IVANHOÉ CAMBRIDGE INC.

LOT-B RESIDENTIAL DEVELOPMENT, 100 BAYSHORE DR. OTTAWA, ON

SITE SERVICING REPORT

SEPTEMBER 17, 2021

LOT-B RESIDENTIAL DEVELOPMENT, 100 BAYSHORE DR. OTTAWA, ON

SITE SERVICING REPORT

IVANHOÉ CAMBRIDGE INC.

FOR SITE PLAN APPROVAL

PROJECT NO.: 211-02810-00
DATE: SEPTEMBER 2021

WSP
2611 QUEENSVIEW DRIVE, SUITE 300
OTTAWA, ON, CANADA, K2B 8K2

WSP.COM

September 17, 2021

Ivanhoé Cambridge Inc.
95 Wellington St. W., #300
Toronto, ON M5J 2R2

Attention: Jean-François Lavallée

Dear Sir:

Subject: 100 Bayshore Drive, Ottawa, ON – Site Servicing and Stormwater Management Report

Please find attached our site servicing report issued for site plan approval application, revised for City comments.

Yours sincerely,

Stephen McCaughey, P.Eng.
Project Engineer

WSP ref.: 211-02810-00

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OTTAWA, ON, CANADA, K2B 8K2

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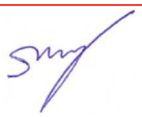
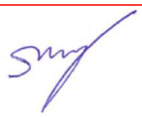
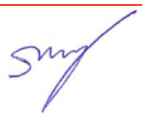
QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Issued for Site Plan Approval Application	Issued for Site Plan Approval Application Rev. 1	Issued for Site Plan Approval Application Rev. 2	
Date	2021-04-28	2021-07-26	2021-09-17	
Prepared by	Stephen McCaughey, P.Eng.	Stephen McCaughey, P.Eng.	Stephen McCaughey, P.Eng.	
Signature				
Checked by	James Johnston, P.Eng.	Ishaque Jafferjee, P.Eng.	Ishaque Jafferjee, P.Eng.	
Signature				
Authorised by				
Signature				
Project number	211-02810-00	211-02810-00	211-02810-00	
Report number				
File reference				

SIGNATURES

PREPARED BY

Stephen McCaughey, P.Eng.
Project Engineer

REVIEWED BY

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Senior Project Engineer

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1 INTRODUCTION

1.1 EXECUTIVE SUMMARY

WSP was retained by Invanhoé Cambridge to provide servicing, grading and stormwater management design services in support of the site plan approval for the proposed residential development located at 100 Bayshore Dr. Lot B, in the City of Ottawa. The proposed work consists of two residential high-rise towers connected by an above-ground parking podium. This report will provide sufficient detail to demonstrate that the proposed development can be supported by the existing municipal infrastructure services (watermain, sanitary and storm sewers) and that the servicing design conforms to the applicable standards and guidelines. The report will also include measures to be taken during the construction to minimize erosion and sedimentation. A separate report (100 Bayshore Dr. – Stormwater Management Report) is provided detailing the stormwater management approach and addressing the quantity control and quality measures in accordance with the applicable guidelines.

Currently, the site is an open grassed area with a small array of trees. The southeast corner of the lot has an existing pedestrian bridge between the Bayshore Shopping Centre and the Bayshore Transit Station. The total property area is 6,743 m^2 in size. The site is bounded by undeveloped land to the west, the transit station to the south, Woodridge Crescent to the north, and transit/shopping centre access road to the east.

The subject site is a single property with easements for Hydro along the west and north edges. There is also an allowance for a multi-use pathway (MUP) that will run along the south and east edges of the site. The site generally slopes away from the centre outwards to the four sides. The site is serviced for water (which will be replaced) but not sanitary, and there are some minor storm sewers on site which will be demolished.

The City of Ottawa requires that the design of a drainage and stormwater management system in this development must be prepared in accordance with the following documents:

- Sewer Design Guidelines, City of Ottawa, October 2012;
- Stormwater Management Planning and Design Manual, Ministry of the Environment, March 2003; and
- Stormwater Management Facility Design Guidelines, City of Ottawa, April 2012

This report was prepared utilizing servicing design criteria obtained from the City of Ottawa and outlines the design for water, sanitary wastewater and stormwater facilities.

The format of this report matches that of the servicing study checklist found in Section 4 of the City of Ottawa's Servicing Study Guidelines for Development Applications, November 2009.

The following municipal services are available within Woodridge Cres. adjacent to the development as recorded from the following as-built drawings received from the City:

Woodridge Cres.

- 203 mm PVC watermain, 250 mm concrete sanitary sewer and 675 mm concrete stormwater sewer.

It is proposed that an on-site stormwater management system will be provided to collect and attenuate flow rates leaving the site. Refer to stormwater management report for details.

1.2 LOCATION MAP AND PLAN

The site at 100 Bayshore Dr. is shown in the centre of Figure 1-1 below as presented in the GeoOttawa website. The parcels are still shown separately, but it will be a single property under a single owner.

Figure 1-1 Site Location

The proposed development will consist of two high-rise residential towers with a shared three storey parking podium (and one below grade parking). The building will have a gross floor area of approximately 50,000 m^2.

1.3 HIGHER LEVEL STUDIES

The review for servicing has been undertaken in conformance with, and utilizing information from, the following documents:

- 100 Bayshore Drive, Ottawa, Adequacy of Services Study, WSP, dated December 2019; part of Re-Zoning Application
- Ottawa Sewer Design Guidelines, Second Edition, Document SDG002, October 2012, City of Ottawa including all amendments issued as part of Technical Bulletins.
- Ottawa Design Guidelines – Water Distribution, July 2010 (WDG001), including all amendments issued as part of Technical Bulletins.
- Stormwater Management Planning and Design Manual, Ontario Ministry of the Environment and Climate Change, March 2003 (SMPDM).
- Design Guidelines for Drinking-Water Systems, Ontario Ministry of the Environment and Climate Change, 2008 (GDWS).
- Fire Underwriters Survey, Water Supply for Public Fire Protection (FUS), 1999.

1.4 AVAILABLE EXISTING AND PROPOSED INFRASTRUCTURE

As described above, all municipal mains (sanitary, storm and watermain) are available and located along Woodridge Crescent. Valved water servicing will be provided as well as sanitary servicing with monitoring hole at or near the property line. Quantity and quality control is required to restrict the stormwater discharge leaving the site, thus the on-site storm runoff will be captured, detention storage provided, flow release restricted, treated for quality control requirements, and finally directed towards the existing storm sewer on Woodridge Crescent.

1.5 GEOTECHNICAL STUDY

Golder provided a geotechnical investigation report of the subject property dated March 2021. The site consists of topsoil overtop granular fill (between 0.8-2.4m below grade) overtop clay/silt (down to depths of about 3.8-7.6m). Based on the report, groundwater was measured between 2.7-5.6 m below grade and bedrock well below grade (around 32m below grade). The recommendations of the report have been taken into account for this design development.

2 WATER DISTRIBUTION

2.1 SYSTEM CONSTRAINTS AND BOUNDARY CONDITIONS

Boundary conditions have been provided by the City of Ottawa at the existing connection along the Woodridge Cres. 203mm watermain (Zone 1W).

Table 2-1: Boundary Conditions (City of Ottawa)

Scenario	Woodridge Cres. Connection
Average Day (MAX HGL)	115.2m
Peak Hour (MIN HGL)	106.3m
Max Day + Fire Flow	82.5m

2.2 CONFIRMATION OF ADEQUATE DOMESTIC SUPPLY AND PRESSURE

Water demands are based on Table 4.2 of the Ottawa Design Guidelines – Water Distribution for these residential demands based on the number of apartment units. For purpose of verification of supply, the full buildout (both towers) have been assumed. A water demand calculation sheet is included in Appendix A, and the total water demands are summarized as follows:

	West Tower	East Tower	**Total**
Average Day	1.35 L/s	1.52 L/s	**2.86 L/s**
Maximum Day	3.38 L/s	3.77 L/s	**7.15 L/s**
Peak Hour	7.44 L/s	8.28 L/s	**15.72 L/s**

Since the average day demand is greater than 50,000 L/d (0.58 L/s), twin 150mm services will be provided from Woodridge Cres. to the building, as shown in the site servicing drawing in Appendix C.

The pressure criteria identified in the guidelines are as follows:

Minimum Pressure — Minimum system pressure under peak hour demand conditions shall not be less than 276 kPa (40 psi)

Fire Flow — During the period of maximum day demand, the system pressure shall not be less than 140 kPa (20 psi) during a fire flow event.

Maximum Pressure — Maximum pressure at any point the distribution system shall not exceed 689 kPa (100 psi). In accordance with the Ontario Building/Plumbing Code, the maximum pressure should not exceed 552 kPa (80 psi). Pressure reduction controls may be required for buildings where it is not possible/feasible to maintain the system pressure below 552 kPa.

The site has been analyzed as summarized below and in Table 2-2 to ensure all the City of Ottawa minimum criteria for water pressures are met for the two conditions (maximum day + fire flow and peak hour). The analysis was carried out using

EPANET, hydraulic and water quality analysis based on the boundary conditions provided by the City of Ottawa. The detailed EPANET output results are also included in the Appendix B.

With respect to a max day + fire flow of 140.48 L/s, the model indicated that the pressure drop in the pipe was acceptable and within the City of Ottawa's minimum pressure requirements. Section 2.3 following details the fire flow estimation.

With respect to a peak hour demand of 15.72 L/s, the model indicated that the pressure drop in the pipe was also acceptable and within the City of Ottawa's minimum pressure requirements.

Refer to Appendix B for the detailed water distribution analysis output.

Table 2-2: Summary of Water Pressure from EPANET results

Scenario	Pressure at Building Connection	
	(psi)	(kPa)
Max Day + Fire Flow	21	145
Peak Hour (MIN HGL)	60	414
Average Day (Max HGL)	73	502

2.3 CONFIRMATION OF ADEQUATE FIRE FLOW PROTECTION

The fire flow rate has been calculated using the Fire Underwriters Survey (FUS) method. The method takes into account the type of building construction, the building occupancy, the use of sprinklers and the exposures to adjacent structures. For fire resistive construction with a full sprinkler system only the first four largest floors are taken into account, leading to the calculated fire flow demand of 8,000 L/min (133 L/s). A copy of the FUS calculations are included in Appendix A along with a letter from the Architect which supports the designation "fire resistive construction". The calculations, including the letter from the Architect, were provided originally with the Adequacy of Services Report in support of the Re-Zoning Application.

The maximum fire demand of 8,000 L/min can be delivered through the proposed twin 150mm services. Further, there is one Class AA fire hydrant within 75m of the building and two Class AA fire hydrants with 150m of the building along the same side of Woodridge Cres. capable of providing total 13,248 L/min per City of Ottawa Technical Bulletin ISTB-2018-02. The nearest hydrant is within 45m of the buildings' fire department connections. See Appendix A for distance to nearest hydrants on south side of Woodridge Cres. to centre of site entrance plus approximately 25 m to the buildings.

The boundary condition for Maximum Day and Fire Flow results in a pressure of 145 kPa at the building. In the guidelines, a minimum residual pressure of 140 kPa must be maintained in the distribution system for a fire flow and maximum day event; therefore, the fire flow requirement is met.

3 WASTEWATER DISPOSAL

3.1 DESIGN CRITERIA

In accordance with the City of Ottawa's Sewer Design Guidelines, the following design criteria have been utilized in order to estimate wastewater flows generated by the subject site and verify existing capacity;

- Average sanitary flow for residential use 280 L/c/d
- Gross area Residential use 0.6
- Infiltration & Foundation Allowance (Total) 0.33 L/ha/s

3.2 CALCULATIONS FOR SANITARY DEMAND

The criteria to determine anticipated peak flow based on site used as described in Ottawa Sewer Design Guidelines Appendix 4-A are as follows, refer to appendix C for detailed calculation. Since the building size and lot zoning is not changing, from a capacity verification standpoint there isn't a difference considered for current demand estimate to post-refit demand estimate. Detailed calculations are provided in Appendix C.

	West Tower	East Tower	**Total**
Average Day	1.35 L/s	1.51 L/s	**2.86 L/s**
Peak	4.61 L/s	5.11 L/s	**2.86 L/s**
Extraneous Day	0.10 L/s	0.10 L/s	**0.20 L/s**
Total	4.71 L/s	5.21 L/s	**9.92 L/s**

3.3 VERIFICATION OF AVAILABLE CAPACITY IN EXISTING SEWER

The sanitary demand will be serviced by a 150mm sewer with a minimum slope of 1% to the 250mm sewer on Woodridge Crescent, on a proposed maintenance hole installed on the existing sewer. A Sanitary Sewer Design Sheet is provided in Appendix B confirming capacity and minimum scouring velocity is achieved. Further, per communication with the City provided in Appendix F, the existing downstream sewer has sufficient capacity for the estimated peak flow.

4 SITE STORM SERVICING

4.1 EXISTING CONDITION

The subject site is located on the south side of Woodridge Crescent, west of the Bayshore Shopping Centre and north of the Bayshore Transit Station, currently undeveloped with grass, shrub and tree growth. The site contains some storm infrastructure (pipes, maintenance holes, catch basins) that will be removed/abandoned as part of the development. The storm sewer entering the site at the southwest is abandoned as part of the Phase 2 LRT Expansion. Likewise the MUP and lands between the MUP and Bayshore Transit Station are being accounted for as part of the Phase 2 LRT Expansion to be controlled by the Bayshore Transit Station. Most runoff from the subject site is ultimately directed to 675 mm diameter trunk storm sewer, which runs from east to west along Woodridge Cres.

4.2 DRAINAGE DRAWINGS

Site drawings are included in Appendix C including servicing, grading, drainage area, and erosion and sediment control.

4.3 WATER QUANTITY CONTROL OBJECTIVE

Refer to the Stormwater Management Report for the water quantity objective for the site.

4.4 WATER QUALITY CONTROL OBJECTIVE

Refer to the Stormwater Management Report for the water quality objective for the site.

4.5 PROPOSED MINOR SYSTEM

The development will be serviced by 375 mm storm service connection with a proposed maintenance hole on the existing 675 mm storm sewer on Woodridge Crescent. Runoff from the new development area of the site will be collected by a network of roof drains, surface inlets and storm sewers. All controlled storm runoff will be directed to a cistern located within the building footprint. The cistern will be complete with sump pumps (backed up by the building generator) to discharge at the fixed rate of 20 L/s a flow control valve, per the Stormwater Management Report, to the oil grit separator. The cistern has been sized to provide active storage up to the 100-year storm of 220 m^3, due to space constraints it will extend from the P1 underground level to below the building footing. The site will be constructed in a phased approach with the West Tower constructed prior to the East Tower, but Phase 1 will include the full storage capacity required for the full buildout and the strategy of pumped cistern to the oil grit separator as presented in the drawings. During Phase 1 the cistern may be supplemented by additional temporary storage in the East Tower area connected to the cistern. The sewer and cistern design sheet for the site storm system is provided in Appendix D.

4.6 PROPOSED MAJOR SYSTEM

The storm sewers are sized such that no ponding will occur during the 2-year, 100-year storm, and 100+20% stress test. The cistern is sized for the 100-year storm, however in cases of overflow the cistern will backflow through STM1 and CB2 and CB1. The roof and area drains will be complete with check valves to prevent backup into the internal drainage pipes. The lowest elevation of overland flow is through CB2 and out to Woodridge Crescent at an elevation of 66.18m. The major overland flow routes lead out to Woodridge Crescent, with the overflow elevations at the driveway entrances to the ROW at minimum 300mm below the building entrances (66.50m). Additionally, the spillover point is less than 300mm from the catch basin elevation so there will be no ponding greater than 300mm.

5 SEDIMENT AND EROSION CONTROL

5.1 GENERAL

Prior to topsoil stripping, earthworks or underground construction, erosion and sediment controls will be implemented and will be maintained throughout construction. Silt fences will be installed around the perimeter of the site and will be cleaned and maintained throughout construction. Silt fences will remain in place until the working areas have been stabilized or re-vegetated. Catch basins and manholes will have filter fabric installed under the grate during construction to protect from silt entering the storm sewer system. A mud mat will be installed at the construction access to reduce risk of mud tracking onto adjacent roads.

Erosion and sediment controls must be in place during construction. Recommendations to the contractor will be included in the erosion and sediment control plan in Appendix C and are summarized below:

During all construction activities, erosion and sedimentation shall be controlled by the following techniques:

Prior to start of construction:

- Install silt fence along the perimeter of the property line.
- Install mud mat (gravel mat on geotextile) at construction site entrance to reduce mud tracking from site onto road.
- Install filter fabric or silt sack filters in all the catchbasins and manholes that capture runoff from the construction area.

During construction:

- Minimize the extent of disturbed areas and the duration of exposure and impacts to existing grading.
- Perimeter vegetation to remain in place until permanent storm water management is in place otherwise, immediately install silt fence when the existing site is disturbed at the perimeter.
- Protect disturbed areas from overland flow by providing temporary swales to the satisfaction of the field engineer. Tie-in temporary swale to existing catchbasins as required.
- During demolition of existing on-site storm infrastructure, protect downstream sewers from unfiltered flow.
- Provide temporary cover such as seeding or mulching if disturbed area will not be rehabilitated within 30 days.
- Inspect silt fences, filter fabric filters and catch basin sumps weekly and within 24 hours after a storm event. Clean and repair when necessary.
- Drawing to be reviewed and revised as required during construction.
- Erosion control fencing to be also installed around the base of all stockpiles.
- Do not locate topsoil piles and excavation material closer than 2.5m from any paved surface, or one which is to be paved before the pile is removed. All topsoil piles are to be seeded if they are to remain on site long enough for seeds to grow (longer than 30 days).
- Control dust blown off-site by seeding topsoil piles and other areas temporarily (provide watering as required and to the satisfaction of the engineer).
- No alternate methods of erosion protection shall be permitted unless approved by the field engineer.

- City roadway and sidewalk to be cleaned of all sediment from vehicular tracking as required.
- During wet conditions, tires of all vehicles/equipment leaving the site are to be scrapped.
- Any mud/material tracked onto the road shall be removed immediately by hand or rubber tire loader.
- Take all necessary steps to prevent building material, construction debris or waste being spilled or tracked onto abutting properties or public streets during construction and proceed immediately to clean up any areas so affected.
- All erosion control structure to remain in place until all disturbed ground surfaces have been stabilized either by paving or restoration of vegetative ground cover.
- During the course of construction, if the engineer believes that additional prevention methods are required to control erosion and sedimentation, the contractor will install additional silt fences or other methods as required to the satisfaction of the engineer.
- The contractor shall implement best management practices, to provide for protection of the area drainage system and the receiving watercourse, during construction activities. The contractor acknowledges that failure to implement appropriate erosion and sediment control measures may be subject to penalties imposed by any applicable regulatory agency.

6 APPROVAL AND PERMIT REQUIREMENTS

6.1 GENERAL

The proposed development is subject to City of Ottawa site plan approval and criteria from the Rideau Valley Conservation Authority.

No other permits or approvals are anticipated to be required from the Ontario Ministry of the Environment, Conservation and Parks (MECP), Ontario Ministry of Transportation, National Capital Commission, Parks Canada, Public Works and Government Services Canada, or any other provincial or federal regulatory agency except those noted above.

7 CONCLUSION CHECKLIST

7.1 CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the proposed development can meet all provided servicing constraints and associated requirements. It is recommended that this report be submitted to the City of Ottawa in support of the application for site plan approval.

7.2 COMMENTS RECEIVED FROM REVIEW AGENCIES

Minutes from the pre-consultation meeting held with the City of Ottawa are provided in Appendix E.

A WATER DEMAND

WATER DISTRIBUTION - PROPOSED DOMESTIC DEMANDS

Demand Type		Amount	Units
Average Day Demand			
Residential	=	280	L/c/d
Light Industrial	=	35000	L/gross ha/d
Heavy Industrial	=	55000	L/gross ha/d
Shopping Centres	=	2500	L/(1000m2/d)
Hospitals	=	900	L/(bed/d)
Schools	=	70	L/(Students/d)
Trailer Parks no Hook-Ups	=	340	L/(space/d)
Trailer Parks with Hook-Ups	=	800	L/(space/d)
Campgrounds	=	225	L/(campsite/d)
Mobile Home Parks	=	1000	L/(Space/d)
Motels	=	150	L/(bed-space/d)
Hotels	=	225	L/(bed-space/d)
Tourist Commercial	=	28000	L/gross ha/d
Other Commercial	=	28000	L/gross ha/d

Maximum Daily Demand:				
Residential	=	2.5 x	average day	L/c/d
Industrial	=	1.5 x	average day	L/gross ha/d
Commercial	=	1.5 x	average day	L/gross ha/d
Institutional	=	1.5 x	average day	L/gross ha/d

Maximum Hour Demand:				
Residential	=	2.2 x	maximum day	L/c/d
Industrial	=	1.8 x	maximum day	L/gross ha/d
Commercial	=	1.8 x	maximum day	L/gross ha/d
Institutional	=	1.8 x	maximum day	L/gross ha/d

Unit Type	**Person / Unit**
Single Family	3.4
Semi-detached	2.7
Duplex	2.3
Townhouse (row)	2.7
Apartments:	
Bachelor	1.4
1 Bedroom	1.4
2 Bedroom	2.1
3 Bedroom	3.1
Average Apt.	1.8

Population Calculator	East Tower	West Tower
Single Family		
Semi-detached		
Duplex		
Townhouse (row)		
Bachelor		
1 Bedroom	212	190
2 Bedroom	80	72
3 Bedroom		
Avergage Apt.		
Total Population	**465**	**417**

		East Tower			West Tower			Combined Demand
Demand Type	=	Residential			Residential			
Average Day Demand	=	280	L/c/d		280	L/c/d		
Population	=	465			417			
	=	280 x	465		280 x	417		
	=	130,144	L/day		116,816	L/day		
Average Daily Flow	=	**1.51**	**L/s**		**1.35**	**L/s**		2.86
Daily Demand Type	=	Residential			Residential			
Max. Daily Factor	=	2.5	L/c/d		2.5	L/c/d		
	=	2.5 x	Average Daily Flow		2.5 x	Average Daily Flow		
	=	2.5 x	130,144		2.5 x	116,816		
	=	325,360	L/day		292,040	L/day		
Maximum Daily Demand	=	**3.77**	**L/s**		**3.38**	**L/s**		7.15
Hour Demand Type	=	Residential			Residential			
Max. Hour Factor	=	2.2	L/c/d		2.2	L/c/d		
	=	2.2 x	Maximum Daily Demand		2.2 x	Maximum Daily Demand		
	=	2.2 x	325,360		2.2 x	292,040		
	=	715,792	L/day		642,488	L/day		
Maximum Hour Demand	=	**8.28**	**L/s**		**7.44**	**L/s**		15.72

WATER DISTRIBUTION - PROPOSED FIRE FLOW DEMANDS

F = 220 C √ A

Type of Construction Coefficient:		Comments
Wood Frame	1.5	(all structurally combustible)
Ordinary	1.0	(brick, masonry wall, combustible floor and interior)
Non-Combustible	0.8	(unprotected metal structural component, masonry or metal walls)
Fire Resistive	0.6	(fully protected frame, floors and roof)

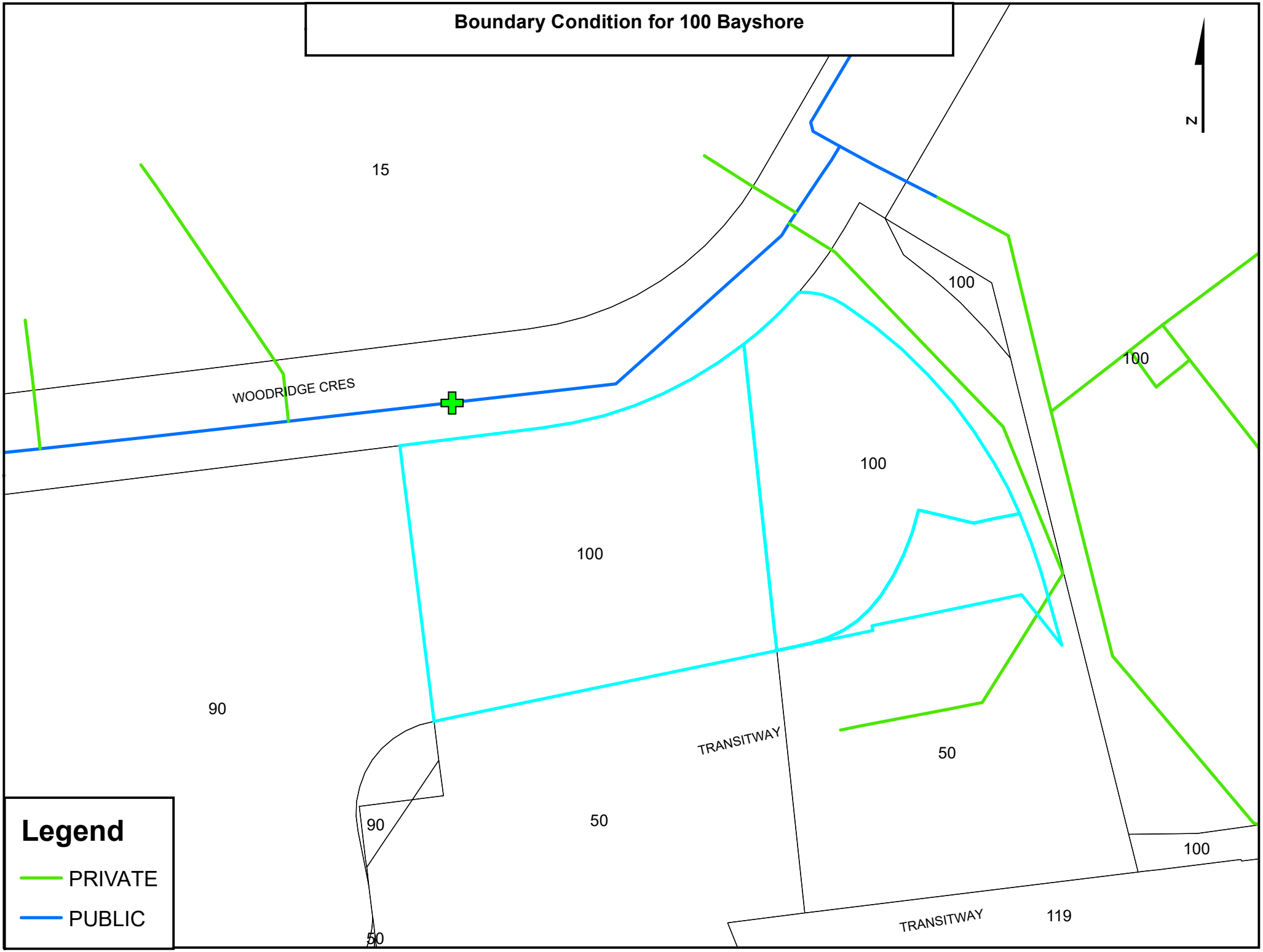
Combustibility:		
Non-Combustible	-25%	
Limited Combustible	-15%	
Combustible	0%	
Free Burning	15%	
Rapid Burning	25%	

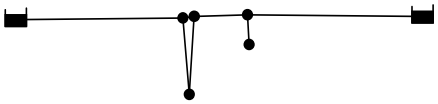
Sprinkler Protection:		
Complete Sprinkler System	-50%	(max.)
NFPA 13 Conformed	-30%	(max.)
If Water Supply Standard for Both System and Fire Lines	-10%	additional (max.)
Fully Supervised System	-10%	additional (max.)
None	0%	

		East Tower			**West Tower**		
Type of Construction Coefficient		Fire Resistive			Fire Resistive		
		0.6			0.6		
Gross Floor Area (m^2)		10,926	m2		10,915	m2	
Fire Flow, F		13,798	L/min		13,791	L/min	
F(round)		14,000	L/min		14,000	L/min	
Modification 1: Occupancy Combustibility		Limited Combustible			Limited Combustible		
		-15%			-15%		
Occupancy Credit		-2,100	L/min		-2,100	L/min	
F(mod1) = F(round) + Occupancy Credit		11,900	L/min		11,900	L/min	
Modification 2: Sprinkler Protection		Complete Sprinkler System			Complete Sprinkler System		
		-50%			-50%		
Additional Credit		If Water Supply Standard for Both System and Fire Lines			If Water Supply Standard for Both System and Fire Lines		
		0			0		
Sprinkler Credit		-5,950	L/min		-5,950	L/min	
F(mod2) = F(mod1) + Sprinkler Credit		5,950	L/min		5,950	L/min	
Modification 3: Exposure Distances							
North		>45	m	0%	>45	m	0%
South		>45	m	0%	>45	m	0%
East		>45	m	0%	20	m	15%
West		20	m	15%	>45	m	0%
		Total %	=	15%	Total %	=	15%
		11,900	x	0.15	11,900	x	0.15
Exposure Credit		1,785	L/min		1,785	L/min	
F(mod3) = F(mod2) + Exposure Credit		7,735	L/min		7,735	L/min	
F(final) = F(mod3) rounded to nearest 1,000L/min		**8,000**	**L/min**		**8,000**	**L/min**	
F(final)		**133**	**L/s**		**133**	**L/s**	

	East Tower	West Tower		
Average Daily Demand	1.51	1.35	2.86	L/s
Maximum Daily Demand	3.77	3.38	7.15	L/s
Peak Hour Demand	8.28	7.44	15.72	L/s
Fire Flow	133	133		L/s

Max Day + Fire Flow	140.48	L/s


Boundary Condition for 100 Bayshore
N
15
WOODRIDGE CRES
100
100
100
100
90
TRANSITWAY
50
90
50
50
TRANSITWAY
119
100
Legend
PRIVATE
PUBLIC



```
******************************************************************************
*                                E P A N E T                                 *
*                      Hydraulic and Water Quality                           *
*                      Analysis for Pipe Networks                            *
*                           Version 2.0                                      *
******************************************************************************

Input File: 100 Bayshore Dr - Model.net
```

Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
10	SiteConnection1	SiteConnection2	3	203
11	SiteConnection1	Building	13	150
12	SiteConnection2	Building	13	150
13	SiteConnection2	SiteHydrantConnection	8	203
14	SiteHydrantConnection	EastSupply	50	203
15	WestSupply	SiteConnection1	50	203
16	SiteHydrantConnection	SiteHydrant	6	150

Node Results:

Node ID	Demand LPS	Head m	Pressure m	Quality	
SiteConnection2	0.00	115.20	51.50	0.00	
Building	2.86	115.20	51.20	0.00	
SiteConnection1	0.00	115.20	51.50	0.00	
SiteHydrantConnection	0.00	115.20	51.50	0.00	
SiteHydrant	0.00	115.20	48.20	0.00	
WestSupply	-1.49	115.20	0.00	0.00	Reservoir
EastSupply	-1.37	115.20	0.00	0.00	Reservoir

Link Results:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
10	0.06	0.00	0.00	Open
11	1.43	0.08	0.12	Open
12	1.43	0.08	0.12	Open
13	-1.37	0.04	0.02	Open
14	-1.37	0.04	0.02	Open
15	1.49	0.05	0.02	Open
16	0.00	0.00	0.00	Open

```
******************************************************************************
*                            E P A N E T                                     *
*                     Hydraulic and Water Quality                            *
*                     Analysis for Pipe Networks                             *
*                          Version 2.0                                       *
******************************************************************************

Input File: 100 Bayshore Dr - Model.net
```

Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
10	SiteConnection1	SiteConnection2	3	203
11	SiteConnection1	Building	13	150
12	SiteConnection2	Building	13	150
13	SiteConnection2	SiteHydrantConnection	8	203
14	SiteHydrantConnection	EastSupply	50	203
15	WestSupply	SiteConnection1	50	203
16	SiteHydrantConnection	SiteHydrant	6	150

Node Results:

Node ID	Demand LPS	Head m	Pressure m	Quality	
SiteConnection2	0.00	106.27	42.57	0.00	
Building	15.72	106.24	42.24	0.00	
SiteConnection1	0.00	106.27	42.57	0.00	
SiteHydrantConnection	0.00	106.28	42.58	0.00	
SiteHydrant	0.00	106.28	39.28	0.00	
WestSupply	-8.17	106.30	0.00	0.00	Reservoir
EastSupply	-7.55	106.30	0.00	0.00	Reservoir

Link Results:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
10	0.31	0.01	0.00	Open
11	7.86	0.44	2.75	Open
12	7.86	0.44	2.75	Open
13	-7.55	0.23	0.49	Open
14	-7.55	0.23	0.49	Open
15	8.17	0.25	0.57	Open
16	0.00	0.00	0.00	Open

```
******************************************************************************
*                            E P A N E T                                     *
*                     Hydraulic and Water Quality                            *
*                     Analysis for Pipe Networks                             *
*                          Version 2.0                                       *
******************************************************************************

Input File: 100 Bayshore Dr - Model.net
```

Link - Node Table:

Link ID	Start Node	End Node	Length m	Diameter mm
10	SiteConnection1	SiteConnection2	3	203
11	SiteConnection1	Building	13	150
12	SiteConnection2	Building	13	150
13	SiteConnection2	SiteHydrantConnection	8	203
14	SiteHydrantConnection	EastSupply	50	203
15	WestSupply	SiteConnection1	50	203
16	SiteHydrantConnection	SiteHydrant	6	150

Node Results:

Node ID	Demand LPS	Head m	Pressure m	Quality	
SiteConnection2	0.00	80.86	17.16	0.00	
Building	140.48	78.79	14.79	0.00	
SiteConnection1	0.00	80.86	17.16	0.00	
SiteHydrantConnection	0.00	81.09	17.39	0.00	
SiteHydrant	0.00	81.09	14.09	0.00	
WestSupply	-73.05	82.50	0.00	0.00	Reservoir
EastSupply	-67.43	82.50	0.00	0.00	Reservoir

Link Results:

Link ID	Flow LPS	Velocity m/s	Unit Headloss m/km	Status
10	2.81	0.09	0.08	Open
11	70.24	3.97	158.92	Open
12	70.24	3.97	158.91	Open
13	-67.43	2.08	28.29	Open
14	-67.43	2.08	28.29	Open
15	73.05	2.26	32.81	Open
16	0.00	0.00	0.00	Open

December 12th, 2019

WSP
Stephen McCaughey
Stephen.Mccaughey@wsp.com

Re: 100 Bayshore – Fire flow's and confirmation of building classification

Good morning Stephen,

As per your request, This letter is to confirm that both buildings proposed for 100 Bayshore – lob B will have a building classification of O.B.C. 3.2.2.42 Group C, Any Height, Any area, Sprinklered

O.B.C. 3.2.2.42 Group C, Any Height, Any area, Sprinklered

(1) Except as permitted by Articles 3.2.2.43. to 3.2.2.48., a building classified as Group C other than a retirement home shall conform to Sentence (2).

(2) Except as permitted by Article 3.2.2.16., the buildingreferred to in Sentence (1) shall be of noncombustible construction, and,

(a) except as permitted by Sentence 3.2.2.7.(1), the building shall be sprinklered,

***(b)** except as permitted by Sentence (3), **floor assemblies shall be fire separationswith a fire-resistance rating not less than 2 h**,*

(c) mezzanines shall have a fire-resistance rating not less than 1 h, and

(d) loadbearing walls, columns and arches shall have a fire-resistance rating not less than that required for the supported assembly.

***(3)** In a building that contains dwelling units that have more than 1 storey, subject to the requirements of Sentence 3.3.4.2.(3), the floor assemblies, including floors over basements, which are entirely contained within these dwelling units, shall have a fire-resistance rating not less than 1 h but need not be constructed as fire separations.*

HOBIN
ARCHITECTURE

Partners
Barry J. Hobin
OAA, FRAIC, Hon. Fellow AIA
William A. Davis
OAA, MRAIC, Associate AIA
Gordon Lorimer
OAA, FRAIC, Associate AIA
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hobinarc.com

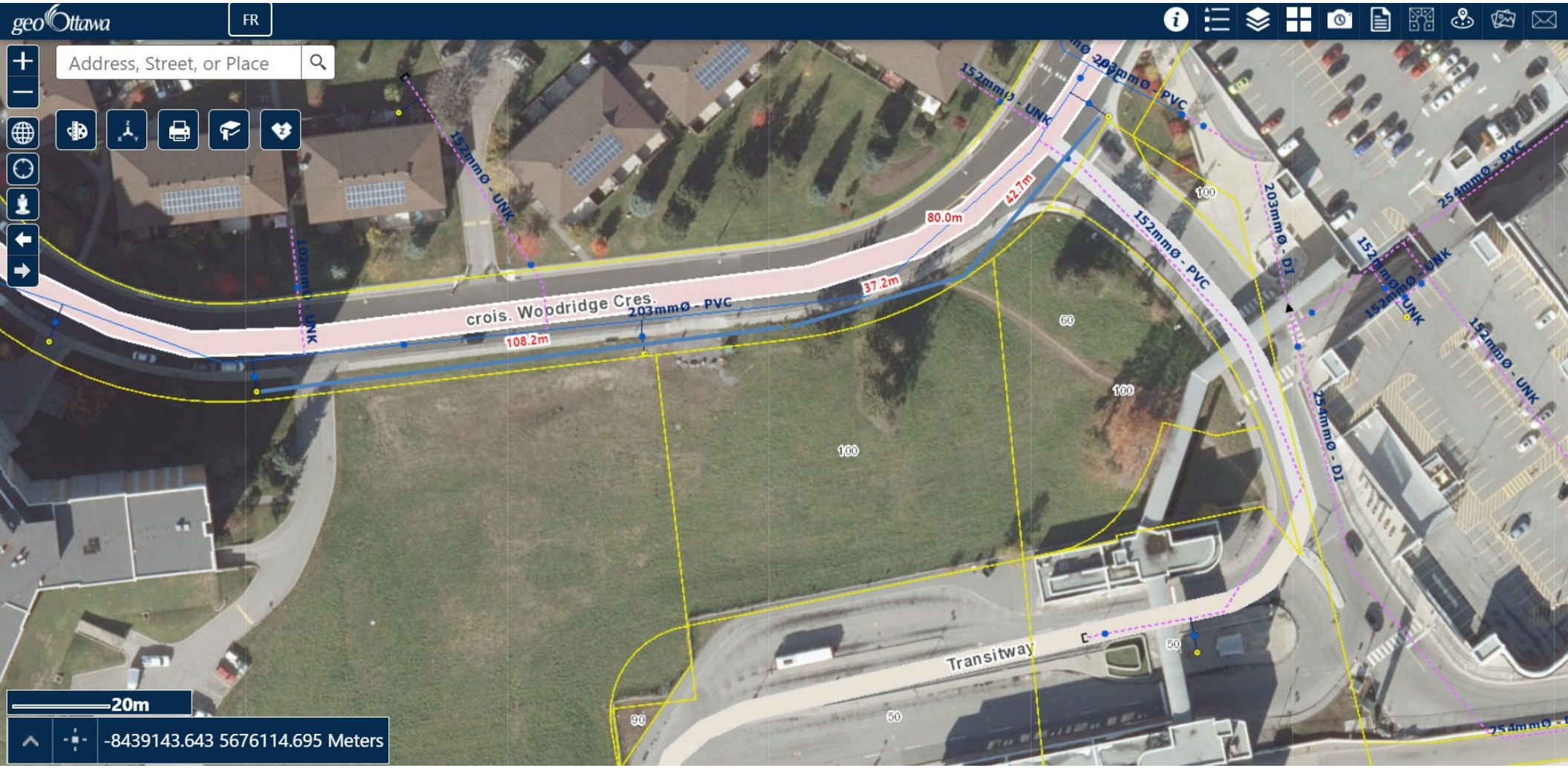
HOBIN
ARCHITECTURE

The current assumption is that the the floors, structural frame and the roofs will be constructed of non-combustible construction and composed of poured concrete which will meet the fire resistance ratings requirements described in the O.B.C. section stated above.

Please let me know if you require any more information with respect to the fire rating requirements for this proposed development.

Regards,

Patrick Bisson, OAA


geoOttawa
FR
Address, Street, or Place
152mmØ - UNK
102mmØ - UNK
80.0m
42.7m
37.2m
crois. Woodridge Cres.
203mmØ - PVC
108.2m
203mmØ - PVC
152mmØ - PVC
203mmØ - DI
254mmØ - PVC
152mmØ - UNK
254mmØ - DI
Transitway
100
60
50
90
20m
-8439143.643 5676114.695 Meters

B SANITARY DEMAND

SANITARY SEWAGE - PROPOSED SANITARY FLOWS

Average Wastewater Flows:		
Residential	280	L/c/d
Commercial	28,000	L/gross ha/d
Institutional	28,000	L/gross ha/d
Light Industrial	35,000	L/gross ha/d
Heavy Industrial	55,000	L/gross ha/d

Peaking Factors:	
Residential	Harmon Equation
Commercial (>20% Area)	1.5
Commercial (<20% Area)	1.0
Institutional (>20% Area)	1.5
Institutional (<20% Area)	1.0
Industrial	Per Figure in Appendix 4-B

$$P.F. = 1 + \left(\frac{14}{4 + \left(\frac{P}{1000}\right)\text{^}0.5}\right) * \text{K}$$

where P = population
K = correction factor = 0.8

Peak Extraneous Flows:	
Infiltration Allowance	0.33
Less than 10 ha:	
Foundation Drain Allowance	5.0
10 ha - 100 ha:	
Foundation Drain Allowance	3.0
Greater than 100 ha:	
Foundation Drain Allowance	2.0

Unit Type	**Person Per Unit**	East Tower	West Tower	
Single Family	3.4			
Semi-detached	2.7			
Duplex	2.3			
Townhouse (row)	2.7			
Apartments:				
Bachelor	1.4			
1 Bedroom	1.4	212	190	
2 Bedroom	2.1	80	72	
3 Bedroom	3.1			
Average Apt.	1.8			
	Total Population:	**465**	**417**	**882**
	Total Area (ha):	**0.3**	**0.3**	**0.6**

	Phase 1 (East Tower)			**Phase 2 (West Tower)**		
Demand Type=	**Residential**			**Residential**		
Average Day Demand=	280		L/c/d	280		L/c/d
Population	**465**			**417**		
Site Area (ha)	**0.300**			**0.300**		
	280	x	465	280	x	417
	130,144		L/day	116,816		L/day
Average Daily Flow=	**1.51**		**L/s**	**1.35**		**L/s**
Peaking Factor Type	Residential			Residential		
Peaking Factor	3.39		*Max=4	3.41		*Max=4
	3.39	x	average day	3.41	x	average day
	3.39	x	130,144	3.41	x	116,816
	441,482		L/day	398,427		L/day
Peak Daily Flow=	**5.11**		**L/s**	**4.61**		**L/s**
Infiltration Allowance	0.33			0.33		
	0.33	x	lot area	0.33	x	lot area
	0.33	x	0.3	0.33	x	0.3
Peak Extraneous Flow=	**0.10**		**L/s**	**0.10**		**L/s**
	peak daily flow	+	extraneous flow	peak daily flow	+	extraneous flow
	5.11	+	0.10	4.61	+	0.10
Total Peak Design Flow=	**5.21**		**L/s**	**4.71**		**L/s**

Phase 1 (East Tower) - Peak Design Flow =	**5.21**	**L/s**
Phase 2 (West Tower) - Peak Design Flow =	**4.71**	**L/s**
Total Peak Design Flow =	**9.92**	**L/s**

WSP Canada

Sanitary Sewer Design Sheet

LOCATION			RESIDENTIAL AREA AND POPULATION						INSTITUTIONAL		C+I+I	INFILTRATION			TOTAL FLOW (l/s)	PIPE					
CONNECTIONS	FROM MH	TO MH	AREA (Ha)	POP.	CUMMULATIVE AREA (Ha)	CUMMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (Ha)	ACCU. AREA (Ha)	PEAK FLOW (l/s)	TOTAL AREA (Ha)	ACCU. AREA (Ha)	INFILT. FLOW (l/s)		LENGTH (m)	DIA. (mm)	SLOPE (%)	CAP. (FULL) (l/s)	PIPE CAPACITY USED (%)	VEL. (FULL) (m/s)
Building	Building	SANMH2	0.6	882	0.60	882	3.4	9.72	0.000	0.000	0.00	0.6	0.6	0.20	**9.92**	3.8	150.00	1.1%	**15.63**	**63.5%**	0.88
	SANMH2	SANMH1	0.0	0	0.60	882	0.0	9.72	0.000	0.000	0.00	0.0	0.6	0.20	**9.92**	11.3	150.00	1.0%	**15.03**	**66.0%**	0.85

DESIGN PARAMETERS

Residential: 280 L/cap/d
Peak Factor = 3.4
Extraneous Flow = 0.33 l/s/ha
Minimum Velocity = 0.60 m/s
Manning's n = 0.013

Designed: Stephen McCaughey, P.Eng.

Checked: Ishaque Jafferjee, P.Eng.

Dwg. Reference:

PROJECT: 100 Bayshore Lot "B"

LOCATION: 100 Bayshore Dr., Lot B, Woodridge Cres., Ottawa, ON

File Ref.:

Date: April 2021

Sheet 1 of 1

WSP Canada

Sanitary Sewer Design Sheet

LOCATION			RESIDENTIAL AREA AND POPULATION						INSTITUTIONAL		C+I+I	INFILTRATION			TOTAL FLOW (l/s)	PIPE						MANHOLE	
CONNECTIONS	FROM MH	TO MH	AREA (Ha)	POP.	CUMMULATIVE AREA (Ha)	CUMMULATIVE POP.	PEAK FACT.	PEAK FLOW (l/s)	AREA (Ha)	ACCU. AREA (Ha)	PEAK FLOW (l/s)	TOTAL AREA (Ha)	ACCU. AREA (Ha)	INFILT. FLOW (l/s)		LENGTH (m)	DIA. (mm)	SLOPE (%)	CAP. (FULL) (l/s)	PIPE CAPACITY USED (%)	VEL. (FULL) (m/s)	UP INVERT (m)	DOWN INVERT (m)
Building	Building	SANMH2	0.6	882	0.60	882	3.4	9.72	0.000	0.000	0.00	0.6	0.6	0.20	**9.92**	7.7	150.00	1.0%	**15.52**	**63.9%**	0.88	62.85	62.77
	SANMH2	SANMH1	0.0	0	0.60	882	0.0	9.72	0.000	0.000	0.00	0.0	0.6	0.20	**9.92**	7.4	150.00	0.9%	**14.81**	**66.9%**	0.84	62.77	62.70

DESIGN PARAMETERS

Residential: 280 L/cap/d
Peak Factor = 3.4
Extraneous Flow = 0.33 l/s/ha
Minimum Velocity = 0.60 m/s
Manning's n = 0.013

Designed: Stephen McCaughey, P.Eng.

Checked: Ishaque Jafferjee, P.Eng.

Dwg. Reference:

PROJECT: 100 Bayshore Lot "B"

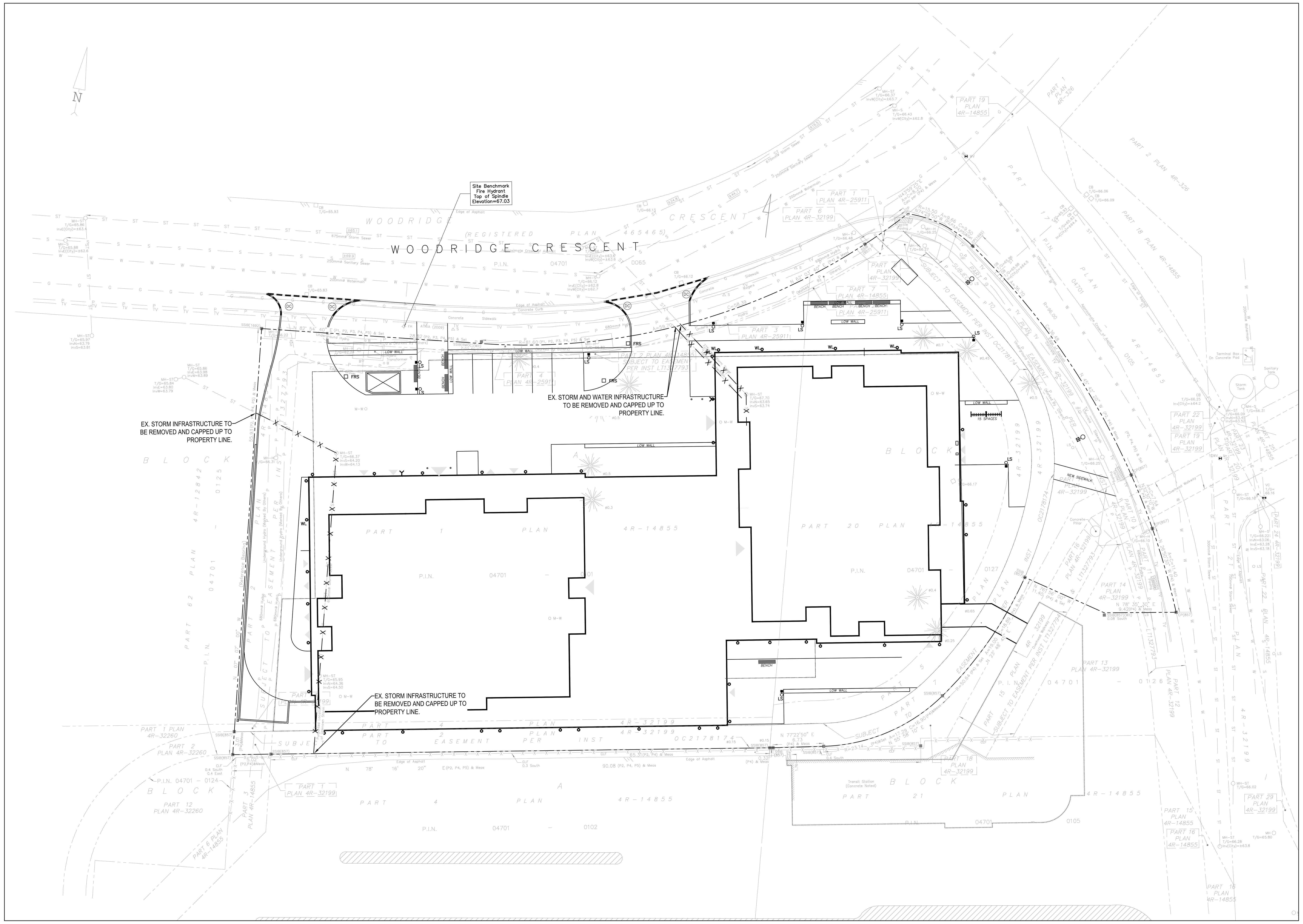
LOCATION: 100 Bayshore Dr., Lot B, Woodridge Cres., Ottawa, ON

File Ref.: 211-02810-00

Date: July 2021

Sheet 1 of 1

C SITE DRAWINGS



1 / C001 UTILITY REMOVAL PLAN

SCALE= 1:250

0 5m 10m 20m 25m

SCALE: 1:250

LEGEND

Symbol	Description
66.50	PROPOSED GRADE ELEVATION
66.50TC / 66.35	PROPOSED TOP AND BOTTOM OF CURB
STMH	PROPOSED STORM SEWER MANHOLE
SAMH	PROPOSED SANITARY SEWER MANHOLE
CBMH	PROPOSED CATCHBASIN MANHOLE
CB	PROPOSED CATCHBASIN
STM	PROPOSED STORM SEWER
SAN	PROPOSED SANITARY SEWER
W	PROPOSED WATER SERVICE LINE
	PROPOSED VALVE BOX
	PROPOSED REDUCER
FH	PROPOSED FIRE HYDRANT
DC	PROPOSED DEPRESSED CURB
X	SERVICES TO BE REMOVED
65.96	EXISTING GRADE ELEVATION
MH	EXISTING MANHOLE
CB	EXISTING CATCHBASIN
VB	EXISTING VALVE & BOX
FH	EXISTING FIRE HYDRANT
STM	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
W	EXISTING WATERMAIN
G	EXISTING GASMAIIN
TV	EXISTING CABLE
P	EXISTING HYDRO
	DRAINAGE AREA BOUNDARY
1 CONTROLLED A(ah) C	DRAINAGE AREA

KingSett CAPITAL

Ivanhoé Cambridge

PROJECT TEAM

ARCHITECT
HOBIN ARCHITECTURE
PATRICK BISSON
T613.238.7200

PLANING
Q9 Planning + Design
Christine McCuaig
T613.850.8345

CIVIL
WSP
STEPHEN McCAUGHEY
T613.690.3955

LANDSCAPE ARCHITECT
CSW LANDSCAPE ARCHITECTS LTD.
T613.729.4536

TRANSPORTATION
IBI GROUP
DAVID HOOK
T613.225.1311 ext: 64029

ENVIRONMENTAL
GRADIENT WIND ENGINEERING
JOSHUA FOSTER
T613-836-0634

no.	date	revision
2	2021-09-17	ISSUED FOR SPA REVISION 2
1	2021-07-23	ISSUED FOR SPA REVISION 1

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/ or omissions to the architect.

All contractors must comply with all pertinent codes and by-laws.

Do not scale drawings.

This drawing may not be used for construction until signed.

wsp

300-2611 QUEENSVIEW DRIVE
OTTAWA ONTARIO CANADA K2B 8K2
TEL.: 1-613-829-2800 | FAX: 1-613-829-8299 | WWW.WSPGROUP.COM

PROJECT/LOCATION:

100 BAYSHORE LOT "B"

WOODRIDGE CRESCENT

DRAWING TITLE:

CIVIL REMOVAL PLAN

DRAWN BY:	DATE:	SCALE:
B.N. / S.M.	SEPT 17, 2021	AS NOTED

PROJECT: 211-02810-00

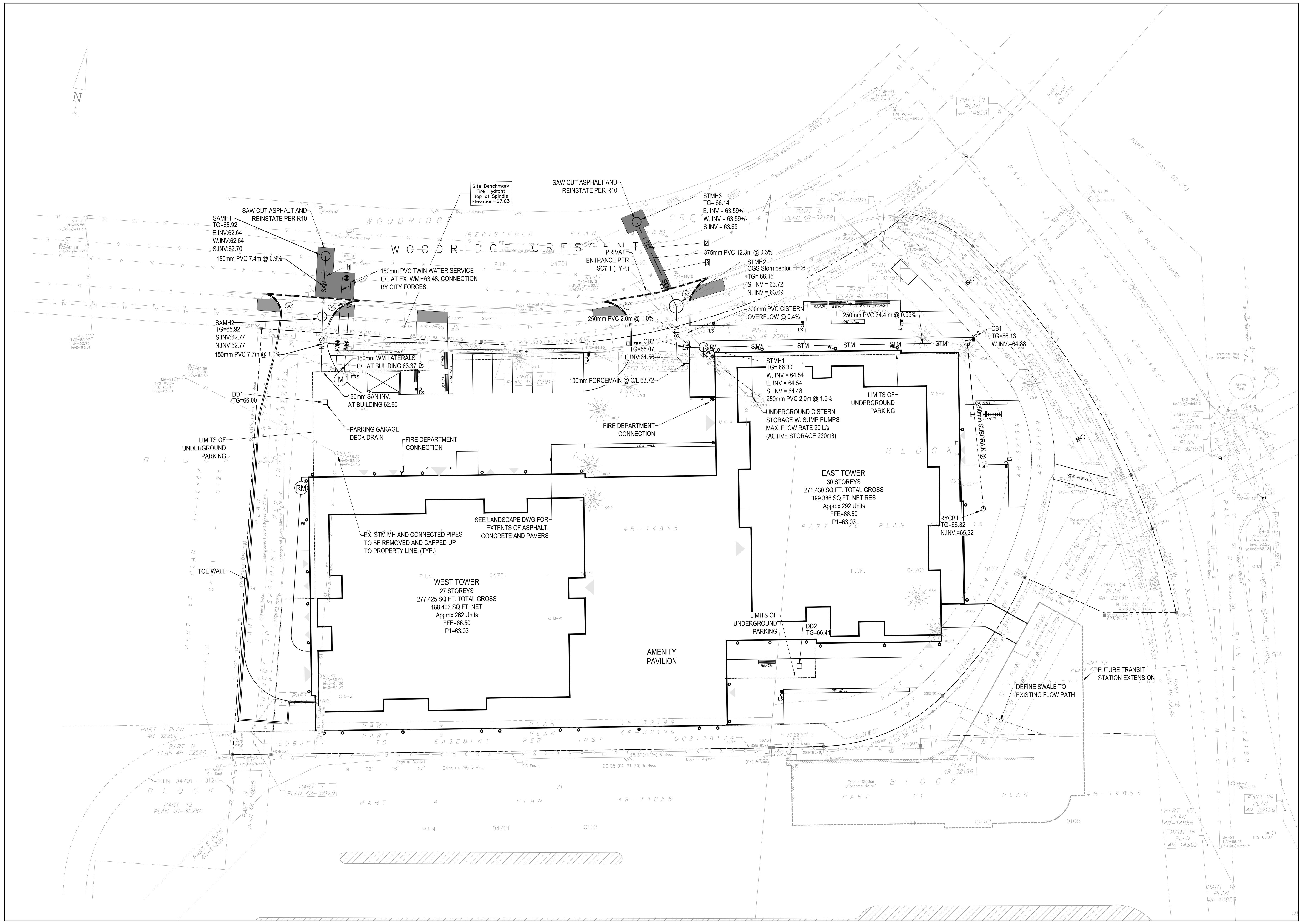
DRAWING NO.: C001

REVISION NO.:

D07-12-21-0057

CITY PLAN NO. 18477

None
None



LEGEND

- 66.50 — PROPOSED GRADE ELEVATION
- 66.50TC / 66.35 — PROPOSED TOP AND BOTTOM OF CURB
- STMH — PROPOSED STORM SEWER MANHOLE
- SAMH — PROPOSED SANITARY SEWER MANHOLE
- CBMH — PROPOSED CATCHBASIN MANHOLE
- CB — PROPOSED CATCHBASIN
- STM — PROPOSED STORM SEWER
- SAN — PROPOSED SANITARY SEWER
- W — PROPOSED WATER SERVICE LINE
- PROPOSED VALVE BOX
- PROPOSED REDUCER
- FH — PROPOSED FIRE HYDRANT
- DC — PROPOSED DEPRESSED CURB
- X — SERVICES TO BE REMOVED
- ×65.96 — EXISTING GRADE ELEVATION
- MH — EXISTING MANHOLE
- CB — EXISTING CATCHBASIN
- VB — EXISTING VALVE & BOX
- FH — EXISTING FIRE HYDRANT
- STM — EXISTING STORM SEWER
- SAN — EXISTING SANITARY SEWER
- W — EXISTING WATERMAIN
- G — EXISTING GASMAIIN
- TV — EXISTING CABLE
- P — EXISTING HYDRO
- DRAINAGE AREA BOUNDARY
- 1 CONTROLLED A(ah) C — DRAINAGE AREA

1 C002 SERVICING PLAN

SCALE= 1:250

0 5m 10m 20m 25m

SCALE: 1:250

NOTES: STORM SEWERS AND STRUCTURES

1. ALL STORM SEWER MATERIALS AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. PROVIDE CCTV INSPECTION REPORTS FOR ALL NEW STORM SEWERS, SERVICES AND CB LEADS.
2. STORM SEWERS 450mm DIAMETER AND SMALLER SHALL BE PVC SDR-35, WITH RUBBER GASKET PER CSA A-257.3.
3. STORM SEWER LARGER THAN 450mm SHALL BE REINFORCED CONCRETE CLASS 100.
4. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
5. ALL STORM MANHOLES TO BE AS PER STORM STRUCTURE TABLE.
6. ANY NEW OR EXISTING STORM SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR APPROVED BY THE ENGINEER.
7. ALL CATCHBASIN LEADS TO BE MINIMUM 200mm DIAMETER AT MINIMUM 1.0% SLOPE UNLESS OTHERWISE SPECIFIED.
8. STORM CATCHBASINS AS PER OPSD 705.010 AND FRAME/COVER AS PER CITY STANDARD DRAWINGS S19. STORM CBMH'S AS INDICATED IN TABLE WITH SUMP, ADJUSTMENT SECTIONS SHALL BE AS PER OPSD 704.010. REAR YARD CATCHBASINS PER S30 AND S31.
9. INSTALLATION OF FLOW CONTROL ICD'S TO BE VERIFIED BY QUALITY VERIFICATION ENGINEER RETAINED BY CONTRACTOR.
10. PROVIDE BACKWATER VALVE ON FOUNDATION DRAIN AT BUILDING PER S14.

NOTES: SANITARY SEWER AND MANHOLES

1. ALL SANITARY SEWER, SANITARY SEWER APPURTENANCES AND CONSTRUCTION METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. PROVIDE CCTV INSPECTION REPORTS FOR ALL NEW SANITARY PIPING.
2. SANITARY SEWER PIPE SIZE 150mm DIAMETER AND GREATER TO BE PVC SDR-35 (UNLESS SPECIFIED OTHERWISE) WITH RUBBER GASKET TYPE JOINTS IN CONFORMANCE WITH CSA B-182.2,3,4.
3. SEWER BEDDING AS PER CITY OF OTTAWA DETAIL S6.
4. ALL SANITARY MANHOLES 1200mm IN DIAMETER TO BE AS PER OPSD 701.01. FRAME AND COVER TO BE AS PER CITY OF OTTAWA STANDARD S25 AND S24.
5. MAINTENANCE HOLE BENCHING AND PIPE OPENING ALTERNATIVES AS PER THE OPSD 701.021
6. ANY SANITARY SEWER WITH LESS THAN 2.0m COVER REQUIRES THERMAL INSULATION AS PER CITY OF OTTAWA STANDARD W22, OR APPROVED BY THE ENGINEER.
7. PROVIDE BACKWATER VALVE AT BUILDING PER S14.1

NOTES: WATERMAIN

1. ALL WATERMAIN AND WATERMAIN APPURTANANCES, MATERIALS, CONSTRUCTION AND TESTING METHODS SHALL CONFORM TO THE CURRENT CITY OF OTTAWA AND MINISTRY OF ENVIRONMENT STANDARDS AND SPECIFICATIONS.
2. ALL WATERMAIN 300mm DIAMETER AND SMALLER TO BE POLY VINYL CHLORIDE (PVC) CLASS 150 DR 18 MEETING AWWA SPECIFICATION C900.
3. ALL WATERMAIN TO BE INSTALLED AT MINIMUM COVER OF 2.4m BELOW FINISHED GRADE. WHERE WATERMAINS CROSS OVER OTHER UTILITIES, A MINIMUM 0.30m CLEARANCE SHALL BE MAINTAINED; WHERE WATERMAINS CROSS UNDER OTHER UTILITIES, A MINIMUM 0.50m CLEARANCE SHALL BE MAINTAINED. WHERE THE MINIMUM SEPARATION CANNOT BE ACHIEVED, THE WATERMAIN SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARDS W25 AND W25.2. WHERE 2.4m MINIMUM DEPTH CANNOT BE ACHIEVED, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W22. WHERE A WATERMAIN IS IN CLOSE PROXIMITY TO AN OPEN STRUCTURE, THERMAL INSULATION SHALL BE PROVIDED AS PER CITY OF OTTAWA STANDARD W23.
4. CONCRETE THRUST BLOCKS AND MECHANICAL RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, BENDS, HYDRANTS, REDUCERS, ENDS OF MAINS AND CONNECTIONS 100mm AND LARGER, IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS W25.3 & W25.4.
5. CATHODIC PROTECTION REQUIRED FOR ALL IRON FITTINGS AS PER CITY OF OTTAWA STANDARD W40 & W42.
6. ALL VALVES AND VALVE BOXES AND CHAMBERS, HYDRANTS, AND HYDRANT VALVES AND ASSEMBLES SHALL BE INSTALLED AS PER CITY OF OTTAWA STANDARD
7. FIRE HYDRANT LOCATION AND INSTALLATION AS PER CITY OF OTTAWA STANDARD W18 & W19. CONTRACTOR TO PROVIDE FLOW TEST AND PAINTING OF NEW HYDRANT IN ACCORDANCE WITH CITY STANDARDS.
8. IF WATER MAIN MUST BE DEFLECTED TO MEET ALIGNMENT, ENSURE THAT THE AMOUNT OF DEFLECTION USED IS LESS THAN HALF THAT RECOMMENDED BY THE MANUFACTURER.

SAN STRUCTURE TABLE

STRUCTURE ID	TOP OF GRATE ELEVATION	INVERT IN			INVERT OUT	INSULATION REQUIRED ON OUTLET PIPE?	DESCRIPTION SIZE	OPSD	COVER	NOTES
SAMH1	65.92	62.70	62.64		62.64	N	1200mm DIA.	OPSD 701.010	S24	
SAMH2	65.92	62.77			62.77	N	1200mm DIA.	OPSD 701.010	S24	

STORM STRUCTURE TABLE

STRUCTURE ID	TOP OF GRATE ELEVATION	INVERT IN			INVERT OUT	INSULATION REQUIRED ON OUTLET PIPE?	DESCRIPTION SIZE	OPSD	COVER	NOTES
DD1	66.00					N				Parking garage deck drain
DD2	66.41					N				Parking garage deck drain
CB1	66.13	65.10			64.88	Y	600X600mm	OPSD 705.010	S19.1	
CB2	66.07				64.56	Y	600X600mm	OPSD 705.010	S19.1	
STMH1	66.30	64.54	64.54		64.48	Y	1200mm DIA.	OPSD 701.010	S24.1	
STMH2	66.15	63.72			63.69	N	1800mm DIA.	OPSD 701.012	Stormceptor	Model EF06
STMH3	66.14	63.59±	63.65		63.59±	N	1200mm DIA.	S12.2	S24.1	

PIPE CROSSING TABLE

		Obvert			Invert	
1	150mm SAN	62.88	0.50	Clearance Under	63.38	200mm Ex. WM
2	200mm Ex. WM	63.38	0.29	Clearance Under	63.67	375mm STM
3	250mm Ex. SAN	63.05	0.61	Clearance Under	63.66	250mm STM

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no.	date	revision
3	2021-09-17	ISSUED FOR SPA REVISION 2
2	2021-07-23	ISSUED FOR SPA REVISION 1
1	2021-04-28	ISSUED FOR SPA

It is the responsibility of the appropriate contractor to check and verify all dimensions on site and report all errors and/or omissions to the architect.

All contractors must comply with all pertinent codes and by-laws.

Do not scale drawings.

This drawing may not be used for construction until signed.

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PROJECT/LOCATION:
100 BAYSHORE LOT "B"
WOODRIDGE CRESCENT

DRAWING TITLE:
SERVICING PLAN

DRAWN BY:	DATE:	SCALE:
B.N. / S.M.	SEPT 17, 2021	AS NOTED

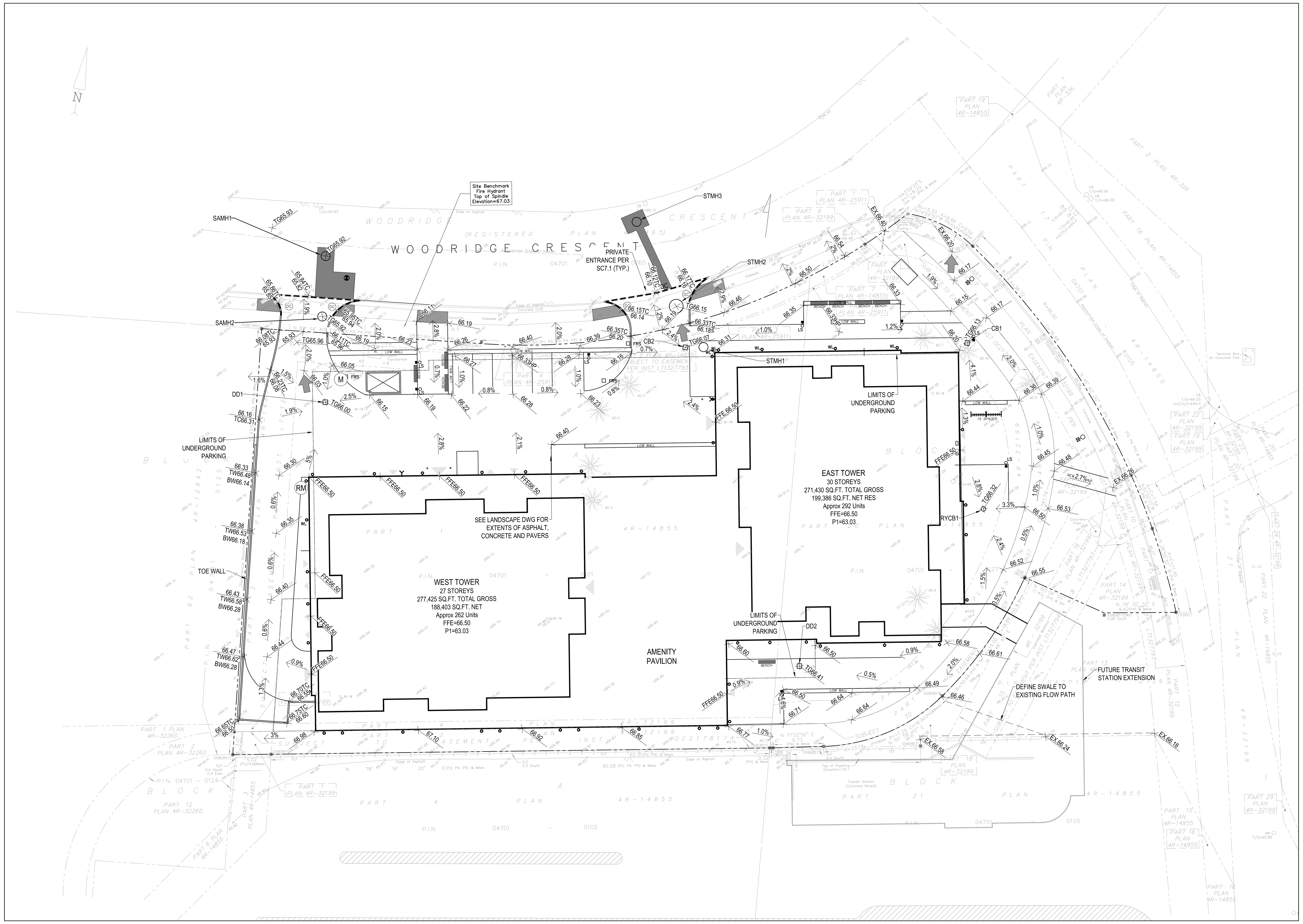
PROJECT: 211-02810-00

DRAWING NO.: C002

REVISION NO.:

CITY PLAN NO. 18477

None
None



1
C003
GRADING PLAN
SCALE= 1:250

0 5m 10m 20m 25m
SCALE: 1:250

LEGEND

- 66.50 PROPOSED GRADE ELEVATION
- 66.50TC / 66.35 PROPOSED TOP AND BOTTOM OF CURB
- STMH PROPOSED STORM SEWER MANHOLE
- SAMH PROPOSED SANITARY SEWER MANHOLE
- CBMH PROPOSED CATCHBASIN MANHOLE
- CB PROPOSED CATCHBASIN
- STM PROPOSED STORM SEWER
- SAN PROPOSED SANITARY SEWER
- W PROPOSED WATER SERVICE LINE
- PROPOSED VALVE BOX
- PROPOSED REDUCER
- FH PROPOSED FIRE HYDRANT
- DC PROPOSED DEPRESSED CURB
- X SERVICES TO BE REMOVED
- x65.96 EXISTING GRADE ELEVATION
- MH EXISTING MANHOLE
- CB EXISTING CATCHBASIN
- VB EXISTING VALVE & BOX
- FH EXISTING FIRE HYDRANT
- STM EXISTING STORM SEWER
- SAN EXISTING SANITARY SEWER
- W EXISTING WATERMAIN
- G EXISTING GASMAIIN
- TV EXISTING CABLE
- P EXISTING HYDRO
- DRAINAGE AREA BOUNDARY
- 1 CONTROLLED A(ah) C DRAINAGE AREA

NOTES: GENERAL

1. ALL SERVICES, MATERIALS, CONSTRUCTION METHODS AND INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND REGULATIONS OF THE: CITY OF OTTAWA STANDARD SPECIFICATIONS AND DRAWINGS, ONTARIO PROVINCIAL SPECIFICATION STANDARD SPECIFICATION (OPSS) AND ONTARIO PROVINCIAL STANDARD DRAWINGS (OPSD).
2. THE POSITION OF EXISTING POLE LINES, CONDUITS, WATERMAINS, SEWERS AND OTHER UNDERGROUND AND ABOVEGROUND UTILITIES, STRUCTURES AND APPURTENANCES IS NOT NECESSARILY SHOWN ON THE CONTRACT DRAWING, AND WHERE SHOWN, THE ACCURACY OF THE POSITION OF SUCH UTILITIES AND STRUCTURES IS NOT GUARANTEED. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SATISFY HIMSELF OF THE EXACT LOCATION OF ALL SUCH UTILITIES AND STRUCTURES, AND SHALL ASSUME ALL LIABILITY FOR DAMAGE TO THEM DURING THE COURSE OF CONSTRUCTION. ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF SUBJECT LANDS IS TO BE UNDERTAKEN AT CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST NOTIFY ALL EXISTING UTILITY COMPANY OFFICIALS FIVE (5) BUSINESS DAYS PRIOR TO START OF CONSTRUCTION AND HAVE ALL EXISTING UTILITIES AND SERVICES LOCATED IN THE FIELD OR EXPOSED PRIOR TO THE START OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO HYDRO, BELL, CABLE TV, AND CONSUMERS GAS LINES.
4. ALL TRENCHING AND EXCAVATIONS TO BE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS FOR CONSTRUCTION PROJECTS.
5. REFER TO ARCHITECTS PLANS FOR BUILDING DIMENSIONS, ELEVATIONS, LAYOUT AND DECK STRUCTURE. REFER TO LANDSCAPE PLAN FOR LANDSCAPED DETAILS AND OTHER RELEVANT INFORMATION. ALL INFORMATION SHALL BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
6. TOPOGRAPHIC SURVEY COMPLETED AND PROVIDED BY FARLEY, SMITH & DENIS SURVEYING LTD. DATED MAY 13, 2021. CONTRACTOR TO VERIFY IN THE FIELD PRIOR TO CONSTRUCTION OF ANY WORK AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
7. ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS.
8. ALL GROUND SURFACES SHALL BE EVENLY GRADED WITHOUT PONDING AREAS AND WITHOUT LOW POINTS EXCEPT WHERE APPROVED SWALE OR DRAIN OUTLETS ARE PROVIDED.
9. ALL EDGES OF DISTURBED PAVEMENT SHALL BE SAW CUT TO FORM A NEAT AND STRAIGHT LINE PRIOR TO PLACING NEW PAVEMENT. PAVEMENT REINSTATEMENT SHALL BE WITH STEP JOINTS OF 500MM WIDTH MINIMUM.
10. ALL DISTURBED AREAS OUTSIDE PROPOSED GRADING LIMITS TO BE RESTORED TO ORIGINAL ELEVATIONS AND CONDITIONS UNLESS OTHERWISE SPECIFIED. EXISTING PARKING LOT SHALL BE RE-ASPHALTED AT EXISTING GRADES EXCEPT AS NOTED TO EVEN OUT GRADES. ALL RESTORATION SHALL BE COMPLETED WITH THE GEOTECHNICAL REQUIREMENTS FOR BACKFILL AND COMPACTION.
11. ALL MATERIAL SUPPLIED AND PLACED FOR PARKING LOT AND ACCESS ROAD CONSTRUCTION SHALL BE TO OPSS STANDARDS AND SPECIFICATIONS UNLESS OTHERWISE NOTED. CONSTRUCTION TO OPSS 206, 310 & 314. MATERIALS TO OPSS 1001, 1003 & 1010.
12. ABUTTING PROPERTY GRADES TO BE MATCHED UNLESS NOTED OTHERWISE.
13. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE MUNICIPAL AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.
14. MINIMIZE DISTURBANCE TO EXISTING VEGETATION DURING THE EXECUTION OF ALL WORKS.
15. REMOVE FROM SITE ALL EXCESS EXCAVATED MATERIAL UNLESS OTHERWISE DIRECTED FROM THE ENGINEER. EXCAVATE AND REMOVE ALL ORGANIC MATERIAL AND DEBRIS LOCATED WITHIN THE PROPOSED BUILDING, PARKING AND ROADWAY LOCATIONS.
16. AT PROPOSED UTILITY CONNECTION POINTS AND CROSSINGS (I.E. STORM SEWER, SANITARY SEWER, WATER, ETC.) THE CONTRACTOR SHALL DETERMINE THE PRECISE LOCATION AND DEPTH OF EXISTING UTILITIES AND REPORT ANY DISCREPANCIES OR CONFLICTS TO THE ENGINEER BEFORE COMMENCING WORK.
17. SERVICE TRENCHES ON MUNICIPAL RIGHT OF WAY TO BE REINSTATED AS PER CITY OF OTTAWA DETAIL R10.
18. PRIOR TO CONSTRUCTION, A GEOTECHNICAL ENGINEER REGISTERED IN THE PROVINCE OF ONTARIO IS TO INSPECT ALL SUB-SURFACES FOR FOOTINGS, SERVICES AND PAVEMENT STRUCTURES.
19. FOR ANY SOILS RELATED INFORMATION, REFER TO THE GEOTECHNICAL INVESTIGATION REPORT BY GOLDER DATED MARCH 2021.
20. CONTRACTOR TO OBTAIN POST-CONSTRUCTION TOPOGRAPHIC SURVEY PERFORMED BY CERTIFIED OLS OR P.ENG. CONFIRMING COMPLIANCE WITH DESIGN GRADING AND SERVICING. SURVEY IS TO INCLUDE LOCATION AND INVERTS FOR BURIED UTILITIES.

PAVEMENT COMPONENT	
SUPERPAVE 12.5 SURFACE COURSE	50mm
SUPERPAVE 19.mm BASE COURSE	70mm
OPPS GRANULAR A BASE	150mm
OPPS GRANULAR B TYPE II SUBBASE	450mm

NOTES: PARKING LOT AND WORK IN PUBLIC RIGHTS OF WAY

1. CONTRACTOR TO OBTAIN ROAD CUT PERMIT PRIOR TO ROAD WORK AND REINSTATE ROAD CUTS AS PER CITY OF OTTAWA DETAIL R10.
2. REFER TO GEOTECHNICAL INVESTIGATION REPORT PREPARED BY GOLDER ASSOCIATES DATED MARCH 2021 FOR GEOTECHNICAL RECOMMENDATIONS.
3. CONTRACTOR TO PREPARE SUBGRADE, INCLUDING PROOFROLLING, TO THE SATISFACTION OF THE GEOTECHNICAL CONSULTANT PRIOR TO THE COMMENCEMENT OF PLACEMENT OF GRANULAR B MATERIAL.
4. FILL TO BE PLACED AND COMPACTED PER THE GEOTECHNICAL REPORT REQUIREMENTS.
5. CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR B MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF GRANULAR B MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
6. GRANULAR A MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR B PLACEMENT.
7. CONTRACTOR TO SUPPLY, PLACE AND COMPACT GRANULAR A MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF GRANULAR A MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE GRADATION REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
8. ASPHALT MATERIAL TO BE PLACED ONLY UPON APPROVAL BY THE GEOTECHNICAL CONSULTANT OF GRANULAR A PLACEMENT.
9. CONTRACTOR TO SUPPLY, PLACE AND COMPACT ASPHALT MATERIAL IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL CONSULTANT. CONTRACTOR TO PROVIDE CONSULTANT WITH SAMPLES OF ASPHALT MATERIAL FOR TESTING AND CERTIFICATION FROM THE GEOTECHNICAL CONSULTANT THAT THE MATERIAL MEETS THE REQUIREMENTS SPECIFIED IN THE GEOTECHNICAL REPORT.
10. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING LINE AND GRADE IN ACCORDANCE WITH THE PLANS, AND FOR PROVIDING THE CONSULTANT WITH VERIFICATION PRIOR TO PLACEMENT.
11. ALL EXCESS MATERIAL TO BE HAULED OFFSITE AND DISPOSED OF AT AN APPROVED DUMP SITE. SHOULD THE CONTRACTOR DISCOVER ANY HAZARDOUS MATERIAL, CONTRACTOR IS TO NOTIFY CONSULTANT. CONSULTANT TO DETERMINE APPROPRIATE DISPOSAL METHOD/LOCATION.
12. PAVEMENT STRUCTURE (MATERIAL TYPES AND THICKNESS) TO BE AS SPECIFIED IN THE GEOTECHNICAL REPORT.

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no.	date	revision
3	2021-09-17	ISSUED FOR SPA REVISION 2
2	2021-07-23	ISSUED FOR SPA REVISION 1
1	2021-04-28	ISSUED FOR SPA

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OTTAWA ONTARIO CANADA K2B 8K2
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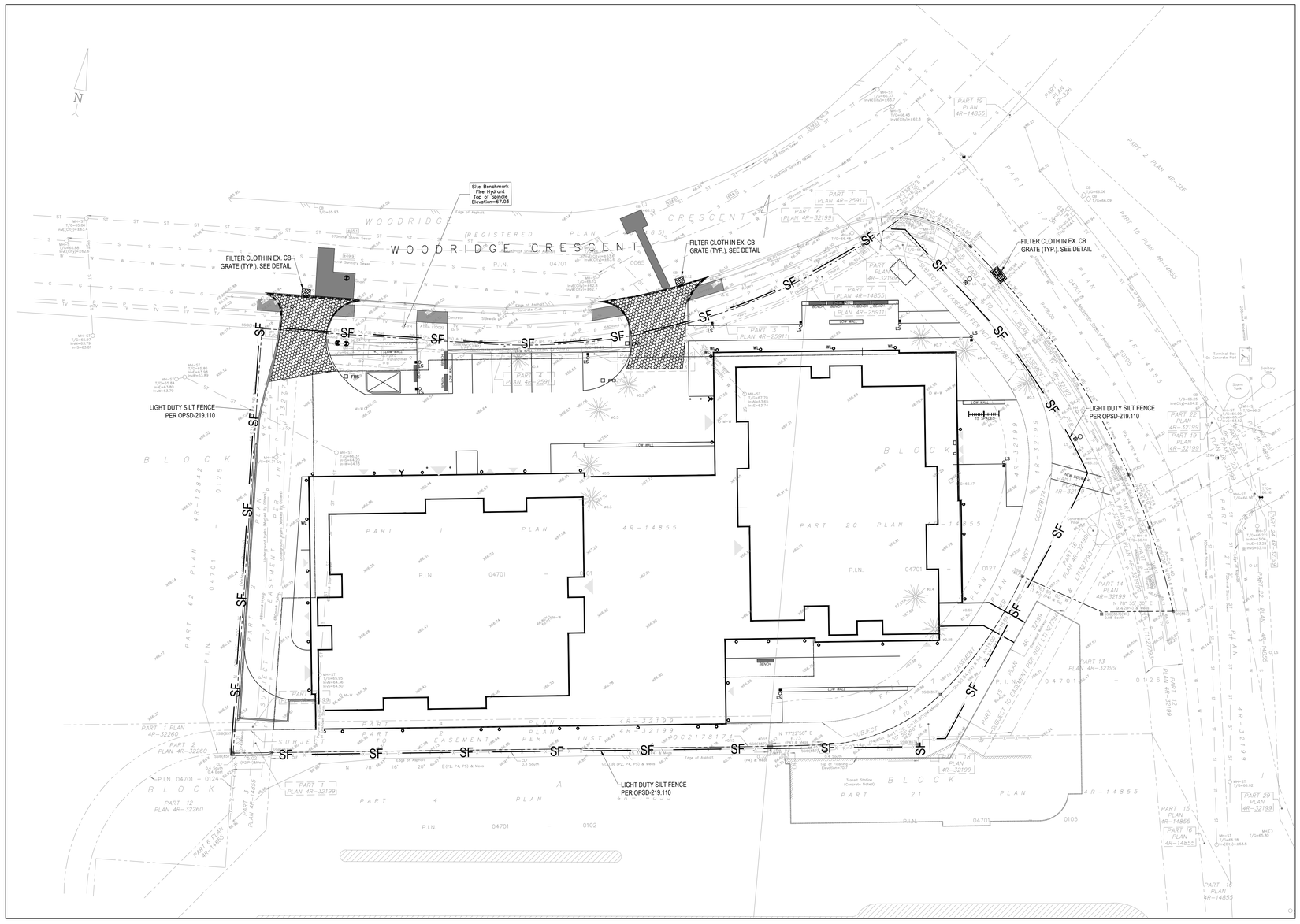
PROJECT/LOCATION:
100 BAYSHORE LOT "B"
WOODRIDGE CRESCENT

DRAWING TITLE:
GRADING PLAN

DRAWN BY: B.N. / S.M.
DATE: SEPT 17, 2021
SCALE: AS NOTED
PROJECT: 211-02810-00
DRAWING NO.: C003
REVISION NO.:

CITY PLAN NO. 18477

None
None



1 C004 EROSION AND SEDIMENT CONTROL PLAN
SCALE= 1:250

0 5m 10m 20m 25m
SCALE: 1:250

LEGEND

66.50	PROPOSED GRADE ELEVATION
66.50TC 66.35	PROPOSED TOP AND BOTTOM OF CURB
STMH	PROPOSED STORM SEWER MANHOLE
SAMH	PROPOSED SANITARY SEWER MANHOLE
CBMH	PROPOSED CATCHBASIN MANHOLE
CB	PROPOSED CATCHBASIN
STM	PROPOSED STORM SEWER
SAN	PROPOSED SANITARY SEWER
W	PROPOSED WATER SERVICE LINE
	PROPOSED VALVE BOX
	PROPOSED REDUCER
FH	PROPOSED FIRE HYDRANT
DC	PROPOSED DEPRESSED CURB
X	SERVICES TO BE REMOVED
65.96	EXISTING GRADE ELEVATION
MH	EXISTING MANHOLE
CB	EXISTING CATCHBASIN
VB	EXISTING VALVE & BOX
FH	EXISTING FIRE HYDRANT
STM	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
W	EXISTING WATERMAIN
G	EXISTING GASMAIIN
T V	EXISTING CABLE
P	EXISTING HYDRO
	DRAINAGE AREA BOUNDARY
1 CONTROLLED A(ah) C	DRAINAGE AREA

NOTES: EROSION AND SEDIMENT CONTROL

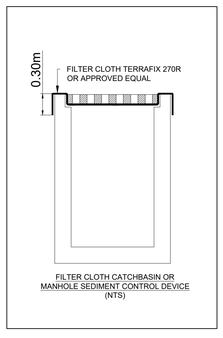
** CONTRACTOR IS RESPONSIBLE FOR ALL INSTALLATION, MONITORING, REPAIR AND REMOVAL OF ALL EROSION AND SEDIMENT CONTROL FEATURES. **

1. PRIOR TO START OF CONSTRUCTION:

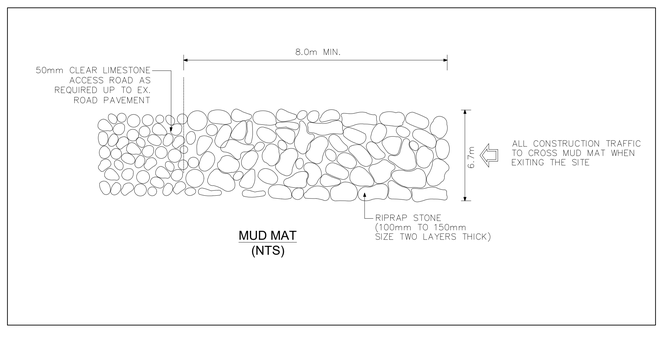
1.1. INSTALL SILT FENCE IN LOCATION SHOWN ON DWG C12.
1.2. INSTALL FILTER FABRIC OR SILT SACK FILTERS IN ALL THE CATCHBASINS AND MANHOLES TO REMAIN DURING CONSTRUCTION WITHIN THE SITE (SEE TYPICAL DETAIL).
1.3. INSTALL MUD MAT AT SITE ENTRANCES.

2. DURING CONSTRUCTION:

2.1. MINIMIZE THE EXTENT OF DISTURBED AREAS AND THE DURATION OF EXPOSURE AND IMPACTS TO EXISTING GRADING.
2.2. PERIMETER VEGETATION TO REMAIN IN PLACE UNTIL PERMANENT STORM WATER MANAGEMENT IS IN PLACE. OTHERWISE, IMMEDIATELY INSTALL SILT FENCE WHEN THE EXISTING SITE IS DISTURBED AT THE PERIMETER.
2.3. PROTECT DISTURBED AREAS FROM OVERLAND FLOW BY PROVIDING TEMPORARY SWALES TO THE SATISFACTION OF THE FIELD ENGINEER. TIE-IN TEMPORARY SWALE TO EXISTING CB'S AS REQUIRED.
2.4. DURING DEMOLITION OF EXISTING ON-SITE STORM INFRASTRUCTURE, PROTECT DOWNSTREAM SEWERS FROM UNFILTERED FLOW.
2.5. INSPECT SILT FENCES, FILTER FABRIC FILTERS AND CATCH BASIN SUMPS WEEKLY AND WITHIN 24 HOURS AFTER A STORM EVENT, CLEAN AND REPAIR WHEN NECESSARY.
2.6. DRAWING TO BE REVIEWED AND REVISED AS REQUIRED DURING CONSTRUCTION.
2.7. EROSION CONTROL FENCING TO BE ALSO INSTALLED AROUND THE BASE OF ALL STOCKPILES.
2.8. DO NOT LOCATE TOPSOIL PILES AND EXCAVATION MATERIAL CLOSER THAN 2.5m FROM ANY PAVED SURFACE, OR ONE WHICH IS TO BE PAVED BEFORE THE PILE IS REMOVED. ALL TOPSOIL PILES ARE TO BE SEEDED IF THEY ARE TO REMAIN ON SITE LONG ENOUGH FOR SEEDS TO GROW (LONGER THAN 30 DAYS).
2.9. CONTROL WIND-BLOWN DUST OFF SITE BY SEEDING TOPSOIL PILES AND OTHER AREAS TEMPORARILY (PROVIDE WATERING AS REQUIRED AND TO THE SATISFACTION OF THE ENGINEER).
2.10. NO ALTERNATE METHODS OF EROSION PROTECTION SHALL BE PERMITTED UNLESS APPROVED BY THE FIELD ENGINEER.
2.11. CITY ROADWAY AND SIDEWALK TO BE CLEANED OF ALL SEDIMENT FROM VEHICULAR TRACKING AS REQUIRED.
2.12. DURING WET CONDITIONS, TIRES OF ALL VEHICLES/EQUIPMENT LEAVING THE SITE ARE TO BE SCRAPED.
2.13. ANY MUD/MATERIAL TRACKED ONTO THE ROAD SHALL BE REMOVED IMMEDIATELY BY HAND OR RUBBER TIRE LOADER.
2.14. TAKE ALL NECESSARY STEPS TO PREVENT BUILDING MATERIAL, CONSTRUCTION DEBRIS OR WASTE BEING SPILLED OR TRACKED ONTO ABUTTING PROPERTIES OR PUBLIC STREETS DURING CONSTRUCTION AND PROCEED IMMEDIATELY TO CLEAN UP ANY AREAS SO AFFECTED.
2.15. ALL EROSION CONTROL STRUCTURE TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN STABILIZED EITHER BY PAVING OR RESTORATION OF VEGETATIVE GROUND COVER.
2.16. THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR ACKNOWLEDGES THAT FAILURE TO IMPLEMENT APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES MAY BE SUBJECT TO PENALTIES IMPOSED BY ANY APPLICABLE REGULATORY AGENCY.



FILTER CLOTH CATCHBASIN OR MANHOLE SEDIMENT CONTROL DEVICE (NTS)



MUD MAT (NTS)

None
None

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T613-836-0634

no.	date	revision
3	2021-09-17	ISSUED FOR SPA REVISION 2
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PROJECT/LOCATION:
100 BAYSHORE LOT "B"
WOODRIDGE CRESCENT

DRAWING TITLE:
EROSION AND SEDIMENT CONTROL PLAN

DRAWN BY:	DATE:	SCALE:
B.N. / S.M.	SEPT 17, 2021	AS NOTED

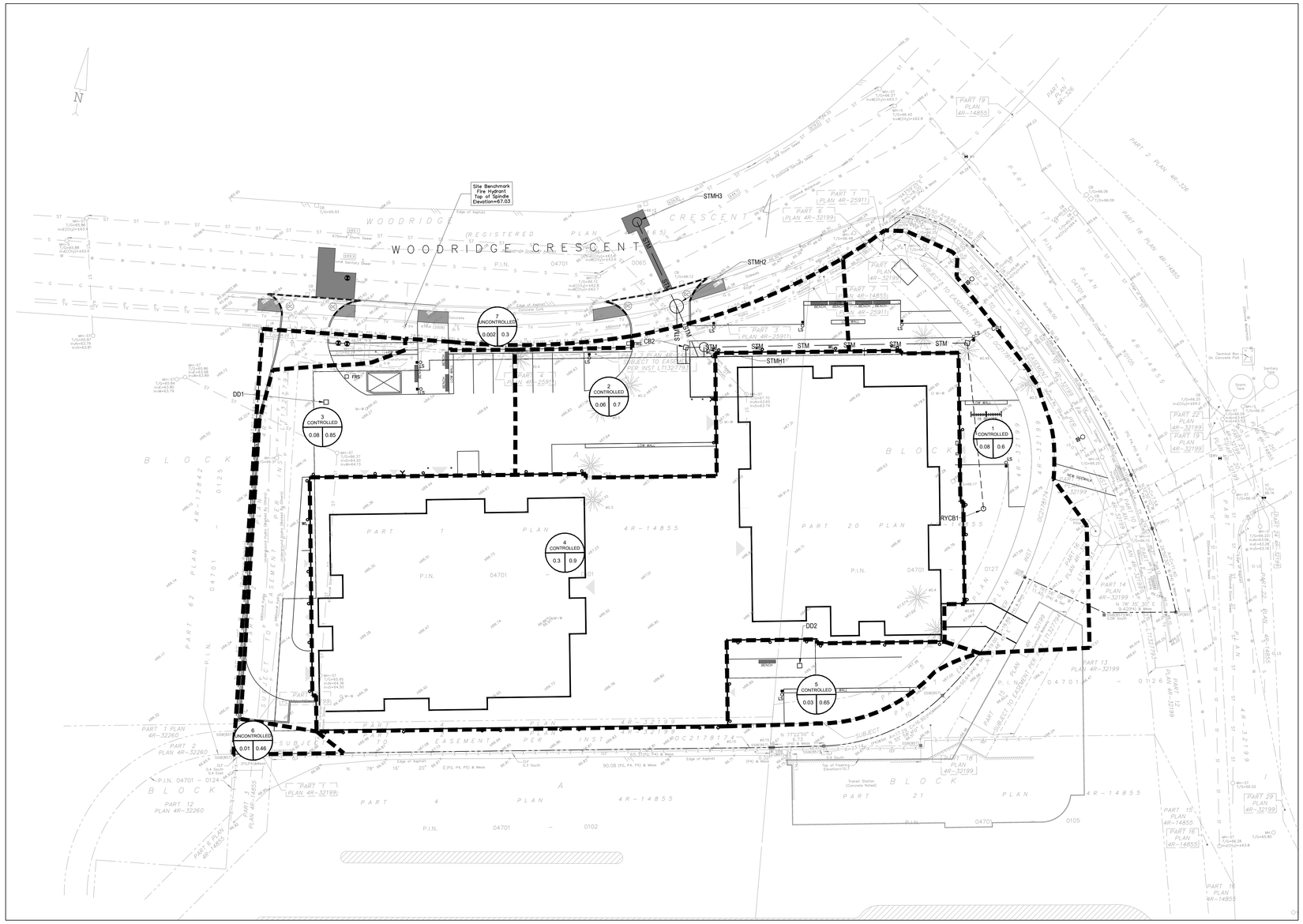
PROJECT: 211-02810-00

DRAWING NO.: C004

REVISION NO.:

D07-12-21-0057

CITY PLAN NO. 18477



1 C005 STORM DRAINAGE AREA PLAN

SCALE= 1:250

0 5m 10m 20m 25m

SCALE: 1:250

LEGEND

66.50	PROPOSED GRADE ELEVATION
66.50TC 66.35	PROPOSED TOP AND BOTTOM OF CURB
STMH	PROPOSED STORM SEWER MANHOLE
SAMH	PROPOSED SANITARY SEWER MANHOLE
CBMH	PROPOSED CATCHBASIN MANHOLE
CB	PROPOSED CATCHBASIN
STM	PROPOSED STORM SEWER
SAN	PROPOSED SANITARY SEWER
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65.96	EXISTING GRADE ELEVATION
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VB	EXISTING VALVE & BOX
FH	EXISTING FIRE HYDRANT
STM	EXISTING STORM SEWER
SAN	EXISTING SANITARY SEWER
W	EXISTING WATERMAIN
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T V	EXISTING CABLE
P	EXISTING HYDRO
	DRAINAGE AREA BOUNDARY
1 CONTROLLED A(ah) C	DRAINAGE AREA

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Ivanhoé Cambridge

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1613-836-0634

no.	date	revision
2	2021-09-17	ISSUED FOR SPA REVISION 2
1	2021-07-23	ISSUED FOR SPA REVISION 1

wsp

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TEL.: 1-613-829-2800 | FAX: 1-613-829-8299 | WWW.WSPGROUP.COM

PROJECT/LOCATION:

100 BAYSHORE LOT "B"

WOODRIDGE CRESCENT

DRAWING TITLE:

STORM DRAINAGE AREA PLAN

DRAWN BY:	DATE:	SCALE:
B.N. / S.M.	SEPT 17, 2021	AS NOTED

PROJECT: 211-02810-00

DRAWING NO.: C005

REVISION NO.:

None
None

D07-12-21-0057

CITY PLAN NO. 18477

D STORM SEWER DESIGN SHEET

WSP Canada

Storm Sewer Design Sheet

LOCATION					FLOW							PIPE							MANHOLE	
Catchment Area	FROM MH	TO MH	Coefficient	Area (m2)	Indiv. 2.78*AC	Cum. 2.78*AC	Time of Conc. (min.)	Rainfall Intensity (mm.hr)	Indiv. Area Flow (L/s)	Cum. Flow (L/s)	Controlled Cum. Flow (L/s)	Length (m)	Dia. (mm)	Slope (%)	Cap. (Full) (L/s)	Velocity (Full) (m/s)	Time of flow (min.)	Ratio (Q/Qfull)	UP INVERT (m)	DOWN INVERT (m)
1	CB1	STMH1	0.6	795	0.133	0.133	10.00	76.81	10.18	10.18	10.18	34.4	250	0.99%	59.12	1.2	0.48	17%	64.88	64.54
2	CB2	STMH1	0.7	612	0.119	0.119	10.00	76.81	9.15	9.15	9.15	2.0	250	1.00%	59.47	1.2	0.03	15%	64.56	64.54
	STMH1	BLDG*	0.0	0	0.000	0.252	10.26	75.81	0.00	19.08	19.08	2.0	250	1.50%	72.83	1.5	0.02	26%	64.48	64.45
3, 4 & 5	BLDG*	STMH2**	0.9	3791	0.949	1.200	10.06	76.58	72.63	91.91	*20.00*	1.5	100	0.00%	0.00	0.0	#DIV/0!	#DIV/0!	63.72	63.72
	STMH2**	STMH3	0.0	0	0.000	1.200	10.00	76.81	0.00	92.18	*20.00*	5.5	375	0.73%	149.52	1.4	0.07	13%	63.69	63.65

DESIGN PARAMETERS	
Q = 2.78CIA where,	Ottawa IDF Curve
Q = Peak flow in L/s	IDF Curve Equation (2yr storm)
A = Drainage area in ha	I = 732.951/(T+6.199)^0.81
I = Rainfall intensity (mm/hr)	Min. velocity = 0.8 m/s
C = Runoff coefficient	Manning 'n' = 0.013

Designed: Stephen McCaughey, P.Eng.	PROJECT: 100 Bayshore Lot "B"		
Checked: Ishaque Jafferjee, P.Eng.	LOCATION: 100 Bayshore Lot "B", Ottawa		
Dwg. Reference:	File Ref.: 211-02810-00	Date: Sept 2021	Sheet No. 1 of 3

Note:
* Roof storage and deck drains to cistern in building footprint. Sump pumps in cistern, forcemain discharge to STMH2 at max rate of 20 L/s
** Oil Grit Separator

WSP Canada

Storm Sewer Design Sheet

LOCATION					FLOW							PIPE							MANHOLE	
Catchment Area	FROM MH	TO MH	Coefficient	Area (m2)	Indiv. 2.78*AC	Cum. 2.78*AC	Time of Conc. (min.)	Rainfall Intensity (mm.hr)	Indiv. Area Flow (L/s)	Cum. Flow (L/s)	Controlled Cum. Flow (L/s)	Length (m)	Dia. (mm)	Slope (%)	Cap. (Full) (L/s)	Velocity (Full) (m/s)	Time of flow (min.)	Ratio (Q/Qfull)	UP INVERT (m)	DOWN INVERT (m)
1	CB1	STMH1	0.8	795	0.166	0.166	10.00	178.56	29.60	29.60	29.60	34.40	250	0.99%	59.12	1.2	0.48	50%	64.88	64.54
2	CB2	STMH1	0.9	612	0.149	0.149	10.00	178.56	26.58	26.58	26.58	2.00	250	1.00%	59.47	1.2	0.03	45%	64.56	64.54
	STMH1	BLDG*	0.0	0	0.000	0.315	10.26	176.18	0.00	55.43	55.43	2.00	250	1.50%	72.83	1.5	0.02	76%	64.48	64.45
3, 4 & 5	BLDG*	STMH2**	1.0	3791	1.054	1.369	10.07	177.96	187.55	243.54	*20.00*	1.50	100	0.00%	0.00	0.0	#DIV/0!	#DIV/0!	63.72	63.72
	STMH2**	STMH3	0.0	0	0.000	1.369	10.00	178.56	0.00	244.36	*20.00*	5.50	375	0.73%	149.52	1.4	0.07	13%	63.69	63.65

DESIGN PARAMETERS		Designed:	PROJECT:		
Q = 2.78CIA where,	Ottawa IDF Curve	Stephen McCaughey, P.Eng.	100 Bayshore Lot "B"		
Q = Peak flow in L/s	IDF Curve Equation (100yr storm)				
A = Drainage area in ha	I = 1735.688/(T+6.014)^0.82	Checked:	LOCATION:		
I = Rainfall intensity (mm/hr)	Min. velocity = 0.8 m/s	Ishaque Jafferjee, P.Eng.	100 Bayshore Lot "B", Ottawa		
C = Runoff coefficient	Manning 'n' = 0.013	Dwg. Reference:	File Ref.:	Date:	Sheet No.
			211-02810-00	Sept 2021	2 of 3

Note:
* Roof storage and deck drains to cistern in building footprint. Sump pumps in cistern, forcemain discharge to STMH2 at max rate of 20 L/s
** Oil Grit Separator

WSP Canada

Storm Sewer Design Sheet

LOCATION					FLOW							PIPE							MANHOLE	
Catchment Area	FROM MH	TO MH	Coefficient	Area (m2)	Indiv. 2.78*AC	Cum. 2.78*AC	Time of Conc. (min.)	Rainfall Intensity + 20% (mm.hr)	Indiv. Area Flow (L/s)	Cum. Flow (L/s)	Controlled Cum. Flow (L/s)	Length (m)	Dia. (mm)	Slope (%)	Cap. (Full) (L/s)	Velocity (Full) (m/s)	Time of flow (min.)	Ratio (Q/Qfull)	UP INVERT (m)	DOWN INVERT (m)
1	CB1	STMH1	0.8	795	0.166	0.166	10.00	214.27	35.52	35.52	35.52	34.40	250	0.99%	59.12	1.2	0.48	60%	64.88	64.54
2	CB2	STMH1	0.9	612	0.149	0.149	10.00	214.27	31.90	31.90	31.90	2.00	250	1.00%	59.47	1.2	0.03	54%	64.56	64.54
	STMH1	BLDG*	0.0	0	0.000	0.315	10.26	211.42	0.00	66.52	66.52	2.00	250	1.50%	72.83	1.5	0.02	91%	64.48	64.45
3, 4 & 5	BLDG*	STMH2**	1.0	3791	1.054	1.369	10.07	213.55	225.06	292.25	*20.00*	1.50	100	0.00%	0.00	0.0	#DIV/0!	#DIV/0!	63.72	63.72
	STMH2**	STMH3	0.0	0	0.000	1.369	10.00	214.27	0.00	293.23	*20.00*	5.50	375	0.73%	149.52	1.4	0.07	13%	63.69	63.65

DESIGN PARAMETERS		Designed:	PROJECT:	
Q = 2.78CIA where,	Ottawa IDF Curve	Stephen McCaughey, P.Eng.	100 Bayshore Lot "B"	
Q = Peak flow in L/s	IDF Curve Equation (100yr storm)			
A = Drainage area in ha	I = 1735.688/(T+6.014)^0.82	Checked:	LOCATION:	
I = Rainfall intensity (mm/hr)	Min. velocity = 0.8 m/s	Ishaque Jafferjee, P.Eng.	100 Bayshore Lot "B", Ottawa	
C = Runoff coefficient	Manning 'n' = 0.013	Dwg. Reference:	File Ref.: 211-02810-00 / Date: Sept 2021 / Sheet No. 3 of 3	

Note:
* Roof storage and deck drains to cistern in building footprint. Sump pumps in cistern, forcemain discharge to STMH2 at max rate of 20 L/s
** Oil Grit Separator

STORAGE VOLUME REQUIRED (2-YEAR and 100-YEAR STORMS)

C_{AVG} = 0.83 (2-year)
C_{AVG} = 1.00 (100-year)
Time Interval = 5 (mins)
Drainage Area = 0.51980 (hectares)

	Release Rate = 20.0 (L/sec) Return Period = 2 (years) IDF Parameters, A = 732.951 , B = 0.810 (I = A/(T_c+C) , C = 6.199					Release Rate = 20.0 (L/sec) Return Period = 100 (years) IDF Parameters, A = 1735.69 , B = 0.820 (I = A/(T_c+C) , C = 6.014				
Time (min)	**Intensity, I (mm/hr)**	**Peak Flow (L/s)**	**Release Rate (L/s)**	**Storage Rate (L/s)**	**Storage Volume (m^3)**	**Intensity, I (mm/hr)**	**Peak Flow (L/s)**	**Release Rate (L/s)**	**Storage Rate (L/s)**	**Storage Volume (m^3)**
0	167.2	200.7	20.0	180.7	0.00	398.6	576.0	20.0	556.0	0.00
5	103.6	124.3	20.0	104.3	31.29	242.7	350.7	20.0	330.7	99.22
10	76.8	92.2	20.0	72.2	43.31	178.6	258.0	20.0	238.0	142.82
15	61.8	74.1	20.0	54.1	48.72	142.9	206.5	20.0	186.5	167.84
20	52.0	62.4	20.0	42.4	50.94	120.0	173.3	20.0	153.3	184.00
25	45.2	54.2	20.0	34.2	51.31	103.8	150.1	20.0	130.1	195.10
30	40.0	48.1	20.0	28.1	50.51	91.9	132.8	20.0	112.8	202.96
35	36.1	43.3	20.0	23.3	48.89	82.6	119.3	20.0	99.3	208.59
40	32.9	39.4	20.0	19.4	46.67	75.1	108.6	20.0	88.6	212.61
45	30.2	36.3	20.0	16.3	43.99	69.1	99.8	20.0	79.8	215.41
50	28.0	33.7	20.0	13.7	40.97	64.0	92.4	20.0	72.4	217.25
55	26.2	31.4	20.0	11.4	37.65	59.6	86.2	20.0	66.2	218.32
60	24.6	29.5	20.0	9.5	34.11	55.9	80.8	20.0	60.8	218.77
65	23.2	27.8	20.0	7.8	30.37	52.6	76.1	20.0	56.1	218.70
70	21.9	26.3	20.0	6.3	26.46	49.8	71.9	20.0	51.9	218.18
75	20.8	25.0	20.0	5.0	22.41	47.3	68.3	20.0	48.3	217.29
80	19.8	23.8	20.0	3.8	18.24	45.0	65.0	20.0	45.0	216.07
85	18.9	22.7	20.0	2.7	13.96	43.0	62.1	20.0	42.1	214.56
90	18.1	21.8	20.0	1.8	9.59	41.1	59.4	20.0	39.4	212.80
95	17.4	20.9	20.0	0.9	5.13	39.4	57.0	20.0	37.0	210.81
100	16.7	20.1	20.0	0.1	0.59	37.9	54.8	20.0	34.8	208.63
105	16.1	19.4	20.0	-0.6	-4.01	36.5	52.7	20.0	32.7	206.26
110	15.6	18.7	20.0	-1.3	-8.67	35.2	50.9	20.0	30.9	203.74
115	15.0	18.1	20.0	-1.9	-13.39	34.0	49.1	20.0	29.1	201.06
120	14.6	17.5	20.0	-2.5	-18.16	32.9	47.5	20.0	27.5	198.25
Max =					**51.31**					**218.77**

Notes

1) Peak flow is equal to 2.78 x C x I x A
2) Intensity, $I = A/(Tc+C)^B$
3) Release Rate = Min (Release Rate, Peak Flow)
4) Storage Rate = Peak Flow - Release Rate
5) Storage = Time x Storage Rate
6) Maximum Storage = Max Storage Over Time

E CORRESPONDENCES

McCaughey, Stephen

Subject: FW: Pre-Consultation Follow-Up: 100 Bayshore Drive
Attachments: Plans & Study List.pdf; design_brief_TOR_100 Bayshore.pdf

From: "McCreight, Laurel" <Laurel.McCreight@ottawa.ca>
Date: March 3, 2021 at 9:55:19 AM EST
To: Christine McCuaig <christine@q9planning.com>
Subject: Pre-Consultation Follow-Up: 100 Bayshore Drive

Hi Christine,

Please refer to the below regarding the Pre-Application for 100 Bayshore Drive for a Site Plan Control Application for a residential development containing two high-rise towers. I have also attached the required Plans & Study List for application submission.

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

Planning / Urban Design

- A Design Brief is required for the site plan control application. The Terms of Reference is attached for convenience.
    - Please note a secondary wind study is required for the application. Please refer to the Terms of Reference of the wind study for details.
    - The preliminary wind study prepared for the OPA and rezoning identifies a number of areas that will experience rather windy conditions.
    - The detailed design should respond and mitigate such conditions to the extent possible.
    - The secondary wind study should confirm the adequacy of the design measures.
- The site is not within a Design Priority Area. However, as identified in the zoning exception, the applicant is required to visit the Urban Design Review Panel (UDRP) for formal approval.
- Please contact udrp@ottawa.ca for any questions regarding UDRP.
- Regarding the detailed design:
    - Please investigate possible architectural and landscaping measures to mitigate wind impacts/improve conditions in the public realm as well as at the roof top patio.
        - Some refined sculpting at the building corners and Tower A may be helpful.
    - The front yard of the site should be designed as a welcoming pedestrian forecourt through landscaping details where vehicular functions are accommodated but not dominating.
        - Considerations should be given to paving the entire area with interlocks, using depressed curbs, and locating parking only on one side of the central pedestrian walkway.
    - The entrances of both towers should be treated equally within the pedestrian forecourt through landscape design.
    - Please provide details of the parking lot screens.
    - Considerations may be given to refining the building facades to display some commercial characteristics.
    - Considerations should be given to exterior lighting.
- Cash-in-lieu of Parkland will be required.
- Please consult the new Draft Official Plan for emerging directions.

- Please refer to the recently approved Bird-Friendly Design Guidelines.
- LRT Proximity Study – Confirm details with File Lead prior to application submission. In process of reviewing Stage 2 requirements.

- You are encouraged to contact the Ward Councillor, Councillor Theresa Kavanagh, about the proposal.

    - It is recommended to reach out to the Councillor to discuss the working group as required per the direction of Council.

    - I would be happy to attend this meeting as well.

Engineering

- All exterior light fixtures must be included and approved as part of the site plan approval. Therefore, the lights must be clearly identified by make, model and part number. 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). In order to satisfy these criteria, the applicant must provide certification from an acceptable professional engineer. The location of all exterior fixtures, a table showing the fixture types (including make, model, part number), and the mounting heights must be included on a plan

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

Ottawa Sewer Design Guidelines (October 2012)
Ottawa Design Guidelines – Water Distribution (2010)
Geotechnical Investigation and Reporting Guidelines for Development Applications in the City of Ottawa (2007)
City of Ottawa Slope Stability Guidelines for Development Applications (revised 2012)
City of Ottawa Environmental Noise Control Guidelines (January, 2016)
City of Ottawa Park and Pathway Development Manual (2012)
City of Ottawa Accessibility Design Standards (2012)
Ottawa Standard Tender Documents (latest version)
Ontario Provincial Standards for Roads & Public Works (2013)

Record drawings and utility plans are also available for purchase from the City (Contact the City's Information Centre by email at InformationCentre@ottawa.ca or by phone at (613) 580- 2424 x.44455).

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

The IDF information derived from the Meteorological Services of Canada rainfall data, taken from the MacDonald Cartier Airport, collected 1966 to 1997.
The existing storm system in the RoW was built pre-1970, as such the post-development peak flow rate for storm events up to and including the 100 year event will need to be controlled to the 2 year pre-development storm event. Runoff will need to be detained onsite to control all storm events, up to and including the 100 year event, with an allowable release rate calculated based on the peak flow for the pre-development 2 year event.
The pre-development runoff coefficient or a maximum equivalent 'C' of 0.5, whichever is less (§ 8.3.7.3).
A calculated time of concentration (cannot be less than 10 minutes).
Redevelopment will be expected to provide water quality protection at an enhanced level (minimum 80% TSS removal), as per the RVCA.

The proposed sanitary flows need to be provided to the City to confirm capacity / identify the impact on the downstream West Nepean Collector.

Deep Services (Storm, Sanitary & Water Supply)

- Provide existing servicing information and the recommended location for the proposed connections. Services should ideally be grouped in a common trench to minimize the number of road cuts.
- Connections to trunk sewers and easement sewers are typically not permitted.
- Provide information on the monitoring manhole requirements – should be located in an accessible location on private property near the property line (ie. Not in a parking area).
- Review provision of a high-level sewer.
- Provide information on the type of connection permitted
  - Sewer connections to be made above the springline of the sewermain as per:
    - Std Dwg S11.1 for flexible main sewers – connections made using approved tee or wye fittings.
    - Std Dwg S11 (For rigid main sewers) – lateral must be less that 50% the diameter of the sewermain,
    - Std Dwg S11.2 (for rigid main sewers using bell end insert method) – for larger diameter laterals where manufactured inserts are not available; lateral must be less that 50% the diameter of the sewermain,
    - Connections to manholes permitted when the connection is to rigid main sewers where the lateral exceeds 50% the diameter of the sewermain. – Connect obvert to obvert with the outlet pipe unless pipes are a similar size.
    - No submerged outlet connections.

Please refer to ISDTB – 2014-2: individual residential facilities with a basic day demand greater than 50 m3/day shall be connected with a minimum of two water services, separated by an isolation valve, to avoid the creation of a vulnerable service area.

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

- Location of service
- Type of development and the amount of fire flow required (as per FUS, 1999).
- Average daily demand:____l/s.
- Maximum daily demand:____l/s.
- Maximum hourly daily demand:____l/s.
- Note that if Accora Village is proposed to re-develop in its entirety, the proponent may be required to (or may consider) modelling the loop along Woodridge Crescent to provide sub-division level details above.

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

- Please refer to Ontario Regulation 153/04:
  - "the date the last work on all of the records review, interviews and site reconnaissance required for the phase one environmental site assessment that is the subject of the report was done is no later than 18 months before the submission of the record of site condition or the commencement of the phase two environmental site assessment" and

"the date the last work on all of the planning the site investigation, conducting the site investigation and reviewing and evaluating the information gathered through the site investigation required for the phase two environmental site assessment that is the subject of the report was done is no later than 18 months before the submission of the record of site condition or the commencement of the risk assessment".

MOECC ECA Requirements

Please note that an ECA is not required for zoning amendment however the following applies to the Site Plan Control process:

An MOECC Environmental Compliance Approval (Municipal/Private Sewage Works) will be required for the proposed development where the storm sewer network is designed to service more than one lot or parcel of land. The proposed development boundary appears to include two parcels of land.

Although not required for the rezoning amendment, please note that for Site Plan Control, there is an existing public STM sewer running through the site. Please identify the easement associated with this sewer and provide details of how this will be taken into consideration in the proposed design.

Although not required for the rezoning amendment, please note that for Site Plan Control, please ensure that all easements within the property and adjacent to the subject property are identified on the drawing set and please provide details for all easements identified.

Please contact Infrastructure Project Manager Ahmed Elsayed for follow-up questions.

Transportation

- Please submit an addendum/memo to the Transportation Impact Assessment previously provided.
- A noise study is required.

Please contact Transportation Project Manager, Mike Giampa for follow-up questions.

Other

Please refer to the links to "Guide to preparing studies and plans" and fees for general information. Additional information is available related to building permits, development charges, and the Accessibility Design Standards. Be aware that other fees and permits may be required, outside of the development review process. You may obtain background drawings by contacting informationcentre@ottawa.ca.

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

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

Regards,
Laurel

Laurel McCreight MCIP, RPP
Planner
Development Review West
Urbaniste
Examen des demandes d'aménagement ouest

City of Ottawa | Ville d'Ottawa

613.580.2424 ext./poste 16587
ottawa.ca/planning / ottawa.ca/urbanisme

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Description:

A Design Brief is the core submission document that illustrates how the development is designed to work with its existing and planned context, to improve its surroundings and also demonstrate how the proposal supports the overall goals of the Official Plan, relevant secondary plans, Council approved plans and design guidelines. The purpose of the Terms of Reference is to assist the applicant to organize and substantiate the design justification in support of the proposed development and to assist staff and the public in the review of the proposal.

Authority to Request a Design Brief:

The *Planning Act* gives municipalities the authority to require that a Design Brief be prepared. Under Sections 22(4), (5) and Section 41(4) of the *Planning Act*, a Council has the authority to request such other information or material that the authority needs in order to evaluate and make a decision on an application. Section 5.2.6 of the Official Plan sets out the general requirement for a Design Brief.

Preparation:

The Design Brief should be signed by an urban designer, licenced architect, landscape architect, or a full member of the Canadian Institute of Planners.

When Required:

A Design Brief is required for a Site Plan Control planning application.

A Scoped Design Brief* is required when the following planning applications are applied for and not accompanied by a Site Plan Control application:

- Official Plan Amendment
- Zoning By-law Amendment (exception: a change in use which does not result in an increase in height or massing)

The requirement and scope of a Design Brief will be determined at the formal pre-application consultation meeting. Should an application be required to go to the Urban Design Review Panel (UDRP), the Design Brief may be submitted as part of the submission materials to the panel.

Contents for Design Brief Submissions:

A Design Brief will contain and/or address the points identified during the pre-consultation meeting. Failure to address the critical elements identified in the pre-consultation meeting may result in the application being considered incomplete.

** A Scoped Design Brief is composed of:*

- *Section 1 should be combined into the Planning Rationale submission, and*
- *Section 2 items will be confirmed in the pre-application consultation meeting.*

SECTION 1 Note: This section will be combined with the Planning Rationale report.

Application Submission:

Not Required	Required	
☐	☒	State the: type of application, legal description, municipal address, purpose of the application and provide an overall vision statement and goals for the proposal.

Response to City Documents:

Not Required	Required	
☐	☒	State the Official Plan land use designation for the subject property and demonstrate how the proposal conforms to the Official Plan as it relates to the design of the subject site. Reference specific policy numbers from the Official Plan to show consistency. Justify areas of non-compliance and explain why there is non-compliance.
☐	☒	State the applicable plans which apply to the subject proposal: community design plan, secondary plan, concept plan and design guideline. Reference the relevant design related polices within the applicable plans/guidelines and provide a comprehensive analysis as to how the proposed development incorporates the objectives or why it does not incorporate the objectives.

Context Plan:

Not Required	Required	
☐	☒	Provide a contextual analysis that discusses/illustrates abutting properties, key destinations and linkages within a 100 meter radius (a larger radius may be requested for larger/more complex projects), such as transit stations, transportation networks for cars, cyclists, and pedestrians, focal points/nodes, gateways; parks/open spaces, topography, views towards the site, the urban pattern (streets, blocks), future and current proposals (if applicable), public art and heritage resources.
☐	☒	Photographs to illustrate existing site conditions and surrounding contexts. Include a map pinpointing (with numbers) where each photo is taken and correspond these numbers with the site photos. Arrows illustrating the direction the photo is taken is also useful.

Note:
Although zoning has already been approved, it is still useful include a broader area context in the submission, including pedestrian connections, parks and open spaces, and different uses.

SECTION 2

Design Proposal:
The purpose of the Design Proposal is to show the building elevations, exterior details, transitions in form, treatment of the public realm and compatibility with adjacent buildings, using 3-D models, illustrations, diagrams, plans, and cross sections. Referencing Official Plan, Section 5.2.1, as determined at time of pre-application consultation meeting, submissions will need to address the following in the form of labelled graphics and written explanation:

Massing and Scale

Not Required	Required	
		Images which show: Building massing – from:
☐	☐	• at least two sides set within it current context (showing the entire height and width of the building) **OR**
☐	☒	• all four sides set within it current context (showing the entire height and width of the building).
		Views – of the entire block, from:
☐	☐	• at least two perspectives to show how the proposed building is set within its current context **OR**
☐	☒	• all four perspectives to show how the proposed building is set within its current context.
☐	☒	Building transition – to adjacent uses, with labelled explanation of the transition measures used.
☐	☒	Grading – if grades are an issue.
☐	☒	Alternative building massing – additional imagery and site layouts considered and provide justification for the ultimate proposal sought.

Public Realm

Not Required	Required	
		Labelled graphics and a written explanation which show:
☐	☒	Streetscape – cross sections which illustrate the street design and right of way (referencing the City's design manuals).
☐	☒	Relationship to the public realm – illustrating how the first few storeys of the proposed development responds to and relates to the existing context (e.g. through a podium plan and first floor plan). This is to include detailed explanation on: • Architectural responses • Landscaping details • Public art features (in accordance with Official Plan, Section 4.11) • For developments in Design Priority Areas, detail the building and site features, (in accordance with Official Plan, Section 4.11) which will enhance the public realm. Provide explanation for features which are not provided.

Building Design

Not Required	Required	
☐	X	Labelled graphics (e.g. building elevations and floor plans) and a written explanation which document the proposed exterior architectural details and design (in accordance with Official Plan, Section 5.2.1).
☐	X	For high-rise development applications, detail the building design and massing and scale elements and how they relate to the proposed high-rise development (in accordance with Official Plan, Section 5.2.1).

Sustainability

Not Required	Required	
☐	X	Any sustainable design features to be incorporated, such as green roofs or walls, sun traps, reflective or permeable surfaces.

Heritage

Not Required	Required	
X	☐	How the building relates to the historic details, materials, site and setting of any existing historic resources on or adjacent to the subject property (if applicable).

Additional Contents:

Some proponents may be requested to provide submission material which complements the Design Brief. These additional requirements could be incorporated into the Design Brief submission for ease of review. These will be identified at the time of application consultation meeting:

- X Site Plan
- X Landscape Plan
- X Plan showing existing and proposed servicing
- X Shadow Analysis
- X Wind Analysis

Submission Requirements

- Six hard copies and one digital copy

APPLICANT'S STUDY AND PLAN IDENTIFICATION LIST

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

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

S/A	Number of copies	ENGINEERING		S/A	Number of copies
S	3	1. Site Servicing Plan	2. Site Servicing Study	S	3
S	3	3. Grade Control and Drainage Plan	4. Geotechnical Study	S	3
	2	5. Composite Utility Plan	6. Groundwater Impact Study		3
	3	7. Servicing Options Report	8. Wellhead Protection Study		3
S	4	9. Transportation Impact Assessment (TIA)	10.Erosion and Sediment Control Plan	S	3
S	3	11.Storm water Management Report	12.Hydro geological and Terrain Analysis		3
S	3	13.Water Main Protection and Contingency Plan	14.Noise and vibration Study	S	3
	PDF only	15.Roadway Modification Functional Design	16.LRT Proximity Study	S	3

S/A	Number of copies	PLANNING / DESIGN / SURVEY		S/A	Number of copies
	15	17.Draft Plan of Subdivision	18.Plan Showing Layout of Parking Garage	S	2
	5	19.Draft Plan of Condominium	20.Planning Rationale	S	3
S	10	21.Site Plan	22.Minimum Distance Separation (MDS)		3
	15	23.Concept Plan Showing Proposed Land Uses and Landscaping	24.Agrology and Soil Capability Study		3
	3	25.Concept Plan Showing Ultimate Use of Land	26.Cultural Heritage Impact Statement		3
S	3	27.Landscape Plan	28.Archaeological Resource Assessment Requirements: **S** (site plan) **A** (subdivision, condo)		3
S	1	29.Survey Plan	30.Shadow Analysis	S	3
S	3	31.Architectural Building Elevation Drawings (dimensioned)	32.Design Brief (includes the Design Review Panel Submission Requirements)	S	Available online
S	3	33.Wind Analysis			

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

S/A	Number of copies	ADDITIONAL REQUIREMENTS		S/A	Number of copies
S	1	44. Applicant's Public Consultation Strategy (may be provided as part of the Planning Rationale)	45. Site Lighting Plan & Certificate	S	1

Meeting Date: February 17, 2021 Application Type: *Site Plan Control*

File Lead (Assigned Planner): Laurel McCreight Infrastructure Approvals PM: Ahmed Elsayed

Site Address (Municipal Address): 100 Bayshore Drive *Preliminary Assessment: 1☐ 2☐ 3☐ 4☐ 5

*One (1) indicates that considerable major revisions are required before a planning application is submitted, while five (5) suggests that proposal appears to meet the City's key land use policies and guidelines. **This assessment is purely advisory and does not consider technical aspects of the proposal or in any way guarantee application approval.**

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

McCaughey, Stephen

From: Elsayed, Ahmed <ahmed.elsayed@ottawa.ca>
Sent: Monday, March 15, 2021 10:20 AM
To: McCaughey, Stephen
Cc: McCreight, Laurel
Subject: RE: 100 Bayshore Drive - Inquiries for Site Plan Application

Hi Stephen,

Thanks for your follow up, about the Sanitary, there is no issue with the flows shown below, as for water, it takes 10 business days for IPU to get to us.

I will keep you posted.

Ahmed

From: McCaughey, Stephen <Stephen.Mccaughey@wsp.com>
Sent: Monday, March 15, 2021 9:38 AM
To: Elsayed, Ahmed <ahmed.elsayed@ottawa.ca>
Cc: McCreight, Laurel <Laurel.McCreight@ottawa.ca>
Subject: FW: 100 Bayshore Drive - Inquiries for Site Plan Application

Hi Ahmed,

Just touching base from my inquiry last Monday, are there any questions or further information you need for water boundary conditions and sanitary capacity?

Thank you,

Stephen McCaughey, P.Eng.
T +1 613-690-3955 (Direct)
T +1 613-829-2800 (Office)

From: McCaughey, Stephen
Sent: Monday, March 08, 2021 2:38 PM
To: ahmed.elsayed@ottawa.ca
Subject: 100 Bayshore Drive - Inquiries for Site Plan Application

Hi Ahmed,

Wanted to inquire regarding civil servicing capacity for this 100 Bayshore Dr. site we had a pre-consultation meeting with Laurel McCreight on.

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

Location of service see attached (note conceptual servicing using older architectural site plan for reference, proposed location of services however is still valid)

Type of development and the amount of fire flow required (as per FUS, 1999). 8,000 L/min (133 L/s) based on letter from the Architect confirming fire resistive construction. This justification was previously presented for the site with the rezoning application.

Average daily demand: 2.86 l/s.

Maximum daily demand: 7.15 l/s.

Maximum hourly daily demand: 15.72 l/s.

The proposed sanitary flows need to be provided to the City to confirm capacity / identify the impact on the downstream West Nepean Collector.

Peak sanitary 9.92 L/s

Thank you and let me know if there are any questions,

Stephen McCaughey, P.Eng.
Project Engineer
Municipal Infrastructure

T +1 613-690-3955 (Direct)
T +1 613-829-2800 (Office)

300-2611 Queensview Drive
Ottawa, Ontario
K2B 8K2 Canada

wsp.com

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McCaughey, Stephen

From: Elsayed, Ahmed <ahmed.elsayed@ottawa.ca>
Sent: Tuesday, March 16, 2021 12:25 PM
To: McCaughey, Stephen
Cc: McCreight, Laurel
Subject: RE: 100 Bayshore Drive - Inquiries for Site Plan Application
Attachments: 100 Bayshore March 2021.pdf

Hi Stephen,

Hereunder are the BC as received from IPU.

The following are boundary conditions, HGL, for hydraulic analysis at 100 Bayshore (zone 1W) assumed to be connected to the 203 mm on Bayshore Ave (see attached PDF for location).
Minimum HGL = 106.3 m
Maximum HGL = 115.2 m
Max Day + Fire Flow (133 L/s) = 82.5 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.

Please let me know if you have any questions.

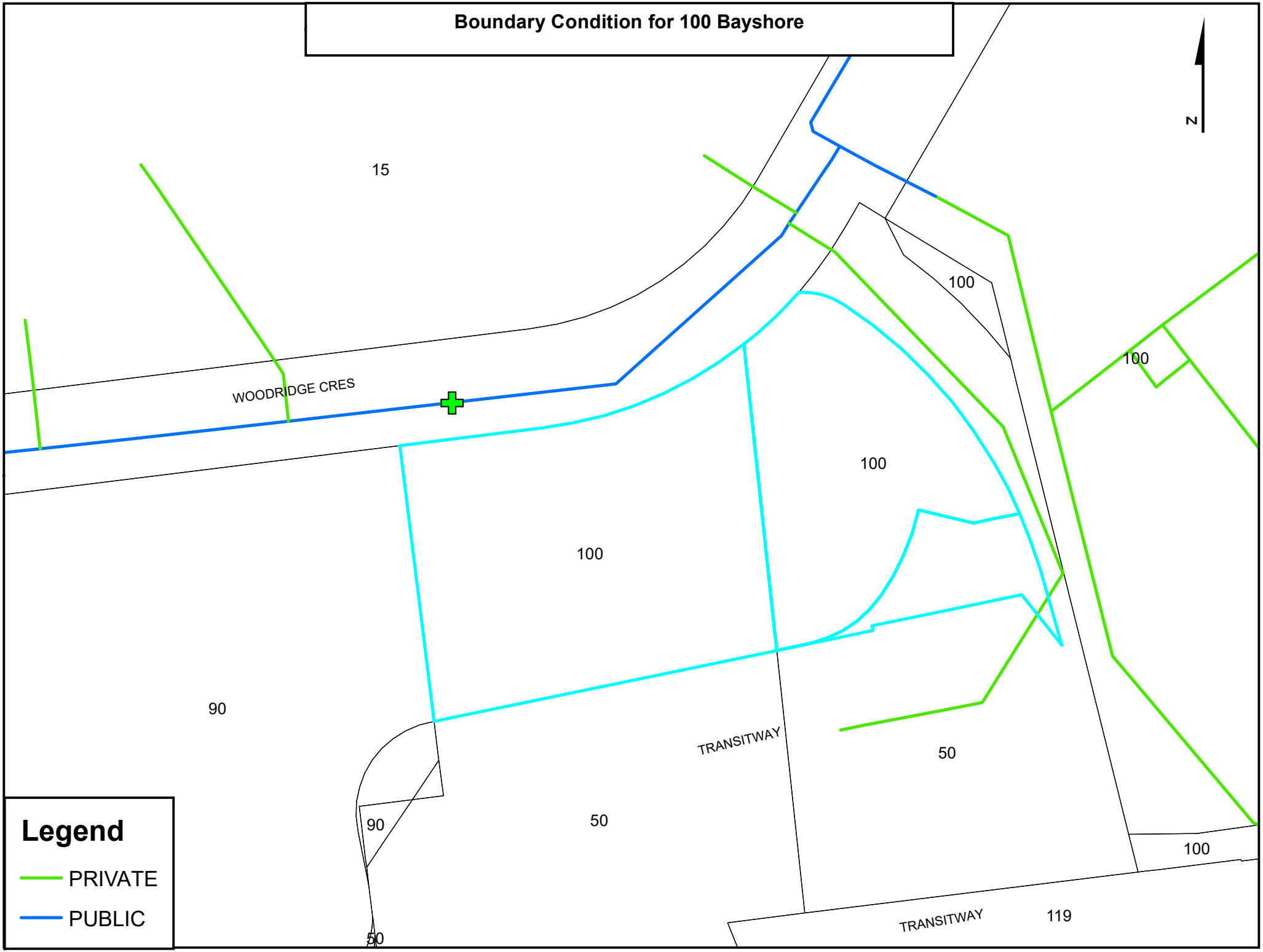
Ahmed

From: McCaughey, Stephen <Stephen.Mccaughey@wsp.com>
Sent: Monday, March 15, 2021 9:38 AM
To: Elsayed, Ahmed <ahmed.elsayed@ottawa.ca>
Cc: McCreight, Laurel <Laurel.McCreight@ottawa.ca>
Subject: FW: 100 Bayshore Drive - Inquiries for Site Plan Application

Hi Ahmed,

Just touching base from my inquiry last Monday, are there any questions or further information you need for water boundary conditions and sanitary capacity?

Thank you,


Boundary Condition for 100 Bayshore
N
15
WOODRIDGE CRES
100
100
100
100
90
TRANSITWAY
50
90
50
50
TRANSITWAY
119
100
Legend
PRIVATE
PUBLIC