Functional Servicing and Stormwater Management Report
2157 Lakeshore Boulevard West, Etobicoke ON

Stay Inn Hospitality
650 Evans Avenue, Toronto, ON

R.J. Burnside & Associates Limited
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March 2020
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1.0 Introduction

1.1 General Information

R.J. Burnside & Associates Limited (Burnside) are the Consulting Engineers retained by Stay Inn Hospitality to prepare a Functional Servicing and Stormwater Management Report in support of a Site Plan Approval (SPA) application for the development of 2157 Lake Shore Boulevard West (M5V 0A8), Etobicoke, Ontario, located within the Humber Bay Shore Precinct Plan in the City of Toronto.

1.2 Objectives

The objectives of this Functional Servicing and Stormwater Management Report are to:

- Evaluate the existing municipal water system by:
  - Calculating the proposed domestic water and firefighting supply needs.
  - Confirming that it has adequate flow to meet the additional required domestic and fire flow demands for the proposed development and to address adverse impacts, if any, on the existing municipal watermain.
- Evaluate the stormwater management opportunities and constraints by:
  - Calculating allowable and proposed runoff rates for the development.
  - Establishing suitable methods for attenuation and treatment of stormwater runoff.
  - Developing onsite control measures and examining performance.
  - Demonstrating compliance of the proposed stormwater control measures with the City of Toronto's Wet Weather Flow Management Guidelines.
  - Ensuring sufficient capacity in the receiving municipal sewers to accommodate the storm flows from the proposed development and to address adverse impacts, if any, on the existing municipal sewers.
- Identify sanitary servicing opportunities and constraints by:
  - Calculating existing and proposed sanitary flows.
  - Ensuring sufficient capacity in the receiving municipal sewers to accommodate the additional sanitary flows from the proposed development and to address adverse impacts, if any, on the existing municipal sewers.

As required, the report will identify and provide the rationale for any new infrastructure and upgrades to existing infrastructure necessary to provide for adequate servicing to the proposed development.

This site is a redevelopment of an existing property within a highly urbanized area of the City of Toronto. All utilities including telephone, cable, electricity and gas are readily available to service the subject property. Site lighting, traffic, and parking considerations are not part of the scope of this report and will be addressed by others.

1.3 Reference Material

All the above will be completed in accordance with accepted engineering practices and criteria from the governing approval agencies. The following documents and standards were referenced in the preparation of this report:

- Wet Weather Flow Management Guidelines (City of Toronto, November 2006)
- Design Criteria for Sewers and Watermains (City of Toronto, November 2009)
- Erosion & Sediment Control Guidelines for Urban Construction (December 2006)
- MOE Stormwater Management Practices Planning and Design Manual (Ministry of Environment, March 2003)
- Humber Bay Shores Urban Design Guidelines
- Plan and Profiles of Lakeshore Boulevard Storm and Sanitary Sewers and Watermain on Lakeshore Boulevard (Etobicoke Works Department), drawing No.PDB-19 & PSB-137, PSB-3537
- Toronto CUMAP Digital Sewer/Water Network of the area surrounding the site
- Site Plan and Statistics prepared by IBI Group, dated December 2019
- Survey Plan prepared by Genesis Land Surveying Inc., dated December 7, 2019
- Brief Sanitary Analysis Report Marine Parade Drive Humber Bay Shore Precinct Plan, City of Toronto, September 2012 Rev. April 2018
- Humber Bay Shores Precinct Plan Storm Tributary Area Plan & Design Sheets

Please note at the time of preparing this report the following document was not available:

- Functional Servicing and Stormwater Management Report for 59 & 60 Annie Craig Drive prepared by Schaeffer and Associates Limited

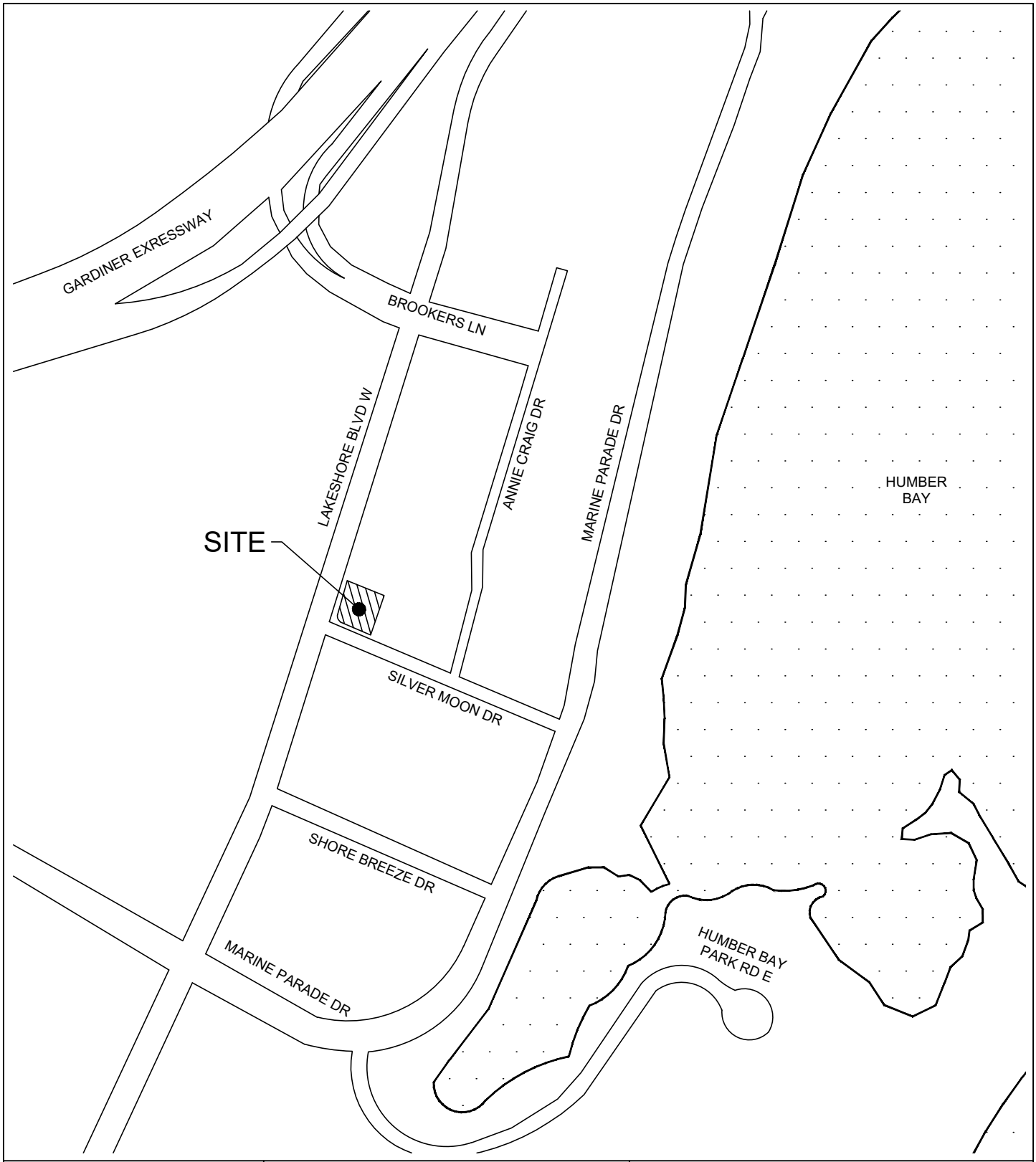
This document will be reference in a subsequent submission when available.

2.0 Background

2.1 Existing Site Description

The project is located at municipal address 2157 Lake Shore Boulevard West, Etobicoke District, within the City of Toronto (City). The site is bounded by Lake Shore Boulevard to the west, Silver Moon Drive to the south, an existing laneway (Lane 'E') and an existing condominium at 59 & 60 Annie Craig Drive to the east, and a vacant lot to the north (future mixed-use development lands).

The site is located within the Humber Bay Shores Precinct development area, an area that consists of numerous existing, proposed and under construction mixed-use developments. The site is located in an area that is well established and serviced by a network of municipal infrastructure including roads, sewer, watermains, and other services and utilities. Refer to Figure 1 for the site location in context to the surrounding area.



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Client

STAY INN HOSPITALITY

650 EVANS AVENUE
TORONTO ONTARIO
M8W 2W6

Drawing Title

2157 LAKESHORE BOULEVARD W

SITE LOCATION

Drawn	Checked	Date	Drawing No.
CW	JG	19/11/19	FIG1
Scale		Project No.	
N.T.S.		300044046	

2.2 Proposed Development

The development at 2157 Lake Shore Boulevard West proposes the construction of a 13-storey mid-rise institutional/commercial building consisting of approximately 165 hotel rooms, with a ground floor restaurant. One level of underground parking is proposed spanning the entire property.

Refer to the architectural site plan in Appendix A for the proposed site and building statistics prepared by IBI Group dated February 2020.

2.3 Site Access

Vehicular access to the proposed underground parking structure will be shared with the existing adjacent building to the east (59 & 60 Annie Craig Drive). The existing condominium at 59 & 60 Annie Craig Drive has an entrance to the underground from Annie Craig Drive. The underground of the proposed development will be connected to the existing by removing the knockout panels. Pedestrian access to the Hotel main lobby will be provided off Lakeshore Boulevard and Silver Moon Drive. A vehicular drop off route will be provided from Silver Moon Drive and Lane 'E'.

2.4 Ownership Structure

The proposed development will consist of a hotel, with a ground floor restaurant, under sole ownership of Stay Inn Hospitality. Therefore, as per City of Toronto Standards, the development can be serviced by one water and sanitary service connection. The development will share its stormwater management system with the existing adjacent site to the east.

3.0 Water Servicing

3.1 Existing Water Infrastructure

Based on the City of Toronto's CUMAP Maps, plan and profiles, and design drawings from the surrounding developments, the municipal water infrastructure in the vicinity of the site includes:

- 150 mm diameter watermain along the east side of Lakeshore Boulevard
- 300 mm diameter watermain along the east side of Lakeshore Boulevard
- 300 mm diameter watermain within Silver Moon Drive

Refer to Drawing S1 for the existing watermain infrastructure surrounding the site.

Additionally, an existing water service connection for the development was previously constructed in the south west corner off the 300 mm diameter watermain in Silver Moon Drive, consisting of a 100 mm domestic service and 200 mm fire service per City standard T-1104-02-3.

There is an existing hydrant located at the southwest corner of the site available to service the development. Hydrant flow testing was completed on this hydrant by Jackson Waterworks on September 26, 2019 in accordance with NFPA-291 guidelines to determine the flow and pressure of the existing system.

3.2 Proposed Water Servicing

3.2.1 New Connections

As per City of Toronto Servicing requirements the development is under sole ownership and therefore only requires one domestic and fire service connection. The existing water connection will be modified such that the connections are brought into the proposed mechanical room in the P1 level. The existing connections will be abandoned and capped.

The proposed building is less than 84 m in height, therefore (as per the Water Servicing and Metering Manual dated September 2011) a secondary fire supply feed is not required to service the building, and one fire supply connection is proposed.

The servicing for the building will be as follows:

- One connection with be provided via combined 200 mm diameter fire connection and 100 mm diameter domestic supply connections as per City of Toronto standard T-1104.02-3.

- The connection will be provided off the existing 200 mm diameter service connection (previously installed for future servicing of the development) with two 45-degree bends.
- Water meter, backflow preventor and detector chamber will be located internally in a mechanical room located on the P1 level, provided as per SD-4, at the discretion of Toronto Water.
- The existing hydrants will remain to service the development.

3.2.2 Water Demand

The proposed fire demand for the development was calculated based on the criteria outlined by the Fire Underwriters Survey. The proposed domestic demands for the development were calculated using the City of Toronto Design Criteria for Sewers and Watermains which specifies a demand of 191 L/cap/day for commercial and institutional land use and is based on a calculated population.

The anticipated domestic flow for the commercial and hotel portions of the development under proposed conditions have been calculated as 0.02 L/s and 0.62 L/s for maximum day demand and 0.02 L/s and 0.50 L/s for maximum hourly demand. Detailed calculations are provided in Appendix B.

In accordance with the Fire Underwriters Survey (FUS), fire flows for the existing watermains which service the subject site area will not be less than 4,800 L/min for a 2-hour duration in addition to the maximum daily domestic demand, delivered with a residual pressure of no less than 140 KPa. Under proposed conditions, the required fire flow was calculated to be 3,750 L/min (62.50 L/s or 991 USGPM. Refer to detailed calculations provided in Appendix B. The following criteria and assumptions were applied:

- All vertical openings and exterior vertical communication will be properly protected (one-hour rating).
- The proposed building will be fire-resistive construction (fully protected frame, floors and roof).
- The proposed building will be classified as non-combustible, with a low occupancy hazard, and a 25% occupancy reduction has been applied.
- The proposed building will be equipped with a NFPA sprinkler system conforming to NFPA 13 standards. A 30% sprinkled reduction has been applied.
- A total separation charge of 55% has been applied.

The findings determine that this development can be serviced with a water connection that can be designed and constructed to comply with the applicable water criteria and standards of the City of Toronto. In addition, the existing municipal infrastructure can accommodate the flows from the proposed redevelopment without the need for external upgrades or retrofits.

3.2.3 Hydrant Coverage

There is an existing fire hydrant surrounding the development that can be used to service the development. A Siamese connection will be placed on the west face of the building well within the maximum allowable distance from a hydrant of 45 m, therefore satisfying the Building Code requirement. Refer to Drawing S1 for Siamese and hydrant location details.

4.0 Stormwater Management

4.1 Existing Storm Sewer Infrastructure

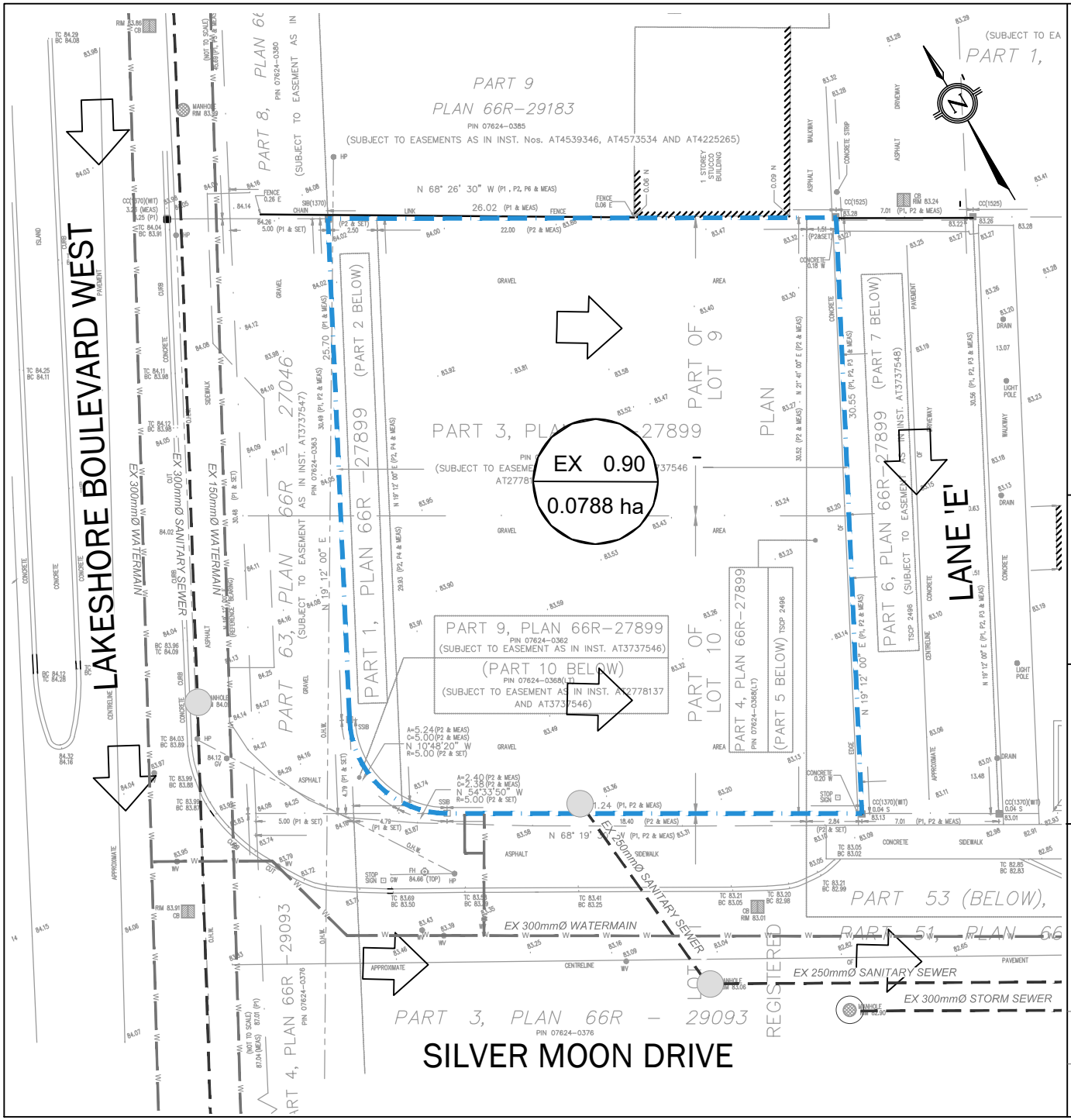
Based on the City of Toronto's Digital Map Owners Group (DMOG) Maps, plan and profiles, and design drawings from the surrounding development, this area of Toronto is currently serviced by a network of storm sewer infrastructure. The municipal storm infrastructure in the vicinity of the site includes:

- 375 mm diameter watermain along the west side of Lakeshore Boulevard
- 300 mm diameter watermain along Silver Moon Drive, which starts at the far east corner of the site and flows east

Refer to Figure 2 and Drawing S1 for locations of the existing sewer infrastructure.

4.2 Existing Drainage Conditions

The site is currently a vacant lot, comprised of a mix of dirt and gravel. The site slopes towards to the east to the existing laneway. Refer to Figure 2 for the pre-development drainage conditions.



LEGEND:

- PROPERTY LINE
- DRAINAGE BOUNDARY
- OVERLAND FLOW ROUTE
- DRAINAGE AREA NUMBER
- EX 0.90 — RUNOFF COEFFICIENT
- 0.2733 ha — DRAINAGE AREA (ha)
- EXISTING STORM SEWER
- EXISTING SANITARY SEWER
- EXISTING WATERMAIN

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650 EVANS AVENUE
TORONTO ONTARIO
M8W 2W6

Drawing Title

2157 LAKESHORE BOULEVARD W

PRE-DEVELOPMENT DRAINAGE

Drawn	Checked	Date	Drawing No.
CW	JG	19/11/19	**FIG2**
Scale		Project No.	
1:300		300044046	

File Name: 044046 - FIG 2 - EXISTING DRAINAGE.dwg Date Plotted: February 28, 2020 - 3:25 PM

4.3 Stormwater Management Design Criteria

The stormwater management criteria for this development are based on the *City of Toronto's Wet Weather Flow Management Guidelines (WWFMG, 2006)*.

The proposed development is a small new development with a total site area between 0.1 ha and 5.0 ha (Table 7, Section 2, WWFM Guidelines), hence the following stormwater management criteria are to be applied:

Water Quantity

Post-development flows draining to the municipal right-of-way must not exceed the 2-year pre-development flows with a maximum runoff coefficient of C=0.50 (100-year post-development flows controlled to 2-year pre-development levels), or the existing capacity of the receiving storm sewer, whichever is less.

Water Balance

Runoff from the 5 mm rainfall event is to be retained onsite through infiltration, evapotranspiration and/or water reuse measures.

Water Quality

Enhanced level stormwater quality treatment (80% TSS Removal) is to be provided.

Erosion and Sediment Control

Erosion and sediment control BMPs shall be designed, constructed and maintained in accordance with the *Erosion and Sediment Control Guidelines for Urban Construction.* The proposed development ensures no increase in erosion or downstream flooding.

Flood Flow Management

The proposed development is located within Basement Flooding Study Area 57, currently in progress. As per the City of Toronto's requirements the site should be protected against surface flooding from ponding on the streets during a 100-year storm event and is required to have an emergency overland flow route.

4.4 Proposed Stormwater Management

The site is part of the Humber Bay Precinct Development Area. Schaeffer and Associates Limited (Schaeffer) has indicated that water quality, quantity, and water balance requirements for the site have been incorporated as part of the adjacent Ocean Club Waterfront Condominium development at 59 & 60 Annie Craig Drive. The report

detailing these measures was not available at the time of preparing this report. Relevant excepts from the report will be provided in a future submission.

5.0 Erosion and Sediment Control During Construction

The erosion and sediment control plan for the Site will be designed in conformance with the *City of Toronto standards outlined in the Erosion and Sediment Control Guidelines for Urban Construction (2006).* Details for erosion and sedimentation control during construction will be subject to the City of Toronto's approval prior to issuance of Building Permit.

During the site grading and servicing works, there is potential for sediment-laden runoff to be directed toward the adjoining properties and municipal streets. Therefore, prior to any grading activity, the erosion and sediment control strategy will include the following:

- Temporary sediment control fence installed along the site perimeter prior to any grading activity.
- Gravel 'mud-mats' at construction vehicle entrances to minimize off-site tracking of sediments.
- Material stockpiles are to be located in appropriate locations.
- Inlet sediment control devices are to be used on existing catchbasins in municipal right-of-ways that may be affected by the construction of this site.

All reasonable measures will be taken to ensure that sediment loading is minimized both during and following construction.

6.0 Sanitary Servicing

6.1 Existing Sanitary Sewer Infrastructure

Based on the City of Toronto's Digital Map Owners Group (DMOG) Maps, plan and profiles, and design drawings from the surrounding development, this area of Toronto is currently serviced by a network of sanitary sewer infrastructure. The municipal sanitary infrastructure in the vicinity of the site includes:

- 225 mm diameter sanitary sewer along the west side of Lakeshore Boulevard
- 300 mm diameter sanitary sewer along the east side of Lakeshore Boulevard
- 250 mm diameter sanitary sewer along Silver Moon Drive, which starts at the east corner of the site and flows east

An existing 250 mm diameter sanitary connection and control manhole was left to service the development, to the 250 mm diameter sewer on Silver Moon Drive.

Refer to Figure 2 and Drawing S1 for locations of the existing sewer infrastructure.

6.1.1 Existing Sanitary Flows

The site is currently vacant and does not contribute sanitary flows above the infiltration allowance of 0.26 L/s/hectare. Considering the site area of 789 m^2, the resulting infiltration flow is 0.02 L/s.

6.2 Proposed Sanitary Servicing

6.2.1 New Connections

The existing 250 mm diameter sanitary connection at 4.0% to the 250 mm diameter sewer on Silver Moon Drive will be used to service the development. A new control manhole will be installed to avoid conflict with the proposed wall of the underground.

6.2.2 Proposed Sanitary Flows

The proposed sanitary flows generated by the development were calculated using City of Toronto Design Criteria which specifies an average flow rate of 250 L/day for commercial/institutional use.

The proposed development will have 165 hotel rooms (mix of 1-King bedrooms and 2-Queen bedrooms), with an equivalent population of 253 persons, calculated based on 1 person/bed. The development will also have 765 m^2 of commercial space with an equivalent population of 8 persons. Refer to the site statistics provided by the architect,

included in Appendix A. The total peak sanitary flow for the proposed development (including the groundwater pump discharge) is 1.00 L/s, as summarized in Table 1.

Table 1: Proposed Sanitary Flows

Proposed Development	Units/Density	Population	Flows (L/s)
Hotel GFA	165 Rooms	253	0.73
Commercial GFA	765 m²	8	0.02
Groundwater	-	-	0.25
Total	**-**	**261**	**1.00**

The proposed development will increase the overall sanitary discharge from 0.02 L/s to 1.00 L/s to the Sliver Moon Drive sanitary sewer. Complete sanitary calculations have been provided in Appendix C.

6.3 Sanitary Sewer Capacity Analysis

The site falls within the Humber Bay Precinct Development Area. Based on the Humber Bay Shores Sanitary Tributary Plan provided by Schaeffer & Associates Limited, the allocated sanitary flow for the subject site pertains to 0.34 ha of designated commercial use gross floor area. This equates to 0.73 L/s in considering infiltration and an average commercial wastewater flow of 180,000 L/floor ha/day for new local sewers, as specified in the City's Sewer and Watermain Guidelines and in the Brief Sanitary Analysis Report for Marine Parade Drive, within the Humber Bay Shore Precinct Plan. The Sanitary Tributary Plan and relevant excerpts from the Brief Sanitary Analysis Report have been included in Appendix D.

The proposed discharge of 1.00 L/s is an increase of 0.27 L/s from the allocated flow in Schaeffer's Sanitary Plan. The proposed increase is mainly due to the omittance of groundwater discharge within Schaeffer's Sanitary Analysis for the Humber Bay Shore Precinct Plan.

Consultation is required with the City and Schaeffer & Associates Limited on the availability of additional capacity within the sanitary sewers.

7.0 Ground Water Discharge

A Geohydrology Assessment for 2157 Lakeshore Boulevard was completed by Soil Engineers Limited (SEL) in July 2019. Excerpts from the Assessment Report have been provided in Appendix D. Based on the findings of their investigation, groundwater is required to be pumped and discharged to the City sewer system during temporary construction dewatering and as a part of the design of the building. As required, an inspection port and meter will be installed to monitor the flow rate prior to discharge. Once a pump has been specified, the flow rate will be verified to ensure proper groundwater discharge.

7.1 Groundwater Quality

The results of the groundwater samples collected indicate exceedances to the *Guideline Limits for Storm Sewer Discharge*. The results also indicate site groundwater complies with the *Guideline Limits for Sanitary & Combined Sewer Discharge* for all parameters analyzed at this time. The groundwater is proposed to discharge to the 250 mm sanitary sewer within Silver Moon Drive.

7.2 Permanent Private Water Drainage System (PWDS)

It is indicated in the report long-term foundation drainage rates for the underground parking structure could reach a maximum of 14.62 L/day. Foundation drainage rates for the proposed elevator pit structures beneath the parking facility is estimated to reach a maximum of 8.69 L/day. Considering both rates, the site total is estimated to reach a maximum of 23.31 L/day (0.004 USGPM).

The steady-state groundwater discharge rate will be collected and stored in a sump pit. The stored water will then be pumped and released to the 250 mm sanitary sewer within Silver Moon Drive, at a rate no more than 0.25 L/s.

It has been acknowledged a letter is to be provided by the Mechanical consultant, confirming the pump discharge rate of 0.25 L/s. However, a Mechanical consultant has yet to be retained for this project and upon engaging a mechanical engineer, a letter will be provided at that point in time.

7.3 Short-Term Construction Ground Water Dewatering

The anticipated maximum construction dewatering flow rate is calculated as 1,392 L/day (0.02 L/s) as the temporary discharge rate which includes peak groundwater flow for both the building excavation and the elevator pit below. During construction the groundwater pump discharge rate will be limited to the total proposed discharge of 1.00 L/s.

8.0 Conclusions and Recommendations

The analysis and recommendations for servicing of the proposed development are summarized in the sections below.

8.1 Water Servicing

- The calculated domestic flow maximum day demand due to the proposed development is 0.64 L/s.
- The calculated fire flow demand due to the proposed development is 62.50 L/s.

8.2 Stormwater Servicing

- The development site as part of the Humber Bay Shore Precinct Plan, has stormwater attenuation accounted for with the adjacent Ocean Club Waterfront Condominium development at 59 & 60 Annie Craig drive.
- Stormwater flows will be directed to Ocean Club and outlet through the existing storm connection for the site.

8.3 Sanitary Servicing

- The total peak sanitary flow for the proposed development (including the groundwater discharge) has been calculated as 1.00 L/s which represent a 0.27 L/s increase from the allotted flow within the Humber Bay Shores Sanitary Plan.
- Further consultation is required with the City of Toronto and Schaeffer & Associates Limited on available sewer capacity.
- The new service connections will consist of two 150 mm diameter connections at a 2.00% slope to the 300 mm sanitary sewer located within Davenport Road.
- The service connection consists of the existing 250 mm diameter connection at a 4.00% slope to the 250 mm sanitary sewer within Silver Moon Drive.

8.4 Groundwater Discharge Summary

- Permanent groundwater will be limited to a pump rate of 0.25 L/s (4 USGPM) to be discharged to the sanitary sewer network along Silver Moon Drive via the existing sanitary service connection.
- Groundwater will discharge to the existing 250 mm sanitary sewer along Silver Moon Drive.
- Construction dewatering discharge has been limited to the total post-development sanitary discharge rate of 1.00 L/s.

8.5 Recommendations

The following recommendations are presented:

- The contractor shall locate and verify all dimensions, levels, inverts and datums onsite and report any discrepancies or omissions to the engineer prior to construction.

In summary, the site can be adequately serviced with respect to water supply, sanitary drainage, stormwater drainage, and stormwater management.

Accordingly, we hereby recommend the adoption of this report as it relates to the provision of servicing works, and for the purposes of Site Plan Approvals application.

BURNSIDE

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Appendix A

Background Information

2157 LAKESHORE BLVD. W.
PROJECT STATISTICS

Project No: 114563

Area

Floor	GCA per floor		GFA - Residential Use (569-13)		GFA - Non-Residential Use (569-13)		RGFA (438-86)		NRGFA (438-86)	
	m²	ft²	m²	ft²	m²	ft²	m²	ft²	m²	ft²
Mechanical Penthouse	486.2	5,233.4	0.0	0.0			486.2	5,233.4		
Level 13	668.6	7,196.8	668.6	7,196.8			640.8	6,897.5		
Level 12	668.6	7,196.8	668.6	7,196.8			640.8	6,897.5		
Level 11	668.6	7,196.8	668.6	7,196.8			640.8	6,897.5		
Level 10	668.6	7,196.8	668.6	7,196.8			640.8	6,897.5		
Level 9	668.6	7,196.8	668.6	7,196.8			640.8	6,897.5		
Level 8	668.6	7,196.8	633.2	6,815.8			640.8	6,897.5		
Level 7	668.6	7,196.8	633.2	6,815.8			640.8	6,897.5		
Level 6	668.6	7,196.8	633.2	6,815.8			640.8	6,897.5		
Level 5	668.6	7,196.8	633.2	6,815.8			640.8	6,897.5		
Level 4	668.6	7,196.8	633.2	6,815.8			640.8	6,897.5		
Level 3	668.6	7,196.8	633.2	6,815.8			640.8	6,897.5		
Level 2	660.0	7,104.2	0.0	0.0	513.3	5,525.2	0.0	0.0	548.7	5,906.2
Ground Floor	492.0	5,295.8	175.0	1,883.7	292.9	3,152.7	174.9	1,882.6	292.9	3,152.7
P1	737.5	7,938.4	737.5	7,938.4			0.0	0.0		
Total (Above Grade)	**8,992.8**	**96,797.7**	**7,317.3**	**78,762.3**	**806.2**	**8,678.0**	**7,709.9**	**82,988.7**	**841.6**	**9,059.9**
Total (Below Grade)	**737.5**	**7,938.4**								

TOTAL	**9,730.3**	**104,736.1**	GFA (569-13)			GFA (438-86)		
			m²	ft²		m²	ft²	
			8,123.5	**87,440.3**		**8,551.5**	**92,047.6**	

DENSITY

Site Area (sm)*	788.0
FSI (569-13)	10.31
FSI (438-86)	10.85

UNITS

Floor	DOUBLE QUEEN	KING	Total
Level 13	8	7	15
Level 12	8	7	15
Level 11	8	7	15
Level 10	8	7	15
Level 9	8	7	15
Level 8	8	7	15
Level 7	8	7	15
Level 6	8	7	15
Level 5	8	7	15
Level 4	8	7	15
Level 3	8	7	15
Totals	**88**	**77**	**165**

AMENITY

Floors	Indoor m²	Outdoor m²
Total Indoor amenity Provided (@2ND FLOOR)	**246.0**	

BUILDING HEIGHT

	Height (m)	Geodedic Elevation (m)
Height (Top of Mechanical Penthouse)	**50.600**	**134.600**
Height (Top of the 13th Floor)	**44.600**	**128.600**

Building height measured from established grade: 84.0m

VEHICULAR PARKING REQUIRED

Use	No.Units/GFA	Required Parking Rate	Required Parking Supply	
Hotel	165	0.32 spaces per unit	53	Spaces
Restaurant	158 sq.m.	0 if GFA <200 sq.m.	0	Spaces
	Total Required		**53**	**Spaces**
Electric Vehicle Infrastructure		20% of the parking spaces	11	Spaces

Accessible Parking Spaces

From By-law:

"The number of required parking spaces is 13 to 100, a minimum of 1 parking space for every 25 parking spaces or part thereof must comply with all regulations for an accessible parking space in Section 200.15"

Two (2) accessible parking spaces required.

An accessible parking space must have the following minimum dimensions:

(A) Length of 5.6 metres;

(B) Width of 3.4 metres; and

(C) Vertical clearance of 2.1 metres

(D) The entire length of an accessible parking space must be adjacent to a 1.5 metre wide barrier free aisle. In this case, the two accessible parking spaces can share the barrier free aisle.

VEHICULAR PARKING PROVIDED

Parking Types		Parking Provided
Vehicular Parking	Parking Provided in the Site	44
	Parking Provided from the Adjacent Site	10
Total Provided		**54**
Accessible Parking		2
Electric Vehicle Infrastructure		12

BICYCLE PARKING SPACES

Use	No.Units/GFA	Required Parking Rate	Required Parking Short-Term	Required Parking Long-Term
Hotel	165	N/A	0	0
Restaurant	158 sq.m.	Short Term: 3 plus 0.25 **bicycle parking spaces** for each 100 square metres Long Term: 0.13 **bicycle parking spaces** for each 100 square metres	4	1
Total Required			**4 short-term and 1 long-term**	
Total Provided			**4 short-term and 1 long-term**	
% of Net Floor Area Occupied for each Bicycle Parking Floor				**1%**

Statistics Template - Toronto Green Standard Version 3.0

Mid to High Rise Residential and all New Non-Residential Development

The Toronto Green Standard Version 3.0 Statistics Template is submitted with Site Plan Control Applications and stand alone Zoning Bylaw Amendment applications. Complete the table and copy it directly onto the Site Plan submitted as part of the application.

For Zoning Bylaw Amendment applications: complete General Project Description and Section 1.

For Site Plan Control applications: complete General Project Description, Section 1 and Section 2.

For further information, please visit www.toronto.ca/greendevelopment

General Project Description	Proposed
Total Gross Floor Area	8123.5
Breakdown of project components (m²)	
Residential	7317.3(Hotel Units)
Retail	257.37
Commercial	
Industrial	
Institutional/Other	548.83(Hotel Amenity)
Total number of residential units	165

Section 1: For Stand Alone Zoning Bylaw Amendment Applications and Site Plan Control Applications

Automobile Infrastructure	Required	Proposed	Proposed %
Number of Parking Spaces	53	54	100%
Number of parking spaces dedicated for priority LEV parking	0	0	
Number of parking spaces with EVSE	11	11	20%

Cycling Infrastructure	Required	Proposed	Proposed %
Number of long-term bicycle parking spaces (residential)			
Number of long-term bicycle parking spaces (all other uses)	1	1	100%
Number of long-term bicycle parking (all uses) located on:			
a) first storey of building			
b) second storey of building			
c) first level below-ground	1	1	100%
d) second level below-ground			
e) other levels below-ground			

Statistics Template - Toronto Green Standard Version 3.0

Mid to High Rise Residential and all New Non-Residential Development

Cycling Infrastructure	Required	Proposed	Proposed %
Number of short-term bicycle parking spaces (residential)			
Number of short-term bicycle parking spaces (all other uses)	4	4	100%
Number of male shower and change facilities (non-residential)	0	0	
Number of female shower and change facilities (non-residential)	0	0	

Tree Planting & Soil Volume	Required	Proposed	Proposed %
Total Soil Volume (40% of the site area ÷ 66 m² x 30 m³)	143.32Cu.mt	143.33Cu.mt	100%

Section 2: For Site Plan Control Applications

Cycling Infrastructure	Required	Proposed	Proposed %
Number of short-term bicycle parking spaces (all uses) at-grade or on first level below grade			

UHI Non-roof Hardscape	Required	Proposed	Proposed %
Total non-roof hardscape area (m²)			
Total non-roof hardscape area treated for Urban Heat Island (minimum 50%) (m²)			
Area of non-roof hardscape treated with: (indicate m²)			
a) high-albedo surface material			
b) open-grid pavement			
c) shade from tree canopy			
d) shade from high-albedo structures			
e) shade from energy generation structures			
Percentage of required car parking spaces under cover (minimum 75%)(non-residential only)			

Green & Cool Roofs	Required	Proposed	Proposed %
Available Roof Space (m²)			
Available Roof Space provided as Green Roof (m²)			
Available Roof Space provided as Cool Roof (m²)			
Available Roof Space provided as Solar Panels (m²)			

CLIENT

2599302 Ontario Ltd.

650 Evans Avenue, Toronto, On M8W 2W6

ISSUES

No.	DESCRIPTION	DATE
1	ISSUE FOR SPA SUBMISSION	2020-02-07

CONSULTANTS

SEAL

PRIME CONSULTANT

IBI

IBI GROUP
55 St. Clair Avenue West, 7th Floor,
Toronto, ON M4V 2Y7, Canada
tel 416 596 1930 fax 416 596 0644
ibigroup.com

PROJECT

2157 Lakeshore BLVD W

Project Address
City,Province/State
Postal/ZIP Code

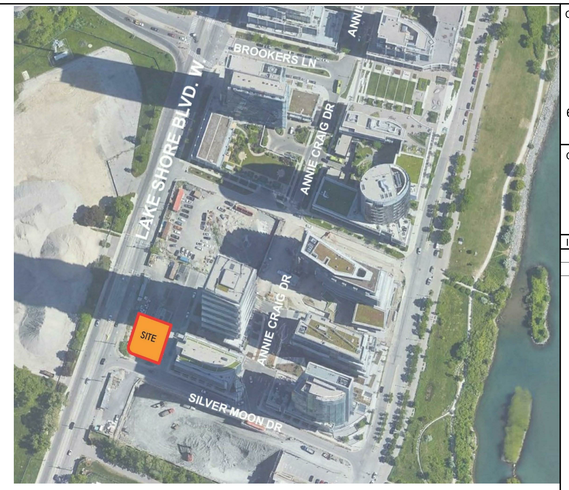
PROJECT NO:	SCALE:
114563	NTS
DRAWN BY:	CHECKED BY:
PROJECT MGR:	APPROVED BY:

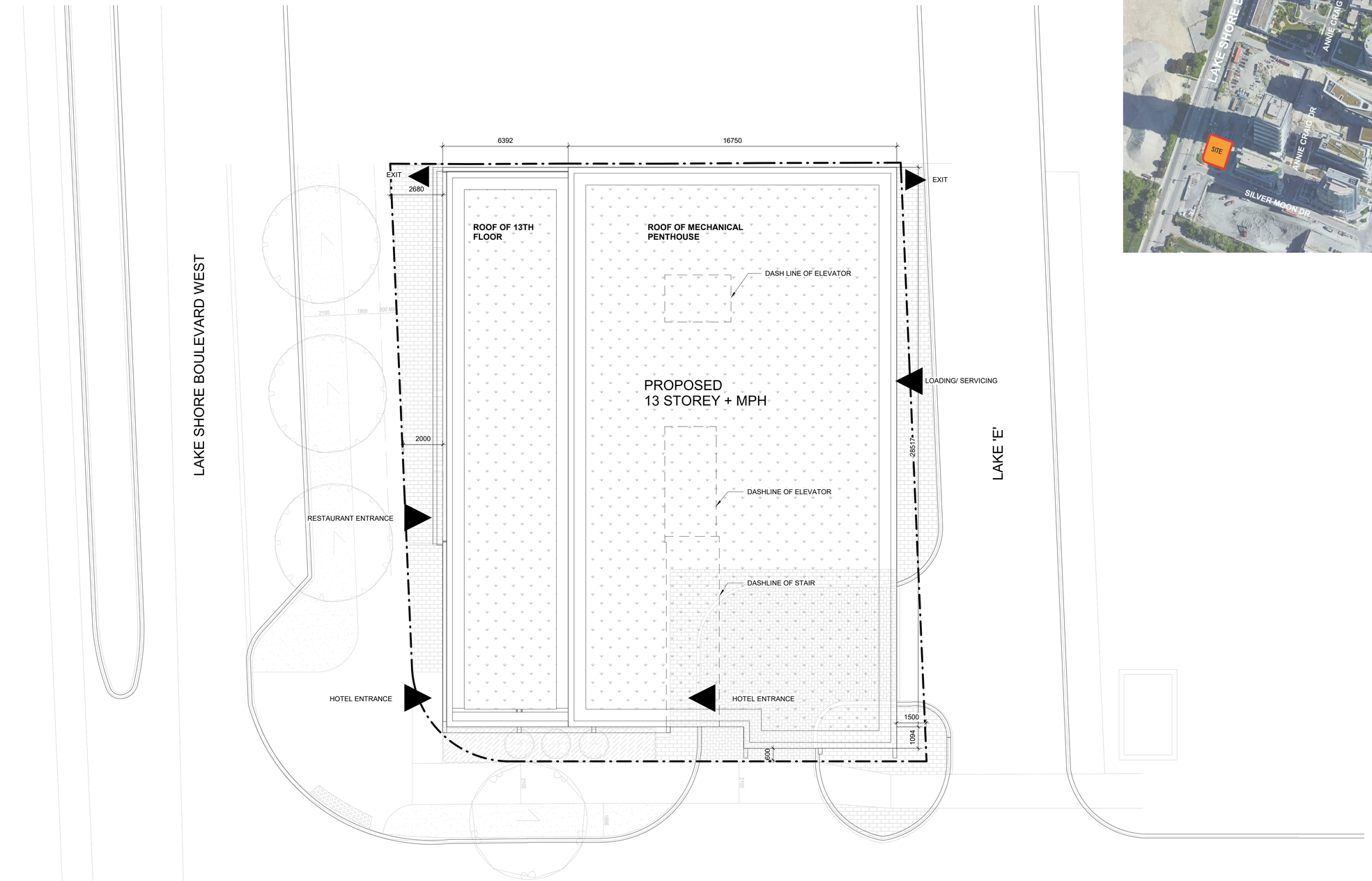
SHEET TITLE

SITE STATISTICS AND TGS TEMPLATE

SHEET NUMBER	ISSUE
A101	1

SCALE CHECK 10mm 1 in





1 A102 SITE PLAN
Scale: 1 : 100

True North
Project North

CLIENT
2599302 Ontario Ltd.

650 Evans Avenue, Toronto, On M8W 2W6

ISSUES

No.	DESCRIPTION	DATE
1	ISSUE FOR SPA SUBMISSION	2020-02-07

CONSULTANTS

SEAL

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PROJECT
2157 Lakeshore BLVD W
Project Address
City,Province/State
Postal/ZIP Code

PROJECT NO:	SCALE:
114563	1 : 100
DRAWN BY:	CHECKED BY:
PROJECT MGR:	APPROVED BY:

SHEET TITLE
SITE PLAN AND CONTEXT PLAN

SHEET NUMBER
A102

ISSUE
1

SCALE CHECK
10mm
1 in

BURNSIDE

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Appendix B

Water Demand Calculations

BURNSIDE

CALCULATION SHEET

Project: **2157 Lakeshore Boulevard West**
Toronto, Ontario

Water Demand

Prepared by:	E. Way
Checked by:	M. Coleridge
Project No:	300044046
Date:	28-Feb-20

Fire Flow Calculation

Based on Fire Underwriters Survey

1 $F = 220\ CA^{1/2}$

Where F = Fire flow (L/min)
C = construction type coefficient
= 0.6 (Fire-resistive construction)
A = total floor area (sq.m.) excluding basements, includes garage*

		Area Applied
Level 3	557 m^2	25%
Level 4	557 m^2	100%
Level 5	557 m^2	25%
Total Area =	836 sq.m.	

F = 3,816.04 L/min

Round to nearest 1000 L/min
F = 4,000 L/min

2 Occupancy Reduction
25% reduction for Low Hazard Hotel Occupancy
F = 3,000 L/min

3 Sprinkler Reduction
30% Reduction for NFPA Sprinkler System
F = 2100 l/min

4 Separation Charge

25%	North	0m to 3m	
0%	West	45m +	
15%	South	10.1m to 20m	
15%	East	10.1m to 20m	
55%	Total Separation Charge		1650 L/min

F = 3,750.00 L/min
62.50 L/s
F = 991 US GPM

BURNSIDE

CALCULATION SHEET

Project: **2157 Lakeshore Boulevard West**
Toronto, Ontario

Water Demand

Prepared by:	E. Way
Checked by:	M. Coleridge
Project No:	300044046
Date:	28-Feb-20

Domestic Flow Calculations

Commercial

Population = 8 from Sanitary Design Sheets
Average Day Demand = 191 L/cap/day (1 US Gallon=3.785 L)
= 0.02 L/s
= 0.30 US GPM (1 US GPM=15.852L/s)

Max. Daily Demand Peaking Factor = 1.1
Max. Daily Demand = 0.02 L/s
= 0.32 US GPM

or

Max. Hourly Demand Peaking Factor = 1.2
Max. Hourly Demand = 0.02 L/s
= 0.35 US GPM

Hotel (Institutional)

Population = 253
Average Day Demand = 191 L/cap/day
= 0.56 L/s
= 8.87 US GPM

Max. Daily Demand Peaking Factor = 1.1
Max. Daily Demand = 0.62 L/s
= 9.75 US GPM

or

Max. Hourly Demand Peaking Factor = 0.9
Max. Hourly Demand = 0.50 L/s
= 7.98 US GPM

Max. Day Domestic Flow= 0.64 L/s
Max. Hourly Domestic Flow= 0.53 L/s
Fire Flow= 62.50 L/s

BURNSIDE

CALCULATION SHEET

Project:	**2157 Lakeshore Boulevard West**		
	Toronto, Ontario	Prepared by:	E. Way
		Checked by:	M. Coleridge
	Water Demand	Project No:	300044046
		Date:	28-Feb-20

Pressure Losses

Hazen-Williams Formula

$V = kCR_h^{0.63}S^{0.54}$

k= 0.849 - conversion factor (0.849 for SI units and 1.318 for US customary units)

C= 130 - roughness coefficient (PVC - 130, Cast Iron - 100-140)

$S = h_f/L$

Rh= D/4 - hydraulic radius (D/4 for full flow, A/P_W for partially flow)

Main Connection

Domestic

Q=	0.5	l/s
Diameter=	150	mm
Area=	1.77E-02	
L=	5.3	m
V=	0.03	m/s
S=	1.13E-05	
R_h=	0.04	
H_f=	0.00	m
=	0.00	psi

Fire Fighting

Flow Requirements=	62.5	l/s
Diameter=	200	mm
Area=	3.14E-02	
L=	5.3	m
V=	1.99	m/s
S=	1.94E-02	
R_h=	0.05	
H_f=	0.10	m
=	0.15	psi

BURNSIDE

CALCULATION SHEET

Project: **2157 Lakeshore Boulevard West**
Toronto, Ontario

Water Demand

Prepared by:	E. Way
Checked by:	M. Coleridge
Project No:	300044046
Date:	28-Feb-20

Flow Test

* As per flow test completed on a hydrant located on Silver Moon Drive, on September 26, 2019.

Static Pressure = 115 psi

Pressure (psi)	***Flow (L/s)***
105	106
100	173

Anticipated Residual Pressures

Scenario	**Flow (L/s)**	**Pressure (psi)**	
		Estimated	**Required**
Non-Fire	0.6	***114.9***	39.9
Fire	63.1	***107.7***	20.3
	EPANET:	***114.9***	
		108.3	

Fire Flow is well above minimum of 20.3psi.

JACKSON WATERWORKS

Telephone: (905) 547-6770
Toll Free: (800)-734-5732
E-mail: jww@bellnet.ca
Website: www.jacksonwaterworks.ca

Ms. Jean Gordon
R.J. Burnside & Associates Limited
1465 Pickering Parkway, Suite 200
Pickering Ontario **L1V 7G7**

26 September 2019

Jackson Waterworks has recently completed fire hydrant flow testing at 2157 Lake Shore Boulevard West in Toronto. Actual test completed on Silver Moon Drive.

We define the Test Hydrant as the one being flowed, and the Base Hydrant as the one where static and residual pressures are recorded. Wherever possible, we inspect the secondary valve for the Test Hydrant to make sure it is in the fully open position. Likewise, we count the number of turns needed to open the Test Hydrant (to make sure it is opening completely).

The test revealed an irregularity, in that the residual pressure observed at the Base Hydrant did not drop enough when the second nozzle port was opened. Conversely, the residual pressure dropped too much when only one nozzle was open. The water main was allowed to flow for some time to make sure it had reacted fully to the sudden demand. This can occur in high pressure and/or large diameter watermains.

We consider the theoretical flow calculation for this test to be a minimum value.

The secondary valve for the Test Hydrant could not be located for inspection at the time of the test.

Flow testing was completed in accordance with NFPA 291 guidelines.

Trusting this meets with your approval, we are...

Yours truly,

Mark Schmidt
Jackson Waterworks

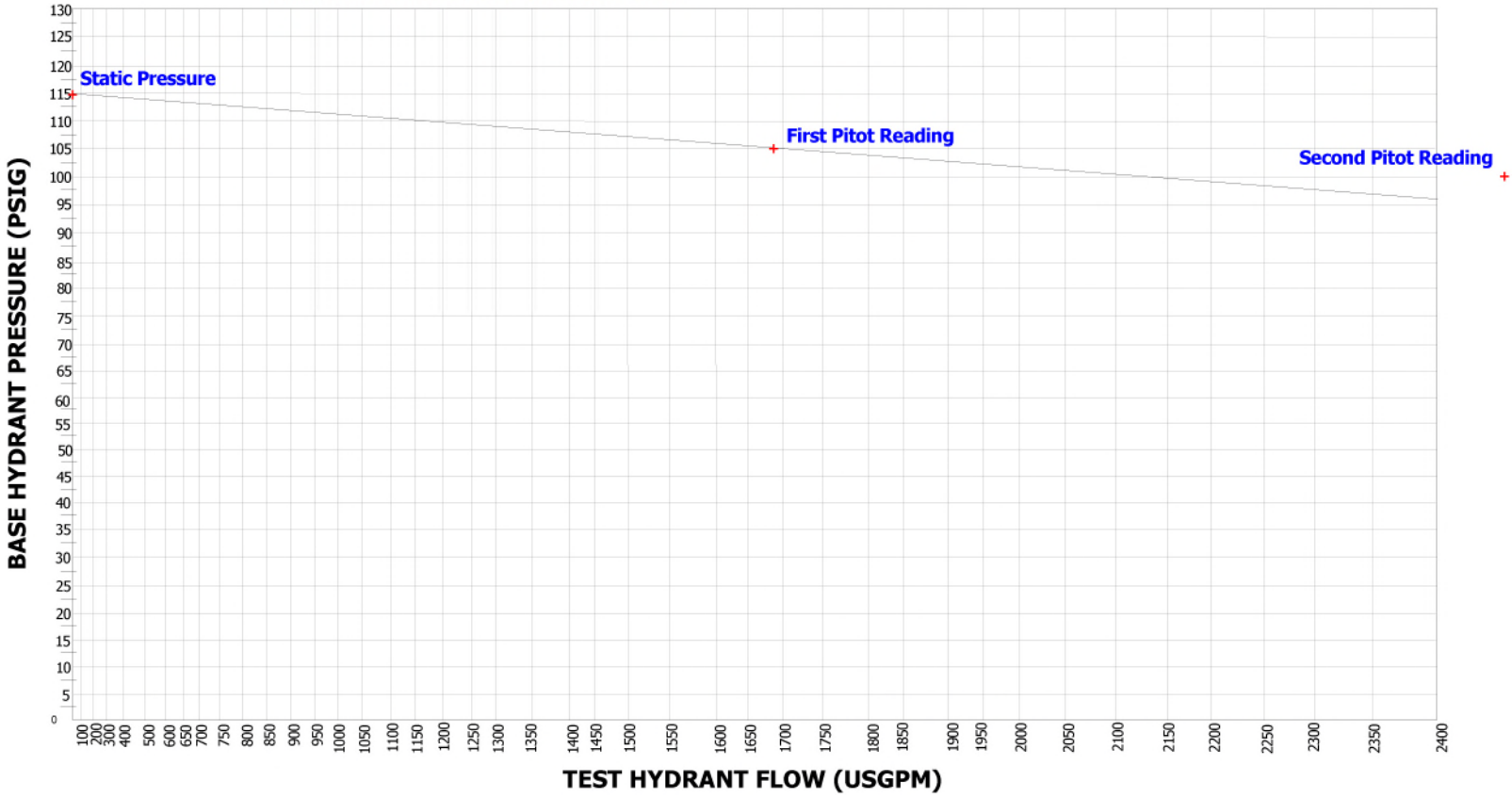
221 Sherman Avenue North, Hamilton, Ontario L8L 6N2

JACKSON WATERWORKS

Telephone: 905.229.3176
Toll Free: 800.734.5732
email: jww@bellnet.ca
Website: www.jacksonwaterworks.ca

FIRE HYDRANT FLOW TEST RESULTS

TEST #1 of 1



No. of Ports Open	Port Dia. (in)	Pitot Reading (psig)	Pitot Conversion (usgpm) Conversion Factor = 0	Residual Pressure (psig)
1	2.50	100	1678	105
2	2.50	67/67	2746	100
3	2.50			
4	2.50			
THEORETICAL FLOW @ 20psi			5659	

Test Date	24 September 2019
Test Time	11:00am
Pipe Diameter (in)	Unknown
Static Pressure (psig)	115
Secondary Valve Position	Not Inspected

Site Information		
Site Name or Developer Name	Not Provided	**Engineer/Architect**: R.J. Burnside & Associates
Site Address/Municipality	2157 Lake Shore Boulevard West, Toronto	**Test Hydrant Make & Model:** Canada Valve Century
Location of Test Hydrant(s)	Silver Moon Drive, 2nd South of Lake Shore Boulevard West	
Location of Base Hydrant	Silver Moon Drive, 1st South of Lake Shore Boulevard West	
Comments	Testing has been completed in accordance with NFPA-291 guidelines wherever and whenever possible and practical. Conversion factors for pitot tube readings may have been used depending on hose nozzle internal design and installation profile. Refer to attached cover letter for additional information.	
Verified By	Mark Schmidt	

7104 Canborough Road, Dunnville, ON N1A 2W1

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Appendix C

Sanitary Calculations

BURNSIDE

CALCULATION SHEET

Project:	**2157 Lakeshore Boulevard West**		
	Toronto, Ontario	Prepared by:	E. Way
		Checked by:	M. Coleridge
	Sanitary Servicing Analysis	Project No:	300044046
		Date:	28-Feb-20

Allocated Site Flows - Schaeffer

Commercial

GFA (m^2)	GFA (ha)
3,400.0	0.340

$Q_{(Commercial)}$= 180,000 L/floor ha/day

$Q_{(Commercial)}$= 0.71 L/s

Infiltration

Infiltration Allowance=	0.26	L/s/ha
A=	0.08	ha
$Q_{infiltration}$=	0.02	L/s

$Q_{Total\ Allocated}$ = 0.73 L/s

Proposed Site Flows

Commercial

GFA (m^2)	GFA (ha)	P/m^2	Population
765	0.077	0.011	8

P=	8	persons	
$Q_{(Commercial)}$=	250	L/floor ha/day	
	$Q_{(Retail)}$=	**0.02**	**L/s**

Hotel (Institutional)

Unit Type	Unit Number	Person/Bed	Population
King Bed	77	1	77
2 x Queen Bed	88	1	176
Total:	165		253

P=	253	persons	
$Q_{(Institutional)}$=	250	L/cap/day	
	$Q_{(Institutional)}$=	0.73	L/s

Groundwater

$Q_{(Peak)}$=	0.25	L/s

$Q_{(Proposed\ Total)}$=	**1.00**	**L/s**

Proposed Increase =	**0.27**	**L/s**

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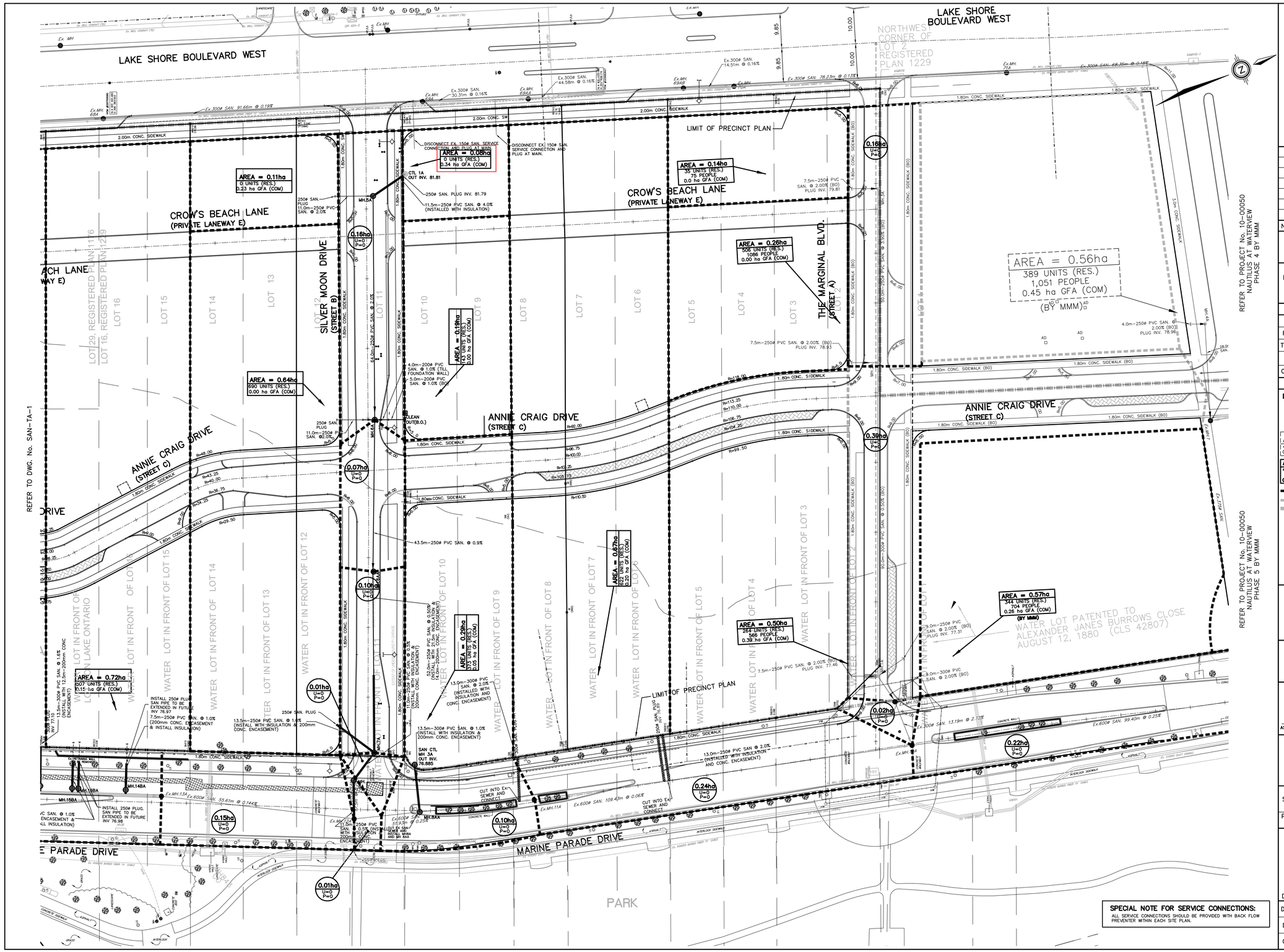
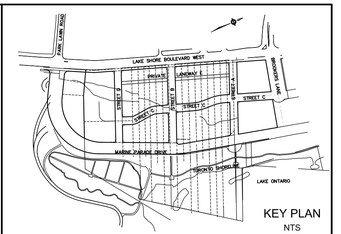
Appendix D

Supporting Documents





KEY PLAN
NTS

DRAWING RECORD

DIGITAL FILE No.	BASE PLAN DRAWN BY	DATE
REFERENCE FILE No.	INITIAL DESIGN DRAWN BY	DATE

REVISIONS

No.	REMARKS	DATE	AUTH.
1.	SUBMISSION TO CITY	SEP. 30/10	K.SH.

BEFORE ANY DIGGING
BELL TELEPHONE – CONSUMERS GAS – ONTARIO HYDRO – ETOBICOKE HYDRO – T.V. CABLE – TRAFFIC LIGHT CABLE MUST BE CONTACTED FOR EXACT LOCATION OF THEIR UTILITIES

FIELD INFORMATION

TOTAL STA.			
FIELD BOOKS			
TOPO. BOOKS			
ORDER NO.	ROAD	STORM	SANITARY
CONTRACT NO.			

NOTES

LEGEND

- 0.03ha U=0 P=0 — DENOTES TRIBUTARY AREA IN HECTARES; DENOTES RUN-OFF COEFFICIENT
- AREA = 0.72ha; 488 UNITS (RES.); 0.20 ha GFA (COM) — DENOTES EXTERNAL TRIBUTARY AREA IN HECTARES; DENOTES NUMBER OF UNITS; DENOTES GROSS FLOOR AREA (COMMERCIAL)
- AREA = 0.72ha; 488 UNITS (RES.); 181 PEOPLE; 0.20 ha GFA (COM) — DENOTES TRIBUTARY AREA IN HECTARES; DENOTES NUMBER OF UNITS; DENOTES POPULATION; DENOTES GROSS FLOOR AREA (COMMERCIAL)
- DENOTES SANITARY DRAINAGE BOUNDARY
- DENOTES EXTERNAL SANITARY DRAINAGE BOUNDARY
- DENOTES LIMIT OF PRECINCT PLAN

BENCH MARK AND LAYOUT INFORMATION
ELEVATIONS ARE OF GEODETIC ORIGIN AND ARE DERIVED FROM THE CITY OF TORONTO BENCH MARK No. E1194, HAVING AN ELEVATION = 79.415m
BEARINGS SHOWN HEREON ARE GRID BEARINGS AND ARE DERIVED FROM HORIZONTAL CONTROL MONUMENTS No. 02068067 AND No. 0207000090 AND ARE REFERRED TO THE ONTARIO CO-ORDINATE SYSTEM MTM ZONE 10, CENTRAL MERIDIAN 79°30' WEST LONGITUDE.

SCHAEFFERS CONSULTING ENGINEERS
6 Ronrose Drive, Concord, Ontario L4K 4R3
Tel: (905) 738-6100
Fax: (905) 738-6875
E-mail: design@schaeffers.com
SCHAEFFER & ASSOCIATES LTD.

ENGINEERING & CONSTRUCTION SERVICES DIVISION
ACCEPTED TO BE IN ACCORDANCE WITH THE CITY OF TORONTO STANDARDS. THIS ACCEPTANCE IS NOT TO BE CONSTRUED AS VERIFICATION OF ENGINEERING CONTENT.
ASHRAF HANNA, P.Eng., MANAGER–DEVELOPMENT ENGINEERING DATE: _____

HUMBER BAY SHORES PRECINCT PLAN
SANITARY TRIBUTARY AREAS
PART II

SCALE	HORIZ 1:500 / VERT	SAN-TA-2
PROJECT	2008 - 3273	RELATED CROSS SECTIONS

REGISTERED PROFESSIONAL ENGINEER — H. O. TOZCU — Jun.17, 2010 — PROVINCE OF ONTARIO

DESIGN		DESIGN	
DIVISION	RD SAN STM WM	CITY DRAWING NO:	
DESIGN			
CHECK		DATE	OCTOBER, 2010

- Humber Bay Shores (HBS) precinct plan development based on As-of-right unit numbers with no flow from Park Lawn Road
- Ultimate development of HBS precinct plan and with no flow from Park Lawn Road
- HBS precinct plan development based on As-of-right unit numbers and with 50l/s flow from Park Lawn Road
- Ultimate development of HBS precinct plan with 50l/s flow from Park Lawn Road

The Minutes of meeting which explains these four scenarios have been presented in Appendix E.

3.4 Basis of Analysis

The following criteria have been used to estimate the population in this analysis

One bedroom population	1.4 people /unit
Two bedroom population	2.1 people /unit
Three bedroom	3.1 people /unit
Average apartment unit	2.7 people /unit
Office building	3.3 people /100 sqm
Retail	1.1 people /100 sqm

The following criteria have been discussed at the meeting and agreed to use in this analysis.

DWF	240 l/p/day
Non-residential flow	180,000 l/ha (GFA) /ha

1.0 EXECUTIVE SUMMARY

Soil Engineers Ltd. (SEL) has conducted a hydrogeological assessment for a development site at 2157 Lakeshore Boulevard West, City of Toronto, located east of the intersection of Silver Moon Drive, and Lakeshore Boulevard West. Surrounding land use includes; commercial and residential properties to the north, residential properties to the east, Silver Moon Drive, and a residential development currently under construction to the south, and Lakeshore Boulevard West, and an undeveloped property to the west of the site. The site is currently occupied by a paved above-grade parking lot. The site is anticipated to be developed as a 15- storey hotel building having a 1-level underground parking structure.

The subject site lies on the mapped localized silt to silty clay plains within the Physiographic Region of Southern Ontario known as the Iroquois Sand Plain, where a Sand Plain comprises the dominant local physiography.

A review of the surface geological map of Ontario shows that the subject site is located close to the boundary between outcropping bedrock and glaciolacustrine deposits (Sandy). The sandy glaciolacustrine deposits, consists, predominantly of sand, gravelly sand, and gravel, interpreted as being nearshore and beach deposits, and the bedrock is comprised of undifferentiated carbonate and clastic sedimentary rock, which is exposed at surface or is covered by a discontinuous, thin layer of overburden soil drift.

The subject site is located within the Lower Humber sub-watershed of the Humber River Watershed.

A review of the local topography shows that the site is generally flat, exhibiting a gentle decline in elevation relief towards its east limits.

This study has disclosed that beneath the granular fill, and earth fill layers, the native soils underlying the subject site consist of consists of silt, silty clay, and shale bedrock, extending to the termination depth of the investigation at 9.9 m below the prevailing ground surface.

The findings of this study confirm that the groundwater level elevations beneath the site, range from 77.10 to 80.60 masl (i.e., 3.30 to 6.60 m below ground surface). A review of the average of shallow groundwater elevations suggests that it flows in southerly, southeasterly, and southwesterly directions from an interpreted localized higher groundwater area, located within the northwestern portion of the site.

The single well response tests yielded hydraulic conductivity (K) estimates for the silty clay unit which range 9.2×10^{-9} to 1.0×10^{-8} m/sec, and the K estimate for the silty clay and shale unit is estimated at 6.7×10^{-9} m/sec. These results suggest low groundwater seepage rates are expected during earthworks excavation, where minor construction dewatering is anticipated to lower the groundwater table to facilitate safe, stable subsoil conditions for excavation and construction.

The shallow groundwater level elevation is about 0.60 m below the proposed 1-level underground parking structure, and it is about 2.60 m above the proposed elevator pit structures.

The dewatering flow estimates for the construction of the proposed underground parking structures suggests that it is about 425 L/day; by applying a safety factor of three (3), it could reach a maximum of 1,274 L/day.

The dewatering flow estimates for the construction of the proposed elevator pit structure suggests that the flow rate is about 39 L/day; by applying a safety factor of three (3), it could reach a maximum of 118 L/day. This dewatering rate for

excavation is below the 50,000 L/day threshold limit for requiring an approval for any proposed construction related groundwater takings, which will not require any registration or approval filing with the MECP.

The estimated zone of influence for construction dewatering could reach a maximum of 1.1 m away from the conceptual dewatering alignments around the proposed building footprint. There are adjacent neighbouring residential and mixed-used development properties, that are within the conceptual zone of influence for construction dewatering; however, there are no groundwater receptors, such as bodies of water, watercourses or wetlands are present within the conceptual zone of influence for dewatering for the proposed development. The local shallow groundwater flow pattern may be temporarily affected during construction.

Long-term foundation drainage rates for the completed new building and basement structure from both an under-slab floor drainage network and for a perimeter mira drainage system for a conventionally shored excavation foundation for the proposed underground parking structure is approximately 4.87 L/day. By applying a safety factor of three (3), the anticipated foundation drainage flow rates could reach a maximum of 14.62 L/day.

The long-term foundation drainage rates from both an under-basement slab floor drainage network and from a mira drainage network for a conventionally shored excavation foundation for the proposed elevator pit structure is approximately 2.90 L/day. By applying a safety factor of three (3), the drainage rates could reach a maximum of 8.69 L/day.

Dewatering effluent from any short-term construction dewatering or from any long-term foundation drainage is acceptable for disposal to the City of Toronto sanitary sewer. For disposal to the storm sewer, the effluent will require minor

pre-treatment to lower Total Suspended Solids and Total Manganese. A pretreatment system designed to lower the levels suspended solids and Manganese should result in the effluent being acceptable for disposal to the City's storm sewer. Any short-term dewatering may be associated with seepage of any perched shallow groundwater encountered within excavations, or from the removal of the accumulated runoff from within the construction footprint excavation following storm events. It is anticipated that there may be limited construction dewatering following storm events during excavation works. However, any groundwater seepage within excavations will likely dissipate relatively quickly after the earthworks commences, and the local water table has been lowered in advance of or during excavation.

The groundwater lies at depths, ranging between 3.30 m and 6.60 m below the prevailing ground surface. The underlying shallow silt, silty clay with occasional and seams layers, and weathered shale layers could facilitate the implementation of Low Impact Development (LID) infrastructure to infiltrate precipitation at the developed site to the subsurface to recharge the shallow aquifer at depth to address future stormwater management planning for the proposed development.

TORONTO

October 2017

SERVICING REPORT GROUNDWATER SUMMARY

The form is to be completed by the Professional that prepared the Servicing Report.
Use of the form by the City of Toronto is not to be construed as verification of engineering/hydrological content.

For City Staff Use Only:	
Name of ECS Case Manager (please print)	TBD
Date Review Summary provided to to TW	

A. SITE INFORMAITON		Included in SR (reference page number)	Report Includes this information City staff (Check)
Date Servicing Report was prepared:	March 2020	i	
Title of Servicing Report:	Functional Servicing and Stormwater Management Implementation Report	1	
Name of Consulting Firm that prepared Servicing Report:	R.J. Burnside & Associates Limited	1	
Site Address	2157 Lake Shore Boulevard West Toronto, Ontario	1	
Postal Code	M5V 0A8	1	
Property Owner (identified on planning request for comments memo)	Stay Inn Hospitality	1	
Proposed description of the project (ex. number of point towers, number of podiums, etc.)	One mid-rise 13-storey building with 165 hotel rooms, ground floor restaurant and a one-level underground parking facility.	5	
Land Use (ex. commercial, residential, mixed, industrial, institutional) as defined by the Planning Act	Institutional / Commercial	5	
Number of below grade levels	One level of underground parking	5	

TORONTO

October 2017

SERVICING REPORT GROUNDWATER SUMMARY

Does the SR include a private water drainage system (PWDS)? **PWDS: Private Water Drainage System:** A subsurface drainage system which may consist of but is not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water on the surface of the ground or to a private sewer connection or drainage system for disposal in a municipal sewer.	If **Yes** continue completing Section B (Information Relating to Groundwater) **ONLY** **If Yes, Number of PWDS?** 2 *(Each of these PWDS may require a separate Toronto Water agreement)* If **No** skip to Sections C (On-site Groundwater Containment) and/or D (Water Tight Requirements) as applicable	⊘ YES ◯ NO	
B. INFORMATION RELATING TO GROUNDWATER		**Included in SR (reference page number)**	**Report Includes this information City Staff (Check)**
A copy of the pump schedule(s) for **ALL** groundwater sump pump(s) for the development site has been included in the FSR **or** A letter written by a Mechanical Consultant (signed and stamped by a Professional Engineer of Ontario) shall be attached to the SR stating the peak flow rate of the groundwater discharge for the development site for all groundwater sump pump(s). This peak flow rate must be based on the pump schedule(s) that have been designed by the Mechanical Consultant. A template of this letter is attached in Schedule A.	A letter written by the Mechanical Consultant will be provided at a later date	N/A	

SERVICING REPORT GROUNDWATER SUMMARY

****If there is more than one sump they must ALL be included in the letters along with a combined flow****			
Is it proposed that the groundwater from the development site will be discharged to the sanitary, combined or storm sewer?	⊘ Sanitary Sewer ◯ Combined Sewer ◯ Storm Sewer	16	
Will the proposed PWDS discharge from the site go to the Western Beaches Tunnel (WBT)? *Reference attached WBT drainage map*	◯ YES ⊘ NO **If Yes, private water discharge fees will apply and site requires a sanitary discharge agreement.**		
What is the street name where the receiving sewer is located?	Silver Moon Drive	16	
What is the diameter of the receiving sewer?	250 mm	16	
Is there capacity in the proposed local sewer system? ⊘ YES ◯ NO	Are there any improvements required to the sewer system? If yes, identify them below and refer to the section and page number of the FSR where this information can be found. If a sewer upgrade is required, the owner is required to enter into an Agreement with the City to improve the infrastructure? ◯ YES	15	
Total allowable peak flow rate during a 100 year storm event (L/sec) to storm sewer When groundwater is to be discharged to the storm sewer the total groundwater and stormwater discharge shall not exceed the permissible peak flow rate during a 2 year pre development storm event, as per the City's	N/A L/sec	N/A	

SERVICING REPORT GROUNDWATER SUMMARY

Wet Weather Flow Management Guidelines, dated 2006			
Short-Term Groundwater Discharge Provide proposed total flow rate to the sanitary/combined sewer in post-development scenario Total Flow (L/sec) = sanitary flow + peak short-term groundwater flow rate	1.00 L/sec	16	
Long-Tem Groundwater Discharge Provide proposed total flow rate to the sanitary/combined sewer in post-development scenario Total Flow (L/sec) = sanitary flow + peak long-term groundwater flow rate	1.00 L/sec	16	
Does the water quality meet the receiving sewer Bylaw limits? ⊘ YES ◯ NO	If the water quality does not meet the applicable receiving sewer Bylaw limits and the applicant is proposing a treatment system the applicant will need to include a letter stating that a treatment system will be installed and the details of the treatment system will be included in the private water discharge application that will be submitted to TW EM&P.	16	
C. ON-SITE GROUNDWATER CONTAINMENT		**Included in SR (reference page number)**	**Report Includes this information City Staff (Check)**
How is the site proposing to manage the groundwater discharge on site?			

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SERVICING REPORT GROUNDWATER SUMMARY

Has the above proposal been approved by:	◯ TW-WIM And ◯ TW-EM&P And ◯ ECS		
If the site is proposing a groundwater infiltration gallery, has it been stated that the groundwater infiltration gallery will not be connected to the municipal sewer? A connection between the infiltration gallery/dry well and the municipal sewer is not permitted Please be advised if an infiltration gallery/dry well on site is not connected to the municipal sewer, the site **must** submit two letters using the templates in Schedule B and Schedule C.	◯ YES ◯ NO		
Confirm that the infiltration gallery can infiltrate 100% of the expected peak groundwater flow year round, ensure that the top of the infiltration trench is below the frost line (1.8m depth), not less than 5 m from the building foundation, bottom of the trench 1m above the seasonally high water table, and located so that the drainage is away from the building.			
D. WATER TIGHT REQUIREMENTS		**Included in SR (reference page number)**	**Report Includes this information City Staff**

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SERVICING REPORT GROUNDWATER SUMMARY

		(Check)
If the site is proposing a water tight structure: 1. The owner must submit a letter using the template in Schedule D. 2. A Professional Engineer (Structural), licensed to practice in Ontario and qualified in the subject must submit a letter using the template in Schedule E.		

Provide a copy of the approved SR to Toronto Water Environmental Monitoring & Protection Unit at pwapplication@toronto.ca.

Consulting Firm that prepared Servicing Report: R. J. Burnside & Associates Limited

Professional Engineer who completed the report summary: Matt Coleridge, P.Eng. LEED AP
Print Name

Professional Engineer who completed the report summary: _____
Signature

Schedule A: Template Letter from Mechanical Consultant confirming peak groundwater flow rate

[Mechanical Consultant Company Letterhead]
[Company Name]
[Company Address and Contact Information]

[Date]
Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
[ADDRESS]

cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

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SERVICING REPORT GROUNDWATER SUMMARY

Dear Sir or Madam,

This letter is to confirm that groundwater from the Private Water Drainage System [Description] will be collected and discharged into the [SANITARY OR STORM] control manhole, at a maximum peak flow rate of [XX L/sec] (groundwater peak flow rate).

The groundwater sump pumps will be sized at [XX L/sec] and are expected to run approximately [XX hours per day].

This peak flow rate will be used for assessing capacity for the peak discharge flow into the City's [SANITARY OR STORM] sewer system.

Once the proposed groundwater peak flow rate of [XX L/sec] is approved by Engineering Construction Services (ECS), City of Toronto at the [ZONING/RE-ZONING] stage, the property owner will not be allowed to amend this flow rate in future. Should there be any amendment to the peak flow rate of [XX L/sec] in future, the property owner shall re-submit either the updated pump schedule or a revised letter to ECS. In addition, the sewer capacity will need to be re-assessed.

_____
Name (printed)

_____ _____
Signature Stamp

Schedule B: Template Letter from the Property Owner confirming that infiltration gallery/dry well is not connected to the municipal sewer

[Company Letterhead]

[Company Name]

[Property Owner Name and Contact Information]

[Date DD/MMM/YYYY]

Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
[ADDRESS]

cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

SERVICING REPORT GROUNDWATER SUMMARY

Dear Sir or Madam,

I _____, confirm and undertake that I will maintain all building(s) on the subject lands (MUNICIPAL ADDRESS) in a manner which will not discharge, directly or indirectly, any private water collected from subsurface drainage system consisting of but not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water to a private sewer connection directly or indirectly or drainage system for disposal directly or indirectly in a municipal sewer. All the water collected in the sub-drainage collection system will be managed onsite all time via infiltration gallery/dry well. There will be no direct or indirect discharge of private water to City's sewer.

I am aware of MOECC and OBC requirements regarding infiltration gallery/dry well.

_____
Name (printed) and Title

_____
Email

_____
Signature

I, [PRINT NAME], have the authority to bind the corporation.

Schedule C: Template Letter from a Professional (P.Eng or P.Geo) confirming that infiltration gallery/dry well is not connected to the municipal sewer

[Company Letterhead]

[Company Name]

[Property Owner Name and Contact Information]

[Date DD/MMM/YYYY]

Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
[ADDRESS]

Cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

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SERVICING REPORT GROUNDWATER SUMMARY

Dear Sir or Madam,

I _____, confirm that all building(s) on the subject lands (MUNICIPAL ADDRESS) has been constructed in a manner that will not discharge, directly or indirectly, any private water collected from subsurface drainage system consisting of but not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water to a private sewer connection directly or indirectly or drainage system for disposal directly or indirectly in a municipal sewer. All the water collected in the sub-drainage collection system will be managed onsite all time via infiltration gallery/dry well. There will be no direct or indirect discharge of private water to City's sewer.

I am aware of MOECC and OBC requirements regarding infiltration gallery/dry well.

_____
Name (printed)

_____
Professional Title [P.Geo or P.Eng (specify which discipline)]

_____
Email

_____ _____
Signature Stamp

Schedule D: Template Letter from the Property Owner confirming water tight structure

[Company Letterhead]

[Company Name]

[Property Owner Name and Contact Information]

[Date DD/MMM/YYYY]

Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
[ADDRESS]

cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

Dear Sir or Madam,

SERVICING REPORT GROUNDWATER SUMMARY

I _____, confirm and undertake that I will construct and maintain all building(s) on the subject lands (MUNICIPAL ADDRESS) in a manner which shall be completely water-tight below grade and resistant to hydrostatic pressure without any necessity for Private Water Drainage System (subsurface drainage system) consisting of but not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water on the surface of the ground or to a private sewer connection directly or indirectly or drainage system for disposal directly or indirectly in a municipal sewer.

_____
Name (printed) and Title

_____
Email

_____
Signature

I, [PRINT NAME], have the authority to bind the corporation.

Schedule E: Template Letter from a Professional Engineer (Structural) confirming water tight structure

[Company Letterhead]

[Company Name]

[Property Owner Name and Contact Information]

[Date DD/MMM/YYYY]

Attention: Executive Director, Engineering and Construction Services
c/o Manager, Development Engineering
[ADDRESS]

cc: General Manager, Toronto Water
c/o Manager, Environmental Monitoring and Protection Unit
30 Dee Ave, Toronto ON M9N 1S9

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SERVICING REPORT GROUNDWATER SUMMARY

Dear Sir or Madam,

I _____, confirm that all buildings on the subject lands (MUNICIPAL ADDRESS) can be constructed completely water-tight below grade in a manner that will resist hydrostatic pressure without any necessity for Private Water Drainage System (subsurface drainage system) consisting of but not limited to weeping tile(s), foundation drain(s), private water collection sump(s), private water pump or any combination thereof for the disposal of private water on the surface of the ground or to a private sewer connection directly or indirectly or drainage system for disposal directly or indirectly in a municipal sewer.

_____
Name (printed)

_____
Professional Title [P.Eng (Structural)]

_____
Email

_____ _____
Signature Stamp