SERVICING & STORMWATER MANAGEMENT REPORT 500 COVENTRY ROAD



Project No.: CCO-23-2497

Pre-Application No.: PC2202-0191

Prepared for:

Morguard Corporation 55 City Centre Drive, Suite 1000 Mississauga, ON L5B 1M3

Prepared by:

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1.0 PROJECT DESCRIPTION

1.1 Purpose

Egis Group (formerly McIntosh Perry) has been retained by Morguard to prepare this Servicing and Stormwater Management Report in support of the Site Plan Control process for the proposed development located at 500 Coventry Road within the City of Ottawa.

The main purpose of this report is to present a servicing and stormwater management design for the development in accordance with the recommendations and guidelines provided by the City of Ottawa (City), the Rideau Valley Conservation Authority (RVCA), and the Ministry of the Environment, Conservation and Parks (MECP). This report will address the water, sanitary and storm sewer servicing for the development, ensuring that existing and available services will adequately service the proposed development.

This report should be read in conjunction with the following drawings:

- CCO-23-2497, C101 Lot Grading, Drainage, Erosion, and Sediment Control Plan
- CCO-23-2497, C102 Site Servicing Plan
- CCO-23-2497, PRE Pre-Development Drainage Area Plan (Appendix E)
- CCO-23-2497, POST Post-Development Drainage Area Plan (Appendix F)

1.2 Site Description



Figure 1: Site Map

The subject property, herein referred to as the site, is located at 500 Coventry Road within the Rideau-Rockcliffe ward. The site covers approximately *3.46 ha* and is located along Coventry Road. The site is zoned for Transit Oriented Development (TD3). See Site Location Plan in *Appendix 'A'* for more details.

1.3 Proposed Development and Statistics

The proposed development consists of the addition of a 28-storey apartment building located in the south-east corner of the site and containing 309 residential units. Drive aisles are proposed throughout the site, with new underground parking and existing surface parking located north of the development area. There is a 14.0 m MTO setback from the southern property line. Development is proposed within 0.45 ha of the site. Refer to *Site Plan* prepared by Turner Fleischer Architects and included in *Appendix B* for further details.

1.4 Existing Conditions and Infrastructures

The site is currently developed containing a parking lot and undeveloped dirt and gravel storage area. The site contains a dry 450 mm stormwater sewer and a catch basin system within the parking lot.

Sewer and watermain mapping collected from the City of Ottawa indicate that the following services exist across the property frontages within the adjacent municipal rights-of-way(s):

- Coventry Road
 - 305 mm diameter PVC watermain, a
 - 250 mm diameter concrete sanitary sewer, tributary to the Rideau River Collector Twin, and a
 - 1350 mm diameter concrete storm sewer, tributary to the Ottawa River approximately 1.9 km downstream.

1.5 Approvals

The proposed development is subject to the City of Ottawa site plan control approval process. Site plan control requires the City to review, provided concurrence and approve the engineering design package. Permits to construct can be requested once the City has issued a site plan agreement.

An Environmental Compliance Approval (*ECA*) through the Ministry of Environment, Conservation and Parks (*MECP*) is not anticipated to be required since the proposed storm sewer system services one parcel of land, does not propose industrial use, and does not outlet to a combined sewer.

2.0 BACKROUND STUDIES, STANDARDS, AND REFERENCES

2.1 Background Reports / Reference Information

As-built drawings of existing services, provided by the City of Ottawa Information centre, within the vicinity of the proposed site were reviewed in order to identify infrastructure available to service the proposed development.

A topographic survey (23868-23) of the site was completed by AOV and dated May 23rd, 2023.

The Site Plan (SPA005) was prepared by Turner Fleischer Architects Inc and dated October 10, 2024 (*Site Plan*).

2.2 Applicable Guidelines and Standards

City of Ottawa:

- Ottawa Sewer Design Guidelines, City of Ottawa, SDG002, October 2012. (Ottawa Sewer Guidelines)
 - Technical Bulletin ISTB-2014-01 City of Ottawa, February 2014. (ISTB-2014-01)
 - Technical Bulletin PIEDTB-2016-01 City of Ottawa, September 2016. (PIEDTB-2016-01)
 - Technical Bulletin ISTB-2018-01 City of Ottawa, January 2018. (ISTB-2018-01)
 - Technical Bulletin ISTB-2018-04 City of Ottawa, March 2018. (ISTB-2018-04)
 - Technical Bulletin ISTB-2019-02 City of Ottawa, February 2019. (ISTB-2019-02)
- Ottawa Design Guidelines Water Distribution City of Ottawa, July 2010. (Ottawa Water Guidelines)
 - Technical Bulletin ISD-2010-2 City of Ottawa, December 15, 2010. (ISD-2010-2)
 - Technical Bulletin ISDTB-2014-02 City of Ottawa, May 2014. (ISDTB-2014-02)
 - Technical Bulletin ISTB-2018-02 City of Ottawa, March 2018. (ISTB-2018-02)
 - Technical Bulletin ISTB-2021-03 City of Ottawa, August 2021. (ISTB-2021-03)

Ministry of Environment, Conservation and Parks:

- Stormwater Planning and Design Manual, Ministry of the Environment, March 2003. (MECP Stormwater Design Manual)
- Design Guidelines for Sewage Works, Ministry of the Environment, 2008. (*MECP Sewer Design Guidelines*)

Other:

• Water Supply for Public Fire Protection, Fire Underwriters Survey, 2020. (FUS Guidelines)

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3.0 PRE-CONSULTATION SUMMARY

A pre-consultation meeting was held with City staff on September 14th, 2022, regarding the proposed site servicing. Specific design parameters to be incorporated include the following:

- Pre-development and post-development flows shall be calculated using a time of concentration (Tc) no less than 10 minutes.
- Control 5 through 100-year post-development flows to the 5-year pre-development flow rate using an existing runoff coefficient no greater than 0.50.
- > Confirm sanitary capacity within the municipal infrastructure with City staff.

4.0 WATERMAIN

4.1 Existing Watermain

The site is located within the 1E pressure zone, as per the Water Distribution System mapping included in *Appendix C*. There is one municipal fire hydrant on Coventry Road, east of the site entrance, that is available to service the development.

4.2 Proposed Watermain

It is proposed to service the new building by extending a 200 mm diameter PVC watermain from the existing 300 mm diameter PVC watermain within Coventry Road. A new fire hydrant will be connected to the proposed watermain within the existing parking lot to provide fire flow for the development.

Refer to drawing C102 for a detailed servicing layout.

Table 1, below, summarizes the water supply design criteria obtained from the *Ottawa Water Guidelines* and utilized for the water analysis.

Site Area	3.46 ha
Residential	280 L/day/person
Residential Apartment – 1 Bedroom	1.4 person/unit
Residential Apartment – 2 Bedroom & 1 Bedroom + Den	2.1 person/unit
Residential Apartment – 3 Bedroom & 2 Bedroom + Den	3.1 person/unit
Max Day Peaking Factor - Residential	2.5 x avg. day
Peak Hour Peaking Factor - Residential	2.2 x max. day

The Fire Underwriters Survey 2020 (FUS) method was utilized to estimate the required fire flow for the proposed building. Fire flow requirements were calculated per City of Ottawa Technical Bulletin *ISTB-2018-02*. The following parameters were coordinated with the architect.

FUS:

- Type of construction Non-Combustible Construction
- Occupancy Type Limited Combustible
- Sprinkler Protection Fully Supervised Sprinkler System

The results of the FUS calculations yielded a required fire flow of 7,000 L/min (116.67 L/s). The detailed calculations can be found in *Appendix C*.

The City provided the estimated water pressures at both the average day scenario, peak hour scenario, and the max day plus fire flow scenario for the demands indicated by the correspondence

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in *Appendix C*. The resulting pressures for the boundary conditions results are shown in *Table 2*, below.

Scenario	Proposed Demands (L/S)	Connection 1 HGL (m H₂O)*/kPa		
Average Day Demand	2.44	54.4 / 533.5		
Maximum Daily + Fire Flow Demand (FUS)	116.67	45.2 / 443.2		
Peak Hourly Demand	12.94	46.0 / 451.1		
*Adjusted for an estimated top of watermain elevation of 64.1m				

Table 2: Summary of Estimated Water Demand

The normal operating pressure range is anticipated to be 451.1 kPa to 533.5 kPa and will not be less than 275 kPa (40 psi) or exceed 689 kPa (100 psi). The proposed watermains will meet the minimum required 20 psi (140 kPa) from the *Ottawa Water Guidelines* at the ground level under maximum day plus fire flow conditions.

To confirm the adequacy of fire flow to protect the proposed development, existing and proposed fire hydrants within 150 m of the proposed building were analysed per City of Ottawa *ISTB 2018-02* Appendix I Table 1. The results are summarized below.

Table 3: Fire Protection Confirmation

Building	Fire Flow Demand (L/min.)	Hydrant(s) within 75m (5,700 L/min)	Hydrant(s) within 150m (3,800 L/min)	Combined Fire Flow (L/min.)
500 Coventry Rd	7,000	1 Prop. Private	1 Ex. Public	9,500

Based on City guidelines (*ISTB-2018-02*), the existing and proposed hydrants provide adequate protection for the proposed development. A hydrant coverage figure can be found in *Appendix C*.

4.3 Water Model Results

A water model was completed using the EPANet modelling software and the boundary condition results provided and noted above. The results determined that the proposed 200 mm watermain can adequately service the proposed development and provide sufficient fire flow. The model determined pressures during average day, maximum day plus fire flow, and peak hour demands. The model results identify the estimated pressures at the building finished floors and at fire

hydrants during fire flow conditions. For the purposes of determining pressures during the fire flow scenario, a demand of 116.7 L/s (7,000 L/min) was assumed at the proposed private hydrant.

Junction	Average Day (kPa)	Max. Day + Fire Flow (kPa)	Peak Hourly (kPa)
J1	517.76	277.16	421.97
BLDG	517.95	277.26	415.60
FH	517.56	233.14	422.46

Table 4: Water Pressure at Junctions

The normal operating pressure range is anticipated to be 416 kPa to 518 kPa and will not be less than 275 kPa (40 psi) or exceed 689 kPa (100 psi). The proposed watermain will meet the minimum required 140 kPa (20 psi) at the ground level under maximum day demand and fire flow conditions.

Given the water demand will exceed 50 m³ per day, measures will need to be taken to avoid the formation of a vulnerable service area. It is proposed to install a new 300 mm diameter valve on the existing 300 mm diameter watermain within Coventry Road, west of the proposed connection point. In conjunction with the existing water valve located east of the proposed connection, the additional valve will allow for isolation and ensure that continual water supply is available to the site.

5.0 SANITARY DESIGN

5.1 Existing Sanitary Sewer

There is an existing 200-300 mm sanitary sewer located within Coventry Road, tributary to the Rideau River Collector Twin. No existing sanitary services are located within the site.

5.2 Proposed Sanitary Sewer

A new 250mm diameter PVC sanitary sewer is proposed to service the development extending from the existing maintenance structure MHSA70278 to the residential building. A 250mm diameter PVC service lateral will convey effluent discharge from the residential building to the proposed sewer. It is anticipated that sanitary flow monitoring would occur at the proposed maintenance structure MH3A in accordance with the *Ottawa Sewer Design Guidelines* and *City of Ottawa Sewer-Use By-Law 2003-514 (14)*. Refer to plan *C102*.

Table 5, below, summarizes the wastewater design criteria identified by the *Ottawa Sewer Guidelines*.

Design Parameter	Value
Site Area	3.46 ha
Residential	280 L/person/day
Residential Apartment – 1 Bedroom	1.4 person/unit
Residential Apartment – 2 Bedroom	2.1 person/unit
Residential Apartment – 3 Bedroom	3.1 person/unit
Residential Peaking Factor	3.32
Commercial/Amenity Peaking Factor	1.00
Extraneous Flow Allowance	0.33 L/s/ha

Table 5: Sanitary Design Criteria

Table 6 below, summarizes the estimated wastewater flow from the existing and proposed building. Refer to *Appendix D* for detailed calculations.

Table 6: Summary of Estimated Sanitary Flow

Design Parameter	Total Flow (L/s)
Total Estimated Average Dry Weather Flow	2.61
Total Estimated Peak Dry Weather Flow	7.87
Total Estimated Peak Wet Weather Flow	8.84

The proposed sanitary network has been designed to attain a minimum full flow target velocity (cleansing velocity) of 0.6 m/s and a full flow velocity of not more than 3.0 m/s. The capacity of the proposed 250 mm sanitary sewer with a slope of 0.24% is 29.97 L/s. During the peak total estimated wet weather flow condition, the sewer will operate at an estimated capacity of 29.5%.

Based on correspondence with the City included in *Appendix C*, the City has noted that anticipated wastewater volumes from the proposed development can be accommodated within the existing municipal sanitary network.

6.0 STORM SEWER DESIGN

6.1 Existing Storm Sewers

The existing development is currently serviced via a private 300-525 mm diameter PVC storm network. The network collects runoff via at grade catchbasins and catchbasin maintenance structures before discharging to the existing 1350 mm concrete sewer within Coventry Road. Runoff from the development is tributary to the Ottawa River.

6.2 Proposed Storm Sewers

A new 250mm diameter service will extend from the 450 mm diameter PVC storm sewer within the existing storm network. Runoff from the residential building roof area will be collected by roof drains and conveyed to an internal cistern located within the below-grade parking garage. Runoff from the asphalt drive aisles surrounding the building will be collected by at-grade area drains before being conveyed to the internal cistern. Runoff from the cistern will be attenuated to the required release rate via an ICD prior to discharging via the proposed 250 mm storm service. ICD and cistern details are to be provided by the Mechanical Engineer.

Runoff from the landscaped areas east and south of the proposed residential building will be collected by a rear-yard catchbasin swale system. The 250 mm HDPE perforated subdrain will convey runoff to the existing private storm network without attenuation.

Foundation drainage is proposed to discharge without flow attenuation via the 250 mm diameter storm service extending from the residential building, downstream of any cistern controls.

See *C102* for a detailed servicing layout and *CCO-23-2497 - POST* included in *Appendix F* of this report for more details. The Stormwater Management design for the subject property will be outlined in *Section 7.0* of this report.

7.0 PROPOSED STORMWATER MANAGEMENT

7.1 Design Criteria and Methodology

As per *Section 6.2*, stormwater management for the proposed development will be maintained through the use of an internal cistern and will collect runoff from the roof and the drive aisle areas within the site.

In summary, the following design criteria have been employed in developing the stormwater management design for the site as directed by the City:

Quality Control

• Based on a distance of 2.0 km from the development to the municipal sewer outlet, quality control measures are not anticipated to be required.

Quantity Control

- Pre-development time of concentration (TC) shall be calculated and be no less than 10 minutes.
- Control site post-development flows to the 5-year pre-development flows with a combined C value of no greater than 0.50.

7.2 Runoff Calculations

Runoff calculations presented in this report are derived using the Rational Method, given as:

curves)
C

It is recognized that the Rational Method tends to overestimate runoff rates. As a result, the conservative calculation of runoff ensures that any SWM facility sized using this method is expected to function as intended. The following coefficients were used to develop an average C for each area:

Roofs/Concrete/Asphalt	0.90
Gravel	0.60
Gravely-Soil	0.40
Undeveloped and Grass	0.20

As per the *City of Ottawa - Sewer Design Guidelines*, the 5-year balanced 'C' value must be increased by 25% for a 100-year storm event to a maximum of 1.0.

7.3 Pre-Development Drainage

It has been assumed that the development area contains no stormwater management controls for flow attenuation. The estimated pre-development peak flows for the 5- and 100-year events are summarized below in *Table 7*. See CCO-23-2497 - *PRE* in *Appendix E* and *Appendix G* for calculations.

Drainage Area	A 500	C (5/100-Year)	Q (L/s)		
	(ha)		5-Year	100-Year	
A1	0.45	0.55/0.65	71.54	144.86	
Total	0.45		71.54	144.86	

Table 7: Pre-Development Runoff Summary

7.4 Post-Development Drainage

To meet the stormwater objectives, the development will contain flow attenuation via internal cistern storage. *Table 8*, below, summarizes the required restricted flow for the roof.

Table 8: Required Restricted Flow

Drainage	Area	C	Q (L/s)
Area	(ha)	(5-Year)	5-Year
A1	0.45	0.50	64.96

Based on the criteria listed in *Section 7.1*, the development will be required to restrict runoff to a maximum release rate of 64.96 L/s. See *Appendix G* for calculations.

The proposed site drainage limits are demonstrated on the Post-Development Drainage Area Plan. See CCO-23-2497 - *POST* in *Appendix F* of this report for more details. A summary of the postdevelopment runoff calculations can be found below.

Table 9: Post-Development Runoff Summary

Drainage Area	Area (ha)	5-year Peak Flow (L/s)	100-year Peak Flow (L/s)	100-year Storage Required (m ³)	100-year Storage Available (m³)
B1	0.34	9.71	18.57	107.58	110.00
B2	0.11	24.23	46.39	-	-
Total	0.45	33.94	64.96	107.58	110.00

Runoff for area B1 will be collected by roof drains (uncontrolled) and surface drains before being conveyed to the internal cistern. The *110.00* m³ internal cistern is anticipated to convey attenuated runoff to the outlet at a maximum flow rate of *9.71* L/s and *18.57* L/s for the 5 and 100-year storms,

respectively. Flows in excess of the 100-year flow will need to be directed to the existing parking lot via a cistern overflow. The Mechanical Engineer is to provide further cistern and ICD details.

Runoff considered in area B2 consists of drainage collected by the rear -yard catchbasin system and drainage north of the building directed to the existing parking lot. Drainage from area B2 will be conveyed without attenuation to the existing storm sewer system within the parking lot.

8.0 EROSION AND SEDIMENT CONTROL

8.1 Temporary Measures

Before construction begins, temporary silt fence, straw bale or rock flow check dams will be installed at all-natural runoff outlets from the property. It is crucial that these controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or Contract Administration staff throughout the construction period.

Silt fences will be installed where shown on the final engineering plans, specifically along the downstream property limits. The Contractor, at their discretion or at the instruction of the City, Conservation Authority or the Contract Administrator shall increase the quantity of sediment and erosion controls on-site to ensure that the site is operating as intended and no additional sediment finds its way off site. The rock flow, straw bale & silt fence check dams and barriers shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the fences and check dams as required. Fibre roll barriers are to be installed at all existing curb inlet catch basins and filter fabric is to be placed under the grates of all existing catch basins and manholes along the frontage of the site and any new structures immediately upon installation. The measures for the existing/proposed structures are to be removed only after all areas have been paved. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of. Removal of silt fences without prior removal of the sediments shall not be permitted.

Although not anticipated, work through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact the City and/or Conservation Authority to review the site conditions and determine the appropriate course of action. As the ground begins to thaw, the Contractor shall place silt fencing at all required locations as soon as ground conditions warrant. Please see the *Site Grading, Drainage and* Sediment & *Erosion Control Plan* for additional details regarding the temporary measures to be installed and their appropriate OPSD references.

8.2 Permanent Measures

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/sod and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any watercourse to ensure that no sediment is washed out into the watercourse. As the vegetation growth within the site provides a key component to the control of sediment for the site, it must be properly maintained once established. Once the construction is complete, it will be up to the landowner to maintain the vegetation and ensure that the vegetation is not overgrown or impeded by foreign objects.

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9.0 SUMMARY

- A new 28-storey residential building is proposed to be constructed at 500 Coventry Road. The development is proposed within 0.45 ha of the site.
- A new 200 mm diameter PVC watermain is proposed to service the development with a connection to the 300 mm diameter watermain within Coventry Road. Fire protection for the development will be provided by a private hydrant proposed within the existing parking lot north of the residential building.
- Sanitary servicing for the development will be provided via a proposed 250mm PVC sanitary sewer extending from the existing maintenance structure (MHSA70278) within the site.
- A new 250mm diameter storm service for rooftop, surface and foundation drainage is proposed to service the building and surrounding drive aisle area.
- A rear-yard catchbasin system is proposed to collect runoff from the landscaped area east and south of the building.
- Storage for the 5- through 100-year storm events will be provided through internal cistern attenuation.
- Quality controls are not anticipated to be required due to the distance to the outlet.

10.0 RECOMMENDATION

Based on the information presented in this report, we recommend that City of Ottawa approve this Servicing and Stormwater Management report in support of the proposed development at 500 Coventry Road.

This report is respectfully being submitted for approval.

Regards,

Egis Group (formerly McIntosh Perry)



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July 1

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11.0 STATEMENT OF LIMITATIONS

This report was produced for the exclusive use of <u>Morguard Corporation</u>. The purpose of the report is to assess the existing stormwater management system and provide recommendations and designs for the post-construction scenario that are in compliance with the guidelines and standards from the Ministry of the Environment, Parks and Climate Change, City of Ottawa and local approval agencies. Egis Group (formerly McIntosh Perry) reviewed the site information and background documents listed in Section 2.0 of this report. While the previous data was reviewed by Egis Group (formerly McIntosh Perry) and site visits were performed, no field verification/measures of any information were conducted.

Any use of this review by a third party, or any reliance on decisions made based on it, without a reliance report is the responsibility of such third parties. Egis Group (formerly McIntosh Perry) accepts no responsibility for damages, if any, suffered by any third party as a result of decisions or actions made based on this review.

The findings, conclusions and/or recommendations of this report are only valid as of the date of this report. No assurance is made regarding any changes in conditions subsequent to this date. If additional information is discovered or becomes available at a future date, Egis Group (formerly McIntosh Perry) should be requested to re-evaluate the conclusions presented in this report, and provide amendments, if required.

APPENDIX A KEY PLAN

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APPENDIX B BACKGROUND DOCUMENTS

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Pre-Application Consultation Meeting Notes

Property Address: 500 Coventry Road PC2022-0191 September 14, 2022; 1:30 PM – 3:00 PM – Microsoft Teams

Attendees:

City of Ottawa:

Kimberley Baldwin – File Lead, Planner II Neeti Paudel – Transportation PM Nishant Jhamb – Infrastructure PM Randolph Wang – Urban Designer Mary Ellen Wood – Parks Planner Amber Chen – Student Planner

Applicants:

Christine Cole – Morguard Corporation Paul Black – Fotenn Consultants Inc. Jillian Simpson – Fotenn Consultants Inc.

Community Representatives:

Steven Boyle – OCA Heather Amys – OCA

Regrets:

Mark Richardson - Forester, City of Ottawa

Subject: 500 Coventry Road

Meeting notes:

Opening & attendee introduction

• Introduction of meeting attendees

Overview of Proposal

- Site Plan Control Application
- 30-storey residential tower which includes 421 units, accessed via Coventry Road
- Site is currently a paid parking lot
- MTO 14m setback

<u> Planning – Kimberley Baldwin</u>

- What other properties does Morguard own in proximity to the site?
 - The entire 500 Coventry Road, shopping centre, and the site to the north of Coventry
- What is the rationale developing on the south end of the property in the first phase?
 - To place development on unencumbered lands and to locate it as close as possible to transit
- Zoning: TD3 [1988] S263-h1
 - See Exception 1988 the "h1" holding symbol will not be lifted until all agreements required outlining the details of the relocation of Coventry Road to the north and west sides of 525 and 535 Coventry Road have been executed
 - Also in Exception 1988, after the holding symbol is removed, the full provisions of the TD3 zone will apply.
 - TD3 provisions, for a new building at this location:
 - On lots greater than 0.125 ha Minimum 350 residential units/hectare
 - On lots greater than 0.125 ha Minimum FSI for non-residential use 1.5 FSI
 - In the case of a mixed-use building, the minimums above only apply the use that occupies the most GFA.
 - In the case of a phased development, all phases must be shown on an approved site plan and:
 - must comply with the minimum densities noted above.
 - outdoor communal space requirement in Section 195(8): for lots greater in area than 1250 m2, 2% of the total lot area must be provided as outdoor communal space located at grade anywhere on the lot and such area can also be used towards complying with any amenity area requirements, but only for the portion of the property shown in that phase.
 - Maximum building height is 90 metres [as per Section 196 (e)]
- There are several policies applicable to this site. Please refer to the relevant policies in a Planning Rationale.
 - Official Plan proposal should speak to both new and old OP policies.
 - 2003 OP Property designated Mixed Use Centre.
 - New OP Designation HUB, with an Evolving Neighbourhood Overlay
 - <u>Tremblay, St. Laurent and Cyrville Secondary Plan</u> Site is within Area A 30 storeys maximum envisioned in this area. Height of the proposal aligns with this policy.
 - <u>Transit-Oriented Development (TOD) Plans -</u> Lees, Hurdman, Tremblay, St. Laurent, Cyrville and Blair
 - Look for the St Laurent Policies in Section 10.4
 - See Pedestrian Network Plan (pg 87) and (pg 89) key future pedestrian link on Coventry and two multi-use pathways
 - general location of these connection may vary due to expansion plans of the Shopping Centre; however, the route should safely connect the cycling lanes along Coventry Road to the Station. The route should be well-designed, sufficiently separate cyclists from cars, and contain few breaks and crossings. Refer to Section 8.11 of this document for details regarding the design of multi-use pathways.

- Green Plan identifies the need for a future private amenity area on this site
- Community Benefits Charge The requested height and density will trigger a Community Benefits Charge (CBC). CBC is a flat 4% charge of the land value
- Staff have some concern with leaving the front parking lot as is and development beginning at the south end of the subject lands.
 - Leaving a parking lot seems counter-productive to city building goals for transitoriented development and improving cycling and pedestrian safety in the St Laurent area.

<u> Urban Design – Randolph Wang</u>

- A Design Brief is required for a site plan control application and a scoped Design Brief is required for rezoning. The Terms of Reference is attached for convenience.
 - The Design Brief should document planning and design options explored and discussed and illustrate how the preferred option is recommended.
 - Please note both a wind study and a shadow study are required.
- The site is within a Design Priority Area, a visit to the City's urban design review panel for formal review is required.
- Please engage (re-engage) an architect and a landscape architect as early as possible.
- 500 Coventry Road is a very large parcel that can accommodate multiple buildings. It is
 extremely important to establish a clear long-term vision to guide the evolution of the
 property into an attractive and livable neighbourhood within the context of the TOD node
 and the shopping centre. The long-term vision can be articulated in a master site plan
 that illustrates key elements of the new neighbourhood land use, street layout,
 pathway connections, parks, and other public spaces, built form. In the absence of such
 a master site plan, it is difficult to tell if the proposed tower is appropriate and optimal for
 achieving the potential of the larger site.
- With respect to the conceptual design presented at the meeting, the tower + podium approach is appropriate if a high-rise tower can be supported by policies. The building looks quite elegant with respect to general massing and proportions. However, it is difficult to tell if the location and orientation of the building is appropriate in the absence of a master site plan.
- In addition, it is crucially important that the proposed development is well connect to the LRT and the shopping mall when it is completed. It is important to follow the pedestrian desire lines.
- The attached pdf illustrates some of the above noted comments. It is mean to be selfexplanatory. But if you have any questions, please feel free to reach out.

Infrastructure – Nishant Jhamb

General:

- Sanitary sewer capacity, please provide the proposed sanitary sewer discharge rate asap and we will confirm the capacity. Please note that City can only commit the Sanitary sewer capacity once the SPC application is submitted.
- Geotechnical report should address the vibration and settlement concern on 900mm watermain from construction. Report needs to recommend if vibration and settlement monitoring plan is required.

- It is the sole responsibility of the consultant to investigate the location of existing underground utilities in the proposed servicing area and submit a request for locates to avoid conflict(s). The location of existing utilities and services shall be documented on an Existing Conditions Plan.
- Any easements on the subject site shall be identified and respected by any development proposal and shall adhere to the conditions identified in the easement agreement. A legal survey plan shall be provided and all easements shall be shown on the engineering plans.
- A deep excavation and dewatering operations have the potential to cause damages to the neighboring adjacent buildings/ City infrastructure. Document that construction activities (excavation, dewatering, vibrations associated with construction, etc.) will not have an impact on any adjacent buildings and infrastructure.
- A Record of Site Condition (RSC) in accordance with O.Reg. 153/04 will be required to be filed and acknowledged by the Ministry prior to issuance of a building permit due to a change to a more sensitive property use.
- If there are any utilities being installed parallel within the existing Right of Way or a road modification within the existing Right of Way, or a shoring system with tie backs encroaching the ROW then a Municipal Consent Circulation would be required. The installation of any structure, structure footing, geo-membrane or perforated pipe encroaching into the existing ROW is not permitted without a separate Municipal Consent Approval.
- Reference documents for information purposes:
 - Ottawa Sewer Design Guidelines (October 2012)
 - Technical Bulletin PIEDTB-2016-01
 - Technical Bulletins ISTB-2018-01, ISTB-2018-02 and ISTB-2018-03.
 - Ottawa Design Guidelines Water Distribution (2010)
 - Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
 - City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
 - City of Ottawa Environmental Noise Control Guidelines (January 2016)
 - City of Ottawa Accessibility Design Standards (2012) (City recommends development be in accordance with these standards on private property)
 - Ottawa Standard Tender Documents (latest version)
 - Ontario Provincial Standards for Roads & Public Works (2013)
 - Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at <u>InformationCentre@ottawa.ca</u> or by phone at (613) 580-424 x.44455).

Please note that this is the applicant responsibility to refer to the latest applicable guidelines while preparing reports and studies.

Stormwater Management Criteria and Information:

Water Quantity Control: In the absence of area specific SWM criteria please control post-development runoff from the subject site, up to and including the 100-year storm event, to a 5-year pre-development level. The pre-development runoff coefficient will need to be determined as per existing conditions but in no case more than 0.5. [If 0.5 applies it needs to be clearly demonstrated in the report that the pre-development runoff coefficient is greater than 0.5]. The time of concentration (T_c) used to

determine the pre-development condition should be calculated. Tc should not be less than 10 min. since IDF curves become unrealistic at less than 10 min; T_c of 10 minutes shall be used for all post-development calculations].

- Any storm events greater than the established 5-year allowable release rate, up to and including the 100-year storm event, shall be detained on-site. The SWM measures required to avoid impact on downstream sewer system will be subject to review.
- Please note that foundation drainage is to be independently connected to sewer main unless being pumped with appropriate back up power, sufficient sized pump and back flow prevention. It is recommended that the foundation drainage system be drained by a sump pump connection to the storm sewer to minimize risk of basement flooding as it will provide the best protection from the uncontrolled sewer system compared to relying on the backwater valve.
- Water Quality Control: Please consult with the local conservation authority regarding water quality criteria prior to submission of a Site Plan Control Proposal application to establish any water quality control restrictions, criteria and measures for the site. Correspondence and clearance shall be provided in the Appendix of the report.
- Please note that as per Technical Bulletin PIEDTB-2016-01 section 8.3.11.1 (p.12 of 14) there shall be no surface ponding on private parking areas during the 5-year storm rainfall event.
- Underground Storage: please note that the Modified Rational Method for storage computation in the Sewer Design Guidelines was originally intended to be used for above ground storage (i.e. parking lot) where the change in head over the orifice varied from 1.5 m to 1.2 m (assuming a 1.2 m deep CB and a max ponding depth of 0.3 m). This change in head was small and hence the release rate fluctuated little, therefore there was no need to use an average release rate.

When underground storage is used, the release rate fluctuates from a maximum peak flow based on maximum head down to a release rate of zero. This difference is large and has a significant impact on storage requirements. We therefore require that an average release rate equal to 50% of the peak allowable rate shall be applied to estimate the required volume. Alternatively, the consultant may choose to use a submersible pump in the design to ensure a constant release rate.

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

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

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

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

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

Storm Sewer:

- A 1350mm dia. CONC storm sewer (1967) is available within Coventry Road.
- A storm sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) *Monitoring Devices*.

Sanitary Sewer

- A 250 mm dia. AC Sanitary sewer (1961) is available within Coventry Road.
- **Sanitary sewer capacity**, We can only commit the Sanitary sewer capacity once the SPC application is submitted.
- Please apply the wastewater design flow parameters *in Technical Bulletin PIEDTB-2018-01*.
- Sanitary sewer monitoring maintenance hole is required to be installed at the property line (on the private side of the property) as per City of Ottawa Sewer-Use By-Law 2003-514 (14) *Monitoring Devices*.
- A backwater valve is required on the sanitary service for protection.
- Include correspondence from the Architect within the Appendix of the report confirming the number of residential units per building and a unit type breakdown for each of the buildings to support the calculated building populations.

Water:

- A 300 mm dia. CI watermain (1961) is available within Coventry Road.
- Existing residential service to be blanked at the main.
- Water Supply Redundancy: Residential buildings with a basic day demand greater than 50m³/day (0.57 L/s) are required to be connected to a minimum of two water services separated by an isolation valve to avoid a vulnerable service area as per the Ottawa Design Guidelines - Water Distribution, WDG001, July 2010 Clause 4.3.1 Configuration. The basic day demand for this site not expected to exceed 50m³/day.

- Please review Technical Bulletin ISTB-2018-0, maximum fire flow hydrant capacity is provided in Section 3 Table 1 of Appendix I. A hydrant coverage figure shall be provided and demonstrate there is adequate fire protection for the proposal. Two or more public hydrants are anticipated to be required to handle fire flow.
- Boundary conditions are required to confirm that the require fire flows can be achieved as well as availability of the domestic water pressure on the City street in front of the development. Use Table 3-3 of the MOE Design Guidelines for Drinking-Water System to determine Maximum Day and Maximum Hour peaking factors for 0 to 500 persons and use Table 4.2 of the Ottawa Design Guidelines, Water Distribution for 501 to 3,000 persons. Please provide the following information to the City of Ottawa via email to request water distribution network boundary conditions for the subject site. Please note that once this information has been provided to the City of Ottawa it takes approximately 5-10 business days to receive boundary conditions.
 - Type of Development and Units
 - Site Address
 - A plan showing the proposed water service connection location.
 - Average Daily Demand (L/s)
 - Maximum Daily Demand (L/s)
 - Peak Hour Demand (L/s)
 - Fire Flow (L/min)

[Fire flow demand requirements shall be based on **Fire Underwriters Survey (FUS)** Water Supply for Public Fire Protection 1999]

Exposure separation distances shall be defined on a figure to support the FUS calculation and required fore flow (RFF).

• Hydrant capacity shall be assessed to demonstrate the RFF can be achieved. Please identify which hydrants are being considered to meet the RFF on a fire hydrant coverage plan as part of the boundary conditions request.

Road Reinstatement

Ensure that Road reinstatement details satisfies the City's Resurfacing policy. <u>https://documents.ottawa.ca/sites/documents/files/road_cut_policy_scenarios_en.pdf</u>

CCTV sewer inspection

CCTV sewer inspection required for pre and post construction conditions to ensure no damage to City Assets surrounding site.

Pre-Construction Survey

Pre-Construction (Piling/Hoe Ramming or close proximity to City Assets) and/or Pre-Blasting (if applicable) Survey required for any buildings/dwellings in proximity of 75m of site and circulation of notice of vibration/noise to residents within 150 m of site. Conditions for Pre-Construction/ Pre-Blast Survey & Use of Explosives will be applied to agreements. Refer to City's Standard S.P. No. F-1201 entitled Use of Explosives, as amended.

Required Engineering Plans and Studies:

PLANS:

- Existing Conditions and Removals Plan
- Site Servicing Plan
- Grade Control and Drainage Plan
- Erosion and Sediment Control Plan
- Roof Drainage Plan
- Foundation Drainage System Detail (if applicable)
- Topographical survey

REPORTS:

- Site Servicing and Stormwater Management Report
- Geotechnical Study/Investigation
- Slope Stability Assessment Reports (if required, please see requirements below)
- Noise Control Study
- Phase I ESA
- Phase II ESA (Depending on recommendations of Phase I ESA)
- RSC (Record of the site Conditions)
- Site lighting certificate
- Wind analysis
- Vibration and settlement monitoring plan for 900mm watermain(if recommended in geotechnical report)

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

Specific information has been incorporated into both the <u>Guide to Preparing Studies and Plans</u> for a site plan. The guide outlines the requirement for a statement to be provided on the plan about where the property boundaries have been derived from.

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

Phase One Environmental Site Assessment:

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

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

RSC (Record of the site Conditions)

 An RSC is required when changing the land use (zoning) of a property to a more sensitive land use.

Submitting a record of site condition | Ontario.ca

Geotechnical Investigation:

- A Geotechnical Study/Investigation shall be prepared in support of this development proposal.
- Reducing the groundwater level in this area can lead to potential damages to surrounding structures due to excessive differential settlements of the ground. The impact of groundwater lowering on adjacent properties needs to be discussed and investigated to ensure there will be no short term and long term damages associated with lowering the groundwater in this area.
- Geotechnical Study shall be consistent with the Geotechnical Investigation and Reporting Guidelines for Development Applications.
- Geotechnical report should address the vibration and settlement concern on 900mm watermain from construction. Report needs to recommend if vibration and settlement monitoring plan is required.

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

Slope Stability Assessment Reports

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

Noise Study:

- A Transportation Noise Assessment is required as the subject development is located within 100m proximity of Coventry Road and Belfast Road and within 500 m of Hwy #417.
- A Stationary Noise Assessment is required in order to assess the noise impact of the proposed sources of stationary noise (mechanical HVAC system/equipment) of the development onto the surrounding residential area to ensure the noise levels do not exceed allowable limits specified in the City Environmental Noise Control Guidelines.
- Detailed Noise Study in Support of Class 4 Designation that verifies applicable sound level limits will be met at the new noise sensitive land use with the appropriate mitigation measures for all noise sources to achieve a Class 4 designation to include in Appendix A of Part 1 of the ENCG, pursuant to the ENCG and NPC-300.

https://documents.ottawa.ca/sites/default/files/documents/enviro_noise_guide_en.pdf

Wind analysis:

When greater than 9 storey in height Wind Study for all buildings/dwellings.

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

Terms of Reference: Wind Analysis (ottawa.ca)

Exterior Site Lighting:

Any proposed light fixtures (both pole-mounted and wall mounted) must be part of the approved Site Plan. All external light fixtures must meet the criteria for Full Cut-off Classification as recognized by the Illuminating Engineering Society of North America (IESNA or IES), and must result in minimal light spillage onto adjacent properties (as a guideline, 0.5 fc is normally the maximum allowable spillage). To satisfy these criteria, the please provide the City with a **Photometric Plan and Certification (Statement)** Letter from an acceptable professional engineer stating that the design is compliant.

Vibration and settlement monitoring on Backbone Watermain:

A 914mm dia. backbone watermain is located within Coventry Road. Please note that to ensure the integrity of the nearby watermain the applicant may be required to develop a Vibration and Settlement Monitoring Program. A Vibration and settlement Monitoring Specialist Engineer shall undertake monitoring, develop a vibration and settlement monitoring plan, and prepare a protection plan, an emergency response plan, ensure conformance and shall issue certificates of conformance. The Vibration and settlement Monitoring Specialist Engineer shall be a licensed engineer in the Province of Ontario with a minimum of five years of experience in the field of Vibration and settlement monitoring. Vibration and settlement monitors are to be to be placed directly on the watermain. The maximum peak particle velocities are to be in accordance with Table 1 of the City of Ottawa Specification F-1201.

Note: In addition to requirement of a vibration specialist engineer required to design and monitor vibration, a certificate of liability insurance shall be submitted to the City wherein the Owner is the named insured and the City of Ottawa is an additional insured. The limits of the policy shall be in the amount of \$25,000,000 and shall be kept in full force and effect for the term of the construction work.

Fourth (4th) Review Charge:

Please be advised that additional charges for each review, after the 3rd review, will be applicable to each file. There will be no exceptions.

Construction approach – Please contact the Right-of-Ways Permit Office <u>TMconstruction@ottawa.ca</u> early in the Site Plan process to determine the ability to construct site and copy File Lead on this request.

Please note that these comments are considered <u>preliminary based on the information available</u> to date and therefore maybe amended as additional details become available and presented to the City. It is the responsibility of the applicant to <u>verify the above information</u>. The applicant

may contact me for follow-up questions related to engineering/infrastructure prior to submission of an application if necessary.

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

<u> Transportation – Neeti Paudel</u>

- Follow Traffic Impact Assessment Guidelines
 - Proceed to scoping of the TIA. Start this process as soon as possible.
 - The application will not be deemed complete until the submission of the draft step 2-4, including the functional draft RMA package (if applicable).
- The new and the current Official Plan do not appear to show a realignment of Coventry, an OPA may be needed to move forward with the realignment.
- The widening of Coventry from Belfast to St Laurent is a phase 3 project in the TMP. Note there would be no front ending possible before 2031. EA for Coventry is anticipated to start in 2023 based on budget deliberations. The EA would consider requirements for both widening and realignment.
- Modifying the bend to make it a four-legged intersection at existing Coventry and the proposed access triggers an RMA. RMA package should be provided for review with the application (this includes functional design, cost estimate). Note this is all to be developer funded.
- Please clarify what roads are to be private and public.
- For the TIA, please assess the interim as well as ultimate conditions. If the access road is to be proposed at the existing bend before modifying to the proposed ultimate intersection, ensure sight lines are assessed as part of the TIA. This triggers safety (close to the signal and at horizontal curvature).
- The TOD plan shows a MUP along the frontage of the access road and connects to the LRT station. Explore providing proper and direct connection to the LRT.
- On site plan:
- Show all details of the roads abutting the site up to and including the opposite curb; include such items as pavement markings, accesses and/or sidewalks.
- Turning templates will be required for all accesses showing the largest vehicle to access the site; required for internal movements and at all access (entering and exiting and going in both directions).
- Show all curb radii measurements; ensure that all curb radii are reduced as much as possible
- Show lane/aisle widths.
- As the site proposed is residential, AODA legislation applies for all areas accessible to the public (i.e. outdoor pathways, parking, etc.).
- Site is in a TOD area therefore TOD measures would apply. To achieve target mode shares within TOD zones, we highly recommend developments to provide as many TDM measures as possible and to provide only the minimum number of required parking.

Parks – Mary Ellen Wood

Parkland dedication

• Please note that Parks and Facilities Planning has recently undertaken a legislated replacement of the Parkland Dedication By-law, with the new by-law approved by City Council on August 31, 2022. To ensure you are aware of parkland dedication

requirements for your proposed development, we encourage you to familiarize yourself with the <u>staff report</u> and <u>By-Law</u> that were approved by Council on <u>August 31, 2022</u>.

- The amount of parkland dedication that is required is to be calculated as per the City of Ottawa Parkland Dedication By-law.
- The property at 500 Coventry Road is 34,640m2.
- For residential development the parkland dedication will be calculated using the recently approved bylaw as outlined in Section 4, Table 1:

Density	Type of Development or	Maximum Conveyance
	Use	Requirement
Residential density greater than 18 dwelling units/net hectare	Dwelling units within an apartment dwelling, high- rise (as defined by the Zoning By-law)	 Conveyance of parkland: 1 hectare per 300 dwelling units The required conveyance shall not exceed an amount equivalent to 25% of the gross land area

- The site plan proposes 421 units which would equate to 1.4ha required parkland, however the bylaw indicates the conveyance shall not exceed an amount equivalent to 25% of the gross land area. Therefore, 25% of the gross land area (34,640m2) equates to 8,660m2 (0.86ha) required parkland conveyance.
- Section 5 Transit Oriented Development Zones indicates for residential development on lands zoned as Transit Oriented Development, pursuant to the Zoning By-law, if the required total conveyance exceeds 10% of the gross land area, conveyance in the form of parkland shall not exceed 10% of the gross land area with the remainder of the required conveyance to be provided as cash-in-lieu of parkland.
- Therefore, parkland conveyance equates to 3,464m2 with the remainder of the required conveyance (5,196m2) to be provided as cash-in-lieu of parkland.
- Please note, the required total conveyance can be provided as parkland (land conveyance) if preferred by the property owner.
- PFP will request a surveyor's certificate to confirm parkland dedication.
- Please note that the park comments are preliminary and will be finalized (and subject to change upon receipt of the development application and supporting documentation. Additionally, if the proposed land use changes, then the parkland dedication requirement will be re-evaluated accordingly.

Form of Parkland Dedication:

- PFP will be requesting **land conveyances** for parkland dedication in accordance with the Parkland Dedication By-law.
- PFP's request is for land conveyance within the initial site plan application at 500 Coventry Road.
- Requesting a Master Plan with phasing plan to demonstrate where/when parkland will be developed.
- If the Master Plan and phasing plan can demonstrate how existing and future required parkland can be consolidated with Morguard's other land holdings to create a larger park

block, PFP is open to further discussions on how consolidate parkland could be achieved.

- The City may consider the conveyance of land outside of the site being developed if the City is satisfied that the land provides a benefit to the residents of the land being developed; and the City will decide if the conveyance of land outside of the site being developed is appropriate at the time of development approval, as applicable.
- The land to be conveyed shall be free of encumbrances above and below ground, be of a usable shape, topography and size that reflects intended park use.

Shape & Location of Park Block:

- The required parkland dedication is requested in land conveyance. The proposed park block is to be the full required parkland at 3,464m2. Please confirm the size of the park block through a surveyor's certificate.
- Park location requires municipal frontage (Coventry Road) unless a new public right-ofway will be introduced internally to the site.
- The proposed park location needs to lend itself to expansion through future development.
- The proposed building heights surrounding the park block should be reviewed to ensure no impacts on the park and minimize shadow and wind impacts. Requesting a Shadow and Wind Study.
- Any proposed buildings adjacent to the park block should be reviewed with respect to Building Code setbacks from the park. Once a park block is conveyed to the City, a new property boundary will be created, consideration should be given to increase limiting distance between buildings and park property line.

Developer Requirements for Land Conveyance of a Park Block:

- Please review the following reference documents which outline the requirements for parkland dedication and park block conveyance to the City;
 - City of Ottawa Park Development Manual, 2nd edition
 - City of Ottawa Parkland Dedication By-Law
 - The standard parks conditions.
- Site plan illustrating the park block is to show high level park grading on the Preliminary Grading Plan, including key spot elevations, stormwater flow arrows and slope percentages. Park block is to be graded to the surrounding levels and needs to show positive surface drainage towards the ROW.
- Park services are to be provided as per the standard park requirement. The developer is responsible for services (hydro, water, sanitary and stormwater) to the future park block. Services are to be connected from a municipal street.

General Comments:

- Through a zoning by-law amendment, the park block is to be identified and appropriately zoned.
- PFP will provide park conditions for park development once a formal site plan control application is submitted.
TCR requirements:

- 1. a Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City
 - a. an approved TCR is a requirement of Site Plan approval.
 - b. The TCR may be combined with the LP provided all information is supplied
- Any removal of privately-owned trees 10cm or larger in diameter, or city-owned trees of any diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.
- 3. The Planning Forester from Planning and Growth Management as well as foresters from Forestry Services will review the submitted TCR
 - a. If tree removal is required, both municipal and privately-owned trees will be addressed in a single permit issued through the Planning Forester
 - b. Compensation may be required for city owned trees if so, it will need to be paid prior to the release of the tree permit
- 4. the TCR must list all trees on site, as well as off-site trees if the CRZ extends into the developed area, by species, diameter and health condition
- 5. please identify trees by ownership private onsite, private on adjoining site, city owned, co-owned (trees on a property line)
- 6. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained
- All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available at Tree Protection Specification or by searching Ottawa.ca
 - a. the location of tree protection fencing must be shown on the plan
 - b. show the critical root zone of the retained trees
 - c. if excavation will occur within the critical root zone, please show the limits of excavation
- 8. 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.
- 9. For more information on the process or help with tree retention options, contact Mark Richardson mark.richardson@ottawa.ca or on City of Ottawa

LP tree planting requirements:

For additional information on the following please contact tracy.smith@Ottawa.ca

Minimum Setbacks

- Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.
- Maintain 2.5m from curb
- Coniferous species require a minimum 4.5m setback from curb, sidewalk or MUP/cycle track/pathway.
- Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas. Adhere to Ottawa

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

Tree specifications

- Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.
- Maximize the use of large deciduous species wherever possible to maximize future canopy coverage
- Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and include watering and warranty as described in the specification (can be provided by Forestry Services).
- Plant native trees whenever possible
- No root barriers, dead-man anchor systems, or planters are permitted.
- No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

Hard surface planting

- Curb style planter is highly recommended
- No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.
- Trees are to be planted at grade

Soil Volume

• Please document on the LP that adequate soil volumes can be met:

Tree	Single Tree Soil	Multiple Tree Soil
Type/Size	Volume (m3)	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. Sensitive Marine Clay

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

Tree Canopy Cover

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- The landscape plan shall show how the proposed tree planting will replace and increase canopy cover on the site over time, to support the City's 40% urban forest canopy cover target.
- At a site level, efforts shall be made to provide as much canopy cover as possible, through tree planting and tree retention, with an aim of 40% canopy cover at 40 years, as appropriate.
- Indicate on the plan the projected future canopy cover at 40 years for the site.

Overbrook Community Association – Steven Boyle and Heather Amys

A proposed site plan application has been presented for the redevelopment of a portion only (south east corner) of the property at 500 Coventry Road. The existing height limitation on the specific zoning Schedule S263 for this property and the need to remove by by-law the h1 holding provision both will also likely necessitate a rezoning application for this exception zone TD3[1988] S263-h1.

The following comments are initial comments and are based on the information provided to date, which is lacking as to what the full redevelopment plans are for all of the lands at 500 Coventry Road.

1 - Need concept plan for the whole property, including regard to the TOD Plan

Information was provided on the more than a decade old concept plan for the possible expansion and infill of the St. Laurent Centre site and realignment of Coventry Road, sites adjacent or across the road from this one. But no information was provided as to what is planned for the full site at 500 Coventry Road. All that was shown was a suggested Phase 2 redevelopment of the southwest corner of the property with a similar residential tower as is proposed for the southeast corner portion of the property and the reuse of a surface parking lot.

The St. Laurent TOD Plan (2014) does give guidance as to: potential new interior road patterns (figure 49), parkland dedications per development block (figure 50) and much needed improvements of connections for pedestrians and cyclists to the St. Laurent LRT station (figures 47 and 48). The first two of these should be more fully carried through in a full redevelopment plan for this property at 500 Coventry Road. If there are to be public roads, potential cul-de-sac(s), or private roads they should be known at this stage – see Annex 1. This is especially the case if future consent applications are planned or a public park dedication that would need to have legal frontage on a public street.

2 - Parkland dedication and park location

There is need for identification of a parkland dedication block on this parcel of land at 500 Coventry Road. New residents of the development of the very first portion of this site (phase 1) need such a public park space. Having a park location identified is a critical element of the overall concept plan for development of the whole of the block at 500 Coventry Road. It would also be good for marketing purposes to identify this attractive community feature.

The City and Morguard should investigate all of the following, with the third option being one the Overbrook Community Association supports:

- Option 1 Piece meal dedication the first dedication is only a parcel of a size warranted by the development planned in the southeast corner (Phase 1 tower). Subsequent dedication would be added as other phases of land redevelopment occur.
- Option 2 This site only an advance dedication of a single block occurs based on the development planned for the whole of 500 Coventry Road with credit noted when required for future site plan applications.
- 3. Option 3 Large dedication with credit from off-site this would involve #2 above but with an even larger block of parkland identified on-site with some dedicated being transferred from future redevelopment on other neighbouring Morguard lands to the east and north. The City would credit the landowner for such "over" dedication/provision of parkland on this site for when conditions of redevelopment approval occur later on those off-site parcels.

Hopefully any park location is not severely impacted by the shadow(s) of a 30 story building(s) nor the need to required frontage on a public road hopefully not directly along Coventry Road – a busy arterial roadway.

3 - Amount of car parking provided

A total of 421 dwelling units are proposed with 142 underground parking spaces and 287 surface parking spaces to the north (already existing). We were very pleased to learn that this surface parking may be reduced (hopefully almost eliminated) as further redevelopment of the rest of 500 Coventry Road occurs in future phases. Even as an interim facility the large surface parking lot needs to be improved both visually and functionally as it is more of an eye-sore now than even a normal planned parking lot with landscaping.

4 - Bicycle parking

The provision of secure indoor bicycle parking spaces is needed for apartment/condo owners/tenants and commercial/office users. The Overbrook Community Association is making a standard request that when a more detailed site plan application is presented that the bicycle parking rate not be the zoning by-law's minimum of 0.5 spaces/unit but rather 1.0 spaces/unit. We seek and see the need for more bicycle parking to provide for the active transportation needs of residents. If units will be occupied by 1, 2 or more persons then more than the 0.5 bicycle parking space/unit should be provided. Many of the residential redevelopment proposals (of all sizes low-rise to high-rise) in our community provide rates of provision of bicycle parking. We see that the two 30 towers proposed at 1209 St. Laurent Boulevard will be providing bicycle parking at the rate of 1.0 spaces/unit. We expect the same here. Do not forget about providing some exterior bicycle parking for visitors and this at prominent locations near main doors.

5 - Access to LRT station

It is very good to see proposed cycling and pedestrian connection from this site, on its south side and east side, leading to/from the St. Laurent Centre and the St. Laurent LRT station. Most of these connections would be off-site and it is not entirely clear how they would link past 1400 St. Laurent Boulevard (office building) and navigate the narrow space with the existing road around the shopping centre to reach the transit station. More work does need to be done on this. It is however imperative that a good connection be provided from day one for the first residents of the first tower at 500 Coventry Road as they want to access both to the shopping centre and transit to their east.

Although not directly related to this site plan application, we are providing Annex 2 that shows the community of Overbrook's long standing desire to have a more direct route for pedestrians and cyclists to/from the community across the St. Laurent Centre lands to the St. Laurent LRT station. The "L" shaped route would serve 500 Coventry Road but being not as direct a route (the diagonal) from Overbrook it will not be used. Both access options illustrated in Annex 2 are needed ultimately.

6 - Heat island impacts

Consider green roofs. The City of Gatineau now requires developments of larger than 2,000 m2 to have 20% of their roof as green (vegetation). Be a leader and do the same or more here. The *"City of Ottawa Urban Heat Island Map (Inside Greenbelt)"* shows the single biggest and hottest heat island in all the urban area is located right here in Overbrook – see Annex 3. This site at 500 Coventry Road is located to the immediate west of that red hot signature of the St. Laurent Centre. Design and redevelopment so to improve not worsen the heat island in our community.

7 - Loss of existing trees

It is regrettable that trees, particular mature ones, are lost when redevelopment occurs. Identify any trees along the Coventry Road frontage and along the common property line with neighbouring 1400 St. Laurent Boulevard (office building) that might be retained. New trees must be planted on site to compensate and to green the site. A community target of 40% tree canopy coverage is sought. Aim for that.

8 - Buildings and urban design

Only a rough conceptual plan of a tower and its west and north podium blocks was presented. Amenity space would be provided on the roof of the 7 story podium blocks and the underground parking garage entrance on the west side of the building would appear to be a shared one with a mirror or twin redevelopment with a residential tower on the southwest corner of this property. We need to see more detailed plans in particular for the façades, especially those at the lower ground/sidewalk level, to see how they contribute to the urban streetscape. We look forward to review of those plans by the Urban Design Review Panel.

9 - Unit mix – multi-bedrooms

We note at this rough early stage only that the average condo/apartment size proposed is 708 sq. ft. (66 m2) but we do not know the unit mix planned. The Overbrook Community Association seeks a balance mix of residential unit sizes in new buildings – not just all small bachelor and one bedroom units. Families and bigger households should be provided for too. Please consider inclusion of a fair number of 2 and especially 3 bedroom units.

10 - A complete community

Complete communities need greenspace and good transit connections – fortunately both are anticipated to be provided with the redevelopment of 500 Coventry Road. Another key element of complete communities is access to stores/offices providing services and good for everyday living. Especially sought after is a grocery store. See if such a new tenant is able to locate at the St. Laurent Centre. This would be another draw for residents wanting to live at 500 Coventry Road (in this or future phases of its development).

<u>11 - Community Benefit Charges</u>

These will be expected to be negotiated and provided for per the City's policy/strategy and bylaw to permit the collection of such charges for sites with large scale development or redevelopment.

Conclusion and Next Steps

- Meeting minutes and comments sent to all attendees.
- Submission requirements sent to the applicant
- City staff are keen to see Morguard's master planning for the area.
- Please feel free to reach out to staff and meeting attendees to consult on Master Planning for this area and/or revised concepts leading up to a Formal Submission.

Annex 1 – Potential ROWs public and private





Annex 2 – Community desire line for pedestrians and cyclists to/from St. Laurent transit station



Annex 3 – Excerpt from the City of Ottawa heat island map



Job No. 23868-23 Morguard Corp Ltl PL747 O F



1 ROOF OF MPH WHOLE SITE SPA005B 1:400

	PROJECT INFORMATION Zoning By-law 2008-250 Consolidation NET OVERALL SITE AREA BREAKDOWN	TD3		
	AREA TYPE SITE AREA - BLDG A	m² 5,325.5	ft ² 57,323.4	FLEISCHER
	TOTAL PARKLAND AREA	3,486.0	37,523	Turner Fleischer Architects Inc. 67 Lesmill Road
١	TEMPORARY OFF SITE PARKING (PHASE 1) PHASE 1 SURFACE PARKING	6,851.7	73,751.1	Toronto, ON, M3B 2T8 T 416 425 2222 turnerfleischer.com
	ZONING	REQUIRED	PROVIDED	This drawing, as an instrument of service, is provided by and is the property of Turner Fleischer Architects Inc. The contractor must verify and accept responsibility for all dimensions and condition
	BUILDING HEIGHT	30 STOREYS / 90.0M	28 STOREYS / 89.7M	on site and must notify Turner Fleischer Architects Inc. of any variations from the supplied information. This drawing is not to be scaled. The architect is not responsible for the accuracy of survey, structural, mechanical, electrical, etc., information shown on this drawing. Refer to the appropriate consultant's drawings before proceeding with the work. Construction must conform to
	GRADE (GEODETIC ELEVATION - ASL)	0.0M	22 7M	applicable codes and requirements of authorities having jurisdiction. The contractor working from drawings not specifically marked 'For Construction' must assume full responsibility and bear costs for any corrections or damages resulting from his work.
	DENSITY - MINIMUM 350 units/hectare	206 UNITS	309 UNITS	I ne site plan prepared by Tumer Fielscher is reliant on a legal survey showing the boundaries of the land together with the current location of any existing buildings, features or encroachment prepared by Annis O'Sullivan, dated 19-05-2023 as provided by Vollebekk Ltd
	CORNER YARD SETBACK (East / West)	3.0M/3.0M	134.85M/12.5M	
	REAR YARD SETBACK (GROUND TO 6th FLOOR) REAR YARD SETBACK (ABOVE 7th STOREY)	12.0M	18.10M	
	AMENITY AREA - TOTAL PER UNIT AMENITY AREA - 50% COMMUNAL PER UNIT	6.0M ² 3.0M ²	17.4M ² 4.55M ²	SECONDARY RESIDENTIAL ENTRANCE
	AMENITY AREA - 2.0% OF LOT EXTERIOR AT GRADE COMMUNAL	117.15M ²	1/2.6M ²	EXIT EXIT
	VEHICLE PARKING - RESIDENTIAL (AREA '2' - MAX 1.5/PER UNIT)	REQUIRED	289	
	VEHICLE PARKING - VISITOR ONLY (MAX. 30, AFTER 12 UNITS)	30	30	SIAMESE CONNECTION
	BICYCLE PARKING - RESIDENTIAL - 0.5 PER UNIT AISLE & DRIVEWAY MINIMUM / MAXIMUM WIDTH	165 6.0M/6.7M	309 6.7M	
	GROSS BUILDING FLOOR AREA (OTTAWA ZONING D	EFINITION) m ²	ft²	
	UG1 FLOOR 01			
	FLOOR 02 FLOOR 03-05 1 339 6 m ² x 3	1,339.6	14,419	GAS/HYDRO METER
	FLOOR 06	1,224.1	13,176	REFER TO LANDSCAPE DRAWINGS FOR SURFACE TREATMENT
	FLOOR 07 FLOOR 08 - FLOOR 28 725.2 m ² x 21	15,229.2	163,926	MINIMUM PERMITTED PARKING DIMENSIONS
	TYP. FLOOR PLATE	725.2	241,582 7,806	TYPICAL PARKING DIMENSIONS AISLE WIDTH: MIN 6.7m
	UNIT STATISTICS			TYPICAL PARKING SPACE: MIN 2.6 x 5.2 x 2.1 m HIGH
	1B		58	. 2600
	2B		02 77	
	2B+D 3B		61 31	/ \ 2000 ₩ / \ 1000 ₩ 2500 / \ 2000 ₩ / \ 1 / \ 2200
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	TOTAL		30	
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	TOTAL EXISTING SURFACE PARKING LOT		207 112	TYPICAL BARRIER FREE SPACE MIN 3.66 x 5.2 x 2.1m HIGH
/	TOTAL1.03 PER UNIT (309 UNITS)		319	
	ACCESSIBLE PARKING SPACES REQUIRED - (NOT IN		ACE PARKING)	
1.03	TYPE 'B'		4	
	ACCESSIBLE PARKING SPACES PROVIDED - (NOT IN		ACE PARKING)	Түре ' А ¹ Түре ' В' 1500
	TYPE 'A' TYPE 'B'		3 5	
	TOTAL		8	
	STANDARD PARKING SPACE		2.6m X 5.2m	
	PARALLEL PARKING SPACE SMALL PARKING SPACE		2.6m X 6.7m 2.4m X 4.6m	
	ACCESSIBLE PARKING SPACE ' TYPE A ' ACCESSIBLE PARKING SPACE ' TYPE B '		3.4m X 5.2m 2.4m X 5.2m	
	LOADING SPACE BICYCLE PARKING SPACES REQUIRED		3.5m X 7.0m	2 2024-10-10 ISSUED FOR SITE PLAN APPROVAL AYU 1 2024-01-30 ISSUED FOR PRE-CONSTRUCTION AYU
	RESIDENTIAL 0.5 PER UNIT (309 UNITS)		155	# DATE DESCRIPTION BY
	BICYCLE PARKING SPACES PROVIDED		100	
	RESIDENTIAL INTERIOR EXTERIOR		309 0	Norguard
	TOTAL1.0 PER UNIT (309 UNITS)		309	
	AMENITY AREA	-		PROJECT
	GRADE EXTERIOR - COMMUNAL	m² 172.6	ft² 1,858	500 COVENTRY ROAD
	INTERIOR - COMMUNAL 07F EXTERIOR - COMMUNAL	1,095.4 202.1	11,791 2,175	500 COVENTRY ROAD, OTTAWA, ON.
-	TOTAL COMMUNAL BALCONIES / TERRACE - PRIVATE	1,470.1 3,506.2	15,824 37,741	
	TOTAL REQUIRED (309 UNITS X 6 m^2) = 1.854 sq. m.	4,976.3	53,565	DRAWING
	REQUIRED COMMUNAL @ 50% = 927 sq. m.			SITE PLAN / ROOF PLAN - OVERALL SITE
	SITE COVERAGE	m ²	0/	
		m² 1,815.4	% 34.1%	18.050 P01
		1,260.5 2,249.6	23.7% 42.2%	2024-09-13
		5,325.5	100%	
	REFUGE REQUIREMENT (309 UNITS)	PACTED RATIO	CUBIC YARDS	AYU / MDM
	GARBAGE RECYCLING GMP	0.053 yd ³ /UNIT 0.018 yd ³ /UNIT	17 6	1:400
	RECYCLING FIBERCOMPOST240L	0.038 yd³/UNIT PER 50 UNITS	12 7 BINS	

FI	
	Turner Fleischer Architects Inc. 67 Lesmill Road Toronto, ON, M3B 2T8 T 416 425 2222 turnerfleischer com
s drawing, as hitects Inc. Th site and must ormation. This vey, structural propriate cons blicable codes wings not spe	an instrument of service, is provided by and is the property of Turner Fleischer ne contractor must verify and accept responsibility for all dimensions and conditions notify Turner Fleischer Architects Inc. of any variations from the supplied drawing is not to be scaled. The architect is not responsible for the accuracy of mechanical, electrical, etc., information shown on this drawing. Refer to the ultant's drawings before proceeding with the work. Construction must conform to all and requirements of authorities having jurisdiction. The contractor working from reifically marked 'For Construction' must assume full responsibility and bear costs or or domerge requiling from bits uncert
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-¢-	FIRE HYDRANT
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000.00	SPOT ELEVATION
	GAS/HYDRO METER
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	orguard
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5	500 COVENTRY ROAD, OTTAWA, ON.
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SITE	PLAN / ROOF PLAN - OVERALL SITE
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5	DEPRESS STANDAR	ED CURB AND SIDEWALK TO CITY DS, REFER TO CIVIL	
6	EXISTING	STREET CURB AND SIDEWALK	
7	SOFT LAN	IDSCAPING, REFER TO LANDSCAPE PLAN	
8	ASPHALT BARRIER	DRIVING SURFACE / PARKING LOT WITH CURB	
9	INTERNAL	_ GARBAGE ROOM	
10	2.0m WIDE	E CONCRETE SIDEWALK	
11	OUTLINE	OF PRIVATE BALCONY ABOVE	
12	OUTLINE	OF TOWER ABOVE	
13	STRUCTU	RAL SUPPORT FOR BUILDING ABOVE	
14	VISITOR /	SHORT TERM PARKING SPACE 2.6 x 5.2m	
15	EXISTING	TREE TO BE REMOVED	
16	EXISTING	STORM GRATE	
17	EXISTING	UTILITY KIOSK	
18	PROPOSE	ED SERVICES	
19	RETAININ	G WALL, REFER TO CIVIL FOR HEIGHT	
20	EXISTING	CONCRETE / ASPHALT ISLAND	
21	EXISTING	UTILITY / LIGHT POLE	
22	1.2 X 1.8 C (GAS BLO	CONCRETE PAD FOR GAS EQUIPMENT W OFF)	
23	3.5 x 7.0m	LOADING SPACE	
24	SIAMESE	CONNECTION	
26	EXISTING	CROSSWALK WITH DEPRESSED CURBS	
27	EXISTING	CONCRETE JERSEY BARRIER	
28	EXISTING	CONCRETE OVERPASS	
29	GUARDRA	AIL WITH METAL PIPE RAILING	
30	EXISTING	FIRE HYDRANT	
31	INTAKE / E	EXHAUST GRILL	
32	BICYCLE F	PARKING SPACE WITH RACK	
33	OUTLINE	OF BELOW GRADE PARKING DECK	
34	HEATED G	GARAGE RAMP WITH TRENCH DRAIN	
35	GARAGE F	RAMP WALL	THE B
36	RELOCAT	E UTILITY / LIGHT POLE AS NEEDED	ALLC
37	TEMPORA REMOVED	ARY SNOW STORAGE. SNOW WILL BE O FROM THE SITE AS REQUIRED	
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39	WASHED	PEA-STONE SURFACE	
40	DEPRESS	ED CURB	

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	PROJECT INFORMATIO	N	TURNER		
	Zoning By-law 2008-250 Consc	Didation	TD3		
	AREA TYPE		m²	ft²	FLEISCHER
TION	SITE AREA - BLDG A		5,325.5 3,486.0	57,323.4 37,523	Turner Fleischer Architects In
			0,100.0	01,020	67 Lesmill Roa
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TION			90.0M	89.7M	survey, structural, mechanical, electrical, etc., information shown on this drawing. Refer to the appropriate consultant's drawings before proceeding with the work. Construction must conform applicable codes and requirements of authorities having jurisdiction. The contractor working fro drawings not specifically marked 'Eor Construction' must assume full responsibility and bear co
	ALLOWABLE PROJECTION -	AMENITY LEVEL	0.0M	22.7M	for any corrections or damages resulting from his work. The site plan prepared by Turner Fleischer is reliant on a legal survey showing the boundaries of the l
3	DENSITY - MINIMUM 350 unit	ts/hectare	206 UNITS	309 UNITS	together with the current location of any existing buildings, features or encroachment prepared by Ann O'Sullivan, dated 19-05-2023 as provided by Vollebekk Ltd
Don	CORNER YARD SETBACK	East / West)	3.0M/3.0M	134.85M/12.5M	SITE PLAN SYMBOLS
*	REAR YARD SETBACK (GR		0.0M	16.10M	PRIMARY RESIDENTIAL ENTRANCE
	AMENITY AREA - TOTAL PER	R UNIT	6.0M ²	17.4M ²	SECONDARY RESIDENTIAL
- 0	AMENITY AREA - 50% COMM		3.0M ²	4.55M ²	
	GRADE COMMUNAL			172.000	EXIT
	VEHICLE PARKING - RESIDE 1.5/PER UNIT)	NTIAL (AREA 'Z' - MAX	NOT REQUIRED	289	
	VEHICLE PARKING - VISITOR	R ONLY (MAX. 30,	30	30	
	BICYCLE PARKING - RESIDE	NTIAL - 0.5 PER UNIT	165	309	
	AISLE & DRIVEWAY MINIMUM	M / MAXIMUM WIDTH	6.0M/6.7M	6.7M	
	GROSS BUILDING FLOOR AR	EA (OTTAWA ZONING D	EFINITION)	ft2	
E WORK TO	UG1			n	
EDESTRIAN PROPOSED	FLOOR 01 FLOOR 02		1,339,6	14 419	GAS/HYDRO METER
SIDEWALK	FLOOR 03-05	1,339.6 m² x 3	4,018.8	43,257	REFER TO LANDSCAPE DRAWINGS FOR SURFACE
	FLOOR 06 FLOOR 07		1,224.1 631.4	13,176 6,796	
	FLOOR 08 - FLOOR 28	725.2 m² x 21	15,229.2	163,926	MINIMUM PERMITTED PARKING DIMENSIONS
	TOTAL TYP. FLOOR PLATE		22,443.7 725.2	241,582 7,806	TYPICAL PARKING DIMENSIONS
	UNIT STATISTICS				AISLE WIDTH: MIN 6.7m
				UNITS	TYPICAL PARKING SPACE: MIN 2.6 x 5.2 x 2.1 m HIGH
	1B 1B+D			58 82	2600 2600
	2B			77	
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	TOTAL			309	
	VEHICULAR PARKING SPAC	ES REQUIRED- AREA 'Z'	ON SCHEDULE 1/	4	
	VISITOR 0.1 SPACE	ES PER UNIT AFTER 12 U	JNITS - MAX 30	30 0	6700 RIVE A
	TOTAL			30	
	VEHICULAR PARKING SPACI	ES PROVIDED			
	VISITOR 0.1 SPACE	ES PER UNIT (309 UNITS)	30	
	RESIDENTIAL 0.56 SPAC	ES PER UNIT (309 UNIT)	S)	177 207	TYPICAL BARRIER FREE SPACE
	EXISTING SURFACE PARKIN			112	MIN 3.66 x 5.2 x 2.1m HIGH
	1.03 PER U	JNIT (309 UNITS)		319	
	ACCESSIBLE PARKING SPAC	ES REQUIRED - (NOT IN	ICLUDING SURFA	CE PARKING)	
	TYPE 'A' TYPE 'B'			3 4	
ING RAMP & SPA810.	TOTAL			7	
	ACCESSIBLE PARKING SPAC	ES PROVIDED - (NOT IN	ICLUDING SURFA	CE PARKING)	1500
	TYPE 'A' TYPE 'B'			3 5	
	TOTAL			8	
		_			
	PARALLEL PARKING SPACE	=		2.6m X 5.2m 2.6m X 6.7m	
	SMALL PARKING SPACE			2.4m X 4.6m	
	ACCESSIBLE PARKING SPAC	CE ' TYPE A ' CE ' TYPE B '		3.4m X 5.2m 2.4m X 5.2m	
	LOADING SPACE			3.5m X 7.0m	2 2024-10-10 ISSUED FOR SITE PLAN APPROVAL AY
	BICYCLE PARKING SPACES	REQUIRED NIT (309 UNITS)		155	# DATE DESCRIPTION AT
	TOTAL			155	
	BICYCLE PARKING SPACES	PROVIDED		200	
	EXTERIOR	R		309 0	INorguard
	TOTAL 1.0 PER U	NIT (309 UNITS)		309	
	AMENITY AREA		m ²	ft2	PROJECT
	GRADE EXTERIOR - COMMU	INAL	172.6	1,858	500 COVENTRY ROAD
	INTERIOR - COMMUNAL 07F EXTERIOR - COMMUNAL		1,095.4	11,791 2.175	
	TOTAL COMMUNAL		1,470.1	15,824	JUU UUVEININT KOAD, OTTAWA, ON.
	BALCONIES / TERRACE - PR		3,506.2 4,976.3	37,741 53,565	DRAWING
	REQUIRED (309 UNITS X 6 m	^{1²}) = 1,854 sq. m.			
	REQUIRED COMMUNAL @ 5	0% = 927 sq. m.			SITE PLAN / ROOF PLAN
	SITE COVERAGE				
			m²	%	PROJECT NO.
	DRIVING SURFACE		1,815.4 1,260.5	34.1% 23.7%	PROJECT DATE
			2,249.6	42.2%	2024-09-13 DRAWN BY
	TOTAL DUILDING A		0,020.0	100%	RYT / DRO
	REFUGE REQUIREMENT (30			CUBIC YARDS	AYU / MDM
	GARBAGE		0.053 yd ³ /UNIT	17	SCALE 1:200
	RECYCLING GMP RECYCLING FIBER		0.018 yd ³ /UNIT 0.038 yd ³ /UNIT	6 12	N N

COMPOST

DRAWING NO. REV. 2

7 BINS

240L PER 50 UNITS

APPENDIX C WATERMAIN CALCULATIONS

McINTOSH PERRY



MCINTOSH PERRY

CCO-23-2497 - 500 Coventry Rd - Water Demands

Project:	500 Coventry Rd		
Project No.:	CCO-23-2497		
Designed By:	FV		
Checked By:	RF		
Date:	October 28, 2024		
Site Area:	3.46 gross ha	1	
Residential	NUMBER OF UNITS	UNIT RATE	
1 Bedroom Apartment	58 units	1.4	persons/unit
2 Bedroom Apartment	159 units	2.1	persons/unit
3 Bedroom Apartment	92 units	3.1	persons/unit
Total Population	701 persons		
Amenity Area	5057 m2		

AVERAGE DAILY DEMAND

DEMAND TYPE	AMOUNT	UNITS]
Residential	280	L/c/d	
Industrial - Light	35,000	L/gross ha/d	
Industrial - Heavy	55,000	L/gross ha/d	
Shopping Centres	2,500	L/(1000m² /d	
Hospital	900	L/(bed/day)	
Schools	70	L/(Student/d)	
Trailer Park with no Hook-Ups	340	L/(space/d)	
Trailer Park with Hook-Ups	800	L/(space/d)	
Campgrounds	225	L/(campsite/d)	
Mobile Home Parks	1,000	L/(Space/d)	
Motels	150	L/(bed-space/d)	
Hotels	225	L/(bed-space/d)	
Tourist Commercial	28,000	L/gross ha/d	
Other Commercial	28,000	L/gross ha/d	
	Residential	2.27	L/s
AVERAGE DAILY DEMAND	Commercial/Industrial		
	/Institutional	0.16	L/s

MAXIMUM DAILY DEMAND

DEMAND TYPE	AMOUNT		UNITS
Residential	2.5	x avg. day	L/c/d
Industrial	1.5	x avg. day	L/gross ha/d
Commercial	1.5	x avg. day	L/gross ha/d
Institutional	1.5	x avg. day	L/gross ha/d
	Residential	5.68	L/s
MAXIMUM DAILY DEMAND	Commercial/Industrial		
	/Institutional	0.25	L/s

MAXIMUM HOUR DEMAND

DEMAND TYPE	A	MOUNT	UNITS
Residential	2.2	x max. day	L/c/d
Industrial	1.8	x max. day	L/gross ha/d
Commercial	1.8	x max. day	L/gross ha/d
Institutional	1.8	x max. day	L/gross ha/d
	Residential	12.49	L/s
MAXIMUM HOUR DEMAND	Commercial/Industrial		
	/Institutional	0.44	L/s

WATER DEMAND DESIGN FLOWS PER UNIT COUNT

CITY OF OTTAWA - WATER DISTRIBUTION GUIDELINES, JULY 2010

AVERAGE DAILY DEMAND	2.44	L/s
MAXIMUM DAILY DEMAND	5.93	L/s
MAXIMUM HOUR DEMAND	12.94	L/s

MCINTOSH PERRY

CCO-23-2497 - 500 Coventry Rd - Fire Underwriters Survey

Project:	500 Coventry Rd
Project No.:	CCO-23-2497
Designed By:	FV
Checked By:	RF
Date:	October 28, 2024

From the Fire Underwriters Survey (2020)

From Part II – Guide for Determination of Required Fire Flow Copyright I.S.O.:

City o	f Ottawa Technical Bulletin ISTB-2018-02 Applie	d Where Applicable			
A. BASE F	REQUIREMENT (Rounded to the nearest 1000 l = 220 x C x vA Where: F = Required fi C = Coefficient A = The total fi in the building	./min) re flow in liters per minute related to the type of constructior loor area in square meters (includir being considered.	n. ng all storey's, but excluding basem	ents at least 50 percent below	v grade)
	Construction Type Non-Combusti	ble Construction			
	С	0.8	А	22,443.7 m ²	
		Total Floor Area (per the 2020	FUS Page 20 - Total Effective Area)	8,293.4 m ²	
Ca	Iculated Fire Flow			16,028.0 L/min 16,000.0 L/min	
B. REDU Fr	CTION FOR OCCUPANCY TYPE (No Rounding) om Page 24 of the Fire Underwriters Survey: Limited Combustible		-15%		
Fi	re Flow			13,600.0 L/min	
C. REDU	CTION FOR SPRINKLER TYPE (No Rounding)				
	Fully Supervised Sprinklered		-50%		
Re	eduction			-6,800.0 L/min	
D. INCRE	ASE FOR EXPOSURE (No Rounding)				
	Separation Distance (m)	Cons.of Exposed Wall	Length Exposed Adjacent Wall (m)	Height Length-Height (Stories) Factor	
Exposure 1	Over 30 m	Wood frame	N/A	N/A N/A	0%
Exposure 2	Over 30 m	Wood frame	N/A	N/A N/A	0%
Exposure 3	Over 30 m	Wood frame	N/A	N/A N/A	0%
Exposure 4	Over 30 m	Wood frame	N/A	N/A N/A	0%
				% Increase*	0%

0.0 L/min

7,000.0 L/mir

Increase*

E. Total Fire Flow (Rounded to the Nearest 1000 L/min)

Fire Flow Fire Flow Required**

*In accordance with Part II, Section 4, the Increase for separation distance is not to exceed 75%

**In accordance with Section 4 the Fire flow is not to exceed 45,000 L/min or be less than 2,000 L/min

MCINTOSH PERRY

CCO-23-2497 - 500 Coventry Rd - Boundary Condition Unit Conversion

Project:	500 Coventry Rd
Project No.:	CCO-23-2497
Designed By:	FV
Checked By:	RF
Date:	October 28, 2024

Boundary Conditions Unit Conversion

Coventry Road

Scenario	Height (m)	Elevation (m)	m H₂O	PSI	kPa
Avg. DD	118.5	64.1	54.4	77.4	533.5
Max Day + Fire Flow (116.67 L/s)	110.8	64.1	46.7	66.4	457.9
Peak Hour	110.0	64.1	45.9	65.3	450.1

CCO-23-2497 - 500 Coventry Rd - Model Output

Project:	500 Coventry Rd
Project No.:	CCO-23-2497
Designed By:	FV
Checked By:	R.D.F.
Date:	October 28, 2024

MODEL INPUTS

Flow Units	L/s
Headloss Formula	H-W
Specific Gravity	1.0
Accuracy	0.001
Demand Multiplier	1.0
Maximum Fire Flow (L/s)	116.7

MODEL LOSSES

Standard Tee - Flow through run	0.6
Standard Tee - Flow through branch	1.8
45 Degree Elbow	0.4
Long Radius Elbow	0.6
Short Radius Elbow	0.9
Gate valve, fully open	0.2
Swing check valve, fully open	2.5

MODEL RESULTS

Junctions	Average Daily Demand (kPa)	Maximum Daily Demand + Fire Flow (kPa)	Peak Hourly Demand (kPa)
J1	517.76	277.16	421.97
BLDG	517.95	277.26	415.60
FH	517.56	233.14	422.46

Junctions	Average Daily Demand	Maximum Daily Demand + Fire Flow	Peak Hourly Demand
	(m)	(m)	(m)
J1	52.81	28.27	43.04
BLDG	52.83	28.28	42.39
FH	52.79	23.78	43.09

Francis Valenti

From:	Jhamb, Nishant <nishant.jhamb@ottawa.ca></nishant.jhamb@ottawa.ca>
Sent:	January 2, 2024 10:50 AM
To:	Francis Valenti
Cc:	Alison Gosling; Robert Freel
Subject:	RE: 23-2497 - 500 Coventry Road - Boundary Condition & Sanitary Capacity Request
Attachments:	500 Coventry Road REVISED December 2023.pdf

Good Morning Francis

The following are boundary conditions, HGL, for hydraulic analysis at 500 Coventry Avenue (zone 1E) assumed to be a dual connection to the 305 mm watermain on Coventry Road (see attached PDF for location).

Both Connections: Min HGL: 110.0 m Max HGL: 118.5 m Max Day + Fire Flow (116.67 L/s): 110.8 m

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

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

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

From: Francis Valenti <F.Valenti@McIntoshPerry.com> Sent: December 07, 2023 1:17 PM To: Jhamb, Nishant <nishant.jhamb@ottawa.ca> Cc: Alison Gosling <a.gosling@mcintoshperry.com>; Robert Freel <r.freel@mcintoshperry.com> Subject: RE: 23-2497 - 500 Coventry Road - Boundary Condition & Sanitary Capacity 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 afternoon Nishant,

There have been some site plan updates on this project that have resulted in minor reductions to the estimated water demand. The updated calculations are attached, and the revised demands are listed below:

- The estimated fire flow is 7,000 L/min based on the FUS method
- Average Daily Demand: 2.44 L/s
- Maximum Daily Demand: 5.93 L/s
- Maximum hourly daily demand: 12.94 L/s

As you can see above, the estimated Average Day, Max Day, and Peak Hour demands have been reduced by less than 5% of the values provided in the initial boundary condition request. In the past we've been told that minor reductions to the water demand would not require updated boundary conditions, but I just wanted to touch base and confirm that you're okay with this approach.

Thank you,

Francis Valenti, EIT

Engineering Intern T. 613.714.6895 | C. 613.808.2123 F.Valenti@McIntoshPerry.com | www.mcintoshperry.com

McINTOSH PERRY

Turning Possibilities Into Reality

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Platinum member

From: Jhamb, Nishant <<u>nishant.jhamb@ottawa.ca</u>> Sent: November 14, 2022 9:08 AM To: Robert Freel <<u>r.freel@mcintoshperry.com</u>>; Alison Gosling <<u>a.gosling@mcintoshperry.com</u>>; Francis Valenti <<u>F.Valenti@McIntoshPerry.com</u>> Subject: RE: 23-2497 - 500 Coventry Road - Boundary Condition & Sanitary Capacity Request

Good Morning

The following are boundary conditions, HGL, for hydraulic analysis at 500 Coventry Avenue (zone 1E) assumed to be a dual connection to the 305 mm watermain on Coventry Road (see attached PDF for location).

Both Connections:

Min HGL: 110.1 m Max HGL: 118.5 m Max Day + Fire Flow (150 L/s): 109.3 m

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

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

Thanks Nishant

From: Jhamb, Nishant Sent: October 28, 2022 2:09 PM To: Robert Freel <<u>r.freel@mcintoshperry.com</u>>; Alison Gosling <<u>a.gosling@mcintoshperry.com</u>>; Francis Valenti <<u>F.Valenti@McIntoshPerry.com</u>> Subject: RE: 23-2497 - 500 Coventry Road - Boundary Condition & Sanitary Capacity Request

Good Afternoon,

City's Asset Management department has confirmed that we can take the proposed 9.27L/s peak sanitary wet weather flow on Coventry Road.

Please include this confirmation in the appendix of the report.

I have sent the request to Water Resource department for BC, it may take two weeks to get the response.

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

From: Francis Valenti <<u>F.Valenti@McIntoshPerry.com</u>> Sent: October 18, 2022 2:38 PM To: Polyak, Alex <<u>alex.polyak@ottawa.ca</u>> Cc: Robert Freel <<u>r.freel@mcintoshperry.com</u>>; Alison Gosling <<u>a.gosling@mcintoshperry.com</u>> Subject: 23-2497 - 500 Coventry Road - Boundary Condition & Sanitary Capacity Request CAUTION: This email originated from an External Sender. Please do not click links or open attachments unless you recognize the source.

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Good afternoon,

We would like to request boundary conditions for the contemplated development at 500 Coventry Road. The site plan contemplates a 421 unit 30-storey residential building, complete with surface parking with street access from Coventry Road. The connection (dual) will be to the existing 305mm diameter PVC and 305mm diameter cast iron watermain located within Coventry Road. Please find attached a map showing the proposed connection locations and calculations prepared for the demands listed below.

- The estimated fire flow is 9,000 L/min based on the FUS method
- Average Daily Demand: 2.48 L/s
- Maximum Daily Demand: 6.18 L/s
- Maximum hourly daily demand: 13.58 L/s

Concern was also expressed in the pre-consultation meeting regarding sanitary capacity. Can you please verify municipal infrastructure has the capacity to accommodate the additional flows? Estimated post-development sanitary flows are summarized below, and detailed calculations are attached.

- Total Estimated Average Dry Weather Flow: 2.66 L/s
- Total Estimated Peak Dry Weather Flow: 8.31 L/s
- Total Estimated Peak Wet Weather Flow: 9.27 L/s

Regards,

Francis Valenti, EIT Engineering Intern, Land Development T. 613.714.6895 | C. 613.808.2123 F.Valenti@McIntoshPerry.com | www.mcintoshperry.com

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EPANET WATER MODEL AVERAGE DAY SCENARIO

McINTOSH PERRY

AVERAGE DAY WATER MODEL NETWORK



[TITLE]

[JUNCTI	ONS]								
;ID J1			Elev 65.68		Demand 0		Pattern		;
FH			65.7		2.44 0				ر :
[RESERV0 ;ID 1	DIRS]		Head 118.5		Pattern			ż	
[TANKS] ;ID	Diamete	r	Elevatic MinVol	on	InitLev VolCurv	el e	MinLevel	l Overflow	MaxLevel
[PIPES] ;ID			Node1			Node2			Length
P1	Diamete	r	Roughnes	S	MinorLo	ss J1	Status		143.1
Р3	200		110 FH 110		2.8	J1	Open Open	;	3.89
P2	200		J1 100		0.8	BLDG	Open	;	16.97
[PUMPS] ;ID			Node1			Node2			Parameters
[VALVES] ;ID]		Node1			Node2			Diameter
	Туре	Setting		MinorLo	SS				
[TAGS]									
[DEMAND: ;Junctio	S] on		Demand		Pattern			Category	/
[STATUS ;ID]		Status/S	Setting					
[PATTERI ;ID	NS]		Multipli	lers					
[CURVES ;ID]		X-Value		Y-Value				
[CONTRO	LS]								

[RULES]

[ENERGY] Global Efficiency Global Price Demand Charge	75 0 0		
[EMITTERS] ;Junction	Coefficient		
[QUALITY] ;Node	InitQual		
[SOURCES] ;Node	Туре	Quality	Pattern
[REACTIONS] ;Type Pipe/Ta	nk	Coefficient	
[REACTIONS] Order Bulk Order Tank Order Wall Global Bulk Global Wall Limiting Potential Roughness Correlation	1 1 1 0 0 0		
[MIXING] ;Tank	Model		
[TIMES] Duration Hydraulic Timestep Quality Timestep Pattern Timestep Pattern Start Report Timestep Report Start Start ClockTime Statistic	0 1:00 0:05 1:00 0:00 1:00 0:00 12 am None		
[REPORT] Status Summary Page	No No Ø		
[OPTIONS] Units	LPS		

Headloss	H-W		
Specific Gravit	y 1		
Viscosity	1		
Trials	40		
Accuracy	0.001		
CHECKFREQ	2		
MAXCHECK	10		
DAMPLIMIT	0		
Unbalanced	Continue 10		
Pattern	1		
Demand Multipli	ier 1.0		
Emitter Exponer	nt 0.5		
Quality	None mg/L		
Diffusivity	1		
Tolerance	0.01		
[COORDINATES]			
;Node	X-Coord		Y-Coord
Ĵ1	6534.508		2657.856
BLDG	8814.638		1925.219
FH	6519.824		3348.018
1	3289.280		7283.407
[VERTICES]			
;Link	X-Coord		Y-Coord
P1	3289.280		3010.279
P1	3553.598		2657.856
P2	8599.841		2657.120
P2	8790.772		2490.056
[LABELS]			
;X-Coord	Y-Coord	Label 8	& Anchor Node
3500.398	8114.558		"AVERAGE DAY = 118.5m"
3500.398	7867.940		"MAX DAY + FIRE FLOW = 109.3m"
3500.398	7637.232		"PEAK HOUR = 110.1m"
9299.920	2068.417		"AVERAGE DAY = 2.44 L/s"
9291.965	1797.932		"MAX DAY = 5.93 L/s"
9291.965	1543.357		"PEAK HOUR = 12.94 L/s"
[BACKDROP]			
DIMENSIONS	0.000	0.000	10000.000
10000.000			
UNITS	None		
FILE			
OFFSET	0.00		0.00

[END]

Page	2024-01-04 7:27:34 AM
****	***************************************
*	EPANET *
*	Hydraulic and Water Quality *
*	Analysis for Pipe Networks *
*	Version 2.2
****	***************************************

Input File: 2024-01-04 - 500 Coventry AVERAGE DAY.net

Link - Node Table:							
Link ID		Start Node		End Node		Length m	Diameter mm
P1 P3 P2		1 FH J1		J1 J1 BLDG		143.1 3.89 16.97	200 200 200
Node	Results:						
Node ID			Demand LPS	Head m	Pressure m	Quality	
J1 BLDG FH 1			0.00 2.44 0.00 -2.44	118.49 118.49 118.49 118.50	52.81 52.83 52.79 0.00	0.00 0.00 0.00 0.00 0.00	Reservoir
Link	Results:						
Link ID			Flow LPS	VelocityU m/s	nit Headlos m/km	ss Stat	tus
P1 P3 P2			2.44 0.00 2.44	0.08 0.00 0.08	0.07 0.00 0.09	Open Open Open	

EPANET WATER MODEL MAX DAY + FIRE FLOW SCENARIO



MAX DAY + FIRE FLOW WATER MODEL NETWORK



[TITLE]

[JUNCTIO ;ID J1 BLDG FH	ONS]		Elev 65.68 65.66 65.7		Demand Ø 5.93 116.7	I	Pattern		;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;;
[RESERVO ;ID 1	DIRS]		Head 109.3		Patter	'n		;	
[TANKS] ;ID	Diamete	r	Elevatio MinVol	on	InitLe VolCur	evel ve	MinLeve	l Overflow	MaxLevel ∾
[PIPES] ;ID P1 P3 P2	Diameter 200 200 200	r	Node1 Roughnes 1 110 FH 110 J1 100	55	MinorL 2.8 5.9 0.8	Node2 .oss J1 J1 BLDG	Status Open Open Open	;;;	Length 143.1 3.89 16.97
[PUMPS] ;ID			Node1			Node2			Parameters
[VALVES] ;ID] Туре	Setting	Node1	MinorLo	SS	Node2			Diameter
[TAGS]									
[DEMANDS] ;Junction		Demand		Pattern			Category	y	
[STATUS] ;ID		Status/Setting							
[PATTERNS] ;ID		Multipl	iers						
[CURVES] ;ID]		X-Value		Y-Valu	ie			
[CONTROI	LS]								

[RULES]

[ENERGY] Global Efficiency Global Price Demand Charge	75 0 0		
[EMITTERS] ;Junction	Coefficient		
[QUALITY] ;Node	InitQual		
[SOURCES] ;Node	Туре	Quality	Pattern
[REACTIONS] ;Type Pipe/Ta	nk	Coefficient	
[REACTIONS] Order Bulk Order Tank Order Wall Global Bulk Global Wall Limiting Potential Roughness Correlation	1 1 0 0 0		
[MIXING] ;Tank	Model		
[TIMES] Duration Hydraulic Timestep Quality Timestep Pattern Timestep Pattern Start Report Timestep Report Start Start ClockTime Statistic	0 1:00 0:05 1:00 0:00 1:00 0:00 12 am None		
[REPORT] Status Summary Page	No No Ø		
[OPTIONS] Units	LPS		

Headloss	H-W		
Specific Gravi	ty 1		
Viscosity	1		
Trials	40		
Accuracy	0.001		
CHECKFREO	2		
MAXCHECK	10		
DAMPLIMIT	0		
Unbalanced	Continue 10		
Pattern	1		
Demand Multipl	.ier 1.0		
Emitter Expone	nt 0.5		
Ouality	None mg/L		
Diffusivitv	1		
Tolerance	0.01		
[COORDINATES]			
:Node	X-Coord	Y-Coo	rd
71	6534 508	2657	856
BLDG	8814 638	1925	219
FH	6519 824	3348	018
1	3289 280	7283	407
-	5205.200	,203.	
[VERTICES]			
;Link	X-Coord	Y-Coo	rd
P1	3289.280	3010.	279
P1	3553.598	2657.	856
P2	8599.841	2657.	120
P2	8790.772	2490.	056
[LABELS]			
;X-Coord	Y-Coord	Label & Anch	or Node
3500.398	8114.558	"AVER	AGE DAY = 118.5m"
3500.398	7867.940	"MAX	DAY + FIRE FLOW = 109.3m"
3500.398	7637.232	"PEAK	HOUR = 110.1m"
9299.920	2068.417	"AVER	AGE DAY = $2.44 \text{ L/s}^{"}$
9291.965	1797.932	"MAX	DAY = 5.93 L/s"
9291.965	1543.357	"PEAK	HOUR = 12.94 L/s"
6674.622	3603.819	"116.	7 L/s"
[BACKDROP]			
DIMENSIONS	0.000	0.000	10000.000
10000.000			
UNITS	None		
FILE			
OFFSET	0.00	0.00	

[END]

Page	2024-01-04 7:32:00 AM
****	***************************************
*	E P A N E T *
*	Hydraulic and Water Quality *
*	Analysis for Pipe Networks *
*	Version 2.2 *
****	***************************************

Input File: 2024-01-04 - 500 Coventry MAX DAY.net

Link - Node Table:							
Link ID		Start Node	End Node		Length m	Diameter mm	
P1 P3 P2		1 FH J1	J1 J1 BLDG		143.1 3.89 16.97	200 200 200	
Node F	Results:						
Node ID		Demand LPS	Head m	Pressure m	Quality		
J1 BLDG FH 1		0.00 5.93 116.70 -122.63	93.95 93.94 89.48 109.30	28.27 28.28 23.78 0.00	0.00 0.00 0.00 0.00	Reservoir	
Link F	Results:						
Link ID		Flow LPS	VelocityU m/s	nit Headlo m/km	ss Stat	tus	
P1 P3 P2		122.63 -116.70 5.93	3.90 3.71 0.19	107.26 1150.07 0.49	Open Open Open		

EPANET WATER MODEL PEAK HOUR SCENARIO

McINTOSH PERRY

PEAK HOUR WATER MODEL NETWORK


[TITLE]

[JUNCTIO	ONS]								
;ID J1 BLDG	-		Elev 65.68		Demand 0 12.94		Pattern		;
FH			65.7		0				ر ز
[RESERVO ;ID 1	OIRS]		Head 110.1		Pattern			;	
[TANKS] ;ID	Diamete	r	Elevatio MinVol	วท	InitLev VolCurv	el e	MinLeve	l Overflow	MaxLevel ∾
[PIPES] ;ID			Node1			Node2			Length
P1	Diamete	r	Roughnes	ŝS	MinorLo	ss J1	Status Onen		143.1
Р3	200		FH 110		5 0	J1	Open	,	3.89
P2	200		J1 100		0.8	BLDG	Open	ر ;	16.97
[PUMPS]									
;1D			Nodel			Node2			Parameters
[VALVES] ;ID]	Sotting	Node1	Minonlo	~~~	Node2			Diameter
[TACS]	туре	Secting		MINOPLO	55				
[IA05]									
[DEMANDS ;Junctio	S] on		Demand		Pattern			Category	y
[STATUS] ;ID]		Status/S	Setting					
[PATTERN ;ID	NS]		Multipli	iers					
[CURVES] ;ID]		X-Value		Y-Value				
[CONTRO	LS]								

[RULES]

[ENERGY] Global Efficiency Global Price Demand Charge	75 0 0		
[EMITTERS] ;Junction	Coefficient		
[QUALITY] ;Node	InitQual		
[SOURCES] ;Node	Туре	Quality	Pattern
[REACTIONS] ;Type Pipe/Ta	nk	Coefficient	
[REACTIONS] Order Bulk Order Tank Order Wall Global Bulk Global Wall Limiting Potential Roughness Correlation	1 1 0 0 0		
[MIXING] ;Tank	Model		
[TIMES] Duration Hydraulic Timestep Quality Timestep Pattern Timestep Pattern Start Report Timestep Report Start Start ClockTime Statistic	0 1:00 0:05 1:00 0:00 1:00 0:00 12 am None		
[REPORT] Status Summary Page	No No Ø		
[OPTIONS] Units	LPS		

Headloss	H-W		
Specific Grav:	ity 1		
Viscosity	1		
Trials	40		
Accuracy	0.001		
CHECKFREQ	2		
MAXCHECK	10		
DAMPLIMIT	0		
Unbalanced	Continue 10		
Pattern	1		
Demand Multip	lier 1.0		
Emitter Expone	ent 0.5		
Quality	None mg/L		
Diffusivity	1		
Tolerance	0.01		
[COORDINATES]			
:Node	X-Coord		Y-Coord
J1	6534.508		2657.856
BLDG	8814.638		1925.219
FH	6519.824		3348.018
1	3289.280		7283.407
[VERTICES]			
:link	X-Coord		Y-Coord
P1	3289, 280		3010, 279
P1	3553,598		2657,856
P2	8599,841		2657,120
P2	8790,772		2490,056
1 2	07901772		2450.050
[LABELS]		1	
;X-Coord	Y-Coord	Label a	& Anchor Node
3500.398	8114.558		"AVERAGE DAY = $118.5m$ "
3500.398	7867.940		$\frac{109.3}{100}$
3500.398	/63/.232		"PEAK HOUR = 110.1m"
9299.920	2068.417		"AVERAGE DAY = 2.44 L/s "
9291.965	1/9/.932		MAX DAY = 5.93 L/s''
9291.965	1543.357		"PEAK HOUR = 12.94 L/s"
[BACKDROP]			
DIMENSIONS	0.000	0.000	10000.000
10000.000			
UNITS	None		
FILE			
OFFSET	0.00		0.00

[END]

Page	2024-01-04 7:31:07 AM
****	***************************************
*	EPANET *
*	Hydraulic and Water Quality *
*	Analysis for Pipe Networks *
*	Version 2.2 *
****	***************************************

Input File: 2024-01-04 - 500 Coventry PEAK HOUR.net

Link	- Node Ta	ble:						
Link ID		Start Node		End Node		Length m	Diameter mm	
P1 P3 P2		1 FH J1		J1 J1 BLDG		143.1 3.89 16.97	200 200 200	
Node	Results:							
Node ID			Demand LPS	Head m	Pressure m	Quality		
J1 BLDG FH 1			0.00 12.94 0.00 -12.94	109.87 109.84 109.87 110.10	44.19 44.18 44.17 0.00	0.00 0.00 0.00 0.00	Reservoir	
Link	Results:							
Link ID			Flow LPS	VelocityU m/s	nit Headlos m/km	s Stat	us	
P1 P3 P2			12.94 0.00 12.94	0.41 0.00 0.41	1.60 0.00 2.11	Open Open Open		

500 Coventry Hydrant Coverage Figure



Hydrants within 75m = 1 Private

Hydrants within 150m = 1 Public

APPENDIX D SANITARY CALCULATIONS

500 Coventry Road



CCO-23-2497 - 500 Coventry Rd - Sanitary Demands

Project:	500 Coventry Rd				
Project No.:	CCO-23-2497			_	
Designed By:	FV			-	
Checked By:	RF			-	
Date:	Dec-23			-	
Site Area	3.46	Gross ha		-	
1 Bedroom	58	1 40	Persons per unit	-	
2 Bedroom	159	2 10	Persons per unit	-	
3 Bedroom	92	3.10	Persons per unit	-	
Tatal Decidation	701	Demons	_		
Amonity Space	701	Persons m ²	-		
Amenity space	5057.00	m	-		
DESIGN PARAMETERS					
Institutional/Commercial Peaking Facto	. 1				
Residential Peaking Factor	3.32	* Using Harmon Formula = 1	+(14/(4+P^0.5))*0.8		
Mannings apofficient (n)	0.012	where P = population in thous	sands, Harmon's Correction Fact	01 = 0.8	
Domand (por capita)	0.013	l (day			
Infiltration allowance	200				
Innitiation allowance	0.33	L/ 5/ FId			
EXTRANEOUS FLOW ALLOWANCES					
	Infiltration / Inflow	Flow (L/s)			
	Dry	0.17	-		
	Wet	0.97	-		
	Total	1.14			
AVERAGE DAILY DEMAND			-		
DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)	
Residential	280	L/c/d	701		2.27
Industrial - Light**	35,000	L/gross ha/d			0
Industrial - Heavy**	55,000	L/gross ha/d			0
Commercial / Amenity	2,800	L/(1000m ² /d)	5057.00		0.16
Hospital	900	L/(bed/day)			0
Schools	70	L/(Student/d)			0
Trailer Parks no Hook-Ups	340	L/(space/d)			0
Trailer Park with Hook-Ups	800	L/(space/d)			0
Campgrounds	225	L/(campsite/d)			0
Mobile Home Parks	1,000	L/(Space/d)			0
Motels	150	L/(bed-space/d)			0
Hotels	225	L/(bed-space/d)			0
Office	75	L/7.0m ² /d			0
Tourist Commercial	28,000	L/gross ha/d			0
Other Commercial	28,000	L/gross ha/d			0

AVERAGE RESIDEN	ITIAL FLOW	2.27	L/s
PEAK RESIDE	NTIAL FLOW	7.53	L/s
AVERA	GE ICI FLOW	0.16	L/s
PEAK INSTITUTIONAL/COMME	RCIAL FLOW	0.16	L/s
PEAK INDUS	TRIAL FLOW	0.00	L/s
TOTAL PE	ak ici flow	0.16	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	2.61	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	7.87	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	8.84	L/s

APPENDIX E PRE-DEVELOPMENT DRAINAGE PLAN



GENERAL NOTES



HARDY AVENUE PRESLAND RO COVENTRY ROAD SUBJECT SITE HIGHWAY 417 LOCATION PLAN LEGEND DRAINAGE AREA ID 5-YEAR RUNOFF-COEFFICIENT 100-YEAR RUNOFF-COEFFICIENT R REA KOR UNL NOT FOR CONSTRUCTION DEC. 20, 2023 ISSUED FOR COORDINATION Date Revisions Check and verify all dimensions Do not scale drawings before proceeding with the work SCALE 1:500 10 MCINTOSH PERRY 115 Walgreen Road, RR3, Carp, ON KOA 1LO Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com Stamp: Client: MORGUARD 55 CITY CENTRE DRIVE, SUITE 1000 MISSISSAUGA, ON L5B 1M3 Project: **RESIDENTIAL BUILDING** 500 COVENTRY ROAD Drawing Title:

- 1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
- 2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED INFORMATION SUPPLIED BY (OR SHOWN ON) ANNIS, O'SULLIVAN, VOLLEBEKK LTD. DRAWING 23868-23 AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A
- CERTIFIED BY AN ONTARIO LAND SURVEYOR. 3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT. 5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND
- WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE 6. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD
- ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE
- EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY.
- REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY. 9. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND REINSTATEMENT WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR

ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.

- 10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
- 12. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
- 13. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
- 14. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
- 15. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.

Scale:

Drawn By

Checked By:

Designed By:

RF

RF

- 16. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY: • ELECTRICAL SERVICE - HYDRO ONE, GAS SERVICE - ENBRIDGE,
 TELEPHONE SERVICE - BELL CANADA,
 TELEVISION SERVICE - ROGERS.
- 16. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
- 17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION 18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.

PRE-DEVELOPMENT DRAINAGE AREA PLAN Project Number: 1:500 CCO-23-2497 FV Drawing Number:

> PRE #XXXXX

0

APPENDIX F POST-DEVELOPMENT DRAINAGE PLAN



GENERAL NOTES



1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.

- 2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED INFORMATION SUPPLIED BY (OR SHOWN ON) ANNIS. O'SULLIVAN, VOLLEBEKK LTD. DRAWING 23868-23 AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP-TO-DATE LAND TITLES SEARCH AND A
- CERTIFIED BY AN ONTARIO LAND SURVEYOR. 3. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY BEFORE COMMENCING CONSTRUCTION.
- 4. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT. 5. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND
- WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE

ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE

- EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL, SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY. 8. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR
- REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY. 9. CONTRACTOR TO MINIMIZE THE ACTUAL LIMITS OF REMOVALS AND REINSTATEMENT WHEREVER POSSIBLE, AND SHALL MAKE THEIR OWN JUDGEMENT AND ACCOUNT FOR ALL MATERIAL AND LABOUR REQUIRED FOR

ADEQUATELY REINSTATING THE AREA TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND BEAR THE COST OF THE SAME. NO ADDITIONAL PAYMENT WILL BE MADE FOR REINSTATEMENT WORK NOT SHOWN ON THE CONTRACT DRAWING AS A DIRECT RESULT FROM CONSTRUCTION.

- 10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED. 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
- 12. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE ENGINEER/CITY.
- 13. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
- 14. CONTACT THE CITY FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
- 15. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- 16. ELECTRICAL, GAS, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL AGENCY: • ELECTRICAL SERVICE - HYDRO ONE, GAS SERVICE - ENBRIDGE,
 TELEPHONE SERVICE - BELL CANADA,
 TELEVISION SERVICE - ROGERS.
- 16. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO ONE, BELL AND THE CITY.
- 17. CONTRACTOR TO ENSURE ALL APPLICABLE OPS SPECIFICATIONS ARE FOLLOWED DURING CONSTRUCTION 18. ALL PROPOSED CURB TO BE CONCRETE BARRIER CURB UNLESS OTHERWISE SPECIFIED.

5-YEAR RUNOFF-COEFFICIENT 100-YEAR RUNOFF-COEFFICIENT FOR REV NOT FOR CONSTRUCTION 3 REISSUED FOR SITE PLAN CONTROL OCT. 28, 2024 2 ISSUED FOR SITE PLAN CONTROL JAN. 26, 2024 DEC. 20, 2023 ISSUED FOR COORDINATION Date Revisions Check and verify all dimensions Do not scale drawings before proceeding with the work SCALE 1:500

HARDY AVENUE

COVENTRY ROAD

HIGHWAY 417

-SUBJECT SITE

PRESLAND ROA

LOCATION PLAN

DRAINAGE AREA ID-

LEGEND

10 30 20

MCINTOSH PERRY

40

50 Metres

115 Walgreen Road, RR3, Carp, ON KOA 1LO Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com

Stamp:

MORGUARD 55 CITY CENTRE DRIVE, SUITE 1000 MISSISSAUGA, ON L5B 1M3

Project:

Client:

RESIDENTIAL BUILDING 500 COVENTRY ROAD

Drawing Title:

RF

POST-	DEVELOP	PMENT DRAINAGE AREA PLAN	XXX
Scale:	1:500	Project Number:	≺
Drawn By:	FV	CCO-23-2497	2-X
Checked By:	RF	Drawing Number:	7-1
Designed By:	RE	I POST I	O

POST #XXXXX APPENDIX G STORMWATER MANAGEMENT CALCULATIONS

CCO-23-2497 - 500 Coventry Road

Tc (min)	Intensity (mm/hr)		
	5-Year	100-Year	
20	70.3	120.0	
10	104.2	178.6	

C-Values					
Impervious	0.90				
Gravel	0.60				
Gravely-Soil	0.40				
Pervious	0.20				

Pre-Development Runoff Coefficient

Drainage Area	Impervious Area (m²)	Gravely-Soil Area (m²)	Pervious Area (m²)	Average C (5-year)	Average C (100-year)
A1	1,351	3,134	0	0.55	0.65

Pre-Development Runoff Calculations

Drainago	Aroa	C	Q (L/s)			L/s)
Area	(ha)	5-Year	100-Year	(min)	5-Year	100-Year
A1	0.45	0.55	0.65	10	71.54	144.86
Total	0.45				71.54	144.86

Post-Development Runoff Coefficient

Drainage Area	Impervious Area (m ²)	Gravel (m²)	Pervious Area (m²)	Average C (5-year)	Average C (100-year)	
B1	2,911	0	501	0.80	0.89	Restricted
B2	888	0	185	0.78	0.87	Unrestricted

Post-Development Runoff Calculations

Drainage	٨rea	C	C	Тс	Q (L/s)	
Area	(ha)	5-Year	100-Year	(min)	5-Year	100-Year	
B1	0.34	0.80	0.89	10	78.79	150.72	Restricted
B2	0.11	0.78	0.87	10	24.23	46.39	Unrestricted
Total	0.45				103.02	197.12]

Required Restricted Flow

Drainage	Area	С	Тс	Q (L/s)
Area	(ha)	5-Year	(min)	5-Year
A1	0.45	0.50	10	64.96

Post-Development Restricted Runoff Calculations

	Unrestric (L	cted Flow /S)	Restrict (L	ted Flow /S)	Storage Re	quired (m ³)	Storage Pro	ovided (m ³)
Alea	5-year	100-Year	5-Year	100-Year	5-Year	100-Year	5-Year	100-Year
B1	78.79	150.72	9.71	18.57	41.51	107.58	110.00	110.00
B2	24.23	46.39	24.23	46.39				
Total	103.02	197.12	33.94	64.96				

1 of 2

CCO-23-2497 - 500 Coventry Road

Storage Requirements for Area B1									
5-Year Storm	5-Year Storm Event								
Tc (min)	l (mm/hr)	Runoff (L/s) B1	Allowable Outflow (L/s)	Runoff to be Stored (L/s)	Storage Required (m ³)				
10	104.2	78.80	18.57	60.23	36.14				
20	70.3	53.16	18.57	34.59	41.51				
30	53.9	40.76	18.57	22.19	39.94				
40	44.2	33.43	18.57	14.86	35.65				
50	37.7	28.51	18.57	9.94	29.82				

Maximum Storage Required 5-year =

100-Year Storm Event

Tc (min)	l (mm/hr)	Runoff (L/s) B1	Allowable Outflow (L/s)	Runoff to be Stored (L/s)	Storage Required (m ³)
10	178.6	150.76	18.57	132.19	79.31
20	120.0	101.29	18.57	82.72	99.27
30	91.9	77.57	18.57	59.00	106.21
40	75.1	63.39	18.57	44.82	107.58
50	64.0	54.02	18.57	35.45	106.36
60	55.9	47.19	18.57	28.62	103.02
70	49.8	42.04	18.57	23.47	98.56
80	45.0	37.99	18.57	19.42	93.20
90	41.1	34.69	18.57	16.12	87.07
100	37.9	31.99	18.57	13.42	80.54
					3
1	<u>Maxim</u> um Sto	rage Require	d 100-year =	108	m

5-Year Storm Event Storage Summary

Storage Available (m ³) =	110.0
Storage Required (m ³) =	41.5

m³

100-Year Storm Event Storage Summary

Storage Available (m ³) = 110.0	
Storage Required (m ³) = 107.6	

115 Walgreen Road, R.R.3. Carp, ON KOA 1L0 | T. 613-836-2184 | F. 613-836-3742 info@mcintoshperry.com | www.mcintoshperry.com 2 of 2

CCO-23-2497 - 500 Coventry Rd - Sanitary Demands

Project:	500 Coventry Rd			
Project No.:	CCO-23-2497			_
Designed By:	FV			=
Checked By:	RF			_
Date:	Dec-23			_
Site Area	2.44	Cross ba		-
1 Podroom	5.40	GLOSS TIA 1.40	Porsons por unit	-
2 Bedroom	150	1.40	Persons per unit	-
2 Bedroom	109	2.10	Persons per unit	-
3 Bedroom	92			-
Total Population	701	Persons	-	
Amenity Space	5057.00	m ²	_	
			_	
DESIGN PARAMETERS				
Institutional/Commercial Peaking Facto	: 1			
Residential Peaking Factor	3.32	* Using Harmon Formula = 1	+(14/(4+P^0.5))*0.8	
	0.010	where P = population in thous	sands, Harmon's Correction Fact	for = 0.8
Mannings coefficient (n)	0.013			
Demand (per capita)	280	L/day		
Infiltration allowance	0.33	L/s/Ha		
EXTRANEOUS FLOW ALLOWANCES				
	Infiltration / Inflow	Flow (L/s)		
	Dry	0.17	-	
	Wet	0.97	-	
	Total	1.14		
AVERAGE DAILY DEMAND			-	
DEMAND TYPE	AMOUNT	UNITS	POPULATION / AREA	Flow (L/s)
Residential	280	L/c/d	701	2.27
Industrial - Light**	35,000	L/gross ha/d		0
Industrial - Heavy**	55,000	L/gross ha/d		0
Commercial / Amenity	2,800	L/(1000m ² /d)	5057.00	0.16
Hospital	900	L/(bed/day)		0
Schools	70	L/(Student/d)		0
Trailer Parks no Hook-Ups	340	L/(space/d)		0
Trailer Park with Hook-Ups	800	L/(space/d)		0
Campgrounds	225	L/(campsite/d)		0
Mobile Home Parks	1,000	L/(Space/d)		0
Motels	150	L/(bed-space/d)		0
Hotels	225	L/(bed-space/d)		0
Office	75	L/7.0m ² /d		0
Tourist Commercial	28,000	L/gross ha/d		0
Other Commercial	28,000	L/gross ha/d		0

AVERAGE RESIDEN	ITIAL FLOW	2.27	L/s
PEAK RESIDE	NTIAL FLOW	7.53	L/s
AVERA	GE ICI FLOW	0.16	L/s
PEAK INSTITUTIONAL/COMME	RCIAL FLOW	0.16	L/s
PEAK INDUS	TRIAL FLOW	0.00	L/s
TOTAL PE	ak ici flow	0.16	L/s

TOTAL SANITARY DEMAND

TOTAL ESTIMATED AVERAGE DRY WEATHER FLOW	2.61	L/s
TOTAL ESTIMATED PEAK DRY WEATHER FLOW	7.87	L/s
TOTAL ESTIMATED PEAK WET WEATHER FLOW	8.84	L/s

APPENDIX H CITY OF OTTAWA DESIGN CHECKLIST

City of Ottawa

4. Development Servicing Study Checklist

The following section describes the checklist of the required content of servicing studies. It is expected that the proponent will address each one of the following items for the study to be deemed complete and ready for review by City of Ottawa Infrastructure Approvals staff.

The level of required detail in the Servicing Study will increase depending on the type of application. For example, for Official Plan amendments and re-zoning applications, the main issues will be to determine the capacity requirements for the proposed change in land use and confirm this against the existing capacity constraint, and to define the solutions, phasing of works and the financing of works to address the capacity constraint. For subdivisions and site plans, the above will be required with additional detailed information supporting the servicing within the development boundary.

4.1 General Content

Criteria	Location (if applicable)
Executive Summary (for larger reports only).	N/A
Date and revision number of the report.	On Cover
Location map and plan showing municipal address, boundary, and layout of proposed development.	Appendix A
Plan showing the site and location of all existing services.	Site Servicing Plan (C102)
Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and	1.1 Purpose
watershed plans that provide context to which individual developments must adhere.	1.2 Site Description
	6.0 Stormwater Management
Summary of pre-consultation meetings with City and other approval agencies.	Appendix B
Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments,	1.1 Purpose
Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and	1.2 Site Description
develop a defendable design criteria.	6.0 Stormwater Management
□ Statement of objectives and servicing criteria.	3.0 Pre-Consultation Summary

Identification of existing and proposed infrastructure available in the immediate area.	N/A
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).	Site Grading Plan (C101)
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.	Site Grading Plan (C101)
Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts.	N/A
Proposed phasing of the development, if applicable.	N/A
Reference to geotechnical studies and recommendations concerning servicing.	Section 2.0 Background Studies, Standards and References
 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 	Site Grading Plan (C101)

4.2 Development Servicing Report: Water

Criteria	Location (if applicable)
□ Confirm consistency with Master Servicing Study, if available	N/A
Availability of public infrastructure to service proposed development	N/A
Identification of system constraints	N/A
Identify boundary conditions	Appendix C
Confirmation of adequate domestic supply and pressure	N/A
 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. 	Appendix C
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
Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design	N/A
Address reliability requirements such as appropriate location of shut-off valves	N/A
Check on the necessity of a pressure zone boundary modification.	N/A
Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range	Appendix C, Section 4.2

 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. 	Site Servicing Plan (C101)
Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation.	N/A
Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines.	Appendix C
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

Criteria	Location (if applicable)
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).	N/A
Confirm consistency with Master Servicing Study and/or justifications for deviations.	N/A
Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and condition of sewers.	N/A
Description of existing sanitary sewer available for discharge of wastewater from proposed development.	Section 5.2 Proposed Sanitary Sewer

 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 5.3 Proposed Sanitary Design
Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix 'C') format.	N/A
 Description of proposed sewer network including sewers, pumping stations, and forcemains. 	Section 5.2 Proposed Sanitary Sewer
Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality).	N/A
Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development.	N/A
Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity.	N/A
 Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding. 	N/A
Special considerations such as contamination, corrosive environment etc.	N/A

4.4 Development Servicing Report: Stormwater Checklist

Criteria	Location (if applicable)
 Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property) 	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
□ Analysis of available capacity in existing public infrastructure.	N/A
A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern.	Pre & Post-Development Plans
□ 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 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements.	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
Description of the stormwater management concept with facility locations and descriptions with references and supporting information.	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
Set-back from private sewage disposal systems.	N/A
□ Watercourse and hazard lands setbacks.	N/A
Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed.	N/A
Confirm consistency with sub-watershed and Master Servicing Study, if applicable study exists.	N/A
 Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5-year return period) and major events (1:100-year return period). 	Appendix G

Identification of watercourses within the proposed development and how watercourses will be protected, or, if necessary, altered by the proposed development with applicable approvals.	Site Grading Plan (C101)
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 7.0 Proposed Stormwater Management Appendix G
Any proposed diversion of drainage catchment areas from one outlet to another.	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities.	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
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
☐ Identification of potential impacts to receiving watercourses	N/A
Identification of municipal drains and related approval requirements.	N/A
 Descriptions of how the conveyance and storage capacity will be achieved for the development. 	Section 6.0 Stormwater Sewer Design & Section 7.0 Proposed Stormwater Management
100-year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading.	Site Grading Plan (C101)
Inclusion of hydraulic analysis including hydraulic grade line elevations.	N/A

 Description of approach to erosion and sediment control during construction for the protection of receiving watercourse or drainage corridors. 	Section 8.0 Sediment & Erosion Control
Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplain elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current conditions.	N/A
Identification of fill constraints related to floodplain and geotechnical investigation.	N/A

4.5 Approval and Permit Requirements: Checklist

The Servicing Study shall provide a list of applicable permits and regulatory approvals necessary for the proposed development as well as the relevant issues affecting each approval. The approval and permitting shall include but not be limited to the following:

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

4.6 Conclusion Checklist

Criteria	Location (if applicable)
Clearly stated conclusions and recommendations	Section 9.0 Summary
	Section 10.0 Recommendations
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.	All are stamped
All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario	All are stamped