current zoning is Residential Fifth Density, Urban Exception 2454 and Schedule 379 to the north. To the south of the parcel a holding symbol is also included. A portion of 321 Chapel Street is zoned Residential Fourth Density, Subzone UB and is subject to Urban Exception 480.

The site contains an existing church and related buildings. The site is bound by Laurier Avenue E. to the north, Blackburn Avenue to the east, private property to the south, and Chapel Street to the east. The site location is illustrated in **Figure 1.1** below.



Figure 1.1: Key Plan of Site

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A copy of the draft Site Plan (dated April 2023, with revision dated November 2023) prepared by Linebox Studio architects is provided in **Appendix A.1**. The proposed development is a nine-storey residential apartment building on a portion of the existing site. The existing church is intended to remain, and the Bate Memorial Hall is to be removed to accommodate the proposed building. Approximately 0.17 ha of land is to be severed from the existing site to accommodate the proposed building and related residential apartment use.

The preliminary unit type breakdown is listed in **Table 1.1** below.

**Table 1.1: Unit Type Breakdown**

Unit Type	Quantity
Residential Apartment Units (ea.) - Total	112
One-bedroom	10
One-bedroom with den	56
One-bedroom with two dens	2
Two-bedroom	9
Two-bedroom with den	30
Three-bedroom	1
Three-bedroom with den	4

The number of residential units and the unit type breakdown to support the calculated building populations is provided on the site plan in **Appendix A.1**.

## 1.2 Regulatory Framework

The development of the All Saints site is governed by the City of Ottawa's current Official Plan and applicable development application requirements.

The pre-application consultation process with the City of Ottawa establishes the initial design criteria associated with demonstrating the adequacy of servicing for the site.

### 1.2.1 SUPPORTING INFORMATION

Supporting documents referenced in support of this report include:

- *City of Ottawa Sewer Design Guidelines* (SDG), City of Ottawa, October 2012, including all subsequent technical bulletins
- *City of Ottawa Design Guidelines – Water Distribution*, City of Ottawa, July 2010, including all subsequent technical bulletins
- *Design Guidelines for Drinking Water Systems*, Ministry of the Environment, Conservation, and Parks (MECP), 2008



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- *Fire Protection Water Supply Guideline* for Part 3 in the Ontario Building Code, Office of the Fire Marshal (OFM), October 2020
- *Water Supply for Public Fire Protection*, Fire Underwriters Survey (FUS), 2020
- *Fire Code*, National Fire Protection Agency, 2012
- Pre-Application Consultation (PC2023-0073) meeting notes and related correspondence with City of Ottawa staff (see **Appendix B**).
- *Geotechnical Investigation Proposed Mixed-Use Development 315 and 321 Chapel Street*, Paterson Group, Report PG6742-1, August 1, 2023.

Details of the existing infrastructure located within the adjacent public roads are obtained from available City of Ottawa as-built records.

### 1.3 Objective

This Adequacy of Public Services report assesses and identifies preliminary servicing and stormwater management (SWM) conditions which are generally consistent with City of Ottawa Design Guidelines and considers related pre-consultation advice provided by City of Ottawa staff.

Preliminary general and applicable site-specific objectives considered are summarized below. Specific technical design criteria details are described in the associated servicing sections of this report.

#### Potable Water Servicing

- Develop a preliminary assessment of the potable water and fire flow demand for the site.
- Identify that the City of Ottawa water distribution system can supply adequate water pressure to the site for typical operational and emergency conditions.

#### Wastewater (Sanitary Sewer) Servicing

- Develop a preliminary assessment of the wastewater flow projected for the site.
- Identify that the City of Ottawa sanitary sewer system can support the project wastewater flow from the site.

#### Storm Sewer Servicing and Stormwater Management

- Identify allowable flow contributions from the site to the City of Ottawa storm sewer (minor) and adjacent surface (major) drainage systems.
- Identify applicable water quality control and water balance control targets.





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- Develop a preliminary assessment of the SWM system for the site to achieve applicable water quantity (minor and major system) control, water quality control, and water balance control targets.

### **Site Grading Plan**

- If needed, prepare a preliminary grading plan to support the servicing assessments and identify compatibility with surrounding existing ground conditions.

The accompanying figures and drawings illustrate the key components of the preliminary servicing assessments.



## **2.0 Potable Water Servicing**

### **2.1 Background**

The site is within Pressure Zone '1W' of the City of Ottawa water distribution system.

The existing watermains along the boundaries of the site consist of a 200 mm diameter PVC watermain within Laurier Avenue East, a 200 mm diameter ductile iron watermain within Blackburn Avenue, and a 300 mm diameter cast iron watermain within Chapel Street.

Existing fire hydrants are located at the SW corner of the intersection of Laurier Ave E. and Blackburn Ave., and at the NW corner of the intersection of Laurier Ave E. and Chapel St.

### **2.2 Design Criteria**

The following design criteria are applied to the assessment of the potable water and fire protection servicing for the site.

#### **2.2.1 WATER DEMAND AND ALLOWABLE PRESSURE**

Preliminary potable water demand and allowable water pressure are assessed using the City of Ottawa Water Distribution Guidelines (2010) as amended, and the ISTB 2021-03 Technical Bulletin.

##### **Residential Apartment Population Rate**

Bachelor and 1 Bedroom	1.4 persons / unit
2 Bedroom	2.1 persons / unit
3 Bedroom	3.1 persons / unit

##### **Residential Apartment Demand**

Average Daily (AVDY)	280 L/cap/day
Maximum Daily (MXDY)	2.5 x AVDY
Peak Hour (PKHR)	2.2 x MXDY

##### **Allowable Water Pressure**

MXDY Flow	345 kPa (50 psi) to 552 kPa (80 psi)
PKHR Flow Minimum	276 kPa (40 psi.)
MXDY + Fire Flow	140 kPa (20 psi.)
Maximum Allowable for Occupied Area	552 kPa (80 psi)



## 2.2.2 FIRE FLOW AND HYDRANT CAPACITY

Preliminary fire flow requirements are assessed using the Fire Underwriters Survey (FUS) methodology (2020). Site specific criteria considered are noted in Section 2.3.2.

Fire hydrant capacity is assessed based on Table 18.5.4.3 of the National Fire Protection Agency (NFPA) Fire Code document. A hydrant situated less than 76 m away from a building can supply a maximum capacity of 5,678 L/min, and a hydrant 76 to less than 152 m away can supply a maximum capacity of 3,785 L/min.

## 2.3 Water Demand

### 2.3.1 DOMESTIC WATER DEMAND

The domestic water demand is assessed based on the proposed development conditions described in **Table 1.1** and the design criteria described in **Section 2.2**.

The assessed domestic water demand for the site is summarized in **Table 2.1**. Supporting calculations are provided in **Appendix C.1**.

**Table 2.1: Estimated Domestic Water Demands**

Demand Type	Population	AVDY (L/s)	MXDY (L/s)	PKHR (L/s)
Residential Apartment	263	0.9	2.1	4.7

### 2.3.2 FIRE FLOW DEMAND

The fire flow demand is assessed based on:

- Type II - Noncombustible Construction / Type IV-A - Mass Timber Construction (i.e., building construction materials with a 1-hour fire resistance rating). Confirmation of the intended building construction as provided by the project architect is included in **Appendix A.2**.
- Total effective building area is the gross floor area of the largest floor plus 25% of the floor area for each of the two immediately adjoining floors.
  - Vertical openings are protected.
- Occupancy and contents factor considering non-combustible materials.
- A fully supervised automatic sprinkler system that conforms to the NFPA 13 standard supplied by a standard water supply.
- Exposure distances based on current adjacent structures having Type V (no fire resistance rating) construction with no firewall or sprinkler systems.



The fire flow is assessed to be approximately 5,000 L/min (83 L/s) for the proposed building. Supporting calculations per the FUS methodology are provided in **Appendix C.2**.

## **2.4 Available Level of Service**

### **2.4.1 BOUNDARY CONDITIONS**

The assessed domestic water and fire flow demands are used to confirm the level of servicing available to the proposed development from the adjacent municipal watermain and hydrants. The associated hydraulic grade line (HGL) elevation boundary conditions provided by the City of Ottawa (see **Appendix B.3** for correspondence) are summarized in **Table 2.2**. Based on the proposed connection from the site, only the data associated with Blackburn Ave is presented.

**Table 2.2: Boundary Conditions**

<b>HGL Condition</b>	<b>Elevation (m)</b>
Minimum HGL	106.0
Maximum HGL	115.4
Max. Day + Fire Flow (83 L/s) HGL	107.3

Note: Boundary condition results are based on a demand population of 245 persons. The current anticipated population at 263 persons is anticipated to have a negligible impact on the boundary conditions and final design details can be confirmed during subsequent stages of the development application process.

### **2.4.2 ALLOWABLE DOMESTIC PRESSURE**

The anticipated finished floor elevation on the first floor of the apartment building at 70.6 m, serves as the reference elevation for the calculation of residual pressures at ground level. From the boundary condition HGL elevations, the pressures at the first-floor level are expected to range from 347 kPa to 439 kPa (50 psi to 64 psi) under normal operating conditions. The first-floor pressure is expected to be below the maximum allowable for occupied areas.

To ensure adequate water pressure above the first-floor elevation, booster pump requirements are to be confirmed by the mechanical engineering consultant during subsequent stages of the development application process.

### **2.4.3 ALLOWABLE FIRE FLOW PRESSURE**

From the boundary condition HGL elevations, the watermains and nearby fire hydrants can provide the required fire flow while maintaining the minimum residual pressure of 138 kPa (20 psi).



#### **2.4.4 FIRE HYDRANT COVERAGE**

The building is to be sprinklered and a Siamese (fire department) connection provided. The Siamese connection is anticipated to within 45 m of a fire hydrant.

For the two existing hydrants near the site, each hydrant is anticipated to be within 76 m of the proposed building. Additional detail illustrating the hydrant coverage will be provided with subsequent stages of the development application process.

### **2.5 Proposed Water Servicing**

The development is to be serviced with a connection to the existing watermain in Blackburn Avenue. The proposed water servicing is shown on **Drawing SSP-1**. Connections and service requirements are to be consistent with City of Ottawa guidelines and specifications.

Prior to installation of potable water servicing infrastructure, applicable existing water service laterals are to be blanked at the main by the City of Ottawa.

The mechanical engineering consultant is responsible to confirm the service size required and that the water pressure within each building is adequate to meet building code requirements. This confirmation is to occur during subsequent stages of the development application process.

No change to the existing church building service is considered.



## 3.0 Wastewater Servicing

### 3.1 Background

The existing sanitary sewers along the boundaries of the site consist of a 375 mm diameter PVC sewer within Laurier Ave E., a 300 mm diameter concrete sewer within Blackburn Ave, and a 300 mm diameter concrete sewer within Chapel St.

### 3.2 Design Criteria

Preliminary wastewater servicing is assessed using the City of Ottawa Sewer Design Guidelines (2012) as amended, and the MECP Design Guidelines for Sewage Works. The following design criteria are applied to the assessment of wastewater servicing for the site.

Population criteria are the same as that applied for the water demand analysis (see **Section 2.2.1**).

#### Residential Wastewater Flow

Average Flow Generation	280 L/cap/day
Peaking Factor	Harmon Equation (max. residential = 4.0)
Harmon Correction Factor	0.80
Infiltration Allowance	0.33 L/s/ha

### 3.3 Wastewater Generation and Servicing Design

The peak wastewater flow is assessed based on the proposed development conditions described in **Table 1.1** and the design criteria described in **Section 3.2**.

The assessed peak wastewater flow for the site is summarized in **Table 3.1**. Supporting calculations are provided in **Appendix D.1**.

**Table 3.1: Estimated Peak Wastewater Flow**

Peak Residential Wastewater Flow			Infiltration Flow (L/s)	Total Peak Flow (L/s)
Population	Peak Factor	Peak Flow (L/s)		
263	4.0	3.4	0.1	3.5

The anticipated peak wastewater flows for the proposed development were provided to the City of Ottawa staff to evaluate the adequacy of the receiving municipal sanitary sewer system in the vicinity of the site and downstream network.

Note: The confirmation of peak wastewater flows is based on a demand population of 245 persons and a gross area of 0.165 ha.



## All Saints Wastewater Servicing

Confirmation is obtained that the additional 3.2 L/s of peak sanitary flow (245 persons and 0.165 ha gross area) from the proposed site is negligible for the downstream sanitary sewers, therefore there is capacity for the additional sanitary peak flow from the site (see correspondence in **Appendix C.2**).

The current anticipated population at 263 persons and 0.18 ha gross area is anticipated to have a negligible impact on the municipal sanitary sewer capacity condition and final design details can be confirmed during subsequent stages of the development application process.

### 3.4 Proposed Sanitary Servicing

The development is to be serviced with a connection to the existing 300 mm diameter sanitary sewer in Blackburn Ave. The proposed sanitary servicing is shown on **Figure FIG-2**. Connections and service requirements are to be consistent with City of Ottawa guidelines and specifications.

The mechanical engineering consultant is responsible to confirm the service size required and that the appropriate backwater valve requirements are satisfied. This confirmation is to occur during subsequent stages of the development application process.

No change to the existing church building service is considered.



## 4.0 Stormwater Management and Servicing

### 4.1 Background

The existing storm drainage system along the boundaries of the site consists of curb and catch basins as part of a typical urban roadway section. Catch basins are connected to an associated storm sewer system. The existing storm sewers along the boundaries of the site consist of a 1200 mm diameter PVC sewer within Laurier Ave E., a 300 mm diameter concrete sewer within Blackburn Ave, and a 375 mm diameter concrete sewer within Chapel St.

### 4.2 Design Criteria

Preliminary stormwater management (SWM) and storm sewer servicing is assessed using the City of Ottawa Sewer Design Guidelines (2012) as amended. The following design criteria are applied to the assessment of SWM and storm sewer servicing for the site.

- SWM conditions are assessed only for the 0.16 ha area anticipated to be severed to accommodate the proposed building.
- Control of the rooftop portion of the building to a 2-year pre-development level is only required for stormwater management control. The rest of the site can be kept uncontrolled.
  - A maximum pre-development rational method runoff coefficient 'C' of 0.50 is applied.
  - Time of flow for modified rational method calculations should be not less than 10 minutes.
- Water quality control is not required.
- Provide a pre-development drainage area plan (including from the church building) showing the existing drainage pattern.
- Provide a post-development drainage area plan ensuring that proposed development does not cause any restrictions to the existing drainage patterns.

### 4.3 Existing Conditions

The site area currently consists of an existing church with related buildings, open space, and parking area. All runoff from the site currently drains uncontrolled to the adjacent public roadways. There is no external drainage area draining into this property. The current pre-development drainage pattern is illustrated on **Figure FIG-3**.

For the area associated with the proposed building ('EX-1', 'EX-02', and 'EX-03'), the existing condition rational method runoff coefficient is assessed at  $C = 0.51$ . Supporting calculations are provided in **Appendix E**.





## 4.4 Stormwater Management Design

Based on the proposed Site Plan, drainage area boundaries are defined as illustrated on **Figure FIG-4**. Runoff coefficient values for modified rational method calculations are assigned to each drainage area based on the anticipated finished surface condition (e.g., asphalt, concrete, gravel, grass, etc.). A summary of drainage areas and runoff coefficients are provided in **Table 4.1**. Supporting calculations are provided in **Appendix E**.

**Table 4.1: Summary of Post-Development Drainage Areas**

Drainage Areas	Area (ha)	Runoff Coefficient, C	Outlet
UNC-1	0.017	0.57	Overland
UNC-2	0.012	0.78	Overland
CISTRN	0.141	0.71	Storm Sewer

The runoff coefficient for the 'CISTRN' area considers a pervious portion of the roof attributed to a proposed 'green roof'.

### 4.4.1 ALLOWABLE RELEASE RATE

The rational method equation ( $Q = 2.78 CiA$ ) is used to assess the allowable pre-development release rate from the site. The following parameters are used to assess the allowable release rate.

- Based on the calculated C value of 0.51 for the applicable existing site condition ('EX-1', 'EX-02', and 'EX-03'), a runoff coefficient of 0.50 is used to establish the allowable release rate.
- Rainfall intensity is for the City of Ottawa 2-year design storm. A Time of Concentration of ten minutes is applied based on the small site size and the proximity to the existing drainage system. The resultant intensity is 76.81 mm/hr.
- Contributing area is for the post-development rooftop portion(s) of the building only.

**Table 4.2: Allowable Target Release Rate**

Design Storm	Pre-Development Flow Rate (L/s) for C=0.50, i = 76.81 mm/hr, A=0.170 ha,
2-Year	15.1

Supporting calculations are provided in **Appendix E**.

For the proposed development, the target allowable release rate of 15.1 L/s is used to assess water quantity control measures to be applied.



#### **4.4.1.1 Uncontrolled Areas**

For the 100-year return period design storm, the uncontrolled runoff rate for the existing 0.170 ha site area (applying the 0.50 runoff coefficient) is 42.2 L/s.

Relative to the existing site condition with 100% uncontrolled runoff, a post-development 2-year flow control for 0.170 ha of the site is anticipated to reduce the total 100-year stormwater discharge from the site. The data summarized in **Table 4.3** indicates that the proposed SWM plan reduces the overall site storm runoff release rate by 44% compared to the pre-development C=0.50, 100-year design storm event.

**Table 4.3: Comparison of Pre- and Post-Development Release Rates**

<b>Drainage Area</b>	<b>100-Year Discharge (L/s)</b>
Pre-Development Total (0.170 ha)	42.2
Post-Development	
UNC-1 (0.017 ha)	4.8
UNC-2 (0.012 ha)	4.6
CISTRN (0.141 ha)	15.1
Post-Development Total (0.170 ha)	24.5
<b>Difference (Post minus Pre)</b>	<b>-17.7 (-41.9%)</b>

#### **4.4.2 QUANTITY CONTROL**

Based on the proposed change to the site condition, quantity control measures are needed to manage stormwater runoff to the allowable 2-year pre-development runoff flow rate.

A spreadsheet approach using the modified rational method (MRM) is applied to assess the quantity control volume required to control the 100-year post-development runoff rate to the 2-year pre-development runoff rate. The calculations consider the allowable release rate of 15.1 L/s and the runoff coefficient associated with the anticipated post-development catchment. The MRM calculations are provided in **Appendix E**.

A storage volume of 32 m<sup>3</sup> is required to attenuate the 100-year peak flow from the applicable site area to the 2-year pre-development runoff rate of 15.1 L/s.

#### **4.4.3 QUALITY CONTROL**

Water quality control is not required.



## **4.5 Proposed Stormwater Servicing**

The development is to be serviced with a connection to the existing storm sewer in Blackburn Ave. The proposed storm servicing is shown on **Figure FIG-4**. Connections and service requirements are to be consistent with City of Ottawa guidelines and specifications.

It is anticipated that the water quantity control storage volume is to be accommodated entirely within the internal plumbing system of the proposed building.

The mechanical engineering consultant is responsible to confirm the service size required, that the appropriate backwater valve requirements are satisfied, the nature of the foundation drainage system, and that any roof drainage systems (including internal storage systems, roof drains, scuppers, and applicable green roof conditions) are adequate for accommodating the 100-year design storm conditions. It is noted that the 100-year SWM design condition is more stringent than the design condition associated with the typical building code requirements. This confirmation is to occur during subsequent stages of the development application process.

No change to the existing church building service or drainage pattern is considered.



## **5.0 Site Grading**

The proposed building occupies almost all the applicable site area. Site grading is limited to the interface areas between the building face and the new property lines to be created with the proposed legal property severance.

A preliminary building finished floor elevation is indicated based on ensuring suitable elevation ties to the surrounding existing conditions, the relative maximum allowable elevation change between the existing curb and the building entrances to ensure appropriate accessibility conditions are achieved, and that positive drainage away from the building face is achieved. The finished floor elevation may be adjusted during subsequent stages of the development application process.



## **6.0 Other Considerations**

### **6.1 Geotechnical**

Geotechnical conditions for the site are investigated by Paterson Group with findings presented in the supporting investigation report PG6742-1 dated August 1, 2023 (provided under separate cover in support of the development application process). Recommendations from the geotechnical report are intended to be followed as they relate to the proposed servicing strategy for the site.

### **6.2 Utilities**

Existing utilities from Hydro Ottawa, Bell, Rogers, and Enbridge are anticipated to be used to service this site. The exact size, location, and routing of utilities is to be finalized during subsequent stages of the development application process.

### **6.3 Erosion and Sediment Control During Construction**

To protect downstream water quality and prevent sediment build-up in catch basins and storm sewers, erosion and sediment control measures must be implemented during construction. Erosion and sediment control (ESC) measures are the responsibility of the contractor. Recommendations for ESC implementation will be included with subsequent submissions through the development application process.

### **6.4 Regulatory Approvals**

Information on anticipated regulatory approvals associated with the site will be provided with subsequent submissions through the development application process.



## 7.0 Closing

The water, wastewater, and storm water servicing conditions assessed in this report indicate that the existing public services immediately adjacent to the project site are adequate to support the proposed development.

The mechanical engineering consultant is responsible to confirm:

- The water service size required and that the water pressure within each building is adequate to meet building code requirements.
- The sanitary sewer service size required and that the appropriate backwater valve requirements are satisfied.
- The storm sewer service size required, that the appropriate backwater valve requirements are satisfied, the nature of the foundation drainage system, and that any roof drainage systems (including internal storage systems, roof drains, scuppers, and applicable green roof conditions) are adequate for accommodating the 100-year design storm conditions. It is noted that the 100-year SWM design condition is more stringent than the design condition associated with the typical building code requirements.

The confirmations from the mechanical engineering consultant are to occur during subsequent stages of the development application process.

No change to the existing church building services or drainage pattern is considered.



# APPENDICES



## Appendix A Site Information

### A.1 Site Plan





ITEM	FIELD	DATA
01	LEGAL DESCRIPTION	R518(2454) 5379
02	CURRENT ZONING PERMITTED USES	RESIDENTIAL / HOTEL
03	LOT AREA	2,707.26 m <sup>2</sup>
04	LOT FRONTAGE	29 m
05	BUILDING AREA	1,345 m <sup>2</sup>
06	BUILDING SETBACKS	NORTH: 4.1 m EAST: 0 m SOUTH: 0 m WEST: 1.2 m
07	AMENITY SPACE	Required: 4 m <sup>2</sup> / unit; 112 units x 4 m <sup>2</sup> = 472 m <sup>2</sup> 30% communal amenity area = 336 m <sup>2</sup> Provided total: 1,431 m <sup>2</sup> (920 m <sup>2</sup> private) Communal amenity area = 311 m <sup>2</sup>
08	BUILDING HEIGHT	9 STOREYS, max height 103.6 m ASL
09	LOADING ZONE	N/A
10	VEHICLE PARKING	Required = 45 resident, 10 visitor Provided = 44 resident, 4 visitor
11	BICYCLE PARKING	Required = 56 Provided = 131 (including 15 exterior) Horizontal total at floor level = 65
12	LANDSCAPED AREAS	Required: 30% LOT AREA (including portions of 315 Chapel and 321 Blackburn Ave.) = 2,850 m <sup>2</sup> 30% = 855 m <sup>2</sup> Provided: 833 m <sup>2</sup>
13	DRIVE AISLES	6 m wide

FLOOR LEVEL	USE	AREA (m <sup>2</sup> )	AREA (F <sup>2</sup> )
LEVEL 01	CONDOMINIUM	349	3,972
LEVEL 01 MEZZ.	CONDOMINIUM	110	1,183
LEVEL 02	CONDOMINIUM	898	9,666
LEVEL 03	CONDOMINIUM	1,056	11,367
LEVEL 04	CONDOMINIUM	831	8,945
LEVEL 05	CONDOMINIUM	857	9,225
LEVEL 06	CONDOMINIUM	876	9,429
LEVEL 07	CONDOMINIUM	773	8,321
LEVEL 08	CONDOMINIUM	773	8,321
LEVEL 09	CONDOMINIUM	773	8,321
TOTAL	COMBINED	7,216	78,750

CONDOMINIUM	COUNT
1 BEDROOM	10
1 BEDROOM + DEN	56
1 BEDROOM + DEN + MEDIA	2
2 BEDROOM	9
2 BEDROOM + DEN	30
3 BEDROOM	1
3 BEDROOM + DEN	4
TOTAL	112

- GENERAL NOTES:**
- UNLESS OTHERWISE NOTED:
- SITE DEMOLITION PLAN AND SITE PLAN TO BE READ IN CONJUNCTION WITH LANDSCAPE AND CIVIL PACKAGE DRAWINGS.
  - ALL CONCRETED ELEMENTS ARE TO BE RETAINED.
  - PROTECTION MEASURES ARE TO BE TAKEN TO PREVENT DAMAGE TO EXISTING STRUCTURES OR LANDSCAPE FROM OCCURRING.
  - PROTECTION ZONE FOR TREES NOT BEING REMOVED SHALL BE RESPECTED (REFER TO LANDSCAPE PLANS & TREE CONSERVATION REPORT).
  - ALL TREES SHOWN DASHED ARE TO BE REMOVED, REFER TO DEMOLITION SITE PLAN AND TREE CONSERVATION REPORT.
  - ANY PARKING SIGNAGE MOVED OR REMOVED DURING CONSTRUCTION WILL BE REINSTATED.
  - ANY TREE DISTURBED DURING CONSTRUCTION WILL BE REINSTATED UPON COMPLETION.
  - MATERIAL EXCAVATED FROM THE SITE WILL BE REMOVED AS SOON AS POSSIBLE.
  - SIDEWALKS TO BE REINSTATED WHERE PRIVATE DRIVEWAYS HAVE BEEN DEMOLISHED OR WHERE DAMAGED THROUGH CONSTRUCTION PROCESS.

- SPECIFIC NOTES:**
- NEW PARKING VENTILATION GRATE
  - CURB CUT
  - UNDERGROUND STORAGE TANK/CISTERN, REFER TO CIVIL DRAWINGS FOR SPEC.
  - PLANTER
  - MAIN ENTRANCE
  - MOVE IN ENTRANCE
  - PROPOSED ENTRANCE LIGHTING
  - STONE PAVING (REFER TO LANDSCAPE PLAN)
  - NEW CONCRETE SIDEWALK
  - BICYCLE RACK PARKING
  - SAWDEE / FRIE DEPARTMENT CONNECTION
  - NEW GAS METER
  - GRASS (REFER TO LANDSCAPE ARCHITECT)
  - EXISTING SIDEWALK TO BE REINSTATED AS REQUIRED
  - PROPOSED PARKING RAMP
  - ASPHALT DRIVEWAY EXTENDED TO STREET
  - NEW CONCRETE CURB
  - TACTILE WALKING SURFACE INDICATOR AS PER CITY OF OTTAWA STANDARDS
  - GARDEN (REFER TO LANDSCAPE ARCHITECT)
  - EXISTING BUS STOP LOCATION TO REMAIN
  - EXISTING UTILITY POST TO REMAIN
  - EXISTING UTILITY POST TO BE REMOVED
  - EXISTING MAN HOLE TO REMAIN
  - EXISTING CATCH BASIN TO REMAIN
  - LANDSCAPE PLANTER BED WITH CURB IN FRONT
  - AIR CONDITIONING UNITS DEDICATED TO GARAGE ROOMS
  - UNDERGROUND PARKING GARAGE ACCESS
  - BARRIER FREE RAMP
  - EXISTING TREE TO BE RETAINED & ROOT PROTECTION ZONE (REFER TO TREE PROTECTION REPORT)
  - TREES SHOWN DASHED TO BE DEMOLISHED
  - EXISTING STONE RETAINING WALL (TO BE DEMOLISHED, IF DASHED)
  - NEW HYDRO PAVING PATH
  - PROPOSED STONE RETAINING WALL
  - PROPOSED BENCH
  - PROPOSED ACCESSIBLE BENCH
  - PROPOSED PRECAST CONCRETE LANDSCAPE STEPS (AND HANDRAILS AS REQ.)
  - NEW GRAVEL PATH - SEE LANDSCAPE PLAN
  - PRIVACY SCREEN WALL BETWEEN RESIDENTIAL UNITS AND PUBLIC AREAS
  - NEW TREE - SEE LANDSCAPE PLAN

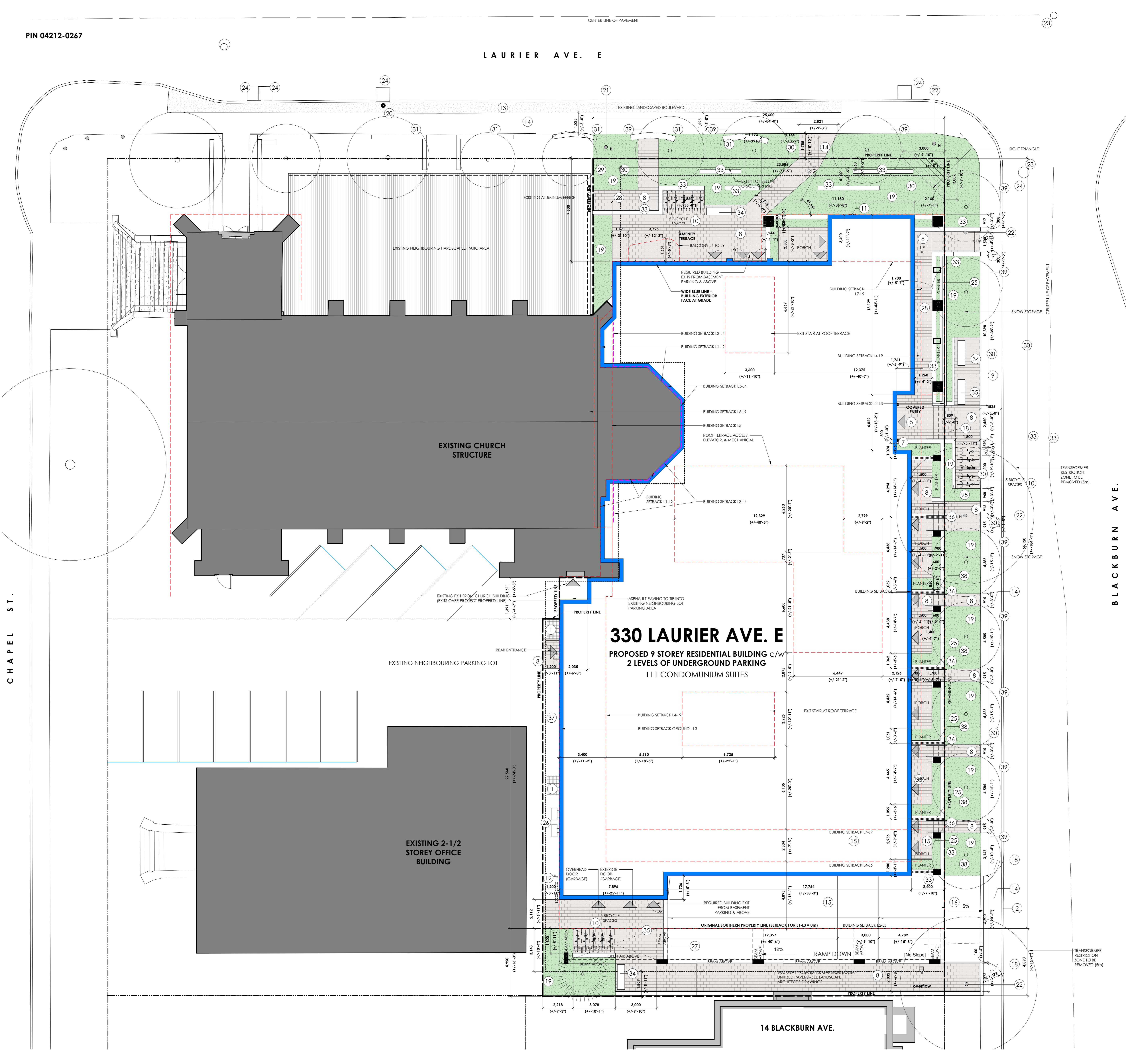
VEHICLE PARKING PROVIDED	COUNT
<b>B2</b>	
ACCESSIBLE (3400x5200)	1
COMPACT	5
MOTORCYCLE	3
STANDARD (2600x5200)	18
<b>B1</b>	
ACCESSIBLE (3400x5200)	1
COMPACT	4
MOTORCYCLE	1
STANDARD (2600x5200)	19
STANDARD (2600x5200)	25
TOTAL PROVIDED	52

TOTAL PROVIDED W/OUT MOTORCYCLE = 48

0 1 2 3 4 5m 10m

SOFTSCAPED AREAS - GRASS, PLANTING, GARDENS OR SIMILAR. SEE LANDSCAPE ARCHITECT'S DRAWINGS.  
HARDSCAPED AREAS - CONCRETE PAVING OR SIMILAR. SEE LANDSCAPE ARCHITECT'S DRAWINGS.

SITE STATISTICS & NOTES



1 SITE PLAN  
A0-800  
1:100  
A4-100

## A.2 Building Construction Confirmation



## Wu, Michael

---

**From:** Michael Pranger <michael@linebox.ca>  
**Sent:** May 23, 2023 10:37  
**To:** Moroz, Peter  
**Cc:** Ross Farris; Mingyuk Chen; Richard Michels; Reggie MacIntosh; Thiffault, Dustin; Wu, Michael  
**Subject:** Re: FW: Windmill All Saints Residential Building Construction and Fire Protection Confirmation

Hi Peter,

- 1 - The construction will be a hybrid of Cast in Place Concrete construction and Encapsulated Mass Timber construction.
- 2 - Yes, all floor openings will be protected with fire ratings as required by the building code.

On Wed, May 17, 2023 at 2:32 PM Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)> wrote:

[Per our discussion, looking for guidance on the below referenced questions.](#)

[thx](#)

[Peter](#)

**Peter Moroz P.Eng., MBA**

Managing Principal, Community Development

Stantec  
300 - 1331 Clyde Avenue Ottawa ON K2C 3G4  
Cell: (613) 294-2851

[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)

---

**From:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>  
**Sent:** Friday, May 12, 2023 11:19 AM  
**To:** [reggie@linebox.ca](mailto:reggie@linebox.ca)  
**Cc:** [ross.farris@windmilldevelopments.com](mailto:ross.farris@windmilldevelopments.com); Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>  
**Subject:** Windmill All Saints Residential Building Construction and Fire Protection Confirmation

Good morning, Reggie:

I was wondering if you could provide us the following information for the proposed All Saints residential building at Chapel Street. We would need them for requesting the hydraulic boundary conditions from the City.

1. Construction type.
2. Confirmation that the vertical openings (between floors) are going to be **protected** per the fire code requirements outlined in the Ontario and National Building Codes and whether the building will be sprinklered.

Thanks,

**Michael Wu, EIT**

Civil Engineering Intern, Community Development

Work: (613) 738-6033

Mobile: (613) 858-0548  
[michael.wu@stantec.com](mailto:michael.wu@stantec.com)

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Ottawa ON K2C 3G4



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**Vacation Alert: I will be away on vacation from May 19<sup>th</sup> to June 2nd**


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**Michael Pranger**  
Senior Architectural Technologist




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 [michael@linebox.ca](mailto:michael@linebox.ca)

 [613.216.2609](tel:613.216.2609) x103

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 Ottawa - Toronto - Montréal

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## Appendix B Pre-Application Consultation



## Brandrick, Robert

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**From:** Moroz, Peter  
**Sent:** Thursday, June 22, 2023 1:15 PM  
**To:** Brandrick, Robert  
**Subject:** FW: 321 Chapel Street - All Saints

Peter

### Peter Moroz P.Eng., MBA

Managing Principal, Community Development

Stantec  
300 - 1331 Clyde Avenue Ottawa ON K2C 3G4  
Cell: (613) 294-2851

[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)

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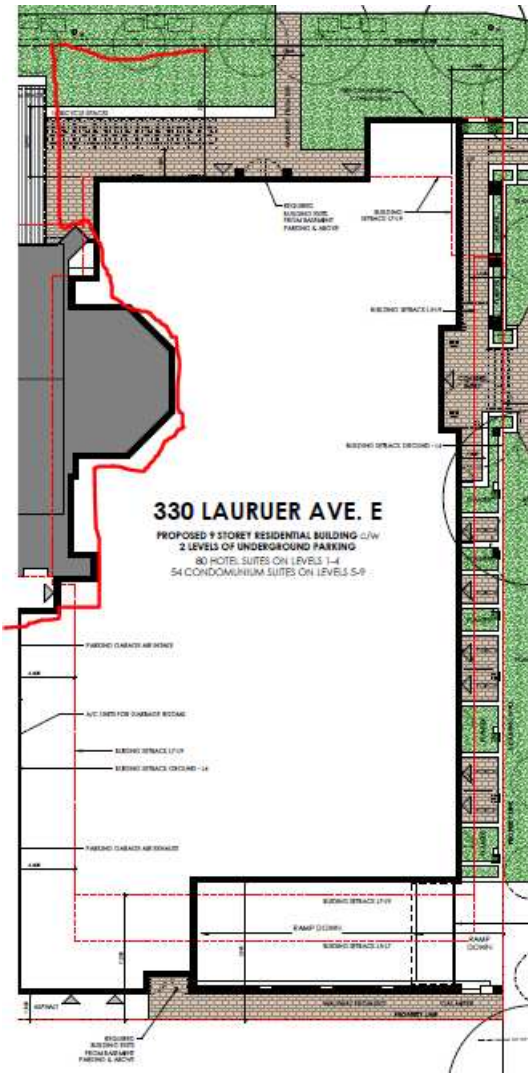
**From:** Jhamb, Nishant <nishant.jhamb@ottawa.ca>  
**Sent:** Thursday, May 4, 2023 3:29 PM  
**To:** Moroz, Peter <peter.moroz@stantec.com>  
**Cc:** Thiffault, Dustin <Dustin.Thiffault@stantec.com>; Ross Farris <ross.farris@windmilldevelopments.com>; Jessica Centofanti <jessica.centofanti@windmilldevelopments.com>  
**Subject:** RE: 321 Chapel Street - All Saints

Hello Peter,

Apologies for the confusion, my understanding is that the subject land will be severed to create a new parcel as shown in the picture below and most of the new lot will be covered by proposed building. In this case please control the roof area only to a 2-year pre development level and the remainder of the new lot can drain uncontrolled to the ROW.

Also please provide the following

Pre development drainage area plan(including from the Church Building ) showing the existing drainage pattern  
Post Development drainage area plan ensuring that proposed development does not cause any restrictions to the existing drainage patterns.



Please feel free to reach out if you have any follow up questions

Regards

Nishant Jhamb, P.Eng  
Project Manager | Gestionnaire de projet  
Planning, Real Estate and Economic Development Department  
Development Review - Central Branch  
City of Ottawa | Ville d'Ottawa  
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1  
613.580.2424 ext./poste 23112, [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)

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**From:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>  
**Sent:** May 04, 2023 10:16 AM  
**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>  
**Cc:** Thiffault, Dustin <[dustin.thiffault@stantec.com](mailto:dustin.thiffault@stantec.com)>; Ross Farris <[ross.farris@windmilldevelopments.com](mailto:ross.farris@windmilldevelopments.com)>; Jessica Centofanti <[jessica.centofanti@windmilldevelopments.com](mailto:jessica.centofanti@windmilldevelopments.com)>  
**Subject:** 321 Chapel Street - All Saints



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Nishant, following up on the notes from pre-con meeting, and would like to clarify the following items:

The SWM methodology is conflicting – one set of notes identifies control of the 100yr post development flows to 5-year predevelopment levels, the other states only the rooftop is required for SWM control with the remainder kept uncontrolled to the street.

Can you please clarify which one is the correct methodology.

thx

Peter

**Peter Moroz P.Eng., MBA**

Managing Principal, Community Development

Stantec

300 - 1331 Clyde Avenue Ottawa ON K2C 3G4

Cell: (613) 294-2851

[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)

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Please refer to the below regarding the Pre-Application Consultation (pre-con) Meeting held on April 3, 2023, for the property at 315 Chapel Street and the portion of 321 Chapel Street for Zoning By-law Amendment and Site Plan Control applications to redevelop the site as mixed-use mid-rise building with hotel use on floors ground to fourth and residential on upper floors. Bate Memorial Hall is proposed to be demolished. 315 Chapel Street is proposed to be severed through part lot control, as well as a portion of 321 Chapel Street to be integrated into the buildable area for the redevelopment. A new building is proposed to be constructed where Bate Memorial Hall stood, following the buildable area established in Schedule 379, with some adjustments proposed. A ZBLA is required to make adjustments to Schedule 379 and additional exception provisions.

Below are staff's preliminary comments based on the information available at the time of pre-con meeting:

### **Planning (M Masha Wakula)**

- Policies and provisions (PPS, OP, CDP, Secondary Plan, etc.)

Central and East Downtown Core Secondary Plan is applicable.

The subject site is located in Sandy Hill Character Area as per Schedule A - Character Areas.

The subject site is designated as Corridor on Schedule B - Designation Plan. Corridors will be consistent with Section 6.2 – Corridors, of Volume 1 of the Official Plan.

Maximum number of storeys is six storeys as per Schedule C - Maximum Building Heights. However, Zoning By-law prevails.

The Secondary Plan Policies in Section 3.1 Built Form guides the developments to contribute to an active street life and pedestrian convenience through its design, function and activity. Please, elaborate in your planning rationale on how this will be achieved, and specific policies will be addressed, since the principal entrance now faces Blackburn Avenue compared to the previous proposal having principal entrance onto Laurier Avenue East.

Please elaborate in your submission on how the community uses will be provided with the proposed development as set out in 4.7.3 – Land Use and Built Form:

*104) The lands municipally known as 315 Chapel Street shall be recognized as a Design Priority Area, and a mix of community and commercial uses that serve the Sandy Hill community will be permitted on the site.*

With previous proposal, the focus was on lower level uses to accommodate community centre, retail, restaurant, office, etc. type uses. It was intended to be a community hub in the neighbourhood, with the residential or hotel uses as secondary to that main function.

Please elaborate in your submission on how the proposed development will mitigate the possible impact to the neighbouring property at 14 Blackburn Avenue as set out in Section 4.7.6 – Site Development:

*120) Ensure that the scale, form, proportion and spatial arrangement of new development cause minimal intrusion on the sunlight, air and aspect enjoyed by*

*existing adjacent development. Wherever possible, such new development shall contribute to the overall physical environment.*

Official Plan (2021):

Subject site is designated Minor Corridor within Downtown Core Transect.

Please, account for the following in your design:

As set out in Policy 4 in Section 5.1.4 – Provide direction to the Hubs and Corridors located within the Downtown Core Transect:

*On Downtown Core Minor Corridors, all buildings shall have active entrances facing the Minor Corridor, regardless of use.*

Currently, your main entrance faces Blackburn Avenue. Please, ensure that the entrances along Laurier Avenue East will remain active. Perhaps, the redesign of the front yard will be required to accommodate adjacent to hotel lobby outdoor patio.

Other applicable Sections and Policies:

Section 4.6 – Urban Design

Specifically:

4.6.1 – Promote design excellence in Design Priority Areas;

4.6.6 – Enable the sensitive integration of new development of Low-rise, Mid-rise and High-rise buildings to ensure Ottawa meets its intensification targets while considering liveability for all (Policy 7).

Section 6.2 – Corridors

Specifically:

6.2.1 – Define the Corridors and set the stage for their function and change over the life of this Plan

○ Building height and Rooftop amenity

Please keep the rooftop amenity area (interior) as small as possible to maintain the compliance with Policy 128) in Section 4.7.8 – Building Heights of the Central and East Downtown Core Secondary Plan:

*128) Within the Sandy Hill Character Area, any maximum building heights permitted in the Zoning By-law that exceed the heights indicated on Schedule B as of the date of adoption of this Secondary Plan will continue to apply. Any increases beyond these maximum heights will require an Official Plan Amendment.*

And with policies of the Official Plan (2021) as set out in Table 7 – Minimum and Maximum Height Overview Based on Official Plan Policy:

*Low-rise and Mid-rise: minimum 2 storeys and maximum of 9 storeys are permitted along Minor Corridors.*

○ Zoning

The subject lands are zoned:

portion of 315 Chapel Street lot (fronting onto Laurier Avenue East) - R5B[2454] S379, with Heritage Overlay (Section 60)

remaining portion of 315 Chapel Street lot - R5B[2454] S379-h, with Heritage Overlay (Section 60)

portion of 321 Chapel Street (intended to be severed and consolidated with part of 315 Chapel Street, strip of land between 315 Chapel Street and 14 Blackburn Avenue) - R4UB[480]

Please, list all the reliefs required in your Planning rationale to facilitate the 1<sup>st</sup> review of the zoning amendment application.

- Portion of 321 Chapel Street

Please, elaborate how the acquired land will be added to the existing development and its impact to the neighbouring 14 Blackburn Avenue. Currently, the subject strip of land accommodates the desirable transition/buffer between the proposed development and existing low-rise residential building and mitigates the impacts of the proposed mid-rise development.

- Balconies – South façade

It is advised to reduce the extent of the balconies on the southern façade as you are refining the design. The southern façade is subject to demonstrate that it does not have an adverse impact to the 14 Blackburn Avenue property.

- Accessibility and Affordability:

It is advised to provide residential units that meet accessibility standards and affordable residential units as set out in Section 4.7.3 – Land Use and Built Form of Central and East Downtown Core Secondary Plan:

*101) Provide a wide variety of housing, including accommodation for low-income people, the elderly, the handicapped and others with special needs.*

[ADS Site Plan Checklist](#)

- High Performance Development Standards

Please, follow [HPDS Overview for Applicants](#) and [HPDS Example Checklist](#).

Energy priorities evaluated and set early in design enable innovative solutions and design trade-offs that are not available later in the building design. Energy saving features are significantly less expensive to implement when embedded in plans prior to construction and can lead to significant operational cost savings.

- Parkland Dedication and Community Benefit Charges:

Please, familiarize yourself with recent changes: Community Benefits Charge By-law, [By-law No. 2022-307](#), and new Parkland Dedication By-law, [By-law No. 2022-280](#).

The former Section 37 regime has been replaced with a “Community Benefits Charge”, [By-law No. 2022-307](#), of 4% of the land value. This charge will be required for ALL buildings that are 5 or more storeys and 10 or more units and will be required at the time of building permit unless the development is subject to an existing

registered Section 37 agreement. Questions regarding this change can be directed to [Ranbir.Singh@ottawa.ca](mailto:Ranbir.Singh@ottawa.ca).

- Additional items
  - Please, outline the Public Participation strategy (as directed by Bill 73) for the revised proposal in your Planning rationale.
  - Please, ensure you are proposing planting native species and avoiding planting invasive species: [Plants | City of Ottawa](#).

Feel free to contact the Planner, M Masha Wakula, at [mmashawakula.vakula@ottawa.ca](mailto:mmashawakula.vakula@ottawa.ca), for follow-up questions.

### **Heritage (Ashley Kotarba)**

The property is designated under Part IV of the *Ontario Heritage Act*, and the demolition, and new construction will require a heritage permit. The application will be reviewed by the Built Heritage Committee, Planning and Housing Committee and Council. More information about the process can be found here:

<http://ottawa.ca/en/city-hall/planning-and-development/heritage-conservation/changes-heritage-properties>

A Heritage Impact Assessment will be required to accompany this application. It should consider the impacts to the church, the demolition of Bate Memorial Hall, and impacts to the adjacent Russell-Range Heritage Conservation District. According to the Russell-Range HCD Plan, if the strip of land at 321 Chapel (designated under Part V of the OHA) is to be acquired, this severance will also require review through a Heritage Impact Assessment. This can all be in the same document.

An application fee will be charged for this new construction.

- Comments on the design
  - Heritage staff are pleased to hear that the roof of the church apse is no longer proposed for removal. The retention of the entire apse, and views of this feature will be an important element of this proposal.
  - As the proposal moves along, heritage staff will provide comments on the design. The materials should be compatible with the church, and the design should pick up on elements found on the heritage building. While the new construction will be taller than the church building, All Saints should remain the focus of the site and be the dominant feature. The new construction should be designed in a way to be subordinate to the heritage structure.

Feel free to contact the Heritage Planner, Ashley Kotarba, at [Ashley.Kotarba@ottawa.ca](mailto:Ashley.Kotarba@ottawa.ca), for follow-up questions.

### **Urban Design (Christopher Moise)**

- The site is within a Design Priority Area and the proposal is subject to review by the City's Urban Design Review Panel prior to the application being deemed complete. Please contact [udrp@ottawa.ca](mailto:udrp@ottawa.ca) for details on submission requirements and scheduling.
- We appreciate the presentation material provided at the Pre-consultation meeting and have the following design comments:
  - We recommend additional exterior detail be provided for the UDRP meeting.
  - We recommend caution be taken regarding the relationship of the southern facade to the residential neighbourhood to the south, including the overhanging balconies.
  - We recommend the project team review the UDRP recommendations from Dec, 2017 as many of the issues remain relevant.
- A scoped Design Brief is a required submittal (and separate from any UDRP submission) for all Site Plan/Re-zoning applications. Please see the Design Brief Terms of Reference provided and consult the City's website for details regarding the UDRP schedule.
  - ***Note. The Design Brief submittal should have a section which addresses these pre-consultation comments.***

Feel free to contact Christopher Moise, at [christopher.moise@ottawa.ca](mailto:christopher.moise@ottawa.ca), for follow-up questions.

### **Engineering (Nishant Jhamb)**

- General:
  - Please provide the **Boundary Condition** request as soon as possible to confirm if the Fire demands can be met.
  - Please provide the new **Sanitary sewer discharge rate** and we confirm if sanitary sewer main has the capacity.
  - If there are any utilities being installed parallel within the existing Right of Way or a road modification within the existing Right of Way, or a shoring system with tie backs encroaching the ROW then a Municipal Consent Circulation would be required. The installation of any structure, structure footing, geo-membrane or perforated pipe encroaching into the existing ROW is not permitted without a separate Municipal Consent Approval.
  - It is the sole responsibility of the consultant to investigate the location of existing underground utilities in the proposed servicing area and submit a request for locates to avoid conflict(s). The location of existing utilities and services shall be documented on an **Existing Conditions Plan**.
  - Any easements on the subject site shall be identified and respected by any development proposal and shall adhere to the conditions identified in the easement agreement. A **legal survey plan** shall be provided, and all easements shall be shown on the engineering plans.
  - A deep excavation and dewatering operations have the potential to cause damages to the neighboring adjacent buildings/ City infrastructure. Document

that construction activities (excavation, dewatering, vibrations associated with construction, etc.) will not have an impact on any adjacent buildings and infrastructure.

- **A Record of Site Condition (RSC) in accordance with O.Reg. 153/04** will be required to be filed and acknowledged by the Ministry prior to issuance of a building permit due to a change to a more sensitive property use.
- All underground and above ground building footprints and permanent walls need to be shown on the plans to confirm that any permanent structure does not extend either above or below into the existing property lines and sight triangles.
  
- Reference documents for information purposes:
  - Ottawa Sewer Design Guidelines (October 2012)
  - Technical Bulletin PIEDTB-2016-01
  - Technical Bulletins ISTB-2018-01, ISTB-2018-02 and ISTB-2018-03.
  - Ottawa Design Guidelines - Water Distribution (2010)
  - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
  - City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
  - City of Ottawa Environmental Noise Control Guidelines (January 2016)
  - City of Ottawa Accessibility Design Standards (2012) (City recommends development be in accordance with these standards on private property)
  - Ottawa Standard Tender Documents (latest version)
  - Ontario Provincial Standards for Roads & Public Works (2013)
  - Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at [InformationCentre@ottawa.ca](mailto:InformationCentre@ottawa.ca) or by phone at (613) 580-424 x.44455).
  
- Stormwater Management Criteria and Information:
  - **Water Quantity Control:** In the absence of area specific SWM criteria please control post-development runoff from the subject site, up to and including the **100-year storm event**, to a **5-year pre-development level**. The pre-development runoff coefficient will need to be determined **as per existing conditions** but in no case more than 0.5. **[If 0.5 applies it needs to be clearly demonstrated in the report that the pre-development runoff coefficient is greater than 0.5]**. The time of concentration ( $T_c$ ) used to determine the pre-development condition should be calculated.  *$T_c$  should not be less than 10 min. since IDF curves become unrealistic at less than 10 min;  $T_c$  of 10 minutes shall be used for all post-development calculations*.
  - Any storm events greater than the established **5-year allowable** release rate, up to and including the **100-year storm event**, shall be detained on-site. The SWM measures required to avoid impact on downstream sewer system will be subject to review.
  - Document how any foundation drainage system will be integrated into the servicing design and show the positive outlet on the plan. Foundation drainage is to be independently connected to sewer main unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention. **It is recommended that the foundation drainage system be drained by a sump pump connection to the storm sewer to minimize risk of basement flooding**

**as it will provide the best protection from the uncontrolled sewer system compared to relying on the backwater valve.**

- Please note that as per *Technical Bulletin PIEDTB-2016-01 section 8.3.11.1 (p.12 of 14)* **there shall be no surface ponding on private parking areas during the 5-year storm rainfall event.**
- **Underground Storage:** Please note that the Modified Rational Method for storage computation in the Sewer Design Guidelines was originally intended to be used for above ground storage (i.e. parking lot) where the change in head over the orifice varied from 1.5 m to 1.2 m (assuming a 1.2 m deep CB and a max ponding depth of 0.3 m). This change in head was small and hence the release rate fluctuated little, therefore there was no need to use an average release rate.
- When underground storage is used, the release rate fluctuates from a maximum peak flow based on maximum head down to a release rate of zero. This difference is large and has a significant impact on storage requirements. **We therefore require that an average release rate equal to 50% of the peak allowable rate shall be applied to estimate the required volume. Alternatively, the consultant may choose to use a submersible pump in the design to ensure a constant release rate.**

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

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

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

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

- Post-development site grading shall match existing property line grades in order to minimize disruption to the adjacent residential properties. A **topographical plan of survey** shall be provided as part of the submission and a note provided on the plans.
- Please provide a **Pre-Development Drainage Area Plan** to define the pre-development drainage areas/patterns. **Existing drainage patterns shall be maintained and discussed as part of the proposed SWM solution.**
- **If rooftop control** and storage is proposed as part of the SWM solutions sufficient details (Cl. 8.3.8.4) shall be discussed and document in the report and on the plans. Roof drains are to be connected downstream of any incorporated ICDs within the SWM system and not to the foundation drain system. Provide a **Roof Drain Plan** as part of the submission.



- Sanitary Sewer:
  - Please provide the new Sanitary sewer discharge and we confirm if sanitary sewer main has the capacity.
  - Please apply the wastewater design flow parameters in *Technical Bulletin PIEDTB-2018-01*.
  - Sanitary sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) *Monitoring Devices*.
  - A backwater valve is required on the sanitary service for protection.
  - Include correspondence from the Architect within the Appendix of the report confirming the number of residential units per building **and a unit type breakdown for each of the buildings** to support the calculated building populations.
  
- Water:
  - Existing residential service to be blanked at the main.
  - **Water Supply Redundancy:** Residential buildings with a basic day demand greater than 50m<sup>3</sup>/day (0.57 L/s) are required to be connected to a minimum of two water services separated by an isolation valve to avoid a vulnerable service area as per the *Ottawa Design Guidelines - Water Distribution, WDG001, July 2010 Clause 4.3.1 Configuration*. The basic day demand for this site not expected to exceed 50m<sup>3</sup>/day.
  - Please **review Technical Bulletin ISTB-2018-02**, maximum fire flow hydrant capacity is provided in Section 3 Table 1 of Appendix I. A **hydrant coverage figure** shall be provided and **demonstrate there is adequate fire protection for the proposal**. Two or more public hydrants are anticipated to be required to handle fire flow.
  - Boundary conditions are required to confirm that the require fire flows can be achieved as well as availability of the domestic water pressure on the City street in front of the development. Use Table 3-3 of the MOE Design Guidelines for Drinking-Water System to determine Maximum Day and Maximum Hour peaking factors for 0 to 500 persons and use Table 4.2 of the Ottawa Design Guidelines, Water Distribution for 501 to 3,000 persons. Please provide the following information to the City of Ottawa via email to request water distribution network boundary conditions for the subject site. Please note that once this information has been provided to the City of Ottawa it takes approximately 5-10 business days to receive boundary conditions.
    - Type of Development and Units
    - Site Address
    - A plan showing the proposed water service connection location.
    - **Average Daily Demand** (L/s)
    - **Maximum Daily Demand** (L/s)
    - **Peak Hour Demand** (L/s)
    - **Fire Flow** (L/min)
  
- Required Engineering Plans and Studies:

**PLANS:**

- Existing Conditions and Removals Plan
- Site Servicing Plan
- Grade Control and Drainage Plan
- Road Reinstatement Plan
- Erosion and Sediment Control Plan
- Roof Drainage Plan
- Topographical survey

**REPORTS:**

- Site Servicing and Stormwater Management Report
- Geotechnical Study/Investigation
- Slope Stability Assessment Reports ( if required, please see requirements below)
- Noise Control Study
- Phase I ESA
- Phase II ESA (Depending on recommendations of Phase I ESA)
- RSC (Record of the site Conditions)
- Wind analysis

Please refer to the **City of Ottawa Guide to Preparing Studies and Plans [Engineering]**:

Specific information has been incorporated into both the [Guide to Preparing Studies and Plans](#) for a site plan. The guide outlines the requirement for a statement to be provided on the plan about where the property boundaries have been derived from.

Added to the general information for servicing and grading plans is a note that an O.L.S. should be engaged when reporting on or relating information to property boundaries or existing conditions. The importance of engaging an O.L.S. for development projects is emphasized.

- Phase One Environmental Site Assessment:
  - A Phase I ESA is required to be completed in accordance with Ontario Regulation 153/04 in support of this development proposal to determine the potential for site contamination. Depending on the Phase I recommendations a Phase II ESA may be required.
  - The Phase I ESA shall provide all the required Environmental Source Information as required by O. Reg. 153/04. ERIS records are available to public at a reasonable cost and need to be included in the ESA report to comply with O.Reg. 153/04 and the Official Plan. The City will not be in a position to approve the Phase I ESA without the inclusion of the ERIS reports.
  - Official Plan Section 4.8.4:  
<https://ottawa.ca/en/city-hall/planning-and-development/official-plan-and-master-plans/official-plan/volume-1-official-plan/section-4-review-development-applications#4-8-protection-health-and-safety>
- RSC ( Record of the site Conditions)

- A RSC is required when changing the land use (zoning) of a property to a more sensitive land use and **a memorandum prepared by an environmental consultant confirming that no potential contaminating activities have taken place within the RSC area since the filling of the RSC.**  
[Submitting a record of site condition | Ontario.ca](#)
- Geotechnical Investigation:
  - A Geotechnical Study/Investigation shall be prepared in support of this development proposal.
  - Reducing the groundwater level in this area can lead to potential damages to surrounding structures due to excessive differential settlements of the ground. The impact of groundwater lowering on adjacent properties needs to be discussed and investigated to ensure there will be no short term and long term damages associated with lowering the groundwater in this area.
  - Geotechnical Study shall be consistent with the **Geotechnical Investigation and Reporting Guidelines for Development Applications.**  
<https://documents.ottawa.ca/sites/default/files/documents/cap137602.pdf>
- Slope Stability Assessment Reports
  - A report addressing the stability of slopes, prepared by a qualified geotechnical engineer licensed in the Province of Ontario, should be provided wherever a site has slopes (existing or proposed) steeper than 5 horizontal to 1 vertical (i.e., 11 degree inclination from horizontal) and/or more than 2 metres in height.
  - A report is also required for sites having retaining walls greater than 1 metre high, that addresses the global stability of the proposed retaining walls.  
<https://documents.ottawa.ca/en/document/slope-stability-guidelines-development-applications>
- Noise Study:
  - A **Transportation Noise Assessment** is required as the subject development is located within 100m proximity of Laurier Avenue East and Chapel Street
  - A **Stationary Noise Assessment** is required in order to assess the noise impact of the proposed sources of stationary noise (mechanical HVAC system/equipment) of the development onto the surrounding residential area to ensure the noise levels do not exceed allowable limits specified in the City Environmental Noise Control Guidelines.
- Wind analysis:
  - A wind analysis must be prepared, signed and stamped by an engineer who specializes in pedestrian level wind evaluation. Where a wind analysis is prepared by a company which do not have extensive experience in pedestrian level wind evaluation, an independent peer review may be required at the expense of the proponent.  
[Terms of Reference: Wind Analysis \(ottawa.ca\)](#)

#### **Fourth (4<sup>th</sup>) Review Charge:**

Please be advised that a flat fee will be charged for additional reviews, after the 3<sup>rd</sup> review.

**Construction approach** – Please contact the Right-of-Ways Permit Office [TMconstruction@ottawa.ca](mailto:TMconstruction@ottawa.ca) early in the Site Plan process to determine the ability to construct site and copy File Lead on this request.

Please note that these comments are considered preliminary based on the information available to date and therefore maybe amended as additional details become available and presented to the City. It is the responsibility of the applicant to verify the above information. The applicant may contact me for follow-up questions related to engineering/infrastructure prior to submission of an application if necessary.

Feel free to contact the Infrastructure Project Manager, Nishant Jhamb, at [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca), for follow-up questions.

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

**TIA Screening Form – CGH, Dated March 07, 2023**

**TIA Scoping Report – CGH, Received March 31, 2023**

**Site Plan A020, Dated March 09, 2023**

- General Comments

Laurier Avenue E is classified as a Major Collector Road. There are no additional protected ROW limits identified in the OP.

Chapel Street is classified as a Collector Road. There are no additional protected ROW limits identified in the OP.

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

The TIA Step 2 – Scoping report. Clarify the side access from Chapel Street and indicate how it is intended to function.

The consultant is to address how they plan to enable and encourage travel by sustainable modes (i.e. to make walking, cycling, transit, carpooling and telework more convenient, accessible, safe and comfortable). Please complete the City of Ottawa's *TDM Measures Checklist*.

5.0 metres x 5.0 metres sight triangle is required at the intersection of Laurier Avenue and Chapel Street based on Schedule C16 of the Official Plan and is to be dimensioned on all drawings.

A 3.0 metres x 3.0 metres sight triangle is required at the intersection of Laurier Avenue and Blackburn Avenue based on Schedule C16 of the Official Plan and is to be dimensioned on all drawings.

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

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

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

The Owner acknowledges and agrees that all private accesses to Roads shall comply with the City's Private Approach By-Law being By-Law No. 2003-447 as amended <https://ottawa.ca/en/living-ottawa/laws-licences-and-permits/laws/law-z/private-approach-law-no-2003-447> or as approved through the Site Plan control process. Ensure that the driveway grade does not exceed 2% within the private property for a distance of 6.0 metres from the highway line; see Section 25 (s) of the Private Approach By-Law #2003-447.

If ramp exceeds 6% grade, a subsurface melting element will be required.

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

The concrete sidewalk should be 2.0 metres in width and be continuous and depressed through the proposed access.

No private approach shall be constructed within 0.3 metres of any adjacent property measured at the highway line, and at the curb line or roadway edge.

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

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

For any planter boxes/trees on the City's road right-of-way, an Encroachment Agreement along with a Maintenance Agreement will be required.

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

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

Feel free to contact the Transportation Project Manager, Wally Dubyk, at [Wally.Dubyk@ottawa.ca](mailto:Wally.Dubyk@ottawa.ca), for follow-up questions.

### **Forestry (Mark Richardson)**

- Planning Forester TCR requirements:
  - **Please note that all process for reviewing and approving TCRs are changing at the City – in order to effectively review your submission in a timely manner the Planning Forester will need to ensure that all TCR requirements have been addressed**
  - a Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City
    - an approved TCR is a requirement of Site Plan approval.
  - Any removal of privately-owned trees 10cm or larger in diameter, or city-owned trees of any diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.
    - The TCR must contain 2 separate plans:
    - Plan/Map 1 - show existing conditions with tree cover information
    - Plan/Map 2 - show proposed development with tree cover information
    - Please ensure retained trees are shown on the landscape plan
  - the TCR must list all trees on site, as well as off-site trees if the CRZ extends into the developed area, by species, diameter and health condition
  - please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)
    - Compensation may be required for the removal of city owned trees.
  - If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained
  - All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available at [Tree Protection Specification](#) or by searching Ottawa.ca
    - the location of tree protection fencing must be shown on the plan
    - show the critical root zone of the retained trees

- the City encourages the retention of healthy trees; if possible, please seek opportunities for retention of trees that will contribute to the design/function of the site.
- For more information on the process or help with tree retention options, contact Mark Richardson [mark.richardson@ottawa.ca](mailto:mark.richardson@ottawa.ca) or on [City of Ottawa](#)
- Planning Forester LP tree planting requirements:

**Please note that all process for reviewing and approving LP tree planting has changed at the City – in order to effectively review your submission in a timely manner the Planning Forester will need to ensure that all the bullets listed below have been addressed**

- Minimum Setbacks
  - Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
  - Maintain 2.5m from curb
  - Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.
  - Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas. Adhere to Ottawa Hydro’s planting guidelines (species and setbacks) when planting around overhead primary conductors.
- Tree specifications
  - Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
  - Maximize the use of large deciduous species wherever possible to maximize future canopy coverage
  - Tree planting on city property shall be in accordance with the City of Ottawa’s Tree Planting Specification; and include watering and warranty as described in the specification (can be provided by Forestry Services).
  - Plant native trees whenever possible
  - No root barriers, dead-man anchor systems, or planters are permitted.
  - No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)
- Hard surface planting
  - Curb style planter is highly recommended
  - No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.
  - Trees are to be planted at grade
- Soil Volume
  - Please document on the LP that adequate soil volumes can be met:

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

- Sensitive Marine Clay
  - Please follow the City's [2017 Tree Planting in Sensitive Marine Clay guidelines](#)

### **City Surveyor**

- The determination of property boundaries, minimum setbacks and other regulatory constraints are a critical component of development. An Ontario Land Surveyor (O.L.S.) needs to be consulted at the outset of a project to ensure properties are properly defined and can be used as the geospatial framework for the development.
- Topographic details may also be required for a project and should be either carried out by the O.L.S. that has provided the Legal Survey or done in consultation with the O.L.S. to ensure that the project is integrated to the appropriate control network.

Questions regarding the above requirements can be directed to the City's Surveyor, Bill Harper, at [Bill.Harper@ottawa.ca](mailto:Bill.Harper@ottawa.ca)

### **Waste Services**

- The development must include adequate facilities for the proper storage of allocated garbage, recycling, and green bin containers (if applicable) and such facilities built in accordance with the approved site design. Questions regarding the requirements can be directed to [Andre.Laplante@ottawa.ca](mailto:Andre.Laplante@ottawa.ca).

### **Other**

- Plans are to be standard A1 size (594 mm x 841 mm) or Arch D size (609.6 mm x 914.4 mm) sheets, dimensioned in metric and utilizing an appropriate Metric scale (1:200, 1:250, 1:300, 1:400 or 1:500).
- All PDF submitted documents are to be unlocked, flattened and not saved as a portfolio file.
- For sites containing one or more buildings with a total GFA greater than 2000 square metres OR retail shopping complexes with a total GFA greater than 10,000 square metres OR sites containing office buildings with total GFA greater than 10,000 square metres hotels and motels with more than 75 units OR (human) hospitals OR educational institutions with more than 350 students OR manufacturing establishments working more than 16,000 person-hours in a month:
  - A Waste Reduction Workplan Summary is required for the construction project as required by O.Reg. 102/94, being "Waste Audits and Waste Reduction Work Plans" made under the Environmental Protection Act, RSO 1990, c E.19, as amended.



- You are encouraged to contact the Ward Councillor, Councillor Stéphanie Plante, at [stephanie.plante@ottawa.ca](mailto:stephanie.plante@ottawa.ca) about the proposal.

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

It is anticipated that, as a result of the *More Homes for Everyone Act, 2022*, for applications for site plan approval and zoning by-law amendments, new processes in respect of pre-application consultation will be put in place. The new processes are anticipated to require a multiple phase pre-application consultation approach before an application will be deemed complete. Applicants who have not filed a complete application by the effective date may be required to undertake further pre-application consultation(s) consistent with the provincial changes. The by-laws to be amended include By-law 2009-320, the Pre-Consultation By-law, By-law 2022-239, the planning fees by-law and By-law 2022-254, the Information and Materials for Planning Application By-law.

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

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

Regards,

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**M Masha Wakula**      Planner I, Development Review Central  
Urbaniste I, Examen des projets d'aménagement Central

City of Ottawa      Planning, Real Estate and Economic Development Department  
Ville d'Ottawa      Direction générale de la planification, des biens immobiliers  
et du développement économique

110 Laurier Avenue West, Ottawa, ON K1P 1J1 / 613.580.2424 ext. 27029  
[mmashawakula.vakula@ottawa.ca](mailto:mmashawakula.vakula@ottawa.ca) / [ottawa.ca/planning/](http://ottawa.ca/planning/) / [ottawa.ca/urbanisme](http://ottawa.ca/urbanisme)

cc:

Ashley Kotarba, Heritage Planning  
Christopher Moise, Urban Design team  
Nishant Jhamb, Infrastructure Project Manager, Development Review  
Wally Dubyk, Transportation Project Manager, Development Review

**Pre-Application Consultation Meeting Notes- Infrastructure**  
**Property Address: 315 Chapel Street and the eastern portion of 321 Chapel Street**  
**Application Type- SPC and ZBLA**

**General:**

- Please provide the **Boundary Condition** request as soon as possible to confirm if the Fire demands can be met.
- Please provide the new **Sanitary sewer discharge rate** and we confirm if sanitary sewer main has the capacity.
- If there are any utilities being installed parallel within the existing Right of Way or a road modification within the existing Right of Way, or a shoring system with tie backs encroaching the ROW then a Municipal Consent Circulation would be required. The installation of any structure, structure footing, geo-membrane or perforated pipe encroaching into the existing ROW is not permitted without a separate Municipal Consent Approval.
- It is the sole responsibility of the consultant to investigate the location of existing underground utilities in the proposed servicing area and submit a request for locates to avoid conflict(s). The location of existing utilities and services shall be documented on an **Existing Conditions Plan**.
- Any easements on the subject site shall be identified and respected by any development proposal and shall adhere to the conditions identified in the easement agreement. A **legal survey plan** shall be provided and all easements shall be shown on the engineering plans.
- A deep excavation and dewatering operations have the potential to cause damages to the neighboring adjacent buildings/ City infrastructure. Document that construction activities (excavation, dewatering, vibrations associated with construction, etc.) will not have an impact on any adjacent buildings and infrastructure.
- A **Record of Site Condition (RSC) in accordance with O.Reg. 153/04** will be required to be filed and acknowledged by the Ministry prior to issuance of a building permit due to a change to a more sensitive property use.
- All underground and above ground building footprints and permanent walls need to be shown on the plans to confirm that any permanent structure does not extend either above or below into the existing property lines and sight triangles.
- Reference documents for information purposes :
  - Ottawa Sewer Design Guidelines (October 2012)
  - Technical Bulletin PIEDTB-2016-01
  - Technical Bulletins ISTB-2018-01, ISTB-2018-02 and ISTB-2018-03.
  - Ottawa Design Guidelines - Water Distribution (2010)
  - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
  - City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
  - City of Ottawa Environmental Noise Control Guidelines (January 2016)
  - City of Ottawa Accessibility Design Standards (2012) (City recommends development be in accordance with these standards on private property)
  - Ottawa Standard Tender Documents (latest version)

- Ontario Provincial Standards for Roads & Public Works (2013)
- Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at [InformationCentre@ottawa.ca](mailto:InformationCentre@ottawa.ca) or by phone at (613) 580-424 x.44455).

### Stormwater Management Criteria and Information:

- **Water Quantity Control:** In the absence of area specific SWM criteria please control post-development runoff from the subject site, up to and including the **100-year storm event**, to a **5-year pre-development level**. The pre-development runoff coefficient will need to be determined **as per existing conditions** but in no case more than 0.5. **[If 0.5 applies it needs to be clearly demonstrated in the report that the pre-development runoff coefficient is greater than 0.5]**. The time of concentration ( $T_c$ ) used to determine the pre-development condition should be calculated.  *$T_c$  should not be less than 10 min. since IDF curves become unrealistic at less than 10 min;  $T_c$  of 10 minutes shall be used for all post-development calculations*.
- Any storm events greater than the established **5-year allowable** release rate, up to and including the **100-year storm event**, shall be detained on-site. The SWM measures required to avoid impact on downstream sewer system will be subject to review.
- Document how any foundation drainage system will be integrated into the servicing design and show the positive outlet on the plan. Foundation drainage is to be independently connected to sewer main unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention. **It is recommended that the foundation drainage system be drained by a sump pump connection to the storm sewer to minimize risk of basement flooding as it will provide the best protection from the uncontrolled sewer system compared to relying on the backwater valve.**
- Please note that as per *Technical Bulletin PIEDTB-2016-01 section 8.3.11.1 (p.12 of 14)* **there shall be no surface ponding on private parking areas during the 5-year storm rainfall event.**
- **Underground Storage:** Please note that the Modified Rational Method for storage computation in the Sewer Design Guidelines was originally intended to be used for above ground storage (i.e. parking lot) where the change in head over the orifice varied from 1.5 m to 1.2 m (assuming a 1.2 m deep CB and a max ponding depth of 0.3 m). This change in head was small and hence the release rate fluctuated little, therefore there was no need to use an average release rate.  
When underground storage is used, the release rate fluctuates from a maximum peak flow based on maximum head down to a release rate of zero. This difference is large and has a significant impact on storage requirements. **We therefore require that an average release rate equal to 50% of the peak allowable rate shall be applied to estimate the required volume. Alternatively, the consultant may choose to use a submersible pump in the design to ensure a constant release rate.**  
In the event that there is a disagreement from the designer regarding the required storage, The City will require that the designer demonstrate their rationale utilizing dynamic modelling, that will then be reviewed by City modellers in the Water Resources Group.

Provide information on type of underground storage system including product name and model, number of chambers, chamber configuration, confirm invert of chamber system,

top of chamber system, required cover over system and details, interior bottom slope (for self-cleansing), chart of storage values, length, width and height, capacity, entry ports (maintenance) etc. UG storage to provide actual 2- and 100-year event storage requirements.

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

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

- Post-development site grading shall match existing property line grades in order to minimize disruption to the adjacent residential properties. A **topographical plan of survey** shall be provided as part of the submission and a note provided on the plans.
- Please provide a **Pre-Development Drainage Area Plan** to define the pre-development drainage areas/patterns. **Existing drainage patterns shall be maintained and discussed as part of the proposed SWM solution.**
- **If rooftop control** and storage is proposed as part of the SWM solutions sufficient details (Cl. 8.3.8.4) shall be discussed and document in the report and on the plans. Roof drains are to be connected downstream of any incorporated ICDs within the SWM system and not to the foundation drain system. Provide a **Roof Drain Plan** as part of the submission.

#### **Sanitary Sewer:**

- Please provide the new Sanitary sewer discharge and we confirm if sanitary sewer main has the capacity.
- Please apply the wastewater design flow parameters in *Technical Bulletin PIEDTB-2018-01*.
- Sanitary sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) *Monitoring Devices*.
- A backwater valve is required on the sanitary service for protection.
- Include correspondence from the Architect within the Appendix of the report confirming the number of residential units per building **and a unit type breakdown for each of the buildings** to support the calculated building populations.

#### **Water :**

- Existing residential service to be blanked at the main.
- **Water Supply Redundancy:** Residential buildings with a basic day demand greater than 50m<sup>3</sup>/day (0.57 L/s) are required to be connected to a minimum of two water services separated by an isolation valve to avoid a vulnerable service area as per the *Ottawa Design Guidelines - Water Distribution, WDG001, July 2010 Clause 4.3.1 Configuration*. The basic day demand for this site not expected to exceed 50m<sup>3</sup>/day.
- Please **review Technical Bulletin ISTB-2018-02**, maximum fire flow hydrant capacity is provided in Section 3 Table 1 of Appendix I. A **hydrant coverage figure** shall be

provided and **demonstrate there is adequate fire protection for the proposal**. Two or more public hydrants are anticipated to be required to handle fire flow.

- Boundary conditions are required to confirm that the require fire flows can be achieved as well as availability of the domestic water pressure on the City street in front of the development. Use Table 3-3 of the MOE Design Guidelines for Drinking-Water System to determine Maximum Day and Maximum Hour peaking factors for 0 to 500 persons and use Table 4.2 of the Ottawa Design Guidelines, Water Distribution for 501 to 3,000 persons. Please provide the following information to the City of Ottawa via email to request water distribution network boundary conditions for the subject site. Please note that once this information has been provided to the City of Ottawa it takes approximately 5-10 business days to receive boundary conditions.
  - Type of Development and Units
  - Site Address
  - A plan showing the proposed water service connection location.
  - **Average Daily Demand** (L/s)
  - **Maximum Daily Demand** (L/s)
  - **Peak Hour Demand** (L/s)
  - **Fire Flow** (L/min)

#### **Required Engineering Plans and Studies:**

##### **PLANS:**

- Existing Conditions and Removals Plan
- Site Servicing Plan
- Grade Control and Drainage Plan
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##### **REPORTS:**

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- Geotechnical Study/Investigation
- Slope Stability Assessment Reports ( if required, please see requirements below)
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- Phase I ESA
- Phase II ESA (Depending on recommendations of Phase I ESA)
- RSC (Record of the site Conditions)
- Wind analysis

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Specific information has been incorporated into both the [Guide to Preparing Studies and Plans](#) for a site plan. The guide outlines the requirement for a statement to be provided on the plan about where the property boundaries have been derived from.

Added to the general information for servicing and grading plans is a note that an O.L.S. should be engaged when reporting on or relating information to property boundaries or existing conditions. The importance of engaging an O.L.S. for development projects is emphasized.

#### **Phase One Environmental Site Assessment:**

- A Phase I ESA is required to be completed in accordance with Ontario Regulation 153/04 in support of this development proposal to determine the potential for site contamination. Depending on the Phase I recommendations a Phase II ESA may be required.
- The Phase I ESA shall provide all the required Environmental Source Information as required by O. Reg. 153/04. ERIS records are available to public at a reasonable cost and need to be included in the ESA report to comply with O.Reg. 153/04 and the Official Plan. The City will not be in a position to approve the Phase I ESA without the inclusion of the ERIS reports.
- Official Plan Section 4.8.4:

<https://ottawa.ca/en/city-hall/planning-and-development/official-plan-and-master-plans/official-plan/volume-1-official-plan/section-4-review-development-applications#4-8-protection-health-and-safety>

### **RSC ( Record of the site Conditions)**

- A RSC is required when changing the land use (zoning) of a property to a more sensitive land use and **a memorandum prepared by an environmental consultant confirming that no potential contaminating activities have taken place within the RSC area since the filling of the RSC.**

[Submitting a record of site condition | Ontario.ca](#)

### **Geotechnical Investigation:**

- A Geotechnical Study/Investigation shall be prepared in support of this development proposal.
- Reducing the groundwater level in this area can lead to potential damages to surrounding structures due to excessive differential settlements of the ground. The impact of groundwater lowering on adjacent properties needs to be discussed and investigated to ensure there will be no short term and long term damages associated with lowering the groundwater in this area.
- Geotechnical Study shall be consistent with the **Geotechnical Investigation and Reporting Guidelines for Development Applications.**

<https://documents.ottawa.ca/sites/default/files/documents/cap137602.pdf>

### **Slope Stability Assessment Reports**

- A report addressing the stability of slopes, prepared by a qualified geotechnical engineer licensed in the Province of Ontario, should be provided wherever a site has slopes (existing or proposed) steeper than 5 horizontal to 1 vertical (i.e., 11 degree inclination from horizontal) and/or more than 2 metres in height.
- A report is also required for sites having retaining walls greater than 1 metre high, that addresses the global stability of the proposed retaining walls.

<https://documents.ottawa.ca/en/document/slope-stability-guidelines-development-applications>

### **Noise Study:**

- A **Transportation Noise Assessment** is required as the subject development is located within 100m proximity of Laurier Avenue East and Chapel Street

- A **Stationary Noise Assessment** is required in order to assess the noise impact of the proposed sources of stationary noise (mechanical HVAC system/equipment) of the development onto the surrounding residential area to ensure the noise levels do not exceed allowable limits specified in the City Environmental Noise Control Guidelines.

#### **Wind analysis:**

- A wind analysis must be prepared, signed and stamped by an engineer who specializes in pedestrian level wind evaluation. Where a wind analysis is prepared by a company which do not have extensive experience in pedestrian level wind evaluation, an independent peer review may be required at the expense of the proponent.

[Terms of Reference: Wind Analysis \(ottawa.ca\)](#)

#### **Fourth (4<sup>th</sup>) Review Charge:**

Please be advised that a flat fee will be charged for additional reviews, after the 3<sup>rd</sup> review.

**Construction approach** – Please contact the Right-of-Ways Permit Office [TMconstruction@ottawa.ca](mailto:TMconstruction@ottawa.ca) early in the Site Plan process to determine the ability to construct site and copy File Lead on this request.

Please note that these comments are considered preliminary based on the information available to date and therefore maybe amended as additional details become available and presented to the City. It is the responsibility of the applicant to verify the above information. The applicant may contact me for follow-up questions related to engineering/infrastructure prior to submission of an application if necessary.

If you have any questions or require any clarification, please let me know.

Regards,

Nishant Jhamb, P.Eng  
Project Manager |Gestionnaire de projet  
Planning, Infrastructure and Economic Development Department - Services de la planification, de l'infrastructure et du développement économique  
Development Review - Central Branch  
City of Ottawa | Ville d'Ottawa  
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1  
613.580.2424 ext./poste 23112, [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)

## **Pre-Application Consultation Meeting Notes**

**Property Address:** 315, portion of 321 Chapel Street  
PC2023-0073  
April 3, 2023; 2:00PM

### **Attendees:**

Christopher Moise – Urban Design team  
Ashley Kotarba – Heritage  
Nishant Jhamb – IPM  
Wally Dubyk – TPM  
Masha Wakula – File Lead  
Mark Richardson – Forestry Planning  
Tamara Nahal – Fotenn  
Paul Black – Fotenn  
Stephen Savell – Windmill Developments  
Ross Farris – Windmill Developments  
Jessica Centofanti – Windmill Developments  
Barry Padolsky - Urban Design and Heritage Consultant  
Peter Moroz – Stantec  
Reggie MacIntosh - Linebox

### **Regrets:**

N/A

**Subject: 315, portion of 321 Chapel Street**

### **Meeting notes:**

Opening & attendee introduction

- Introduction of meeting attendees
- Overview of proposal

Property was rezoned a few years ago. The intention for the land now is to be severed and new property to be developed. High sustainability aspirations for the project: endorsement through One Planet Living Program, LEED “Platinum” Certification with Zero Carbon and City of Ottawa High Performance Development Standards.

The site is contemplated as 315 Chapel Street and the portion of 321 Chapel Street. The severance of the 315 Chapel Street site and acquisition of the portion of 321 Chapel Street is proposed.

The corner site is located on the intersection of Laurier Avenue East and Blackburn Avenue. The western portion of the restaurant extends to Chapel Street. The site is located in Downtown Core Transect and designated as a Minor Corridor along Laurier Avenue East. Minor Corridor designation applies to all properties fronting on Laurier and extends on entirety of the property. The intent is to face this minor Corridor and address the relevant designation policies.

The subject site is part of the Central East Downtown Core Secondary Plan and is in Sandy Hill Character Area, designated as Corridor. In Secondary Plan this designation has a



maximum height of six storeys, however Zoning By-law Amendment permits taller development.

The site is designated as heritage property, but only a former church. Bate Memorial Hall is not part of this designation. The portion that is designated is designated under Part IV of the *Ontario Heritage Act*. The statement of significance mentions the grounds as an important component as site heritage. The site is within the pocket surrounded by Heritage Conservation Districts, but the site isn't actually located in any of the HCDs.

The site is zoned Residential Fifth Density, Urban Exception 2454 and Schedule 379 to the north. To the south of the parcel a holding symbol is included as well. A portion of 321 Chapel Street is zoned Residential Fourth Density, Subzone UB and is subject to Urban Exception 480.

Schedule 379 shows areas where building is permitted.

There are few adjustments that the Applicant is looking to undertake. A lot of them is to revise the schedule to make the building work better. A lot of work was done to follow the schedule thoroughly. One of the reliefs/adjustments includes the maximum building height. The heights in the schedule are based on elevations from sea levels, so there are some adjustments there. Some setbacks and stepbacks are proposed to be adjusted as well.

Other adjustments:

- Hotel lobby GFA – the applicant would like to change it a little bit;
- Removing the site from the heritage overlay (Section 60);
- Plus a few refinements to permitted projections over the height limit;
- Urban Exception 2454 permits a number of uses, including hotel use;
- Maximum building height is nine storeys that the applicant intends to maintain with few exceptions to the levels;
- The applicant also seeks to permit hotel use in storeys one to four where it's currently not permitted.

The applicant presented the slightly revised architectural package.

All the existing trees along Laurier Avenue East are intended for preservation and the applicant is working on an arborist report now.

Main entrance to the building is off of Blackburn Avenue, as well as parking off of Blackburn Avenue to the south.

Couple of levels of parking are anticipated. The applicant is in conversation with structural engineer in terms of what system will be used, so no specific can be provided as of now. The ground floor specifies the intent to provide levels one to four for hotel use. Ground floor will be also dedicated for hotel lobby, lounge space, perhaps some commercial/retail uses on the corner. Several suits will face Blackburn. At the back – bicycle parking, garbage, etc. Second, third and fourth floors are hotel suits. 80 suits for the hotel are anticipated. Fourth floor provides first stepback with terrace all along Blackburn Avenue, to the south and back of the lot. This is the area where the adjustment is anticipated to improve the massing of the building.

Upper floors have residential units. Sixth floor plan represent an example plan with balconies. There is a potential relief for balcony stepback from the property line.

Top floor shows a rooftop terrace area with allowed terrace area and setbacks that were identified in previous zoning amendment, so that terrace does not approach the edge of the building. The applicant is also looking into idea of having potentially some enclosed amenity space on the roof level that raises an item for discussion if it will be considered a nine-storey building vs. a ten-storey building. At the minimum, the applicant would like it to be permitted to have a washroom to make terrace as usable as possible.

The diagram in the package identifies areas where the applicant is requesting adjustments to zoning schedule.

Potential for height adjustment: the diagram in the package identifies all of the above sea levels proposed. What applicant is proposing is to raise the building from the third floor up to avoid the third-floor intersecting with existing church windows at the rear of the apse. It allows far better connection from the street – from Laurier Avenue East and Blackburn Avenue, visible from the exterior, and from the interior as it is intended to be all open lobby and common areas open to below. This provides good visibility of the apse from the exterior and interior of the building.

General massing from the street view was presented by the applicant.

The applicant wanted to highlight that the reason for asking for more height is only with respect to heritage considerations, to make the building function and display the apse much better. The hotel use relief is an adjustment for the current market.

Preliminary comments and questions from staff:

- Heritage
  - Treatment of the apse.  
The initial package sent by the applicant included a proposal to remove the roof of the apse.  
The applicant clarified that this is not an intention anymore. The entire apse wall will remain and will be exposed both to the interior lobby and from the exterior. The applicant is still working with structural engineers to comply with Building Code and build in a way that the fire wall does not rely on the existing apse roof (potential additional structure around). The roof won't necessarily be visible from hotel site as a result of this intervention, but the intention is to keep the stone wall visible.
  - Lobby facing Blackburn Avenue  
Previous proposal had the visibility from Laurier, and the applicant confirmed that this visibility will be maintained with the revised proposal.
  - Process  
Heritage application will have to go to Planning and Housing Committee and City Council.  
Heritage Impact Assessment is required, both for the impacts and changes to the church building and impact on the Russel Range HCD. Plus, the strip of land along Blackburn Avenue (portion of 321 Chapel): the plan has a note about lot consolidations and severances need to be accompanied by Heritage Impact Assessment. The Heritage Impact Assessment should speak to this too. It all can be combined in one document.
- Urban Design
  - UDRP  
The subject site is within Design Priority Corridor, and attendance to UDRP is required.
  - Question why the hotel use was restricted in the first place  
From the City perspective, the building was intended to provide community hub functions on the ground and up to fourth floor.



- Rooftop Amenity follow-up question  
It was advised to keep it as small as possible. Also, information provided that in zoning provisions it will be limited to the area, to the use, and to the square footage of the interior space.
- Engineering
  - Fire wall  
The request for fire wall requirements will be provided.  
The barrier between the new building and the church will become a fire wall.
  - Stormwater Management  
Control of the rooftop portion of the building is only required for stormwater management control. The rest of the site can be kept uncontrolled.
- Forestry
  - Tree Conservation Report  
TCR will be required. It was confirmed by the applicant that Landscape Architect will be from Stantec and Andrew Boyd will be an Arborist.  
The list of TCR requirements will be sent in follow-up email.  
It was advised to identify all trees ownership in TCR as there are a lot of City trees surrounding the site.
- Transportation
  - Scoping report  
It was asked from the applicant to clarify the side access from Chapel Street and indicate how it is intended to function
  - Further steps  
It was advised to proceed with the Step 3 – Forecasting report
  - General comments  
Will be provided with follow-up comments for this pre-consult.

## Appendix C Water

### C.1 Domestic Water Demand



### 330 Laurier Avenue E (All Saints) - Domestic Water Demand Estimates

Site Plan provided by Linebox Studio (2023-11-14)  
 Project Number: 160401789



Population densities as per Table 4.1 of the City of Ottawa Water Design Guidelines:		
1 Bedroom	1.4	ppu
2 Bedroom	2.1	ppu
3 Bedroom	3.1	ppu

Demand conversion factors as per Table 4.2 of the City of Ottawa Ottawa Water Design Guidelines:		
Residential	280	L/cap/day

Apartment Unit Type	Studio	Population	Avg. Day Demand		Max. Day Demand <sup>1</sup>		Peak Hour Demand <sup>1</sup>	
			(L/min)	(L/s)	(L/min)	(L/s)	(L/min)	(L/s)
1 Bedroom	10	14	2.7	0.0	6.8	0.1	15.0	0.2
1 Bedroom + Den <sup>2</sup>	56	118	22.9	0.4	57.4	1.0	126.2	2.1
1 Bedroom + 2 Dens <sup>2</sup>	2	4	0.8	0.0	1.9	0.0	4.3	0.1
2 Bedroom	9	19	3.7	0.1	9.2	0.2	20.3	0.3
2 Bedroom + Den <sup>2</sup>	30	93	18.1	0.3	45.2	0.8	99.5	1.7
3 Bedroom	1	3	0.6	0.0	1.5	0.0	3.2	0.1
3 Bedroom + Den <sup>2</sup>	4	12	2.3	0.0	5.8	0.1	12.8	0.2
<b>Total</b>	112	263	51.1	0.9	127.8	2.1	281.3	4.7

**Notes:**

1 Water demand criteria used to estimate peak demand rates for residential areas are as follows:

maximum day demand rate = 2.5 × average day demand rate

peak hour demand rate = 2.2 × maximum day demand rate (as per Technical Bulletin ISD-2010-02)

2 Assumption that "1 Bedroom + Den", "1-Bedroom + 2 Dens" has density of 2.1 ppu, "2-Bedroom + den", and "3-Bedroom + Den" has density of 3.1 ppu

## C.2 Fire Flow Demand (2020 FUS)





FUS Fire Flow Calculation Sheet - 2020 FUS Guidelines

Stantec Project #: 160401789  
 Project Name: 330 Laurier Avenue East (All Saints)  
 Date: 2023-07-28

Fire Flow Calculation #: 1  
 Description: 9-storey medium-rise residential apartment

Notes: Floor area of 1100.7 m<sup>2</sup> taken from CAD site plan provided by Linebox Studio on July 28, 2023

Step	Task	Notes	Value Used	Req'd Fire Flow (L/min)						
1	Determine Type of Construction	Type II - Noncombustible Construction / Type IV-A - Mass Timber Construction	0.8	-						
2	Determine Effective Floor Area	Sum of Largest Floor + 25% of Two Additional Floors	Vertical Openings Protected?	YES						
		1100.7    1100.7    1100.7    1100.7    1100.7    1100.7    1100.7    1100.7    1100.7    1100.7	1651.05	-						
3	Determine Required Fire Flow	(F = 220 x C x A <sup>1/2</sup> ). Round to nearest 1000 L/min	-	7000						
4	Determine Occupancy Charge	Non-Combustible	-25%	5250						
5	Determine Sprinkler Reduction	Conforms to NFPA 13	-30%	-2625						
		Standard Water Supply	-10%							
		Fully Supervised	-10%							
		% Coverage of Sprinkler System	100%							
6	Determine Increase for Exposures (Max. 75%)	Direction	Exposure Distance (m)	Exposed Length (m)	Exposed Height (Stories)	Length-Height Factor (m x stories)	Construction of Adjacent Wall	Firewall / Sprinklered ?	-	-
		North	> 30	0	0	0-20	Type V	NO	0%	2730
		East	20.1 to 30	50.5	2	> 100	Type V	NO	10%	
		South	3.1 to 10	25.7	2	41-60	Type V	NO	17%	
		West	0 to 3	50.5	2	> 100	Type V	NO	25%	
7	Determine Final Required Fire Flow	Total Required Fire Flow in L/min, Rounded to Nearest 1000L/min								5000
		Total Required Fire Flow in L/s								83.3
		Required Duration of Fire Flow (hrs)								1.75
		Required Volume of Fire Flow (m <sup>3</sup> )								525



### C.3 Boundary Conditions (City of Ottawa)



## Wu, Michael

---

**From:** Jhamb, Nishant <nishant.jhamb@ottawa.ca>  
**Sent:** July 27, 2023 14:23  
**To:** Wu, Michael  
**Cc:** Moroz, Peter; Thiffault, Dustin  
**Subject:** RE: 330 Laurier Avenue East Sanitary Sewer Capacity Confirmation  
**Attachments:** 330 Laurier Avenue June 2023.pdf

Hello Michael,

The following are boundary conditions, HGL, for hydraulic analysis at 330 Laurier Avenue, (zone 1W) assumed to be connected to the 203 mm watermain on Blackburn Avenue OR the 203 mm watermain on Laurier Avenue (see attached PDF for location).

Both Connections:

Min HGL: 106.0 m

Max HGL: 115.4 m

Max Day + FF (83.3 L/s): 107.3 m (Blackburn Connection)

Max Day + FF (83.3 L/s): 108.2 m (Laurier Connection)

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.*

Thanks  
Nishant

---

**From:** Wu, Michael <Michael.Wu@stantec.com>  
**Sent:** July 27, 2023 1:15 PM  
**To:** Jhamb, Nishant <nishant.jhamb@ottawa.ca>  
**Cc:** Moroz, Peter <peter.moroz@stantec.com>; Thiffault, Dustin <dustin.thiffault@stantec.com>  
**Subject:** RE: 330 Laurier Avenue East Sanitary Sewer Capacity Confirmation

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Perfect, thanks for the quick response, Nishant!

On a side note, regarding the boundary conditions we received, the subject of the request was intended to be the watermain on Blackburn Avenue, where I expect the proposed building be serviced from, while the BC for the watermain on Laurier Avenue East was intended as a supplementary measure.

As such, I was wondering if there is a timeline on when we can expect the boundary conditions for Blackburn Avenue?

Thanks,

**Michael Wu** EIT

Civil Engineering Intern, Community Development

Direct: 1 (613) 738-6033

Michael.Wu@stantec.com

Stantec

300-1331 Clyde Avenue

Ottawa ON K2C 3G4



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---

**From:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>

**Sent:** Thursday, July 27, 2023 1:09 PM

**To:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>

**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>

**Subject:** RE: 330 Laurier Avenue East Sanitary Sewer Capacity Confirmation

Hi Michael, there is no concerns with proposed sanitary sewer discharge rate on both the streets.

Thanks

Nishant

---

**From:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>

**Sent:** July 27, 2023 11:31 AM

**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>

**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[dustin.thiffault@stantec.com](mailto:dustin.thiffault@stantec.com)>

**Subject:** 330 Laurier Avenue East Sanitary Sewer Capacity Confirmation

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As a quick follow-up, Nishant, we would also like to confirm if the 300 mm diameter sanitary sewers on Blackburn Avenue and the 375 mm diameter sanitary sewers on Laurier Avenue East downstream from the site has the capacity to receive an additional 3.2 L/s of peak flow from the site.

Attached is the sanitary calculation sheet for your information.

Thanks,

**Michael Wu** EIT

Civil Engineering Intern, Community Development

Direct: 1 (613) 738-6033  
Michael.Wu@stantec.com

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300-1331 Clyde Avenue  
Ottawa ON K2C 3G4



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---

**From:** Wu, Michael

**Sent:** Tuesday, July 25, 2023 4:13 PM

**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>

**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>

**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

Hi Nishant, thanks for the response. Any chance you could also provide the boundary conditions for the watermain in Blackburn Avenue?

**Michael Wu** EIT

Civil Engineering Intern, Community Development

Direct: 1 (613) 738-6033  
Michael.Wu@stantec.com

Stantec  
300-1331 Clyde Avenue  
Ottawa ON K2C 3G4



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**From:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>

**Sent:** Thursday, July 20, 2023 9:56 AM

**To:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>

**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>

**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

Hello

The following are boundary conditions, HGL, for hydraulic analysis at 330 Laurier Avenue, (zone 1W) assumed to be connected to the 203 mm watermain on Laurier Avenue (see attached PDF for location).

Min HGL: 106.0 m

Max HGL: 115.4 m

Max Day + FF (83.3 L/s): 108.2 m

These are for current conditions and are based on computer model simulation.

*Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.*

Thanks

Nishant Jhamb, P.Eng  
Project Manager | Gestionnaire de projet  
Planning, Real Estate and Economic Development Department  
Development Review - Central Branch  
City of Ottawa | Ville d'Ottawa  
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1  
613.580.2424 ext./poste 23112, [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)

---

**From:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>  
**Sent:** July 20, 2023 8:51 AM  
**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>  
**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[dustin.thiffault@stantec.com](mailto:dustin.thiffault@stantec.com)>  
**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

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Morning Nishant, just wanted to follow-up if the Water Resource group has provided the boundary conditions.

Thanks,

**Michael Wu** EIT  
Civil Engineering Intern, Community Development  
Direct: 1 (613) 738-6033  
[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)  
Stantec  
300-1331 Clyde Avenue  
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---

**From:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>  
**Sent:** Monday, June 12, 2023 10:07 AM  
**To:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>  
**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>  
**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

Hello Michael,

I have submitted the request to Water Resource group. Please follow up in 2 weeks if you don't hear back.

In the meanwhile, can you please confirm if the following requirement from FUS2020 will be met in the design of building. If not please revise the effective area calculation.

Please note an email confirmation will be required from the Architect at the time of Site plan submission.

FUS 2020 Requirement

**Subdividing Buildings (Vertical Firewalls)**

In determining Total Effective Area, a building may be subdivided if a vertical firewall with a fire-resistance rating of not less than 2 hours, and meeting the requirements of the National Building Code exists. If the firewall is properly constructed and all openings are properly protected in accordance with the NBC, then the boundary can be treated as protected with no exposure charge.

Notes:

Thanks

Nishant Jhamb, P.Eng

Project Manager | Gestionnaire de projet

Planning, Real Estate and Economic Development Department

Development Review - Central Branch

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 23112, [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)

---

**From:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>

**Sent:** June 07, 2023 2:18 PM

**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>

**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[dustin.thiffault@stantec.com](mailto:dustin.thiffault@stantec.com)>

**Subject:** 330 Laurier Avenue East Boundary Condition Request

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Good afternoon, Nishant:

We would like to request hydraulic boundary conditions for the proposed residential development on 330 Laurier Avenue East. The proposed nine-storey residential building comprises of a total of 105 apartment units (8 studio, 1 one-bedroom, 42 one-bedroom with den, 23 two-bedroom, 30 two-bedroom with den, and 1 three-bedroom). The site is projected to serve 245 residents.

The proposed site is expected to be serviced via connections to the existing 203 mm diameter watermain on Blackburn Avenue, though we would also like to request boundary conditions from the 203 mm diameter watermain on Laurier Avenue East. Estimated domestic demands based on the City of Ottawa guidelines and fire flow requirements for the site are as follows:

- Domestic demands:
  - Average Day Demand: 0.8 L/s (47.7 L/min)
  - Maximum Day Demand: 2.0 L/s (119.2 L/min)
  - Peak Hour Demand: 4.4 L/s (262.2 L/min)
- Fire Flow Demand per FUS (2020) methodology: 83.3 L/s (5000 L/min)

Attached are the boundary condition map, building unit breakdown, and water demand and fire flow calculations for your information.

We appreciate your time looking into this for us, and please do not hesitate to contact me if you have any questions or comments.

Thanks,

**Michael Wu, BT**

Civil Engineering Intern, Community Development

Work: (613) 738-6033

Mobile: (613) 858-0548

[michael.wu@stantec.com](mailto:michael.wu@stantec.com)

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300 - 1331 Clyde Avenue

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## Appendix D Sanitary

### D.1 Sanitary Sewer Flow





SUBDIVISION:  
**330 Laurier Avenue E.**

DATE: 11/14/2023  
 REVISION: 1  
 DESIGNED BY: MW  
 CHECKED BY:

**SANITARY SEWER  
 DESIGN SHEET  
 (City of Ottawa)**

FILE NUMBER: 160401789

DESIGN PARAMETERS			
MAX PEAK FACTOR (RES.)=	4.0	AVG. DAILY FLOW / PERSON	280 l/p/day
MIN PEAK FACTOR (RES.)=	2.0	COMMERCIAL	28,000 l/ha/day
PEAKING FACTOR (INDUSTRIAL):	2.4	INDUSTRIAL (HEAVY)	55,000 l/ha/day
PEAKING FACTOR (ICI >20%):	1.5	INDUSTRIAL (LIGHT)	35,000 l/ha/day
PERSONS / 1 BEDROOM	1.4	INSTITUTIONAL	28,000 l/ha/day
PERSONS / 2 BEDROOM	2.1	INFILTRATION	0.33 l/s/ha
PERSONS / 3 BEDROOM	3.1		
MINIMUM VELOCITY	0.60 m/s		
MAXIMUM VELOCITY	3.00 m/s		
MANNINGS n	0.013		
BEDDING CLASS	B		
MINIMUM COVER	2.50 m		
HARMON CORRECTION FACTOR	0.8		

LOCATION			RESIDENTIAL AREA AND POPULATION								COMMERCIAL		INDUSTRIAL (L)		INDUSTRIAL (H)		INSTITUTIONAL		GREEN / UNUSED		C+H	INFILTRATION			TOTAL	PIPE												
AREA ID NUMBER	FROM M.H.	TO M.H.	AREA (ha)	1 BED	UNITS 2 BED	3 BED	POP.	CUMULATIVE AREA (ha)	POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	AREA (ha)	ACCU. AREA (ha)	PEAK FLOW (l/s)	TOTAL AREA (ha)	ACCU. AREA (ha)	INFILT. FLOW (l/s)	FLOW (l/s)	LENGTH (m)	DIA (mm)	MATERIAL	CLASS	SLOPE (%)	CAP. (FULL) (l/s)	CAP. V PEAK FLOW (%)	VEL. (FULL) (m/s)	VEL. (ACT.) (m/s)					
BLDG	BLDG	EXISTING	0.141	25	58	28	263	0.141	263	4.000	3.4	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024	0.029	0.000	0.165	0.165	0.1	3.5	45.3	200	PVC	SDR 35	0.50	23.6	14.65%	0.74	0.44

Notes  
 1. Unit counts taken from draft Site Plan dated April 2023 with Revision November 2023  
 2. One bedroom with den and One bedroom with two dens assumed to have ppu of 2.1; Two bedrooms with den assumed to have ppu of 3.1

## D.2 Sanitary Sewer Capacity



## Wu, Michael

---

**From:** Jhamb, Nishant <nishant.jhamb@ottawa.ca>  
**Sent:** July 27, 2023 13:09  
**To:** Wu, Michael  
**Cc:** Moroz, Peter; Thiffault, Dustin  
**Subject:** RE: 330 Laurier Avenue East Sanitary Sewer Capacity Confirmation

Hi Michael, there is no concerns with proposed sanitary sewer discharge rate on both the streets.

Thanks  
Nishant

---

**From:** Wu, Michael <Michael.Wu@stantec.com>  
**Sent:** July 27, 2023 11:31 AM  
**To:** Jhamb, Nishant <nishant.jhamb@ottawa.ca>  
**Cc:** Moroz, Peter <peter.moroz@stantec.com>; Thiffault, Dustin <dustin.thiffault@stantec.com>  
**Subject:** 330 Laurier Avenue East Sanitary Sewer Capacity Confirmation

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As a quick follow-up, Nishant, we would also like to confirm if the 300 mm diameter sanitary sewers on Blackburn Avenue and the 375 mm diameter sanitary sewers on Laurier Avenue East downstream from the site has the capacity to receive an additional 3.2 L/s of peak flow from the site.

Attached is the sanitary calculation sheet for your information.

Thanks,

**Michael Wu** EIT  
Civil Engineering Intern, Community Development

Direct: 1 (613) 738-6033  
Michael.Wu@stantec.com

Stantec  
300-1331 Clyde Avenue  
Ottawa ON K2C 3G4



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**From:** Wu, Michael  
**Sent:** Tuesday, July 25, 2023 4:13 PM  
**To:** Jhamb, Nishant <nishant.jhamb@ottawa.ca>  
**Cc:** Moroz, Peter <peter.moroz@stantec.com>; Thiffault, Dustin <Dustin.Thiffault@stantec.com>  
**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

Hi Nishant, thanks for the response. Any chance you could also provide the boundary conditions for the watermain in Blackburn Avenue?

**Michael Wu** EIT

Civil Engineering Intern, Community Development

Direct: 1 (613) 738-6033

Michael.Wu@stantec.com

Stantec

300-1331 Clyde Avenue

Ottawa ON K2C 3G4



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**From:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>

**Sent:** Thursday, July 20, 2023 9:56 AM

**To:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>

**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>

**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

Hello

The following are boundary conditions, HGL, for hydraulic analysis at 330 Laurier Avenue, (zone 1W) assumed to be connected to the 203 mm watermain on Laurier Avenue (see attached PDF for location).

Min HGL: 106.0 m

Max HGL: 115.4 m

Max Day + FF (83.3 L/s): 108.2 m

These are for current conditions and are based on computer model simulation.

*Disclaimer: The boundary condition information is based on current operation of the city water distribution system. The computer model simulation is based on the best information available at the time. The operation of the water distribution system can change on a regular basis, resulting in a variation in boundary conditions. The physical properties of watermains deteriorate over time, as such must be assumed in the absence of actual field test data. The variation in physical watermain properties can therefore alter the results of the computer model simulation.*

Thanks

Nishant Jhamb, P.Eng

Project Manager | Gestionnaire de projet

Planning, Real Estate and Economic Development Department

Development Review - Central Branch

City of Ottawa | Ville d'Ottawa

110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1

613.580.2424 ext./poste 23112, [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)

---

**From:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>  
**Sent:** July 20, 2023 8:51 AM  
**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>  
**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[dustin.thiffault@stantec.com](mailto:dustin.thiffault@stantec.com)>  
**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

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Morning Nishant, just wanted to follow-up if the Water Resource group has provided the boundary conditions.

Thanks,

**Michael Wu** EIT  
Civil Engineering Intern, Community Development  
Direct: 1 (613) 738-6033  
[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)  
Stantec  
300-1331 Clyde Avenue  
Ottawa ON K2C 3G4



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**From:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>  
**Sent:** Monday, June 12, 2023 10:07 AM  
**To:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>  
**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[Dustin.Thiffault@stantec.com](mailto:Dustin.Thiffault@stantec.com)>  
**Subject:** RE: 330 Laurier Avenue East Boundary Condition Request

Hello Michael,

I have submitted the request to Water Resource group. Please follow up in 2 weeks if you don't hear back.

In the meanwhile, can you please confirm if the following requirement from FUS 2020 will be met in the design of building. If not please revise the effective area calculation.

Please note an email confirmation will be required from the Architect at the time of Site plan submission.

FUS 2020 Requirement

## Subdividing Buildings (Vertical Firewalls)

In determining Total Effective Area, a building may be subdivided if a vertical firewall with a fire-resistance rating of not less than 2 hours, and meeting the requirements of the National Building Code exists. If the firewall is properly constructed and all openings are properly protected in accordance with the NBC, then the boundary can be treated as protected with no exposure charge.

Notes:

Thanks

Nishant Jhamb, P.Eng  
Project Manager | Gestionnaire de projet  
Planning, Real Estate and Economic Development Department  
Development Review - Central Branch  
City of Ottawa | Ville d'Ottawa  
110 Laurier Avenue West Ottawa, ON | 110, avenue. Laurier Ouest. Ottawa (Ontario) K1P 1J1  
613.580.2424 ext./poste 23112, [nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)

---

**From:** Wu, Michael <[Michael.Wu@stantec.com](mailto:Michael.Wu@stantec.com)>  
**Sent:** June 07, 2023 2:18 PM  
**To:** Jhamb, Nishant <[nishant.jhamb@ottawa.ca](mailto:nishant.jhamb@ottawa.ca)>  
**Cc:** Moroz, Peter <[peter.moroz@stantec.com](mailto:peter.moroz@stantec.com)>; Thiffault, Dustin <[dustin.thiffault@stantec.com](mailto:dustin.thiffault@stantec.com)>  
**Subject:** 330 Laurier Avenue East Boundary Condition Request

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Good afternoon, Nishant:

We would like to request hydraulic boundary conditions for the proposed residential development on 330 Laurier Avenue East. The proposed nine-storey residential building comprises of a total of 105 apartment units (8 studio, 1 one-bedroom, 42 one-bedroom with den, 23 two-bedroom, 30 two-bedroom with den, and 1 three-bedroom). The site is projected to serve 245 residents.

The proposed site is expected to be serviced via connections to the existing 203 mm diameter watermain on Blackburn Avenue, though we would also like to request boundary conditions from the 203 mm diameter watermain on Laurier Avenue East. Estimated domestic demands based on the City of Ottawa guidelines and fire flow requirements for the site are as follows:

- Domestic demands:
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- Fire Flow Demand per FUS (2020) methodology: 83.3 L/s (5000 L/min)

Attached are the boundary condition map, building unit breakdown, and water demand and fire flow calculations for your information.

We appreciate your time looking into this for us, and please do not hesitate to contact me if you have any questions or comments.

Thanks,

**Michael Wu, EIT**

Civil Engineering Intern, Community Development

Work: (613) 738-6033

Mobile: (613) 858-0548

[michael.wu@stantec.com](mailto:michael.wu@stantec.com)

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## Appendix E Storm



## Stormwater Management Calculations

File No: **160401789**  
 Project: **All Saints**  
 Date: **14-Nov-23**

SWM Approach:  
 Ground Uncontrolled, Roof to 2-Year

**Pre-Development Site Conditions:** Assumed Severed Parcel for All Saints 9-Storey Building

**Overall Runoff Coefficient for Site and Sub-Catchment Areas**

Runoff Coefficient Table										
Catchment Type	Sub-catchment Area		Area (ha) "A"	Runoff Coefficient "C"		"A x C"	Overall Runoff Coefficient			
	ID / Description									
Uncontrolled to City Street	Bates Hall, Apse, Roof, Walk	Hard	0.075	0.9	0.068					
		Soft	0.095	0.2	0.019					
		Subtotal			0.170		0.087	0.51		
			Hard	0.000	0.9	0.000				
			Soft	0.000	0.2	0.000				
		Subtotal			0.000		0.000			
			Hard	0.000	0.9	0.000				
			Soft	0.000	0.2	0.000				
		Subtotal			0.000		0.000			
			Hard	0.000	0.9	0.000				
			Soft	0.000	0.2	0.000				
		Subtotal			0.000		0.000			
		Hard	0.000	0.9	0.000					
		Soft	0.000	0.2	0.000					
	Subtotal			0.000		0.000				
<b>Total</b>					<b>0.170</b>		<b>0.087</b>			
<b>Overall Runoff Coefficient= C:</b>									<b>0.51</b>	

Total Roof Areas	0.000 ha
Total Tributary Surface Areas (Controlled and Uncontrolled)	0.170 ha
Total Tributary Area to Outlet	0.170 ha
 Total Uncontrolled Areas (Non-Tributary)	 0.000 ha
 Total Site	 0.170 ha

## Stormwater Management Calculations

File No: **160401789**  
 Project: **All Saints**  
 Date: **14-Nov-23**

SWM Approach:  
 Ground Uncontrolled, Roof to 2-Year

**Post-Development Site Conditions:**

**Overall Runoff Coefficient for Site and Sub-Catchment Areas**

Runoff Coefficient Table										
Catchment Type	Sub-catchment Area	ID / Description		Area (ha) "A"	Runoff Coefficient "C"		"A x C"		Overall Runoff Coefficient	
Uncontrolled - Ground Level Open above only	UNC-1		Hard	0.009		0.9	0.008			
			Soft	0.008		0.2	0.002			
			Subtotal			0.017			0.010	0.57
Uncontrolled - Ground Level Open above only	UNC-2		Hard	0.010		0.9	0.009			
			Soft	0.002		0.2	0.000			
			Subtotal			0.012			0.009	0.78
Controlled - Roof	Terrace and Roof		Hard	0.070		0.9	0.063			
			Hard	0.033		0.9	0.030			
			Soft	0.038		0.2	0.008			
	Subtotal			0.141			0.100	0.71		
				Hard	0.000		0.9	0.000		
				Soft	0.000		0.2	0.000		
	Subtotal			0.000				0.000		
				Hard	0.000		0.9	0.000		
				Soft	0.000		0.2	0.000		
	Subtotal			0.000				0.000		
			Hard	0.000		0.9	0.000			
			Soft	0.000		0.2	0.000			
Subtotal			0.000				0.000			
<b>Total Site</b>					<b>0.170</b>		<b>0.119</b>		<b>0.70</b>	
<b>Overall Runoff Coefficient= C:</b>										

Total Roof Areas	0.000 ha
Total Tributary Surface Areas (Controlled and Uncontrolled)	0.170 ha
Total Tributary Area to Outlet	0.170 ha
 Total Uncontrolled Areas (Non-Tributary)	 0.000 ha
 Total Site	 0.170 ha

# Stormwater Management Calculations

Project #160401789, All Saints

## Modified Rational Method Calculations for Storage

2 yr Intensity City of Ottawa	$I = a/(t + b)^c$	a =	732.951	<b>t (min)</b>	<b>I (mm/hr)</b>
		b =	6.199	10	76.81
		c =	0.81	20	52.03
				30	40.04
				40	32.86
				50	28.04
				60	24.56
				70	21.91
				80	19.83
				90	18.14
			100	16.75	
			110	15.57	
			120	14.56	

2 YEAR Predevelopment Target Release from Portion of Site		
Subdrainage Area: Predevelopment Tributary Area to Outlet		
Area (ha):	0.141	
C:	0.50	
Typical Time of Concentration		
tc (min)	I (2 yr) (mm/hr)	Qtarget (L/s)
10	76.81	15.1

2 YEAR Modified Rational Method from Portion of Site					
Subdrainage Area:			Controlled - Roof		
Area (ha):	0.141				
C:	0.71				
tc (min)	I (5 yr) (mm/hr)	Qactual (L/s)	Qrelease (L/s)	Qstored (L/s)	Vstored (m <sup>3</sup> )
10	76.81	21.4	15.1	6.4	3.8
20	52.03	14.5	14.5	0.0	0.0
30	40.04	11.2	11.2	0.0	0.0
40	32.86	9.2	9.2	0.0	0.0
50	28.04	7.8	7.8	0.0	0.0
60	24.56	6.8	6.8	0.0	0.0
70	21.91	6.1	6.1	0.0	0.0
80	19.83	5.5	5.5	0.0	0.0
90	18.14	5.1	5.1	0.0	0.0
100	16.75	4.7	4.7	0.0	0.0
110	15.57	4.3	4.3	0.0	0.0
120	14.56	4.1	4.1	0.0	0.0

SUMMARY TO OUTLET	
Tributary Area	0.141 ha
Total 2yr Flow	21.4 L/s
Target	15.1 L/s
Storage Volume	3.8 m <sup>3</sup>

# Stormwater Management Calculations

Project #160401789, All Saints

## Modified Rational Method Calculations for Storage

100 yr Intensity City of Ottawa	$I = a/(t + b)^c$	a =	1735.688	<b>t (min)</b>	<b>I (mm/hr)</b>
		b =	6.014	10	178.56
		c =	0.820	20	119.95
				30	91.87
				40	75.15
				50	63.95
				60	55.89
				70	49.79
				80	44.99
				90	41.11
			100	37.90	
			110	35.20	
			120	32.89	

<b>100 YEAR Predevelopment Target Release from Portion of Site</b>					
Subdrainage Area: Predevelopment Tributary Area to Outlet					
Area (ha):	0.141				
C:	0.63	1.25 Multiplier Applied to Pre-development Condition			
Estimated Time of Concentration after Development					
<b>tc</b> (min)	<b>I (100 yr)</b> (mm/hr)	<b>Q100yr</b> (L/s)			
10	178.56	43.7			

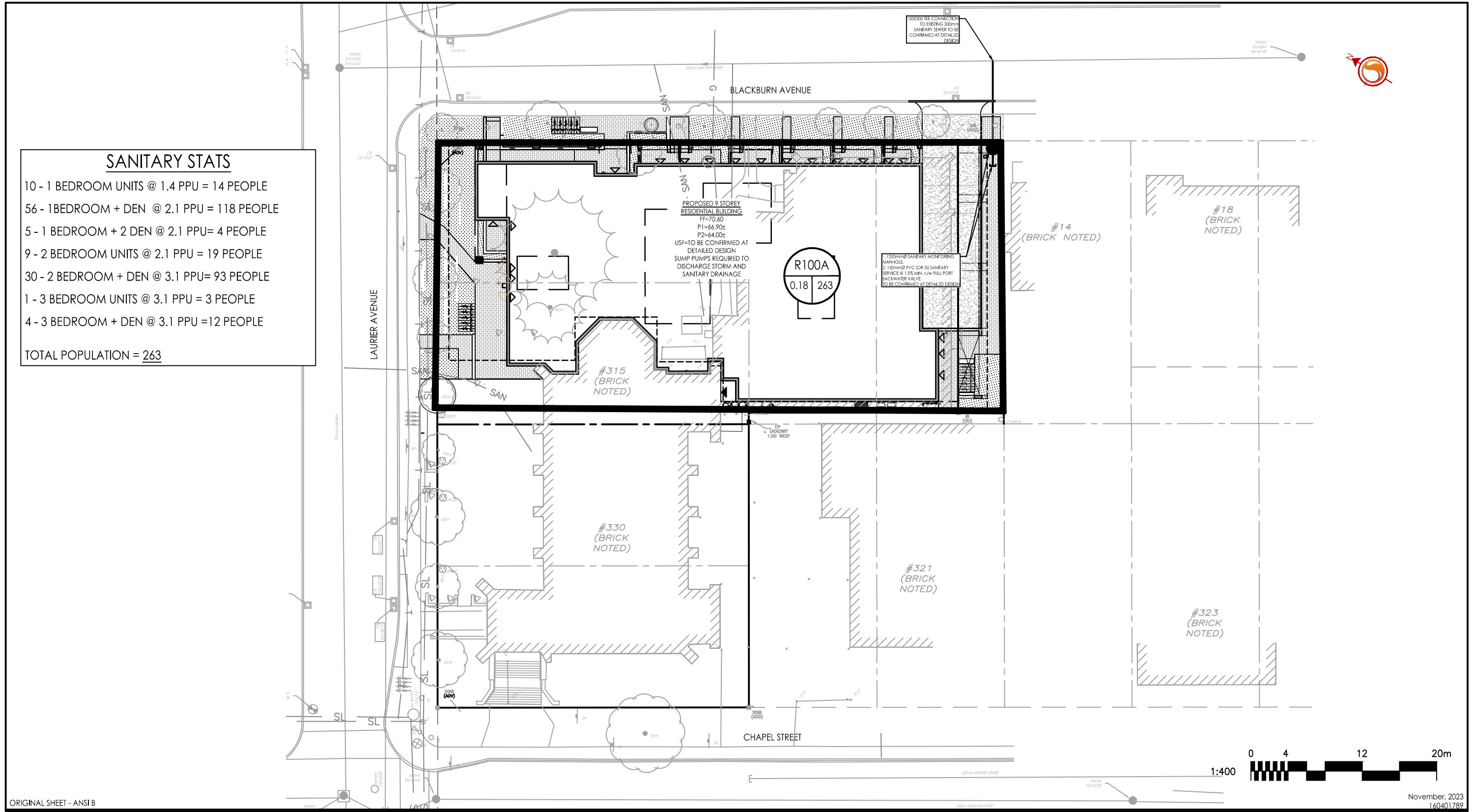
  

<b>100 YEAR Modified Rational Method from Portion of Site</b>					
Subdrainage Area: Terrace and Roof			Controlled - Roof		
Area (ha):	0.141				
C:	0.89	1.25 Multiplier Applied to Post-development Condition			
<b>tc</b> (min)	<b>I (100 yr)</b> (mm/hr)	<b>Qactual</b> (L/s)	<b>Qrelease</b> (L/s)	<b>Qstored</b> (L/s)	<b>Vstored</b> (m <sup>3</sup> )
10	178.56	62.2	15.1	47.2	28.3
20	119.95	41.8	15.1	26.8	<b>32.1</b>
30	91.87	32.0	15.1	17.0	30.5
40	75.15	26.2	15.1	11.1	26.7
50	63.95	22.3	15.1	7.2	21.7
60	55.89	19.5	15.1	4.4	15.9
70	49.79	17.4	15.1	2.3	9.7
80	44.99	15.7	15.1	0.6	3.0
90	41.11	14.3	14.3	0.0	0.0
100	37.90	13.2	13.2	0.0	0.0
110	35.20	12.3	12.3	0.0	0.0
120	32.89	11.5	11.5	0.0	0.0

<b>SUMMARY TO OUTLET</b>	
Tributary Area	0.141 ha
Total 100yr Flow	62.2 L/s
Target	15.1 L/s
Storage Volume	32.1 m <sup>3</sup>

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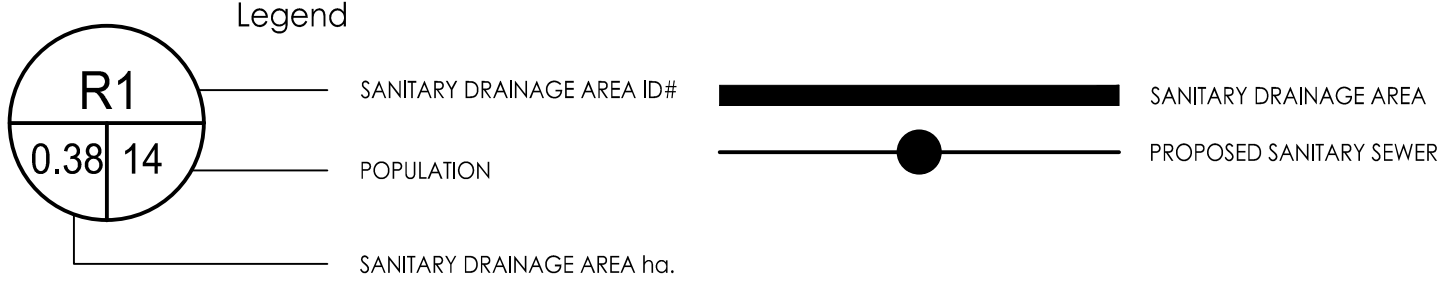


SANITARY STATS	
10 - 1 BEDROOM UNITS @ 1.4 PPU =	14 PEOPLE
56 - 1BEDROOM + DEN @ 2.1 PPU =	118 PEOPLE
5 - 1 BEDROOM + 2 DEN @ 2.1 PPU=	4 PEOPLE
9 - 2 BEDROOM UNITS @ 2.1 PPU =	19 PEOPLE
30 - 2 BEDROOM + DEN @ 3.1 PPU=	93 PEOPLE
1 - 3 BEDROOM UNITS @ 3.1 PPU =	3 PEOPLE
4 - 3 BEDROOM + DEN @ 3.1 PPU =	12 PEOPLE
<b>TOTAL POPULATION = 263</b>	

ORIGINAL SHEET - ANSI B

November, 2023  
160401789

**Stantec**  
Stantec Consulting Ltd.  
300 - 1331 Clyde Avenue  
Ottawa ON  
Tel. 613.722.4420  
www.stantec.com



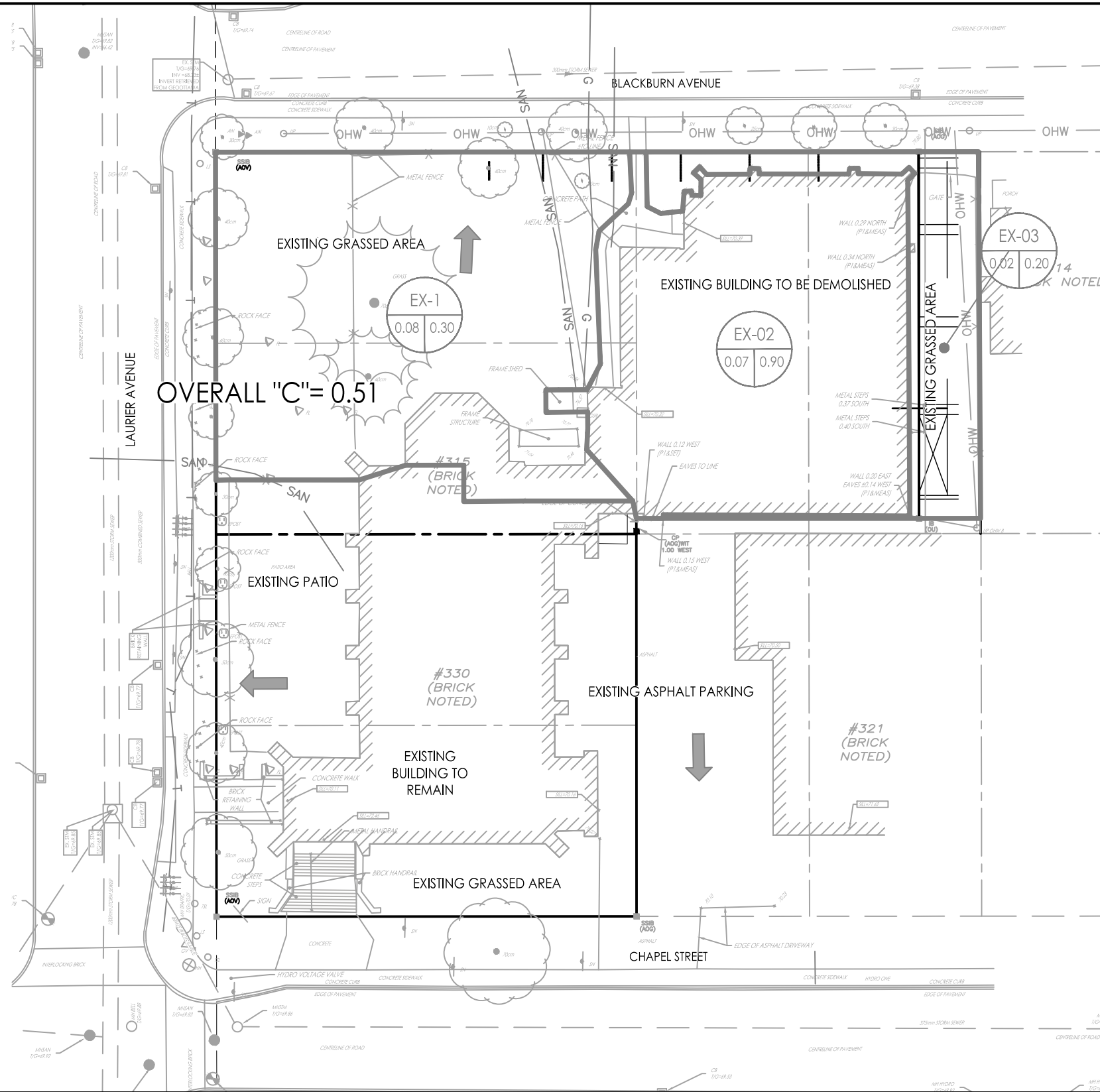
Client/Project  
WINDMILL DEVELOPMENT GROUP LTD.  
WINDMILL - ALL SAINTS  
High-Rise Development - Zoning By-law and Official Plan Amendment

Figure No.  
2.0

Title  
**FUNCTIONAL  
SANITARY DRAINAGE PLAN**

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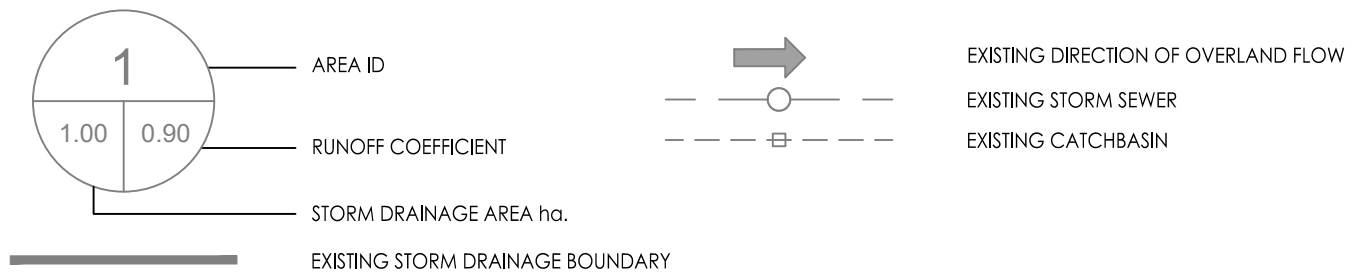
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**Legend**

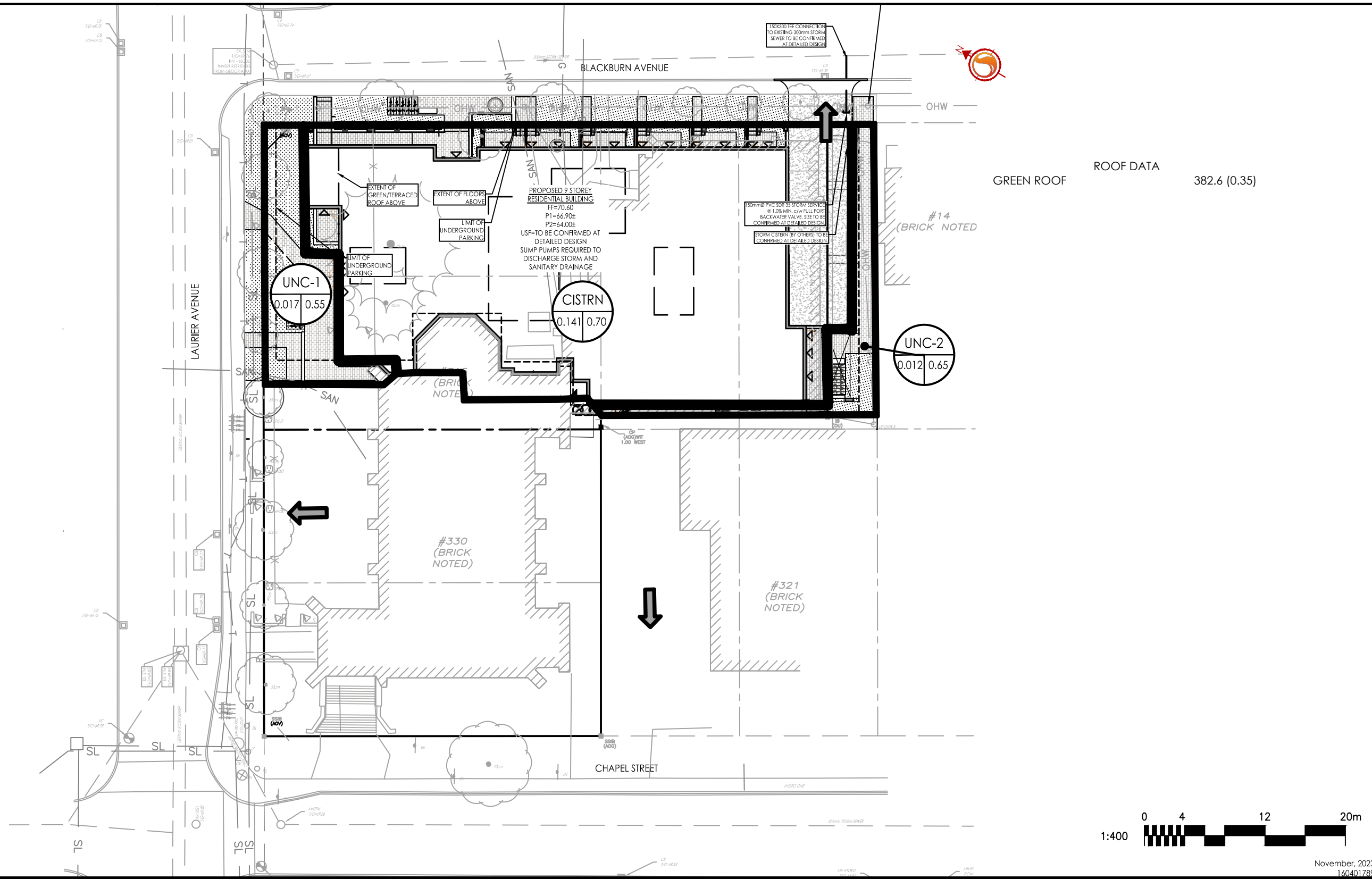


Client/Project  
 WINDMILL DEVELOPMENT GROUP LTD.  
 WINDMILL - ALL SAINTS  
 High-Rise Development - Zoning By-law and Official Plan Amendment  
 Figure No.  
3.0  
 Title  
**EXISTING  
 STORM DRAINAGE PLAN**



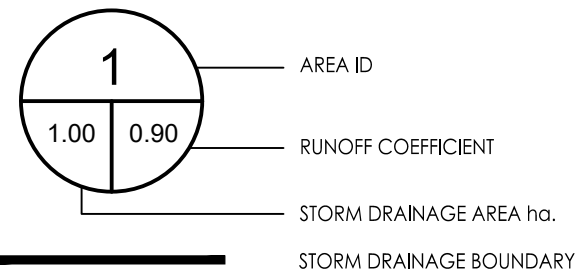
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ORIGINAL SHEET - ANSI B



November, 2023  
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TOPOGRAPHIC PLAN OF SURVEY OF  
**LOTS 9, 10, 11, 12 (SOUTH LAURIER  
AVENUE)**  
**PART OF LOTS 3 & 4 (WEST BLACKBURN  
AVENUE)**  
**REGISTERED PLAN NO. 37220**  
(GEOGRAPHIC TOWNSHIP OF NEPEAN)  
CITY OF OTTAWA

Scale 1:200  
0 5 10 METRES

Stantec Geomatics Ltd.  
ONTARIO LAND SURVEYORS

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

**BEARING NOTE**  
BEARINGS ARE GRID, DERIVED FROM CAN-NET VRS NETWORK. GPS OBSERVATIONS ON NCC  
HORIZONTAL CONTROL MONUMENTS 1973035 AND 19680191, CENTRAL MERIDIAN, 76° 30'  
WEST LONGITUDE NAD83 MONUMENT 9, NAD83 (ORIGINAL).

**ELEVATION NOTE**  
ELEVATIONS SHOWN HEREON ARE GEODETIC [CGVD-1928-1978] AND ARE DERIVED  
FROM THE CAN-NET VRS NETWORK MONUMENT: OTTAWA ELEVATION=95.230.

**ROTATION NOTE**  
A ROTATION OF 0°02'05" COUNTER-CLOCKWISE WAS APPLIED TO P1

**LEGEND**

SYMBOL	DENOTES	FOUND MONUMENTS
□	SET MONUMENTS	
IB	IRON BAR	
IBB	ROUND IRON BAR	
SIB	STANDARD IRON BAR	
SSIB	SHORT STANDARD IRON BAR	
CC	CUT CROSS	
CP	CONCRETE PIN	
WIT	WITNESS	
PIN	PROPERTY IDENTIFICATION NUMBER	
M/MEAS	MEASURED	
PROP	PROPORTIONED	
OU	ORIGIN UNKNOWN	
SC	STANTEC GEOMATICS LTD.	
P1	PLAN BY A.O.V. DATED JUNE 6, 1989	
P2	PLAN BY H. A. K. SHIPMAN DATED OCTOBER 28, 1985	
P3	CC-60	
P4	PLAN BY A.O.V. DATED JUNE 15, 2001	
P47	H. R. FARLEY O.L.S.	
F&M	FARLEY & MARTIN SURVEYING LTD.	
AOV	ANNIS, O'SULLIVAN, VOLLEBECK LTD.	
AN	ANCHOR	
BKR	BIKE RACK	
CB	CATCH BASIN	
EPOST	ELECTRICAL OUTLET	
FL	FLOOD LIGHT	
GSR	GAS SERVICE REGULATOR	
GV	GAS VALVE	
HYD	FIRE HYDRANT	
LS	LIGHT STANDARD	
MABELL	MAINTENANCE HOLE BELL	
MASHAV	MAINTENANCE HOLE SANITARY	
MSTM	MAINTENANCE HOLE STORM	
SN	SIGN	
UP	UTILITY POLE	
VC	VALVE CHAMBER	
TC	TREE CONIFEROUS (D.B.H. SHOWN)	
TD	TREE DECIDUOUS (D.B.H. SHOWN)	

**SURVEYOR'S CERTIFICATE**  
I CERTIFY THAT:  
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS  
ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.  
2. THE SURVEY WAS COMPLETED ON THE 16th DAY OF AUGUST, 2023.

