

Site Servicing and Stormwater Management Report

for

1655 & 1619 Carling Avenue

Ainley Group
Project No. 22002-1

Prepared for:
1655 Carling Development Inc.

Revised Submission: May 12, 2022

Original Submission:
David Schaeffer Engineering Ltd. Submission:
January 2022 – REV. 2 (DSEL)



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1.0 INTRODUCTION

The Ainley Group has been retained by 1655 Carling Development Inc. (i.e. the new owner of the property) to amend / submit a Site Servicing & Stormwater Management Report (i.e. originally submitted by David Schaeffer Engineering Ltd. “DSEL”) in support of the application for a Site Plan Control (SPC) at 1655 & 1619 Carling Avenue.

The subject property is located within the City of Ottawa urban boundary, in the Kitchissippi Ward. As illustrated in Figure 1, below, the subject property is located west of the intersection of Carling Avenue and Churchill Avenue North as stated above. Comprised of two parcels that are expected to be amalgamated into a single property, the subject property measures approximately 0.46 ha and is zoned Artillery Main Street (AM10 H (20)).



Figure 1: Site Location

The proposed SPC would allow for the development of a commercial /residential building fronting Carling Avenue. The proposed development would include approximately 770sq.m of ground level retail and underground parking, with access from Carling Avenue. The residential component is comprised of 418 units and 1,410sq.m of common amenity space. A copy of the Site Plan is included in Drawings/Figures.

The objective of this report is to support the application for Site Plan Control providing sufficient detail to demonstrate that the proposed development is supported by existing municipal servicing infrastructure and that the site design conforms to current City of Ottawa design standards.

1.1 Existing Conditions

The existing site consists of an asphalt parking lot and few vegetated areas. The elevations range between 77.85 m and 77.25 m, with a minimal grade change of approximately 0.45% from the Southwest to the Southeast corner of the property.

Sewer and watermain mapping collected from the City of Ottawa indicate that the following services exist across the property frontages within the adjacent municipal right-of-ways:

Carling Avenue:

- 203 mm diameter unlined cast iron watermain (c. 1955);
- 610 mm diameter concrete watermain (c. 1958);
- 300 mm diameter concrete sanitary sewer (c. 1952), tributary to the Cave Creek Twin Collector;
- 225/300 mm diameter concrete storm sewer (c. 1959), tributary to the Ottawa River approximately 5.0 km downstream; and
- 375 mm diameter concrete storm sewer, tributary to Ottawa River approximately 5.0 km downstream.

1.2 Required Permits / Approvals

The proposed development is subject to the site plan control approval process. The City of Ottawa must approve the engineering design drawings and reports prior to the issuance of site plan control.

The development is proposed to outlet sanitary to a partially separated sewer sewershed.

Section 53 of the Ontario Water Resources Act Ontario Regulation 525/98, 2. (1) Subsection 53 (1) and (3) indicates that an Environmental Compliance Approval (ECA) is not required for a property which meets the following requirements:

1. The use operation, establishment, alteration, extension or replacement of or a change in a service connection.

The subject property meets the above stated preapproval requirements; therefore, it is expected that an ECA through the Ministry of Environment, Conservation and Parks (MECP) will not be required. Consultation between the City of Ottawa and the local MECP representative may be required to confirm this assumption.

1.3 Pre-consultation

Pre-consultation correspondence, along with the servicing guidelines checklist, is located in Appendix A.

2.0 GUIDELINES, PREVIOUS STUDIES, AND REPORTS

2.1 Existing Studies, Guidelines, and Reports

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

- Ottawa Sewer Design Guidelines,
City of Ottawa, SDG002, October 2012.
(City Standards)
 - Technical Bulletin ISDTB-2014-01
City of Ottawa, February 5, 2014.
(ISDTB-2014-01)
 - Technical Bulletin PIEDTB-2016-01
City of Ottawa, September 6, 2016.
(PIEDTB-2016-01)
 - Technical Bulletin ISTB-2018-01
City of Ottawa, March 21, 2018.
(ISTB-2018-01)
 - Technical Bulletin ISTB-2018-03
City of Ottawa, March 21, 2018.
(ISTB-2018-03)
 - Technical Bulletin ISTB-2019-01
City of Ottawa, January, 2019.
(ISTB-2019-01)
 - Technical Bulletin ISTB-2019-02
City of Ottawa, July 8, 2019.
(ISTB-2019-02)
- Ottawa Design Guidelines – Water Distribution
City of Ottawa, July 2010.
(Water Supply Guidelines)

- Technical Bulletin ISD-2010-2
City of Ottawa, December 15, 2010.
(ISD-2010-2)
- Technical Bulletin ISDTB-2014-02
City of Ottawa, May 27, 2014.
(ISDTB-2014-02)
- Technical Bulletin ISDTB-2018-02
City of Ottawa, March 21, 2018.
(ISDTB-2018-02)
- Technical Bulletin ISDTB-2021-03
City of Ottawa, August 18, 2021.
(ISDTB-2012-03)
- Design Guidelines for Sewage Works,
Ministry of the Environment, 2008.
(MOE Design Guidelines)
- Stormwater Planning and Design Manual,
Ministry of the Environment, March 2003.
(SWMP Design Manual)
- Ontario Building Code Compendium
Ministry of Municipal Affairs and Housing Building Development Branch,
January 1, 2010 Update.
(OBC)
- Water Supply for Public Fire Protection
Fire Underwriters Survey, 1999.
(FUS)
- NFPA 13 – Standard for the Installation of Sprinkler Systems
National Fire Protection Association, 2016.
(NFPA Standards)

3.0 WATER SUPPLY SERVICING

3.1 Existing Water Supply Services

The subject property lies within the City of Ottawa 1W pressure zone, as shown by the Pressure Zone map, in Appendix B. A local 203 mm diameter watermain and a 610 mm diameter watermain exist within the Carling Avenue right-of-way. Refer to drawing EX-1 for existing infrastructure layout.

3.2 Water Supply Servicing Design

In accordance with City of Ottawa technical bulletin ISDTB-2014-02, redundant service connections will be required due to an estimated design flow of greater than 50 m³/day. A City Standard W12 valve chamber is proposed between water service laterals to provide redundancy to the development.

The development is proposed to be serviced by dual 150 mm diameter connections to the existing 203 mm diameter watermain within Carling Avenue. Refer to drawing SSP-1 for a detailed servicing layout.

Table 1, below, summarizes the Water Supply Guidelines employed in the preparation of the water demand estimates.

Table 1
Water Supply Design Criteria

Design Parameter	Value
Residential Average Apartment	1.8 P/unit
Residential Average Daily Demand	280 L/d/P
Residential Maximum Daily Demand	2.75 x Average Daily *
Residential Maximum Hourly	4.13 x Average Daily *
Commercial Retail / Amenity Space	2.5 L/m ² /d
Commercial Maximum Daily Demand	1.5 x avg. day
Commercial Maximum Hour Demand	1.8 x max. day
Minimum Watermain Size	150 mm diameter
Minimum Depth of Cover	2.4 m from top of watermain to finished grade
During normal operating conditions desired operating pressure is within	350 kPa and 480 kPa
During normal operating conditions pressure must not drop below	275 kPa
During normal operating conditions pressure must not exceed	552 kPa
During fire flow operating pressure must not drop below	140 kPa
*Daily average based on Appendix 4-A from Water Supply Guidelines	
** Residential Max. Daily and Max. Hourly peaking factors per MOE Guidelines for Drinking-Water Systems <u>Table 3-1 for 500 to 1000 persons.</u>	
-Table updated to reflect ISD-2010-2	

Table 2, below, summarizes the water supply demand estimate and boundary conditions for the proposed development based on the Water Supply Guidelines.

Table 2
Water Demand and Boundary Conditions
Proposed Conditions

Design Parameter	Estimated Demand¹ (L/min)	Boundary Condition² (m H₂O / kPa)
Average Daily Demand	134.7 (<i>DSEL</i>)	36.4 / 357.1
Max Day + Fire Flow	331.5 + 20,000 = 20,331.5 (<i>DSEL</i>)	130 L/s (7800 L/min) @ 140 kPa
Peak Hour	726.2 (<i>DSEL</i>)	31.0 / 304.1
1) Water demand calculation per Water Supply Guidelines. See Appendix B for detailed calculations. 2) Boundary conditions supplied by the City of Ottawa for the demands indicated in the correspondence; assumed ground elevation 77.5 m. See Appendix B.		

New Average Daily, Max Day and Peak Hour Demands have been calculated based on the revised retail / amenity space and residential unit count as follows:

- **Average Daily Demand = 150.1 L/min or 2.50 L/s**
- **Max Day Demand = 408.0 L/min or 6.80 L/s**
- **Peak Hour Demand = 611.0 L/min or 10.18 L/s**

New Fire Flow demand has been calculated based on our discussion with the Architect and our understanding of the FUS document:

- **Fire Flow Demand = 13,000 L/min or 216.7 L/s**

Fire flow requirements are to be determined in accordance with Local Guidelines (ISDTB-2018-02), City of Ottawa Water Supply Guidelines, and the Ontario Building Code.

Using the Technical Bulletin ISDTB-2018-02 method, a conservative estimation of fire flow had been established. As coordinated with the building architect, the following parameters were coordinated:

- Type of construction – **Fire-Resistive**;
- Occupancy type – Non-Combustible; and
- Sprinkler Protection – Fully Supervised Sprinklered System.

The above assumptions result in an estimated fire flow of approximately **13,000 L/min**, noting that actual building materials selected will affect the estimated flow. A certified fire protection system specialist would need to be employed to design the building fire suppression system and confirm the

actual fire flow demand.

It's important to note that the existing fire hydrant adjacent to the site is actually serviced off of the existing 610mm dia. watermain and not the 203mm dia. watermain. The building (as noted above) incl. the sprinkler system will be serviced off the 203mm dia. watermain.

For the purpose of estimating fire flow, the short method within the National Fire Protection Association (NFPA) standards was utilized. As indicated by Section 11.2.2 from the NFPA Standards, fire flow requirements are to be determined by combining the required flow rate for the sprinkler system, along with the anticipated hose stream. As indicated by Table 11.2.2.1 and Table 11.2.3.1.2 extracted from the NFPA Standards and included in Appendix B, the anticipated fire flow requirements for the sprinkler system is 3,200 L/min (850 gpm) and the anticipated internal and external total combined inside and outside hose stream demand is 950 L/min (250 gpm).

As a result, the total fire flow is anticipated to be 4,150 L/min (1,100 gpm). Based on the boundary conditions provided by the City of Ottawa, sufficient supply is available for fire flow. A certified fire protection system specialist will need to be employed to design the building's fire suppression system and confirm the actual fire flow demand.

We attach correspondence from Goodkey, Weedmark & Associates Limited (Mechanical Engineer) re. the sprinkler requirements in Appendix B.

The City provided both the anticipated minimum and maximum water pressures, as well as, the estimated water available flow during a minimum pressure scenario, as indicated by the correspondence in Appendix B. As shown by Table 2, above, the minimum and maximum pressures fall within the required range identified in Table 1, also above.

3.3 Water Supply Conclusion

An existing 203 mm diameter watermain within Carling Avenue is available to service the development. A City Standard W12 valve chamber is proposed between water service laterals to provide redundancy to the development. Refer to drawing SSP-1 for a detailed servicing layout.

The estimated water demand was submitted to the City of Ottawa for establishing boundary conditions. The City provided both the anticipated minimum and maximum water pressures. The minimum and maximum pressures fall within the required range identified in Table 1. Based on boundary conditions provided by the City the existing municipal water infrastructure is capable of providing the proposed development with water within the City's required pressure range.

Fire flow requirements were estimated in accordance with NFPA Standards. Based on the boundary conditions provided by the City of Ottawa, sufficient flow is available to service the development.

4.0 WASTEWATER SERVICING

4.1 Existing Wastewater Services

The subject site lies within the Cave Creek Collector Sewer catchment area, as shown by the City sewer mapping, included in Appendix C. An existing 300 mm diameter sanitary sewer within Carling Avenue is available to service the proposed development. The Carling Avenue sanitary sewer is tributary to 1200 mm diameter combined sewer within Byron Avenue (referred to as the Cave Creek Collector Twin Sewer), located approximately 2.5 km downstream of the site. Refer to drawing EX-1 for existing infrastructure layout.

4.2 Wastewater Design

There is currently one sanitary sewer available within the Carling Avenue right-of-way to service the development. As a result, the proposed development will be serviced via the existing 300 mm diameter sanitary sewer within the Carling Avenue right-of-way, via a 250 mm diameter sanitary service complete with a maintenance structure located with 1.0m of the right-of-way. Refer to drawing SSP-1 for a detailed servicing layout.

Table 3, below, summarizes the City Standards employed in the design of the proposed sanitary sewer system.

Table 3
Wastewater Design Criteria

Design Parameter	Value
Residential Average Apartment	1.8 P/unit
Average Daily Demand	280 L/d/per
Peaking Factor	Harmon's Peaking Factor. Max 4.0, Min 2.0 Harmon's Corrector Factor 0.8
Commercial Floor Space	5 L/m ² /d
Infiltration and Inflow Allowance	0.05 L/s/ha (Dry Weather) 0.28 L/s/ha (Wet Weather) 0.33 L/s/ha (Total)
Sanitary sewers are to be sized employing the Manning's Equation	$Q = 1/n(AR^{2/3}S^{1/2})$
Minimum Sewer Size	200 mm diameter
Minimum Manning's 'n'	0.013
Minimum Depth of Cover	2.5 m from crown of sewer to grade
Minimum Full Flowing Velocity	0.6 m/s
Maximum Full Flowing Velocity	3.0 m/s
Extracted from Sections 4 and 6 of the City of Ottawa Sewer Design Guidelines, October 2012.	

Table 4, below, demonstrates the estimated peak flow from the proposed development. See Appendix C for associated calculations.

Table 4
Summary of Estimated Peak Wastewater Flow

Design Parameter	Total Flow (L/s)
Estimated Average Dry Weather Flow	2.53 (DSEL)
Estimated Peak Dry Weather Flow	7.55 (DSEL)
Estimated Peak Wet Weather Flow	7.67 (DSEL)

New Average Daily Wastewater Flow and Peak Wastewater Flow have been calculated based on the revised retail / amenity space and residential unit count as follows:

- **Average Daily Wastewater Flow = 2.57 L/s**
- **Peak Wastewater Flow (incl. infiltration allowance) = 8.40 L/s**

The estimated sanitary flow based on the Site Plan, provided in Drawings/Figures, estimates a peak wet weather flow of **8.40 L/s**.

A sanitary analysis was conducted of the local municipal sanitary sewers to assess the available capacity. The analysis was conducted from the site to the upstream extents of the drainage area located near the intersection of Carling Avenue and Churchill Avenue North, as shown by the sanitary drainage plan Sanitary Drainage Plan, included in Appendix C. City of Ottawa Technical Bulletin ISTB-2018-01 was employed to generate an estimate of the existing wastewater flow conditions within the sewer.

There is an available residual capacity of 34.5 L/s; detailed calculations are included in Appendix C. The analysis above indicates that sufficient capacity is available in the local sewers to accommodate the development.

4.3 Wastewater Servicing Conclusions

The site is tributary to the Cave Creek Collector Twin Sewer. The proposed development will be serviced via the existing 300 mm diameter sanitary sewer within the Carling Avenue right-of-way via a 250 mm diameter sanitary service. Refer to drawing SSP-1 for a detailed servicing layout. Based on the sanitary analysis, sufficient capacity is available to accommodate the estimated **8.40 L/s** peak wet weather flow from the proposed development.

The proposed wastewater design conforms to all relevant City Standards.

5.0 STORMWATER MANAGEMENT

5.1 Existing Stormwater Services

Stormwater runoff from the subject property is tributary to the City of Ottawa sewer system located within the Ottawa Central sub-watershed. As such, approvals for proposed development within this area are under the approval authority of the City of Ottawa.

Flows that influence the watershed in which the subject property is located are further reviewed by the principal authority. The subject property is located within the Ottawa River watershed, and is therefore subject to review by the Rideau Valley Conservation Authority (RVCA). Consultation with the RVCA is located in Appendix A.

It was assumed that the existing development contained no stormwater management controls for flow attenuation. The estimated pre-development peak flows for the 2, 5, and 100-year events are summarized in **Table 5**, below:

Table 5
Summary of Existing Peak Storm Flow Rates

City of Ottawa Design Storm	Estimated Peak Flow Rate (L/s)
2-year	81.7
5-year	110.8
100-year	222.1

5.2 Post-development Stormwater Management Target

Stormwater management requirements for the proposed development were reviewed with the City of Ottawa, where the proposed development is required to:

- Meet an allowable release rate based on a Rational Method Coefficient of 0.40, employing the City of Ottawa IDF parameters for a 2-year storm with a calculated time of concentration greater than or equal to 10 minutes;
- Attenuate all storms up to and including the City of Ottawa 100-year design event on site; and
- Quality controls are not required for the proposed development due to the site's distance from the outlet; correspondence with the RVCA is included in Appendix A.

Based on the above the allowable release rate for the proposed development is 39.1 L/s.

5.3 Proposed Stormwater Management System

There is an existing 375 mm diameter storm sewer and an existing 300 mm diameter storm sewer

available within Carling Avenue to service the proposed development. Both available sewers are tributary to the West Hintonburg Storm Trunk and ultimately the Ottawa River, which is approximately 5 km downstream of the site.

To meet the stormwater objectives the proposed development will contain an internal cistern within the parking garage. The development proposes to connect to the existing 300 mm diameter storm sewer via a 300 mm diameter sewer complete with a maintenance structure located within 1.0m of the right-of-way. Refer to drawing SSP-1 for a detailed servicing layout.

Stormwater runoff collected from the roof area and from the surface drains will be directed to a 130 m³ internal stormwater cistern via the internal plumbing system. Cistern flow will outlet to the Carling Avenue storm sewer at a maximum release rate of **26.4 L/s**, as shown by drawing SSP-1. Foundation drains are to be connected downstream of any cistern controls.

Table 6, below, summarizes post-development flow rates. These areas will be compensated for in areas with flow attenuation controls.

Table 6
Stormwater Flow Rate Summary (DSEL)

Control Area	5-Year Release Rate	5-Year Storage	100-Year Release Rate	100-Year Storage
	(L/s)	(m³)	(L/s)	(m³)
Unattenuated Areas	5.9	0.0	12.1	0.0
Attenuated Areas	13.1	62.4	27.0	129.6
Total	19.0	62.4	39.1	129.6

New Stormwater Flow Rates have been calculated as follows:

- **Unattenuated Area: 12.7 L/s (100 year) – 0 cu.m of Storage**
- **Attenuated Areas: 26.4L/s (100 Year) – 130.0 cu.m of Storage**

Storage calculations and New Stormwater Summary Sheet are contained within Appendix D.

5.4 Stormwater Servicing Conclusions

Post development stormwater runoff will be required to be restricted to the allowable target release rate for storm events up to and including the 100-year storm in accordance with City of Ottawa, City Standards. The post-development allowable release rate was calculated as 39.1 L/s. It is estimated that 130 m³ of on-site storage will be required to meet this release rate.

Based on consultation with the RVCA, stormwater quality controls are not required. The proposed stormwater design conforms to all relevant City Standards and Policies for approval.

6.0 UTILITIES

Gas and Hydro services currently exist within the Carling Avenue right-of-way. Utility servicing will be coordinated with the individual utility companies prior to site development.

7.0 CONCLUSION AND RECOMMENDATIONS

The Ainley Group has been retained by 1655 Carling Development Inc. to prepare a Site Servicing and Stormwater Management report in support of the application for a Site Plan Control (SPC) at 1655 & 1619 Carling Avenue. The preceding report outlines the following:

1. Based on boundary conditions provided by the City the existing municipal water infrastructure is capable of providing the proposed development with water within the City's required pressure range;
2. Fire flow requirements were estimated in accordance with NFPA Standards. Based on the boundary conditions provided by the City of Ottawa, sufficient flow is available to service the development;
3. The proposed development is to have a peak wet weather flow of **8.40 L/s**; Based on the sanitary analysis conducted, the existing municipal sewer infrastructure has sufficient capacity to support the development;
4. Based on City Standards the proposed development will be required to attenuate post development flows to an equivalent release rate of 39.1 L/s for all storms up to and including the 100-year storm event;
5. It is proposed that stormwater objectives may be met through storm water retention via internal cistern storage. It is calculated that 130 m³ of onsite storage will be required to attenuate flow to the established release rate above; and
6. Based on consultation with the RVCA, stormwater quality controls are not required.

Prepared by:

Ainley Graham and Associates Ltd.

Reviewed by:

Ainley Graham and Associates Ltd.



Professional Engineers
Ontario

May 12, 2022

Limited Licensee

Name: J.W.XU

Number: 100171806

Category: CIVIL: see limitation

Limitations:

This licence is subject to the Limitations as detailed on the certificate.

Association of Professional Engineers of Ontario

Jiawu Xu, LEL, C.E.T.

Project Manager / Senior Designer



Guy Ste-Croix, LEL, C.E.T., PMP
Vice President & Branch Manager

APPENDIX A

Pre-Consultation

DEVELOPMENT SERVICING STUDY CHECKLIST

19-1131

20/11/2020

4.1 General Content	
<input type="checkbox"/>	Executive Summary (for larger reports only). N/A
<input checked="" type="checkbox"/>	Date and revision number of the report. Report Cover Sheet
<input checked="" type="checkbox"/>	Location map and plan showing municipal address, boundary, and layout of proposed development. Drawings/Figures, EX-1
<input checked="" type="checkbox"/>	Plan showing the site and location of all existing services. Figure 1, EX-1
<input checked="" type="checkbox"/>	Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to applicable subwatershed and watershed plans that provide context to which individual developments must adhere. Section 1.0, Section 5.0
<input checked="" type="checkbox"/>	Summary of Pre-consultation Meetings with City and other approval agencies. Section 1.3, Appendix A
<input checked="" type="checkbox"/>	Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defensible design criteria. Section 2.1
<input checked="" type="checkbox"/>	Statement of objectives and servicing criteria. Section 1.0
<input checked="" type="checkbox"/>	Identification of existing and proposed infrastructure available in the immediate area. Sections 3.1, 4.1, 5.1, EX-1
<input type="checkbox"/>	Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available). N/A
<input type="checkbox"/>	Concept level master grading plan to confirm existing and proposed grades in the development. This is required to confirm the feasibility of proposed stormwater management and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths. N/A
<input type="checkbox"/>	Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts. N/A
<input type="checkbox"/>	Proposed phasing of the development, if applicable. N/A
<input type="checkbox"/>	Reference to geotechnical studies and recommendations concerning servicing. N/A
<input checked="" type="checkbox"/>	All preliminary and formal site plan submissions should have the following information: -Metric scale -North arrow (including construction North) -Key plan -Name and contact information of applicant and property owner -Property limits including bearings and dimensions -Existing and proposed structures and parking areas -Easements, road widening and rights-of-way -Adjacent street names Drawings/Figures
4.2 Development Servicing Report: Water	
<input type="checkbox"/>	Confirm consistency with Master Servicing Study, if available N/A
<input checked="" type="checkbox"/>	Availability of public infrastructure to service proposed development Section 3.1
<input checked="" type="checkbox"/>	Identification of system constraints Section 3.1
<input checked="" type="checkbox"/>	Identify boundary conditions Section 3.1, 3.2, Appendix B
<input checked="" type="checkbox"/>	Confirmation of adequate domestic supply and pressure Section 3.2, 3.3

<input checked="" type="checkbox"/>	Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter’s Survey. Output should show available fire flow at locations throughout the development.	Section 3.2, Appendix B
<input type="checkbox"/>	Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves.	N/A
<input type="checkbox"/>	Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	N/A
<input type="checkbox"/>	Address reliability requirements such as appropriate location of shut-off valves	N/A
<input type="checkbox"/>	Check on the necessity of a pressure zone boundary modification	N/A
<input checked="" type="checkbox"/>	Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range	Section 3.2, 3.3
<input checked="" type="checkbox"/>	Description of the proposed water distribution network, including locations of proposed connections to the existing system, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions.	SSP-1
<input type="checkbox"/>	Description of off-site required feeder mains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A
<input checked="" type="checkbox"/>	Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Section 3.2, Appendix B
<input checked="" type="checkbox"/>	Provision of a model schematic showing the boundary conditions locations, streets, parcels, and building locations for reference.	N/A

4.3 Development Servicing Report: Wastewater

<input checked="" type="checkbox"/>	Summary of proposed design criteria (Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure).	Section 4.2
<input type="checkbox"/>	Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
<input type="checkbox"/>	Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
<input checked="" type="checkbox"/>	Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 4.1, EX-1
<input checked="" type="checkbox"/>	Verify available capacity in downstream sanitary sewer and/or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable)	Section 4.2, Appendix C
<input checked="" type="checkbox"/>	Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix ‘C’) format.	Section 4.2, Appendix C
<input checked="" type="checkbox"/>	Description of proposed sewer network including sewers, pumping stations, and forcemains.	Section 4.2, SSP-1
<input type="checkbox"/>	Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A

<input type="checkbox"/>	Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
<input type="checkbox"/>	Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
<input type="checkbox"/>	Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding.	N/A
<input type="checkbox"/>	Special considerations such as contamination, corrosive environment etc.	N/A

4.4 Development Servicing Report: Stormwater Checklist

<input checked="" type="checkbox"/>	Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property)	Section 5.1
<input checked="" type="checkbox"/>	Analysis of available capacity in existing public infrastructure.	Section 5.1, Appendix D
<input checked="" type="checkbox"/>	A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Drawings/Figures
<input checked="" type="checkbox"/>	Water quantity control objective (e.g. controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects.	Section 5.2
<input checked="" type="checkbox"/>	Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Section 5.2
<input checked="" type="checkbox"/>	Description of the stormwater management concept with facility locations and descriptions with references and supporting information	Section 5.3
<input type="checkbox"/>	Set-back from private sewage disposal systems.	N/A
<input type="checkbox"/>	Watercourse and hazard lands setbacks.	N/A
<input checked="" type="checkbox"/>	Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	Appendix A
<input type="checkbox"/>	Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A
<input checked="" type="checkbox"/>	Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period).	Section 5.3
<input type="checkbox"/>	Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	N/A
<input checked="" type="checkbox"/>	Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions.	Section 5.1, 5.3, Appendix D
<input type="checkbox"/>	Any proposed diversion of drainage catchment areas from one outlet to another.	N/A
<input checked="" type="checkbox"/>	Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Section 5.3
<input type="checkbox"/>	If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event.	N/A
<input type="checkbox"/>	Identification of potential impacts to receiving watercourses	N/A
<input type="checkbox"/>	Identification of municipal drains and related approval requirements.	N/A

<input checked="" type="checkbox"/>	Descriptions of how the conveyance and storage capacity will be achieved for the development.	Section 5.3
<input type="checkbox"/>	100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	N/A
<input type="checkbox"/>	Inclusion of hydraulic analysis including hydraulic grade line elevations.	N/A
<input checked="" type="checkbox"/>	Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors.	Section 6.0
<input type="checkbox"/>	Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
<input type="checkbox"/>	Identification of fill constraints related to floodplain and geotechnical investigation.	N/A

4.5 Approval and Permit Requirements: Checklist

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

4.6 Conclusion Checklist

<input checked="" type="checkbox"/>	Clearly stated conclusions and recommendations	Section 8.0
<input type="checkbox"/>	Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.	
<input type="checkbox"/>	All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	

Guy Ste-Croix

Subject: FW: 1655 Carling Ave. / Allowable Release Rate

From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: February 4, 2022 3:04 PM
To: Guy Ste-Croix <guy.ste-croix@ainleygroup.com>
Cc: 'xu@ainleygroup.com' <xu@ainleygroup.com>
Subject: RE: 1655 Carling Ave. / Allowable Release Rate

Good morning, Guy.

I have received these comments from Water Resources Dept. who has modeling information on our systems.

Their comments are as follows:

This is not a combined system, therefore the storm and sanitary release are independent. Now having said this, we have sanitary capacity issues at this location due to pressure from many proposed redevelopments. The sanitary sewer is being upgraded on Carling downstream of Churchill and we should be able to take this additional flow, but just keep in mind that this is a problem for future developments.

As for the storm, the pipe on Carling is only a 300 diameter at 0.4% with a capacity of 63 L/s. They are releasing 39 L/s and taking up over half the capacity. There is not much we can do though since this is a 2-year system and they are allowed to release the 2-year flow. Their release rate is based on $C=0.5$ and $TC = 10$ min, which is fine.

In short, they are allowed 39 L/s storm flow from the site (27 Cistern and 12 uncontrolled) independent of the sanitary flow.

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

Thank you

Regards,

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

Development Review Central Branch | Direction de l'examen des projets d'aménagement, Centrale
Planning, Real Estate and Economic Development Department | Direction générale de la planification des biens immobiliers et du développement économique

City of Ottawa | Ville d'Ottawa
110 Laurier Ave. W. | 110, avenue Laurier Ouest, Ottawa ON K1P 1J1
(613) 580 2424 Ext. | Poste 33017
Int. Mail Code | Code de Courrier Interne 01-14
shawn.wessel@ottawa.ca

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Vacation Alert:

I will be out of the office February 14-18th inclusive. Please contact John Wu or Abdul Mottalib in my absence.

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

From: Guy Ste-Croix <guy.ste-croix@ainleygroup.com>
Sent: February 02, 2022 8:38 AM
To: Wessel, Shawn <shawn.wessel@ottawa.ca>
Cc: 'xu@ainleygroup.com' <xu@ainleygroup.com>
Subject: 1655 Carling Ave. / Allowable Release Rate

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Hi Shawn,

I found the following statement in the Pre-Consultation notes:

- Total (San & Stm) allowable release rate will be 2 year pre-development rate.

Can you please clarify this. DSEL had calculated the 2 year pre-development flow rate to be 39.1L/s. That beings said, it has been entirely allocated for stormwater (i.e. 27.0 L/s for the Building cistern and 12.1 L/s for free flowing areas). The building cistern requirement (based on 27.0 L/s) is 130 cu.m. Was the sanitary flow of approx. 8 L/s supposed to be subtracted from the 39.1 L/s; therefore further reducing the stormwater release rate and increasing the cistern requirements?

We await your feedback.

Regards,

Guy Ste-Croix, LEL, C.E.T., PMP
Vice President & Branch Manager



Tel: (613) 822-1052 Ext. 225

Cell: (613) 858-8943

****Please note that we are beginning to transition our primary email addresses to a new format. While my previous address will continue to work, we ask that you please update your address book with my new email address: guy.ste-croix@ainleygroup.com****

WWW.AINLEYGROUP.COM

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Pre-Application Consultation Meeting Notes

1655 Carling Avenue – PC2019-0072
April 10, 2019
Ottawa City Hall, Room 4103e

Attendees:

Jakub Ulak, Surface Developments (JU)
Gary Ludington – Community Association (GL)
Brian Casagrande – Fotenn (BC)
Simon Deiaco, City of Ottawa (SD)
Christopher Moise, City of Ottawa (CM)
Sean Wessel, City of Ottawa (SW)

Regrets:

Subject: 1655 Carling Avenue

Meeting notes:

Opening & attendee introduction

- ALL - Introduction of meeting attendees
- BC - Overview of proposal:
 - Proposed 12 storey residential building (approx. 200 units) with below grade parking (approx. 100 spaces) and access from Carling Avenue.
 - Some concerns from the design team with respect to the road widening, if taken at the full amount would have a significant impact on the project. As a result, the concept is in preliminary stages until this requirement is resolved.
 - Property is designation AM10, with a height limit of 20 metres. OPA 150 has language which allows for the release of additional height in certain circumstances. Both staff and Fotenn are awaiting the final version of the OP amendments and the policy language for Arterial Mainstreets which are not yet finalized.
 - SD to follow up on the road widening requirements.

Preliminary comments and questions from staff and agencies, including follow-up actions:

- **Planning**

- The current policies of OPA 150 as adopted by Council outline conditions where additional height could be permitted. A subsequent report on the resolution of OPA 150 is expected in May 2019 based on negotiations with stakeholders.
 - Based on the policies currently endorsed by Council, it is staffs opinion that it has not been demonstrated how this site would qualify for the consideration of additional height.
 - The existing context and zoning suggest that a building with a 20 metre height limit is more appropriate for the site. Planning staff have significant concerns with the introduction of a 12 storey building on this parcel giving the existing zoning and planning policies. The relationship to the interior side yards also needs to be explored. The proposed 0m setbacks are a concern, along with the lack of transition to the lands to the north.
 - Section 37 requirements / Community benefits – are to be determined. They may also be a required as part of the yet unresolved Arterial Mainstreet policies.
 - Design guidelines – Refer to the design guidelines for Arterial Mainstreets and High Rise Buildings.
 - A wind study would be required for a building greater than 10 storeys.
 - The use of underground parking is encouraged, regardless of the ultimate design.
- **Urban Design**
 - Staff recommend that the applicant engage an architect as soon as possible as this proposal faces a number of challenges and due to its use, scale and configuration will require an architect's involvement.
 - Some of these challenges include:
 - Significant increase in scale from current zoning of 6 storeys to 12 storeys;
 - Impact of not adhering to the ROW protection limits and building closer to the street;
 - Building to 0m side lot line condition (both east and west side yards);
 - Impact of height and lack of transition to R4 abutting lots to the north;
 - Additional contextual analysis is recommended to understand the relationships and impacts of the proposal and we recommend the proposal attend an Informal visit with the City's UDRP to further discuss and evaluate various scenarios of development for the site including approaches for a 6 storey, 9 storey and proposed 12 storey option.
- **Engineering**

- A 610mm dia. Conc. Watermain (c. 1955) is available on Carling Ave. in the Westbound lane.
- A 203mm dia. UCI Watermain (c. 1958) is available on Carling Ave. in the Eastbound lane.
- A 300 mm dia. Conc. Sanitary Sewer (c. 1952) is available on Carling Ave., which drains to 1200 mm dia. Combined Sewer on Byron Ave. which then flows to the Interceptor Sewer.
- A 300 mm dia. Conc. Storm Sewer (c. 1959) is available on Carling Ave. in the Westbound lane, which drains to the West Hintonburg Storm Trunk and then to the Cave Creek Storm where it outlets to the Ottawa River.
- A 375 mm dia. Conc. Storm Sewer (c. ?) is available on Carling Ave. in the Eastbound lane, which drains to the West Hintonburg Storm Trunk and then to the Cave Creek Storm where it outlets to the Ottawa River.
- The following apply to this site and any development within a combined sewer area:
- Total (San & Stm) allowable release rate will be 2 year pre-development rate.
- Coefficient (C) of runoff will need to be determined **as per existing conditions** but in no case more than 0.4
- TC = 20 minutes or can be calculated.
- TC should be not be less than 10 minutes, since IDF curves become unrealistic at less than 10 min.
- Any storm events greater than 2 year, up to 100 year, and including 100 year storm event must be detained on site.
- Two separate sewer laterals (one for sanitary and other for storm) will be required.
- As an MECP ECA will be required due to this being considered a partially separated sewer system with a downstream connection to a Combined Sewer on Byron Ave.:
- Please note that once the review has been completed and the Sr. Engineer is satisfied and ready to sign off on the application, after the PM recommendations 3 final bound copies including 3 CD Rom disks will be required to accompany the applications with MECP and for City of Ottawa records.
- Foundation drains are to be independently connected to sewermain (separated or combined) unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention.

- Roof drains are to be connected downstream of any incorporated ICD within the SWM system.
- **Other:**

Environmental Source Information:

City of Ottawa - Historical Land Use Inventory (HLUI)

HLUI database is currently undergoing an update. The updated HLUI will include additional sources beyond those included in the current database, making the inclusion of this record search even more important.

Although a municipal historic land use database is not specifically listed as required environmental record in O. Reg 153/04, Schedule D, Part II states the following:

Records review, specific objectives

The following are the specific objectives of a records review:

1. To obtain and review records that relate to the phase one property and to the current and past uses of and activities at or affecting the phase one property in order to determine if an area of potential environmental concern exists and to interpret any area of potential environmental concern.
 2. To obtain and review records that relate to properties in the phase one study area, other than the phase one property, in order to determine if an area of potential environmental concern exists and to interpret any area of potential environmental concern.
- Further to above, it is therefore reasonable to request that the HLUI search be included in the Phase One ESA to meet the above objectives.
 - Due to more sensitive use, a Record of Site Condition (RSC) is required. Ensure Phase I, and if applicable, Phase II ESA's speak to required RSC.
 - Environmental Noise Study is required due to within 500 m of Hwy #417 and 100m proximity of the following roadways:
 - Carling Avenue, Churchill Avenue, Tillbury Avenue, Melbourne Avenue and Cole Avenue.
 - Stationary Noise – consultant to speak to this in their report or provide a separate report as per City NCG and NPC 300 Guidelines.
 - Capital Projects - Road and Sewer work planned for Carling Ave. (East) up to and including Churchill Ave.

Moratoriums

- Mor-LN05245 - 3 years for all Road Cut and Resurfacing ending in 2021– ISD
- See Road Activity By-law Section 14 and Schedule A
- Please note that on April 10, 2019 City Council approved changes to the Road Activity By-law that will come into effect on July 1, 2019. These changes are part of the first of two phases of the review of the by-law. A copy of the staff report explaining these changes and Supporting Document 1 of the staff report is available and provides a summary of the changes.
- Water Supply Redundancy – Fire Flow:
- Applicant to ensure that a second service with an inline valve chamber be provided where the average daily demand exceeds 50 m³ / day (0.5787 l/s per day)

Source Protection Screening:

City will provide screening information at a later date.

Where underground storage (UG) and surface ponding are being considered:

- Show all ponding for 5 and 100 year events
- Note - There must be at least 15cm of vertical clearance between the spill elevation and the ground elevation at the building envelope that is in proximity of the flow route or ponding area. The exception in this case would be at reverse sloped loading dock locations. At these locations, a minimum of 15cm of vertical clearance must be provided below loading dock openings. Ensure to provide discussion in report and ensure grading plan matches if applicable.
- Provide information on type of underground storage system including product name and model, number of chambers, chamber configuration, confirm invert of chamber system, top of chamber system, required cover over system and details, interior bottom slope (for self-cleansing), chart of storage values, length, width and height, capacity, entry ports (maintenance) etc.
- Provide a cross section of underground chamber system showing invert and obvert/top, major and minor HWLs, top of ground, system volume provided during major and minor events. UG storage to provide actual 2 and 100 year event storage requirements.
- In regards to all proposed UG storage, ground water levels (and in particular HGW levels) will need to be reviewed to ensure that the proposed system does not become surcharged and thereby ineffective.
- Modeling can be provided to ensure capacity for both storm and sanitary sewers for the proposed development by City's Water Distribution Dept. – Modeling Group, upon request.

- Please be advised that it is the responsibility of the applicant and their representatives/consultants to verify information provided by the City of Ottawa.
- Please contact City View and Release Info Centre at Ext. 44455
- **Transportation**
 - The project team will be required to complete a TIA screening form. Please contact Wally Dubyk at Ext. 13783. The screening form will need to be completed prior to any application being submitted.
 - Right-of-way requirement will be 4.0 metres from the existing property line. The City would not be taking the full road widening requirement in this specific case.
- **Parks**
 - Cash-in-lieu of parkland dedication would be require through the site plan control process. The City will not be seeking land through this project.
- **Conservation Authority**
 - Applicant to contact Rideau Valley Conservation Authority (RVCA) for possible restrictions due to quality control. Provide correspondence in Report.

Questions and comments from the Community Association representative (GL)

- Question was asked about the amount of parking proposed. Approximately 100 spaces.
- Concern with the impact on traffic in the area as Carling Avenue is only a right in and right out movement. Traffic would have to turn onto Cole to get back to Churchill and Carling which is signalized.

Submission requirements and fees

1. Rezoning Application (Minor) and potential Official Plan Amendment if Arterial Mainstreet policies are not met.
2. Site Plan Control (Manager Approval, Public Consultation)

******please note that as of June 1, 2019 a new site plan control process and fees will be in place. The proposal would be considered a “complex” application under the new structure.***

Next steps

- Staff encourage applicant to discuss the proposal with Councillor, community groups and neighbours as the concept evolves.
- As noted above, the resolution of OPA 150 with respect to the Arterial Mainstreet policies are resolved.
- Minutes and submission requirements to follow (SD).
- A second meeting may be beneficial give the early stages of the projects development and the additional information required (i.e. right of way protection).

Genavieve Greenberg

From: Genavieve Greenberg
Sent: Thursday, November 5, 2020 11:32 AM
To: Genavieve Greenberg
Subject: FW: 119-1131 1655 Carling - Boundary Condition Request

From: Alison Gosling <AGosling@dsel.ca>
Sent: October 22, 2020 11:24 AM
To: Wessel, Shawn <shawn.wessel@ottawa.ca>
Subject: 119-1131 1655 Carling - Boundary Condition Request

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Good morning Shawn,

We would like to request water boundary conditions for Carling Avenue using the following contemplated development demands:

1. Location of Service / Street Number: 1655 Carling Avenue
2. Type of development and the amount of fire flow required for the contemplated development:
 - Based on coordination with the architect the development would include approximately **3,116 m²** of commercial/amenity space (**788 m²** commercial and **2,328 m²** amenity) and a **370 unit**, 18-storey condominium with underground parking. Please refer to the site plan attached.
 - It is anticipated that the development will have a dual connection to be serviced from the existing 203mm diameter watermain within Carling Avenue, as shown by the map below.
 - Fire demand based on Technical Bulletin ISTB-2018-02 has been used to calculate an estimate the max fire demand of **20,000 L/min**. Refer to the attached for detailed calculations.

	L/min	L/s
Avg. Daily	134.9	2.25
Max Day	331.9	5.53
Peak Hour	726.9	12.11



If you have any questions, please feel free to contact me.

Thank you,

Alison Gosling, P.Eng.
Junior Project Manager

DSEL
david schaeffer engineering ltd.

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9

phone: (613) 836-0856 ext.542
cell: (343) 542-9218
email: agosling@dsel.ca

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Note: I will be working remotely given the current circumstances. Please send me an email should you wish to discuss over the phone. I will return your call as soon as possible.

Charlotte Kelly

Subject: FW: 1655 Carling Avenue - RVCA Quality Control Requirements

Charlotte Kelly, E.I.T.
Project Coordinator / Junior Designer

DSEL

david schaeffer engineering ltd.

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9

phone: (613) 836-0856 ext.511

email: ckelly@dsel.ca

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From: Charlotte Kelly
Sent: August 30, 2019 11:49 AM
To: jamie.batchelor (jamie.batchelor@rvca.ca) <jamie.batchelor@rvca.ca>
Cc: Alison Gosling <AGosling@dsel.ca>
Subject: 1655 Carling Avenue - RVCA Quality Control Requirements

Good Morning Jamie,

We were hoping to touch base regarding the quality control requirements for a site located at 1655 Carling Avenue.

The site currently consists of a partially paved/gravel parking lot as demonstrated in **Figure 1**, below. The development involves the construction of an 24 storey mixed-use building and additional landscaped areas. In addition, the development proposes to convert the majority of above-ground parking areas to an underground parking garage, as shown in the proposed site plan attached, **Figure 2**. Based on the information available, the development will discharge stormwater to the 300 mm diameter storm sewer within Carling Avenue. and will travel approximately **5300 m** to an outlet to the Ottawa River, as shown by **Figure 3** below.

We do not anticipate that quality controls will be required due to the distance to the outlet and as the development proposes to convert an existing parking area to a building and landscaped areas, improving stormwater quality. Can you please review and provide recommendations?



Figure 1: Existing Site Limits

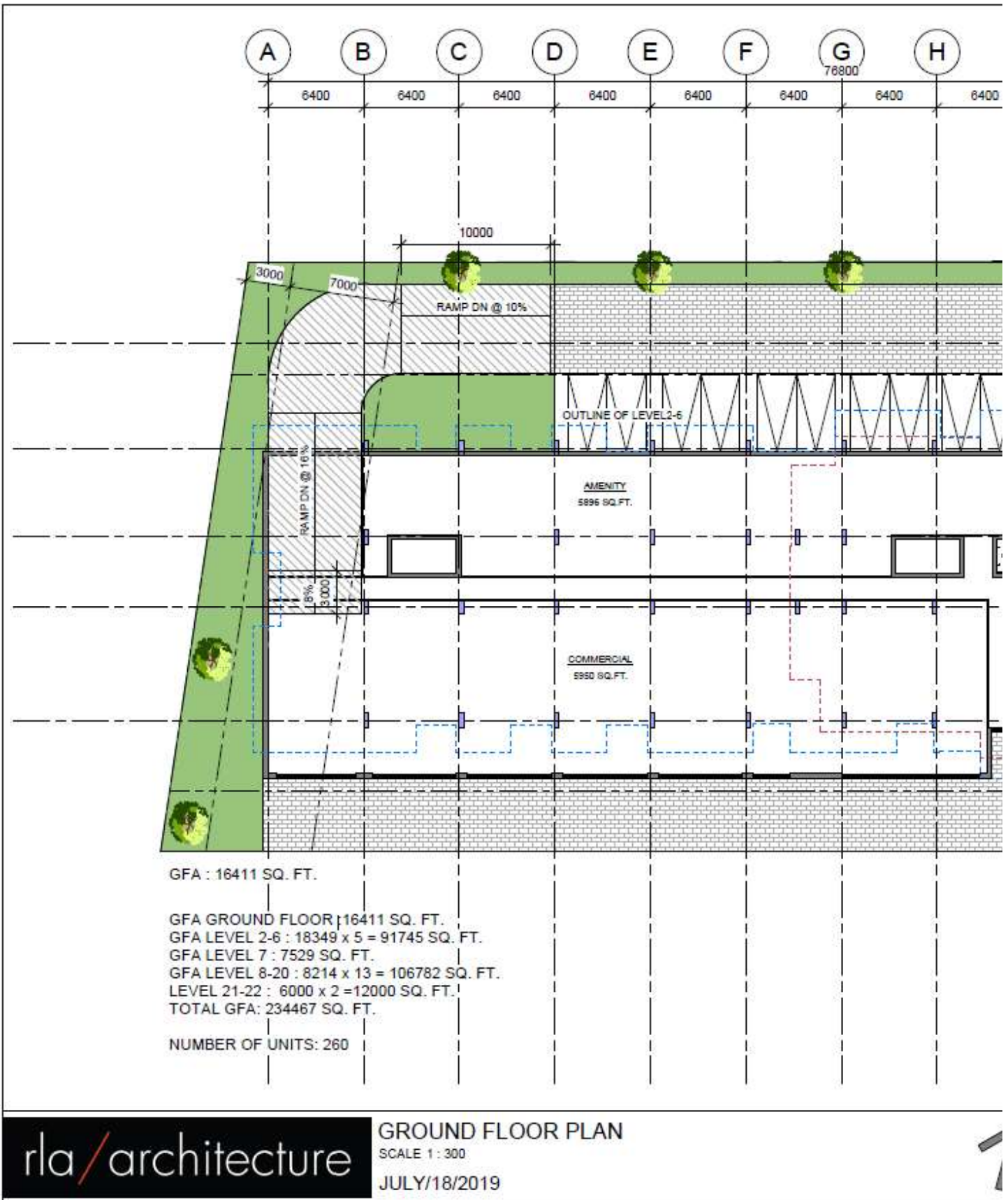


Figure 2: Preliminary Ground Floor Plan

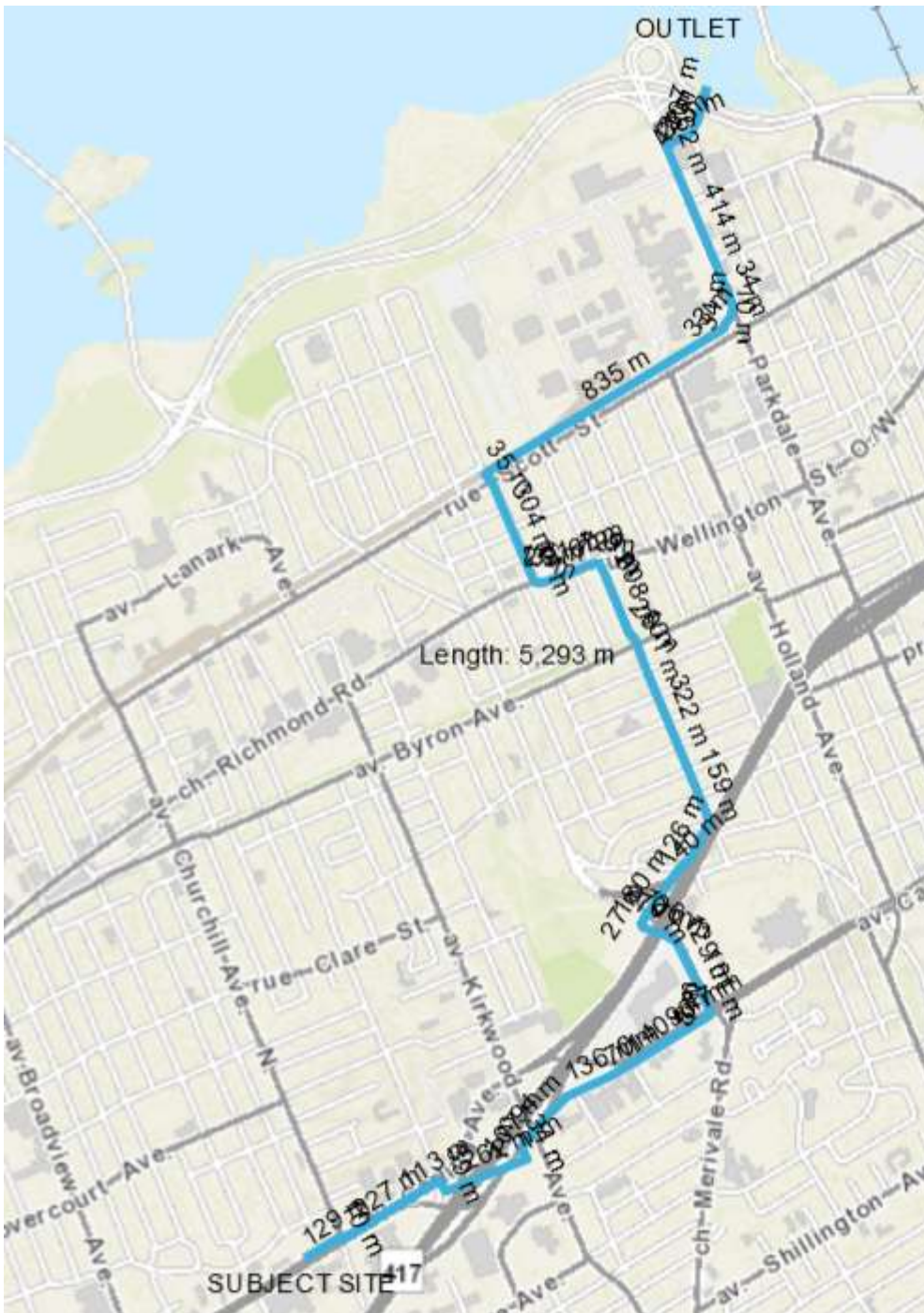


Figure 3: Path to Outlet

Please feel free to contact me to discuss further.

Charlotte Kelly, E.I.T.
Project Coordinator / Junior Designer

DSEL
david schaeffer engineering ltd.

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9

Charlotte Kelly

Subject: FW: 1655 Carling Avenue

From: Eric Lalande <eric.lalande@rvca.ca>

Sent: September 4, 2019 1:51 PM

To: Charlotte Kelly <CKelly@dsel.ca>

Subject: 1655 Carling Avenue

Hi Charlotte,

You are correct based on the combination of factors (site design, and distance to outlet) the RVCA will not require quality control for the proposal submitted (24 storey mixed use building). Best management practices are encouraged where possible.

Thank you,

Eric Lalande, MCIP, RPP
Planner | x1137



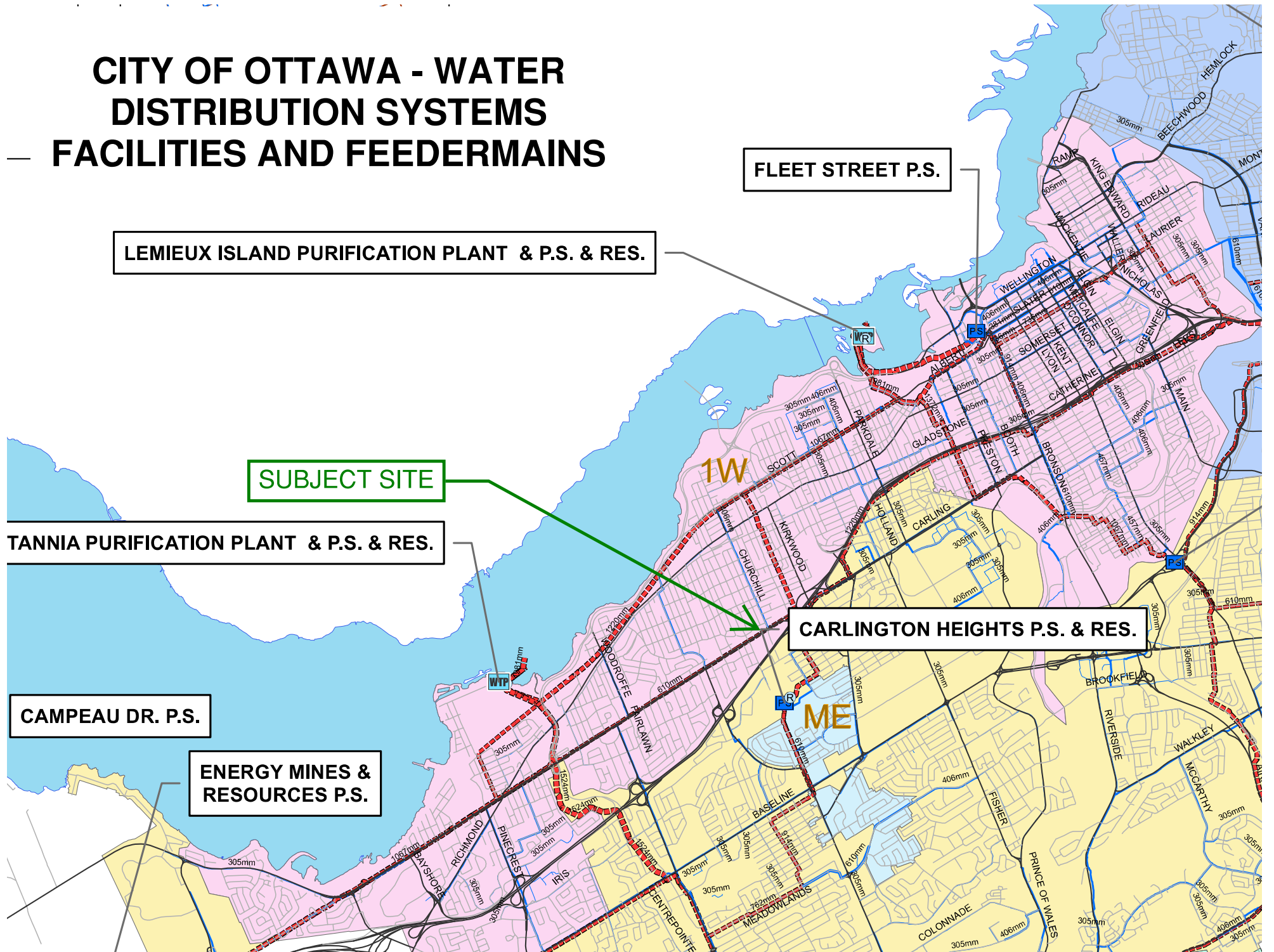
3889 Rideau Valley Drive
PO Box 599, Manotick ON K4M 1A5
T 613-692-3571 | 1-800-267-3504 F 613-692-0831 | www.rvca.ca

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APPENDIX B

Water Supply

CITY OF OTTAWA - WATER DISTRIBUTION SYSTEMS — FACILITIES AND FEEDERMAINS



WATER DEMAND DESIGN FLOWS

The anticipated average daily demand for the building has been calculated at **150.1 L/min** (or 2.50 L/s) as follows:

- 418 units X 1.8 persons per unit X 280 L/person/day
= 210,672 L/day = 146.3 L/min = 2.44 L/s
- (770sq.m of commercial + 1,410 sq.m of common amenity space) X 2,500 L/1,000sq.m /day
= 5,450 L/day = 3.78 L/min = 0.06 L/s

The maximum daily demand and maximum hourly daily demand (peak hour) will be **408.0 L/min** (or 6.8 L/s) and **611.0 L/min** (or 10.2 L/s) respectfully.

- Max. Daily Demand: 146.3 L/min X 2.75 (peaking factor / residential) + 3.78 L/min X 1.5 (peaking factor / commercial) = 408.0 L/min = 6.8 L/s
- Max. Hourly Daily Demand (Peak Hour): 146.3 L/min X 4.13 (peaking factor / residential) + 3.78 L/min X 1.8 (peaking factor / commercial) = 611.0 L/min = 10.2 L/s

FUS Calculations

1655 & 1619 Carling Avenue

$$F = 220 \times C \times \sqrt{A}$$

Where:

C = 0.6 for fire-resistive construction (fully protected frame, floors, roof)

For fire-resistive building, consider the two largest adjoining floors plus 50 percent of each of any floors immediately above them up to eight, when the vertical openings are inadequately protected. If the vertical openings and exterior vertical communications are properly protected (one hour rating), consider only the area of the largest floor plus 25 percent of each of the two immediately adjoining floors.

We note, based on our discussion with the Architect, that the underlined statement above will apply for this project / building.

Area (A):

$$A = (2 \times 2,569) + (0.5 \times 2 \times 2,569) + (0.5 \times 1 \times 2,362) + (0.5 \times 5 \times 1,526)$$

$$A = 12,703 \text{ m}^2$$

$$F = 220 \times 0.6 \times \sqrt{12,703}$$

$$F = 14,877 \text{ L/min}$$

$$F \sim 15,000 \text{ L/min}$$

BUILDING CONSTRUCTION AREA

(BUILDING FOOTPRINT)

PARKING LEVEL - P3		673.5 sq. m. 7,250 sq. ft.
PARKING LEVEL - P2		4,049.6 sq. m. 43,590 sq. ft.
PARKING LEVEL - P1		4,049.6 sq. m. 43,590 sq. ft.
GROUND FLOOR		1,846.9 sq. m. 19,880 sq. ft.
2nd FLOOR		2,569.2 sq. m. 27,655 sq. ft.
3rd-5th FLOOR	3 x 2,569.2 sq. m. 3 x 27,655 sq. ft.	7,707.6 sq. m. 82,965 sq. ft.
6th FLOOR		2,361.6 sq. m. 25,240 sq. ft.
7th - 12th FLOOR (TOWER A)	6 x 763.7 sq. m. 6 x 8,220 sq. ft.	4,582.2 sq. m. 49,320 sq. ft.
7th - 12th FLOOR (TOWER B)	6 x 762.7 sq. m. 6 x 8,210 sq. ft.	4,537.6 sq. m. 49,260 sq. ft.
13th - 16th FLOOR (TOWER A)	4 x 707.9 sq. m. 4 x 7,620 sq. ft.	2,831.6 sq. m. 30,480 sq. ft.
13th - 16th FLOOR (TOWER B)	4 x 699.4 sq. m. 4 x 7,528 sq. ft.	2,797.5 sq. m. 33,112 sq. ft.
17th & 18th FLOOR (TOWER A)	2 x 698.6 sq. m. 2 x 7,520 sq. ft.	1,397.2 sq. m. 15,040 sq. ft.
MECHANICAL PENTHOUSE (TOWER A)		215.1 sq. m. 2,315 sq. ft.
MECHANICAL PENTHOUSE (TOWER B)		232.3 sq. m. 2,500 sq. ft.
TOTAL AREA		40,152.4 sq. m. 432,197 sq. ft.

FUS Reductions / Increases:

Occupancy

It is noted that 'Apartments' are examples of Low Hazard Occupancies.

Therefore, a "non-combustible" reduction of 25% (3,750 L/min) will be applied.

$$F = 11,250 \text{ L/min}$$

Modifier for Sprinkler System

A 50% reduction will be applied under the assumption that a complete automatic sprinkler system will be installed.

$$M_1 = 5,625 \text{ L/min}$$

Modifier for Exposure

The proposed building will have the following approximate clearances to existing structures:

East: bet'w 0 and 3m	25% increase
West: bet'w 3.1 and 10m	20% increase
North: bet'w 10.1 and 20m	15% increase
South: bet'w 30.1 and 45m	5% increase
Total Increase:	65%

$$M_2 = 7,312 \text{ L/min}$$

The final fire flow, according to the FUS, will be the fire flow as a result of the Occupancy reduction (11,250 L/s), minus the value M_1 , and plus the value M_2 .

$$F = 11,250 \text{ L/min} - 5,625 \text{ L/min} + 7,312 \text{ L/min}$$

$$F = 12,937 \text{ L/min}$$

$$F \sim 13,000 \text{ L/min}$$

$$F \sim 216.7 \text{ L/s}$$

Conclusion:

The conservative FUS fire flow requirement for this building (based on our assumptions noted above) is **216.7 L/s**.

Guy Ste-Croix

Subject: Sprinkler

From: Mark Sarasin <marks@gwal.com>
Sent: February 2, 2022 11:07 AM
To: Guy Ste-Croix <guy.ste-croix@ainleygroup.com>; James Gerwin <jgerwin@rlaarchitecture.ca>
Cc: Michel Tylbor <mtylbor@clobracon.com>
Subject: Sprinkler

Hi Guy,

Our fire pump will be selected for 500 gpm (400 gpm for sprinklers and 100 gpm for 1-1/2 hose) @ 110 Psi. This will provide the water for the sprinklers and the 1-1/2" hoses in the building. The 2-1/2" hoses do not need to be on the fire pump but will be provided by the fire department connection as per OBC requirements. This flow requirement is 500 gpm which would be in addition to the sprinkler load of 400 gpm.

Hope this is clear.

Thanks,

Mark Sarasin P.Eng.
Senior Associate, Mechanical Engineer

Goodkey, Weedmark & Associates Limited
Consulting Engineers
Office: 613-727-5111, ext. 308
Mobile: 613-816-0844
Email: m.sarasin@gwal.com
Web: www.gwal.com

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1688 Woodward Drive | Ottawa , Ontario | K2C 3R8

Genavieve Greenberg

From: Genavieve Greenberg
Sent: Thursday, November 5, 2020 10:55 AM
To: Genavieve Greenberg
Subject: FW: 119-1131 1655 Carling - Boundary Condition Request
Attachments: 1655 Carling Avenue October 2020.pdf

From: Wessel, Shawn <shawn.wessel@ottawa.ca>
Sent: October 26, 2020 2:30 PM
To: Alison Gosling <AGosling@dsel.ca>
Subject: RE: 119-1131 1655 Carling - Boundary Condition Request

Good afternoon Ms. Gosling.

Please find boundary conditions supplied by Water Distribution.

The following are boundary conditions, HGL, for hydraulic analysis at 1655 Carling (zone 1W) assumed to be connected to the 203mm on Carling Avenue (see attached PDF for location).

Minimum HGL = 108.5m

Maximum HGL = 113.9m

MaxDay + Available Fire Flow @ 20psi = 130 L/s

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.

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

Thank you

Please be advised that I will be away from the office October 29th, returning November 9th.

Regards,

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

Development Review Central Branch | Direction de l’examen des projets d’aménagement, Centrale
Planning, Infrastructure and Economic Development Department | Direction générale de la planification
de l’infrastructure et du développement économique
City of Ottawa | Ville d’Ottawa
110 Laurier Ave. W. | 110, avenue Laurier Ouest, Ottawa ON K1P 1J1
(613) 580 2424 Ext. | Poste 33017
Int. Mail Code | Code de Courrier Interne 01-14
shawn.wessel@ottawa.ca

 Please consider the environment before printing this email

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

From: Wessel, Shawn
Sent: October 22, 2020 2:26 PM
To: Alison Gosling <AGosling@dsel.ca>
Subject: RE: 119-1131 1655 Carling - Boundary Condition Request

Thank you, Ms. Gosling.

This request has been forwarded to our Water Distribution Dept. for comment.

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

Thank you

Please be advised that I will be away from the office October 29th, returning November 9th.

Regards,

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

 Please consider the environment before printing this email

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

From: Alison Gosling <AGosling@dsel.ca>
Sent: October 22, 2020 11:24 AM
To: Wessel, Shawn <shawn.wessel@ottawa.ca>
Subject: 119-1131 1655 Carling - Boundary Condition Request

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

ATTENTION : Ce courriel provient d'un expéditeur externe. Ne cliquez sur aucun lien et n'ouvrez pas de pièce jointe, excepté si vous connaissez l'expéditeur.

Good morning Shawn,

We would like to request water boundary conditions for Carling Avenue using the following contemplated development demands:

1. Location of Service / Street Number: 1655 Carling Avenue
2. Type of development and the amount of fire flow required for the contemplated development:
 - Based on coordination with the architect the development would include approximately **3,116 m²** of commercial/amenity space (**788 m²** commercial and **2,328 m²** amenity) and a **370 unit**, 18-storey condominium with underground parking. Please refer to the site plan attached.
 - It is anticipated that the development will have a dual connection to be serviced from the existing 203mm diameter watermain within Carling Avenue, as shown by the map below.
 - Fire demand based on Technical Bulletin ISTB-2018-02 has been used to calculate an estimate the max fire demand of **20,000 L/min**. Refer to the attached for detailed calculations.

	L/min	L/s
Avg. Daily	134.9	2.25
Max Day	331.9	5.53
Peak Hour	726.9	12.11



If you have any questions, please feel free to contact me.

Thank you,

Alison Gosling, P.Eng.
Junior Project Manager

DSEL

david schaeffer engineering ltd.

120 Iber Road, Unit 103
Stittsville, ON K2S 1E9

phone: (613) 836-0856 ext.542

cell: (343) 542-9218

email: agosling@dssel.ca

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Note: I will be working remotely given the current circumstances. Please send me an email should you wish to discuss over the phone. I will return your call as soon as possible.

Boundary Conditions for 1655 Carling Avenue



Legend

- PRIVATE
- PUBLIC

APPENDIX C

Wastewater Collection

WASTEWATER DESIGN FLOWS

The anticipated average daily wastewater flow has been calculated at **2.57 L/s** as follows:

- 418 units X 1.8 persons per unit X 280 L/person/day
= 210,672 L/day = 146.3 L/min = **2.44 L/s**
- (770sq.m of commercial + 1,410 sq.m of common amenity space) X 5,000 L/1,000sq.m /day
= 10,900 L/day = 7.57 L/min = **0.13 L/s**

The anticipated peak wastewater flow was been calculated at **8.40 L/s** as follows:

- 2.44 L/s X 3.30 (peaking factor for residential flow) + 0.13 L/s X 1.5 (peaking factor for commercial flow) = 8.25 L/s
- 8.25 L/s + [0.46 ha (Site Area) X 0.33 L/s/gross ha (Infiltration Allowance)] = **8.40 L/s**

Where:

Residential Peaking Factor: Harmon Equation

$$= 1 + (14/\{4+[(P/1000)^{0.5}]\}) \times K$$

P = Population

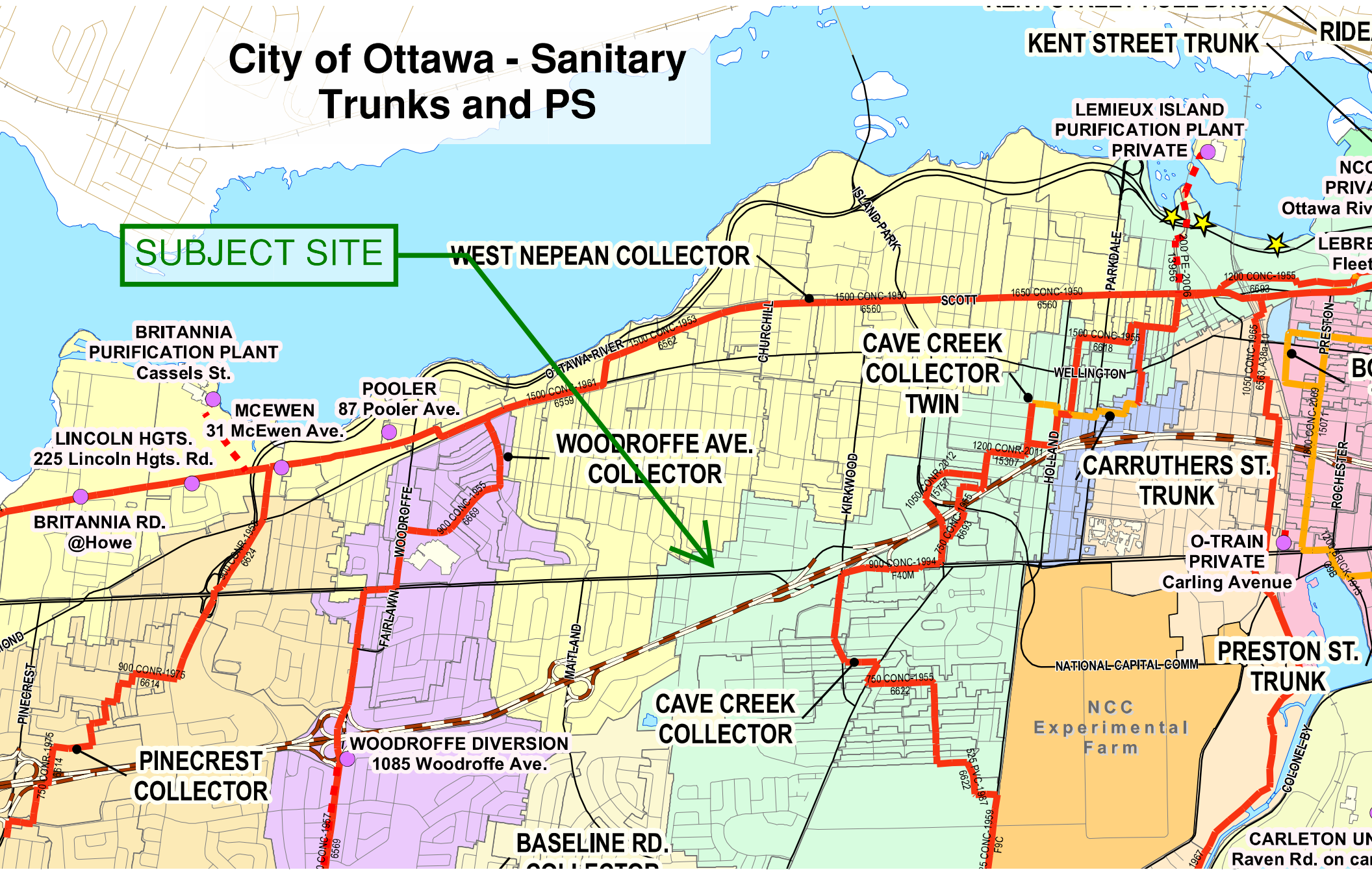
K = Correction Factor = 0.8

$$= 1 + (14/\{4+[(752/1000)^{0.5}]\}) \times 0.8$$

$$= 3.30$$

City of Ottawa - Sanitary Trunks and PS

SUBJECT SITE



SANITARY DRAINAGE PLAN



2019-09-09

Commercial Area=6.38ha
Residential Apartment Units = 30

SANITARY SEWER CALCULATION SHEET

CLIENT: **Surface Developments**
 LOCATION: **1655 Carling Avenue**
 FILE REF: **19-1131**
 DATE: **5-Feb-20**

DESIGN PARAMETERS

Avg. Daily Flow Res.	280 L/p/d	Peak Fact Res. Per Harmons: Min = 2.0, Max =4.0	Infiltration / Inflow	0,33 L/s/ha	
Avg. Daily Flow Comm.	28,000 L/ha/d	Peak Fact. Comm.	1,5	Min. Pipe Velocity	0,60 m/s full flowing
Avg. Daily Flow Instit.	28,000 L/ha/d	Peak Fact. Instit.	1,5	Max. Pipe Velocity	3,00 m/s full flowing
Avg. Daily Flow Indust.	35,000 L/ha/d	Peak Fact. Indust. per MOE graph		Mannings N	0,013



Location			Residential Area and Population							Commercial		Institutional		Industrial		Infiltration				Pipe Data											
Area ID	Up	Down	Area				Pop.	Cumulative		Peak Fact.	Q _{res}	Area	Accu.	Area	Accu.	Area	Accu.	Q _{C+I+I}	Total Area	Accu. Area	Infiltration Flow	Total Flow	DIA	Slope	Length	A _{hydraulic}	R	Velocity	Q _{cap}	Q / Q full	
			(ha)	Singles	Semi's	Town's		Apt's	(ha)																						Pop.
	M1	M2	0,270				30	54,0	0,270	54,0	4,00	0,70	6,11	6,11		0,00	0,00	0,00	5,3	6,380	6,380	1,786	7,79	300	0,19	102,0	0,071	0,075	0,60	42,2	0,18

*A conservative minimum slope of 0,19% was used for all 300 mm diamter existing sanitary sewers.

APPENDIX D

Stormwater Management

AINLEY Project: 22002-1
Location: 1619 & 1655 Carling Avenue

Time of Concentration

(Pre-Development Condition)

Bransby Williams Formula

$T_c = 0.057 * L / (S_w^{0.2} A^{0.1})$ (for C value greater than 0.40)

Where

L = length (metres)

S_w = Slope (%)

A = Surface area (ha)

C = Runoff Coefficient

Sub-Drainage	Area	Length	Upper stream	Down Stream	Slope	C-coefficient	Time of concentration
Area Number	ha	Meter	Elevation	Elevation	%		Min
PRE	0.46	114.00	77.86	77.25	0.54	0.85	7.96

Therefore, the time of concentration to be used to calculate the allowable release rate is 10 minutes.

AINLEY Project: 22002-1
Location: 1619 & 1655 Carling Avenue

Pre-Development Runoff "C"

	Pre-development Average "C"		
	sq.m	5 year C value	100 year C value
Grass area	0.03	0.2	0.25
Asphalt area	0.43	0.9	1.00
Gravel area	0	0.5	0.63
Bulilding area	0	0.9	1.00
Overall area	0.46	0.85	0.95

Therefore, C value to be used to calculate the allowable release rate is **0.40**.

ALLOWABLE RELEASE RATE

With regards to stormwater management, we note that the site (i.e. based on the pre-consultation meeting which took place with the City of Ottawa) was to be controlled up to and including the 100 year storm event to a 2 year pre-development level.

Rational Method

$$Q = R \times A \times I \times N$$

Total Site Area A = 0.46 hectares

Runoff Coefficient R = 0.85 (actual)

 R = 0.40 (used)

Time of Concentration T_c = 10 min (based on correspondence with the City)

2 year Rainfall Intensity I = 76.8 mm/hr

2 year Pre-Development Flow: Q = 0.40 x 0.46 x 76.8 x 2.78

 Q = 39.1 L/s

Thus, the total 100 year Post-Development release rate for the site shall be less or equal to **39.1 L/s**.

Storage Requirements for A1 (BUILDING)						
Area		0.39	hectares			
Runoff Coefficient =		0.82	post development 100 year ave C		1	
Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Controlled Release	Net Runoff To Be Stored (L/s)	Storage Req'd m3
2 Year	10	76.81	67.80	26.4	41.4	24.8
	20	52.03	45.93	26.4	19.5	23.4
	30	40.04	35.35	26.4	8.9	16.0
	40	32.86	29.01	26.4	2.6	6.2
	50	28.04	24.75	26.4	-1.7	-5.1
5 Year	10	104.19	91.97	26.4	65.6	39.3
	20	70.25	62.01	26.4	35.6	42.7
	30	53.93	47.60	26.4	21.2	38.2
	40	44.18	39.00	26.4	12.6	30.2
	50	37.65	33.24	26.4	6.8	20.5
100 Year	10	178.56	191.46	26.4	165.1	99.0
	20	119.95	128.62	26.4	102.2	122.7
	30	91.87	98.51	26.4	72.1	129.8
	40	75.15	80.57	26.4	54.2	130.0
	50	63.95	68.57	26.4	42.2	126.5

Storage Requirements for U1 (FREE FLOW)						
Area		0.03	hectares			
Runoff Coefficient =		0.85	post development 100 year ave C		1	
Return Period	Time (min)	Intensity (mm/hr)	Flow Q (L/s)	Controlled Release	Net Runoff To Be Stored (L/s)	Storage Req'd m3
2 Year	10	76.81	4.62	4.6	0.0	0.0
	20	52.03	3.13	4.6	-1.5	-1.8
	30	40.04	2.41	4.6	-2.2	-4.0
	40	32.86	1.98	4.6	-2.6	-6.3
	50	28.04	1.69	4.6	-2.9	-8.8
5 Year	10	104.19	6.26	6.3	0.0	0.0
	20	70.25	4.22	6.3	-2.0	-2.4
	30	53.93	3.24	6.3	-3.0	-5.4
	40	44.18	2.66	6.3	-3.6	-8.7
	50	37.65	2.26	6.3	-4.0	-12.0
100 Year	10	178.56	12.66	12.7	0.0	0.0
	20	119.95	8.50	12.7	-4.2	-5.0
	30	91.87	6.51	12.7	-6.1	-11.1
	40	75.15	5.33	12.7	-7.3	-17.6
	50	63.95	4.53	12.7	-8.1	-24.4

AINLEY Project: 22002-1

Location: 1619 & 1655 Carling Avenue

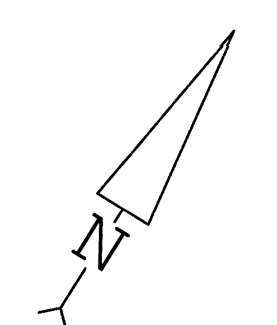
Stormwater Management Summary Sheet

Sub Area I.D.	Sub Area (ha)	C = 0.2	C = 0.6	C = 0.9	5 Year Composite 'C'	100 Year Composite 'C'	Outlet Location	Controlled Release (L/s)	Top of Grate (m)	Ponding Depth (m)	Invert or Pan Elev. (m)	Pipe dia (if plug type) (mm)	Head on Orifice (if plug) (m)	Diameter of Orifice (mm)
A1	0.386	0.042	0.000	0.343	0.82	1.00	BUILDING	26.4						
U1	0.026	0.002	0.000	0.024	0.85	1.00	FREE FLOW	12.7						

0.411 0.044 0.000 0.367 0.825

39.1

DRAWINGS / FIGURES



PART OF BLOCK 1
REGISTERED PLAN 492
CITY OF OTTAWA

FARLEY, SMITH & DENIS SURVEYING LTD. 2020

Scale 1: 200
0 2.5 5 10 15 20 metres

Metric Note
Distances and coordinates on this plan are in metres and can be converted to feet by dividing by 0.3048.

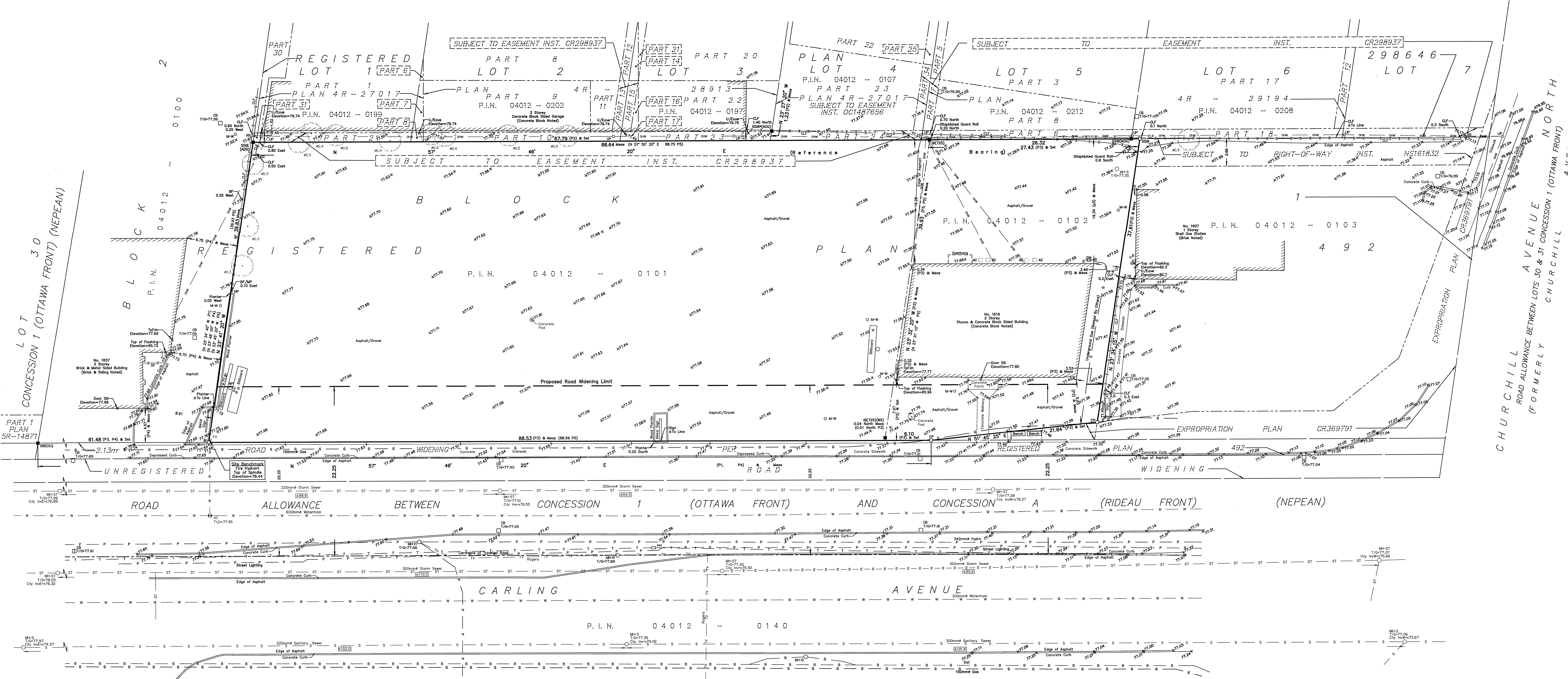
Distance Note
Distances shown on this plan are ground distances and can be converted to grid distances by multiplying by the combined scale factor of 0.99993.

Bearing Note
Bearings are grid and are referred to the Central Meridian of MTM Zone 9 (76°30' West Longitude) Nad-83 (Original).

Elevation Notes
1. Elevations shown are geodetic and are referred to Geodetic Datum CGVD-1928 -1978. (See A05 Job No. 18524-17)
2. It is the responsibility of the user of this information to verify that the job benchmark has not been altered or disturbed and that its relative elevation and description agrees with the information shown on this drawing.

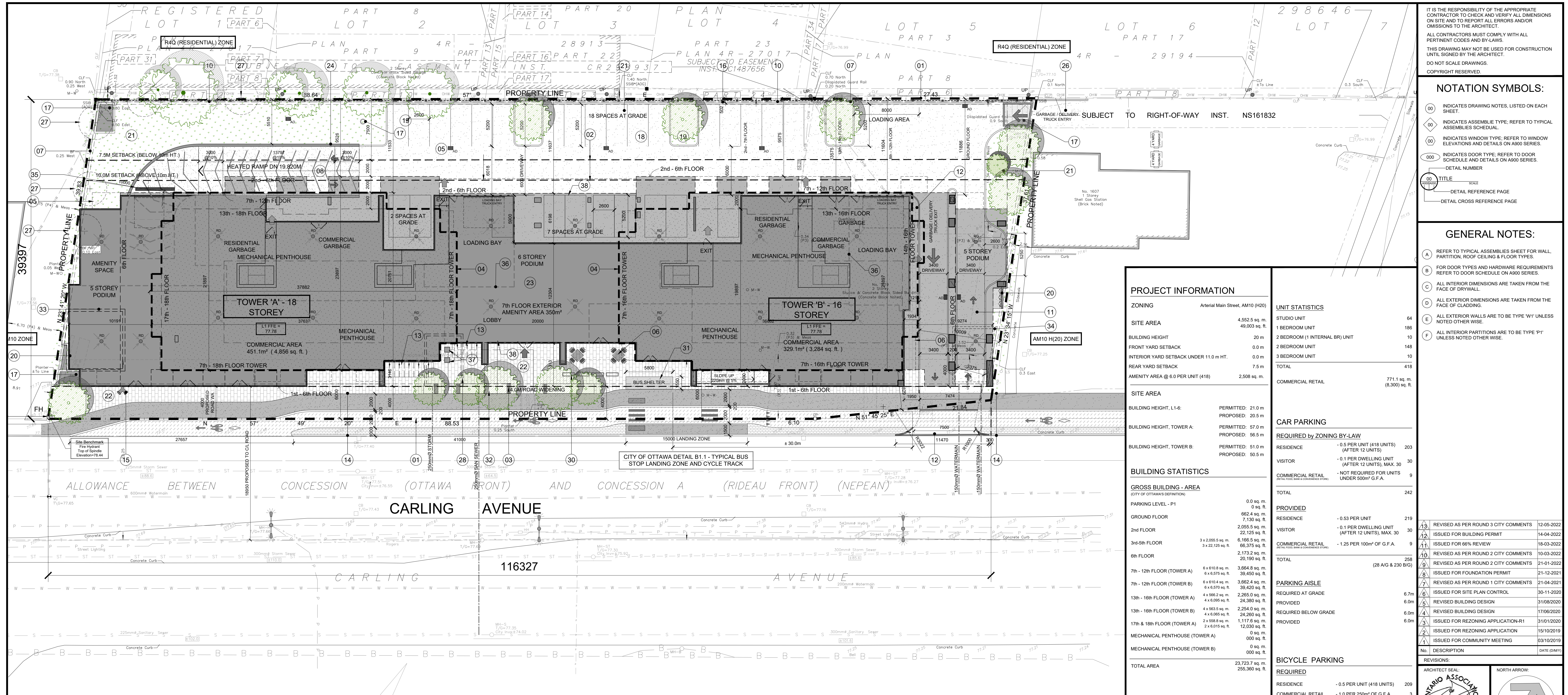
Utility Notes
1. This drawing cannot be accepted as acknowledging all of the utilities and it will be the responsibility of the user to contact the respective utility authorities for confirmation.
2. Only visible surface utilities were located.
3. Underground utility data derived from City of Ottawa utility sheet reference: F-04-35, F-04-37, 6047p&1 & A19c-3.
4. Sanitary and storm sewer grades and inverts were compiled from: City of Ottawa Plans.
5. A field location of underground plant by the pertinent utility authority is mandatory before any work involving breaking ground, probing, excavating etc.

Notes & Legend table with symbols and descriptions for survey monuments, bearings, elevations, and utility types.



Surveyor's Certificate
I certify that:
1. This survey and plan are correct and in accordance with the Survey Act, the Surveyors Act and the Regulations made under them.
2. The survey was completed on the 10th day of November, 2020.
Date: Nov. 12/20
Daniel Robinson
Ontario Land Surveyor

FARLEY, SMITH & DENIS SURVEYING LTD.
ONTARIO LAND SURVEYORS
CANADA LAND SURVEYORS
190 COLONNADE ROAD, OTTAWA, ONTARIO K2E 7J5
TEL: (613) 727-8226 FAX: (613) 727-3826



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

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS. THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNLESS SIGNED BY THE ARCHITECT. DO NOT SCALE DRAWINGS. COPYRIGHT RESERVED.

NOTATION SYMBOLS:

- (01) INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
- (02) INDICATES ASSEMBLY TYPE: REFER TO TYPICAL ASSEMBLIES SCHEDULED.
- (03) INDICATES WINDOW TYPE: REFER TO WINDOW ELEVATIONS AND DETAILS ON A800 SERIES.
- (04) INDICATES DOOR TYPE: REFER TO DOOR SCHEDULES AND DETAILS ON A800 SERIES.
- (05) TITLE
- (06) SCALE
- (07) DETAIL REFERENCE PAGE
- (08) DETAIL CROSS REFERENCE PAGE

GENERAL NOTES:

- (A) REFER TO TYPICAL ASSEMBLIES SHEET FOR WALL, PARTITION, ROOF CEILING & FLOOR TYPES
- (B) FOR DOOR TYPES AND HARDWARE REQUIREMENTS REFER TO DOOR SCHEDULE ON A800 SERIES.
- (C) ALL INTERIOR DIMENSIONS ARE TAKEN FROM THE FACE OF DRYWALL.
- (D) ALL EXTERIOR DIMENSIONS ARE TAKEN FROM THE FACE OF CLADDING.
- (E) ALL EXTERIOR WALLS ARE TO BE TYPE 'W1' UNLESS NOTED OTHERWISE.
- (F) ALL INTERIOR PARTITIONS ARE TO BE TYPE 'P1' UNLESS NOTED OTHERWISE.

PROJECT INFORMATION

ZONING: Arterial Main Street, AM10 (H20)

SITE AREA: 4,552.5 sq. m, 49,933 sq. ft.

BUILDING HEIGHT: 20 m

FRONT YARD SETBACK: 0.0 m

INTERIOR YARD SETBACK UNDER 11.0 m HT.: 0.0 m

REAR YARD SETBACK: 7.5 m

AMENITY AREA @ 6.0 PER UNIT (418): 2,508 sq. m

UNIT STATISTICS

STUDIO UNIT	64
1 BEDROOM UNIT	186
2 BEDROOM (1 INTERNAL BR) UNIT	10
3 BEDROOM UNIT	148
TOTAL	418

COMMERCIAL RETAIL: 771.1 sq. m (8,300 sq. ft.)

SITE AREA

BUILDING HEIGHT, L1-6: PERMITTED: 21.0 m, PROPOSED: 20.5 m

BUILDING HEIGHT, TOWER A: PERMITTED: 57.0 m, PROPOSED: 56.5 m

BUILDING HEIGHT, TOWER B: PERMITTED: 51.0 m, PROPOSED: 50.5 m

CAR PARKING

REQUIRED BY ZONING BY-LAW

RESIDENCE	-0.5 PER UNIT (418 UNITS) (AFTER 12 UNITS)	209
VISITOR	-0.1 PER DWELLING UNIT (AFTER 12 UNITS), MAX. 30	30
COMMERCIAL RETAIL	- NOT REQUIRED FOR UNITS UNDER 500m² G.F.A.	9
TOTAL		242

BUILDING STATISTICS

GROSS BUILDING - AREA (CITY OF OTTAWA'S DEFINITION)

PARKING LEVEL - P1	0.0 sq. m
GROUND FLOOR	662.4 sq. m
2nd FLOOR	7,130 sq. m
3rd-5th FLOOR	2,055.5 sq. m
6th FLOOR	22,125 sq. m
7th-12th FLOOR (TOWER A)	3,168.5 sq. m
7th-12th FLOOR (TOWER B)	3,222.5 sq. m
13th-16th FLOOR (TOWER A)	6,610.8 sq. m
13th-16th FLOOR (TOWER B)	6,657.5 sq. m
17th & 18th FLOOR (TOWER A)	6,610.4 sq. m
17th & 18th FLOOR (TOWER B)	6,657.0 sq. m
MECHANICAL PENTHOUSE (TOWER A)	4,966.2 sq. m
MECHANICAL PENTHOUSE (TOWER B)	4,965.0 sq. m
TOTAL AREA	23,723.7 sq. m

PROVIDED

RESIDENCE	-0.53 PER UNIT	219
VISITOR	-0.1 PER DWELLING UNIT (AFTER 12 UNITS), MAX. 30	30
COMMERCIAL RETAIL	-1.25 PER 100m² OF G.F.A.	9
TOTAL		258

(28 A/G & 230 B/G)

PARKING AISLE

REQUIRED AT GRADE: 6.0 m

PROVIDED: 6.7 m

REQUIRED BELOW GRADE: 6.0 m

PROVIDED: 6.0 m

REVISOR	DESCRIPTION	DATE (MM/YY)
1	ISSUED FOR BUILDING PERMIT	12-05-2022
2	ISSUED FOR 66% REVIEW	18-03-2022
3	REVISED AS PER ROUND 2 CITY COMMENTS	10-03-2022
4	REVISED AS PER ROUND 2 CITY COMMENTS	21-01-2022
5	ISSUED FOR FOUNDATION PERMIT	21-12-2021
6	ISSUED AS PER ROUND 1 CITY COMMENTS	21-04-2021
7	ISSUED FOR SITE PLAN CONTROL	30-11-2020
8	REVISED BUILDING DESIGN	31/08/2020
9	REVISED BUILDING DESIGN	17/06/2020
10	ISSUED FOR REZONING APPLICATION-R1	31/01/2020
11	ISSUED FOR REZONING APPLICATION	15/10/2019
12	ISSUED FOR COMMUNITY MEETING	03/10/2019

BICYCLE PARKING

REQUIRED: 209

RESIDENCE: -0.5 PER UNIT (418 UNITS)

COMMERCIAL RETAIL: -1.0 PER 250m² OF G.F.A. 3

TOTAL: 212

PROVIDED

EXTERIOR: 16

L1 (INTERIOR): 50

UNDERGROUND PARKING LEVEL: 162

TOTAL: 228

1655 CARLING DEVELOPMENTS INC.

ARCHITECT: rla/architecture

PROJECT TITLE: 1619 - 1655 CARLING AVENUE

LOT COVERAGE

PAVED SURFACE =	1,469.1 sq. m	32.3%
BUILDING FOOTPRINT =	1,847.4 sq. m	40.6%
LANDSCAPE OPEN SPACE =	1,236.0 sq. m	27.1%
TOTAL =	4,552.5 sq. m	100.0%

PARKING LOT COVERAGE

PAVED SURFACE =	1,254.7 sq. m	73.4%
SOFT LANDSCAPING =	454.5 sq. m	26.6%
TOTAL =	1,709.2 sq. m	100.0%

AMENITY SPACE

EXTERIOR AT GRADE =	280.0 sq. m
GROUND FLOOR COMMUNAL INTERIOR =	165.0 sq. m
7th FLOOR COMMUNAL INTERIOR =	75.0 sq. m
7th FLOOR COMMUNAL EXTERIOR PATIO =	380.0 sq. m
17th & 18th FLR COMMUNAL EXTERIOR PATIO =	780.0 sq. m
6th FLOOR PRIVATE DECKS =	204.0 sq. m
PRIVATE BALCONIES =	2,265.0 sq. m
TOTAL =	4,159.0 sq. m
TOTAL COMMUNAL =	1,680.0 sq. m
REQUIRED - 6.0M² PER UNIT (418) =	2,508.0 sq. m
REQUIRED COMMUNAL @ 50% =	1,254.0 sq. m

REFUSE REQUIREMENT (418 UNITS)

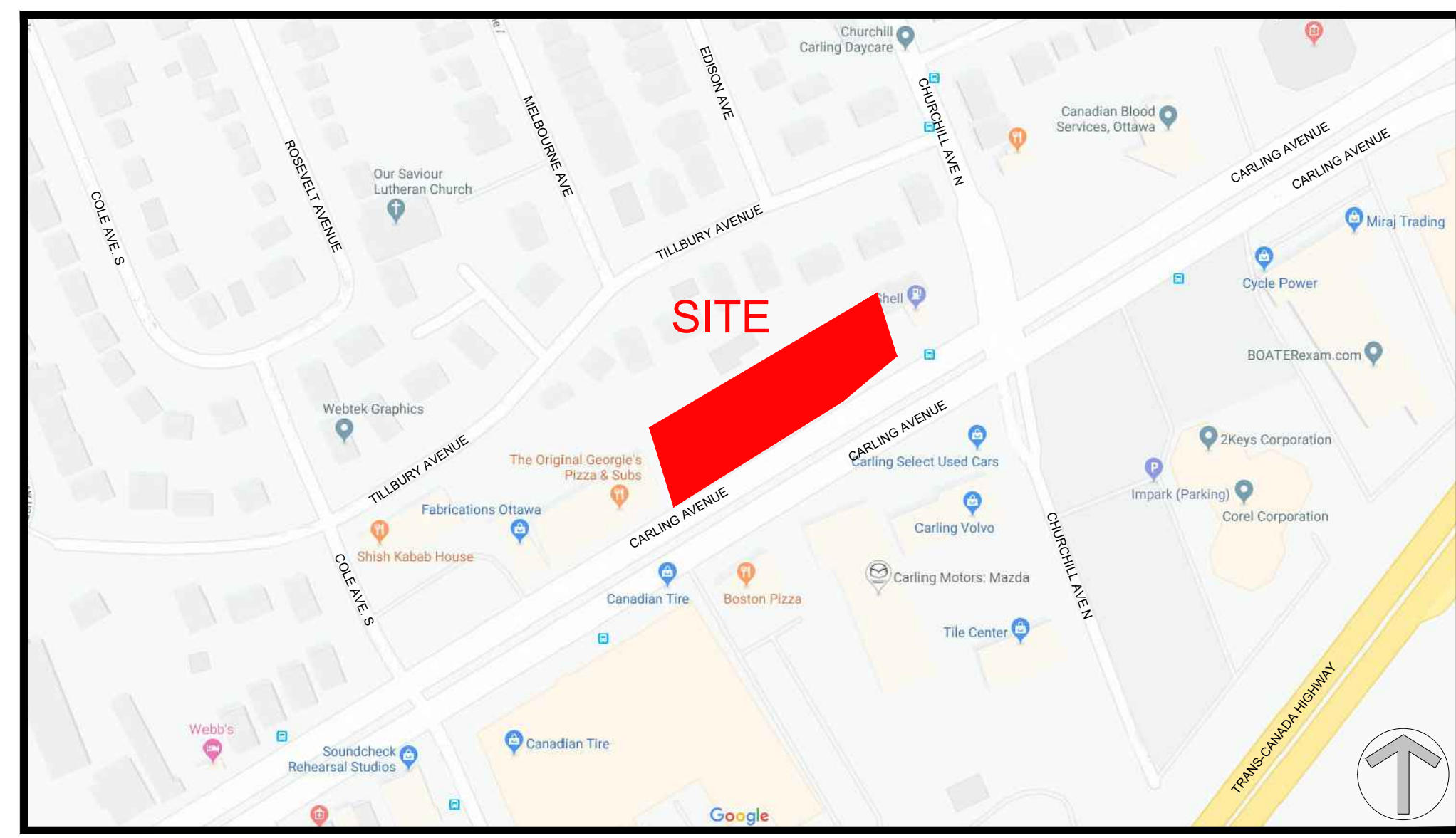
GARBAGE	-0.11 PER UNIT	46 YARDS
RECYCLING GMP	-0.018 PER UNIT	7.5 YARDS
RECYCLING FIBER	-0.038 PER UNIT	16 YARDS
COMPOST	-240L PER 50 UNITS	9

1 SITE PLAN

SCALE = 1 : 200

0m 5 10 20

SCALE 1: 200



URBAN PLANNER Ainley Engineering Group 2724 Fenton Road Gloucester, ON K1T 3T7 Tel: (613) 822-1052 Email: guy.ste-croix@ainleygroup.com	PROJECT DEVELOPER 1655 CARLING DEVELOPMENT Inc. 2535 Halpern, Suite 1 Saint-Laurent, QC, H4S 1N9 Tel: (514) 731-0035 E-Mail: mtylbor@clobracon.com
CIVIL ENGINEER Ainley Engineering Group 2724 Fenton Road Gloucester, ON K1T 3T7 Tel: (613) 822-1052 Email: guy.ste-croix@ainleygroup.com	LEGAL DESCRIPTION TOPOGRAPHIC PLAN OF SURVEY OF PART OF BLOCK 1 REGISTERED PLAN 492 CITY OF OTTAWA FARLEY, SMITH & DENIS SURVEYING LTD. 2019
LANDSCAPE ARCHITECT LASHLEY+ASSOCIATES SUITE 202, 950 GLADSTONE AVENUE OTTAWA, ON K1Y 3E6 Tel: 613 233 8579 Fax: 613 233 4051 Email: cney@lashleyla.com	SURVEYOR Farley, Smith & Denis Ltd. Ontario Land Surveyors 190 Colonnade Road, Suite 500, Ottawa, Ontario K2E 7J5 Tel: (613) 727-8226 Fax: (613) 727-1826 E-Mail: xxx@xxx.com

SITE PLAN SYMBOLS:

- TERRACE/LANDSCAPE PLANTING
- ASPHALT DRIVE/SIDEWALK PARKING
- CONCRETE SIDEWALK
- CONCRETE PAVERS - SEE LANDSCAPE DRAWINGS
- PAVERS @ TERRACE LEVEL
- ASPHALT BIKE PATH
- PROPERTY LINE
- BUILDING SETBACK LINE
- FENCE LINE
- BIKE RACK
- ENTRANCE / EXIT DOOR
- COMMERCIAL / EXIT DOOR
- FIRE HYDRANT
- VEHICULAR DIRECTION
- EXISTING TREE TO REMAIN
- SIAMSESE CONNECTION
- PROPOSED GRADE - SEE CIVIL DRAWINGS
- ROOF DRAIN
- AREA DRAIN - SEE CIVIL DRAWINGS

DRAWING NOTES (cont'd):

- LINE OF TOWER BALCONIES ABOVE
- LINE OF PARKING GARAGE BELOW
- HEATED RAMP TO U/G GARAGE WITH TRENCH DRAIN
- EXISTING FIRE HYDRANT
- 1.8m HIGH WOOD FENCE - SEE LANDSCAPE
- EXISTING COMMERCIAL BUILDING
- DEPRESSED CURBS
- BICYCLE RACKS, SEE LANDSCAPE PLAN FOR TYPE
- REPLACE EXISTING SIDEWALK WITH 1.0m BOULEVARD, 2.0m CYCLE TRACK, 0.2m STRIP, 2.0m CONCRETE SIDEWALK TO CITY STANDARDS
- SIAMSESE CONNECTION
- REAR YARD LANDSCAPE SETBACK
- INTAKE / EXHAUST SHAFT FOR GARAGE
- 2.6 X 5.2m STANDARD PARKING SPACES
- AREA OF TEMPORARY SNOW STORAGE
- GAS PRESSURE RELEASE STATION
- SOFT LANDSCAPING
- HARD LANDSCAPING - PAVERS
- 7th FLOOR AMENITY TERRACE
- CONCRETE RETAINING WALL
- SHORT TERM PARKING SPACE
- EXISTING 3.66m WIDE ACCESS EASEMENT
- EXISTING TREE TO BE REMOVED
- LINE OF CISTERN BELOW. SEE CIVIL AND MECHANICAL FOR DETAILS
- SITE FURNITURE AS SPECIFIED AND LOCATED BY LANDSCAPE ARCHITECT.
- RAISED SEASONAL PLANTERS AROUND AMENITY SPACE
- RE-LOCATED BUS STOP WITH CONCRETE PAD
- STREET TREES WITH GRATES. SEE LANDSCAPE
- LINE OF ELECTRICAL VAULT BELOW
- LINE OF WATER ENTRY RAMP BELOW
- TRENCH DRAIN
- OUTLINE OF LOADING BAY
- ACCESS HATCHES TO CISTERN BELOW
- 2.6M H. WIND SCREEN @ L7 TERRACE

DRAWING NOTES:

- PROPERTY LINE
- BUILDING / HEIGHT SETBACK LINE
- LINE OF 4.0m ROAD WIDENING ALLOWANCE - 18.95m FROM CL OF ROAD
- OUTLINE OF TOWER
- LINE OF PODIUM LEVEL BALCONIES ABOVE SCOPE