D.B. Gray Engineering Inc.

Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains

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Ottawa, Ontario K1T 4E9

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SITE SERVICING & STORMWATER MANAGEMENT REPORT

64 JAMIE AVENUE
OTTAWA, ONTARIO

REPORT NO. 25015

JUNE 9, 2025

CONTENTS

LIST OF APPENDICES

1.0 INTRODUCTION

This Site Servicing Study & Stormwater Management Report has been prepared in support of a Site Plan Control application for a proposed development at 64 Jamie Avenue (located at the corner of Sunderland Street). This report is a description of the servicing for an automotive prep shop building and addresses the stormwater management requirements for the 0.57 hectare property. There is an existing 581 m^2 one-storey building on the property; a 553 m^2 two-storey addition is proposed. Refer to the Pre-Application Consultation meeting notes in Appendix D.

This report forms part of the site servicing and stormwater management design for the proposed development. Also refer to drawings C-1 to C-6 prepared by D.B. Gray Engineering Inc.

2.0 WATER SERVICING

2.1 WATER SUPPLY FOR FIREFIGHTING

The closest existing municipal fire hydrant is located in the Jamie Avenue right-of-way, ±56 m unobstructed distance to the far side of the façade of the proposed building that faces the fire route, which is less than the maximum 90 m required by the Ontario Building Code (OBC); therefore, a private fire hydrant is not required. The next closest municipal fire hydrant is located in the Sunderland Street right-of-way near the southwest corner of the subject property; ±135 m unobstructed distance to the existing building.

In accordance with City of Ottawa Technical Bulletin IWSTB-2024-05, when calculating the required fire flow on private property in urban areas, the Ontario Building Code (OBC) method is to be used. Using the OBC method, the required fire flow is calculated to be 6,300 L/min (105 L/s). Refer to calculations in Appendix A.

The boundary conditions in the 300 mm Jamie Avenue municipal watermain provided by the City of Ottawa for a 105 L/s fire flow at the subject property indicate a hydraulic grade line (HGL) of 126.5 m. Refer to Appendix A. This HGL calculates to be 373 kPa (54 psi) at the closest existing municipal fire hydrant. Since this pressure is above the Ontario Building Code's minimum required of 140 kPa (20 psi), there is an adequate water supply for firefighting from the existing municipal water distribution system.

In accordance with City of Ottawa Technical Bulletin ISTB-2018-02, the aggregate flow of all contributing fire hydrants within 150 m of the building shall not be less than the required fire flow. In accordance with City of Ottawa Technical Bulletin ISTB-2018-02 Appendix I, Class AA fire hydrants within 75 m can contribute 5,700 L/min (95 L/s) and Class AA fire hydrants within 150 m can contribute 3,800 L/min (63.3 L/s). Therefore, the existing municipal fire hydrants discussed above can contribute 9,500 L/min (= 5,700 + 3,800 L/min = 158.3 L/s); which is greater than the required fire flow of 6,300 L/min (105 L/s).

2.2 DOMESTIC WATER SUPPLY

In accordance with the City of Ottawa Water Design Guidelines for the consumption rate and peaking factors for a light industrial property, the average daily demand is calculated to be 0.2 L/s, the maximum daily demand is calculated to be 0.3 L/s and the maximum hourly demand is calculated to be 0.6 L/s. Refer to calculations in Appendix B.

The boundary conditions in the 300 mm Jamie Avenue municipal watermain provided by the City of Ottawa at the subject property indicate a minimum HGL of 126.0 m and a maximum HGL of 132.2 m. Refer to Appendix B. Based on these boundary conditions, the pressure at the water meter is calculated to vary between 356 kPa (52 psi) and 416 kPa (60 psi). This is an acceptable range for the proposed development.

The existing 25 mm water service will be abandoned. A 50 mm water service connecting to the existing 300 mm Jamie Avenue municipal watermain will replace the existing service and provide an adequate to the proposed development.

3.0 SANITARY SERVICING

In accordance with;

i. the City of Ottawa Sewer Design Guidelines for the peaking factors, and
ii. City of Ottawa Technical Bulletin ISTB-2018-01 for the average daily flow for 'light industrial' (35,000 L/day) and infiltration allowance (0.33 L/s/day),

the post-development sanitary flow rate is calculated to be 0.54 L/s.

The existing 135 mm sanitary sewer connection will be removed and replaced with a 150 mm sanitary sewer service at 1% slope (14.43 L/s capacity) to service the development. At the design flow rate the sanitary sewer service will only be at 4% capacity. The proposed 150 mm sanitary sewer service will connect to the existing 250 mm Jamie Avenue municipal sanitary sewer, which at 0.39% slope has a capacity of 37.53 L/s. Refer to Appendix B. The proposed development is expected to have an acceptable impact on the 250 mm Jamie Avenue municipal sanitary sewer.

Floor drains will drain to the proposed sanitary sewer connection via an oil interceptor sized by the mechanical engineer.

4.0 STORMWATER MANAGEMENT

4.1 QUALITY CONTROL

An oil grit separator (OGS) manhole is proposed to be located downstream of the inlet control device (ICD). Calculations by the manufacturer indicate that the CDS PMSU2015-4 OGS will remove 87.3% of total suspended solids. Refer to Appendix C.

An Erosion & Sediment Control Plan has been developed to be implemented during construction. Refer to drawings C-3 and notes 2.1 to 2.6 on drawing C-5. In summary:

i. Sediment capture filter sock inserts are to be installed in all existing and proposed catch basins and catch basin manholes adjacent to and within the site.
ii. A silt fence barrier is to be installed along the perimeter of the site.
iii. Any material deposited on the public road is to be removed.

4.2 QUANTITY CONTROL

The target stormwater quantity control criterion is to control the post-development 100-year peak flow rate to the pre-development 2-year peak flow rate using a calculated pre-development runoff coefficient not

more than 0.5 and a calculated pre-development time of concentration not less than 10 minutes. However, during the pre-consultation meeting, City staff recognized that this criterion may be difficult to achieve and stated that it would be acceptable to control to between a 2 to 5-year pre-development flow rates (using a 0.5 runoff coefficient). It is calculated that the pre-development conditions reflect a 100-year runoff coefficient of 0.97. Using the Bransby Williams Formula, the pre-development time of concentration is calculated to be 3.6 minutes. Using the Rational Method with a time of concentration of 10 minutes, and a 0.5 runoff coefficient, the 5-year flow rate (the 'acceptable' post development flow rate) is calculated to be 82.81 L/s; and the 2-year flow rate (the 'target' post development flow rate) is calculated to be 61.04 L/s. The Rational and Modified Rational Methods are used to calculate the post-development flow rates and corresponding storage volumes. The runoff coefficients for the 100-year event are increased by 25% to maximum 1.00. Refer to calculations in Appendix D.

Drainage Area I (Uncontrolled Flow Off Site – 173 m^2)
The entrance to the property and a small area at the southwest corner of the property will drain uncontrolled off site. The flow rates are calculated at a time of concentration of 10 minutes.

	100-Year Event	5-Year Event
Maximum Flow Rate	6.47 L/s	3.35 L/s

Drainage Area II (5,545 m^2)
An inlet control device (ICD) located in the outlet pipe of catch basin/manhole CB/MH-16 will restrict the flow of stormwater and cause it to backup into the upstream infrastructure and pond above catch basins and catch basin/manholes CB/MH-5, CB/MH-6, CB/MH-8, CB/MH-11, CB-12, CB/MH-13, CB-14 and CB/MH-15. The ICD will be a plug style with a round orifice located at the bottom of the plug c/w a trash basket manufactured by Pedro Plastics or approved equivalent sized by the manufacturer for a release rate of 68.12 L/s at 1.69 m. It is calculated that an orifice area of 19,384 mm^2 (±157 mm dia.) with a discharge coefficient of 0.61 will restrict the maximum flow rates to 68.12 L/s at 1.69 m. Based on this orifice the maximum outflow rate for the 5-year storm event is calculated to be 66.44 L/s at 1.61 m.

	100-Year Event	5-Year Event
Maximum Release Rate	68.12 L/s	66.44 L/s
Maximum Water Elevation	88.53 m	88.45 m
Maximum Volume Stored	131.47 m^3	43.35 m^3

Summary

	100-Year Event	5-Year Event
Pre-Development Flow Rate	275.68 L/s	144.62 L/s
Acceptable Post Development Release Rate	82.81 L/s	82.81 L/s
Target Post Development Release Rate	61.04 L/s	61.04 L/s
Maximum Release Rate	74.58 L/s	69.79 L/s
Maximum Volume Required & Stored	131.47 m^3	43.35 m^3

The maximum post-development release rate during the 100-year event is calculated to be 74.58 L/s, which is 22% more than the 'target' release rate but is 10% less than the acceptable release rate and 73% less than the pre-development flow rate during the 100-year event. To achieve this maximum release rate a maximum storage volume of 131.47 m^3 is required and provided. The maximum post-development release rate during the 5-year event is calculated to be 69.79 L/s, which is 14% more than the 'target' release rate but is 16% less than the acceptable release rate and 52% less than the pre-development flow rate during the 5-year event. To achieve this maximum release rate a maximum storage volume of 43.35 m^3 is required and provided. Therefore, the proposed stormwater management facility will control to between a 2 to 5-year pre-development flow rates (using a 0.5 runoff coefficient); and therefore, the post-development reduction in flow is expected to have a positive impact on the 750 mm Jamie Avenue municipal storm sewer and downstream storm sewer infrastructure.

4.3 STORM SERVICING

The peak unrestricted flow rate draining into the last sewer segment of the private site storm sewer system during the 2-year event is calculated to be 88.6 L/s. The last segment, 375 mm in diameter at 0.31% slope (91.5 L/s capacity), is proposed to connect to the existing 750 mm Jamie Avenue municipal storm sewer (which at 0.15% slope has a capacity of 449.8 L/s). At the peak unrestricted 2-year flow rate the 375 mm storm sewer would be at 97% capacity. Refer to calculations in Appendix C.

The Ministry of Environment, Conservation and Parks (MECP) is expected to consider the property 'industrial lands'; therefore, an Environmental Compliance Approval (ECA) is expected to be required for the proposed stormwater management facility.

5.0 CONCLUSIONS

1. A private fire hydrant is not required.

2. There is an adequate water supply for firefighting from the existing municipal water distribution system.

3. The existing municipal fire hydrants can contribute a flow which is greater than the required fire flow.

4. There is an acceptable range of water pressures in the existing municipal water distribution system.

5. The post-development sanitary flow rate will be adequately handled by the proposed sanitary sewer service and existing municipal sanitary sewer.

6. A proposed oil grit separator (OGS) manhole will achieve an enhanced (80% TSS removal) level of protection.

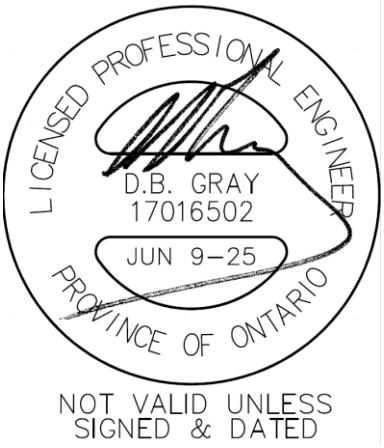
7. An Erosion & Sediment Control Plan has been developed to be implemented during construction.

8. The proposed stormwater management facility will control to between a 2 to 5-year pre-development flow rates (using a 0.5 runoff coefficient); and therefore, post-development reduction in flow is expected to have a positive impact on the 750 mm Jamie Avenue municipal storm sewer.

9. The post-development reduction in flow is expected to have a positive impact on the 750 mm Jamie Avenue municipal storm sewer and downstream storm sewer infrastructure.

10. The peak unrestricted flow rates during the 2-year event will be adequately handled by the proposed private site storm sewer system.

Prepared by D.B. Gray Engineering Inc.



APPENDIX A

WATER SERVICING

D.B. Gray Engineering Inc.

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May 14, 2025

64 Jamie Avenue

Ottawa, Ontario

FIRE FLOW CALCULATIONS

OBC Method

Q = Required water supply in litres
= KVS_{Total}

K = Water supply coefficient as per OBC A-3.2.5.7. Table 1
= 27 Building is of noncombustible construction with fire separations, but with no fire resistance ratings.

V = Building volume in cubic meters

	Floor Area (sq.m)	Height (m)	Volume (cu.m)
Ground floor:	84	3.5	294
Ground floor(high ceilings):	449	7.4	3,323
Mazzaninne	81	3.9	316
Ground floor(existing building):	589	4	2,356
			6,289

S_{Total} = Total of spatial coefficients from exposure distances
= $1.0 + S_{Side\ 1} + S_{Side\ 2} + S_{Side\ 3} + S_{Side\ 4}$

	Spatial Coefficient	Exposure Distance (m)	
$S_{Side\ 1}$	0.0	20.5	(to centerline of Jamie Ave)
$S_{Side\ 2}$	0.0	27.2	(to centerline of Sunderland St)
$S_{Side\ 3}$	0.3	7.5	(to South property line)
$S_{Side\ 4}$	0.0	45.5	(to East property line)
S_{Total}	1.3		

Q = 212,237 L
= 6,300 L/min as per OBC A-3.2.5.7. Table 2
= 105 L/s

---

105 L/s Fire Flow HGL: 126.5 m

Elevation at Fire Hydrant: 88.50 m

Static Pressure at Fire Hydrant: 38.0 m 373 kPa 54 psi

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14-May-25

64 Jamie Avenue
Ottawa, Ontario

Water Demand

LIGHT INDUSTRIAL DAILY AVERAGE:	35,000	L /gross ha / day (as per Ottawa Design Guidelines)				
	0.57	ha (land area)				
	19950	L/day				
	24	hour day				
	13.9	L/min	0.2	L/s	3.7	USgpm
MAXIMUM DAILY DEMAND:	1.5	(Peaking Factor as per Ottawa Design Guidelines)				
	20.8	L/min	0.3	L/s	5.5	USgpm
MAXIMUM HOURLY DEMAND:	1.8	(Peaking Factor as per Ottawa Design Guidelines)				
	37.4	L/min	0.6	L/s	9.9	USgpm

			Static Pressure at Water Meter			
Elevation of Water Meter:	89.73	m ASL				
Finish Floor Elevation:	88.83	m ASL				
MINIMUM HGL:	126.0	m ASL	52	psi	356	kPa
MAXIMUM HGL:	132.2	m ASL	60	psi	416	kPa

D.B. Gray Engineering Inc.

Laurent Brosseau <l.brosseau@dbgrayengineering.com>

RE: Request for Boundary Conditions - 64 Jamie Ave

1 message

Roy, Jean-Miguel <Jean-Miguel.Roy@ottawa.ca> Tue, May 13, 2025 at 2:54 PM

To: laurent Brosseau <l.brosseau@dbgrayengineering.com>
Cc: Douglas Gray <d.gray@dbgrayengineering.com>, "Rasool, Rubina" <Rubina.Rasool@ottawa.ca>

Salut Laurent,

The following are boundary conditions, HGL, for hydraulic analysis at 64 Jamie Avenue (zone 2W2C) assumed to be connected to the 305 mm watermain on Jamie Avenue (see attached PDF for location).

-

Minimum HGL: 126.0 m

Maximum HGL: 132.2 m

Max Day + Fire flow (105 L/s): 126.5 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. Fire Flow analysis is a reflection of available flow in the watermain; there may be additional restrictions that occur between the watermain and the hydrant that the model cannot take into account. The IWSD has recently updated their water modelling software. Any significant difference between previously received BC results and newly received BC results could be attributed to this update.

Regards,

Jean-Miguel Roy

Project Manager, Infrastructure Approvals

Planning, Real Estate and Economic Development Department

Services de la planification, Direction générale de la planification, de l'immobilier et du développement économique

110 Laurier Avenue West | 110 avenue Laurier Ouest

City of Ottawa | Ville d'Ottawa

613.580.2424 x 30902

From: Laurent Brosseau <l.brosseau@dbgrayengineering.com>
Sent: May 13, 2025 11:55 AM
To: Roy, Jean-Miguel <Jean-Miguel.Roy@ottawa.ca>
Cc: Douglas Gray <d.gray@dbgrayengineering.com>; Rasool, Rubina <Rubina.Rasool@ottawa.ca>
Subject: Re: Request for Boundary Conditions - 64 Jamie Ave

Hi Jean-Miguel,

Do you have a timeline for when we will receive the boundary conditions?

Thank you

Laurent Brosseau

D.B. Gray Engineering Inc.
700 Long Point Circle
Ottawa, Ontario K1T 4E9
613-425-8044

On Thu, Apr 17, 2025 at 1:33 PM Roy, Jean-Miguel <Jean-Miguel.Roy@ottawa.ca> wrote:

> Hi Laurent,
>
> We've circulated your request to Infrastructure Planning. My colleague Rubina, copied to this email, will follow-up with you with the results of the water boundary conditions while I am away.
>
> Regards,
>
> **Jean-Miguel Roy**
>
> Project Manager, Infrastructure Approvals

Planning, Real Estate and Economic Development Department

Services de la planification, Direction générale de la planification, de l'immobilier et du développement économique

110 Laurier Avenue West | 110 avenue Laurier Ouest

City of Ottawa | Ville d'Ottawa

613.580.2424 x 30902

Vacation Alert: I will be away starting April 23rd and will return May 12th.

From: Laurent Brosseau <l.brosseau@dbgrayengineering.com>
Sent: April 16, 2025 3:12 PM
To: Roy, Jean-Miguel <Jean-Miguel.Roy@ottawa.ca>
Cc: Douglas Gray <d.gray@dbgrayengineering.com>
Subject: Request for Boundary Conditions - 64 Jamie Ave

Hi Jean-Miguel,

Please provide the boundary conditions for the 300mm Jamie Avenue municipal watermain at 64 Jamie Ave. Approximate proposed point of connection is attached. We have calculated the following expected demands:

Fire flow demand: 105 L/s
Average daily demand: 0.2 L/s
Maximum daily demand: 0.3 L/s
Maximum hourly demand: 0.6 L/s

Calculations are attached.

Thank you

Laurent Brosseau

D.B. Gray Engineering Inc.
700 Long Point Circle
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'

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64 Jamie Avenue May 2025.pdf
446K

D.B. Gray Engineering Inc.

Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains

700 Long Point Circle
Ottawa, Ontario K1T 4E9

613-425-8044
d.gray@dbgrayengineering.com

27-May-25

64 Jamie Avenue
Ottawa, Ontario

Peak Water Demand

WATER FIXTURE VALUE
(AWWA Manual M22 - Sizing Water Service Lines and Meters)

	No.	F.V.	Total
Bathtub		8	0
Toilet - tank	4	6	24
Toilet - flush valve		24	0
Lavs.	4	1.5	6
Bidet		2	0
Urinal - wall flush valve		10	0
Shower		2.5	0
K. Sink	2	1.8	3.6
Dishwasher		1.3	0
Clothes Washer		3	0
Commercial Sink		4	0
J. Sink	1	4	4
Commercial Dishwasher		4	0
Commercial Washer		4	0
Hose 1/2 in	8	5	40
Hose 3/4 in		12	0
			77.6

Peak Demand (fig 4-2 or 4-3 AWWA M22)			47	USgpm		
Pressure @ Meter	386	kPa	56	psi		
Pressure Factor (table 4-1 AWWA M22)			0.96			
Peak Demand			45	USgpm		
Irrigation - hose 1/2 in	0		0	USgpm (includes pressure factor)		
TOTAL PEAK DEMAND	171	l/min	45	USgpm	2.8	l/s
		Nominal Size	2.0	in	50	mm
			4.8	ft/s	1.5	m/s

APPENDIX B

SANITARY SERVICING

D.B. Gray Engineering Inc.

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700 Long Point Circle
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613-425-8044
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SANITARY SEWER CALCULATIONS

64 Jamie Avenue
Garage Addition
Ottawa, Ontario

May 13, 2025

Residential Average Daily Flow:	280	L/capita/day	Residential Peaking Factor:	Harmon Formula
Commercial Average Daily Flow:	28,000	L/ha/day	Harmon Formula Correction Factor:	0.8
Institutional Average Daily Flow:	28,000	L/ha/day	Commercial Peaking Factor:	1.5
Light Industrial Average Daily Flow:	35,000	L/ha/day	Institutional Peaking Factor:	1.5
Heavy Industrial Average Daily Flow:	55,000	L/ha/day	Industrial Peaking Factor:	Ministry of the Environment
Infiltration Allowance:	0.33	L/s/ha	Manning's Roughness Coefficient:	0.013

		Residential													Non-Residential				Infiltration			Q	Sewer Data						
		Individual									Cumulative				Individual			Cumulative	Individual	Cumulative		Total							
Location		Single	Semi		Apartment				Area	Population	Area	Population	Peaking	Flow Rate	Area	Daily Flow	Peaking	Flow Rate	Area	Area	Flow Rate	Flow Rate	Length	Nominal Diameter	Actual Diameter	Slope	Velocity	Q_{Full} Capacity	
From	To	Family	Detached	Duplex	(1 Bed)	(2 Bed)	(3 Bed)	(Average)	(ha)		(ha)		Factor	(L/s)	(ha)	L/ha/day	Factor	(L/s)	(ha)	(ha)	(L/s)	(L/s)	(m)	(mm)	(mm)	(%)	(m/s)	(L/s)	Q / Q_{Full}
		ppu = 3.4	ppu = 2.7	ppu = 2.3	ppu = 1.4	ppu = 2.1	ppu = 3.1	ppu = 1.8																					
																							Existing						
Exist. BLDG	Exist.									0	0.0000	0	3.2	0.00	0.5718	35,000	1.5	0.35	0.5718	0.5718	0.19	0.54	25.7	150	147	1.0	0.85	14.43	0.04
	250 SAN																												
																				250 mm Jamie Avenue Sanitary Sewer:				250	251	0.39	0.76	37.53	

APPENDIX C

STORMWATER MANAGEMENT

CDS ESTIMATED NET ANNUAL TSS LOAD REDUCTION
BASED ON THE RATIONAL RAINFALL METHOD
AND A FINE PARTICLE SIZE DISTRIBUTION

Echelon Environmental
55 Albert Street, Suite #200 | Markham, ON, L3P 2T4
www.echelonenvironmental.ca info@echelonenvironmental.ca 905-948-0000

Project Name:	64 Jamie Ave.	**Engineer:**	**D. B. Gray Engineering Inc.**
Location:	Ottawa, ON	**Contact:**	Laurent Brosseau
OGS ID:	1	**Report Date:**	23-Apr-25

Area:	0.555	ha	**Rainfall Station #**	215	
C Value:	0.86		**Particle Size Distribution**	FINE	
CDS Model:	PMSU2015-4		**CDS Treatment Capacity:**	20	l/s

Rainfall Intensity[1] (mm/hr)	Percent Rainfall Volume[1]	Cumulative Rainfall Volume	Total Flowrate (l/s)	Treated Flowrate (l/s)	Operating Rate (%)	Removal Efficiency (%)	Incremental Removal (%)
0.5	9.2%	9.2%	0.7	0.7	3.3	97.9	9.0
1.0	10.6%	19.8%	1.3	1.3	6.7	96.9	10.3
1.5	9.9%	29.7%	2.0	2.0	10.0	96.0	9.5
2.0	8.4%	38.1%	2.7	2.7	13.4	95.0	8.0
2.5	7.7%	45.8%	3.3	3.3	16.7	94.1	7.2
3.0	5.9%	51.7%	4.0	4.0	20.1	93.1	5.5
3.5	4.4%	56.1%	4.6	4.6	23.4	92.1	4.0
4.0	4.7%	60.7%	5.3	5.3	26.7	91.2	4.3
4.5	3.3%	64.0%	6.0	6.0	30.1	90.2	3.0
5.0	3.0%	67.1%	6.6	6.6	33.4	89.3	2.7
6.0	5.4%	72.4%	8.0	8.0	40.1	87.4	4.7
7.0	4.4%	76.8%	9.3	9.3	46.8	85.4	3.7
8.0	3.5%	80.3%	10.6	10.6	53.5	83.5	3.0
9.0	2.8%	83.2%	11.9	11.9	60.2	81.6	2.3
10.0	2.2%	85.3%	13.3	13.3	66.9	79.7	1.7
15.0	7.0%	92.3%	19.9	19.8	100.0	70.0	4.9
20.0	4.5%	96.9%	26.5	19.8	100.0	52.5	2.4
25.0	1.4%	98.3%	33.1	19.8	100.0	42.0	0.6
30.0	0.7%	99.0%	39.8	19.8	100.0	35.0	0.2
35.0	0.5%	99.5%	46.4	19.8	100.0	30.0	0.1
40.0	0.5%	100.0%	53.0	19.8	100.0	26.2	0.1
45.0	0.0%	100.0%	59.7	19.8	100.0	23.3	0.0
50.0	0.0%	100.0%	66.3	19.8	100.0	21.0	0.0
					Predicted Net Annual TSS Removal Efficiency =		**87.3%**
					Predicted Annual Rainfall Treated =		**96.9%**

1 - Based on 42 years of hourly rainfall data from Canadian Station 6105976, Ottawa ON
2 - Reduction due to use of 60-minute data for a site that has a time of concentration less than 30-minutes.
3 - CDS Efficiency based on testing conducted at the University of Central Florida
4 - CDS design flowrate and scaling based on standard manufacturer model & product specifications

CDS PMSU 2015-4-C DESIGN NOTES

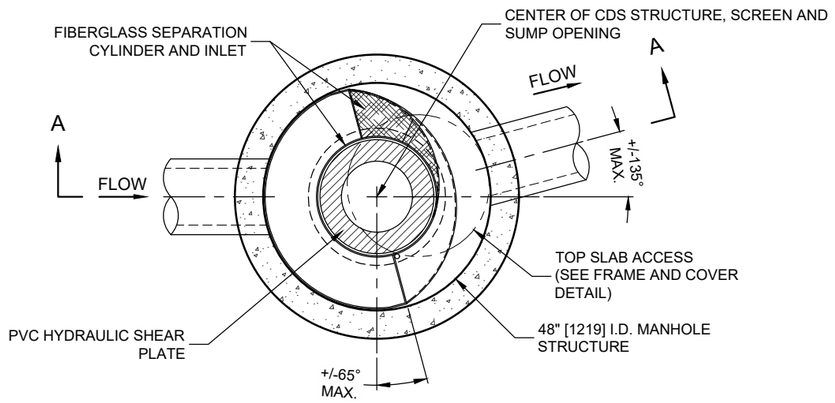
THE STANDARD CDS PMSU 2015-4-C CONFIGURATION IS SHOWN.

ANTI-BUOYANCY SLAB MAY BE INCLUDED (NOT SHOWN).

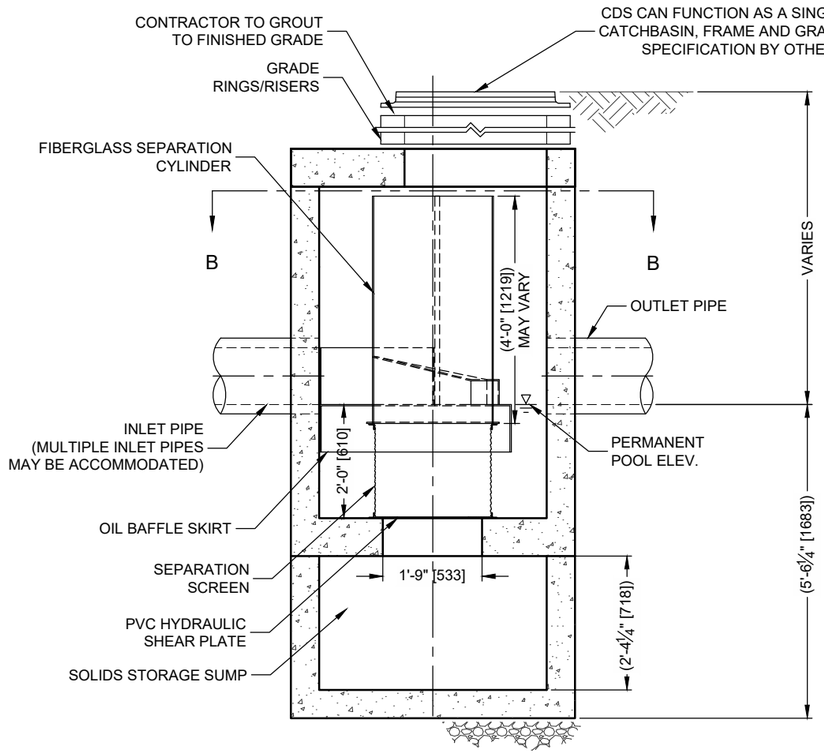
SUMP DEPTH SHOWN IS TYPICAL, CAN BE EXTENDED AS REQUIRED.

HYDRAULIC CHARACTERISTICS VARY BASED ON PIPE SIZE, MATERIAL, AND CDS UNIT SELECTION. FOR CUSTOM HYDRAULIC ANALYSIS PLEASE CONTACT ECHELON ENVIRONMENTAL.

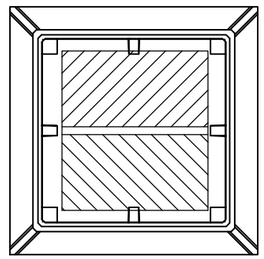
FOR SITE SPECIFIC DRAWINGS PLEASE CONTACT ECHELON ENVIRONMENTAL.



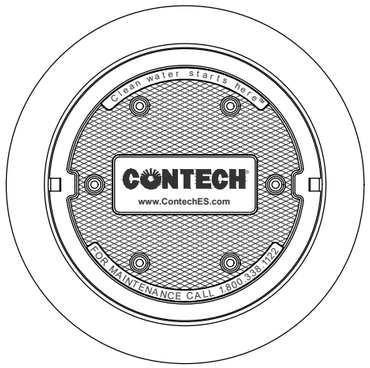
PLAN VIEW B-B
N.T.S.



ELEVATION A-A
N.T.S.



FRAME AND GRATE
(DIMENSIONS VARIES)
N.T.S.



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

GENERAL NOTES

1. CONTECH TO PROVIDE ALL MATERIALS UNLESS NOTED OTHERWISE.
2. DIMENSIONS MARKED WITH ( ) ARE REFERENCE DIMENSIONS. ACTUAL DIMENSIONS MAY VARY.
3. FOR FABRICATION DRAWINGS WITH DETAILED STRUCTURE DIMENSIONS AND WEIGHTS, PLEASE CONTACT YOUR CONTECH ENGINEERED SOLUTIONS LLC REPRESENTATIVE. www.ContechES.com
4. CDS WATER QUALITY STRUCTURE SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING.
5. STRUCTURE SHALL MEET AASHTO HS20 LOAD RATING, ASSUMING GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET HS20 (AASHTO M 306) AND BE CAST WITH THE CONTECH LOGO.
6. IF REQUIRED, PVC HYDRAULIC SHEAR PLATE IS PLACED ON SHELF AT BOTTOM OF SCREEN CYLINDER. REMOVE AND REPLACE AS NECESSARY DURING MAINTENANCE CLEANING.

INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE CDS MANHOLE STRUCTURE (LIFTING CLUTCHES PROVIDED).
C. CONTRACTOR TO ADD JOINT SEALANT BETWEEN ALL STRUCTURE SECTIONS, AND ASSEMBLE STRUCTURE.
D. CONTRACTOR TO PROVIDE, INSTALL, AND GROUT PIPES. MATCH PIPE INVERTS WITH ELEVATIONS SHOWN.
E. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO ASSURE UNIT IS WATER TIGHT, HOLDING WATER TO FLOWLINE INVERT MINIMUM. IT IS SUGGESTED THAT ALL JOINTS BELOW PIPE INVERTS ARE GROUTED.

ECHELON ENVIRONMENTAL
55 ALBERT STREET, MARKHAM ON L3P2T4
CONTACT: INFO@ECHELONENVIRONMENTAL.CA
905-948-0000

CONTECH ENGINEERED SOLUTIONS LLC

CDS PMSU 2015-4-C
ONLINE CDS
STANDARD DETAIL

DATE: 13-FEB-25
REVISION:1
DRAWN BY: PG

SUMMARY TABLES

100-YEAR EVENT

Drainage Area	Pre-Development Flow Rate (L/s)	Acceptable Post Development Release Rate (L/s)	Target Post Development Release Rate (L/s)	Maximum Release Rate (L/s)	Maximum Volume Required (cu.m)	Maximum Volume Stored (cu.m)
AREA I (Uncontrolled Flow Off Site)	-		-	6.47	-	-
AREA II	-		-	68.12	131.47	131.47
TOTAL	275.68	82.81	61.04	74.58	131.47	131.47

5-YEAR EVENT

Drainage Area	Pre-Development Flow Rate (L/s)	Acceptable Post Development Release Rate (L/s)	Target Post Development Release Rate (L/s)	Maximum Release Rate (L/s)	Maximum Volume Required (cu.m)	Maximum Volume Stored (cu.m)
AREA I (Uncontrolled Flow Off Site)	-		-	3.35	-	-
AREA II	-		-	66.44	43.35	43.35
TOTAL	144.62	82.81	61.04	69.79	43.35	43.35

64 Jamie Ave

Ottawa, Ontario

STORMWATER MANAGEMENT CALCULATIONS

Modified Rational Method

PRE-DEVELOPMENT CONDITIONS

100-YEAR EVENT

			C
Roof Area:	581	sq.m	1.00
Hard Area:	4,918	sq.m	1.00
Gravel Area:	0	sq.m	1.00
Soft Area:	219	sq.m	0.25
Total Catchment Area:	5,718	sq.m	0.97

Bransby Williams Formula

$$Tc = \frac{0.057 \bullet L}{Sw^{0.2} \bullet A^{0.1}} \text{ min}$$

Sheet Flow Distance (L):	65	m
Slope of Land (Sw):	1.5	%
Area (A):	0.5718	ha
Time of Concentration (Sheet Flow):	3.6	min
Time of Concentration:	10	min
Rainfall Intensity (i):	179	mm/hr (100-Year Event)
100-Year Pre-Development Flow Rate (2.78AiC):	275.68	L/s

5-YEAR EVENT

			C
Roof Area:	581	sq.m	0.90
Hard Area:	4,918	sq.m	0.90
Gravel Area:	0	sq.m	0.80
Soft Area:	219	sq.m	0.20
Total Catchment Area:	5,718	sq.m	0.87

Time of Concentration:	10	min
Rainfall Intensity (i):	104	mm/hr (5-Year Event)
5-Year Pre-Development Flow Rate (2.78AiC):	144.62	L/s

ACCEPTABLE POST DEVELOPMENT FLOW RATE

(5-YEAR EVENT AT C = 0.5)

Total Catchment Area:	5,718	sq.m
Time of Concentration:	10	min
Rainfall Intensity (i):	104	mm/hr (5-Year Event)
Runoff Coeficient (C):	0.50	
Target Release Rate (2.78AiC):	82.81	L/s

TARGET POST DEVELOPMENT FLOW RATE

(2-YEAR EVENT AT C = 0.5)

Total Catchment Area:	5,718	sq.m
Time of Concentration:	10	min
Rainfall Intensity (i):	77	mm/hr (2-Year Event)
Runoff Coeficient (C):	0.50	
Target Release Rate (2.78AiC):	61.04	L/s

PRE-DEVELOPMENT CONDITIONS

100-YEAR EVENT

DRAINAGE AREA I (Uncontrolled Flow Off Site)

(100-YEAR EVENT)

			C
Roof Area:		sq.m	1.00
Hard Area:	116	sq.m	1.00
Gravel Area:		sq.m	1.00
Soft Area:	57	sq.m	0.25
Total Catchment Area:	173	sq.m	0.75
Area (A):	173	sq.m	
Time of Concentration:	10	min	
Rainfall Intensity (i):	179	mm/hr	
Runoff Coeficient (C):	0.75		
Flow Rate (2.78AiC):	6.47	L/s	

DRAINAGE AREA II

(100-YEAR EVENT)

			C
Roof Area:	1,134	sq.m	1.00
Hard Area:	4,122	sq.m	1.00
Gravel Area:		sq.m	0.875
Soft Area:	289	sq.m	0.25
Total Catchment Area:	5,545	sq.m	0.96

Water Elevation:	88.53	m
Head:	1.69	m
Centroid of ICD Orifice: (ICD in Outlet Pipe of CB/MH-16)	86.84	m
Invert of Outlet Pipe of CB/MH-16:	86.76	m
Orifice Diameter:	157	mm
Orifice Area:	19,384	sq.mm
Discharge Coefficient:	0.61	
Maximum Release Rate:	68.12	L/s

CB/MH	Top Area (sq.m)	Depth (m)	Volume	
CB-12	385	0.22	28.23	cu.m
CB/MH-13	385	0.22	28.23	cu.m
CB-14	385	0.22	28.23	cu.m
CB/MH-15	385	0.22	28.23	cu.m
CB/MH-5	11	0.07	0.26	cu.m
CB/MH-6	16	0.07	0.37	cu.m
CB/MH-8	124	0.20	8.27	cu.m
CB/MH-11	35	0.11	1.28	cu.m

Volume in swale above CB-7

Top Area (sq.m)	Depth (m)	Volume	
132	0.13	8.36	cu.m

Maximum Volume Stored:	131.47	cu.m
Maximum Volume Required:	131.47	cu.m

DRAINAGE AREA II (Continued)

(100-YEAR EVENT)

Time (min)	i (mm/hr)	2.78AiC (L/s)	ICD Release Rate (L/s)	Stored Rate (L/s)	Required Storage Volume (cu.m)
10	179	264.49	68.12	196.37	117.82
15	143	211.66	68.12	143.55	129.19
20	120	177.68	68.12	109.56	131.47
25	104	153.82	68.12	85.71	128.56
30	92	136.08	68.12	67.96	122.33
35	83	122.32	68.12	54.20	113.83
40	75	111.31	68.12	43.19	103.66
45	69	102.28	68.12	34.16	92.25
50	64	94.73	68.12	26.62	79.85
55	60	88.32	68.12	20.20	66.67
60	56	82.79	68.12	14.68	52.84
65	53	77.98	68.12	9.87	38.48
70	50	73.75	68.12	5.63	23.67
75	47	70.00	68.12	1.88	8.46
80	45	66.64	66.64	0.00	0.00
85	43	63.63	63.63	0.00	0.00
90	41	60.90	60.90	0.00	0.00
95	39	58.41	58.41	0.00	0.00
100	38	56.14	56.14	0.00	0.00
105	36	54.06	54.06	0.00	0.00
110	35	52.14	52.14	0.00	0.00
115	34	50.37	50.37	0.00	0.00
120	33	48.73	48.73	0.00	0.00
125	32	47.20	47.20	0.00	0.00
130	31	45.77	45.77	0.00	0.00
135	30	44.43	44.43	0.00	0.00
140	29	43.18	43.18	0.00	0.00
145	28	42.01	42.01	0.00	0.00
150	28	40.90	40.90	0.00	0.00
180	24	35.41	35.41	0.00	0.00
210	21	31.32	31.32	0.00	0.00
240	19	28.15	28.15	0.00	0.00
270	17	25.62	25.62	0.00	0.00
300	16	23.54	23.54	0.00	0.00

5-YEAR EVENT

DRAINAGE AREA I (Uncontrolled Flow Off Site)

(5-YEAR EVENT)

			C
Roof Area:	0	sq.m	0.90
Hard Area:	116	sq.m	0.90
Gravel Area:	0	sq.m	0.80
Soft Area:	57	sq.m	0.20
Total Catchment Area:	173	sq.m	0.67
Area (A):	173	sq.m	
Time of Concentration:	10	min	
Rainfall Intensity (i):	104	mm/hr	
Runoff Coeficient (C):	0.67		
Flow Rate (2.78AiC):	3.35	L/s	

DRAINAGE AREA II

(5-YEAR EVENT)

			C
Roof Area:	1,134	sq.m	0.90
Hard Area:	4,122	sq.m	0.90
Gravel Area:	0	sq.m	0.80
Soft Area:	289	sq.m	0.20
Total Catchment Area:	5,545	sq.m	0.86

Water Elevation:	88.45	m
Head:	1.61	m
Centroid of ICD Orifice: (ICD in Outlet Pipe of CB/MH-16)	86.84	m
Invert of Outlet Pipe of CB/MH-16:	86.76	m
Orifice Diameter:	157	mm
Orifice Area:	19,384	sq.mm
Discharge Coefficient:	0.61	
Maximum Release Rate:	66.44	L/s

CB/MH	Top Area (sq.m)	Depth (m)	Volume	
CB-12	151	0.14	6.94	cu.m
CB/MH-13	151	0.14	6.94	cu.m
CB-14	151	0.14	6.94	cu.m
CB/MH-15	151	0.14	6.94	cu.m
CB/MH-5	0	0.00	0.00	cu.m
CB/MH-6	0	0.00	0.00	cu.m
CB/MH-8	43	0.12	1.69	cu.m
CB/MH-11	2	0.03	0.02	cu.m

Volume in swale above CB-7

Top Area (sq.m)	Depth (m)	Volume	
122	0.23	13.89	cu.m

Maximum Volume Stored:	43.35	cu.m
Maximum Volume Required:	43.35	cu.m

DRAINAGE AREA II (Continued)

(5-YEAR EVENT)

Time (min)	i (mm/hr)	2.78AiC (L/s)	ICD Release Rate (L/s)	Stored Rate (L/s)	Required Storage Volume (cu.m)
10	104	138.69	66.44	72.25	43.35
15	84	111.22	66.44	44.78	40.31
20	70	93.51	66.44	27.07	32.49
25	61	81.06	66.44	14.62	21.93
30	54	71.78	66.44	5.34	9.62
35	49	64.58	64.58	0.00	0.00
40	44	58.81	58.81	0.00	0.00
45	41	54.08	54.08	0.00	0.00
50	38	50.12	50.12	0.00	0.00
55	35	46.75	46.75	0.00	0.00
60	33	43.85	43.85	0.00	0.00
65	31	41.32	41.32	0.00	0.00
70	29	39.10	39.10	0.00	0.00
75	28	37.12	37.12	0.00	0.00
80	27	35.36	35.36	0.00	0.00
85	25	33.77	33.77	0.00	0.00
90	24	32.33	32.33	0.00	0.00
95	23	31.02	31.02	0.00	0.00
100	22	29.83	29.83	0.00	0.00
105	22	28.73	28.73	0.00	0.00
110	21	27.72	27.72	0.00	0.00
115	20	26.78	26.78	0.00	0.00
120	19	25.91	25.91	0.00	0.00
125	19	25.11	25.11	0.00	0.00
130	18	24.35	24.35	0.00	0.00
135	18	23.65	23.65	0.00	0.00
140	17	22.99	22.99	0.00	0.00
145	17	22.36	22.36	0.00	0.00
150	16	21.78	21.78	0.00	0.00
180	14	18.88	18.88	0.00	0.00
210	13	16.71	16.71	0.00	0.00
240	11	15.03	15.03	0.00	0.00
270	10	13.69	13.69	0.00	0.00
300	9	12.59	12.59	0.00	0.00

D.B. Gray Engineering Inc.

Stormwater Management - Grading & Drainage - Storm & Sanitary Sewers - Watermains

700 Long Point Circle
Ottawa, Ontario K1T 4E9

613-425-8044
d.gray@dbgrayengineering.com

RM SEWER CALCULATION

nal Method

2-YEAR EVENT

64 Jamie Ave
Ottawa, Ontario

May 27, 2025

Manning's Roughness Coefficient: 0.013

Location		Individual					Cumulative				Sewer Data							
From	To	Roof C = 0.90 (ha)	Hard C = 0.90 (ha)	Gravel C = 0.70 (ha)	Soft C = 0.20 (ha)	2.78AC	2.78AC	Time (min)	Rainfall Intensity (mm/hr)	Q Flow Rate (L/s)	Length (m)	Nominal Diameter (mm)	Actual Diameter (mm)	Slope (%)	Velocity (m/s)	Q_{Full} Capacity (L/s)	Time (min)	Q / Q_{Full}
CB-1	CB-2	0.0181	0.0073			0.0636	0.0636	10.00	77	4.9	15.8	250	251	0.43	0.80	39.4	0.3	0.12
CB-2	CB/MH-3		0.0093			0.0233	0.0868	10.33	76	6.6	12.6	250	251	0.43	0.80	39.4	0.3	0.17
CB/MH-3	CB/MH-4	0.0044	0.0138			0.0455	0.1324	10.59	75	9.9	12.2	250	251	0.43	0.80	39.4	0.3	0.25
CB/MH-4	CB/MH-5	0.0088	0.0135			0.0558	0.1882	10.85	74	13.9	20.1	250	251	0.43	0.80	39.4	0.4	0.35
CB/MH-5	CB/MH-6	0.0178	0.0252			0.1076	0.2957	11.27	72	21.4	14	250	251	0.43	0.80	39.4	0.3	0.54
CB/MH-6	CB/MH-8	0.0171	0.0169			0.0851	0.3808	11.56	71	27.1	22.3	250	251	0.43	0.80	39.4	0.5	0.69
CB-7	CB/MH-8				0.0291	0.0162	0.0162	10.00	77	1.2	3.3	250	251	0.43	0.80	39.4	0.1	0.03
CB/MH-8	CB/MH-11	0.0096	0.0260			0.0891	0.4861	12.03	70	33.9	26.3	250	251	0.43	0.80	39.4	0.6	0.86
CB-9	CB/MH-10	0.0050	0.0050			0.0250	0.0250	10.00	77	1.9	7.9	250	251	0.43	0.80	39.4	0.2	0.05
CB/MH-10	CB/MH-11	0.0049	0.0051			0.0250	0.0500	10.17	76	3.8	12	250	251	0.43	0.80	39.4	0.3	0.10
CB/MH-11	MH-16		0.0166			0.0415	0.5776	12.58	68	39.4	23.8	300	299	0.34	0.80	55.9	0.5	0.70
CB-12	CB/MH-13		0.0732			0.1831	0.1831	10.00	77	14.1	17.8	250	251	0.43	0.80	39.4	0.4	0.36
CB/MH-13	CB/MH-15	0.0206	0.1102			0.3273	0.5104	10.37	75	38.5	21.5	250	251	0.43	0.80	39.4	0.4	0.98
CB-14	CB/MH-15		0.0388			0.0971	0.0971	10.00	77	7.5	17.9	250	251	0.43	0.80	39.4	0.4	0.19
CB/MH-15	MH-16	0.0059	0.0524			0.1459	0.7534	10.82	74	55.6	12.5	300	299	0.34	0.80	55.9	0.3	0.99
MH-16	MH-17					0.0000	1.3310	13.08	67	88.8	2.7	375	366	0.31	0.87	91.5	0.1	0.97
								Flow through ICD:		74.57	2.7	375	366	0.31	0.87	91.5	0.1	0.82
MH-17	750mm ST					0.0000	1.3310	13.13	67	88.6	17.4	375	366	0.31	0.87	91.5	0.3	0.97
								Existing 750 mm Municpal Storm Sewer:				750	762	0.15	0.99	449.8		

APPENDIX D

PRE-CONSULTATION MEETING NOTES

File No.: PC2025-0057

April 1, 2025

Malcolm Wildeboer
VW Architects
Via email: mail@vwarchitects.ca

Subject: Pre-Consultation: Meeting Feedback
Proposed Site Plan Control Application – 64 Jaime Avenue

Please find below information regarding next steps as well as consolidated comments from the above-noted pre-consultation meeting held on Enter Date of Meeting.

Pre-Consultation Preliminary Assessment

1 ☐	**2** ☐	**3** ☐	**4** ☒	**5** ☐

One (1) indicates that considerable major revisions are required while five (5) suggests that the 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.

Next Steps

1. A review of the proposal and materials submitted for the above-noted pre-consultation has been undertaken. Please provide your next submission together with the necessary Forms, studies and/or plans to planningcirculations@ottawa.ca, copy to: Nishant Dave and John Bernier.

2. In your subsequent submission, please ensure that all comments or issues detailed herein are addressed. A detailed cover letter stating how each issue has been addressed is requested with the submission materials. Please coordinate the numbering of your responses within the cover letter with the comment number(s) herein.

3. Please note, if your development proposal changes significantly in scope, design, or density it is recommended that a subsequent pre-consultation application be submitted.

Supporting Information and Material Requirements

1. The attached **Study and Plan Identification List** outlines the information and material that has been identified, during this phase of pre-consultation, as either required (R) or advised (A) as part of a future complete application submission.

a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

Consultation with Technical Agencies

- You are encouraged to consult with technical agencies early in the development process and throughout the development of your project concept. A list of technical agencies and their contact information is enclosed.

Planning

Comments:

1. The following Official Plan policies apply to the site:

    a. The subject site is desigated as Industrial and Logistics on Schedule B5 – Outer Urban Transect

    b. Sutherland Street is indentified as Collector – Exisiting on Sechdule C4 – Urban Road Network

    c. The subject site is located within the Airport Operatin Influence Zone, per Schedule C14 - Land Use Constraints Due to Aircraft Noise.

2. Staff generally have no concerns with the proposed development as it aligns with Section 6.4.1. – Industrial and Logistics Designation – of the Official Plan.

Zoning Deficiencies:

3. As per Table 201 of the Zoning By-law, a minimum width of landscaping required is three metres. There are deficiencies along the northern, eastern and southern property line.

    a. Considering the use of the site, Staff have no concerns if the applicant applies for zoning relief.

4. As per Section 111 of the Zoning By-law, the minimum bicycle parking rate for the site is one per 500 metres squared. As the total building footprint of the building increases to an approximate size of 1000 metres squared, provide a minimum of two bicycle parking spaces.

    a. Staff encourage the applicant to consider providing more than the minimum bicycle parking rate.

Development Applications:

5. To permit the following development, you will be required to apply for:

    a. Site Plan Control – Standard Application

    b. Should you require zoning relief, you may apply for:

        i. Minor Variance or Minor Zoning By-law Amendment Application.

Feel free to contact Nishant Dave, Planner I, for follow-up questions.

Urban Design

Comments:

6. I have no urban design comments on the proposal.

Submission Requirements:

7. An Urban Design Brief is not required.

8. Additional drawings and studies are required as shown on the SPIL. Please follow the terms of reference (Planning application submission information and materials | City of Ottawa) to prepare these drawings and studies. These include:

    a. Landscape plan (can be combined with the Site Plan). Update to reflect the comments at the meeting.

Feel free to contact Christoper Moise, Urban Designer, for follow-up questions.

Engineering

Comments:

Watermain Design

9. Boundary Conditions - civil consultant to request boundary conditions from the City's assigned Project Manager, Development Review. Water boundary conditions request must include the location of the service and the expected loads required by the proposed development. Please provide all the following information:

    a. Location of service (show on a plan or map)

    b. Type of development

    c. Average daily demand: ___ l/s.

    d. Maximum daily demand: ___l/s.

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

f. Required fire flow.

g. Supporting Calculations for all demands listed above and required fire flow as per Fire Underwriter Surveys.

10. Provide a watermain system analysis demonstrating adequate pressure as per section 4.2.2 of the Water Distribution Guidelines.

11. Two watermains separated by an isolation valve will be required to avoid the creation of a vulnerable service area if the demand of the existing and proposed buildings is greater than 50m3/day.

12. Demonstrate adequate hydrant coverage for fire protection. Please review Technical Bulletin ISTB-2018-02, Appendix I table 1 – maximum flow to be considered from a given hydrant.

Sanitary Design

13. Demonstrate there is adequate residual capacity in the receiving downstream sanitary sewer to accommodate the proposed development.

14. Please apply the wastewater design flow parameters in Technical Bulletin PIEDTB-2018-01.

Stormwater Management

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

    a. A calculated time of concentration (cannot be less than 10 minutes).

    b. The storm system in this area is under considerable surcharge at 5-year and thus should be controlled to the 2-year pre-development release rate with a pre-development runoff coefficient of the existing coefficient or a maximum equivalent ‘C’ of 0.5, whichever is less (§ 8.3.7.3). Flows to the storm sewer in excess of the 2-year storm release rate, up to and including the 100-year storm event, must be detained on site.

    c. Storm sewer outlets should not be submerged.

16. Ensure all external drainage areas are considered in the proposed design.

Additional Comments

17. An oil and water interceptor will be required in any piping system at its premises that discharges directly or indirectly to a sewer per Section 17 of the Sewer Use By-Law.

18. An oil and grit interceptor will be required in any piping system at its premises that discharges directly or indirectly into a municipal storm sewer system per Section 19 of the Sewer Use By-Law.

19. Provide existing servicing information and confirm that they are in good condition and adequately sized for this new building addition.

20. Provide recommended location for the proposed connections, if needed. Services should ideally be grouped in a common trench to minimize the number of road cuts.

21. 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).

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

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

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

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

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

23. An MECP Environmental Compliance Approval may be required for the proposed development. The applicant is advised to consult the Ontario Regulation 525/98 Approval Exemptions to confirm if an ECA is required. The applicant is required to provide a written confirmation on why their site should be exempted from an ECA.

24. Water frontage fees of approximately $11,856.00 apply to Sunderland Street. If the applicant chooses to connect to the Sunderland watermain fronting their site, this fee will need to be paid through the Financial Schedule of the Site Plan Agreement.

Feel free to contact Jean-Miguel Roy, Project Manager, for follow-up questions.

Noise

Comments:

25. N/A

Feel free to contact Mike Giampa, Transportation Project Manager, for follow-up questions.

Transportation

Comments:

26. A 3x9 m corner triangle is required at Jamie/Sunderland.

Feel free to contact Mike Giampa, Transportation Project Manager, for follow-up questions.

Environment

Comments:

27. There are no triggers for an Environmental Impact Study.

28. Bird-Safe Design Guidelines - Please review and incorporate bird safe design elements. Some of the risk factors include glass and related design traps such as corner glass and fly-through conditions, ventilation grates and open pipes, landscaping, light pollution. More guidance and solutions are available in the guidelines which can be found here: https://documents.ottawa.ca/sites/documents/files/birdsafedesign_guidelines_en.pdf

29. Please consider if there are features that can be added reduce the urban heat island effect (see OP 10.3.3). For example, this impact can be reduced by adding large canopy trees, green roofs or vegetation walls, or incorporating building with low heat absorbing materials.

Feel free to contact Matthew Hayley, Environmental Planner, for follow-up questions.

Forestry

Comments:

30. A Tree Conservation Report and Landscape Plan will be required, showing existing protected trees on and adjacent to the site, tree removals, impacts, & protection measures. A combined TCR/LP can be provided, showing proposed plantings, if all elements can be incorporated. Please refer to the detailed guidelines below.

    a. If no protected trees are on or adjacent to the site, the TCR may be waived. Please reach out to the planning forester for confirmation.

31. Please relocate proposed trees along Sunderland to the right-of-way and provide large-growing trees.

32. Please extend the proposed landscape buffer along Jamie Ave and provide additional tree plantings/landscaping in that frontage.

    a. Please ensure the Landscape Plan provides details on decompaction measures for the reinstatement of softscape for the landscape buffer.

33. The following Tree Conservation Report (TCR) guidelines have been adapted from the Schedule E of the Tree Protection By-law – for more information on these requirements please contact julian.alvarez-barkham@ottawa.ca

    a. A Tree Conservation Report (TCR) must be supplied for review along with the suite of other plans/reports required by the City.

        i. An approved TCR is a requirement of Site Plan approval.

    b. Any removal of privately-owned trees 10cm or larger in diameter within the urban area, or city-owned trees of any diameter requires a tree permit issued under the Tree Protection Bylaw (Bylaw 2020 – 340); the permit will be based on an approved TCR and made available at or near plan approval.

    c. The TCR must contain 2 separate plans:

        i. Plan/Map 1 - show existing conditions with tree cover information.

        ii. Plan/Map 2 - show proposed development with tree cover information.

    d. The TCR must list all trees on site, as well as off-site trees if the CRZ (critical root zone) extends into the developed area, by species, diameter, and health condition.

        i. For ease of review, the Planning Forester suggests that all trees be numbered and referenced in an inventory table.

    e. Please identify trees by ownership – private onsite, private on adjoining site, city owned, co-owned (trees on a property line)

    f. If trees are to be removed, the TCR must clearly show where they are, and document the reason they cannot be retained.

        i. Compensation may be required for the removal of city owned trees.

    g. The removal of trees on a property line will require the permission of both property owners.

h. All retained trees must be shown, and all retained trees within the area impacted by the development process must be protected as per City guidelines available on the Tree Protection Specification or by searching Ottawa.ca.

    i. The location of tree protection fencing must be shown on the plan.

    ii. Show the critical root zone of the retained trees.

i. As per the Official Plan §4.8.2, the retention of healthy trees must be prioritized wherever possible. Please seek opportunities for retention of trees that will contribute to the design and function of the site.

34. The following Landscape Plan (LP) guidelines have been adapted from Schedule E of the Tree Protection By-law – for more information on these requirements please contact julian.alvarez-barkham@ottawa.ca

    a. Please ensure any retained trees are shown on the LP.

    b. Minimum Setbacks

        i. Maintain 1.5m from sidewalk or MUP/cycle track or water service laterals.

        ii. Maintain 2.5m from curb.

        iii. Coniferous species require a minimum 4.5m setback from curb, sidewalk, or MUP/cycle track/pathway.

        iv. Maintain 7.5m between large growing trees, and 4m between small growing trees. Park or open space planting should consider 10m spacing, except where otherwise approved in naturalization / afforestation areas.

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

    b. Tree specifications

        i. Minimum stock size: 50mm tree caliper for deciduous, 200cm height for coniferous.

        ii. Maximize the use of large deciduous species wherever possible to maximize future canopy coverage.

    c. Tree planting on city property shall be in accordance with the City of Ottawa's Tree Planting Specification; and if possible, include watering and warranty as described in the specification.

    d. No root barriers, dead-man anchor systems, or planters are permitted.

    e. No tree stakes unless necessary (and only 1 on the prevailing winds side of the tree)

    f. Hard surface planting

i. If there are hard surface plantings, a planting detail must be provided.

ii. Curb style planter design is highly recommended.

iii. No grates are to be used and if guards are required, City of Ottawa standard (which can be provided) shall be used.

c. Trees are to be planted at grade.

d. Soil Volume - Please demonstrate as per the **Landscape Plan Terms of Reference** that the available soil volumes for new plantings will meet or exceed the following:

Tree Type/Size	Single Tree Soil Volume (m^3)	Multiple Tree Soil Volume (m^3/tree)
Ornamental	15	9
Columnar	15	9
Small	20	12
Medium	25	15
Large	30	18
Conifer	25	15

i. It is strongly suggested that the proposed species list include a column listing the available soil volume.

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

f. The City requests that consideration be given to planting native species wherever there is a high probability of survival to maturity.

g. Efforts shall be made to provide as much future canopy cover as possible at a site level, through tree planting and tree retention. The Landscape Plan shall show/document that the proposed tree planting and retention will contribute to the City's overall canopy cover over time. **Please provide a projection of the future canopy cover for the site to 40 years.**

Feel free to contact Julian Alvarez-Barkham, Planning Forester, for follow-up questions.

Parkland

Comments:

Parkland Dedication:

35. The amount of required parkland conveyance is to be calculated as per the City of Ottawa Parkland Dedication By-law No.2022-280 (or as amended):

    a. For conveyance of parkland, cash-in-lieu of conveyance parkland, or combination thereof:

        i. 2% of the gross land area (commercial & industrial uses).

Form of Parkland Dedication:

36. PFP will be requesting **cash-in-lieu of conveyance of parkland** for parkland dedication in accordance with the Parkland Dedication By-law.

Pre-consultation Preliminary Parkland Dedication Calculation:

37. PFP requests the following information to confirm and calculate the parkland conveyance:

    a. Gross land area, in square meters

    b. Proposed/existing site conditions

    c. Gross floor area of proposed/existing commercial development

38. Please note, if the proposed land use changes or gross floor area changes, then the parkland dedication requirement will be re-evaluated accordingly.

Reference Documents:

39. Please review the following City of Ottawa reference documents which outline the requirements for parkland conveyance and/or cash-in-lieu of parkland.

    a. Official Plan (2021)

    b. Parks and Recreation Facilities Master Plan (2021)

    c. Park Development Manual, 2nd edition

    d. Parkland Dedication By-Law (2022-280) and Planning Act amendments

    e. City of Ottawa Standard Parks Conditions

40. Please note that the park comments are preliminary and will be finalized (and subject to change) upon receipt of the development application and the requested supporting documentation.

Feel free to contact Louise Cerveny, Parks Planner, for follow-up questions.

Submission Requirements and Fees

41. Site Plan Control – Standard Application

    a. Additional information regarding fees related to planning applications can be found here.

42. The attached **Study and Plan Identification List** outlines the information and material that has been identified as either required (R) or advised (A) as part of a future complete application submission.

    a. The required plans and studies must meet the City's Terms of Reference (ToR) and/or Guidelines, as available on Ottawa.ca. These ToR and Guidelines outline the specific requirements that must be met for each plan or study to be deemed adequate.

43. All of the above comments or issues should be addressed to ensure the effectiveness of the application submission review.

Should there be any questions, please do not hesitate to contact myself or the contact identified for the above areas / disciplines.

Yours Truly,
Nishant Dave

Encl. List of Technical Agencies and List of Plans and Studies

c.c. John Bernier, Planner II
Christopher Moise, Urban Designer
Jean-Migel Roy, Infrastructure Project Manager
Mike Giampa, Transportation Project Manager
Matthew Hayley, Environmental Planner
Julian Alvarez-Barkham, Planning Forester
Louise Cerveny, Parks Planner