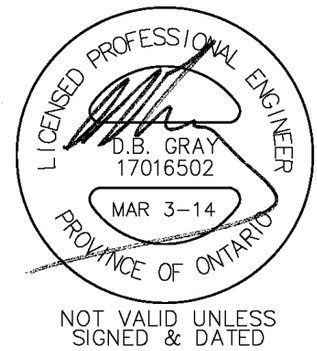
SERVICING BRIEF

1003 Prince of Wales Drive
Ottawa, Ontario

Report No. 12069-SB

May 7, 2013
Revised March 3, 2014



D. B. GRAY ENGINEERING INC.

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

700 Long Point Circle
Ottawa, Ontario K1T 4E9

613-425-8044
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SERVICING BRIEF

1003 Prince of Wales Drive
Ottawa, Ontario

The following Servicing Brief is a description of the services for a proposed seven lot residential development consisting of detached houses. It will be a freehold development with common elements located on 2178 sq.m. of land at 1003 Prince of Wales Drive in Ottawa.

Since a freehold development with common elements is proposed it is expected that a joint use and maintenance agreement will be required. The agreement is expected to include shared infrastructure including the on-site storm and sanitary sewer system and watermain.

Since the proposed services are crossing more than one property (i.e. the common elements) (and because a new stormwater outlet is proposed) it is expected that a Ministry of Environment Environmental Compliance Approval (ECA) will be required.

Refer to drawing SG-1, SG-2, SS-1 and SS-2, prepared by D. B. Gray Engineering Inc.

Water Supply for Fire Fighting:

There is an existing fire hydrant in the municipal right-of-way in front of the proposed development located between 33 m and 90 m from the front of the proposed houses. A proposed 150mm watermain will supply an on-site fire hydrant near the end proposed private road. It will be located between 15 m and 45 m from the front of the proposed houses.

A fire demand of 45 l/s (2,700 L/min) at 138 kPa is required as per "Required Minimum Water Supply Flow Rate" as calculated using the Ontario Building Code - Appendix A - Article A-3.2.5.7 "Water Supply For Fire Fighting".

Therefore, with a maximum daily demand of 0.8 l/s (see below under Water Service) the Max. Day + Fire Flow demand is 45.8 l/s.

Based on computer model simulation of the boundary conditions received from the city, the HGL during 45.8 l/s fire flow conditions is 111.1 m which calculates to be 329 kPa (48 psi). Since the pressure is above 138 kPa (20 psi) there is an adequate water supply for fire fighting.

Water Service:

The existing dwelling is serviced by a well. The well will be abandoned and decommissioned in accordance with Ministry of the Environment (MOE) regulation 903 by a licensed well contractor.

The proposed 150 mm private watermain will connect to an existing 200mm municipal watermain in the Prince of Wales Drive right-of-way.

Based on the City of Ottawa and Ministry of the Environment Design Guidelines the daily average flow is 0.08 l/s with a maximum daily and maximum hourly demand of 0.79 and 1.18 l/s respectively.

Based on computer model simulation of the boundary conditions received from the city, the minimum HGL (hydraulic grade line) is 125.5 m and the maximum is 135.5 m. With these HGLs the water pressure is calculated to vary from 456 kPa to 522 kPa (68 to 88 psi). The minimum pressure is acceptable for the proposed development. Since the

water pressure can be above 80 psi at times it is recommended that pressure reducing valves be installed immediately downstream of the water meters.

Sanitary Service:

The existing dwelling is serviced by a septic system. The septic system will be de-commissioned to the satisfaction of the director of the Ottawa Septic System Office (OSSO). The septic tank shall be pumped out and emptied by a registered sewage hauler prior to decommissioning. The septic tank shall be left in the ground and backfilled with sand or gravel or the septic tanks shall be removed from the site and disposed of at a licensed facility. Electrical devices containing mercury shall be removed and disposed of in a licensed hazardous waste disposal facility. The septic system leaching bed shall be disconnected from the septic tank and can be left in the ground unless the leaching bed is excavated as part of the site development, in which case the distribution pipes shall be disposed at a licensed waste disposal site. Excavated contaminated soil shall be spread or stockpiled on site to the satisfaction of the OSSO or disposed of in a licensed waste disposal site.

Based on the City of Ottawa Sewer Design Guidelines for a residential development (7 detached dwelling units – 3.4 persons per unit – 350 l/person/day – 4.0 peaking factor); and a 0.24 l/s/ha infiltration flow; the post development flow is calculated to be 0.45 l/s.

This flow will be adequately handled by the proposed 200mm sanitary sewers which range from 0.65% slope (11.9 l/s capacity) to 6.0% slope (83.8 l/s capacity). The proposed sanitary service will connect to an existing municipal sanitary sewer at a manhole located approximately 4 m from the south-east corner of the property in the lands adjacent to the canal. The existing municipal sanitary sewer connects to the 1050 mm Mooney's Bay Collector sewer located in the lands adjacent to the canal. The existing municipal sanitary sewer currently serves 6 detached dwellings. The total flow from the 13 existing and proposed detached dwelling is calculated to be 0.87 l/s. This flow will be adequately handled by the existing 250mm municipal sanitary sewers with a 4.8% slope (135.9 l/s capacity) and 15% slope (240.3 l/s capacity).

The 0.45 l/s increase in sanitary flows is expected to have a negligible impact on the collector.

Stormwater:

The stormwater quantity control measures required for this site are based on the criteria that the release rate for post-development storm events is equal to or less than the flow produced by the pre-development conditions. (See Stormwater Management Report No. 12069-SWM, prepared by D. B. Gray Engineering Inc.)

The unrestricted flowrate resulting from one in five year storm event will produce a peak flow of 30.6 l/s which will be adequately handled by a proposed storm sewer (300 mm @ 0.34% - 58.8 l/s capacity).

However an inlet control device (ICD) located at the outlet pipe of an on-site manhole will restrict the flow and force the stormwater to back up into an on-site depressed grassed area (the stormwater detention area). Stormwater released through the (ICD) will be restricted to the maximum flow of 9.1 l/s during the 1:5 year storm event. Stormwater will be controlled by an inlet control device and a weir to 18.5 l/s during the 1:100 year event. The controlled flow will drain to a swale behind a 24 m wide grassed level spreader which will evenly distribute the flow across the 55 m of wooded and grassed lands between the subject property and the Rideau Canal.

Conclusions:

1. There is an adequate water supply for fire fighting.
2. The existing water pressure is adequate for the proposed development.
3. Since it is estimated that the water pressure can be above 80 psi at times it is recommended that pressure reducing valves be installed.
4. The proposed private watermain is adequately sized to serve the development.
5. The expected sanitary sewage flow will be adequately handled by the proposed sanitary sewers.
6. The increase in sanitary flows contributing to the existing 1050mm Mooney's Bay Collector is expected to have a negligible impact.
7. The size and slope of the existing sanitary sewer connecting to the collector is not known and will require further investigation.
8. The stormwater quantity control is based on the criteria that the release rate for post-development storm events is equal to or less than the flow produced by the existing conditions.
9. The unrestricted flowrate produced by a one in five year storm event will be adequately handled by a proposed storm sewer.
10. It is expected that a Ministry of Environment Environmental Compliance Certificate (ECA) will be required because the proposed services cross more than one property and because a new stormwater outlet is proposed.
11. Since a freehold development with common elements is proposed it is expected that a joint use and maintenance agreement will be required.

15-Apr-13

1003 Prince of Wales Drive
Ottawa, Ontario

Water Supply for Fire-Fighting Calculations:

A fire demand of 2,700 L/min (45 l/s) is required as per "Required Minimum Water Supply Flow Rate" as calculated using the Ontario Building Code - Appendix A - Article A-3.2.5.7 "Water Supply For Fire Fighting".

Fire Protection Water Supply $Q = KVS_{Tot}$

$S_{Tot} = 1.0 + S_{Side1} + S_{Side2} + S_{Side3} + S_{Side1} + S_{Side4}$

	Spatial Coefficient	Exposure Distance m	
S_{Side1}	0.5	3.5	(to north property line)
S_{Side2}	0.5	1.2	(to east property line)
S_{Side3}	0.5	2.4	(to south property line)
S_{Side4}	0.5	1.2	(to west property line)
S_{Tot}	3.0		
	2.0	maximum	

K (Water Supply Coefficient)

23 As per A-3.2.5.7. Table 1 (Group C Occupancy / Combustible construction with floor assembly fire separations but no fire resistance ratings as per OBC 3.2.2.)

V (Building Volume)

	Area sq.m.	Average Height m	Volume cu.m.
Attic	93	1.34	125
2nd Floor:	93	2.85	265
1st Floor:	93	3.04	283
Basement:	55	2.67	147
Garage:	38	3.39	129
			948 cu.m.

$Q = KVS_{Tot}$

$Q =$ 43,611 L

Required Minimum Water Supply Flow Rate 2,700 L/min 45 L/sec
(As per A-3.2.5.7. Table 2)

15-Apr-13

1003 Prince of Wales Drive
Ottawa, Ontario
Water Demand

	Number of Units	Persons Per Unit	Population
UNIT TYPE:			
Single Family:	6	3.4	20

DAILY AVERAGE

350 litres / person / day

5.0	l / min	0.08	l / sec	1.3	Usgpm

MAXIMUM DAILY DEMAND 9.5 (Peaking Factor for a equivalent population of 20: Table 3-3 MOE Design Guidelines for Drinking-Water Systems)

47.1	l / min	0.79	l / sec	12.4	Usgpm

MAXIMUM HOURLY DEMAND 14.3 (Peaking Factor for a equivalent population of 20: Table 3-3 MOE Design Guidelines for Drinking-Water Systems)

70.9	l / min	1.18	l / sec	18.7	Usgpm

Subject:	Prince of Wales Dr_1003 – Boundary Conditions & Fire Flows
From:	Robertson, Syd (Syd.Robertson@ottawa.ca)
To:	dbgray@rogers.com;
Cc:	kentb@hobinarc.com;
Date:	Tuesday, October 9, 2012 11:59:54 AM

Hi Doug:

The following are boundary conditions, HGL, for hydraulic analysis at 1003 Prince of Wales Drive (see attached PDF for location).

Minimum HGL = 125.5 m

Maximum HGL = 135.5 m; the estimated ground elevation is 77.5 m, the maximum pressure is estimated to be 82.5 psi which is more than 80 psi. A pressure check at completion of construction is recommended to determine if pressure control is required.

IMPORTANT: The MaxDay (0.79L/s) and Fire Flow (183 L/s or 117 L/s) cannot be provided at this location

Available Fire Flow = 68 L/s assuming a residual of 20 psi and a ground elevation of 77.5 m

Fire-Flow Scenario 3 (45L/s)

Max Day + FF = 111.1 m assuming a fire flow of 45 L/s

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

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

Also please note the following attached documents relating to the above noted site:

1. Boundary Condition Location Plan
2. Fire Flow data.

Please give me a call if you have any questions.

Thanks,

Syd Robertson, C.E.T.

Project Manager, Infrastructure Approvals

DRP, Urban Services Branch, Outer Core

Planning & Growth Management Department

110 Laurier Ave. W., 4th Floor E

Ottawa, ON K1P 1J1

(613) 580-2424 ext/poste 27916

Syd.Robertson@ottawa.ca

www.ottawa.ca

From: DOUGLAS GRAY [mailto:dbgray@rogers.com]
Sent: October 4, 2012 8:07 AM
To: Robertson, Syd
Cc: Kent Bugatsch
Subject: 1003 Prince of Wales Dr

Hi Syd

I require boundary conditions for a proposed 5 to 6 lot residential development located at 1003 Prince of Wales Dr (see attached map).

I have calculated the following demands:
Average daily demand: 0.08 l/s.
Maximum daily demand: 0.79 l/s.
Maximum hourly daily demand: 1.18 l/s.

For the fire flow requirements we are looking at three different scenarios:
Scenario 1: 183 l/s
Scenario 2: 117 l/s
Scenario 3: 45 l/s

Please provide the boundary conditions for each scenario.
Thanks,

Doug

D. B. GRAY ENGINEERING INC.
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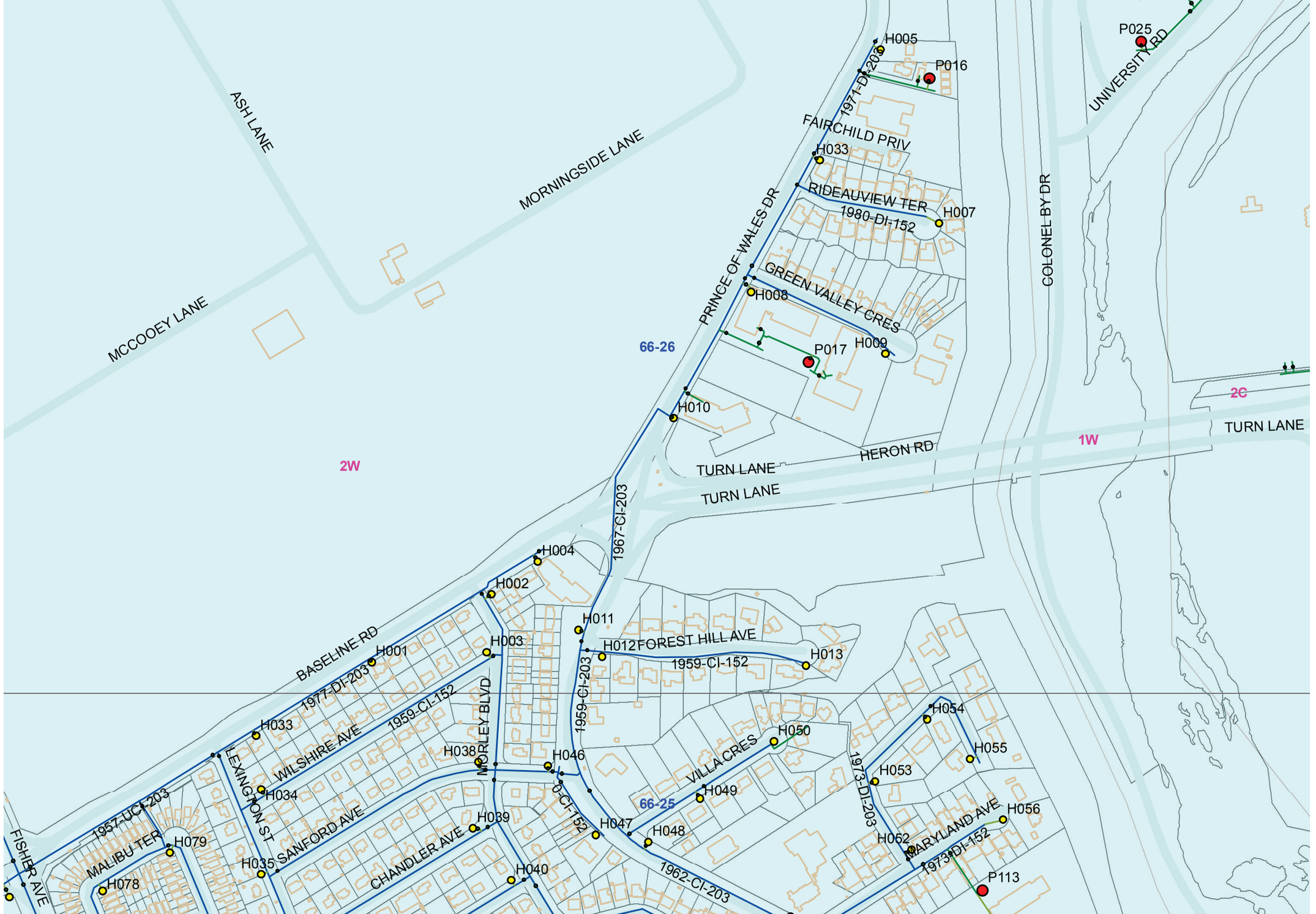
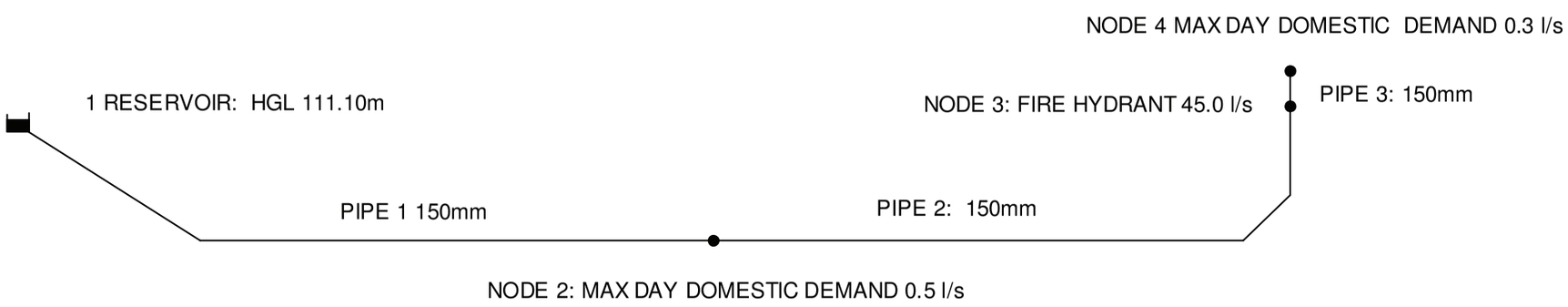
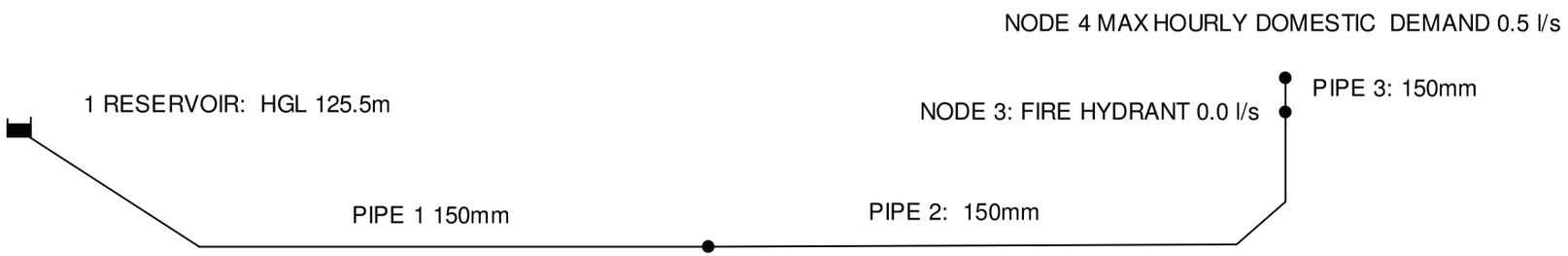

ASH LANE
MORNINGSIDE LANE
MCCOOEY LANE
H005
P016
1971-DI-203
FAIRCHILD PRIV
H033
RIDEAUVIEW TER
1980-DI-152
H007
PRINCE OF WALES DR
GREEN VALLEY CRES
H008
H009
P017
66-26
H010
COLONEL BY DR
UNIVERSITY RD
P025
2C
TURN LANE
1W
HERON RD
TURN LANE
TURN LANE
2W
1967-CI-203
H004
H002
H011
H003
H012FOREST HILL AVE
H013
1959-CI-152
BASELINE RD
1977-DI-203
H001
H033
1959-CI-152
WILSHIRE AVE
FLEXINGTON ST
MORLEY BLVD
H038
H046
H034
1957-UCI-203
FISHER AVE
MALIBU TER
H079
H078
SANFORD AVE
H035
CHANDLER AVE
H039
H040
C-CI-152
H047
H048
66-25
VILLA CRES
H050
H049
H054
H055
H053
1973-DI-203
H052
MARYLAND AVE
H056
1973-DI-152
1962-CI-203
P113

MAX DAY + FIRE FLOW: 45.8 l/s



MAX HOURLY DOMESTIC DEMAND: 1.2 l/s



NODE 2: MAX HOURLY DOMESTIC DEMAND 0.7 l/s

1003 Prince of Wales Drive
Ottawa, Ontario

HIGH PRESSURE CHECK - MAX HGL:135.5

		Elevation	Head	Pressure		
		m	m	m	psi	kPa
Road		77.50	135.50	58.00	82.5	569
Lot 1		76.53	135.50	58.97	83.9	578
Lot 7		73.75	135.50	61.75	87.8	605

EPANET HYDRAULIC MODELLING RESULTS

MAX DAY + FIRE FLOW: 45.8 l/s - HGL: 111.1

Node ID	Demand	Head	Elevation	Pressure		
	l/s	m	m	m	psi	kPa
1 Reservoir	-45.8	111.10	77.50	33.60	47.8	329
2 Domestic Demand	0.5	107.04	76.53	30.51	43.4	299
3 Fire Hydrant	45.0	104.38	74.20	30.18	42.9	296
4 Domestic Demand	0.3	104.38	73.75	30.63	43.6	300

Link ID	Diameter	Length	Roughness	Loss Coeff.	Flow	Velocity
	mm	m			l/s	m/s
Pipe 1	150	45.0	100	2.40	45.80	2.59
Pipe 2	150	33.9	100	0.80	45.30	2.56
Pipe 3	150	2.0	100	0.60	0.30	0.02

MAX HOURLY DEMAND: 1.2 l/s - MIN HGL : 125.5

Node ID	Demand	Head	Elevation	Pressure		
	l/s	m	m	m	psi	kPa
1 Reservoir	-1.2	125.50	77.50	48.00	68.3	471
2 Domestic Demand	0.7	125.50	76.53	48.97	69.6	480
3 Fire Hydrant	0.0	125.50	74.20	51.30	72.9	503
4 Domestic Demand	0.5	125.49	73.75	51.74	73.6	507

Link ID	Diameter	Length	Roughness	Loss Coeff.	Flow	Velocity
	mm	m			l/s	m/s
Pipe 1	150	45.0	100	2.40	1.20	0.07
Pipe 2	150	33.9	100	0.80	0.50	0.03
Pipe 3	150	2.0	100	0.60	0.50	0.03

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email: dbgray@rogers.com

SANITARY SEWER DESIGN FORM

Average Daily Flows:
Residential: 350 l / capita / day
Commercial: 50,000 l / ha / day
Institutional: 50,000 l / ha / day
Light Industrial: 35,000 l / ha / day
Heavy Industrial: 55,000 l / ha / day

Peaking Factor:
Residential (Harmon Equation): $P.F. = 1 + \frac{14}{4 + P^{0.5}}$
P = Population / 1000

Infiltration Allowance: 0.28 l / s / ha

PROJECT: 1003 Prince of Wales Dr, Ottawa

Designed By: DBG

3-Mar-14

LOCATION			Section								Cumulative		Section			Cumulative				SEWER DATA								COMMENTS
			Single Family	Semi / Townhouse	Duplex / Triplex	Apartments (average)	Apartments (1 Bed.)	Apartments (2 Bed.)	Apartments (3 Bed.)	Residential Area	Residential		Non-Residential			Area	Sewage Flow	Infil-tration Flow	Total Flow	n = 0.013								
STREET	FROM	TO	ppu = 3.4	ppu = 2.7	ppu = 2.3	ppu = 1.8	ppu = 1.4	ppu = 2.1	ppu = 3.1		Pop.	Peaking Factor	Area	Flow	Peaking Factor					Type of Pipe	Dia. Actual	Dia. Nom.	Slope	Length	Capacity	Velocity	Ratio	
			No. of Units	No. of Units	No. of Units	No. of Units	No. of Units	No. of Units	No. of Units	ha			ha	l/ha/day		ha	l/s	l/s	l/s		(mm)	(mm)	(%)	(m)	(l/s)	(m/s)	Q/Qfull	
	MH-SA.1	MH-SA.2	4							0.140	14	4.0				0.140	0.22	0.04	0.26	PVC SDR 35	203.2	200	6.00	47.9	83.8	2.58	0.00	
	MH-SA.2	MH-SA.3	1							0.010	17	4.0				0.150	0.28	0.04	0.32	PVC SDR 35	203.2	200	6.00	3.6	83.8	2.58	0.00	
	MH-SA.4	MH-SA.3	2							0.030	7	4.0				0.030	0.11	0.01	0.12	PVC SDR 35	203.2	200	0.65	11.9	27.6	0.85	0.00	
	MH-SA.3	MH-SA.5								0.038	24	4.0				0.218	0.39	0.06	0.45	PVC SDR 35	203.2	200	4.75	25.7	74.6	2.30	0.01	
	MH-SA.5	MH-SA.B									24	4.0				0.218	0.39	0.06	0.45	PVC SDR 35	203.2	200	3.74	11.5	66.2	2.04	0.01	
	MH-SA.B	MH-SA.C	6							0.320	44	4.0				0.538	0.72	0.15	0.87		254.0	250	15.00	16.2	240.3	4.74	0.00	EXISTING MUNICIPAL SANITARY SEWERS
	MH-SA.C	MOONEY'S BAY COLLECTOR									44	4.0				0.538	0.72	0.15	0.87		254.0	250	4.80	16.2	135.9	2.68	0.01	

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email: dbgray@rogers.com

STORM SEWER COMPUTATION FORM

RATIONAL METHOD Q = 2.78 A I R FIVE YEAR EVENT

n = 0.013

PROJECT: 1003 Prince of Wales, Ottawa

Designed By: DBG

Date: 15-Apr-13

LOCATION			AREA (ha)				Individual 2.78 A R	Accum. 2.78 A R	Time of Conc. (min)	Rainfall Intensity I (mm/hr)	Peak Flow Q (l/s)	SEWER DATA								COMMENTS
STREET	FROM	TO	R = 0.9	R = 0.70	R = 0.2	R = 0.9						Type of Pipe	Dia. Actual (mm)	Dia. Nom. (mm)	Slope (%)	Length (m)	Capacity (l/s)	Velocity (m/s)	Time of Flow (min)	Ratio Q/Qfull	
	CB/MH-1	CB/MH-2	0.0189		0.0090		0.052	0.052	10.0	104	5.4	PVC SDR 35	304.8	300	6.000	37.1	247.1	3.39	0.2	0.02	
	CB/MH-2	CB/MH-3	0.0333		0.0143	0.0214	0.145	0.197	10.2	103	20.3	PVC SDR 35	304.8	300	0.340	13.9	58.8	0.81	0.3	0.35	
	CB/MH-3	CB/MH-4	0.0120		0.0007	0.0068	0.047	0.245	10.5	102	24.9	PVC SDR 35	304.8	300	0.340	13.0	58.8	0.81	0.3	0.42	
	MH-5	CB/MH-4					0.000	0.000	10.0	104	0.0	PVC SDR 35	254.0	250	0.430	4.9	40.7	0.80	0.1	0.00	
	CB/MH-4	open end	0.0157		0.0040	0.0076	0.061	0.305	10.7	100	30.6	PVC SDR 35	304.8	300	0.340	21.2	58.8	0.81	0.4	0.52	

APPENDIX A

Comments from RVCA, NCC and Parks Canada

Conservation Partners
Partenaires de conservation

Mississippi Valley Conservation
de la vallée Mississippi

OFFICE DE PROTECTION DE LA NATURE DE LA VALLÉE RIDEAU
RIDEAU VALLEY CONSERVATION AUTHORITY

SOUTH NATION CONSERVATION
DE LA NATION SUD

August 19, 2013
File: 13-OTT-SPC

City of Ottawa
Planning and Infrastructure
110 Laurier Avenue West, 4th floor
Ottawa, Ontario K1P 1J1

Attention: Melissa Jort-Conway

Subject: **Barry J. Hobin**
Site Plan Control
D07-12-13-0118 ~ 1003 Prince of Wales Drive
City of Ottawa

Dear Ms. Jort-Conway:

The Conservation Partners Planning and Development Review Team has completed a review of the above noted application for a Site Plan Control proposal for a planned unit development of 7 detached residential dwellings and a shared right of way access extending from Prince of Wales Drive. We have undertaken our review within the context of Sections 2.1 Natural Heritage, 2.2 Water and 3.1 Natural Hazards of the Provincial Policy Statement under Section 3 of the Planning Act. Our review is based on the following drawings and reports:

Natural Hazards

There have been no natural hazards identified on the property which would preclude this application.

Stormwater Management

The stormwater management report for this site directs stromwater for this site via an outlet to the adjacent lands to the east which are owned by the National Capital Commission. It is our understanding through discussions with the NCC, this stormwater management proposal is of concern. Therefore the City should confirm with the NCC that it is satisfied with the stormwater management proposal outletting to NCC lands.

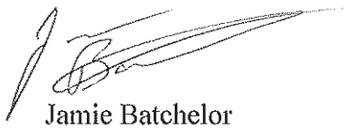
While the RVCA did not complete a full review of the stormwater management plan given stormwater is being directed to an existing storm sewer, the RVCA did review the water quality objectives. The proposed water quality objective is 80% TSS removal. The RVCA finds this acceptable for the receiving watercourse.

Conclusion

In conclusion the Conservation Partners have no objection in principle to this application, however we note that there have been concerns/comments raised by the NCC and Parks Canada which should be considered prior to final approval of this site plan.

Please keep us informed regarding the status of this application. Please contact me at ext. 1191 if you have any questions.

Yours truly,



Jamie Batchelor
Planner, Planning and Regulations (RVCA)

Cc: Susan Millar: Parks Canada
Sandra Candow: NCC

3889 Rideau Valley Drive • Box 599
Manotick, Ontario • K4M1A5
Tel: (613) 692-3571
Fax: (613) 692-0831

NATIONAL CAPITAL COMMISSION/COMMISSION DE LA CAPITALE NATIONALE
CAPITAL PLANNING AND ENVIRONMENTAL MANAGEMENT /
AMÉNAGEMENT DE LA CAPITALE ET GESTION DE L'ENVIRONEMENT
8th floor / 8ième étage

Comment Sheet / Feuille de commentaires

To / Destinataire: Melissa Jort-Conway City of Ottawa	**Date:** 27 August 2013	**Subject/Objet:** Site Plan proposal (PUD) 7 detached low rise residential
From / Expéditeur: **Sandra Candow, MCIP, RPP** **Principal Planner/Planificatrice principale** **613-239-5678 ext 5586**	**File No./ No de dossier:** D07-12-13-0129 NCC file – CP- 2157-506	**Address/ adresse:** 1003 Prince of Wales Drive (at Rideau Canal) (between Heron Road and the Central Experimental Farm /Arboretum)

Please confirm via email sandra.candow@ncc-ccn.ca that you have received these comments.

Thank you for circulating the above noted application for Site Plan Approval for a proposed Planned Unit Development (PUD) containing 7 detached residential dwellings with a shared ROW access extending eastwards from Prince of Wales Drive, (individual ownerships to be done by severance following site plan approval).

We note that this site abuts federal lands on the north and east sides, is across the street from the Central Experimental Farm (designated a National Historic Site), fronts on a scenic capital arrival and cultural landscape (Prince of Wales Drive), and is within the view shed of the UNESCO Rideau Canal. The Central Experimental Farm is also home to the Canada Agriculture Museum, the Arboretum, ornamental gardens and the Fletcher Wildlife Centre. These federal lands are designated as National Interest Land Mass (NILM) lands.

The NCC has an interest in this application with regards to the proximity of this development to Capital interests. This includes NCC land holdings and the interests of our federal partners at Parks Canada and Agriculture Canada. These are lands in the Capital region that are deemed to be of national importance based on their significance to Capital functions. NILM lands include national symbols, riverbanks, parkway corridors, and parks. The Prince of Wales Drive corridor is considered by the NCC to be a significant Cultural Landscape.

Our main areas of concern are related to views from the UNESCO Rideau Canal & CEF National Historic Site, scenic entry at Prince of Wales Drive and potential impacts on NCC lands (including stormwater management, proposed lot grading, existing trees, vegetation and encroachments on federal lands).

Given the landscape character of this section of the Rideau Canal, we have some concerns with the proposed density, compatibility and suitability of the suggested exterior materials for these residential units. We would encourage the new landscaping materials being proposed to be more reflective of native tress and vegetation to enhance the agricultural landscape setting and context of the National Historic site.

The proposed development does not identify any snow storage areas, nor waste pick up pads (garbage and recycling). This is a private roadway accessing a public right-of-way, which is a designated scenic entry route to the capital and National Historic Site. We suggest some screening be provided for any waste collection areas visible from the street. There appears to be a large percentage of hard surface on this development plan, there is very little permeable surface and this shall increase run off to the abutting federal lands. The SWM proposal is not presently acceptable to us, as "downstream" land owners. The ability for this unit layout to accommodate any season snow storage is severely limited.

Although not presently permitted, the NCC would not support any future public parking on Prince of Wales Drive in this location.

This development is being reviewed as a PUD and therefore the yard setbacks treated as one lot. We suggests that a 1.2 m (side yard) setback is not appropriate and suggest the "rear yards" of these (eventual stand alone residential units) be increased to a minimum of 5 meters where abutting federal lands. This could mitigate any possible encroachments on federal lands in the future, reduce impacts from access, property maintenance issues over the lifecycle of the units.

What is this entrance feature? Please provide some added details.

At this time, please do not view these as final SPA comments from the NCC. We wish to review added details related to the issues below and may wish to make added comments or potential conditions of Site Plan Approval (to be in a formal SP agreement).

We would ask that no formal conditions of Site Plan be finalized by the City until such time as the major NCC concerns are resolved (or substantially agreed to).

Comments

1. The abutting lands form part of the Central Experimental Farm (CEF); designated a National Historic Site. Prince of Wales is an integral part of the historic landscape of the Central Experimental Farm. Prince of Wales is identified in the City of Ottawa *Official Plan* and the NCC's *Plan for Canada's Capital* as a scenic-entry and capital arrival route, with a set of criteria related to future development applications along it. There is an existing federal management plan for the CEF and the City should also endeavor to obtain comments directly from the Corporate Management Branch of Agriculture and Agri-Food Canada with regards to impacts/mitigation.
2. Please forward the details of the proposed retaining wall abutting the east property line (abutting NCC lands). The NCC generally discourages development which does not meet the existing grade on abutting federal lands. There will be added consultations required with NCC prior to final approval being granted to the grading /SWM plan.
3. The proposed grading at the northern property line appears to be designed at a 3:1 slope, in some areas 6% and 7% gradients. This seems to be a less than desired "amenity space" for each of these units and may not be appropriate for the long term lifecycle of the matured landscape materials. The balcony amenities are within 1.2 m of the property line. The proponent should be required to provide a minimum 1.2 m "flat" surface to access the units for maintenance purposes.

Please have the proponent provide a detailed cross section at the property lines which abut federal lands.

4. Please include this as a formal condition of approval and to be reflected in any agreements of purchase and sale with future owners; The proponent shall erect a fence, with no gates permitted, abutting federal lands. This fence shall be located on private property. The NCC would ask that this be clearly reflected in the conditions of Site plan and the formal Site Plan Agreement with the proponent. The design details shall be submitted to the NCC for review prior to Site Plan approval.
5. Please forward a copy of the SWM report submitted by the proponent's consultant. The proposal for this site to have the stormwater management outletting to NCC lands does not presently satisfy the NCC. We suggest further discussions on options for servicing design be considered. (quantity)
6. Please advise if the City required the applicant to submit a Cultural Heritage Impact Statement (City OP section 4.6.1) for this development. (Please forward if one has been submitted).
7. Please advise if this development shall have curbside waste pick up, or whether a private contractor (and private disposal bins) shall be required. Should the site be proposed for curbside collection, given the location along this scenic entry route, we suggest the development design identify a garbage pad, with screening from the street.
8. Please provide added details on the proposed "entrance feature" visible from Prince of Wales Drive.

Thank you
Sandra Candow

cc (via email) Susan Millar- Parks Canada
J. Batchelor- RVCA
NCC- M. Muir, Bina C.

Parks Canada Parcs Canada

Rideau Canal
National Historic Site of Canada
34 Beckwith Street South
Smiths Falls, ON K7A 2A8

File: 8500-100

16 August 2013

Melissa Jort-Conway, Planner
City of Ottawa
Planning and Growth Management Department
110 Laurier Avenue West, 4th floor
Ottawa, ON K1P 1J1
Email: Melissa.jort-conway@ottawa.ca

Subject: Site Plan Control proposal, 1003 Prince of Wales Drive

Dear Melissa,

Thank you for the circulating Parks Canada on the site plan control application for the development of 7 detached residential dwellings at 1003 Prince of Wales Drive, adjacent to the Rideau Canal south of Hartwell's Lockstation. We have reviewed the supporting documents, in particular the site plan, project renderings, landscaping plan and the cultural heritage impact statement and provide comments below for your consideration.

Parks Canada administers the Rideau Canal National Historic Site of Canada, a Canadian Heritage River and a UNESCO World Heritage Site, to preserve the cultural, natural and scenic values so that all Canadians can enjoy this legacy into the future. All parties have a responsibility to ensure the stewardship and conservation of this internationally recognized waterway. Our comments are offered in the spirit of producing a result that will protect the Rideau Canal and its unique historical setting.

Rideau Canal National Historic Site and UNESCO World Heritage Site
The Rideau Canal National Historic Site is valued in part for its historic, ecological and visual associations with shore lands and communities along the waterway which

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contribute to the unique historical environment of the canal [Parks Canada, *Rideau Canal NHS Management Plan*, p.69, 2005].

The *Rideau Canal National Historic Site Management Plan* (2005) represents the Minister of the Environment's commitment to the people of Canada with respect to the protection, presentation, operation and stewardship of the Rideau Canal. As stated in the plan, Parks Canada is committed to protect the natural, cultural and scenic values of the Canal and its setting while allowing for sustainable development on lands bordering the Canal and recreational use of the Canal itself.

With the 2007 inscription of the Rideau Canal on the World Heritage List, the World Heritage Committee addressed requirements for protection and management in the Statement of Outstanding Universal Value, including a 30m buffer zone. While not part of the site itself, the buffer zone surrounds the site and acts as a mechanism that provides the site an added layer of protection.

The World Heritage Committee also made reference to the visual setting of the canal. The Committee recommended that consideration be given to strengthening its visual protection outside the buffer zone, in order to ensure that the visual values of the setting are protected. Through the *Rideau Canal World Heritage Site Management Plan* (2005), Parks Canada is committed to safeguard the canal's visual setting.

Parks Canada is working with partners at all levels of government, as well as First Nations and community organizations to develop the Rideau Corridor Landscape Strategy. The goal of the strategy is to ensure a collective, strategic direction for planning and sustainable development along the waterway in a manner that conserves the key values of the site. The City of Ottawa, the National Capital Commission and the Rideau Valley Conservation Authority are integral partners in this strategy, and are active members of the Steering Committee and Planners Technical Advisory Group. A landscape character assessment of the Rideau Corridor was recently completed, to assist with the long term conservation of the Rideau Canal corridor, in accordance with the World Heritage Committee's recommendation to strengthen protection of the visual setting of the Canal. The Strategy members are currently analyzing and developing a variety of planning and management recommendations, including principles and guidelines, to ensure new development and redevelopment complements and is integrated into the surrounding landscape character.

Visual Quality and Compatibility
Following a review of the supporting documentation, the proposed development will be minimally visible from Hartwell's Lockstation due to the distance and orientation of the properties, and will be moderately visible from the canal itself, the adjacent Rideau Canal eastern pathway and Colonel By Drive.

Given the visibility and the landscape character of the area, there are concerns regarding the density, compatibility and suitability of the architectural design and exterior materials chosen for the proposed development. The subject property is located adjacent to a late 19th century brick homestead featuring a front verandah and gable roof, reflective of the era and area. In addition, the north side of the subject property abuts, and will be highly visible from, the agricultural fields of the Central Experimental Farm, also a National Historic Site.

Parks Canada supports the recommendations for mitigation contained on page 14 of MTBA's Cultural Heritage Impact Statement, and provides a few additional comments and recommendations to enhance the visual quality and compatibility of the proposed development:

- Elevate the architectural design from currently trending urban infill exemplified across Ottawa neighborhoods, to one which responds to the historic agricultural form and setting. This has been well achieved elsewhere along the Rideau Canal by Barry J. Hobin & Associates Architects;
- Expand the use of natural materials such as wood, brick and stone and the application of earth-tone colours on all building facades to complement and integrate the buildings into the surrounding landscape;
- Plant additional native trees and vegetation along the north and east property perimeters to enhance and maintain the treed and agricultural landscape setting;
- Reduce the depth of Units 1-4 to provide more space along the north perimeter to facilitate additional buffer plantings. In addition, it is recommended that trees 22 and 26-29 are retained along the north and east perimeters; and
- Retain trees 10, 30 and 31 to provide a vegetated buffer along the southern perimeter and adjacent development.

Parks Canada will continue to work closely with the City of Ottawa, the National Capital Commission, the RVCA and other partners and stakeholders to preserve the cultural, natural and scenic values of the Rideau Canal World Heritage Site in this important historic setting.

Please inform this office in writing of any decisions made by the City of Ottawa regarding this application. If you have any further questions, please do not hesitate to contact my office.

Sincerely,

Susan Millar

Susan Millar
Planner
Ontario Waterways

Cc: Sandra Candow, National Capital Commission
Jamie Batchelor, Rideau Valley Conservation Authority

Canada

City of Ottawa Servicing Study Checklist

General Content

Executive Summary (for large reports only): not applicable

Date and revision number of the report: see page 1 of Servicing Brief

Location map and plan showing municipal address, boundary, and layout of proposed development: see drawings SG-1, SG-2, SS-1 & SS-2.

Plan showing the site and location of all existing services: see drawings SG-1, SG-2, SS-1 & SS-2.

Development statistics, land use, density, adherence to zoning and official plan, and reference to applicable subwatershed and watershed plans that provide context to which individual developments must adhere: not applicable

Summary of Pre-consultation Meetings with City and other approval agencies: not applicable

Reference and confirm conformance to higher level studies and reports (Master Servicing Studies, Environmental Assessments, Community Design Plans), or in the case where it is not in conformance, the proponent must provide justification and develop a defendable design criteria: not applicable

Statement of objectives and servicing criteria: see page 1 of Servicing Brief

Identification of existing and proposed infrastructure available in the immediate area: see drawings SG-1, SG-2, SS-1 & SS-2.

Identification of Environmentally Significant Areas, watercourses and Municipal Drains potentially impacted by the proposed development (Reference can be made to the Natural Heritage Studies, if available). see page 2 of Servicing Brief (Rideau Canal)

Concept level master grading plan to confirm existing and proposed grades in the development and drainage, soil removal and fill constraints, and potential impacts to neighbouring properties. This is also required to confirm that the proposed grading will not impede existing major system flow paths: not applicable

Identification of potential impacts of proposed piped services on private services (such as wells and septic fields on adjacent lands) and mitigation required to address potential impacts: not applicable

Proposed phasing of the development, if applicable: not applicable

Reference to geotechnical studies and recommendations concerning servicing: see note 1.5 on drawing SG-2

All preliminary and formal site plan submissions should have the following information:

- **Metric scale:** included
- **North arrow:** included
    - **(including construction North):** not included
- **Key Plan:** included
- **Name and contact information of applicant and property owner:** not included
- **Property limits**: included
    - **including bearings and dimensions:** included
- **Existing and proposed structures and parking areas:** included
- **Easements, road widening and rights-of-way:** included
- **Adjacent street names:** included

Development Servicing Report: Water

Confirm consistency with Master Servicing Study, if available: not applicable

Availability of public infrastructure to service proposed development: see page 2 of Servicing Brief

Identification of system constraints: see page 2 of Servicing Brief

Confirmation of adequate domestic supply and pressure: see page 2 of Servicing Brief

Confirmation of adequate fire flow protection and confirmation that fire flow is calculated as per the Fire Underwriter's Survey. Output should show available fire flow locations throughout the development: see page 2 Servicing Brief

Provide a check of high pressures. If pressure is found to be high, an assessment is required to confirm the application of pressure reducing valves: see page 2 of Servicing Brief

Definition of phasing constraints. Hydraulic modeling is required to confirm servicing for all defined phases of the project including the ultimate design: not applicable

Address reliability requirements such as appropriate location of shut-off valves: not applicable

Check on the necessity of a pressure zone boundary modification:. not applicable

Reference to water supply analysis to show that major infrastructure is capable of delivering sufficient water for the proposed land use. This includes data that shows that the expected demands under average day, peak hour and fire flow conditions provide water within the required pressure range: not applicable

Description of the proposed water distribution network, including locations of proposed connections to the existing systems, provisions for necessary looping, and appurtenances (valves, pressure reducing valves, valve chambers, and fire hydrants) including special metering provisions: not applicable

Description of off-site required feedermains, booster pumping stations, and other water infrastructure that will be ultimately required to service proposed development, including financing, interim facilities, and timing of implementation: not applicable

Confirmation that water demands are calculated based on the City of Ottawa Design Guidelines: see page 2 of Servicing Brief

Provision of a model schematic showing the boundary conditions locations, streets , parcels, and building locations for reference: not applicable

Development Servicing Report: Wastewater

Summary of proposed design criteria: see page 3 of Servicing Brief

(Note: Wet-weather flow criteria should not deviate from the City of Ottawa Sewer Design Guidelines. Monitored flow data from relatively new infrastructure cannot be used to justify capacity requirements for proposed infrastructure): not applicable

Confirm consistency with Master Servicing Study and /or justification for deviations: not applicable

Consideration of local conditions that may contribute to extraneous flows that are higher than the recommended flows in the guidelines. This includes groundwater and soil conditions, and age and conditions of sewers: not applicable

Descriptions of existing sanitary sewer available for discharge of wastewater from proposed development: see page 3 of Servicing Brief

Verify available capacity in downstream sanitary sewer and / or identification of upgrades necessary to service the proposed development. (Reference can be made to previously completed Master Servicing Study if applicable): not applicable

Calculations related to dry-weather and wet-weather flow rates from the development in standard MOE sanitary sewer design table (Appendix C) format. not applicable

Description of proposed sewer network including sewers, pumping stations, and forcemains: see page 3 of Servicing Brief

Discussion of previously identified environmental constraints and impact on servicing (environmental constraints are related to limitations imposed on the development in order to preserve the physical condition of watercourses, vegetation, soil cover, as well as protecting against water quantity and quality): not applicable

Pumping stations: impacts of proposed development on existing pumping stations or requirements for new pumping station to service development: not applicable

Forcemain capacity in terms of operational redundancy, surge pressure and maximum flow velocity: not applicable

Identification and implementation of the emergency overflow from sanitary pumping stations in relation to the hydraulic grade line to protect against basement flooding: not applicable

Special considerations such as contamination, corrosive environment etc: not applicable

Development Servicing Report: Stormwater Checklist

Description of drainage outlets and downstream constraints including legality of outlets (i.e. municipal drain, right-of-way, watercourse, or private property): see page 3 of Servicing Brief

Analysis of available capacity in existing public infrastructure. not applicable

A drawing showing the subject lands, its surroundings, the receiving watercourse, existing drainage patterns, and proposed drainage pattern: see drawing SG-1

Water quality control objective (e/g/ controlling post-development peak flows to pre-development level for storm events ranging from the 2 or 5 year event (dependent on the receiving sewer design) to 100 year return period); if other objectives are being applied, a rationale must be included with reference to hydrologic analyses of the potentially affected subwatersheds, taking into account long-term cumulative effects: see Stormwater Management Report

Water Quality control objective (basic, normal or enhanced level of protection based on the sensitivities of the receiving watercourse) and storage requirements: see Stormwater Management Report

Descriptions of the references and supporting information.

Set-back from private sewage disposal systems. not applicable

Watercourse and hazard lands setbacks: see drawing SG-1

Record of pre-consultation with the Ontario Ministry of Environment and the Conservation Authority that has jurisdiction on the affected watershed: not available

Confirm consistency with sub-waterched and Master Servicing Study, if applicable study exists: not applicable

Storage requirements (complete with calculations) and conveyance capacity for minor events (1:5 year return period) and major events (1:100 year return period). see drawing SG-1 & SG-2 and Stormwater Management Report

Identification of watercourses within the proposed development and how watercourses will be protected, or , if necessary, altered by the proposed development with applicable approvals. see drawing SG-1 & SG-2 and Stormwater Management Report

Calculate pre and post development peak flow rates including a description of existing site conditions and proposed impervious areas and drainage catchments in comparison to existing conditions: see Stormwater Management Report

Any proposed diversion of drainage catchment areas from one outlet to another. : not applicable

Proposed minor and major systems including locations and sizes of stormwater trunk sewers, and stormwater management facilities. : not applicable

If quantity control is not proposed, demonstration that downstream system has adequate capacity for the post-development flows up to and including the 100-year return period storm event: not applicable

Identification of potential impacts to receiving watercourses: see Stormwater Management Report

Identification of municipal drains and related approval requirements. : not applicable

Descriptions of how the conveyance and storage capacity will be achieved for the development: see page 3 of Servicing Brief

100 year flood levels and major flow routing to protect proposed development from flooding for establishing minimum building elevations (MBE) and overall grading:

Inclusion of hydraulic analysis including hydraulic grade line elevations. : not applicable

Description of approach to erosion and sediment control during construction for the protection of receiving watercourses of drainage corridors: see notes 2.1 to 2.5 on drawing SG-2

Identification of floodplains – proponent to obtain relevant floodplain information from the appropriate Conservation Authority. The proponent may be required to delineate floodplains elevations to the satisfaction of the Conservation Authority if such information is not available or if information does not match current: not applicable

Identification of fill constraints related to floodplain and geotechnical investigation. : not applicable

Approval and Permit Requirements: Checklist

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

Conservation Authority as the designated approval agency for modification of floodplain, potential impact on fish habitat, proposed works in or adjacent to a watercourse, cut/fill permits and Approval under Lakes and Rivers Improvement Act. The Conservation Authority is not approval authority for the Lakes and Rivers Improvement Act. Where there are Conservation Authority regulations in place, approval under the Lakes and Rivers Improvement Act is not required, except in cases of dams as defined in the Act: the Rideau Conservation Authority has not been contacted

Application for Certificate of Approval (CofA) under the Ontario Water Resources Act:

Changes to Municipal Drains. : not applicable

Other permits (National Capital commission, Parks Canada, public Works and Government Services Canada, Ministry of transportation etc.) : not applicable

Conclusion Checklist

Clearly stated conclusions and recommendations: see page 3 of Servicing Brief

Comments received from review agencies including the City of Ottawa and information on how the comments were addressed. Final sign-off from the responsible reviewing agency.

All draft and final reports shall be signed and stamped by a professional Engineer registered in Ontario: included