# Site Servicing and Stormwater Management Report 1568 Meadowbrook Road, Ottawa, ON

**Client:**
Nemorin Group Limited
Suite 100, 135 Laurier Avenue W
Ottawa, ON K1P 5J2

**Submitted for:**
Zoning By-law Amendment (ZBL)

**Project Name:**
1568 Meadowbrook Road

**Project Number:**
OTT-21020547-A0

**Prepared By:**
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**Date Submitted:**
December 20, 2021

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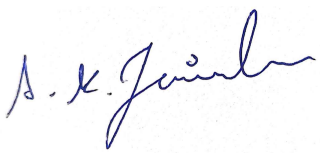

Aaditya Jariwala, M.Eng.
Engineering Designer

**Approved by:**

Alam Ansari, M.Sc., P.Eng.
Director of Operations, Eastern Ontario

**Date Submitted:**
December 20, 2021

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# 1 Introduction

## 1.1 Overview

EXP Services Inc. (EXP) was retained by Nemorin Group Limited to prepare a Site Servicing and Stormwater Management Report for the proposed development of 1568 Meadowbrook Road in support of Zoning By-Law Amendment (ZBL).

The site is situated on Meadowbrook Road, south of Highway 174 and west of Blair Road. The site is surrounded by Ridgebrook Drive on the east, Aurele Street on the north and Maxim Street on the west as illustrated in **Figure 1-1** below. The site is within the City of Ottawa urban boundary and situated in Beacon Hill-Cyrville Ward (Ward 11).

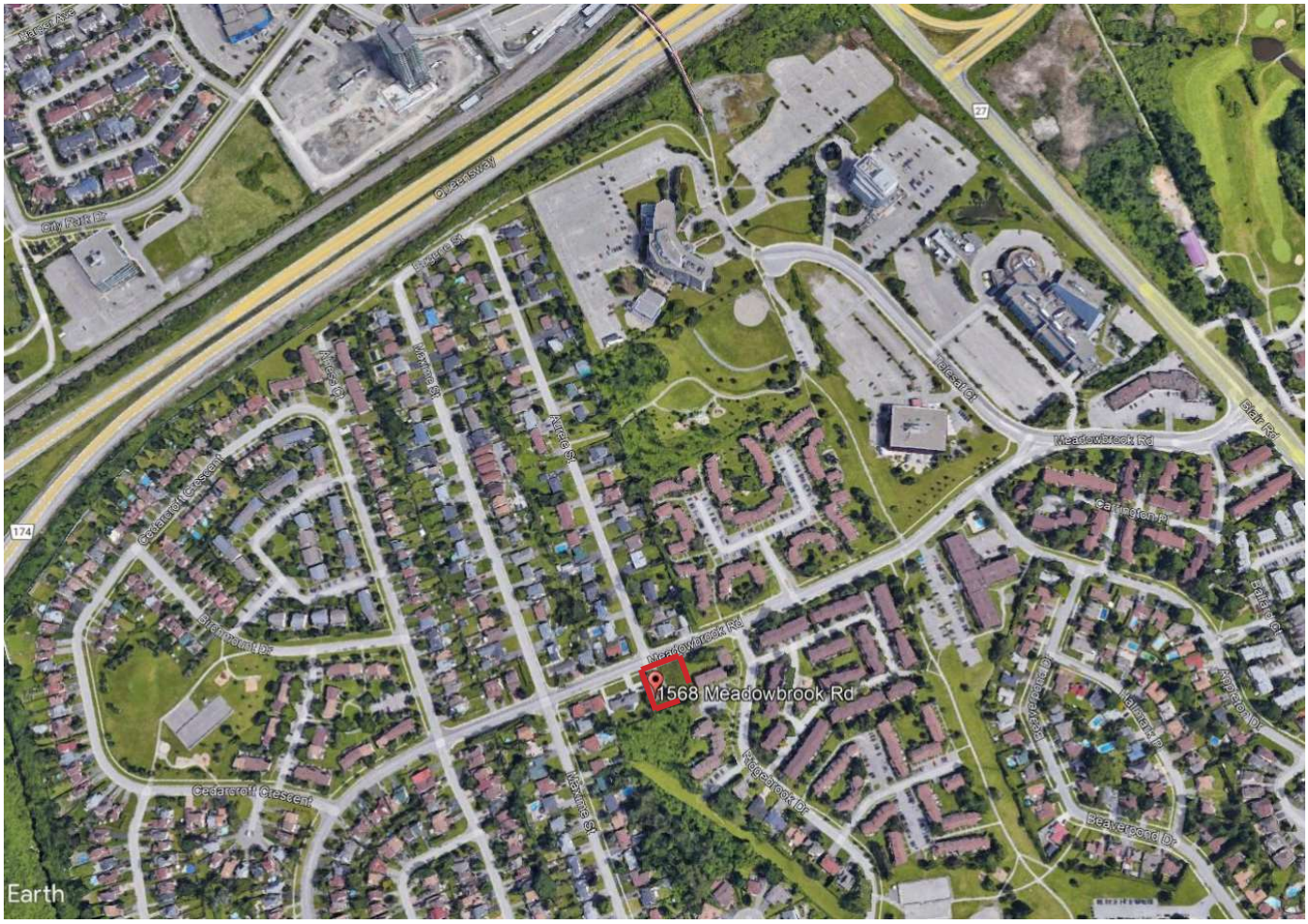



**Figure 1-1 - Site Location**

The proposed development will consist of four (4) residential blocks with two (2) semi detached dwelling units each. All eight (8) units will have ±88 $m^2$ footprint including one parking spot each. All units will be two storeys high.

This report will discuss the adequacy of the adjacent municipal watermain, sanitary sewers and storm sewers to provide the required water supply, convey the sewage and stormwater flows that will result from the proposed development.

# 2 Existing Conditions

## 2.1 Site Topography

The site is currently occupied by a single-family residential unit. The site is bounded to the west by a single family residential unit, to the south by Maxime Park, to the east by two storeys residential condominiums, and to the north by Meadowbrook Road. The topography of the site generally slopes towards the Meadowbrook Road with minimal slope with grades sloping away from the residential unit. Within the site the topography ranges from ±71.40 m down to ±70.90 m.

# 3 Existing Infrastructure

From review of the sewer and watermain mapping, as-built drawings and the City's GeoOttawa mapping, the following summarizes the onsite and adjacent offsite infrastructure:

Within property

- Sanitary, water and storm service laterals. Location to be confirmed by contractor before construction.
- A storm catchbasin near north-east property line with lead connected to 525mm storm main on Meadowbrook Rd.
- Overhead hydro line extended to the existing residential unit.

Within Meadowbrook Road Right-of-way

- 305 mm watermain and fire hydrants
- 300 mm sanitary sewer
- 525 mm storm sewer
- 35 mm gas main
- Overhead hydro lines and communication cables

Refer to the survey plan prepared by Stantec, included in **Appendix F**.

# 4 Pre-Consultation / Permits / Approvals

A pre-consultation meeting was held with the City prior to design commencement. This meeting, held May 6, 2021, outlined the submission requirements and provided information to assist with the development proposal.

The proposed site is located within the Rideau Valley Conservation Authority (RVCA) jurisdiction, therefore signoff from the RVCA will be required. The RVCA will be contacted to confirm the stormwater management quality control requirements. The requirements will be met at and discussed in detail at the Site Plan Control application.

Stormwater management quantity control will be required as noted in the Servicing Memo provided by the city. Additional information on this will be provided in proceeding sections.

## 4.1 Design Guidelines

Various design guidelines were referred to in preparing the current report including:

- Bulletin ISDTB-2012-4 (20 June 2012)
    - Technical Bulletin ISDTB-2014-01 (05 February 2014)
    - Technical Bulletin PIEDTB-2016-01 (September 6, 2016)
    - Technical Bulletin ISDTB-2018-01 (21 March 2018)
    - Technical Bulletin ISDTB-2018-04 (27 June 2018)
- Ottawa Design Guidelines – Water Distribution, July 2010 (WDG001), including:
    - Technical Bulletin ISDTB-2014-02 (May 27, 2014)
    - Technical Bulletin ISTB-2018-02 (21 March 2018)
- Stormwater Management Planning and Design Manual, Ontario Ministry of the Environment and Climate Change, March 2003 (SMPDM).
- Design Guidelines for Drinking-Water Systems, Ontario Ministry of the Environment and Climate Change, 2008 (GDWS).
- Fire Underwriters Survey, Water Supply for Public Fire Protection (FUS), 1999.
- Ontario Building Code 2012, Ministry of Municipal Affairs and Housing.

# 5 Water Servicing

## 5.1 Water Servicing Design Criteria

**Table 5-1** below summarizes the Design Criteria that was used to establish the water demands and the required fire flows, based on the proposed building uses. The design parameters that apply to this project and used for calculations are identified below.

**Table 5-1 - Summary of Water Supply Design Criteria**

| Design Parameter | Value | Applies |
|---|---|---|
| Population Density – Single-family Home | 3.4 persons/unit | |
| Population Density – Semi-detached/Townhomes | 2.7 persons/unit | ✓ |
| Population Density – Terrace Flat | 1.8 persons/unit | |
| Population Density – Bachelor Apartment | 1.4 persons/unit | |
| Population Density – Bachelor + Den Apartment | 1.4 persons/unit | |
| Population Density – One Bedroom Apartment | 1.4 persons/unit | |
| Population Density – One Bedroom plus Den Apartment | 1.4 persons/unit | |
| Population Density – Two Bedroom Apartment | 2.1 persons/unit | |
| Population Density – Two Bedroom plus Den Apartment | 2.1 persons/unit | |
| Population Density – Three Bedroom Apartment | 3.1 persons/unit | |
| | | |
| Average Day Demands – Residential | 350 L/person/day | ✓ |

| | | |
|---|---|---|
| Average Day Demands – Commercial / Institutional | 5 L/m$^2$ floor area/day | |
| Average Day Demands – Light Industrial / Heavy Industrial | 35,000 or 55,000 L/gross ha/day | |
| | | |
| Maximum Day Demands – Residential | 2.5 x Average Day Demands | ✓ |
| Maximum Day Demands – Commercial / Institutional | 1.5 x Average Day Demands | |
| Peak Hour Demands – Residential | 5.5 x Average Day Demands | ✓ |
| Peak Hour Demands – Commercial / Institutional | 2.7 x Average Day Demands | |
| | | |
| Fire Flow Requirements Calculation | FUS | ✓ |
| Depth of Cover Required | 2.4m | ✓ |
| Maximum Allowable Pressure | 551.6 kPa (80 psi) | ✓ |
| Minimum Allowable Pressure | 275.8 kPa (40 psi) | ✓ |
| Minimum Allowable Pressure during fire flow conditions | 137.9 kPa (20 psi) | ✓ |

## 5.2 Estimated Water Demands

The following **8 semi-detached** dwelling units. Estimated total residential population of 22 persons.

Table 5-2 below summarizes the anticipated water demands for the proposed development based on following:

- 8 semi-detached dwelling units. Estimated total residential population of 22 persons.

**Table 5-2 : Residential Water Demand Summary**

| Water Demand Conditions | 8 townhome units water demands (L/sec) |
|---|---|
| Average Day | 0.09 |
| Max Day | 0.83 |
| Peak Hour | 1.25 |

## 5.3 Boundary Conditions

Hydraulic Grade Line (HGL) boundary conditions were obtained from the City for design purposes. A copy of the correspondence received from the City is provided in **Appendix E**.

The following hydraulic grade line (HGL) boundary conditions were provided:

- Maximum HGL = 117.4 m
- Minimum HGL = 110.2 m
- Max Day Plus Fire Flow 1 (183 L/sec) = 109.1 m

## 5.4 Fire Flow Requirements

The following equation from the Fire Underwriters document “Water Supply for Public Fire Protection”, 1999, was used for calculation of the on-site supply rates required to be supplied by the hydrants:

$F = 200 * C * \sqrt{(A)}$

where:

| | | |
|---|---|---|
| F | = | Required Fire flow in Litres per minute |
| C | = | Coefficient related to type of Construction |
| A | = | Total Floor Area in square metres |

Fire flow calculations were completed for Units B & C buildings which is considered as the largest proposed building on the site due to less than 3m spacing between them. The required fire flow was estimated at 183L/s.

As per the City of Ottawa water distribution guidelines, minimum pressure requirement during max day plus fire flow condition is 140 kPa (20 psi). The City provided an HGL of 109.1m under max day plus fire flow of 183L/s for the site. This equates to an available system pressure of 54 psi which exceeds the City's requirement of 20 psi. Therefore, the fire flow of 183L/s can be provided by the 305 mm municipal water main under maximum day plus fire flow conditions.

# 6 Sanitary Sewage Servicing

## 6.1 Sanitary Sewage Design Criteria

The sanitary sewer system is designed based on a population flow and an area-based infiltration allowance. The flows were calculated using City sewer design guidelines (SDG002). **Table 6-1** below summarizes the design parameters used.

**Table 6-1 – Summary of Wastewater Design Criteria / Parameters**

| Design Parameter | Value | Applies |
|---|---|---|
| Population Density – Single-family Home | 3.4 persons/unit | |
| Population Density – Semi-detached Home | 2.7 persons/unit | ✓ |
| Population Density – Duplex | 2.3 persons/unit | |
| Population Density – Townhome (row) | 2.7 persons/unit | |
| Population Density – Bachelor Apartment | 1.4 persons/unit | |
| Population Density – Bachelor + Den Apartment | 1.4 persons/unit | |
| Population Density – One Bedroom Apartment | 1.4 persons/unit | |
| Population Density – One Bedroom plus Den Apartment | 1.4 persons/unit | |
| Population Density – Two Bedroom Apartment | 2.1 persons/unit | |
| Population Density – Two Bedroom plus Den Apartment | 2.1 persons/unit | |
| Population Density – Three Bedroom Apartment | 3.1 persons/unit | |
| Average Daily Residential Sewage Flow | 280 L/person/day | ✓ |
| Average Daily Commercial / Intuitional Flow | 28,000 L/gross ha/day | |
| Average Light / Heavy Industrial Daily Flow | 35,000 / 55,000 L/gross ha/day | |
| Residential Peaking Factor – Harmon Formula (Min = 2.0, Max =4.0, with K=0.8) | $M = 1 + \frac{14}{4 + P^{0.5}} * k$ | ✓ |
| Commercial Peaking Factor | 1.5 | |
| Institutional Peaking Factor | 1.5 | |
| Industrial Peaking Factor | As per Table 4-B (SDG002) | |

| | | |
|---|---|---|
| Unit of Peak Extraneous Flow (Dry Weather / Wet Weather) | 0.05 or 0.28 L/s/gross ha | |
| Unit of Peak Extraneous Flow (Total I/I) | 0.33 L/s/gross ha | ✓ |

## 6.2 Proposed Sewage Conditions

The estimated peak sanitary flow rate from the proposed property is **±0.33 L/sec** based on City Design Guidelines. Sewage rates include a total infiltration allowance of 0.33 L/ha/sec based on the total gross site area. **Table 6-2** below summarizes the sewage anticipated peak sewage flows for the proposed site.

**Table C1** in **Appendix C** summarizes the anticipated peak sewage flows from the proposed development up to the existing 300 mm diameter municipal sanitary sewer on Meadowbrook Road.

**Table 6-2 – Summary of Anticipated Sewage Rates**

| Sewage Condition | Sanitary Sewage Flow (L/sec) |
|---|---|
| Peak Residential Flow (for 22 persons) | 0.28 |
| Infiltration Flow (for 0.145 ha) | 0.05 |
| Peak Design Flow | 0.33 |

## 6.3 Sanitary Servicing Review

There is a 300mm diameter municipal sanitary sewer on Meadowbrook Road. No capacity issue was identified during the pre-consultation meeting for the existing city sewer. The municipal sanitary sewer should therefore have sufficient residual capacity to convey the peak sanitary flow of 0.33 L/sec from the proposed development.

# 7 Storm Servicing & Stormwater Management

## 7.1 Design Criteria

The proposed stormwater system is designed in conformance with the latest version of the City of Ottawa Design Guidelines (October 2012). Section 5 “Storm and Combined Sewer Design” and Section 8 “Stormwater Management”. A summary of the design criteria that relates to this design report is the proceeding sections below.

### 7.1.1 Minor System Design Criteria

- The storm sewer sizing will be based on the Rational Method and Manning’s Equation under free flow conditions for the 5-year storm using a 10-minute inlet time.
- Minimum sewer slopes to be based on minimum velocities for storm sewers of 0.80 m/sec.
- Allowable release rate will be calculated based 5-year pre-development storm. A pre-development runoff coefficient calculated based on existing land cover or a maximum equivalent ‘C’ of 0.5, whichever is less.
- Flows to the storm sewer in excess of the 5-year pre-development storm release rate, up to and including the 100-year storm event, must be detained on site.

### 7.1.2 Major System Design Criteria

- On-site storage is calculated based on the 100-year design storm.
- The vertical distance from the spill elevation and the ground elevation at the buildings is at least 150mm.
- The emergency overflow spill elevation is at least 30 cm below the lowest building opening.

## 7.2 Runoff Coefficients

Runoff coefficients used were based on actual areas taken from CAD. Runoff coefficients for impervious surfaces (roofs, asphalt, and concrete) were taken as 0.90, whereas those for pervious surfaces (grass/landscaping) were taken as 0.20. Average runoff coefficients were calculated for catchments (or drainage areas) using the area-weighting method in excel. The summary of runoff coefficients for pre-development and post-development catchments are provided in **Table 7-1** below. The detailed calculations are included in **Table D1** and **Table D4.** **Figure A2** and **Figure A3** in **Appendix A** shows the pre-development and post-development land use of the subject site and associated runoff coefficients.

**Table 7-1 – Average runoff coefficients**

| Development | Area (ha) | Pre-Dev Runoff Coefficient, $C_{AVG}$ | Post-Dev Runoff Coefficient, $C_{AVG}$ |
|---|---|---|---|
| 1568 Meadowbrook Road | 0.145 | 0.40 | 0.63 |

## 7.3 Pre-Development Conditions and Allowable Release Rate

The post development peak flows from the site for all storm events up to and including the 100-year storm will be restricted to the 5 year pre-development flow.

The pre-development storm runoff during 2-yr, 5-yr and 100-yr storm events were estimated at 12.38 L/sec, 16.79 L/sec, 36.0 L/sec, respectively. **Table D3** in **Appendix D** provides detailed calculations on the total pre-development peak flows.

## 7.4 Post Development Runoff

The post-development average runoff coefficient for the site was calculated as 0.63. The 2-year, 5-year and 100-year post-development uncontrolled peak flows were calculated using Rational Method and were estimated to be 19.55 L/sec, 26.52 L/sec and 56.80 L/sec respectively, also summarized in **Table 7-2** below. A flow control device (ICD) will be required to attenuate peak runoff rates to a maximum of **16.79 L/sec** for 100-year event. Detailed calculations are provided in **Table D5** of **Appendix D**.

**Table 7-2 – Summary of Post-Development Controlled and Uncontrolled flowrates**

| Area No. | Area (ha) | Storm=2 Yr | | | Storm=5 Yr | | | Storm=100 Yr | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | $C_{AVG}$ | Q (L/sec) | $Q_{CAP}$ (L/sec) | $C_{AVG}$ | Q (L/sec) | $Q_{CAP}$ (L/sec) | $C_{AVG}$ | Q (L/sec) | $Q_{CAP}$ (L/sec) |
| *1568 Meadowbrook* | *0.1451* | *0.63* | *19.55* | *(5.78)* | *0.63* | *26.52* | *(7.84)* | *0.79* | *56.80* | *(16.79)* |

## 7.5 Flow Attenuation & Storage

Using the allowable release rates estimated in the previous section, the maximum storage volume required to attenuate the flows to the allowable release rate is **37.5 $m^3$**. Approximately 40 $m^3$ of on-site storage will be provided to restrict the flow to the required pre-development levels. The controlled storm water flow from the site will be conveyed to the 525 mm diameter municipal storm sewer on Meadowbrook Road.

**Table D7** provides the storage volumes necessary to attenuate the controlled release rates. **Table D6** summarizes the controlled release rates and required storage volumes for each storm events.

# 8 Conclusions and Recommendations

- The 525 mm storm sewer and 300 mm sanitary sewer on Meadowbrook Road should have sufficient capacity to support the proposed development.
- The 305 mm diameter municipal watermain on Meadowbrook Road should have sufficient capacity and pressure to meet the domestic and fire flow demands of the proposed development.

# 9 Legal Notification

This report was prepared by EXP Services Inc. for the account of Nemorin Group Ltd.

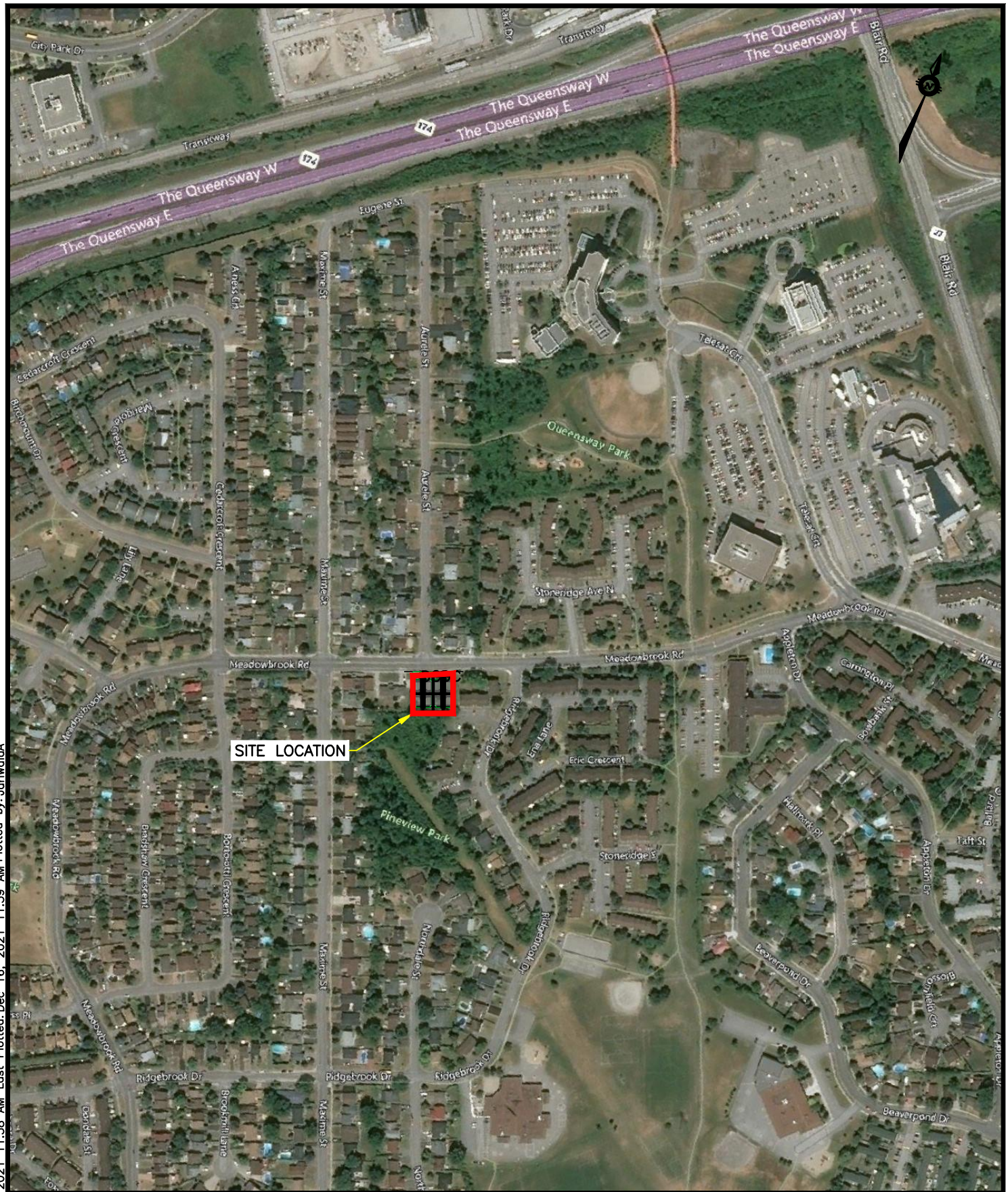
Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. EXP Services Inc. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

# Appendix A – Figures

**Figure A1 – Site Locaiton Plan**

**Figure A2 – Pre-Development Storm Drainage Plan**

**Figure A3 – Post-Development Storm Drainage Plan**

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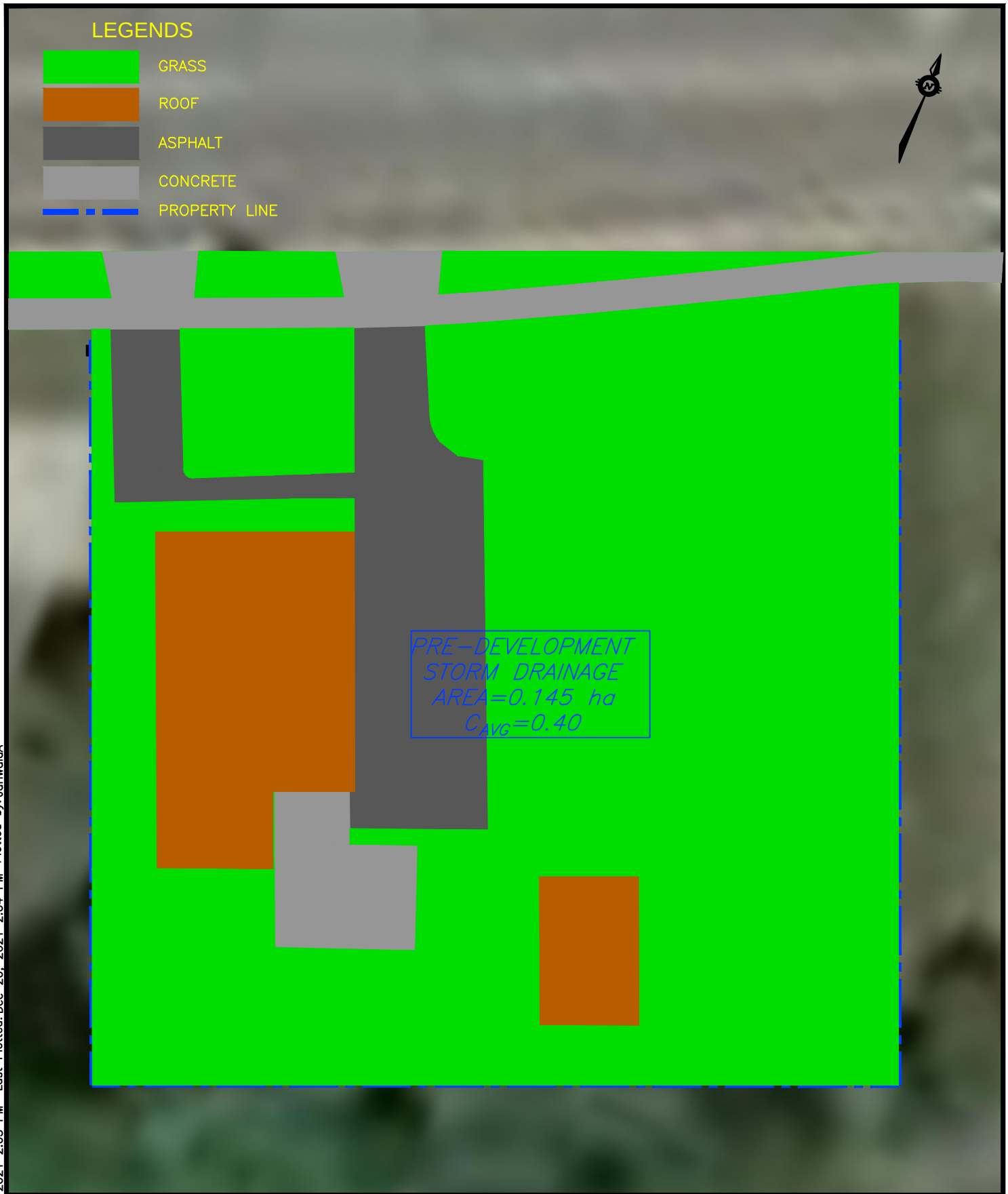
| | |
|---|---|
| DESIGN | AJ |
| DRAWN | AJ |
| DATE | 15/12/2021 |
| FILE NO | OTT-21020547-A0 |

# 1568 MEADOWBROOK RD

## SITE LOCATION PLAN

SCALE 1:5000

SKETCH NO FIG A1

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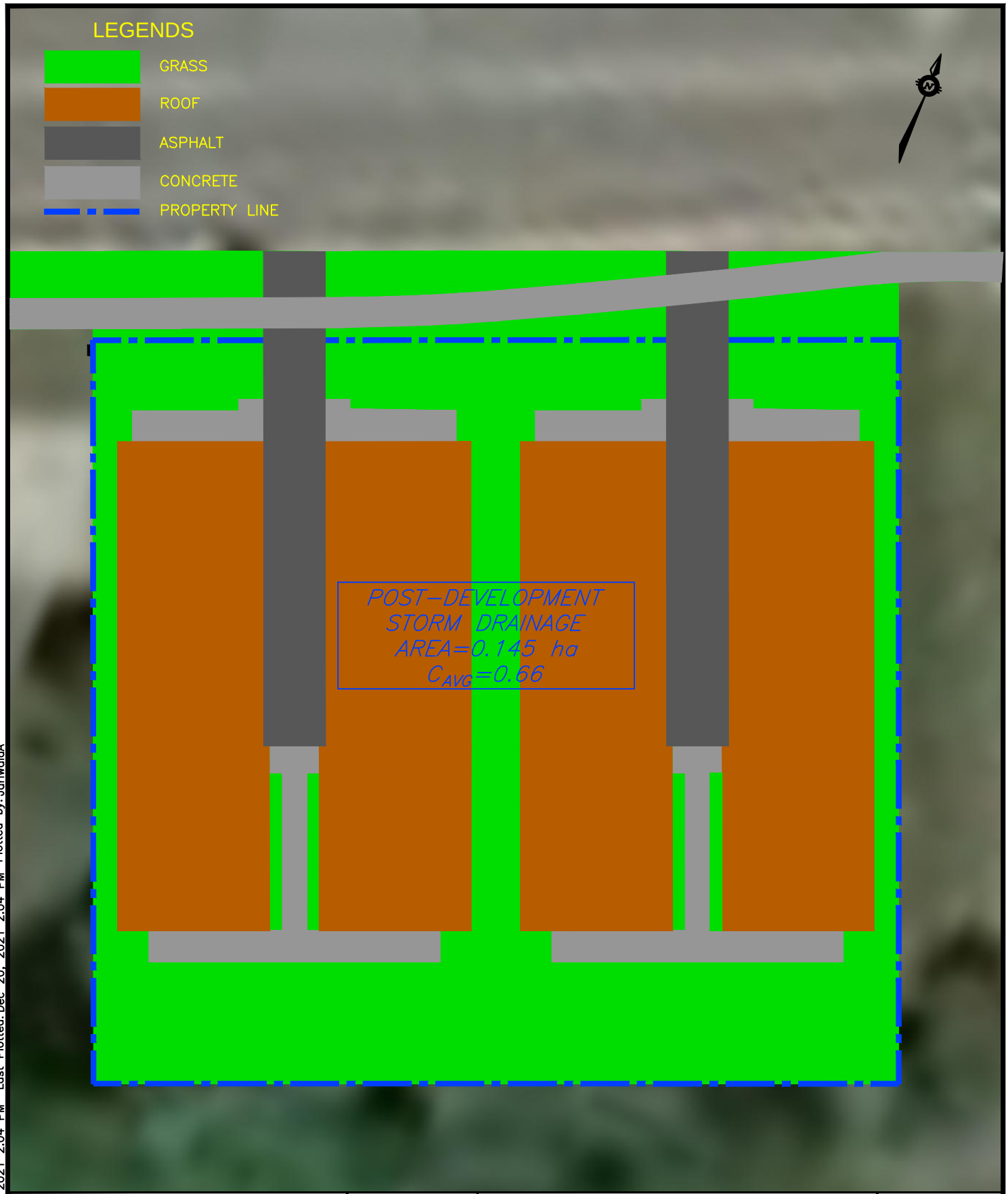
| DRAWN | AJ |
| DATE | 15/12/2021 |
| FILE NO | OTT-21020547-A0 |

1568 MEADOWBROOK RD

PRE-DEVELOPMENT STORM

SCALE 1:250

SKETCH NO FIG A2

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| | |
|---|---|
| DESIGN | AJ |
| DRAWN | AJ |
| DATE | 15/12/2021 |
| FILE NO | OTT-21020547-A0 |

1568 MEADOWBROOK RD

POST-DEVELOPMENT STORM

SCALE 1:250

SKETCH NO FIG A3

# Appendix B – Water Servicing

**Table B1 – Water Demand Chart**

**Table B2 – Fire Flow Requirements Based on Fire Underwriters Survey (FUS) – Units B & C**

**TABLE B1**
**Water Demand Chart**

| Junction Number (Building) | No. of Units: Singles/Semis/Towns: Single Familty | Semi | Duplex | Townhome | Apartments: Bachelor | 1-Bed Apt | 2-Bed Apt | 3-Bed Apt | 4-Bed Apt | Avg Apt. | Total Pop | Residential Demands: Avg Day Demand (L/day) | Max Day Peaking Factor | Max Hour Peaking Factor | Max Day Demand (L/day) | Peak Hourly Demand (L/day) | Commercial: Area ($m^2$) | Avg Demand (L/day) | Peaking Factors (x Avg Day): Max Day | Peak Hour | Max Day Demand (L/day) | Peak Hour Demand (L/day) | Total Demands in (L/sec): Avg Day (L/s) | Max Day (L/s) | Peak Hour (L/s) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 Units Townhomes | | | | 8 | | | | | | | 21.6 | 7,560 | 9.50 | 14.30 | 71,820 | 108,108 | | | | | | | 0.09 | 0.83 | 1.25 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Totals = | | | | 8 | | | | | | | 21.6 | 7,560 | | | 71,820 | 108,108 | | | | | | | 0.09 | 0.83 | 1.25 |

| Unit Densities | Persons/Unit |
|---|---|
| Singles | 3.4 |
| Semi-Detached | 2.7 |
| Duplex | 2.3 |
| Townhome | 2.7 |
| Bachelor Apt Unit | 1.4 |
| 1-Bed Apt Unit | 1.4 |
| 2-Bed Apt Unit | 2.1 |
| 3-Bed Apt Unit | 3.1 |
| 4-Bed Apt Unit | 4.1 |
| Avg. Apt Unit | 1.8 |

**Residential**

| | | |
|---|---|---|
| Residential Consumption (L/pers/day) = | 350 | |
| Max Day Peaking Factor (* avg day) = | 2.5 | **9.50** |
| Peak Hour Factor (* avg day) = | 5.5 | **14.30** |

Based on MECP Table 3-3. Less than 500 persons

**Industrrial/Commercial/Institutional Water Consumption**

| | |
|---|---|
| Light Industrial (L/gross ha/day) = | 35,000 |
| Heavy Industrial (L/gross ha/day) = | 55,000 |
| Commer/Instit (L/$m^2$ floor/day) = | 5 |
| Max Day Peaking Factor (* avg day) = | 1.5 |
| Peak Hour Factor (* avg day) = | 2.7 |

| | |
|---|---|
| Project: | |
| 1568 Meadowbrook | |
| Designed: | Location: |
| Aaditya Jariwala | 1568 Meadowbrook Road, Ottawa, Ontario |
| Checked: | |
| Alam Ansari, P.Eng. | |
| File Reference: | Page No: |
| 21020547 Water - Demand Chart.xlsx | 1 of 1 |

**TABLE B2**
**FIRE FLOW REQUIREMENTS BASED ON FIRE UNDERWRITERS SURVEY(FUS) 1999**
**Building # / Type: Units B & C**

An estimate of the Fire Flow required for a given fire area may be estimated by:

F = 220 * C * SQRT(A)

where: F = required fire flow in litres per minute
A = total floor area in $m^2$ (including all storeys, but excluding basements at least 50% below grade)
C = coefficient related to the type of construction

| Task | Options | Multiplier | Input | | | Value Used | Fire Flow Total (L/min) |
|---|---|---|---|---|---|---|---|
| Choose Building Frame (C) | Wood Frame | 1.5 | Wood Frame | | | 1.5 | |
| | Ordinary Construction | 1 | | | | | |
| | Non-combustible Construction | 0.8 | | | | | |
| | Fire Resistive Construction | 0.6 | | | | | |
| Input Building Floor Areas (A) | | | Area | % Used | Area Used | 610.8 m² | |
| | Floor 2 | | 343.2 | 100% | 343.2 | | |
| | Floor 1 | | 267.6 | 100% | 267.6 | | |
| | Basement (At least 50% below grade, not included) | | 267.6 | 0% | 0 | | |
| Fire Flow (F) | F = 220 * C * SQRT(A) | | | | | | 8,156 |
| Fire Flow (F) | Rounded to nearest 1,000 | | | | | | **8,000** |

**Reductions/Increases Due to Factors Effecting Burning**

| Task | Options | Multiplier | Input | Value Used | Fire Flow Change (L/min) | Fire Flow Total (L/min) |
|---|---|---|---|---|---|---|
| Choose Combustibility of Building Contents | Non-combustible | -25% | Limited Combustible | -15% | -1,200 | 6,800 |
| | Limited Combustible | -15% | | | | |
| | Combustible | 0% | | | | |
| | Free Burning | 15% | | | | |
| | Rapid Burning | 25% | | | | |
| Choose Reduction Due to Sprinkler System | **Adequate** Sprinkler Conforms to NFPA13 | -30% | No Sprinkler | 0% | 0 | 6,800 |
| | **No** Sprinkler | 0% | | | | |
| | **Standard** Water Supply for Fire Department Hose Line and for Sprinkler System | -10% | Not Standard Water Supply or Unavailable | 0% | 0 | 6,800 |
| | **Not** Standard Water Supply or Unavailable | 0% | | | | |
| | **Fully** Supervised Sprinkler System | -10% | Not Fully Supervised or N/A | 0% | 0 | 6,800 |
| | **Not** Fully Supervised or N/A | 0% | | | | |

| Choose Structure Exposure Distance | Exposures | Separ-ation Dist (m) | Cond | Separation Conditon | Exposing Wall type | Exposed Wall Length: Length (m) | No of Storeys | Length-height Factor | Sub-Conditon | Charge (%) | Total Charge (%) | Total Exposure Charge (L/min) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | East | 3.0 | 1 | 0 to 3 | Type A | 24.06 | 2 | 48.12 | 1B | 23% | 56% | 3,808 | 10,608 |
| | West | 3.0 | 1 | 0 to 3 | Type A | 24.06 | 2 | 48.12 | 1B | 23% | | | |
| | South | 37.3 | 5 | 30.1 to 45 | Type A | 17.17 | 2 | 34.34 | 5B | 5% | | | |
| | North | 37.0 | 5 | 30.1 to 45 | Type A | 13.67 | 1 | 13.67 | 5A | 5% | | | |

| Obtain Required Fire Flow | | |
|---|---|---|
| | Total Required Fire Flow, Rounded to the Nearest 1,000 L/min = | **11,000** |
| | Total Required Fire Flow (RFF), L/sec = | **183** |
| | Can the Total Fire Flow be Capped at 10,000 L/min (167 L/sec) based on "TECHNCAL BULLETIN ISTB-2018-02", (yes/no) = | **No** |
| | Total Required Fire Flow (RFF). If RFF < 167 use RFF (L/sec) = | **183** |

**Exposure Charges for Exposing Walls of Wood Frame Construction (from Table G5)**

| | |
|---|---|
| Type A | Wood-Frame or non-conbustible |
| Type B | Ordinary or fire-resisitve with unprotected openings |
| Type C | Ordinary or fire-resisitve with semi-protected openings |
| Type D | Ordinary or fire-resisitve with blank wall |

**Conditons for Separation**

| Separation Dist | Condition |
|---|---|
| 0m to 3m | 1 |
| 3.1m to 10m | 2 |
| 10.1m to 20m | 3 |
| 20.1m to 30m | 4 |
| 30.1m to 45m | 5 |
| > 45.1m | 6 |

# Appendix C – Sanitary Sewer Design Sheets

**Table C1: Sanitary Sewer Calculation Sheet**

# TABLE C1 : SANITARY SEWER CALCULATION SHEET

| LOCATION | | | | RESEDENTIAL AREAS AND POPULAITONS | | | | | | | | | | | COMMERCIAL | | | INDUSTRIAL | | | INSTITUTIONAL | | | INFILTRATION | | | TOTAL | SEWER DATA | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Street | U/S MH | D/S MH | Desc | Area (ha) | NUMBER OF UNITS | | | | | | | POPULATION | | Peak Factor | Peak Flow (L/sec) | AREA (ha) | | Peak Flow (L/sec) | AREA (ha) | | Peak Factor (per | AREA (Ha) | ACCU AREA (Ha) | Peak Flow (L/sec) | AREA (ha) | | INFILT FLOW (L/s) | TOTAL FLOW (L/s) | Nom Dia (mm) | Actual Dia (mm) | Slope (%) | Length (m) | Capacity (L/sec) | $Q/Q_{CAP}$ (%) | Full Velocity (m/s) |
| | | | | | Singles | Semis | Towns | 1-Bed Apt. | 2-Bed Apt. | 3-Bed Apt. | 4-Bed Apt. | INDIV | ACCU | | | INDIV | ACCU | | INDIV | ACCU | | | | | INDIV | ACCU | | | | | | | | |
| | | | Unit A | | | | 2.00 | | | | | 5.4 | 5.4 | 4.00 | 0.07 | | | | | | | | | | | | | | | | | | |
| | | | Unit B | | | | 2.00 | | | | | 5.4 | 10.8 | 4.00 | 0.14 | | | | | | | | | | | | | | | | | | |
| | | | Unit C | 0.145 | | | 2.00 | | | | | 5.4 | 16.2 | 4.00 | 0.21 | | | | | | | | | | | | | | | | | | |
| Meadowbrook | | | Unit D | | | | 2.00 | | | | | 5.4 | 21.6 | 4.00 | 0.28 | | | | | | | | | | | 0.145 | 0.05 | ***0.33*** | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | **0.145** | | | | | | | | **22** | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Residential Avg. Daily Flow, q (L/p/day) = | 280 | Commercial Peak Factor = | 1.5 | (when area >20%) | Peak Population Flow, (L/sec) = | P*q*M/86.4 | Unti Type | Persons/Unit |
| Commercial Avg. Daily Flow (L/gross ha/day) = | 28,000 | | 1.0 | (when area <20%) | Peak Extraneous Flow, (L/sec) = | I*Ac | Singles | 3.0 |
| or L/gross ha/sec = | 0.324 | | | | Residential Peaking Factor, M = | 1 + (14/(4+P^0.5)) * K | Semi-Detached | 2.7 |
| Institutianal Avg. Daily Flow (L/s/ha) = | 28,000 | Institutional Peak Factor = | 1.5 | (when area >20%) | $A_c$ = Cumulative Area (hectares) | | Townhomes | 2.7 |
| or L/gross ha/sec = | 0.324 | | 1.0 | (when area <20%) | P = Population (thousands) | | Single Apt. Unit | 1.4 |
| Light Industrial Flow (L/gross ha/day) = | 35,000 | | | | | | 2-bed Apt. Unit | 2.1 |
| or L/gross ha/sec = | 0.40509 | Residential Correction Factor, K = | 0.80 | | Sewer Capacity, Qcap (L/sec) = | $1/N \ S^{1/2} \ R^{2/3} \ A_c$ | 3-bed Apt. Unit | 3.1 |
| Light Industrial Flow (L/gross ha/day) = | 55,000 | Manning N = | 0.013 | | (Manning's Equation) | | 4-bed Apt. Unit | 3.8 |
| or L/gross ha/sec = | 0.637 | Peak extraneous flow, I (L/s/ha) = | 0.33 | (Total I/I) | | | | |

| | |
|---|---|
| Designed: | Project: |
| A. Jariwala | 1568 Meadowbrook |
| Checked: | Location: |
| A. Ansari, M.Sc., P.Eng. | 1568 Meadowbrook, Ottawa, Ontario |
| File Reference: | Page No: |
| 21020547 Sanitary - Sewer Design Sheet.xlsx | **1 of 1** |

# Appendix D – SWM Design Sheets

**TABLE D1**

**CALCULATION OF AVERAGE RUNOFF COEFFICIENTS FOR PRE-DEVELOPMENT CONDTIONS**

| Area No. | Roof Areas C=0.90 | | Asphalt Areas C=0.90 | | Concrete / Pavers C=0.90 | | Gravel C=0.75 | | Grassed Areas C=0.20 | | Sum AC | Total Area ($m^2$) | $C_{AVG}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area ($m^2$) | A * C | Area ($m^2$) | A * C | Area ($m^2$) | A * C | Area ($m^2$) | A * C | Area ($m^2$) | A * C | | | |
| Site | 176.22 | 158.6 | 183.43 | 165.1 | 54.14 | 48.7 | | | 1037.05 | 207.41 | 579.8 | 1450.84 | 0.40 |

**TABLE D2**

**CALCULATION OF CATCHMENT TIME OF CONCENTRATION FOR PRE-DEVELOPMENT CONDITIONS**

| Catchment No. | Area (ha) | High Elev (m) | Low Elev (m) | Flow Path Length (m) | Indiv Slope | Avg. C | Time of Conc. Tc (mins) | Description |
|---|---|---|---|---|---|---|---|---|
| site | 0.1451 | 71.4 | 70.9 | 37.1 | 1.4 | 0.40 | 2.38 | See Note 2 |

**Notes**

1) For Catchments with Runoff Coefficient less than C=0.40, Time of Concentration Based on Federal Aviation Formula (Airport Method), from MTO

2) For Catchments with Runoff Coefficient greater than C=0.40, Time of Concentration Based on Bransby Williams Equation, from MTO Drainage

**TABLE D3**

**CALCULATION OF PEAK RUNOFF FOR PRE-DEVELOPMENT CONDTIONS**

| Area No | Outlet Location | Area (ha) | Time of Conc, Tc (min) | Storm = 2 yr | | | Storm = 5 yr | | | Storm = 100 yr | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | $I_2$ (mm/hr) | Cavg | $Q_2$ (L/sec) | $I_5$ (mm/hr) | Cavg | $Q_5$ (L/sec) | $I_{100}$ (mm/hr) | Cavg | $Q_{100}$ (L/sec) |
| Site | Meadowbrook | 0.145 | 10 | 76.81 | 0.40 | 12.38 | 104.19 | 0.40 | **16.79** | 178.56 | 0.50 | 36.0 |

*Notes*

*1) Intensity, I = 732.951/(Tc+6.199)* $^{0.810}$ (2-year, City of Ottawa)

*2) Intensity, I = 998.071/(Tc+6.053)* $^{0.814}$ (5-year, City of Ottawa)

*3) Intensity, I = 1735.688/(Tc+6.014)* $^{0.820}$ (100-year, City of Ottawa)

*4) Cavg for 100-year is increased by 25% to a maximum of 1.0*

*5) The standard minimium Time of Concentraion of 10 minutes was used, rather then the calaculted time, since calcualted time was less than 10 minutes.*

Allowable Discharge (based on 5-yr storm)

**TABLE D4**

**AVERAGE RUNOFF COEFFICIENTS FOR POST-DEVELOPMENT CONDITIONS**

$C_{ASPH/CONC}$ = 0.90 $C_{ROOF}$ = 0.90 $C_{GRASS}$ = 0.20 $C_{PERM-STONES}$ = 0.40

| Area No. | Asphalt & Conc Areas ($m^2$) | A * $C_{ASPH}$ | Roof Areas ($m^2$) | A * $C_{ROOF}$ | Grassed Areas ($m^2$) | A * $C_{GRASS}$ | Permeable Pavers Area ($m^2$) | A*$C_{PERM-STONES}$ | Sum AC | Total Area ($m^2$) | $C_{AVG}$ (see note) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1568 Meadowbrook | 192.0 | 172.8 | 701.3 | 631.1 | 557.3 | 111.5 | | | 915.4 | 1451 | ***0.63*** | |

**Notes**

*1) Cavg derived with area from CAD.*

**TABLE D5**

**SUMMARY OF POST-DEVELOPMENT PEAK FLOWS (Uncontrolled and Controlled )**

| Area No | Area (ha) | Time of Conc, Tc (min) | Storm = 2 yr | | | | Storm = 5 yr | | | | Storm = 100 yr | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | $C_{AVG}$ | $I_2$ (mm/hr) | Q (L/sec) | $Q_{CAP}$ (L/sec) | $C_{AVG}$ | $I_5$ (mm/hr) | Q (L/sec) | $Q_{CAP}$ (L/sec) | $C_{AVG}$ | $I_{100}$ (mm/hr) | Q (L/sec) | $Q_{CAP}$ (L/sec) |
| 1568 Meadowbrook | **0.1451** | 10 | 0.63 | 76.81 | 19.55 | **(5.78)** | 0.63 | 104.19 | 26.52 | **(7.84)** | 0.79 | 178.56 | 56.80 | **(16.79)** |
| **Totals** | **0.1451** | | | | | **5.779** | | | | **7.840** | | | | **16.795** |

*Notes*

*1) Intensity, I = 732.951/(Tc+6.199)* $^{0.810}$ (2-year, City of 0ttawa)

*2) Intensity, I = 998.071/(Tc+6.053)* $^{0.814}$ (5-year, City of 0ttawa)

*3) Intensity, I = 1735.688/(Tc+6.014)* $^{0.820}$ (100-year, City of Ottawa)

*4) Cavg for 100-year is increased by 25% to a maximum of 1.0*

*5) Time of Concentration, Tc =* ***10 mins***

*6) For Flows under column Qcap which are shown in brackets* ***(0.0)*** *, denotes flows that are controlled*

*7) Foundaion Drain allowance based on Section 5.4.7 of SDG002 =* ***0.45 L/s/home***

**TABLE D6**

**SUMMARY OF POST DEVELOPMENT STORAGE & RELEASE RATES**

| Area No. | Area (ha) | Max Release Rate (L/s) | | | [1] Storage Required ($m^3$) | | | Storage Provided ($m^3$) | | | | | Control Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2-yr (MRM) | 5-yr (MRM) | 100-yr (MRM) | 2-yr (MRM) | 5-yr (MRM) | 100-yr (MRM) | Surface Ponding | Pipe | UG CB/MHs | UG Chamber | Total | |
| 1568 Meadowbrook | 0.1451 | 5.78 | 7.84 | 16.79 | 9.0 | 12.1 | 37.5 | TBD | | | | 40.00 | TBD |

*Notes*

*1) The storage required is based on the Modified Rational Method (MRM) for the relase rates noted.*

*2) The storage method to be confirmed in detailed design.*

## Table D7 Storage Volumes for 2-year, 5-Year and 100-Year Storms (MRM)

Area No: **Enitre Site**

$C_{AVG}$ = 0.63 (2-yr)

$C_{AVG}$ = 0.63 (5-yr)

$C_{AVG}$ = 0.79 (100-yr, Max 1.0)

Time Interval = 5.00 (mins)

Drainage Area = 0.1451 (hectares)

Actual Release Rate (L/sec) = 16.79

Percentage of Actual Rate (City of Ottawa requirement) = 50% (Set to 50% when U/G storage used)

Release Rate Used for Estimation of 100-year Storage (L/sec) = 8.40

| Duration (mins) | Release Rate = 5.78 (L/sec); Return Period = 2 (years); IDF Parameters, A = 733.0, B = 0.810, C = 6.199 ( I = A/($T_c$+C)) | | | | | Release Rate = 7.84 (L/sec); Return Period = 5 (years); IDF Parameters, A = 998.1, B = 0.814, C = 6.053 ( I = A/($T_c$+C)) | | | | | Release Rate = 8.40 (L/sec); Return Period = 100 (years); IDF Parameters, A = 1735.7, B = 0.820, C = 6.014 ( I = A/($T_c$+C)) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rainfall Intensity, I (mm/hr) | Peak Flow (L/sec) | Release Rate (L/sec) | Storage Rate (L/sec) | Storage ($m^3$) | Rainfall Intensity, I (mm/hr) | Peak Flow (L/sec) | Release Rate (L/sec) | Storage Rate (L/sec) | Storage ($m^3$) | Rainfall Intensity, I (mm/hr) | Peak Flow (L/sec) | Release Rate (L/sec) | Storage Rate (L/sec) | Storage ($m^3$) |
| 0 | 167.2 | 42.6 | 5.8 | 36.8 | 0.0 | 230.5 | 58.7 | 7.8 | 50.8 | 0.0 | 398.6 | 126.8 | 8.4 | 118.4 | 0.0 |
| 5 | 103.6 | 26.4 | 5.8 | 20.6 | 6.2 | 141.2 | 35.9 | 7.8 | 28.1 | 8.4 | 242.7 | 77.2 | 8.4 | 68.8 | 20.6 |
| 10 | 76.8 | 19.5 | 5.8 | 13.8 | 8.3 | 104.2 | 26.5 | 7.8 | 18.7 | 11.2 | 178.6 | 56.8 | 8.4 | 48.4 | 29.0 |
| 15 | 61.8 | 15.7 | 5.8 | 9.9 | 8.9 | 83.6 | 21.3 | 7.8 | 13.4 | 12.1 | 142.9 | 45.5 | 8.4 | 37.1 | 33.4 |
| 20 | 52.0 | 13.2 | 5.8 | 7.5 | 9.0 | 70.3 | 17.9 | 7.8 | 10.0 | 12.0 | 120.0 | 38.2 | 8.4 | 29.8 | 35.7 |
| 25 | 45.2 | 11.5 | 5.8 | 5.7 | 8.6 | 60.9 | 15.5 | 7.8 | 7.7 | 11.5 | 103.8 | 33.0 | 8.4 | 24.6 | 37.0 |
| 30 | 40.0 | 10.2 | 5.8 | 4.4 | 7.9 | 53.9 | 13.7 | 7.8 | 5.9 | 10.6 | 91.9 | 29.2 | 8.4 | 20.8 | 37.5 |
| 35 | 36.1 | 9.2 | 5.8 | 3.4 | 7.1 | 48.5 | 12.3 | 7.8 | 4.5 | 9.5 | 82.6 | 26.3 | 8.4 | 17.9 | 37.5 |
| 40 | 32.9 | 8.4 | 5.8 | 2.6 | 6.2 | 44.2 | 11.2 | 7.8 | 3.4 | 8.2 | 75.1 | 23.9 | 8.4 | 15.5 | 37.2 |
| 45 | 30.2 | 7.7 | 5.8 | 1.9 | 5.2 | 40.6 | 10.3 | 7.8 | 2.5 | 6.7 | 69.1 | 22.0 | 8.4 | 13.6 | 36.6 |
| 50 | 28.0 | 7.1 | 5.8 | 1.4 | 4.1 | 37.7 | 9.6 | 7.8 | 1.7 | 5.2 | 64.0 | 20.3 | 8.4 | 11.9 | 35.8 |
| 55 | 26.2 | 6.7 | 5.8 | 0.9 | 2.9 | 35.1 | 8.9 | 7.8 | 1.1 | 3.6 | 59.6 | 19.0 | 8.4 | 10.6 | 34.9 |
| 60 | 24.6 | 6.2 | 5.8 | 0.5 | 1.7 | 32.9 | 8.4 | 7.8 | 0.5 | 2.0 | 55.9 | 17.8 | 8.4 | 9.4 | 33.8 |
| 65 | 23.2 | 5.9 | 5.8 | 0.1 | 0.4 | 31.0 | 7.9 | 7.8 | 0.1 | 0.2 | 52.6 | 16.7 | 8.4 | 8.4 | 32.6 |
| 70 | 21.9 | 5.6 | 5.8 | -0.2 | -0.9 | 29.4 | 7.5 | 7.8 | -0.4 | -1.5 | 49.8 | 15.8 | 8.4 | 7.4 | 31.3 |
| 75 | 20.8 | 5.3 | 5.8 | -0.5 | -2.2 | 27.9 | 7.1 | 7.8 | -0.7 | -3.3 | 47.3 | 15.0 | 8.4 | 6.6 | 29.9 |
| 80 | 19.8 | 5.0 | 5.8 | -0.7 | -3.5 | 26.6 | 6.8 | 7.8 | -1.1 | -5.2 | 45.0 | 14.3 | 8.4 | 5.9 | 28.4 |
| 85 | 18.9 | 4.8 | 5.8 | -1.0 | -4.9 | 25.4 | 6.5 | 7.8 | -1.4 | -7.1 | 43.0 | 13.7 | 8.4 | 5.3 | 26.9 |
| 90 | 18.1 | 4.6 | 5.8 | -1.2 | -6.3 | 24.3 | 6.2 | 7.8 | -1.7 | -9.0 | 41.1 | 13.1 | 8.4 | 4.7 | 25.3 |
| 95 | 17.4 | 4.4 | 5.8 | -1.3 | -7.7 | 23.3 | 5.9 | 7.8 | -1.9 | -10.9 | 39.4 | 12.5 | 8.4 | 4.1 | 23.6 |
| 100 | 16.7 | 4.3 | 5.8 | -1.5 | -9.1 | 22.4 | 5.7 | 7.8 | -2.1 | -12.8 | 37.9 | 12.1 | 8.4 | 3.7 | 22.0 |
| Max = | | | | | **9.0** | | | | | **12.1** | | | | | **37.5** |

**Notes**

1 ) Peak flow is equal to the product of 2.78 x C x I x A

2) Rainfall Intensity, $I = A/(Tc+C)^B$

3) Release Rate = Min (Release Rate, Peak Flow)

4 ) Storage Rate = Peak Flow - Release Rate

5) Storage = Duration x Storage Rate

6) Maximium Storage = Max Storage Over Duration

7) Parameters a,b,c are for City of Ottawa

**City of Ottawa IDF Data (from SDG002)**

**IDF curve equations (Intensity in mm/hr)**

100 year Intensity = 1735.688 / (Time in min + 6.014) $^{0.820}$

50 year Intensity = 1569.580 / (Time in min + 6.014) $^{0.820}$

25 year Intensity = 1402.884 / (Time in min + 6.018) $^{0.819}$

10 year Intensity = 1174.184 / (Time in min + 6.014) $^{0.816}$

5 year Intensity = 998.071 / (Time in min + 6.053) $^{0.814}$

2 year Intensity = 732.951 / (Time in min + 6.199) $^{0.810}$

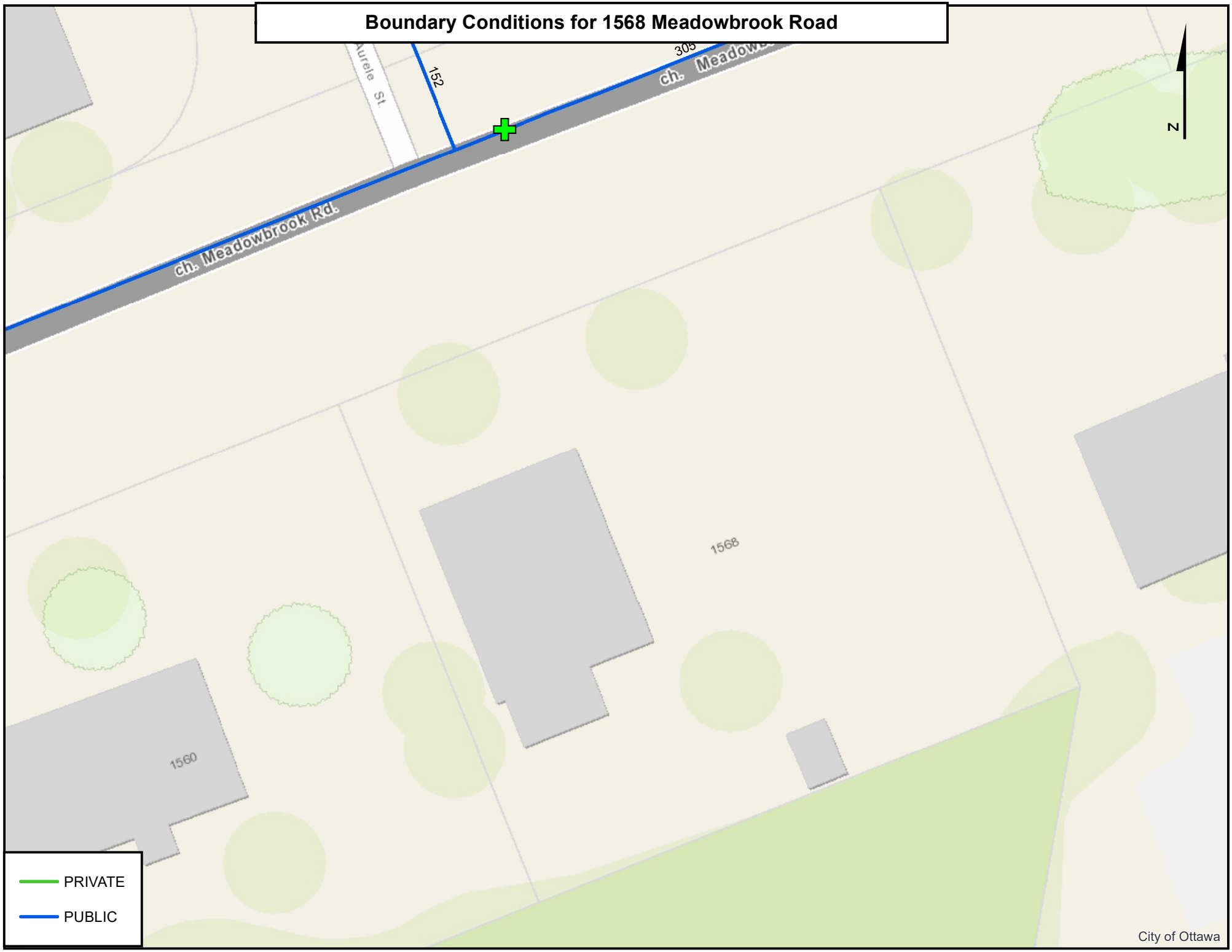
# Appendix E – Correspondence

**Email Correspondence from City of Ottawa on Water System Boundary Condition.**

**Pre-Application Consultation Meeting Minutes**

**Servicing Memo from City of Ottawa**

# Boundary Conditions for 1568 Meadowbrook Road



**From:** Mashaie, Sara <sara.mashaie@ottawa.ca>
**Sent:** Wednesday, December 8, 2021 8:50 AM
**To:** Aaditya Jariwala
**Cc:** Alam Ansari
**Subject:** RE: 1568 Meadowbrook Water boundary Condition
**Attachments:** 1568 Meadowbrook Road November 2021.pdf



Hi Aaditya,

Please find the boundary conditions.

The following are boundary conditions, HGL, for hydraulic analysis at 1568 Meadowbrook Drive (zone 1E) assumed to be connected to the 305 mm watermain on Meadowbrook Road (see attached PDF for location).

Minimum HGL: 110.2 m

Maximum HGL: 117.4 m

Max Day + FF (183 L/s): 109.1 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.*

Regards,

**Sara Mashaie, P.Eng., ing.**
Project Manager | Gestionnaire de Projet
Development Review, East Branch | Examen des projets d'aménagement, Secteur est
Planning, Infrastructure and Economic Development Department | Services de la planification, de l'infrastructure et du développement économique
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 27885, sara.mashaie@ottawa.ca

**From:** Aaditya Jariwala <Aaditya.Jariwala@exp.com>
**Sent:** November 30, 2021 10:55 AM
**To:** Mashaie, Sara <sara.mashaie@ottawa.ca>
**Cc:** Alam Ansari <alam.ansari@exp.com>
**Subject:** 1568 Meadowbrook Water boundary Condition



Good Morning Sara,

I am writing this email to request the water boundary conditions for development at 1568 Meadowbrook Road (File # PC2021-0139). I have attached a sketch with the connection point to the watermain on Meadowbrook Road marked on it. Additional information are as follow:

1. Type of Development: Residential townhouses
2. Average Daily Demand: 0.09 L/s
3. Maximum Daily Demand: 0.83 L/s
4. Peak Hour Demand: 1.25 L/s
5. Fire flow requirement: 183 L/s Max.

Let me know if you further need any information.

Regards,

**Aaditya Jariwala, M.Eng**
EXP | Engineering Designer
t : +1.613.688.1899, 63240 | m : +1.613.816.5961 | e : aaditya.jariwala@exp.com
2650 Queensview Drive
Suite 100
Ottawa, ON  K2B 8H6
CANADA



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**Application Number: PC2021-0139**

# 1568 Meadowbrook Road (Ward 11) - Pre-application Consultation Notes

Meeting Date: Thursday, May 6, 2021
Follow up Notes sent on June 2, 2021

| | |
|---|---|
| **Attendees:** | • Lucy Ramirez, Planner (Development Review), City of Ottawa<br>• Sara Mashaie, Project Manager (Infrastructure), City of Ottawa<br>• Mark Young, Planner (Urban Design), City of Ottawa<br>• Peter Hume<br>• Saël Nemorin |
| **Regrets** | • Mark Richardson, Forester (Planning), City of Ottawa<br>• Mike Giampa, Project Manager (Transportation), City of Ottawa<br>• Mary Ellen Wood, Planner (Parks), City of Ottawa |

## Contents



## Proposal Summary

The subject property is in the Pineview Neighbourhood and the lot area is approximately 1,442 square metres (0.1442 hectares). Currently, there is a detached dwelling and detached garage onsite, which will be demolished. The Owners wants to rezone 1568 Meadowbrook Road from Residential First Density Zone, Subzone WW (R1WW) to a Residential Second Density Zone, Subzone N (R2N) so they can sever the parcel in four and construct four long semi-detached dwellings.


*Figure 1: Capture of 1568 Meadowbrook road from geoOttawa,*

The subject lot has 39 metres of frontage along Meadowbrook Road, a major collector road. Major collector roads serve neighbourhood travel between collector and arterial roads. The western lot line abuts a detached dwelling and the rear lot line abuts a municipal owned park, Maxime Park. Fencing between the park and the property will be reviewed in the future.

To build two principal unit buildings, the Owner needs to rezone the property via a **Major Zoning By-law Amendment,** then the Owners will need to proceed to the Committee of Adjustment with **Consent Application(s).**

## Planning Comments

1. **Official Plan** – The City's *Official Plan* (OP) designates the subject site "General Urban Area". The General Urban Area designation permits the development of a full range and choice of housing types to meet the needs of all ages, incomes and life circumstances, in combination with conveniently located employment, retail, service, cultural, leisure, entertainment and institutional uses. Subject to the policies in Section 3.6 of the Official Plan, the City supports infill development and other intensification within the General Urban Area provided it enhances and complements the desirable characteristics and ensures the long-term vitality of the existing communities that make up the city. Building height in the General Urban Area will continue to be predominantly Low-Rise. Within this range, changes in building form, height and density will be evaluated based upon compatibility with the existing context and the planned function of the area.

The evaluation of development applications in the General Urban Area will be accordance with Section 2.5.1 and Section 4.11. Section 2.5.1 *Designing Ottawa* provides the overall direction for assessing neighbourhood compatibility. Section 4.11 - *Urban Design and Compatibility* identifies general criteria for the evaluation of a specific development relative to policies of Section 2.5.1.

Staff note that the subject property is just outside of the Blair Transit Oriented Development (TOD) Area, specifically the south sector, which includes properties within an 800 metre walk from the station platform.

## 2. Zoning –From R1WW to R2N

The property is inside the Greenbelt and the zoning provisions applicable to Schedule 342 and 343 apply here. City Council adopted Zoning Changes on October 14, 2020. Changes are found in Document 1 of the report entitled Zoning Changes to Regulate Residential Development in the Urban Area Inside the Greenbelt (By-law 2020-288 and 2020-289) The reason these provisions have not been incorporated into the By-law online is because they were under appeal. The most restrictive provisions apply in an appeal.

Council adopted the Technical Anomalies: Infill and R4 Phase II recommendations and passed an implementation By-law (2021-111) on April 14, 2021. These provisions are now in effect.

A long semi-detached dwelling is *a residential use building that contains two dwelling units, where the dwelling units are attached and arranged one behind the other*. In Area A on Schedule 343, *where a long semi-detached dwelling is severed, the lands on which a long semi-detached dwelling is located are considered one lot for zoning purposes* (Section 161 (14) (a)(ii)).

*Where a long semi-detached dwelling is severed in a flag lot configuration, the minimum width of the pole portion must be 3 metres measured from the original lot's interior side lot line (*Section 161 (14)(a)(iii)). On April 14 City Council reduced the required lot width from 3 m to 2.2 metres, and 1.7 m when two flagpoles abut each other (By-law 2021-111).

Staff note that because the rear lot line does not abut an R1, R2, R3 or R4 zone, the alternative rear yard setback of Table 144 B does not apply.

Table 156 A - R1 Subzones

| I Sub-Zone | II Minimum Lot Width (m) | III Minimum Lot Area ($m^2$) | IV Maximum Building Height (m) | V Minimum Front Yard Setback (m) | VI Mini-mum Corner Side Yard Setbac k (m) | VII Minimum Rear Yard Setback (m) | VIII Minimum Interior Side Yard Setback (m) | IX Maximum Lot Coverage (And Other Provisions ) | X End Notes (see Table 156B) |
|---|---|---|---|---|---|---|---|---|---|
| WW[5] | 9 | 450 | Schedule 342, is 8.5; in other cases 11 m | 5 | 5 | 7[6] | 1 | n/a | 5, 6 |

Table 156 B – Additional Zoning Provisions

| I **Endnote Number** | II **Additional Zoning Provisions** |
|---|---|
| 5 | (i) Despite the minimum front yard setback provision in column V of Table 156A, on an interior lot with a lot width greater than 36 metres in Area A on Schedule 343: any part of a detached dwelling that is wider than 60 per cent of the permitted width of the building envelope must be setback a further 2 metres from the front lot line than the rest of the front building façade; and,<br><br>(ii) no part of an attached or detached garage or carport may be located closer to the front lot line than the front wall of the principal building.<br><br>(iii) See Part V – Section 144 for yard setbacks and corner lot regulations, and Section 139 and 140 for garage regulations. |
| 6 | Where a lot is located within S. 342, see Part V, Section 144 – Alternative Yard Setbacks for Low-rise Dwellings in the Greenbelt. |

*Figure 2: R1WW Zoning – Existing – Table 157 A (By-law 2020-288)*

3. Table 158 A of the said by-law No. 2008-250 is replaced with the following:

158 A – R2 Subzone Provisions

| I Sub-zone | II Prohibited Uses | III Principal Dwelling Type | IV Minimum Lot Width (m) | V Minimum Lot Area (m) | VI Maximum Building Height (m) | VII Minimum Front Yard Setback (m) | VIII Minimum Corner Side Yard Setback (m) | IX Minimum Rear Yard Setback (m) | X Minimum Interior Side Yard Setback (m) | XI End notes see Table 158B |
|---|---|---|---|---|---|---|---|---|---|---|
| N | None | Detached, Duplex, Linked-detached | 9 | 270 | Schedule 342, Area A is 8.5; all other cases 11 | 5 | 5 | 7 | 1 | |
| | | Long Semi | 10 | 300 | Schedule 342, Area A is 8.5 ; all other cases 11 | 5 | 5 | 7 | 1 | |
| | | Semi-detached | 9 | 270 | Schedule 342, Area A is 8.5; all other cases 11 | 5 | 5 | 7 | 1 | |
| | | Detached, Linked-detached | 9 | 270 | 11 | 4.5 | 4.5 | 7.5[4] | 1 | 6 |

*Figure 3: R2N Zoning – Table 162 A (By-law 2020-288)*

| Zoning Table | Existing R1WW Detached Dwelling | Proposed R2N Long Semi-detached | Actual Proposed |
|---|---|---|---|
| Lot Width | 9 m | 10 m | 9.868 m |
| Lot Area | 450 sq.m | 300 sq.m | 360.87 sq.m |
| Maximum Building Height | Schedule 342 is 8.5 m, in other cases 11 metres | Schedule 342 is 8.5 m, in other cases 11 metres | |
| Front Yard Setback | 5 m | 5 m | 5 m |
| Rear Yard Setback | 7 m | 7 m | 7.5 m |
| Side Yard Setback | 1 m | 1 m | 1.2 |

*Figure 4: Table comparing existing and proposed zoning.*

As proposed, the lots are slightly deficient on the lot width requirement.

3. **Comments**
   It is not unreasonable to rezone the property as there is a mix of low density type dwellings in the community; however, Staff want to stress that a suitable transition between the Planned Unit Development to the east and the detached building to the west is necessary.

**Requested Zoning By-law Amendment submission documents:**

- Site Plan
- Concept Plan
- Survey Plan
- Elevations
- Planning Rationale
- Phase 1 ESA

4. **Easement/right-of-way –** If a shared private road or shared driveway is proposed for access to the parcels, then an easement/right of way is required over the private road/shared driveway in favour of the Owners of the individual properties. A Joint Use and Maintenance Agreement (JUMA) setting out the obligations between the Owner(s) and the proposed future owners would also be required.

5. **Affordable Housing Programs –** Canada Mortgage and Housing Corporation has a Rental Construction Financing Program and you are encouraged to participate if you are eligible.

6. This is the **Formal Pre-Application Consultation** meeting for a Major Zoning Amendment Application. Application forms, timeline and fees can be found online, through the hyperlinks provided.

### Major Zoning By-law Amendment Planning Applications Fees

The following outlines the application fees for each type of application, fees effective January 1, 2021. Please note fees increase each year:

Zoning By-law Amendment

Major Zoning Amendment - **$21,722.94**
Conservation Fee - **$390***
Total – **$22,112.94**

* Conservation Authority will invoice for any additional fees and technical report review as required.

### Consents (Severances)

The legal address is CON 2 OF S PT LOT 22, I understand that you cannot apply for part lot control unless the property is in a registered plan of subdivision. A Consent application to the Committee of Adjustment would be necessary to create the lots for the proposed dwellings. The Consent Application should include proposed easements/Right-of-way over the property.

Please note that Consent (Severance) applications are handled by the Committee of Adjustment. The Planning Department provides comments on Committee of Adjustment applications; however, the Committee of Adjustment makes the decision. For more information on the Committee of Adjustment, including application forms and fees, please visit: https://ottawa.ca/en/planning-development-and-construction/committee-adjustment. For questions pertaining to forms and fees, please contact the Committee of Adjustment directly at cofa@ottawa.ca or at (613)-580-2436.

#### *Conditions of a Provisional Consent*

The *Planning Act* (SubSection 53 (12)) allows the Committee of Adjustment the ability to impose any condition to a provisional consent, if it believes the condition is reasonable and has regard to the nature of the development proposed. All conditions of approval must be fulfilled within one year of the decision before the consent is given. Below are typical conditions which are imposed.

#### Infrastructure-related conditions (NOTE: this is not an exhaustive list)

- Removal of dwelling and/or structures and capping and blanking of existing services, if applicable.
- Separate services from street required (demonstrated through a servicing plan created by an engineer)
- Demonstration of appropriate grading and drainage (demonstrated through a grading plan created by an engineer)
- Noise condition
- Asphalt overlay condition, if applicable
- Joint-Use and Maintenance Agreement

### Parkland Dedication

- Cash-in-lieu of parkland will be required as a condition of the severance approval, as per the Parkland Dedication By-law.

### Engineering Comments

Further to the pre-application consultation meeting held on May 6, 2021 for the above-noted site, please see high-level engineering-related notes below (#1 to #5), and the attached Servicing Memo. The Servicing Memo reflects the engineering design and submission requirements for the Zoning By-law Amendment application, among other relevant information applicable to the said application. **The Applicant is to consult both the Servicing Memo (Attachment 1) and the notes listed below.** Note that the requested submission documents have been listed below as well.

**Engineering-related notes:**

1. Joint-Use Maintenance Agreement (JUMA):

   With severance, the Owner(s) agrees that it shall ensure that the future Owner of the units shall enter into a Private Agreement which shall be binding upon the owners and all subsequent purchasers to deal with the joint use, maintenance and liability of the common elements, including but not limited to the private roadway, private sewers, private water service, easements, and any other elements located on the common property for the mutual benefit and joint use of the Owners.

2. Servicing and Stormwater Management:

   a. On Meadowbrook Rd., there is a 300mm dia. watermain, 300mm dia. sanitary sewer (also note the Maxime Trunk Sanitary Sewer on Maxime St.), and the 525mm dia. storm sewer. The depths of the sewers on Meadowbrook Rd. vary from approximately 2.5m to 4m. We will request that the Applicant provide flow calculations based on the type of development/units, location of services. The City will then carry out an analysis to verify that our sewer system has sufficient capacity to accommodate the proposed development. As part of the work involved in the Site Servicing and Stormwater Management Report, the Applicant can request as-built information, including hydrologic and hydraulic information on the drainage system in the Pineview area, where the property is located. Please refer to the Servicing Memo for further information. In addition, the Applicant is recommended to consult the City's geoOttawa website: (http://maps.ottawa.ca/geoOttawa/) for basic information regarding the municipal services on Meadowbrook Rd. (pipe diameter, material, location of CBs, MHs, hydrants, valves, etc.).

   b. Note the existing catchbasin on the (private) property and the lead to storm manhole MHST 21335. A sewer extension agreement may be required to extend the storm sewer on Meadowbrook Rd. such that the storm laterals for the proposed dwellings be dropped to the storm sewer in the right-of-way, the existing lead be abandoned, and a catchbasin (may be relocated or proposed – to be discussed in the submission) and lead be installed in the right-of-way with the lead to the storm sewer.

   c. Note that the Pineview area's stormwater runoff is conveyed through an underground system to Green's Creek. The Rideau Valley Conservation Authority (RVCA) shall be circulated, and their requirements are to be met, accordingly.

3. Geotechnical Considerations:

   The area is relatively flat, generally sloping towards Green's Creek. The subsoil is heterogeneous fill consisting of sand, gravel and/or cobble. Below this is silty sand with some clay and gravel intermixed, bearing on bedrock, which is also present in the area. The Geotechnical Report is to take into

account these subsoil conditions and the suitability of these soils for the proposed development and the foundation proposed.

4. MECP ECA:

   With severance, please note that this site will be subject to a Ministry of the Environment, Conservation and Parks (MECP) Environmental Compliance Approval (ECA) under a separate application. Please consult the Servicing Memo for further information.

5. Utilities:

   Note the presence of above-ground utilities, among and other utilities in the area. Coordination will be required with the applicable agencies at the time of development.

**Requested Zoning By-law Amendment submission documents:**

- Site Servicing and Stormwater Management Report
- Geotechnical Report

Should you have any questions or require clarification on the above engineering-related matters, please contact Sara Mashaie at sara.mashaie@ottawa.ca.

### Transportation Comments

1. The proposed development does not trigger a Traffic Impact Assessment (TIA).
2. Noise Impact Studies required for the following:
   a) Road (development is within 100 metres of Meadowbrook Road - a major collector road)

   This would be required as a condition of the provisional consent application.

Should you have any questions or require clarification on the above engineering-related matters, please contact Mike Giampa at Mike.Giampa@ottawa.ca

### Forestry Comments

1. 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.
2. For more help with tree retention options, contact Mark Richardson mark.richardson@ottawa.ca
3. The Tree By-law (By-law No. 2020-340) applies to this property as it is in the Urban Area, which consists of both the Inner Urban Area and Suburban Area.

   The new Tree Protection By-law came into effect as of January 1, 2021. A Tree Information Report is required for Committee of Adjustment applications if the critical root zones of protected trees on or adjacent to the property are going to be affected. Tree Information Reports should have the required tree information shown on the grading plan and the plan for the site, as prescribed in Schedule "C", See Infill Development TIR - Full.

## Tree planting requirements:

1. Minimum Setbacks
   - Maintain 1.5m from sidewalk or MUP/cycle track.
   - Maintain 2.5m from curb
   - Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.
   - Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing.
   - Adhere to Ottawa Hydro's planting guidelines (species and setbacks) when planting around overhead primary conductors.
2. 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)
3. 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
4. Soil Volume
   - Please ensure adequate soil volumes are met:

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

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

5. Sensitive Marine Clay
   - Please follow the City's 2017 Tree Planting in Sensitive Marine Clay guidelines
6. For additional information on the tree planting requirements please contact Tracy.Smith@Ottawa.ca

## Urban Design

1. Please include a design brief as part of the planning rationale. A terms of reference is provided (Attachment 2).
2. Please review and explain how the proposal meets all *Official Plan* policies related to intensification and compatibility for this form of intensification within the subject context.
3. The applicant should explore alternative approaches to massing for the four proposed semi-detached buildings to avoid a repetitive streetscape.
4. Efforts should be made to decrease the mass or consider alternative built form for the proposed buildings on the west side of the site abutting the existing detached dwelling. Alternative approaches such as the one taken at 191 Norice Street were discussed.
5. Zoning provisions should be tailored to ensure a compatible built form is provided on-site.
6. Consideration should be given to varied setbacks for both the front and rear yards.
7. Locating the parking in the middle of the block is appreciated, as it is screened from the public realm on both sides of the site.
8. Efforts should be made to break the depth of the semi-detached units, through the use of built form and architectural relief on the upper floors.
9. The driveways should be treated in a pedestrian friendly manner. The use of pavers vs. asphalt is encouraged, to delineate a space that is pedestrian first.
10. Consideration should be given to the amenity areas abutting the parkland to the south. These should be accessible spaces, with enhanced landscaping. Perhaps consider the use of these facades as front facades for the rear semi-detached units, with porches similar to those proposed on the front of the building.
11. Given the lack of garages, considerations need to be made for garbage and bicycle storage.
12. As discussed, the secondary dwelling units will rely on active transportation, and should be provided with suitable bike storage.
13. Functionality of the driveways and parking stalls needs to be confirmed.
14. The architectural treatment of the units should be varied in addition to the built form to create a more interesting streetscape.

## Other Comments

You are encouraged to contact the Ward Councillor, Councillor Tim Tierny, about the proposal.

## Required Plans and Report Submissions

I've attached a list of reports and submission materials focus on the above and other matters necessary for staff and circulated agencies to provide informed review and comment on the proposed zoning by-law amendment.

I have included a few points of clarification below:

a. Planning Rationale – The planning rationale should contain well reasoned arguments in support of the zoning amendment application to address the requested change in land use and zone provisions. Also, include among the usual supporting arguments a statement of the proposed site. In addition, the planning rationale must provide a proposed strategy for public consultation, in accordance with Bill 73.

b. Coloured Building Elevations – In addition to the two sets of typical building elevations (including flanking facades for end units), I would like one set of coloured elevations or a set of coloured building perspectives.

c. Phase 1 Environmental Site Assessment – Prepared in accordance with Ontario Regulation 153/04.

d. CD in .pdf format of all plans and reports – 1 copy.

## Attachments

1. Servicing Memo
2. Design Brief
3. Required Plans and Reports for Zoning By-law Amendment Application

Regards,


Lucy Ramirez

Planner
Development Review East Unit
Development Review Branch
Planning Services
City of Ottawa

Urbaniste
Unité Examen des projets d'aménagement - Est
Direction de l'examen des projets d'aménagement
Services de la planification
Ville d'Ottawa

Tel Tél. 613-580-2424 Extension. poste 23808

lucy.ramirez@ottawa.ca Mail Code Code de courrier 01-14

# SERVICING MEMO

| | |
|---|---|
| Date: | May 10, 2021 |
| To / Destinataire | Lucy Ramirez<br>Planner, Development Review East |
| From / Expéditeur | Sara Mashaie, P.Eng.<br>Project Manager, Infrastructure Approvals, Development Review East |
| Subject / Objet | **Pre-Application Consultation**<br>**1568 Meadowbrook Rd., Ward 11 – Beacon-Hill/Cyrville** File No. PC2021-0139<br>*Proposed rezoning to accommodate the construction of 4 long semi-detached dwellings* |

Please note the following information regarding the engineering design submission for the above noted site:

****Note:** Some items may not be required as part of your submission and are for informational purposes.

1. The Servicing Study Guidelines for Development Applications are available at the following address: https://ottawa.ca/en/city-hall/planning-and-development/information-developers/development-application-review-process/development-application-submission/guide-preparing-studies-and-plans#servicing-study-guidelines-development-applications

2. The following Engineering reports are requested for the **Zoning By-law Amendment** submission:

   a. Site Servicing and Stormwater Management Report

   b. Geotechnical Report

3. Plans are to be submitted on standard **A1 size** (594mm x 841mm) sheets, utilizing an appropriate Metric scale (1:200, 1:250, 1:300, 1:400, or 1:500). With all submitted plans and reports, please provide an individual PDF format of the files.

4. Servicing and site works shall be in accordance with the following documents:

   ⇨ Ottawa Sewer Design Guidelines (October 2012)

- ⇨ 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 Park and Pathway Development Manual (2012)
- ⇨ City of Ottawa Accessibility Design Standards (2012)
- ⇨ Ottawa Standard Tender Documents (latest version)
- ⇨ Ontario Provincial Standards for Roads & Public Works (2013)

5. 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 or by phone at (613) 580-2424 x.44455).

6. The Stormwater Management Criteria, for the subject site, is to be based on the following:

   i. The 5-yr storm event using the IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.

   ii. For separated sewer system built pre-1970 the design of the storm sewers are based on a 2 year storm.

   iii. The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).

   iv. A calculated time of concentration (Cannot be less than 10 minutes).

   v. Flows to the storm sewer in excess of the 5-year storm release rate, up to and including the 100-year storm event, must be detained on site.

   vi. For a combined sewer system the maximum C= 0.4 or the pre-development C value, whichever is less. In the absence of other information the allowable release rate shall be based on a 2 year storm event.

Note: There may be area specific SWM Criteria that may apply. Check for any related SWM &/or Sub-watershed studies that may have been completed.

7. Deep Services (Storm, Sanitary & Water Supply)

*i. Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.*

*ii. Connections to trunk sewers and easement sewers are typically not permitted.*

*iii. Provide information on the monitoring manhole requirements – should be located in an accessible location on private property near the property line (ie. Not in a parking area).*

*iv. Review provision of a high-level sewer.*

*v. Provide information on the type of connection permitted*

Sewer connections to be made above the springline of the sewermain as per:

*a.* Std Dwg S11.1 for flexible main sewers – *connections made using approved tee or wye fittings.*

*b.* Std Dwg S11 (For rigid main sewers) – *lateral must be less that 50% the diameter of the sewermain,*

*c.* Std Dwg S11.2 (for rigid main sewers using bell end insert method) – *for larger diameter laterals where manufactured inserts are not available; lateral must be less that 50% the diameter of the sewermain,*

*d.* Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.

*e. No submerged outlet connections.*

8. Water Boundary condition requests must include the location of the service and the expected loads required by the proposed development. Please provide the following information:

   i. Location of service

   ii. Type of development and the amount of fire flow required (as per FUS, 1999).

   iii. Average daily demand: ___ l/s.

   iv. Maximum daily demand: ___l/s.

   v. Maximum hourly daily demand: ___ l/s.

9. All development application should be considered for an ECA by the MOECC.

   a. Consultant determines if an approval for sewage works under Section 53 of OWRA is required. Consultant determines what type of application is required and the City's project manager confirms. (If the consultant is not clear if an ECA is required, they will work with the City to determine what is required. If the consultant is still unclear or there is a difference of opinion only then will they approach the MOECC).
   b. The project will be either transfer of review (standard), transfer of review (additional), direct submission, or exempt as per O. Reg. 525/98.
   c. Pre-consultation is not required if applying for standard works (schedule A of the Agreement) under Transfer Review.
   d. Mandatory pre-consultation is required if applying for additional works (schedule A of the Agreement) under Transfer Review.
   e. Pre-consultation with local District office of MOECC is recommended for direct submission.
   f. Consultant completes an MOECC request form for a pre-consultation. Send request to moeccottawasewage@ontario.ca.

10. Phase 1 ESAs and Phase 2 ESAs must conform to clause 4.8.4 of the Official Plan that requires that development applications conform to Ontario Regulation 153/04.

Should you have any questions or require additional information, please contact me directly at (613) 580-2424, ext. 27885 or by email at sara.mashaie@ottawa.ca.

# Appendix F – Drawings

**Existing Site Survey Plan by Stantec (1 Page)**

**Architectural Site Plan and Drawings (4 Pages)**

4 June 2021 11:51 AM

ASSOCIATION OF ONTARIO LAND SURVEYORS
*PLAN SUBMISSION FORM*
**2169088**

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

# SURVEYOR'S REAL PROPERTY REPORT

PART 1 - PLAN OF SURVEY

## PART OF LOT 22
## CONCESSION 2 (OTTAWA FRONT)

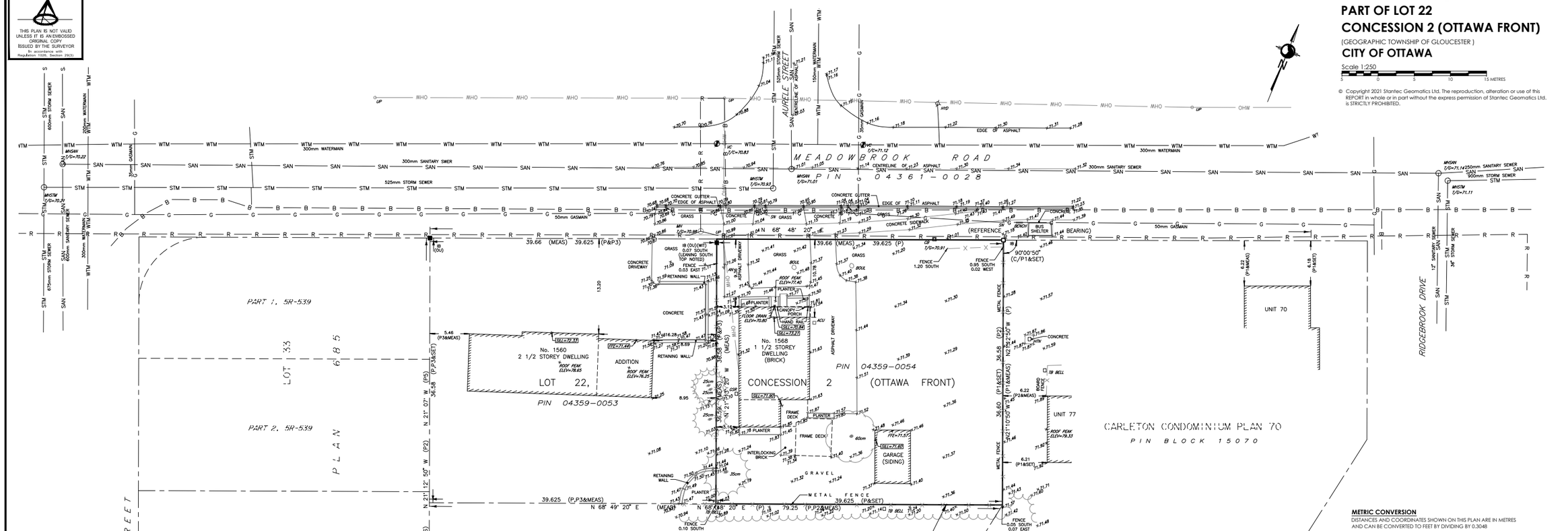
(GEOGRAPHIC TOWNSHIP OF GLOUCESTER )

## CITY OF OTTAWA

Scale 1:250

5 0 5 10 15 METRES






## LEGEND (IF APPLICABLE)

| | | |
|---|---|---|
| ■ | DENOTES | FOUND MONUMENTS |
| □ | - | SET MONUMENTS |
| IB | - | IRON BAR |
| IRØ | - | ROUND IRON BAR |
| SIB | - | STANDARD IRON BAR |
| SSIB | - | SHORT STANDARD IRON BAR |
| C/C | - | CUT CROSS |
| C/P | - | CONCRETE PIN |
| WIT | - | WITNESS |
| PIN | - | PROPERTY IDENTIFICATION NUMBER |
| MEAS | - | MEASURED |
| PROP | - | PROPORTIONED |
| O/U | - | ORIGIN UNKNOWN |
| SG, W&S | - | STANTEC GEOMATICS LTD. |
| P | - | PLAN BY 647 DATED JAN. 13, 1967 |
| P1 | - | CARLETON CONDOMINIUM PLAN 70 |
| P2 | - | REGISTERED PLAN M-123 |
| P3 | - | PLAN BY 647 DATED SEPT. 16, 1993 |
| P4 | - | REGISTERED PLAN 685 |
| C/ | - | CALCULATED PER |
| □ | *ACU* | AIR CONDITIONING UNIT |
| ◄ | *AN* | ANCHOR |
| ▬ | *BENCH* | BENCH |
| ● | *BOL* | BOLLARD |
| ○ | *BOUL* | BOULDER |
| ⊡ | *CB* | CATCH BASIN |
| ⊡⊡ | *DCB* | DOUBLE CB |
| ⊠ | *SICB* | SIDE INLET CB |
| □ | *GSR* | GAS SERVICE REGULATOR |
| ⋈ | *GV* | GAS VALVE |
| ⊠ | *HM* | HYDRO METER |
| □ | *HTN* | HYDRO TRANSFORMER |
| ○ | *HW* | HAND WELL |
| ⊹ | *HYD* | FIRE HYDRANT |
| ▭ | *JBX* | JUNCTION BOX |
| ○ | *LS* | LIGHT STANDARD |
| ◯ | *MH* | MAINTENANCE HOLE UNIDENTIFIED |

| | | |
|---|---|---|
| ◯ | *MHB* DENOTES | MAINTENANCE HOLE BELL |
| ◯ | *MHF* " | MAINTENANCE HOLE FIBRE OPTIC |
| ◯ | *MHH* " | MAINTENANCE HOLE HYDRO |
| ◯ | *MHSAN* " | MAINTENANCE HOLE SANITARY |
| ◯ | *MHSTM* " | MAINTENANCE HOLE STORM |
| ◯ | *MHT* " | MAINTENANCE HOLE TRAFFIC |
| ⊸ | *SN* " | SIGN |
| □ | *TB BELL* " | TERMINAL BOX - BELL |
| □ | *TB CATV* " | TERMINAL BOX - CABLE |
| ○ | *UP* " | UTILITY POLE |
| ▭ | *VB* " | VALVE BOX |
| ⊛ | *VC* " | VALVE CHAMBER |
| ⊙ | *WV* " | WATER VALVE |
| ○ | " | TREE STUMP |
| ⊕ | " | TREE CONIFEROUS |
| ⊕ | " | TREE DECIDUOUS |
| B B B B B | | BELL |
| R R R R R | | ROGERS |
| WTM WTM WTM | | WATERMAIN |
| G G G | | GASMAIN |
| STM STM STM | | STORM SEWER |
| SAN SAN SAN | | SANITARY SEWER |

**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 ASTRONOMIC AND ARE REFERRED TO THE SOUTHERLY LIMIT OF MEADOWBROOK DRIVE, HAVING A BEARING OF N68°48'20"E AS SHOWN ON CARLETON CONDOMINIUM PLAN 70.

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

**UTILITY NOTE**
LOCATION OF UNDERGROUND SERVICES ARE APPROXIMATE AND PER THE CITY OF OTTAWA SHEETS, AND MUST VERIFIED PRIOR TO CONSTRUCTION.

**NOTE**
THIS PLAN OF SURVEY IS TO BE READ IN CONJUNCTION WITH THE REPORT SUMMARY NOTED AS PART 2 HEREON.
THIS REPORT CAN ONLY BE UPDATED BY THIS OFFICE. NO ADDITIONAL PRINTS OF THIS ORIGINAL REPORT WILL BE ISSUED SUBSEQUENT TO THE DATE OF CERTIFICATION.
ALL TIES ARE MINIMUM UNLESS OTHERWISE NOTED.
ALL TIES TO CURVED BOUNDARY ARE RADIAL TO ARC.
RISK OF UNDERGROUND SERVICES. MONUMENTATION PLANTED ACCORDINGLY.

**PART 2**
This Report was prepared for Nemarin Group Limited and the undersigned accepts no responsibility for the use by other parties.
1. REGISTERED RIGHTS-OF-WAY/EASEMENTS
No rights-of-way or easements were found to be registered against the subject property.
2. PROPERTY IMPROVEMENTS
There is a 1 ½ storey dwelling situate wholly within the subject lands. There is a detached garage to the east of the said dwelling. See Part 1 (Plan) of this Report for further site improvements and location of boundary fences.
3. COMPLIANCE WITH MUNICIPAL ZONING BYLAWS
Compliance is not certified by this report.

**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 28th. DAY OF MAY, 2021.

June 4, 2021
DATE

FRANCIS LAU
ONTARIO LAND SURVEYOR

SRO MAP COORD.= 374632.23, 5032045.36

Stantec Geomatics Ltd.
CANADA LANDS SURVEYORS
ONTARIO LAND SURVEYORS
1331 CLYDE AVENUE, SUITE 400
OTTAWA, ONTARIO, K2C 3G4
TEL. 613.722.4420
stantec.com

| DRAWN: NJ | CHECKED: KJ | PM: KJ | FIELD: ES/KC | PROJECT No.: 161614373-111 |
|---|---|---|---|---|

This plan was signed with a scanned signature as a result of the Emergency Order related to the COVID-19 pandemic.

W:\active\161614373\corporation\Drawing\161614373-111-01_r06.dwg

SITE PLAN OF PLAN OF SURVEY, PART OF LOT 22, CONCESSION 2 (OTTAWA FRONT), CITY OF OTTAWA

**ZONING:** R1WW CONVERTED TO R2?
RESIDENTIAL FIRST DENSITY (SEC. 155-156) CITY OF OTTAWA;
RESIDENTIAL SECOND DENSITY (SEC. 157-158) CITY OF OTTAWA;

PROPOSED BUILDING TYPE: 4 x 2 STOREY, LONG-SEMI c/w SDUs
2 x 3-BEDS + 2 x 1-BED EACH

**LOT DEPTH:** 36.59m (120.05')

**ADJACENT ZONING:**
NORTH: R2N
SOUTH: I1F H(15)
WEST SIDE: R1WW
EAST SIDE: R3Y[708]

SCHEDULE 1 AREA: AREA 'C'
SCHEDULE 1A AREA: AREA 'C'

**LOT INFO**

**AFTER CONVERSION TO R2N - ALL LOTS**

| P. STANDARD | 1568 M.BROOK A REQUIRED | 1568 M. BROOK PROPOSED | DETACHED EXISTING | NOTES |
|---|---|---|---|---|
| **LOT WIDTH:** | 10m | 9.915m | 39.66m | |
| **LOT AREA:** | 300m2 | 362.9m2 | 1451.2m2 | |
| **HEIGHT:** | 8.5m | 9.00m | ~7.0m | |
| **FRONT YARD:** | 5m | 5.01m | 9.36m | |
| **CORNER YARD:** | n/a | n/a | n/a | |
| **REAR YARD:** | 7m | 7.53m | 10.6m | 25% LOT DPTH |
| **INTERIOR YARD:** | 1m | 1.22m | 1.73m | |
| **R.Y. SOFTSCAPE:** | 7m2 | 63.5m2 | 557m2 | 25% OF L. AREA |
| **AMENITY AREA:** | n/a | n/a | n/a | |
| **PARKING SPACES:** | 0 | 2 | 1 | |
| **BIKE SPACES:** | 0 | 0 | 0 | |
| **M.L.C.:** | NO MAX. | | | |

**BUILDING AREAS**

| | | | |
|---|---|---|---|
| **BASEMENT FL. GFA:** | - | 132.0m2 | - |
| **FIRST FL. GFA:** | - | 132.0m2 | - |
| **SECOND FL. GFA:** | - | 175.3m2 | - |
| **THIRD FL. GFA:** | - | 0.0m2 | - |
| **STORAGE:** | - | 0.0m2 | - |
| **GARAGE:** | - | 0.0m2 | - |
| **EXITS (ALL FLOORS):** | - | 0.0m2 | - |
| **TOTAL LIVING:** | - | 439.3m2 | - |
| **TOTAL ALL AREAS:** | - | 439.3m2 | - |

**PROPOSED SITE DEVELOPMENT INFO.**

| | | | |
|---|---|---|---|
| **NEW GROSS FLOOR AREA:** | 439.3m2 | - | |
| **EX. GROSS FLOOR AREA:** | 0.0m2 | 185.0m2 | EX. DEMO'D |
| **NUMBER OF UNITS:** | 2 PDUs + 2 SDUs | SINGLE | |
| **PROPOSED STOREYS:** | 2 | 1.5 | |
| **BUILDING COVERAGE:** | 36.4% | - | |
| **SOFT LANDSCAPING CVG.:** | 35.4% | - | |
| **HARD LANDSCAPING CVG.:** | 2.7% | - | |
| **DECKS/PORCH/STEPS:** | 5.4% | - | |
| **ASPHALT CVG.:** | 19.8% | - | |
| **OTHER:** | 0.3% | - | |

**SURVEY INFO.**

SURVEY INFO TAKEN FROM
SURVEYOR'S REAL PROPERTY REPORT
PART 1 - PLAN OF SURVEY
PART OF LOT 22, CONCESSION 2 (OTTAWA FRONT),
CITY OF OTTAWA
PREPARED BY:
STANTEC GEOMATICS LTD.
JAN. 7, 2021

## SITE NOTES

NEW ROOF DOWN SPOUTS SHALL NOT BE DIRECTED TOWARDS THE ADJACENT PROPERTIES

EXCAVATED MATERIAL TO BE REMOVED FROM PROPERTY

ALL GRADE TO SLOPE 2% AWAY FROM FOUNDATION WALL

ALL MEASUREMENTS ARE IMPERIAL AND [METRIC]

EXISTING GRADING AND DRAINAGE PATTERNS NOT TO BE ALTERED

## EXISTING PLANTING MATERIAL

| CODE | COMMON NAME | QTY. | SIZE (DIA.) | CONDITION/NOTES |
|---|---|---|---|---|
| DECIDUOUS TREES | | | | |
| CONIFEROUS TREES | | | | |
| SHRUBS | | | | |

## NEW PLANTING MATERIAL

| CODE | COMMON NAME | QTY. | SIZE (DIA.) | CONDITION/NOTES |
|---|---|---|---|---|
| DECIDUOUS TREES | | | | |
| DT1 | RED MAPLE | 2 | 50mm Cal. | |
| CONIFEROUS TREES | | | | |
| SHRUBS | | | | |

## TREE CONSERVATION NOTES

1. ERECT A FENCE AT THE CRITICAL ROOT ZONE (CRZ1) OF TREES;
2. DO NOT PLACE ANY MATERIAL OR EQUIPMENT WITHIN THE CRZ OF THE TREE;
3. DO NOT ATTACH ANY SIGNS, NOTICES OR POSTERS TO ANY TREE;
4. DO NOT RAISE OR LOWER THE EXISTING GRADE WITHIN THE CRZ WITHOUT APPROVAL;
5. TUNNEL OR BORE WHEN DIGGING WITHIN THE CRZ OF A TREE;
6. DO NOT DAMAGE THE ROOT SYSTEM, TRUNK OR BRANCHES OF ANY TREE;
7. ENSURE THAT EXHAUST FUMES FROM ALL EQUIPMENT ARE NOT DIRECTED TOWARDS ANY TREE'S CANOPY.

* THE CRITICAL ROOT ZONE (CRZ) IS ESTABLISHED AS BEING 10 CENTIMETRES FROM THE TRUNK OF A TREE FOR EVERY CENTIMETRE OF TRUNK DIAMETER AT BREAST HEIGHT (DBH). THE CRZ IS CALCULATED AS DBH X 10 CM.
* TREE PROTECTION FENCE (PF) TO BE ERECTED BEFORE AND REMAIN UNTIL BUILDING CONSTRUCTION HAS COMPLETED AND TO CONSIST OF 1.8m HIGH PLYWOOD HOARDING (SEE DIAGRAM BELOW).

## SITE LEGEND

- EX. TREE TO BE REMOVED
- NEW CONIFEROUS TREE
- DENOTES SOFT LANDSCAPING
- DENOTES HARD LANDSCAPING
- EXISTING BUILDING FOOTPRINT
- PROPOSED HONEYCOMB HARD LANDSCAPING
- PROPOSED ASPHALT DRIVEWAY
- PROPOSED WOOD DECKS/ BALCONIES
- CAR PARKING SPACE (ASPHALT)
- BYCYCLE PARKING (ASPHALT)
- WASTE COLLECTION AREA
- SNOW STORAGE AREA
- PROPOSED/EXISTING ENTRY/EXIT
- PF — TEMPORARY PROTECTION FENCE
- EX. UTILITY POLE U.P.
- EX. CHAINED LINK/BOARD FENCE
- PROPERTY LINE

## WASTE COLLECTION LEGEND

GB

BB

B

G


3 / A1 KEY PLAN & CONTEXT
SCALE NO SCALE


1 / A1 ZONE PLAN
SCALE 1/8" = 1'-0"

SITE PREPARATIONS:

- EXAMINE SITE, AND ENSURE THAT EACH DIVISION PERFORMING WORK RELATED TO SITE CONDITIONS HAS EXAMINED IT, SO THAT EACH IS FULLY INFORMED ON ALL PARTICULARS WHICH AFFECT THEIR PROJECT WORK IN ORDER THAT CONSTRUCTION PROCEEDS COMPETENTLY AND EXPEDITIOUSLY
- WHERE DIMENSIONS ARE REQUIRED FOR PROPER FABRICATION, VERIFY DIMENSIONS OF COMPLETED WORK IN PLACE BEFORE FABRICATION AND INSTALLATION. VERIFY THAT PREVIOUSLY INSTALLED WORK AND SURFACES ARE SATISFACTORY FOR INSTALLATION OR APPLICATION OF BOTH, AND THAT PERFORMANCE OF SUBSEQUENT WORK WILL NOT BE ADVERSELY AFFECTED
- PROTECT ADJACENT PRIVATE AND PUBLIC PROPERTY FROM DAMAGE AND, IF DAMAGED, MAKE GOOD IMMEDIATELY. MAKE GOOD PRIVATE PROPERTY TO MATCH IN ALL DETAILS ITS ORIGINAL CONDITION IN MATERIAL AND FINISHES AS APPROVED, AND PUBLIC PROPERTY IN ACCORDANCE WITH REQUIREMENTS SPECIFIED AND/OR INSTRUCTED BY ITS OWNER OR AS DIRECTED BY THE CONSULTANTS
- PREVENT SPREAD OF DUST BEYOND THE CONSTRUCTION SITE BY WETTING, OR BY OTHER APPROVED MEANS, AS REQUIRED OR AS DIRECTED BY THE CONTRACTOR AND AUTHORITIES HAVING JURISDICTION
- VERIFY LOCATION OF AND LIMITATIONS IMPOSED BY, EXISTING MECHANICAL, ELECTRICAL, TELEPHONE AND SIMILAR SERVICES, AND PROTECT THEM FROM DAMAGE. IF NECESSARY, RELOCATE ACTIVE SERVICES TO ENSURE THAT THEY FUNCTION CONSTANTLY WHEREVER POSSIBLE
- CAP OFF AND REMOVE UNUSED UTILITY SERVICES ENCOUNTERED DURING WORK AFTER APPROVAL IS GIVEN BY THE UTILITIES CONCERNED OR JURISDICTIONAL AUTHORITIES, WHICH EVER MAY APPLY. RELOCATION, REMOVAL AND INSTALLATION OF EXISTING UTILITY SERVICES SHALL BE PERFORMED ONLY BY THE APPLICABLE UTILITY, AND OF OTHER SERVICES BY LICENSED PROFESSIONALS.
- ENSURE THAT PRECAUTIONS ARE TAKEN TO PREVENT LEAKAGE AND SPILLAGE FROM PLUMBING AND MECHANICAL WORK THAT MAY DAMAGE ADJACENT FINISHES


AZUL DESIGNS - BCIN#: 33578
2277 PROSPECT AVE.
OTTAWA, ON. K1H-7G2

FERNANDO MATOS - BCIN#: 22431
613-884-4425


QUALIFICATION INFO
SMALL BUILDINGS

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

**RESPONSIBILITIES:**

DO NOT SCALE DRAWINGS

ALL DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2006

ALL CONTRACTORS MUST WORK IN ACCORDANCE WITH ALL LAWS, REGULATIONS AND BYLAWS HAVING JURISDICTION

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND REPORT ALL ERRORS AND OMISSIONS TO THE ARCHITECT/DESIGNER



GENERAL NOTES:

# 1568 MEADOWBROOK ROAD

SCOPE OF WORK: NEW 2-STOREY LONG-SEMI c/w SDUs

CONSULTANTS:
STRUCTURAL -
MECHANICAL -
ELECTRICAL -

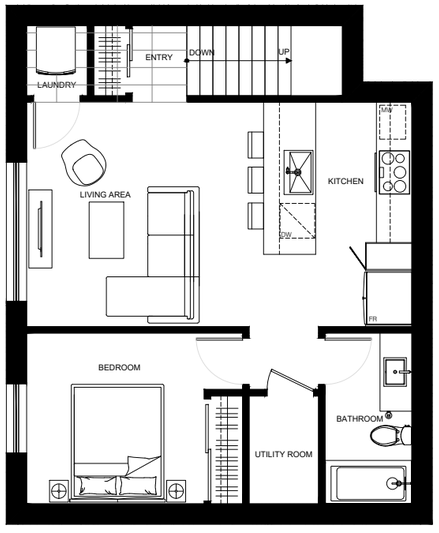
| NO. | REVISION/ISSUE | DATE |
|---|---|---|
| 4 | | |
| 3 | | |
| 2 | M.V. SUBMISSION | 00/00/0 |
| 1 | PRELIMINARIES | 06/10/2 |

PROJECT:
**1568 MEADOWBROOK RD.**
1568 MEADOWBROOK RD.
OTTAWA, ON. K1B 3L5
(613) 612-3288

DRAWING NAME:
SITE & LANDSCAPE PLAN

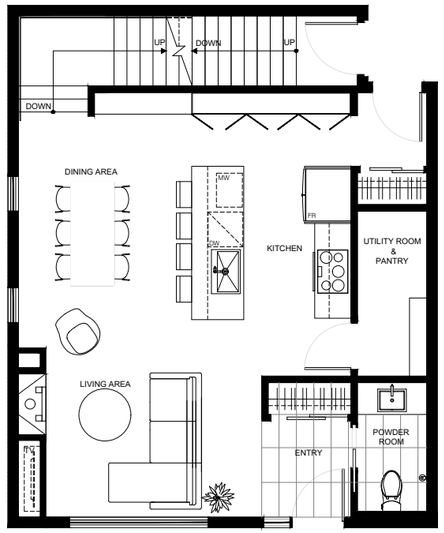
DESIGN BY: F.M.
DATE: JUNE 10, 2021
SCALE: AS NOTED
SHEET: A1

FILE NUMBER: D00-00-0000



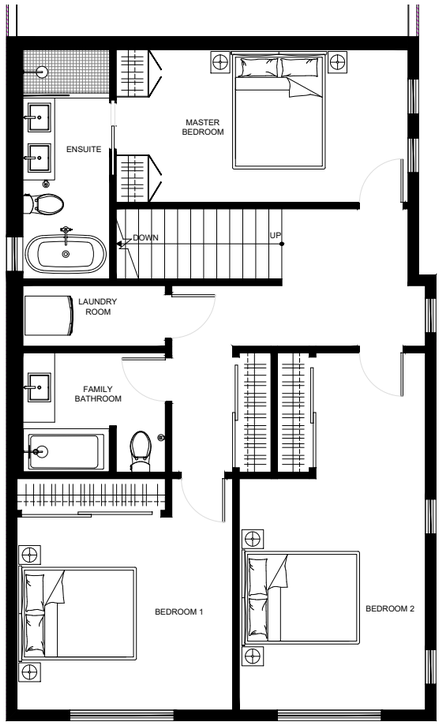

INTERIOR: 593 SQ. FT USEABLE
TOTAL SQ.FT: 715 SQ.FT.

1/100 BASEMENT FLOOR PLAN
ECHELLE: SCALE: 1/4" = 1'-0"




INTERIOR: 624 SQ. FT USEABLE
TOTAL SQ.FT: 726 SQ.FT.

2/100 GROUND FLOOR PLAN
ECHELLE: SCALE: 1/4" = 1'-0"




INTERIOR: 881 SQ. FT USEABLE
TOTAL SQ.FT: 953 SQ.FT.

3/100 2ND FLOOR PLAN
ECHELLE: SCALE: 1/4" = 1'-0"



| | | |
|---|---|---|
| ISSUED FOR COORDINATION | 01 | |
| emis pour / issued for | no. | J.M.A |

**PHILIP ZEIN DESIGN**
3901 RIVARD
montreal, quebec H2L 4H8
514.501.7445

projet / project: 1568 MEADOWBROOKE
OTTAWA, ONTARIO

superficie /square footage:

dessin / drawing: LAYOUT & FURNITURE PLAN

| | | |
|---|---|---|
| fichier cad / cad file: | | projet #: project #: |
| designer: | PZ, BM | |
| tech: | PZ | feuille: sheet: 100 |
| echelle / scale: | 1/4"=1'-0" | |
| day/month/year: | 2021.07.13 | |

SPATIAL SEPARATION CALCULATION

MAX. AREA OF EXPOSING BLDNG. FACE W: 1604 ft2
LIMITING DISTANCE: 4.0' [1.22m]
% ALLOWALBE U.P.O.: 74%
AREA OF COMPARTMENT W.: 1604 ft2
AREA OF ALLOWABLE U.P.O.: 1122.28 ft2
AREA OF CURRENT U.P.O.: 92.7 ft2
REQUIRED CONSTRUCTION
(FRR:CONSTRCTION:CLADDING):
- 0 HR: NONCOMBUSTIBLE:NONCOMBUSTIBLE -


1 / A4 NORTH ELEVATION
SCALE 3/16" = 1'-0"

## MATERIAL LEGEND & NOTES

1. FIBRE CEMENT PANELING FINISH (SPEC. B*)
2. STONE VENEER EXTERIOR FINISH (SPEC. C)
3. HORZ. CEMENT SIDING - PRE-FINISHED (SPEC. B)
4. VERT. CORRUGATED STEEL SIDING (SPEC. B)
5. FIBRE CEMENT PANELS SIDING
6. ALUMINUM PANELS SIDING or ALUMINUM STOCK EXT.
7. 4" or 5" PRE-CAST CONC. SILL
8. ~~ALUMINUM STOCK CLAD FASCIA~~
9. CEMENT PARGING TO 4" BELOW GRADE
10. DRAIN TO BE CONNECTED TO WEEPING TILE
11. ASPHALT SHINGLES
12. GLASS & METAL GUARDRAIL
13. 5" WIDE PRE-CAST CONC. SURROUND
14. ALUM. CLAD POST
15. 5" RAISED EIFS SURROUND
16. 6" DOUBLE RAISED EIFS FREIZE (4" + 2")
17. 12" WIDE PRE-CAST CONC. BAND (PROFILE T.B.D.)
18. CONCRETE STEPS
19. CORRUGATED STEEL WINDOW WELL

12" WIDE RAISED EIFS BAND

SOLDIER BRICK COURSE

10.4 SQ.FT — SCALING AREA USED TO CALCULATE FOR SB-12

TOTAL WALL AREA USED TO CALCULATE FOR SB-12

SPATIAL SEPARATION CALCULATION

MAX. AREA OF EXPOSING BLDNG. FACE E: 1604 ft2
LIMITING DISTANCE: 4.0' [1.22m]
% ALLOWALBE U.P.O.: 74%
AREA OF COMPARTMENT E.: 1604 ft2
AREA OF ALLOWABLE U.P.O.: 1122.28 ft2
AREA OF CURRENT U.P.O.: 57.3 ft2
REQUIRED CONSTRUCTION
(FRR:CONSTRCTION:CLADDING):
- 0 HR: NONCOMBUSTIBLE:NONCOMBUSTIBLE -

**AVERAGE GRADE CALCULATION**

83.07m (north-east)
82.64m (north-west)
82.74m (south-east)
82.96m (south-west)
---
82.85m AVG. GRADE


3 / A4 SOUTH ELEVATION
SCALE 3/16" = 1'-0"


AZUL DESIGNS - BCIN#: 33578
2277 PROSPECT AVE.
OTTAWA, ON. K1H-7G2

FERNANDO MATOS - BCIN#: 22431
613-884-4425


QUALIFICATION INFO
SMALL BUILDINGS

The undersigned has reviewed and takes responsibility for this design, and has the qualifications and meets the requirements set out in the Ontario Building Code to be a designer.

**RESPONSIBILITIES:**

DO NOT SCALE DRAWINGS

ALL DESIGN AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE ONTARIO BUILDING CODE 2006

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GENERAL NOTES:

# 1568 MEADOWBROOK ROAD

SCOPE OF WORK: NEW 2-STOREY LONG-SEMI c/w SDUs

CONSULTANTS:
STRUCTURAL -
MECHANICAL -
ELECTRICAL -

M/D/Y

| NO. | REVISION/ISSUE | DATE |
|---|---|---|
| 4 | | |
| 3 | | |
| 2 | M.V. SUBMISSION | 00/00/00 |
| 1 | PRELIMINARIES | 06/10/21 |

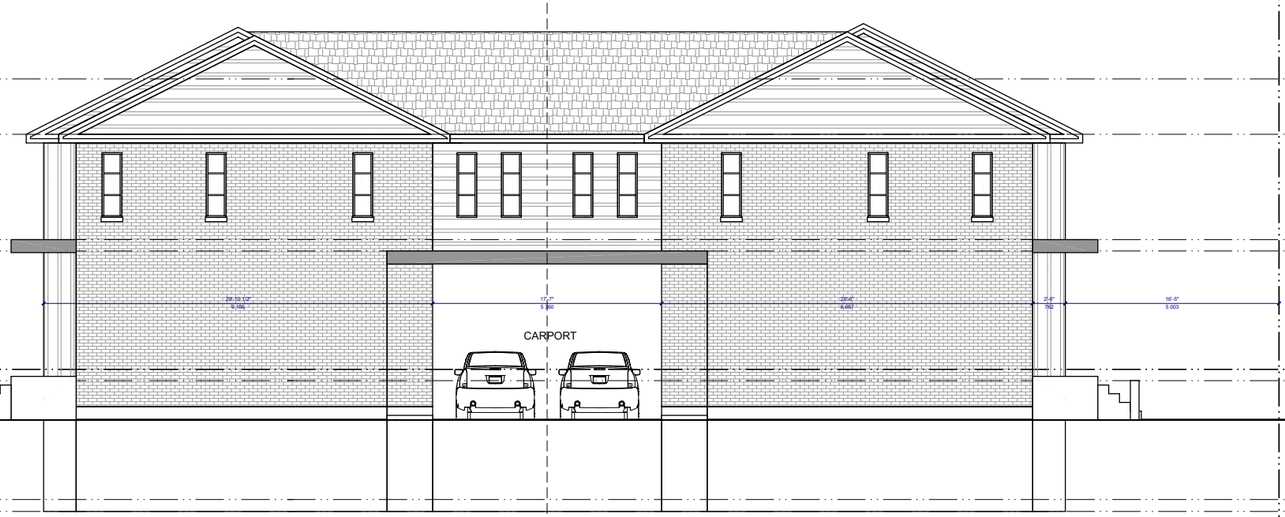
PROJECT: **1568 MEADOWBROOK RD.**
1568 MEADOWBROOK RD.
OTTAWA, ON. K1B 3L5
(613) 612-3288

DRAWING NAME: ELEVATIONS

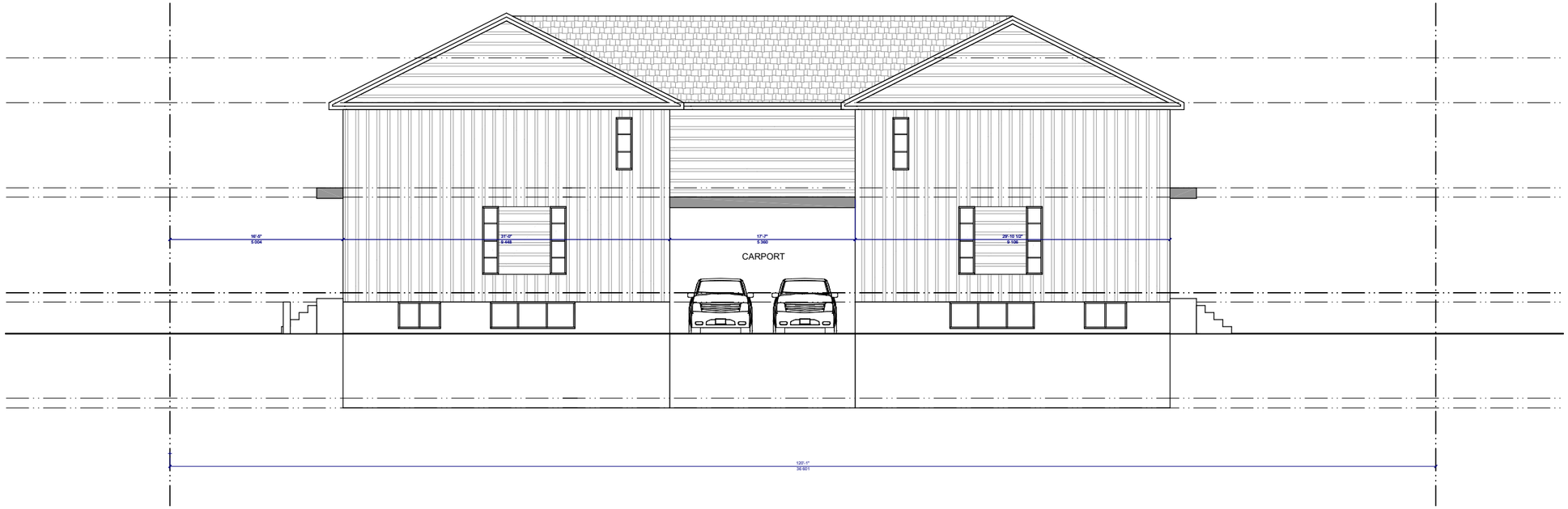
DRAWN BY: F.M.
DATE: JUNE 10, 2021
SCALE: AS NOTED
SHEET: A4

FILE NUMBER: D00-00-0000

# TYPICAL ELEVATION




1 / A5 EAST ELEVATION
SCALE 3/16" = 1'-0"




2 / A5 WEST ELEVATION
SCALE 3/16" = 1'-0"

AZUL DESIGNS - BCIN#: 33578
2277 PROSPECT AVE.
OTTAWA, ON. K1H-7G2

FERNANDO MATOS - BCIN#: 22431
613-884-4425

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GENERAL NOTES:

# 1568 MEADOWBROOK ROAD

SCOPE OF WORK: NEW 2-STOREY LONG-SEMI C/w SDUs

CONSULTANTS:
STRUCTURAL -
MECHANICAL -
ELECTRICAL -

M/D/Y

| NO. | REVISION/ISSUE | DATE |
|---|---|---|
| 4 | | |
| 3 | | |
| 2 | M.V. SUBMISSION | 00/00/00 |
| 1 | PRELIMINARIES | 06/10/21 |

PROJECT:
**1568**
**MEADOWBROOK RD.**
1568 MEADOWBROOK RD.
OTTAWA, ON. K1B 3L5
(613) 612-3288

DRAWING NAME:
TYP. ELEVATIONS

DRAWN BY: F.M.
DATE: JUNE 10, 2021
SCALE: AS NOTED
SHEET: A5

FILE NUMBER: D00-00-0000