FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

3403-3445 FIELDGATE DRIVE MIXED-USE DEVELOPMENT

CITY OF MISSISSAUGA
REGION OF PEEL

PREPARED FOR:

FOREST GLEN SHOPPING CENTRE LTD.

PREPARED BY:

C.F. CROZIER & ASSOCIATES INC.
211 YONGE STREET, SUITE 600
TORONTO, ON M5B 1M4

AUGUST 2024

CFCA FILE NO. 2655-7074

CROZIER
CONSULTING ENGINEERS

Revision Number	Date	Comments
Rev.0	August 16, 2024	Issued for First Submission (OPA & ZBA)

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1.0 Introduction

1.1 Purpose

C.F. Crozier & Associates Inc. was retained by Forest Glen Shopping Centre Ltd. to prepare a Functional Servicing and Stormwater Management Report in support of the proposed mixed-use development located at 3403-3445 Fieldgate Drive, in the City of Mississauga.

1.2 Site Location & Existing Conditions

The existing development has a site area of 1.58 ha. The existing site is a commercial lot bound by residential apartments to the north, Fieldgate Drive to the south, Bloor Street to the east, and Ponytrail Drive to the west. Genesis Land Surveying Inc. was retained by Forest Glen Shopping Centre Limited to prepare a topographic survey of the subject site. A copy of the topographic survey has been included in **Appendix A** for reference. Additionally, records drawings obtained from the City of Mississauga and the Region of Peel have been included in **Appendix A** for reference.

1.3 Proposed Development Concept

The proposed mixed-use development consists of two (2) buildings. The first building connects Tower A (22-storey) and Tower B (18-storey) with a shared podium and the second building, Tower C (13-storey), is a separate building. Additionally, Tower C is proposed to have townhouse units along its northern and western exterior walls. Tower A and C are proposed to have commercial space within their respective ground floor area. All buildings will share a common underground parking structure, which is composed of two (2) levels. Refer to **Table 1** for the unit and commercial space breakdown of the proposed mixed-use development. A copy of the latest site plan and statistics has been included in **Appendix A** for reference.

Table 1: Residential & Commercial Unit Breakdown

Building No.	Commercial Area (ha)	Apartment Units	Townhouse Units
A	0.18	204	0
B	0.00	212	0
C	0.11	163	13

The post-development site area will be split to accommodate a 0.12 ha parkland dedication area fronting Bloor Street. The remaining 1.46 ha will be utilized for the proposed buildings.

1.4 Reference Information

The following documents were referred to in preparation of this report, and offer background information regarding the existing infrastructure surrounding the proposed development:

- Region of Peel – Linear Wasterwater Standards, dated March 29th, 2023;
- Region of Peel – Public Works Design, Specifications & Procedures Manual, Watermain Design Criteria, dated Revised June 2010;
- Region of Peel – Public Works Stormwater Design Criteria and Procedural Manual, dated June 2019 (Version 2.1);

- City of Mississauga – Transportation & Works Department, Development Requirements Manual, Section 8 – Storm Drainage Design Requirements, dated November 2020;

- Fire Underwriters' Survey – Water Supply for Public Fire Protection, dated 2020.

2.0 Water Servicing

2.1 Existing Water Servicing

According to the as-built records provided by the City of Mississauga and the Region of Peel, the following is existing watermain infrastructure currently surrounding the subject site:

- 300 mm diameter PVC watermain along Ponytrail Drive;

- 300 mm diameter PVC watermain along Fieldgate Drive;

- 300 mm diameter PVC watermain along Bloor Street.

Note that the subject site is between two (2) water pressure zones and is delineated by a Pressure Zone Valve. Pressure Zone 2 (PZ2) is located on the east side of the subject site, which includes hydrants east of the Pressure Zone Valve along Fieldgate Drive and Bloor Street. Pressure Zone 3 (PZ3) is located west of the Pressure Zone Valve, which includes hydrants along Fieldgate Drive and Ponytrail Drive. The detail of the Pressure Zone Valve can be seen on the record drawing number 34053-D, included in **Appendix A**.

The existing water service for the subject site is connected to the 300 mm diameter PVC watermain along Ponytrail Drive in PZ3.

2.2 Proposed Water Servicing

The proposed water services are to connect to the existing 300 mm diameter PVC watermain along Fieldgate Drive and will consist of a 100 mm PVC domestic and 150 mm PVC fire line for each building separately. Both connections are located within PZ3 as directed by the City of Mississauga in the DARC comments received for this site. Each unit will be serviced internal to the building through the mechanical design, which will be completed at the time of detailed design. Refer to the Servicing Plan – C102 for further details about the service connections.

The City of Mississauga has provided an email confirming the servicing expectations for the parkland dedication area. The proposed water servicing for the parkland consists of a 100 mm diameter PVC watermain connecting to the existing 300 mm PVC watermain along Bloor Street. The email confirmation has been included in Appendix B for reference. Refer to the Servicing Plan – C102 for further details about the service connection.

2.3 Domestic & Fire Flow Demand

The Region of Peel guidelines and the Fire Underwriters' Survey (FUS) were used to estimate the domestic and fire flow demands for the proposed development. A summary of the results is presented in **Table 2**, with detailed calculations provided in **Appendix B**.

Table 2: Estimated Domestic & Fire Flow Demands

Average Day (L/s)	Maximum Daily Demand (L/s)	Peak Hourly Demand (L/s)	Fire Flow (L/s)	Max Day + Fire Flow (L/s)
4.78	9.52	14.33	100.00	109.52

Based on the FUS, fire flow demand was calculated based on the largest proposed floor area plus 25% of the two adjoining floors of Tower B, assuming fire-resistive construction and a fully supervised sprinkler system. The proposed watermain will be required to accommodate a maximum daily plus fire flow demand of 109.52 L/s as per the FUS and demand calculations included in **Appendix B**.

A hydrant flow test was performed by Watermark from June 3rd to July 30th, 2024, on the existing watermains along Ponytrail Drive, Fieldgate Drive, and Bloor Street. The results from the Fieldgate Drive hydrant test indicate that at 20 psi residual pressure, a maximum of 623 L/s (9,875 USGPM) projected flow is available within the existing 300 mm diameter PVC watermain. Detailed results of the hydrant flow tests are provided in **Appendix B**.

Based on the estimated maximum day plus fire flow demands and the hydrant test result along Fieldagte Drive, the existing municipal water supply can support the proposed development without the need for external upgrades or retrofit.

Note that the FUS value is a conservative estimate for comparison purposes only. The sprinkler engineer for this development will complete the required analyses for fire protection of the building during detailed design and the architect will design fire separation methods per the determined fire flow rate, to meet municipally available flows and pressures.

3.0 Sanitary Servicing

3.1 Existing Sanitary Servicing

According to the as-built records provided by the City of Mississauga and the Region of Peel, the following is existing sanitary infrastructure currently surrounding the subject site:

- 250 mm diameter PVC sewer along Ponytrail Drive;
- 250 mm - 300 mm diameter PVC sewer along Fieldgate Drive;
- 375 mm diameter PVC sewer along Bloor Street.

The existing sanitary service for the subject site is connected to the 300 mm diameter PVC sewer along Fieldgate Drive, which includes a control manhole within the property limits. The existing sanitary flows

were estimated based on the latest version of the Region of Peel - Linear Wastewater Standards. It was estimated that the existing site generates a total peak flow rate of 0.55 L/s. Detailed calculations have been provided in **Appendix C** for reference.

3.2 Proposed Sanitary Servicing

The two buildings will have separate sanitary connections. The proposed sanitary service connections are to connect to the existing 250 mm diameter PVC sewer along Fieldgate Drive. Each sanitary connection will have a control manhole located within the P1 underground level. Each unit will be serviced through the mechanical design, which will be completed at the time of detailed design. Refer to the Servicing Plan - C102 for further details about the service connection

As per the email confirmation from the City of Mississauga confirming the servicing expectations for the parkland dedication area, the proposed sanitary servicing strategy consist of a 100 mm diameter sanitary sewer connecting to the existing 375 mm diameter sanitary sewer along Bloor Street. The email confirmation has been included in Appendix B for reference. Refer to the Servicing Plan – C102 for further details about the service connection.

3.3 Sanitary Design Flows

To estimate the proposed sanitary design flow of the entire site, the latest version of the Region of Peel - Linear Wastewater Standards was referenced. A summary of the results is presented in **Table 3**, with detailed calculations included in **Appendix C**.

Table 3: Estimated Sanitary Design Flow

Population	Average Flow (L/s)	*Peaking Factor (M)	Infiltration Flow (L/s)	Total Flow (L/s)
1473	4.94	3.7	0.29	18.57

*Peaking Factor (M) = $1 + 14/(4 + (P/1000)^{0.5})$

Total estimated sanitary flow, as presented in **Table 3**, is calculated to be 18.57 L/s. With a proposed population of 1473 persons, the proposed development exceeds the estimated existing sanitary flows by 18.02 L/s to the municipal sewer system.

4.0 Groundwater Drainage Conditions

A Hydrogeological Investigation for the subject site was completed by G2S Consulting Inc. dated July 22nd, 2024, which detailed the site's subsurface and groundwater conditions. The major conclusions of the hydrogeological report are summarized in the bullets below:

- Maximum Observed Groundwater Elevation: 134.30 masl.
- Does Groundwater Quality meet City of Mississauga Storm Sewer Use By-law limits? – No, exceedances of Total Suspended Solids (TSS) and aluminum.

- Does Groundwater Quality meet Regional of Peel Sanitary Sewer Use By-law limits? – Yes, no exceedances encountered.

- Short-Term (Construction) Dewatering Rate – 994,277 L/day (11.51 L/s).

- Long-Term (Permanent) Dewatering Rate – 336,994 L/day (3.90 L/s).

Refer to the hydrogeological investigation in **Appendix D** for more details. As determined by G2S Consulting Inc., both short-term and long-term dewatering are required for the site.

Short-Term Discharge (Construction Dewatering)

As the groundwater quality does meet the Region of Peel standards, it is recommended the short-term dewatering outlet to the sanitary sewer. Short-term dewatering is to be designed by the dewatering contractor at the time of detailed design.

Long-Term Discharge (Permanent Dewatering)

A private water drainage system will collect long-term groundwater and will be designed by the mechanical engineer at the time of detailed design. As the groundwater quality does meet the Region of Peel standards, it is recommended the long-term dewatering outlet to the sanitary sewer.

The property owner will obtain short-term and long-term discharge approval to discharge private water to the storm sewer, ensuring any short-term discharge follows the Region and City's Sewers By-Law requirements.

5.0 Drainage Conditions

5.1 Existing Drainage Conditions

According to the as-built records provided by the City of Mississauga and the Region of Peel, the following is existing stormwater infrastructure surrounding the subject site:

- 600 mm diameter sewer along Ponytrail Drive;

- 1050 mm - 1200 mm diameter sewer along Fieldgate Drive;

- 1350 mm diameter PVC sewer along Bloor Street.

Based on the topographical survey, stormwater runoff is captured via catchbasins throughout the site. The catchbasins are connected to an existing 525 mm storm sewer that discharges to the existing 1200 mm diameter storm sewer along Fieldgate Drive. Pre-development drainage calculations are included in **Appendix D** for reference.

5.2 Proposed Drainage Conditions

Storm flows from the buildings will be directed to roof drains and area drains, which will discharge to an internal stormwater management tank located within the P1 underground parking level. The stormwater management tank will ultimately discharge into the existing 1200 mm diameter storm sewer along Fieldgate Drive via a proposed 300 mm diameter PVC storm sewer. Refer to **Appendix D** for the calculated post-development weighted runoff coefficient.

As per the email confirmation from the City of Mississauga confirming the servicing expectations for the parkland dedication area, storm flows will be directed overland to a catchbasin, which is proposed to connect to the existing 1350 mm diameter PVC storm sewer along Bloor Street.

6.0 Stormwater Management

6.1 Stormwater Quantity Control

Method of Analysis

The Modified Rational Method was used to calculate the runoff rates from all drainage catchments and to quantify the detention storage required for quantity control measures in keeping within the requirements of the City of Mississauga and Region of Peel guidelines.

Allowable Release Rate

Using the City of Mississauga's current IDF parameters, the allowable release rate from the site to Fieldgate Drive has been established as 353.6 L/s, with a weighted runoff coefficient of 0.85 (including 10-year adjustment factor). This rate is equal to the runoff generated from a 10-year storm event for the entire pre-development site area plus the external drainage area located along the northern property line, at a time of concentration 15 minutes. A note has been included on the topographical survey in Appendix A indicating the location and size of the external drainage area. Refer to **Appendix D** for detailed stormwater management calculations.

Proposed Stormwater Management Tank

Stormwater attenuation for the post-development site area, with a calculated runoff coefficient of 0.89 (including 100-year adjustment factor), will be provided through a proposed stormwater management tank located within the P1 underground parking level. The stormwater management tank will be equipped with a 300 mm orifice tube located downstream at the outlet of the tank. The orifice tube has been designed to control flows from a 100-year storm event to a release rate of 287.0 L/s, which is less than the 10-year allowable release rate. Therefore, conforming with the City of Mississauga and Region of Peel stormwater guidelines. **Table 4** summarizes the design parameters of the stormwater management tank, which detailed calculations can be found in **Appendix D** and on the Servicing Plan – C102.

Table 4: Stormwater Management Tank Design Parameters

Tank Elevations	Bottom = 132.04 m Outlet = 132.04 m Maximum High-Water Level (HWL) = 134.10 m Top = 134.40 m Minimum Freeboard = 0.30 m
Orifice Tube Details	Diameter = 300 mm Invert = 132.04 m
Tank Area	170.0 m^2
Tank Active Storage Volumes	Required: 214 m^3 Provided: 350 m^3 (to HWL)

It is proposed to implement a stabilization manhole downstream of the stormwater management tank to reduce the flow velocity of the storm flows before entering the filtration unit. This will ultimately help with filtration quality and erosion downstream of the stabilization manhole.

6.2 Stormwater Quality Control

An enhanced level of stormwater quality treatment of 80% Total Suspended Solids (TSS) removal is to be provided based on 100% of the runoff leaving the subject site for all storm events that occur in an average year. A filtration unit is proposed downstream of the stabilization manhole, which will be designed to provide greater or equal to 80% TSS removal. Specifications of the filtration unit will be provided during the detailed design stage.

6.3 Water Balance

Based on the City of Mississauga and Region of Peel guidelines, runoff from the 5 mm rainfall event is to be retained on-site through infiltration, evapotranspiration, and/or water reuse measures. Water balance will be achieved through a combination of initial abstraction and captured through a rainwater retention tank for water reuse measures. The rainwater retention tank will be located adjacent to the stormwater management tank within the P1 underground parking level. Based on a required average annual precipitation depth of 5 mm to be retained on-site, the required retention volume is calculated to be 72.85 m^3.

Initial abstraction calculations have been completed based on the proposed conditions of the subject site. A 1.0 mm credit was used for conventional roof coverage, 1.0 mm credit for asphalt walkway/drive aisle, 5.0 mm credit for softscaping. The site can effectively retain a volume of 25.31 m^3 of rainfall through initial abstraction. The remaining 47.54 m^3 will be retained in a retention tank adjacent to the stormwater management tank. Detailed water balance calculations can be referenced in **Appendix D**.

Water within the rainwater retention tank will be re-used for building functions. These building functions have not been specified at this time but will detailed during the detail design stage.

7.0 Conclusions & Recommendations

We recommend approval of the Official Plan and Zoning By-Law Application for the proposed development from a functional site servicing and stormwater management perspective.

Based on the information contained within this summary report, we offer the following conclusions:

1. Water servicing will be provided via two (2) separate connections, one for each building (Tower A/B and C), to the existing 300 mm PVC watermain along Fieldgate Drive. It is determined that the existing watermain has sufficient capacity to service the proposed development's maximum day plus fire flow demand of 109.52 L/s. The parkland area is proposed to be serviced by a 100 mm PVC watermain connecting to the existing 300 mm watermain along Bloor Street.

2. Sanitary servicing will be provided via two (2) separate connections, one for each building (Tower A/B and C), to the existing 250 mm PVC sanitary sewer along Fieldgate Drive. Based on post-development conditions, it was determined that sanitary demands would reach a total peak flow rate of 18.57 L/s. The parkland area is proposed to be serviced by a 100 mm sanitary sewer connecting to the existing 375 mm sanitary sewer along Bloor Street.

3. Stormwater quantity control for the buildings will be provided via a stormwater management tank controlled by a 300 mm orifice tube housed within the P1 underground parking level. The parkland area is proposed to be drain via overland to an internal catchbasin, which is proposed to connect to the existing 1350 mm storm sewer along Bloor Street.

4. Stormwater quality control for the buildings will be provided through a filtration unit which is sized to remove 80% of the TSS.

5. Water balance for the site will be achieved through a combination of initial abstraction and a rainwater retention tank provided within P1 underground parking level.

Based on the conclusions and recommendations, we suggest the approval of the applications from the perspective of functional servicing and stormwater management.

Respectfully submitted,

C.F. CROZIER & ASSOCIATES INC.

JP Labonte

J.P. Labonte, EIT
Engineering Intern

C.F. CROZIER & ASSOCIATES INC.

Julie Scott, P.Eng.
Project Manager

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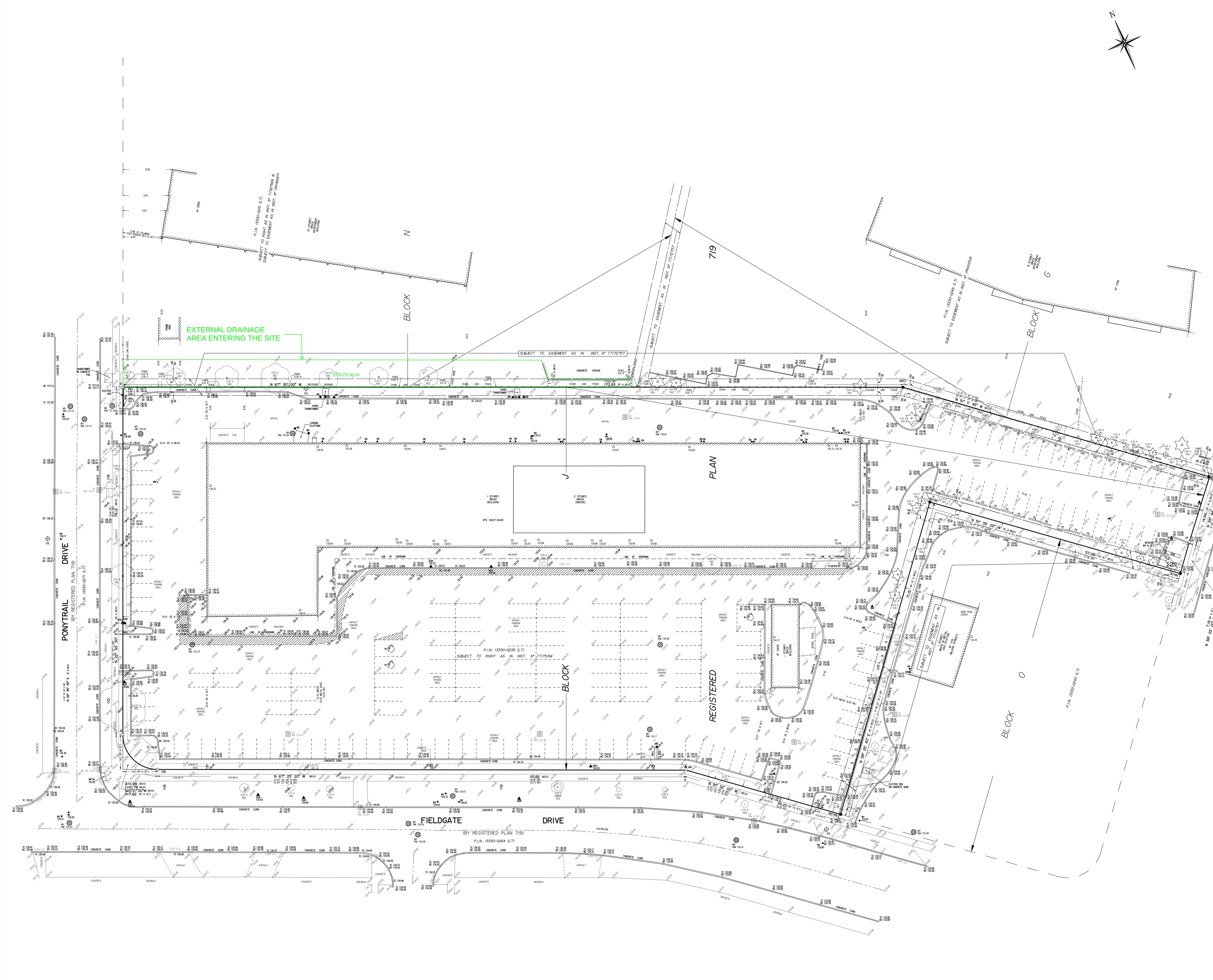
APPENDIX A

Background Information



SURVEYOR'S REAL PROPERTY REPORT AND TOPOGRAPHY OF

BLOCK J
REGISTERED PLAN 719
CITY OF MISSISSAUGA

REGIONAL MUNICIPALITY OF PEEL

SCALE 1 : 250

0 5 10 15 25 metres

GENESIS LAND SURVEYING INC.

METRIC NOTE

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

NOTE

1. THIS PLAN MUST BE READ IN CONJUNCTION WITH SURVEY REPORT DATED APRIL 26, 2024.
2. THIS PLAN AND REPORT WERE PREPARED FOR SAJECKI PLANNING AND THE UNDERSIGNED ACCEPTS NO RESPONSIBILITY FOR USE BY OTHER PARTIES.

BEARING NOTE

BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHERLY LIMIT OF BLOCK J HAVING A BEARING OF N 67° 30' 00" W, AS SHOWN ON REGISTERED PLAN 719.

ELEVATION NOTE

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK N° 686 HAVING A PUBLISHED ELEVATION OF 135.346 METRES (CGVD–1928: NOT 1978 SOUTHERN ONTARIO READJUSTMENT)

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
V–77485

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR

In accordance with Regulation 1026, Section 29(3)

LEGEND

□	DENOTES	MONUMENT PLANTED
■	⟶ ⟵	MONUMENT FOUND
WIT	⟶ ⟵	WITNESS
CC	⟶ ⟵	CUT CROSS
IB	⟶ ⟵	IRON BAR
SIB	⟶ ⟵	STANDARD IRON BAR
SSIB	⟶ ⟵	SHORT STANDARD IRON BAR
CP	⟶ ⟵	CONCRETE PIN WITH IDENTIFICATION WASHER
RP	⟶ ⟵	REGISTERED PLAN 719
D	⟶ ⟵	INST. No. TT172757
RC	⟶ ⟵	PLAN OF SURVEY BY RABIDEAU & CZERWINSKI, O.L.S., DATED MARCH 29TH, 1999
DH	⟶ ⟵	PLAN OF SURVEY BY DAVID HORWOOD LTD., O.L.S., DATED SEPTEMBER 25TH, 2007
BCJ	⟶ ⟵	PLAN OF SURVEY BY BROWNE, CAVELL & JACKSON, O.L.S., DATED MARCH 20TH, 1968
NI	⟶ ⟵	NOT IDENTIFIED
P.I.N.	⟶ ⟵	PROPERTY IDENTIFICATION NUMBER
N,S,E,W	⟶ ⟵	NORTH, SOUTH, EAST, WEST
MEAS	⟶ ⟵	MEASURED
UP	⟶ ⟵	UTILITY POLE
LS	⟶ ⟵	LIGHT STANDARD
O.H.W.	⟶ ⟵	OVERHEAD UTILITY WIRES
CB	⟶ ⟵	CATCH BASIN
MH	⟶ ⟵	MAINTENANCE HOLE
DS/GS	⟶ ⟵	DOOR/GARAGE SILL ELEVATION
TC/BC	⟶ ⟵	TOP/CONCRETE CURB
U/S	⟶ ⟵	UNDERSIDE OF EAVES ELEVATION
GM	⟶ ⟵	GAS METER
GV	⟶ ⟵	GAS VALVE
WV	⟶ ⟵	WATER VALVE
FH	⟶ ⟵	FIRE HYDRANT
MB	⟶ ⟵	METAL BOLLARD
MW	⟶ ⟵	MONITORING WELL
PC	⟶ ⟵	PARKING CURB
ø	⟶ ⟵	DIAMETER

SURVEYOR'S CERTIFICATE

I CERTIFY THAT :

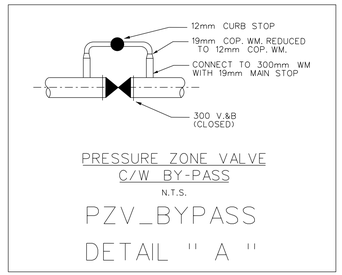
1. THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEYS ACT, THE SURVEYORS ACT AND THE REGULATIONS MADE UNDER THEM.
2. THE SURVEY WAS COMPLETED ON APRIL 24, 2024.

APRIL 26, 2024
DATE

SCOTT DALZIEL
ONTARIO LAND SURVEYOR

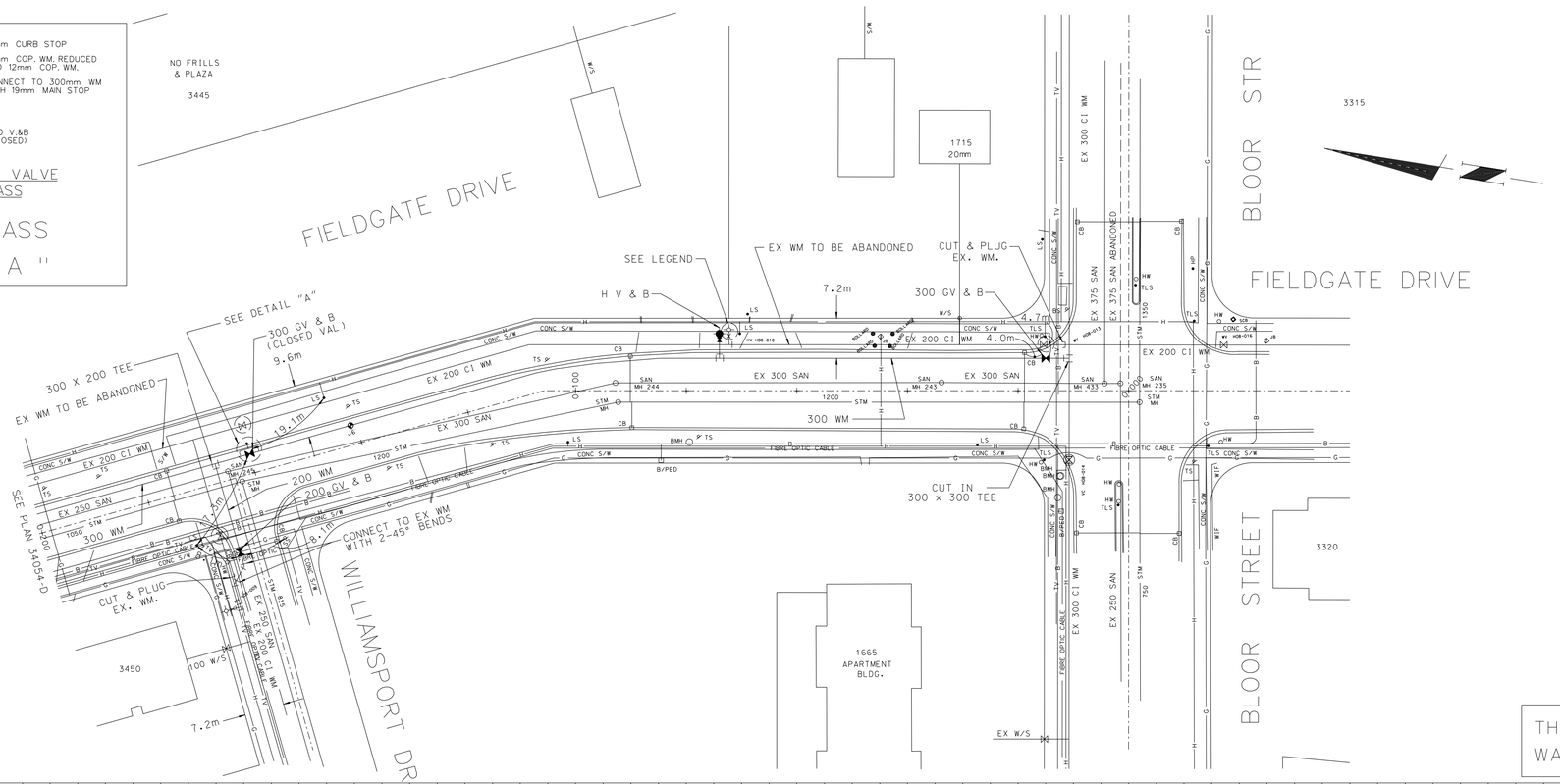
GENESIS Land Surveying Inc.
10 FOUR SEASONS PLACE, 10TH FLOOR
TORONTO, M9B 6H7
T 905–499–2956 T 1800–262–9784
WWW.GENESISLANDSURVEY.COM

DRAFTED BY: GSA | CHECKED BY: S.D. | PROJECT No. GLS–2064



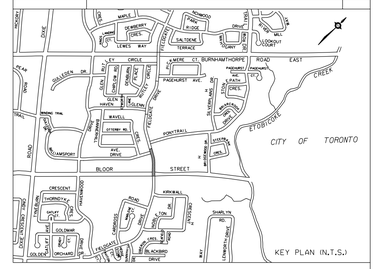
PRESSURE ZONE VALVE
C/W BY-PASS
N.T.S.

PZV_BYPASS
DETAIL " A "



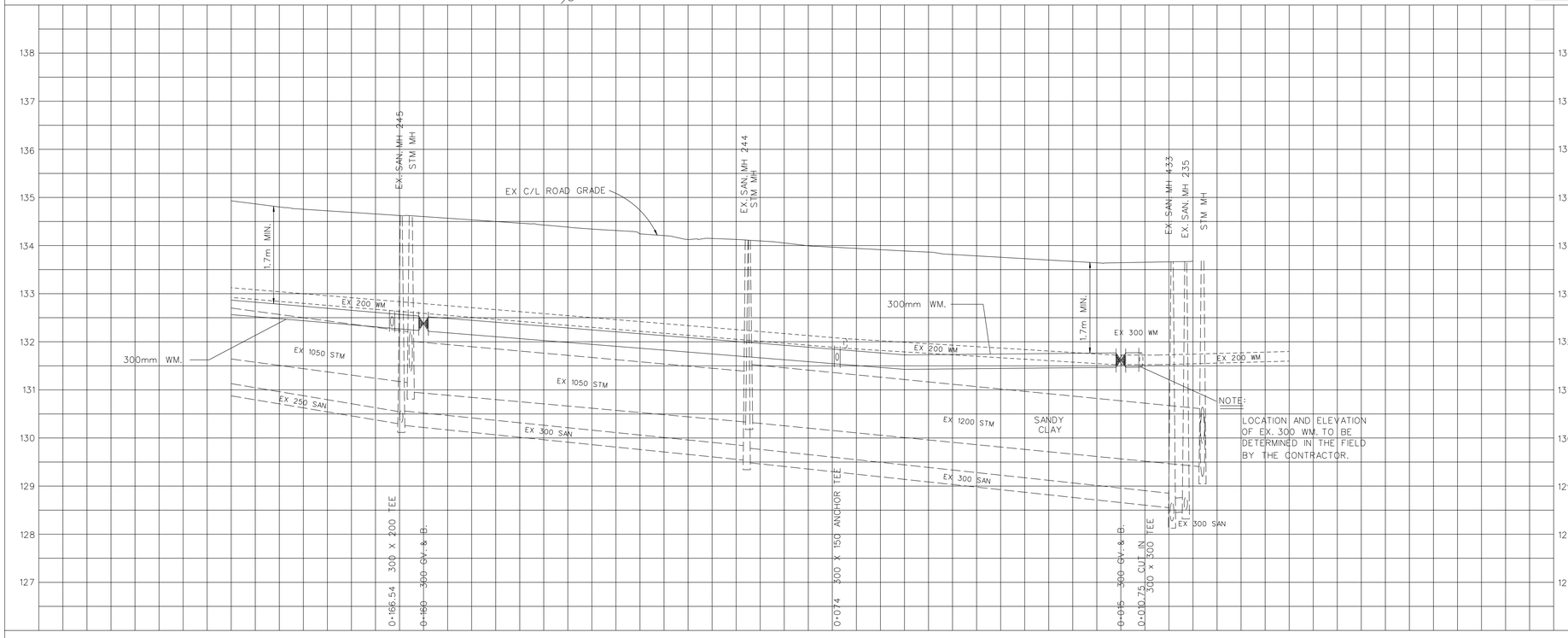
SERVICE DATA					
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN. SEWERS	APR. 7/06	B. E.	GAS MAINS	MAY 5/06	B. E.
STORM SEWERS	APR. 7/06	B. E.	BELL U/G CABLE	APR. 7/06	B. E.
WATERMAINS	APR. 7/06	B. E.	ENERSOURCE	APR. 17/06	B. E.
TRANSIT			HYDRO ONE	APR. 7/06	B. E.
PARKS & REC.			CTV	APR. 7/06	B. E.
ONT. CLEAN WATER	APR. 6/06	B. E.	1ci BROADBAND	APR. 6/06	B. E.

REVISIONS		
DATE	DETAILS	INIT.
OCT. 8/09	AS RECORDED	B. E.



FOR NOTES & LEGEND SEE DWG. 34061-D

THIS DRAWING TO BE USED FOR WATERMAIN CONSTRUCTION ONLY.



General Notes

- All Driveways ASPHALT Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction Location of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Designed by ____ Chkd. ____ Approved by ____

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Working for you

FIELDGATE DRIVE

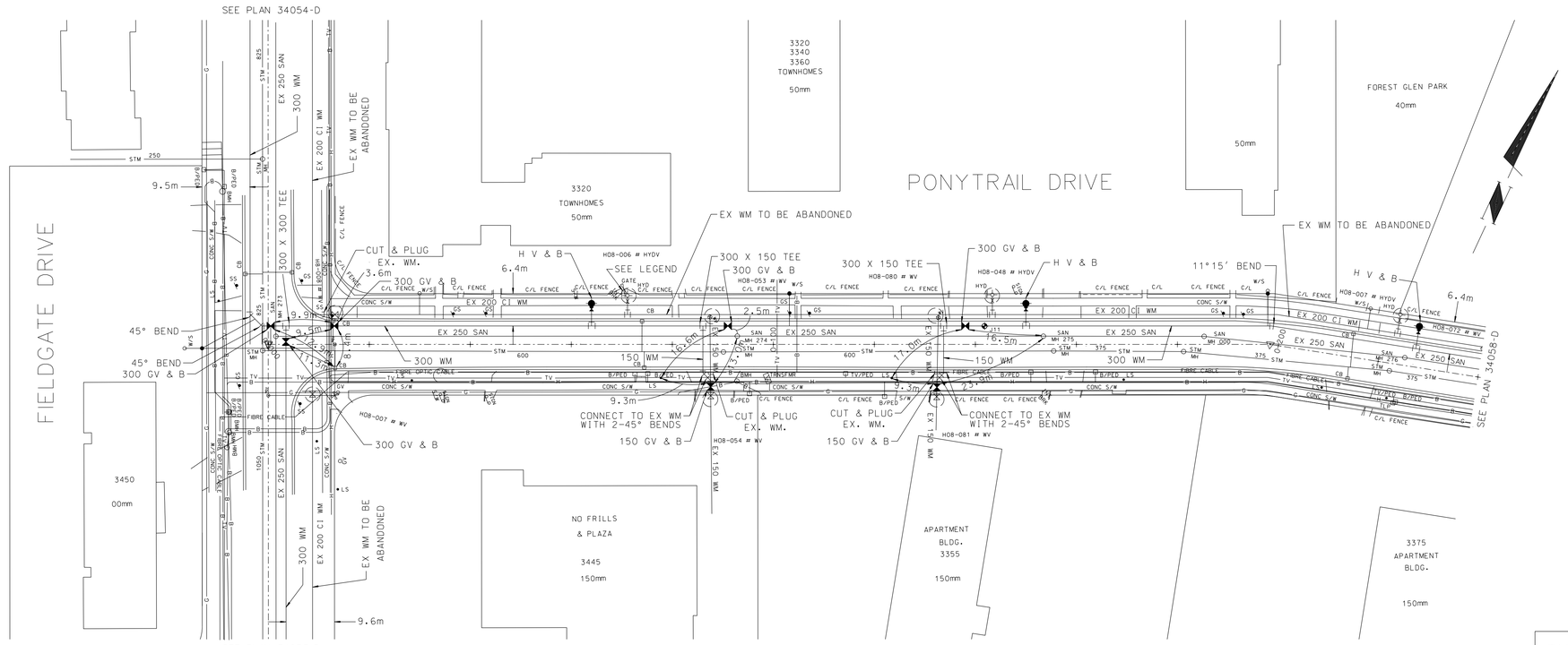
(FROM BLOOR STREET to BURNHAMTHORPE ROAD EAST.)

300mm WATERMAIN

STA. 0+000 TO STA. 0+200

	132.56	132.40	132.22	132.07	131.91	131.75	131.59	131.43	131.45	131.46	131.47			BOT.EL. OF WM.
	135.212	134.931	134.602	134.466	134.313	134.147	133.995	133.888	133.757	133.642	133.667			EX. ROAD ELEV.
+	0+200	0+180	0+160	0+140	0+120	0+100	0+080	0+060	0+040	0+020	0+000	-0+020	+	ROAD CHAINAGE

CAD Area	Area Z-19	Project No.	06-1305
Checked by	Drawn by B. E.		
Date APR. 28, 2006	Sheet 1 of 4	Plan No.	34053-D

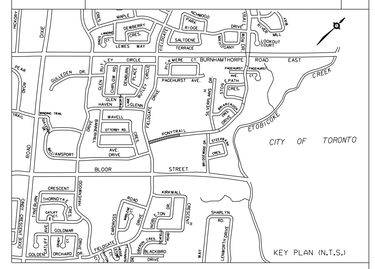


SERVICE DATA

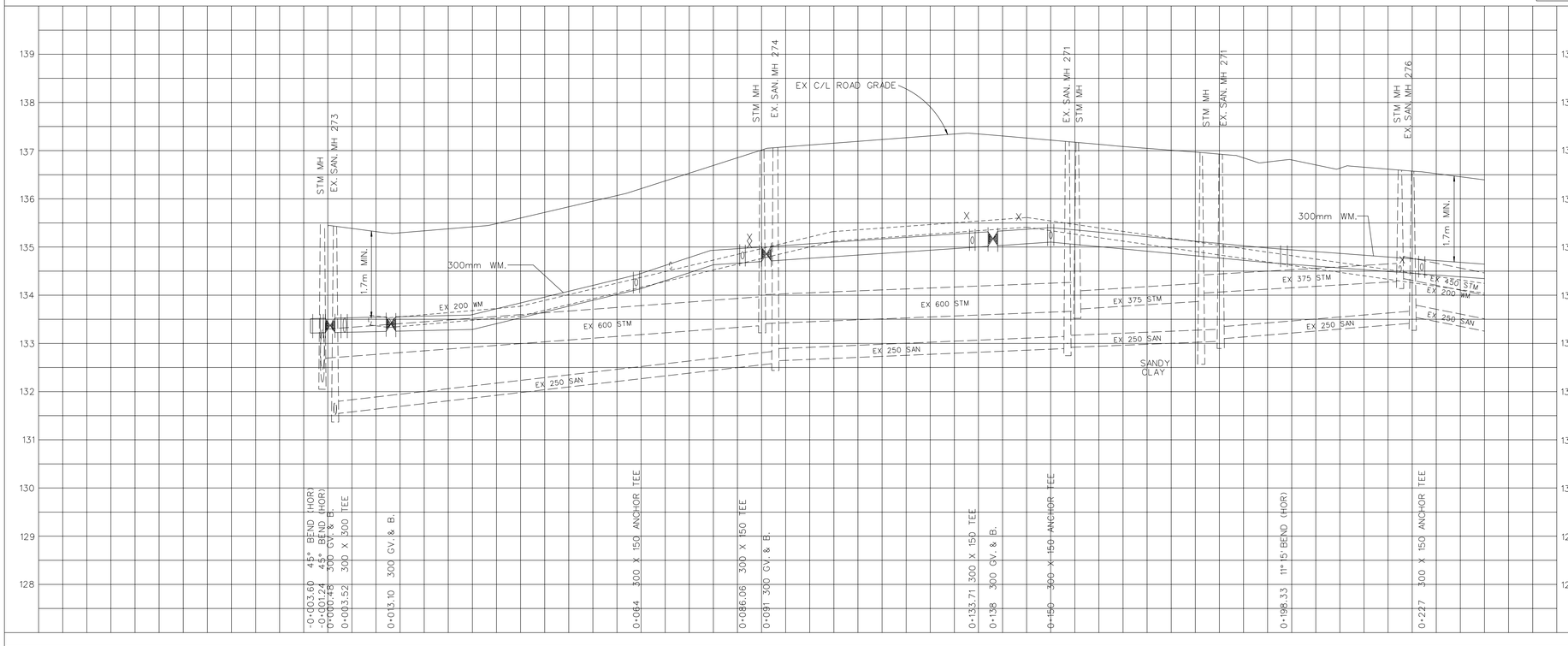
SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	MAR. 6/06	B. E.	GAS MAINS	MAY 5/06	B. E.
STORM SEWERS	MAR. 6/06	B. E.	BELL U/G CABLE	MAR. 3/06	B. E.
WATERMAINS	MAR. 6/06	B. E.	ENERSOURCE	MAR. 6/06	B. E.
TRANSIT	MAR. 6/06	B. E.	HYDRO ONE	MAR. 2/06	B. E.
PARKS & REC.			CTV	MAR. 3/06	B. E.
ONT. CLEAN WATER	MAR. 3/06	B. E.	fcl BROADBAND	MAR. 3/06	B. E.

REVISIONS

DATE	DETAILS	INIT.
OCT. 8/09	AS RECORDED	B. E.



THIS DRAWING TO BE USED FOR WATERMAIN CONSTRUCTION ONLY.



General Notes

- All Driveways ASPHALT Unless Otherwise Noted.
- All Service Locations Are Approximate And Must Be Located Accurately In The Field
- Denotes Building - Not Located
- Denotes Building Located
- Type 'B' Bedding Unless Otherwise Noted (SAN)

B.M. No. Elev.

The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction Location of Existing Utilities Approximate Only. To Be Verified In Field By Contractor.

Designed by ____ Chkd. ____ Approved by

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL TELEPHONE COMPANY
CONSUMERS GAS COMPANY
MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ELECTRIC POWER COMM. OF ONTARIO
HYDRO ELECTRIC COMM. CITY OF MISSISSAUGA
HYDRO ELECTRIC COMM. CITY OF BRAMPTON
CABLE TELEVISION

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
Working for you

PONYTRAIL DRIVE

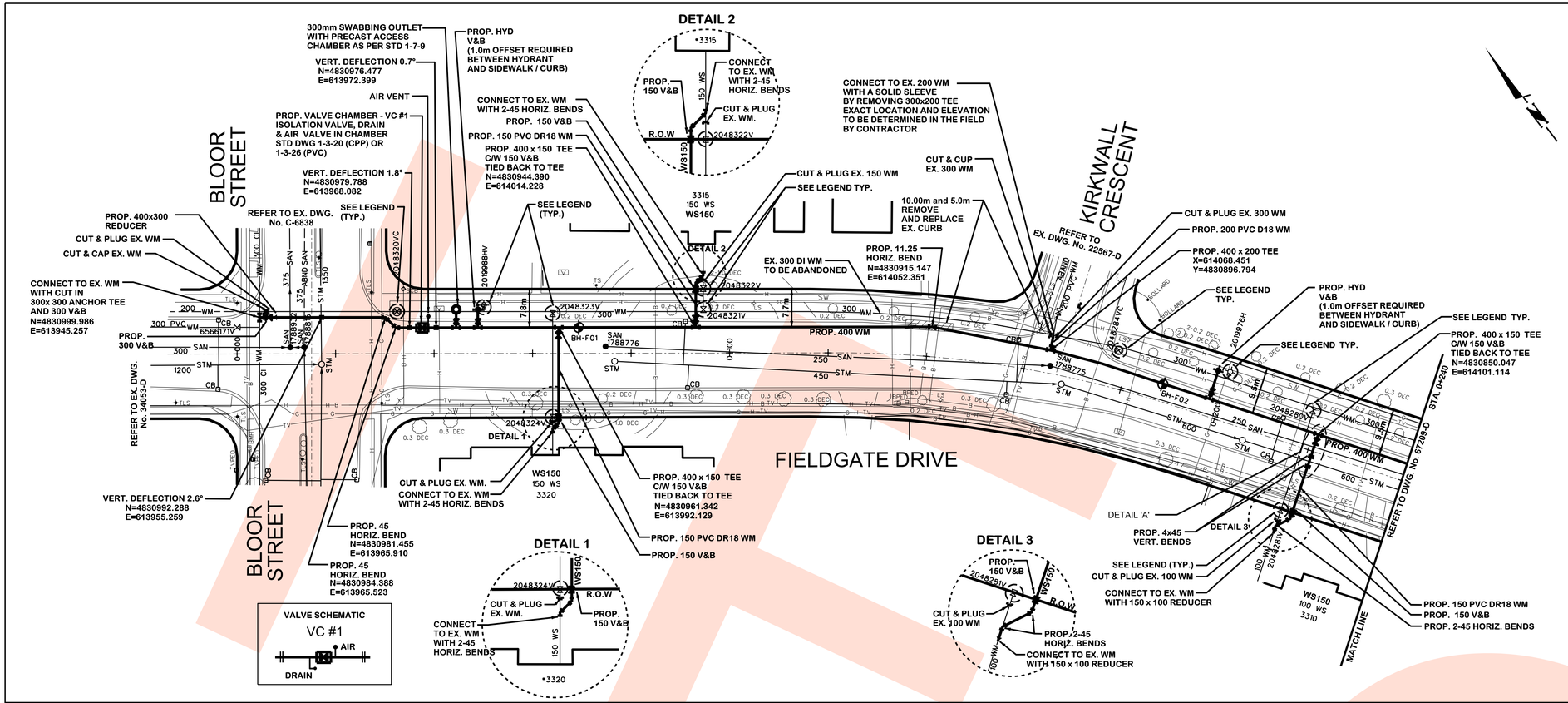
(FROM FIELDGATE DRIVE to BURNHAMTHORPE ROAD E.)

300mm WATERMAIN

STA. 0+000 TO STA. 0+240

			133.23		133.27	133.29	133.53		134.02	134.14	134.63	134.77	134.90	135.03	135.10	135.01	134.82	134.64	134.49	134.34	BOT.EL. OF WM.
			135.412		135.336		135.601		136.067		136.691	137.116	137.267	137.305		137.130	136.970	136.807	136.615	136.393	EX. ROAD ELEV.
+	+	-0+020	0+000		0+020		0+040		0+060		0+080	0+100	0+120	0+140		0+160	0+180	0+200	0+220	0+240	ROAD CHAINAGE

CAD Area	Area Z-19	Project No.	06-1305
Checked by	Drawn by B. E.		
Date MAR. 17, 2006	Sheet 1 of 5	Plan No.	34057-D



SERVICE DATA

SERVICE	DATE	INIT.	SERVICE	DATE	INIT.
SAN SEWERS	AUG. 15, 2018	A.S.	GAS MAINS	JULY 26, 2018	A.S.
STORM SEWERS	AUG. 15, 2018	A.S.	BELL U/G CABLE	AUG. 15, 2018	A.S.
WATERMAINS	AUG. 15, 2018	A.S.	HYDRO U/G CABLE		A.S.
TRANSIT			HYDRO ONE	NOV. 25, 2018	
PARKS & REC.			CTV	NOV. 25, 2018	A.S.
ONT. CLEAN WATER			COMMUNIC. CABLES		

REVISIONS

DATE	DETAILS	INIT.
JAN. 10, 2019	ISSUED FOR PUCC	A.S.
APRIL 12, 2019	ISSUED FOR TENDER	A.S.

NOTE:

1. FOR GENERAL NOTES, DETAILS AND LEGEND SEE DWG. 67220-D

THIS DRAWING TO BE USED FOR WATERMAIN CONSTRUCTION ONLY

-	131.23	130.93	130.57	130.17	129.76	129.35	128.94	128.53	128.31	127.99	127.84	127.71	BOT.EL. OF WM.
133.58	133.57	133.43	133.18	132.81	132.43	132.03	131.59	131.23	130.87	130.64	130.46	130.31	EX. ROAD ELEV.
0+000	0+020	0+040	0+060	0+080	0+100	0+120	0+140	0+160	0+180	0+200	0+220	0+240	ROAD CHAINAGE

General Notes

All Driveways Are ASPHALT Unless Otherwise Noted

All Water And Sanitary Service Locations Are Approximate
And Must Be Located Accurately In The Field

All Horizontal And Vertical Bends Are In Degrees

All Pipes Size In mm

20C Existing Water Service, Size In mm

WS20 Proposed Water Service, Size In mm

B.M. No. Elev.
Description
Location

The Contractor Is Responsible For Locating And Protecting All Existing Utilities Prior To And During Construction. Location Of Existing Utilities Approximate Only, To Be Verified In Field By Contractor.

Designed by ______ ______ ______ ______ Chkd. ______

Approved by ______ ______ ______ ______ ______

NOTICE TO CONTRACTOR

48 HOURS PRIOR TO COMMENCING WORK NOTIFY THE FOLLOWING

THE REGIONAL MUNICIPALITY OF PEEL
CITY OF MISSISSAUGA WORKS DEPT.
CITY OF BRAMPTON WORKS DEPT.
TOWN OF CALEDON WORKS DEPT.
BELL CANADA
ENBRIDGE INCORPORATED-GAS DISTRIBUTION
ONTARIO MINISTRY OF TRANSPORTATION
ONTARIO CLEAN WATER AGENCY
HYDRO ONE NETWORKS
ENERSOURCE, HYDRO MISSISSAUGA
HYDRO ONE BRAMPTON

CABLE TELEVISION/FIBREOPTIC PROVIDERS:
BELL CANADA
ENERSOURCE TELECOM
HYDRO ONE TELECOM
ROGERS CABLE
ALLSTREAM
PSN (PUBLIC SECTOR NETWORK)
FUTUREWAY (FCI BROADBAND)

10m 0 10 20 30m HORIZONTAL SCALE

1m 0 1 2 3m VERTICAL SCALE

Region of Peel
working with you

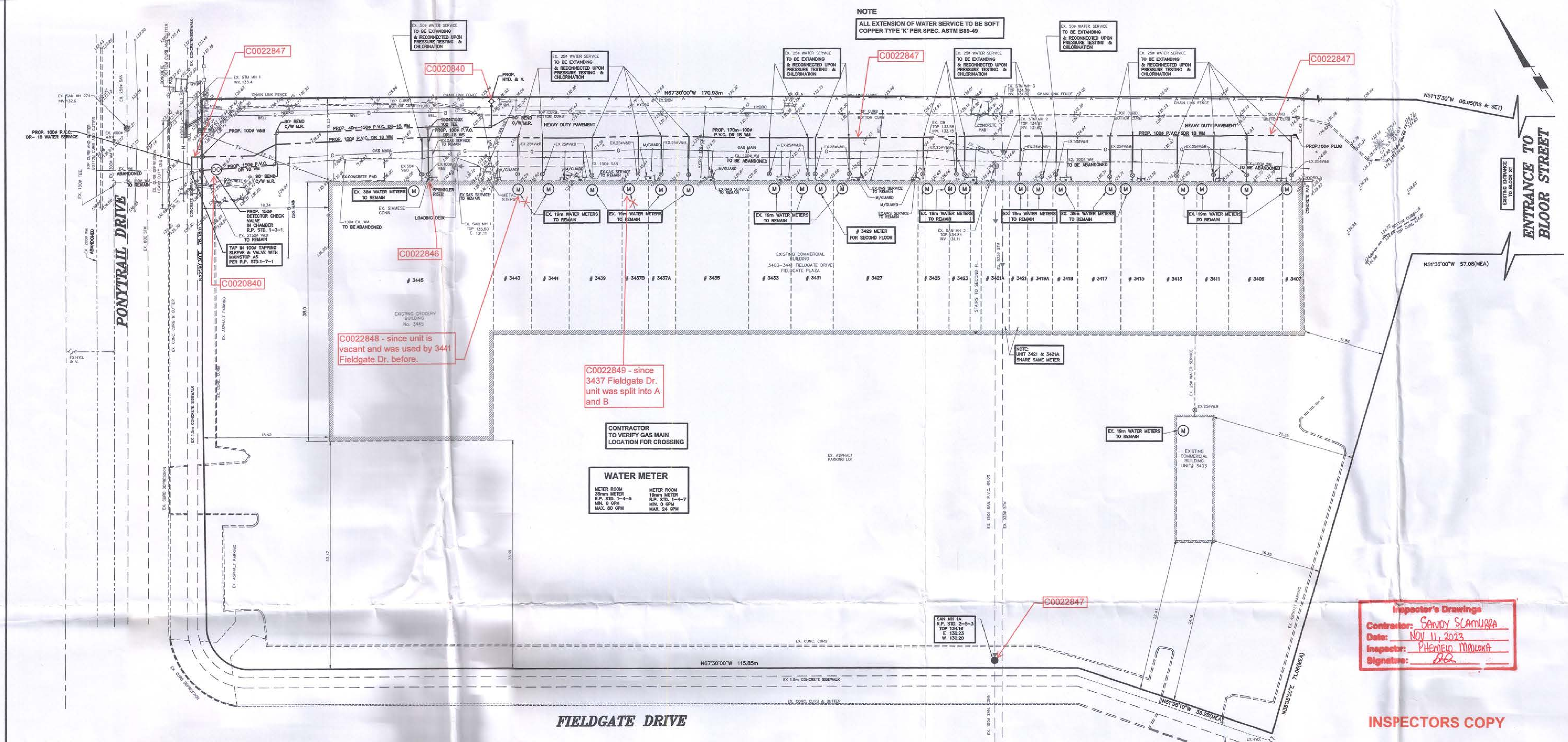
FIELDGATE DRIVE

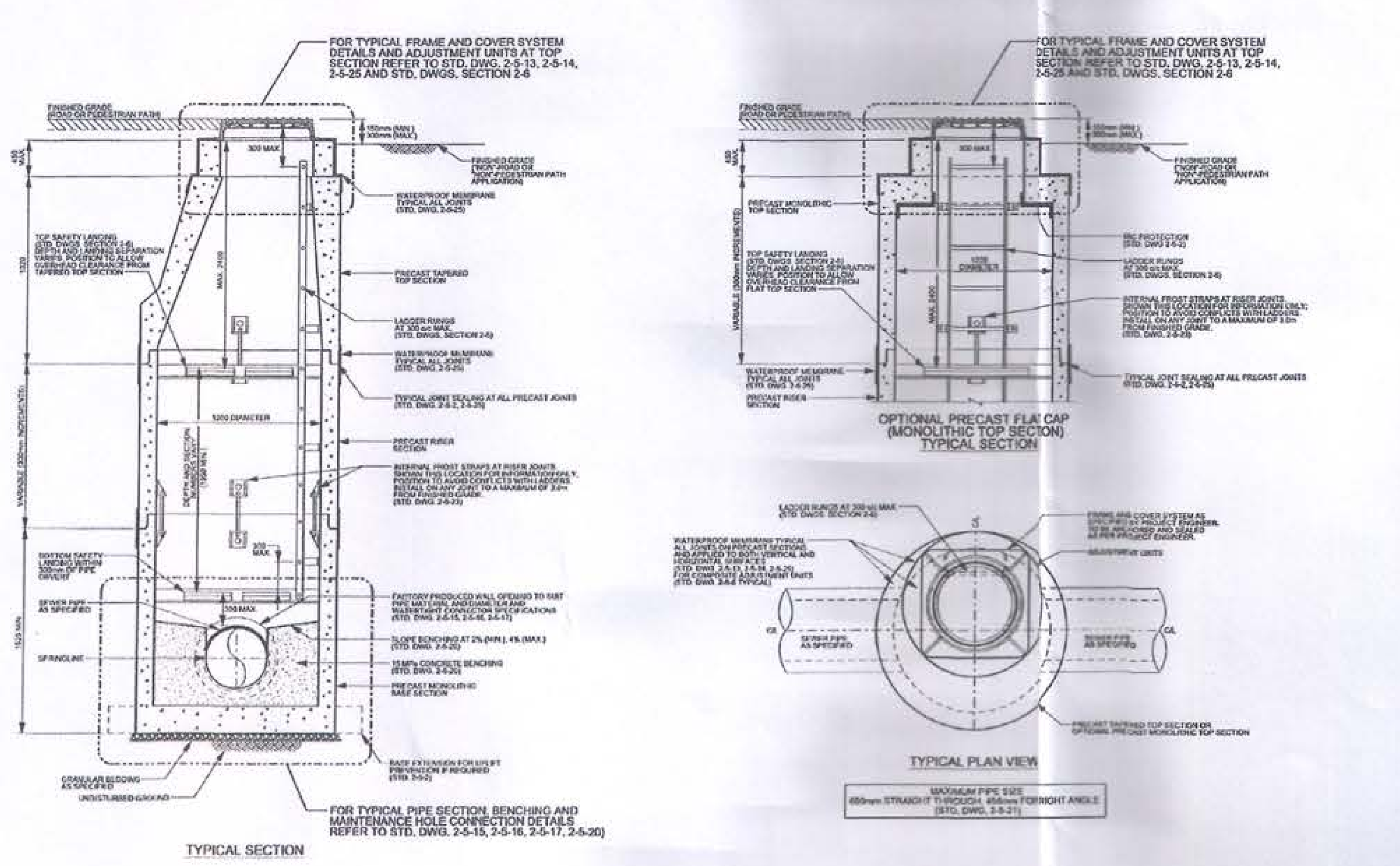
(FROM BLOOR ST TO SUNNYHILL DR)

PROP. 400mm WATERMAIN

STA. 0+000 TO STA. 0+240

CAD Area		Area	Z-19	Project No.	17-1310 C
Checked by		Drawn by	A.S.	Plan No.	**67208-D**
Date	AUGUST 2018	Sheet	1 of 3		





NOTES

GENERAL NOTES

1. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION AND IF ANY DISCREPANCIES EXIST, CONTRACTOR IS TO NOTIFY THE ENGINEER.
2. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. GAS, HYDRO, TELEPHONE OR ANY OTHER UTILITIES THAT MAY EXIST ON THE SITE OR WITHIN THE STREETLINES MUST BE LOCATED BY ITS OWN UTILITIES AND VERIFIED PRIOR TO CONSTRUCTION.
3. AT ALL ENTRANCES TO THE SITE THE MUNICIPAL SIDEWALK WILL BE CONTINUOUS THROUGH THE DRIVEWAY. THE DRIVEWAY GRADE WILL BE COMPATIBLE WITH THE EXISTING OR FUTURE SIDEWALK AND CURB DEPRESSION WILL BE PROVIDED FOR EACH ENTRANCE.
4. SIDEWALKS DEPTHS TO BE INCREASED TO MINIMUM 150mm DEPTH FOR DRIVEWAYS.
5. TOPSOIL IN FILL AREA TO BE STRIPPED AND CLEAN FILL TO BE PLACED AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
6. ALL GRADES TO BE WITHIN 33% MAXIMUM SLOPE AT PROPERTY LINE AND WITHIN THE SITE.
7. SPREAD PATTERN OF EXTERIOR LIGHTING SHALL NOT INFRINGE ON THE ADJACENT PROPERTY.
8. ALL UNDERGROUND SERVICE MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE LATEST LOCAL MUNICIPALITY STANDARDS AND CODES, AND O.B.C.
9. ALL BACKFILL FOR SEWERS, WATERMAINS AND UTILITIES ON THE ROAD ALLOWANCE AND THE INTERNAL SITE MUST BE COMPACTED TO MINIMUM 95% S.P.D. EXCEPT FOR TOP 300mm WHICH MUST BE COMPACTED TO 98% S.P.D. ON THE ROAD ALLOWANCE UNLESS OTHERWISE NOTED AND UNDER THE DIRECT SUPERVISION OF THE GEOTECHNICAL SOILS CONSULTANT.
10. THE BUILDING SITED ON THIS PLAN HAS BEEN DESIGNED UTILIZING CONTROLLED FLOW ROOF DRAINS IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS.
11. ALL SURFACE DRAINAGE SHALL BE SELF CONTAINED, COLLECTED AND DISCHARGED AT A LOCATION TO BE APPROVED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT.
12. CONTINUOUS CONCRETE CURB BETWEEN LANDSCAPE AREAS AND ASPHALT PAVING.

FIRE DEPARTMENT

1. FIRE ROUTE WILL BE DESIGNATED AS PER CITY OF MISSISSAUGA BYLAW (1036-81) AS AMENDED PRIOR TO OCCUPANCY OF THE BUILDINGS.
2. FIRE ROUTES TO BE DESIGNED TO WITH STAND A LOAD NOT LESS THAN 11,363Kg. PER AXLE AND HAVE A CHANGE IN GRADIENT OF NOT MORE THAN 1 IN 12.5 OVER A DISTANCE 15.0m AS PER BY LAW 1036-81.
3. ALL 12.0m TURNING RADII HAVE MIN. CLEARANCE OF 3.0m BETWEEN THE CENTRE LINE OF TURNING RADII AND ANY CURB OR PART OF BUILDING.
4. PRIVATE FIRE HYDRANTS SHALL BE FLOW TESTED AND COLOUR CODED IN CONFORMANCE WITH THE REGION OF PEEL "UNIFORM MARKING OF HYDRANTS".

WATERMAINS

1. ALL MATERIALS AND CONSTRUCTION METHODS MUST CORRESPOND TO THE CURRENT PEEL PUBLIC WORKS STANDARDS AND SPECIFICATIONS.
2. WATERMAIN AND/OR WATER SERVICE MATERIALS 100dia. AND LARGER MUST BE P.V.C. DR-18 TO AWWA SPEC C900-16, SIZE 50dia. AND SMALLER MUST BE SOFT COPPER TYPE 'K' SPEC. ASTM-B88-49.
3. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MIN. DEPTH OF 1.7m WITH A MIN. HORIZONTAL SPACING OF 1.2m FROM THEMSELVES AND OTHER UTILITES.
4. PROVISIONS FOR FLUSHING WATER LINE PRIOR TO TESTING, ETC. MUST BE PROVIDED WITH AT LEAST A 50dia OUTLET ON 100dia. AND LARGER LINES. COPPER LINES ARE TO HAVE FLUSHING POINTS AT THE END, THE SAME SIZE AS THE LINE. THEY MUST ALSO BE HOSED OR PIPED TO ALLOW THE WATER TO DRAIN ONTO A PARKING LOT OR DOWN A DRAIN. ON FIRE LINES, FLUSHING OUTLET TO BE 100dia MINIMUM ON A HYDRANT.
5. ALL CURB STOPS TO BE 3.0m OFF THE FACE OF THE BUILDING UNLESS OTHERWISE NOTED.
6. HYDRANT AND VALVE SET TO R.P. STD. 1-6-1. DIMENSION A AND B, 0.70m AND 0.90m AND TO HAVE PUMPER NOZZLE.
7. WATERMAINS TO BE INSTALLED TO GRADE AS SHOWN ON APPROVED SITE PLAN. COPY OF GRADE SHEET MUST BE SUPPLIED TO INSPECTOR PRIOR TO COMMENCEMENT OF WORK, WHERE REQUESTED BY INSPECTOR.
8. WATERMAIN MUST HAVE A MIN. VERTICAL CLEARANCE OF 0.30m OVER OR 0.50m UNDER SEWERS AND ALL OTHER UTILITIES WHEN CROSSING.
9. ALL PROPOSED WATER PIPING MUST BE ISOLATED FROM EXISTING LINES IN ORDER TO ALLOW INDEPENDENT PRESSURE TESTING AND CHLORINATING FROM EXISTING SYSTEMS.
10. ALL LIVE TAPPING AND OPERATION OF REGION WATER VALVES SHALL BE ARRANGED THROUGH THE REGIONAL INSPECTOR ASSIGNED OR BY CONTACTING THE OPERATIONS AND MAINTENANCE DIVISION.
11. MECHANICAL RESTRAINTS MUST BE INSTALLED ON ALL BENDS, TEES AND REDUCERS.
12. LOCATION OF ALL EXISTING UTILITIES IN THE FIELD TO BE ESTABLISHED BY THE CONTRACTOR.
13. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE FOR LOCATES, EXPOSING, SUPPORTING AND PROTECTING OF ALL UNDERGROUND AND OVERHEAD UTILITIES AND STRUCTURES EXISTING AT THE TIME OF CONSTRUCTION IN THE AREA OF THEIR WORK, WHETHER SHOWN ON THE PLANS OR NOT AND FOR ALL REPAIRS AND CONSEQUENCES RESULTING FROM DAMAGE TO SAME.
14. THE CONTRACTOR(S) SHALL BE SOLELY RESPONSIBLE TO GIVE 72 HOURS WRITTEN NOTICE TO THE UTILITIES PRIOR TO CROSSING SUCH UTILITIES, FOR THE PURPOSE OF INSPECTION BY THE CONCERNED UTILITY. THIS INSPECTION WILL BE FOR THE DURATION OF THE CONSTRUCTION, WITH THE CONTRACTOR RESPONSIBLE FOR ALL COSTS ARISING FROM SUCH INSPECTION.
15. ALL PROPOSED WATER PIPING MUST BE ISOLATED THROUGH A TEMPORARY CONNECTION THAT SHALL INCLUDE AN APPROPRIATE CROSS-CONNECTION CONTROL DEVICE, CONSISTENT WITH THE DEGREE OF HAZARD, FOR BACKFLOW PREVENTION OF THE ACTIVE DISTRIBUTION SYSTEM, CONFORMING TO R.P. STD. 1-7-7 AND 1-7-8.

TRAFFIC NOTES

(i) ALL DAMAGED OR DISTURBED AREAS WITHIN THE MUNICIPAL RIGH-OF-WAY ARE TO BE REINSTATED AT THE OWNER'S EXPENSE.
(ii) ALL LANDSCAPING AND GRADING WITHIN CLOSE PROXIMITY TO THE PROPOSED ACCESS POINTS IS TO BE DESIGNED TO ENSURE THAT ADEQUATE SIGHT DISTANCES ARE AVAILABLE FOR ALL APPROACHING AND EXITING MOTORISTS AND PEDESTRIANS.
(iii) THE PORTION OF THE DRIVEWAY WITHIN THE MUNICIPAL BOULEVARD IS TO BE PAVED BY THE OWNER.
(iv) DRIVEWAY ACCESSES SHALL MAINTAIN A 1.5m SETBACK FROM ABOVEGROUND FEATURES SUCH AS UTILITIES AND TREES.
(v) ANY ABOVEGROUND UTILITIES LOCATED WITHIN 1.5m OF PROPOSED ACCESS ARE TO BE RELOCATED AT THE OWNER'S EXPENSE.
(vi) THE COST FOR ANY/ALL ROAD IMPROVEMENTS REQUIRED IN SUPPORT OF THIS DEVELOPMENT APPLICATION WILL BE BORNE BY THE OWNER.
(vii) THE OWNER SHALL MAKE SATISFACTORY ARRANGEMENTS WITH THE TRANSPORTATION AND WORKS DEPARTMENT FOR THE DESIGN, CONSTRUCTION AND PAYMENT OF ALL COSTS ASSOCIATED WITH WORKS NECESSARY IN SUPPORT ACCESS TO THE SITE.
(viii) ANY ACCESS TO INTERNAL SERVICING SHALL BE PROVIDED INTERNALLY THROUGH THE SITE.

Inspector's Drawings
Contractor: SANDY SCAMURRA
Date: NOV 11, 2023
Inspector: PHEMELO MPOLOKA
Signature: [signature]

INSPECTORS COPY

REGION OF PEEL
PUBLIC WORKS, DEVELOPMENT ENGINEERING
Reviewed for water, Sanitary and/ or Storm Sewers in Accordance with the latest Region of Peel Standards and Specifications.
Signature: [signature] Date: Oct. 27, 2022
MUNICIPAL SITE & REGIONAL EASEMENTS ONLY

CONNECTION APPROVAL
☒ SANITARY
☐ STORM
☒ WATERMAIN

REGISTERED PROFESSIONAL ENGINEER — ROMAN T. KERKUSZ — JULY 19/22 — PROVINCE OF ONTARIO

C.M. BENCHMARK No. 686 ELEVATION: 135.346

DESCRIPTION: ON THE S. FACE AT THE E. CORNER OF THE MOST S. WALL OF FOREST GLEN PUPLIC SCHOOL ON THE N. SIDE OF PONYTRAIL DR., 400' W. OF BRIDGEWOOD DR.

SITE DATA

LOT AREA	15821.70 m^2
BUILDING CLEARANCE	3653.38 m^2

ALL INTERNAL EXISTING SERVICES AND APPURTENANCES NOT UTILIZED FOR SERVICING OF THIS PROJECT ARE TO BE REMOVED OFF SITE UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

FOR SERVICE CONNECTION WITH LESS THAN 0.50m CLEAR DISTANCE BETWEEN PIPES, PIPE INSULATION IS REQUIRED AS PER R.P. STD. 1-5-8.

INFORMATION SHOWN HEREON REGARDING THE SIZE AND LOCATION OF EXISTING SERVICES AND/OR UTILITIES IS FURNISHED AS THE BEST AVAILABLE INFORMATION AND SHALL BE INTERPRETED AS THE CONTRACTOR SEES FIT WITH THE UNDERSTANDING THAT THE OWNER DISCLAIMS ALL RESPONSIBILITY FOR ITS SUFFICIENCY AND/OR ACCURACY.

MISSISSAUGA Fire and Emergency Services *Leading today!*
REVIEWED BY [signature]
DATE Oct. 17, 2022
A WATER SUPPLY ADEQUATE FOR FIREFIGHTING MUST BE PROVIDED. HYDRANTS AND WATERMAINS ARE TO BE INSTALLED IN ACCORDANCE WITH NFPA 24.
REVIEWED FOR FIRE PROTECTION ONLY

RECEIVED
Oct. 20, 2022
PUBLIC WORKS REGION OF PEEL ENGINEERING

REGION OF PEEL
PUBLIC WORKS, DEVELOPMENT ENGINEERING
Site servicing drawings cleared to seek fire approval from the City of Mississauga.
Signature: [signature] Date: Sep. 26, 2022
Region of Peel, Technical Analyst, Christopher Winterfield

RECEIVED
Sep. 26, 2022
PUBLIC WORKS REGION OF PEEL ENGINEERING

PAVEMENT DESIGN

LIGHT DUTY	40mm	COMPACTED DEPTH OF HL3 ASPHALT
	50mm	COMPACTED DEPTH OF HL8 ASPHALT
	150mm	COMPACTED DEPTH OF 20mm CRUSHER-RUN LIMESTONE
	250mm	COMPACTED DEPTH OF 50mm CRUSHER-RUN LIMESTONE
TOTAL	490mm	TOTAL CONSTRUCTION DEPTH
HEAVY DUTY	40mm	COMPACTED DEPTH OF HL3 ASPHALT
	60mm	COMPACTED DEPTH OF HL8 ASPHALT
	200mm	COMPACTED DEPTH OF 20mm CRUSHER-RUN LIMESTONE
	300mm	COMPACTED DEPTH OF 50mm CRUSHER-RUN LIMESTONE
TOTAL	600mm	TOTAL CONSTRUCTION DEPTH

No.	DATE	REVISION	INIT.
3	SEP 28,2022	REVISED AS PER FIRE DEPT. COMMENTS.	M.S.
2	JULY 18,2022	ADDED PAVEMENT DESIGN NOTES	S.S.
1	JULY 08,2022	REVISED SERVICING PLAN AS PER COMMENTS BY REGION - 1ST SUBMISSION	S.S.

KEY PLAN N.T.S.

SKIRA & ASSOCIATES LTD.
CONSULTING ENGINEERS
3464 Semenyk Court, Suite 100, Mississauga, Ontario L5C 4P8
Tel. (905) 276-5100 Fax. (905) 270-1936 Email - info@skiraconsult.ca

WATERMAIN REPLACEMENT

3403-3445 FIELDGATE DRIVE

FOREST GLENN SHOPPING CENTRE LIMITED

BLOCK 'J' REG. PLAN 719

MISSISSAUGA

SITE SERVICING PLAN

DATE: JAN. 2022	AREA: Z-00	DWG.No. C101
SCALE: 1:300	DRAWN BY: MS	
CITY FILE: XXXXXX	REGION FILE: C-602987	PROJECT No. 221-M103

C602987

3403-3445 Fieldgate Drive, Development

3403-3445 Fieldgate Drive, Mississauga, Ontario

Site Description	Block "J" Registered Plan 719 City of Mississauga Municipality of Peel

Subject To Zoning By-Law 0225-2007

	Full Property	Without Parkland Dedication
Ground Floor FFE	134.85	
Established Grade	134.85	
Lot Area	15,836 m²	14,559 m²

ESTABLISHED GRADE: means, with reference to a building, structure or part thereof, the average elevation of the finished grade of the ground immediately surrounding such building or structure, and when used with reference to a street, means the elevation of the street, established by the Municipality or other designated authority. (0308-2011)

Apartment Tower A		Units							Gross Construction Area							Gross Floor Area		
Floor No.	Storey	Total Units	STUDIO	1B	1B + D	2B	2B+D	3B	Total GCA (m²)	Total GCA (sq.ft.)	Garage Area (m²)	Amenity Area (m²)	Residential Area (m²)	Commercial Area (m²)	BOH Area (m²)	Deductions are per by-law (m²)	zoning GFA (m²)	zoning GFA (sq.ft.)
1	Parking Level 2	0							12,765.95 m²	137,412.69 sq.ft.	12,765.95 m²	0.00 m²	0.00 m²	0.00 m²	0.00 m²	12,765.95 m²	0.00 m²	0.00 sq.ft.
2	Parking Level 1	0							12,765.95 m²	137,412.69 sq.ft.	12,765.95 m²	0.00 m²	0.00 m²	0.00 m²	0.00 m²	12,765.95 m²	0.00 m²	0.00 sq.ft.
	Totals	0	0	0	0	0	0	0	25,531.90 m²	274,825.37 sq.ft.	25,531.90 m²	0.00 m²	0.00 m²	0.00 m²	0.00 m²	25,531.90 m²	0.00 m²	0.00 sq.ft.

Apartment Tower A		Units							Gross Construction Area							Gross Floor Area		
Floor No.	Storey	Total Units	STUDIO	1B	1B + D	2B	2B+D	3B	Total GCA (m²)	Total GCA (sq.ft.)	Garage Area (m²)	Amenity Area (m²)	Residential Area (m²)	Commercial Area (m²)	BOH Area (m²)	Deductions are per by-law (m²)	zoning GFA (m²)	zoning GFA (sq.ft.)
1	Lobby/Amenity/Residential	0	0	0	0	0	0	0	4,588.70 m²	49,392.75 sq.ft.	136.46 m²	342.98 m²	1,311.31 m²	1,820.00 m²	977.95 m²	1,218.71 m²	3,369.99 m²	36,274.57 sq.ft.
2	Residential	13	0	2	1	5	0	5	1,324.45 m²	14,256.35 sq.ft.	0.00 m²	199.74 m²	1,124.71 m²	0.00 m²	0.00 m²	49.93 m²	1,274.52 m²	13,718.90 sq.ft.
3	Residential	16	0	3	4	3	0	6	1,304.62 m²	14,042.93 sq.ft.	0.00 m²	0.00 m²	1,304.62 m²	0.00 m²	0.00 m²	49.93 m²	1,254.69 m²	13,505.48 sq.ft.
4	Residential	16	0	3	4	3	0	6	1,304.62 m²	14,042.93 sq.ft.	0.00 m²	0.00 m²	1,304.62 m²	0.00 m²	0.00 m²	49.93 m²	1,254.69 m²	13,505.48 sq.ft.
5	Residential	17	0	4	6	3	2	2	1,263.05 m²	13,595.47 sq.ft.	0.00 m²	0.00 m²	1,263.05 m²	0.00 m²	0.00 m²	49.93 m²	1,213.12 m²	13,058.02 sq.ft.
6	Residential	11	0	7	2	2	0	0	714.42 m²	7,690.02 sq.ft.	0.00 m²	0.00 m²	714.42 m²	0.00 m²	0.00 m²	36.13 m²	678.29 m²	7,301.11 sq.ft.
7	Residential	11	0	7	2	2	0	0	714.42 m²	7,690.02 sq.ft.	0.00 m²	0.00 m²	714.42 m²	0.00 m²	0.00 m²	36.13 m²	678.29 m²	7,301.11 sq.ft.
8	Residential	8	0	4	1	2	1	0	583.77 m²	6,283.70 sq.ft.	0.00 m²	0.00 m²	583.77 m²	0.00 m²	0.00 m²	36.13 m²	547.64 m²	5,894.80 sq.ft.
9	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
10	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
11	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
12	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
13	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
14	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
15	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
16	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
17	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
18	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
19	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
20	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
21	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
22	Residential	8	1	3	0	3	1	0	573.52 m²	6,173.37 sq.ft.	0.00 m²	0.00 m²	573.52 m²	0.00 m²	0.00 m²	36.13 m²	537.39 m²	5,784.47 sq.ft.
	Mechanical	0	0	0	0	0	0	0	335.86 m²	3,615.20 sq.ft.	0.00 m²	0.00 m²	335.86 m²	0.00 m²	0.00 m²	335.86 m²	0.00 m²	0.00 sq.ft.
	Totals	204	14	72	20	62	17	19	20,163.19 m²	217,036.52 sq.ft.	136.46 m²	542.72 m²	16,686.06 m²	1,820.00 m²	977.95 m²	2,368.50 m²	17,794.69 m²	191,542.01 sq.ft.

Minimum Apartment Setbacks Provided			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
4.01 m	N/A	N/A	7.50 m

Required Apartment Setbacks			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
4.00 m	7.50 m	16.50 m	4.50 m

Apartment Tower B		Units							Gross Construction Area							Gross Floor Area		
Floor No.	Storey	Total Units	STUDIO	1B	1B + D	2B	2B+D	3B	Total GCA (m²)	Total GCA (sq.ft.)	Garage Area (m²)	Amenity Area (m²)	Residential Area (m²)	Commercial Area (m²)	BOH Area (m²)	Deductions are per by-law (m²)	zoning GFA (m²)	zoning GFA (sq.ft.)
1	Lobby/Amenity/Residential	0	0	0	0	0	0	0	0.00 m²	0.00 sq.ft.	0.00 m²	0.00 m²	0.00 m²	0.00 m²	0.00 m²	0.00 m²	0.00 m²	0.00 sq.ft.
2	Residential	11	0	1	2	7	1	0	1,947.43 m²	20,962.14 sq.ft.	0.00 m²	869.86 m²	1,077.57 m²	0.00 m²	0.00 m²	49.62 m²	1,897.81 m²	20,428.03 sq.ft.
3	Residential	24	0	2	7	12	3	0	1,752.92 m²	18,868.43 sq.ft.	0.00 m²	0.00 m²	1,752.92 m²	0.00 m²	0.00 m²	49.62 m²	1,703.30 m²	18,334.32 sq.ft.
4	Residential	24	0	2	7	12	3	0	1,752.92 m²	18,868.43 sq.ft.	0.00 m²	0.00 m²	1,752.92 m²	0.00 m²	0.00 m²	49.62 m²	1,703.30 m²	18,334.32 sq.ft.
5	Residential	24	0	5	9	10	0	0	1,691.10 m²	18,203.00 sq.ft.	0.00 m²	0.00 m²	1,691.10 m²	0.00 m²	0.00 m²	49.62 m²	1,641.48 m²	17,668.89 sq.ft.
6	Residential	9	1	4	2	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	29.57 m²	591.42 m²	0.00 m²	0.00 m²	49.62 m²	571.37 m²	6,150.23 sq.ft.
7	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
8	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
9	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
10	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
11	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
12	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
13	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
14	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
15	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
16	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
17	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
16	Residential	10	1	6	1	2	0	0	620.99 m²	6,684.34 sq.ft.	0.00 m²	0.00 m²	620.99 m²	0.00 m²	0.00 m²	36.29 m²	584.70 m²	6,293.71 sq.ft.
	Mechanical	0	0	0	0	0	0	0	466.33 m²	5,019.58 sq.ft.	0.00 m²	0.00 m²	466.33 m²	0.00 m²	0.00 m²	466.33 m²	0.00 m²	0.00 sq.ft.
	Totals	212	13	86	39	67	7	0	15,683.57 m²	168,817.95 sq.ft.	0.00 m²	899.43 m²	14,784.14 m²	0.00 m²	0.00 m²	1,149.91 m²	14,533.66 m²	156,440.32 sq.ft.

Minimum Apartment Setbacks Provided			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
N/A	N/A	16.50 m	10.43 m

Required Apartment Setbacks			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
4.00 m	7.50 m	16.50 m	4.50 m

Apartment Tower C		Units							Gross Construction Area							Gross Floor Area		
Floor No.	Storey	Total Units	STUDIO	1B	1B + D	2B	2B+D	3B	Total GCA (m²)	Total GCA (sq.ft.)	Garage Area (m²)	Amenity Area (m²)	Residential Area (m²)	Commercial Area (m²)	BOH Area (m²)	Deductions are per by-law (m²)	zoning GFA (m²)	zoning GFA (sq.ft.)
1	Lobby/Amenity/Residential	0	0	0	0	0	0	0	1,713.96 m²	18,449.07 sq.ft.	172.16 m²	0.00 m²	417.21 m²	1,083.22 m²	41.37 m²	291.24 m²	1,422.72 m²	15,314.16 sq.ft.
2	Residential	18	0	2	2	11	0	3	1,474.04 m²	15,866.57 sq.ft.	0.00 m²	0.00 m²	1,474.04 m²	0.00 m²	0.00 m²	44.07 m²	1,429.97 m²	15,392.20 sq.ft.
3	Residential	19	1	2	2	13	0	1	1,417.87 m²	15,261.95 sq.ft.	0.00 m²	0.00 m²	1,417.87 m²	0.00 m²	0.00 m²	44.07 m²	1,373.80 m²	14,787.58 sq.ft.
4	Residential	19	1	2	2	13	0	1	1,417.87 m²	15,261.95 sq.ft.	0.00 m²	0.00 m²	1,417.87 m²	0.00 m²	0.00 m²	44.07 m²	1,373.80 m²	14,787.58 sq.ft.
5	Residential	19	1	6	4	8	0	0	1,286.85 m²	13,851.65 sq.ft.	0.00 m²	0.00 m²	1,286.85 m²	0.00 m²	0.00 m²	44.07 m²	1,242.78 m²	13,377.28 sq.ft.
6	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
7	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
8	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
9	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
10	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
11	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
12	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
13	Residential	11	0	9	1	1	0	0	704.85 m²	7,587.01 sq.ft.	0.00 m²	0.00 m²	704.85 m²	0.00 m²	0.00 m²	45.16 m²	659.69 m²	7,100.90 sq.ft.
	Mechanical	0	0	0	0	0	0	0	375.19 m²	4,038.55 sq.ft.	0.00 m²	0.00 m²	375.19 m²	0.00 m²	0.00 m²	375.19 m²	0.00 m²	0.00 sq.ft.
		0																
	Totals	163	3	84	18	53	0	5	13,324.58 m²	143,425.78 sq.ft.	172.16 m²	0.00 m²	12,027.83 m²	1,083.22 m²	41.37 m²	1,203.99 m²	12,120.59 m²	130,466.03 sq.ft.

Minimum Apartment Setbacks Provided			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
4.01 m	7.50 m	20.00 m	N/A

Required Apartment Setbacks			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
4.00 m	7.50 m	20.00 m	4.50 m

Townhouse Units		Units							Gross Construction Area							Gross Floor Area		
Floor No.	Storey	Total Units	STUDIO	1B	1B + D	2B	2B+D	3B	Total GCA (m²)	Total GCA (m²)	Garage Area (m²)	Amenity Area (m²)	Residential Area (m²)	Commercial Area (m²)	BOH Area (m²)	Deductions are per by-law (m²)	zoning GFA (m²)	zoning GFA (sq.ft.)
1	Townhouses	13	0	0	0	0	5	8	598.21 m²	6,439.13 sq.ft.	0.00 m²	0.00 m²	598.21 m²	0.00 m²	0.00 m²	0.00 m²	598.21 m²	6,439.13 sq.ft.
2	Townhouses	0	0	0	0	0	0	0	605.26 m²	6,515.02 sq.ft.	0.00 m²	0.00 m²	605.26 m²	0.00 m²	0.00 m²	0.00 m²	605.26 m²	6,515.02 sq.ft.
3	Townhouses	0	0	0	0	0	0	0	368.57 m²	3,967.29 sq.ft.	0.00 m²	0.00 m²	368.57 m²	0.00 m²	0.00 m²	0.00 m²	368.57 m²	3,967.29 sq.ft.
	Roof	0	0	0	0	0	0	0	76.86 m²	827.32 sq.ft.	0.00 m²	0.00 m²	76.86 m²	0.00 m²	0.00 m²	0.00 m²	76.86 m²	827.32 sq.ft.
		0																
	Totals	13	0	0	0	0	5	8	1,648.90 m²	17,748.76 sq.ft.	0.00 m²	0.00 m²	1,648.90 m²	0.00 m²	0.00 m²	0.00 m²	1,648.90 m²	17,748.76 sq.ft.

Minimum Townhouse Setbacks Provided			
Front Yard (m) (South)	Side Yard (m) (West)	Rear Yard (m) (North)	Side Yard (m) (East)
N/A	7.50 m	20.00 m	N/A

Required Townhouse Setbacks			
Front Yard (South)	Side Yard (West)	Rear Yard (North)	Side Yard (East)
4.00 m	7.50 m	20.00 m	4.50 m

Total Site	Units							Gross Construction Area							Gross Floor Area		
	Total Units	STUDIO	1B	1B + D	2B	2B+D	3B	Total GCA (m²)	Total GCA (m²)	Garage Area (m²)	Amenity Area (m²)	Residential Area (m²)	Commercial Area (m²)	BOH Area (m²)	Deductions are per by-law (m²)	zoning GFA (m²)	zoning GFA (sq.ft.)
	592	30	242	77	182	29	32	76,352.14 m²	821,854.38 sq.ft.	25,840.52 m²	1,442.15 m²	45,146.93 m²	2,903.22 m²	1,019.32 m²	30,254.30 m²	46,097.84 m²	496,197.12 sq.ft.

Maximum Building Height	Maximum as Per Zoning By-law 0225-2007 (RA4)	Maximum as Per Zoning By-law 0225-2007 (Townhouse)	Provided (Apartment A)	Provided (Apartment B)	Provided (Apartment C)	Provided (Townhouses)	Provided (Townhouses)
(From Established Grade of 134.85)	N/A	N/A	71.40m (22 Storeys)	58.90m (18 Storeys)	43.4 m (13 Storeys)	9.0 m (3 Storeys)	6.0 m (2 Storeys)

Density (m²) of Units / Site Area) (Total #	Maximum as Per Zoning By-law 0225-2007 (RA4)	Maximum as Per Zoning By-law 0225-2007 (Townhouse)	Provided
	N/A	N/A	0.04

F.S.I *(Total GFA / Site Area)*	Maximum as Per Zoning By-law 0225-2007 (RA4)	Provided
	N/A	2.91

Maximum Lot Coverage	Maximum as Per Zoning By-law 0225-2007 (RA4)	Provided
	N/A	44%

COVERAGE: Lot Coverage means the percentage of the lot area covered by all buildings, structures or parts thereof, at or above average grade or established grade, exclusive of overhanging eaves of 0.45 m or less, and outdoor swimming pools, but inclusive of pergolas and decks greater than 10 m2 and higher than 0.61 m above established grade. For lots having two or more zones, lot coverage shall be deemed to apply to only that portion of the lot that is located within each specified zone. (0325-2008), (0208-2022)

BUILDING HEIGHT:

Height and Height - Highest Ridge Height
(1) means, with reference to the height of a building, structure or part thereof, except a detached dwelling, semi-detached, duplex, triplex, fourplex, townhouse, back to back townhouse or stacked townhouse, the vertical distance between the established grade and:
(1.1) the highest point of the roof surface of a flat roof; or
(1.2) the mean height level between the eaves and ridge of a sloped roof.
(1.3) the mean height level between the eaves and highest point of the flat roof where there is a flat roof on top of a sloped roof; or
(1.4) the highest point of a structure without a roof. (0325-2008), (0174-2017), (0181-2018/LPAT Order 2019 February 15), (0196-2023)
See Illustration No. 6 - Section 1.3 - Illustrations

(3) means, with reference to the height of a townhouse, back to back townhouse and stacked townhouse, the vertical distance between the context grade and:
(3.1) the highest point of the roof surface of a flat roof, including a parapet; or
(3.2) the mean height level between the eaves and ridge of a sloped roof.
(3.3) the mean height level between the eaves and highest point of the flat roof where there is a flat roof on top of a sloped roof; or
(3.4) the highest point of a structure without a roof. (0181-2018/LPAT Order 2019 February 15), (0158-2023)
See Illustration No. 6 - Section 1.3 - Illustrations

Notwithstanding any other provisions of this By-law, the calculation of height for a building, structure or part thereof, except in a Residential Zone, shall be exclusive of mechanical or architectural components such as mechanical equipment, mechanical penthouses, elevator machine rooms, stairwell enclosures, telecommunication equipment, parapets, turrets, cupolas, stairs and stair enclosures located on the roof, provided that the maximum height of the top of such components is no higher than 6.0 m above the height limit otherwise applicable. (0158-2023)

GROSS FLOOR AREA:

Gross Floor Area (GFA) - Non-Residential
means the sum of the areas of each storey above or below established grade, measured from the exterior of outside walls, or from the midpoint of common walls, including the area of any floor system or assembly located within a storey which is designed or used for access and passage by persons and including all parts of the building or structure or part thereof below established grade used for retail, office, industrial or warehouse uses, but excluding the following:
(1) any part of the building, structure or part thereof used for mechanical floor area;
(2) areas of stairwells, washrooms or elevators;
(3) any enclosed area used for the collection or storage of disposable or recyclable waste generated within the building or structure or part thereof;
(4) any part of the building or structure or part thereof above or below established grade used for motor vehicle parking, bicycle parking, or the provision of loading spaces; (0118-2022)
(5) any part of the building, structure or part thereof below established grade used for storage incidental to other uses in the building, structure or part thereof or provided and reserved for the personal needs of the occupants of the building, structure or part thereof including lunch rooms, lounges or fitness rooms; (0118-2022)
(6) accessory outdoor tank. (0379-2009)

Gross Floor Area (GFA) - Residential
means the sum of the areas of each storey of a building measured from the exterior of outside walls but shall not include any part of the building used for motor vehicle parking or bicycle parking. (0118-2022)

Parking

Parking Stall Size: 2.6m x 5.2m
Barrier Free Type A Stall Size: 3.4m x 5.2m
Barrier Free Type B Stall Size: 2.4m x 5.2m

Minimum Drive Aisle	Required as Per Zoning By-law 0225-2007	Provided
	7.00 m	7.00 m

Parking Requirements		Required as Per Zoning By-law 0225-2007		Provided
Resident	Apartments 1.1 Spaces/ Unit	637	663	452
	Townhouses 2.0 Spaces/ Unit	26		
Visitor	Apartments 0.2 Spaces/ Unit	116	146	146
	Townohouses 0.25 Spaces/ Unit	4		
Commercial	5 Spaces/ 100 m² of Commercial GFA	146		
Total *Includes Barrier Free Parking Spaces*		809		598

*11 Lay-by Visitors Parking located on Fieldgate Drive

Barrier Free Parking	Required as Per Zoning By-law 0225-2007	Provided
Barrier Free Resident Parking	8	8
Barrier Free Visitor Parking *(1 space +3% of total required visitor parking)*	5	6
Barrier Free Commercial Parking *(1 space +3% of total required commercial parking)*	6	
Total Barrier Free Parking	19	14

* BF Parking Located on P1 Level

* BF Visitor/Commercial Parking Located on P1 Level

Bike Lockers Stall Size: 0.6m x 1.8m x 1.9m vertical clearance (1.2m length clearance from wall)	Required as Per Zoning By-law 0225-2007	Provided
Residential Long-Term *0.6 stalls / unit*	356	356
Residential Short-Term *0.05 stalls / unit*	30	32
Commercial Long-Term *0.15 stalls / 100m²*	5	5
Commercial Short-Term *0.2 stalls / 100m²*	6	8
Total	397	401

* Residential Long-Term Bicycle Parking Located at P1 Level

* Residential Short-Term Bicycle Parking Located at Grade

* Commercial Long-Term Bicycle Parking Located P1 Level

* Commercial Short-Term Bicycle Parking Located at Grade

Lockers	Required as Per Zoning By-law 0225-2007	Provided
Resident	0	57
Total	0	57

Amenity Areas	Required as Per Zoning By-law 0225-2007 (m²)	Provided (m²)
Indoor & Outdoor *5.6m² per unit combined for indoor and outdoor amenities*	3,315.20 m²	1,442.15 m² 1,926.99 m²
Total	3,315.20 m²	3,369.14 m²

*minimum of 55m² of amenity to be provided outside at grade

* Provided at Level 1, 2 & 6

* Provided on Level 2 & 6 Rooftop Terrace

Garbage Requirements	Required as Per Zoning By-law 0225-2007	Provided
Residential Loading Space * Loading Space Size: 6m x 18m and 7.5m Overhead Clearance	1	1
	Required as Per Zoning By-law 0225-2007	Provided
Commercial Loading Space * Loading Space Size: 3.5m x 9m	2	2

Architectural Drawing Sheet List

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A-110	Level 10-13 Typical Overall Floor Plans
A-111	Level 14-18 Typical Overall Floor Plans
A-112	Level 19-22 Typical Overall Floor Plans
A-113	MPH Overall Floor Plans
A-300	Building Elevations - South & West Elevations
A-301	Building Elevations - North & East Elevations
A-302	Building Elevations - Driveway Courtyard
A-303	Building Elevations - Amenity Courtyard
A-400	Building Sections
A-401	Building Sections

O.B.C. MATRIX

ONTARIO BUILDING CODE DATA MATRIX, PART 3 and/or 9

ONESPACE UNLIMITED
Certificate of Practice #4009
3700 Steeles Ave. W, Suite 305
Vaughan, Ontario
L4L 8K8
Tel (416)-848-1245 Fax (416)-848-1246
email dream@onespaceunlimited.com
The Certificate of Practice number of the holder is the holder's BCDN.

3403-3445 Fieldgate Drive, Development

LOCATION: 3403-3445 Fieldgate Drive Mississauga, ON

The Architect named above has exercised responsible control with respect to design activities.
The Architect's seal number is the Architect's BCDN

Item	Ontario's 2012 Building Code Data Matrix Part 3 or 9		OBC Reference References are to Division B unless noted [A] for Division A or [C] for Division C.	
1	Project Description ☒ New ☐ Addition ☐ Change of Use ☐ Alteration	☐ Part 11 11.1 to 11.4	☒ Part 3 1.1.2.[A]	☐ Part 9 1.1.2.[A] & 9.10.1.3.
2	Major Occupancy(s) Group 'C' Residential (3.2.2.43)		3.2.2.43.	9.10.2.
3	Building Area (m²) Existing 0 New 7,007 m² Total 7,007 m²		1.4.1.2.[A]	1.4.1.2.[A]
4	Gross Area Existing 0 New 47,827 m² Total 47,827 m²		1.4.1.2.[A]	1.4.1.2.[A]
5	Number of Storeys Above Grade 19 Below Grade 2		1.4.1.2.[A] & 3.2.1.1	1.4.1.2.[A] & 9.10.1
6	Number of Streets/Fire Fighter Access 2		3.2.2.10. & 3.2.5.	9.10.20.
7	Building Classification Group 'C' Residential, Group 'F' Division 3		3.2.2.20-83.	9.10.2.
8	Sprinkler System Proposed ☒ Entire Building ☐ Selected Compartments ☐ Selected Floor Areas ☐ Basement ☐ In Lieu of Roof Rating ☐ Not Required		3.2.2.20-83. 3.2.1.5. 3.2.2.17. INDEX	9.10.8.2. INDEX
9	Standpipe Required ☒ Yes ☐ No		3.2.9.	N/A
10	Fire Alarm Required ☒ Yes ☐ No		3.2.4.	9.10.18.
11	Water Service/Supply is Adequate ☒ Yes ☐ No		3.2.5.7.	N/A
12	High Building ☐ Yes ☒ No		3.2.6.	N/A
13	Construction Restrictions ☐ Combustible permitted ☒ Non-combustible permitted ☐ Both Actual Construction ☐ Combustible ☒ Non-combustible ☐ Both		3.2.2.20-83.	9.10.6.
14	Mezzanine(s) Area m² N/A		3.2.1.1.(3)-(8)	9.10.4.1.

1
A-020
Context Plan
Scale: 1 : 2000

onespace
one team. one vision.

onespace unlimited inc.
architecture + interior design
3700 STEELES AVE WEST, SUITE 305,
VAUGHAN,
ONTARIO L4L 8K8 TEL: (416)
848-1245 FAX: (416)
848-1246
WWW.ONESPACEUNLIMITED.COM

TRUE NORTH
PROJECT NORTH

No.	DATE	ISSUED

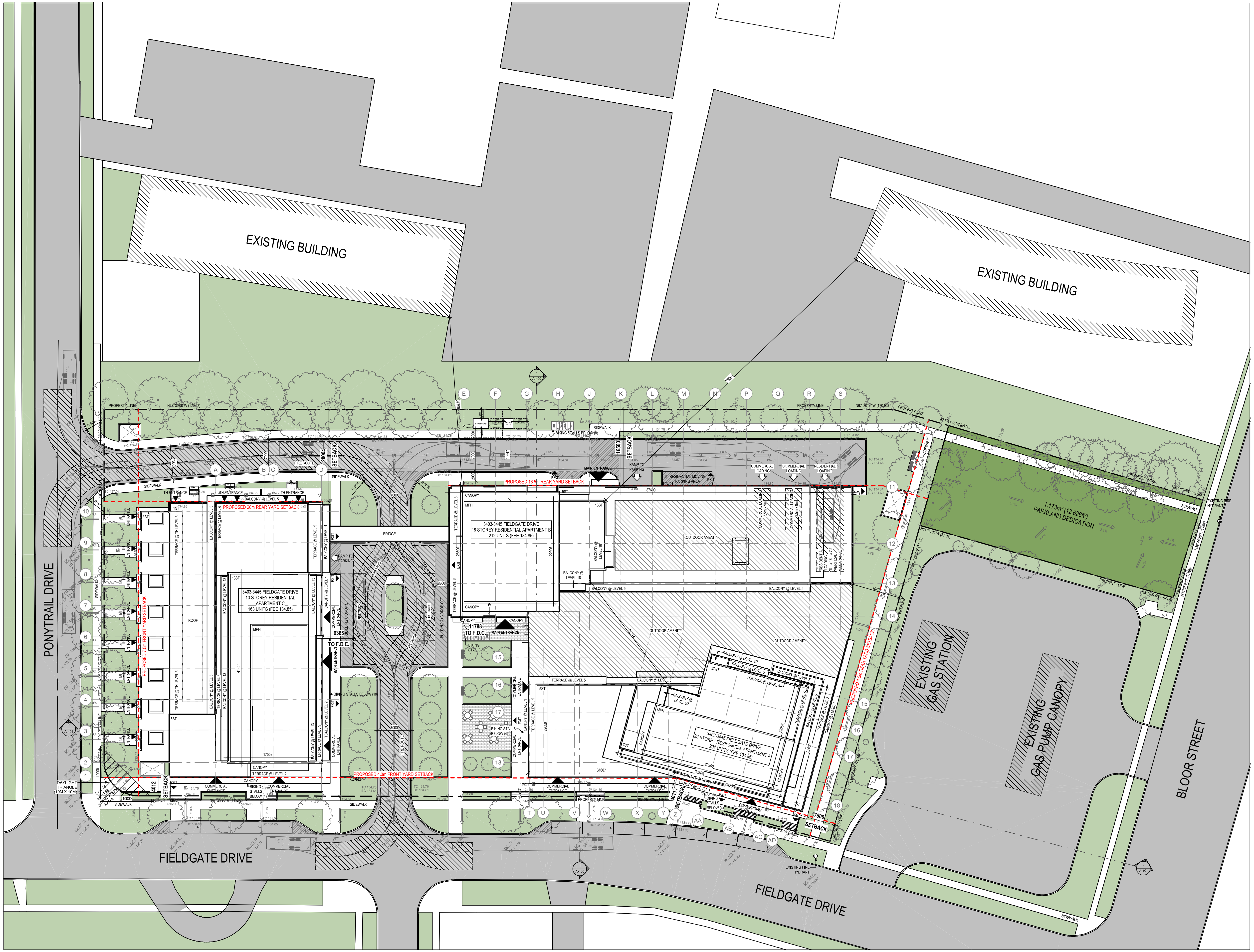
CLIENT
Forest Glen Shopping Centre
Ltd. 3427 Fieldgate Dr.,
Mississauga ON, L4X 2J4

ADDRESS
3403-3445 Fieldgate Drive
Mississauga, ON

DRAWING
Drawing List, Site Statistics, OBC Matrix, Context Plan

PROJECT NUMBER	DATE
23063	
SCALE	**PLOTTED DATE**
As indicated	08/08/2024 12:22:10 PM

A-020



1 Site
A-040
Scale: 1 : 250

onespace

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3700 STEELES AVE WEST. SUITE 305.
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848-1245 FAX: (416)
848-1246
WWW.ONESPACEUNLIMITED.COM

No.	Date	Revision

No.	DATE	ISSUED
002	07 FEB 2024	RE-ISSUED FOR DARC MEETING
001	25 JAN 2024	ISSUED FOR DARC MEETING

CLIENT

Forest Glen Shopping Centre Ltd. 3427 Fieldgate Dr., Mississauga ON, L4X 2J4

ADDRESS

3403-3445 Fieldgate Drive
Mississauga, ON

DRAWING

Site Plan

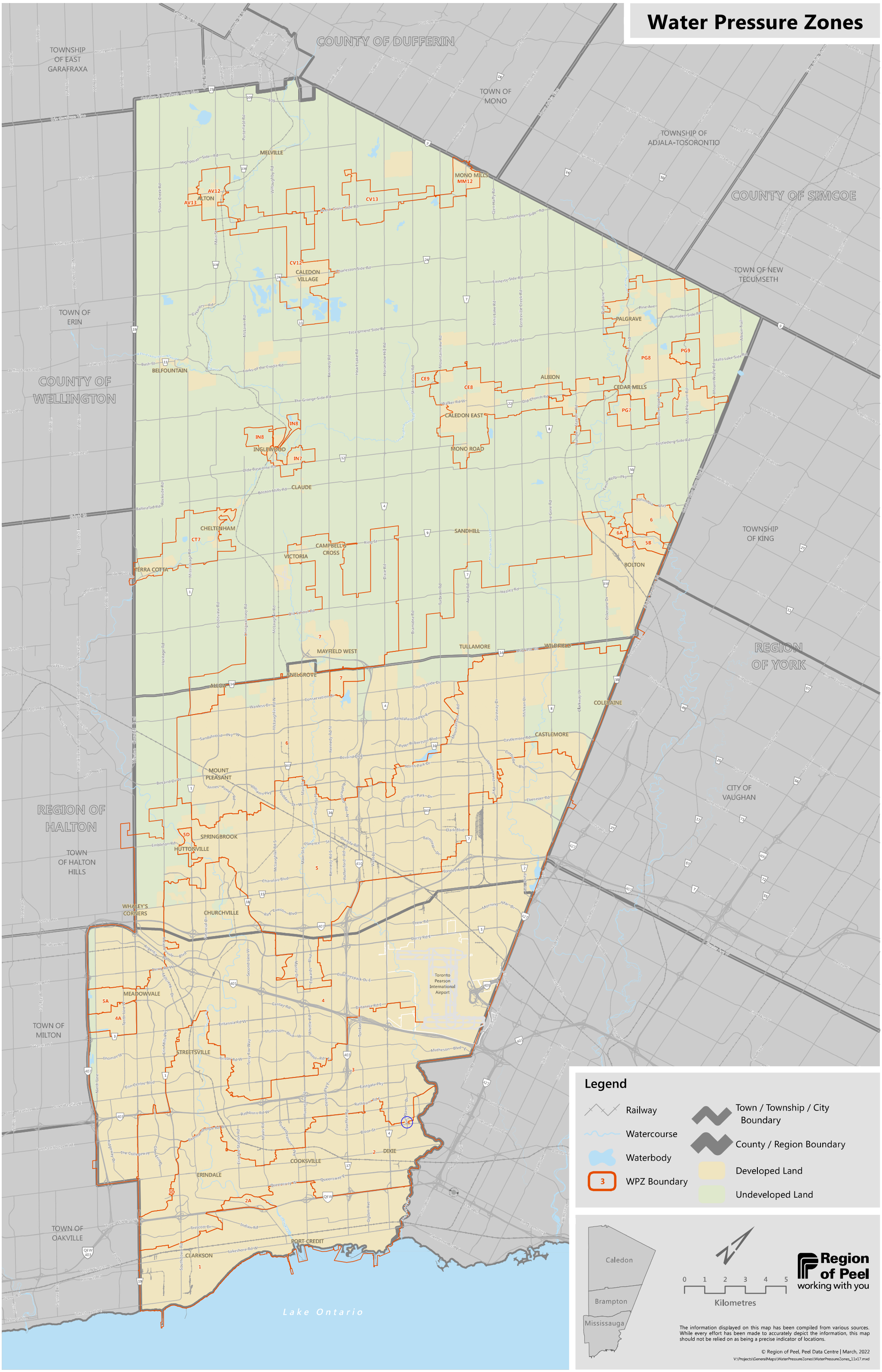
PROJECT NUMBER	DATE
23063	07 FEB 2024
SCALE	PLOTTED DATE
As indicated	08/08/2024 12:26:14 PM

A-040

APPENDIX B

Water Servicing Calculations

Water Pressure Zones



Legend

- Railway
- Watercourse
- Waterbody
- 3 — WPZ Boundary
- Town / Township / City Boundary
- County / Region Boundary
- Developed Land
- Undeveloped Land

0 1 2 3 4 5

Kilometres

Region of Peel
working with you

The information displayed on this map has been compiled from various sources. While every effort has been made to accurately depict the information, this map should not be relied on as being a precise indicator of locations.

V:\Projects\GeneralMaps\WaterPressureZones\WaterPressureZones_11x17.mxd

WATER DEMAND

Municipality:	City of Mississauga
Project Name:	3403-3445 Fieldgate Drive
Project No.	[2655-7074]
Completed By:	J.P.L.
Checked By:	J.S.
Date:	2024-08-16

FUS Fire Flow:	6,000	L/minute
FUS Fire Flow:	100.00	L/s
Residential Consumption Rate:	280	L/capita/day
Commercial Consumption Rate:	300	L/capita/day

Total Residential Demand

Total Residential Population	Unit Average Day Demand (L/capita/day)	Average Day Demand (L/s)
1,458	280	**4.73**

Total Commercial Demand

Total Commercial Population	Unit Average Day Demand (L/capita/day)	Average Day Demand (L/s)
15	300	**0.05**

TOTAL DEMANDS

	Average Day Demand (L/s)	Max Hour Demand Peaking Factor †	Max Hour Demand (L/s)	Max Day Demand Peaking Factor †	Max Day Demand (L/s)
RESIDENTIAL	**4.73**	3.0	**14.18**	2.0	**9.45**
COMMERCIAL	**0.05**	3.0	**0.15**	1.4	**0.07**
TOTAL	**4.78**		**14.33**		**9.52**

	Demand (L/s)
Average Day Demand	4.78
Maximum Day Demand	9.52
Peak Hourly Demand	14.33
Fire Flow	100.00
Max. Day Demand + Fire Flow	109.52

FIRE UNDERWRITERS SURVEY CALCULATION

Municipality:	City of Mississauga
Project Name:	3403-3445 Fieldgate Drive
Project No.	[2655-7074]
Completed By:	J.P.L.
Checked By:	J.S.
Date:	2024-08-16

A = Type of Construction

Type of Construction:	C	Description
Wood Frame	1.5	(essentially all combustible)
Ordinary	1	(brick/masonry walls, combustible interior)
Non-Combustible	0.8	(unprotected metal structure, masonry/metal walls)
Fire-Resistive	0.6	(fully protected frame, roof, floors)

Construction Coefficient:	0.6	

D = Fire Flow (000's)

GFA*	4163	**square metres**
Construction Type	0.6	
Fire Flow	**8,517**	**L/min**

*GFA based on the single largest floor + 25% of each of the two immediately adjoining floors
Note: Building B has the highest GFA compared to all proposed buildings.

Fire Flow	**9,000**	**L/min**

E = Occupancy Factor

Fire Hazard of Contents	Charge
Non-Combustible	-25%
Limited Combustible	-15%
Combustible	0%
Free Burning	15%
Rapid Burning	25%

Occupancy Factor	-15%	
Fire Flow	**7,650**	**L/min**

F = Sprinkler Factor

Sprinkler System	Charge
n/a	0%
NFPA 13 System	-30%
Fully Supervised System	-50%

Sprinkler Factor:	-50%

G = Exposure Factor

Separation	Charge
0 to 3 m	25%
3.1 to 10 m	20%
10.1 to 20 m	15%
20.1 to 30 m	10%
30.1 to 45 m	5%

NOTES
North = 39m
South = +45m
East = 14m
West = 30m

Exposure Factor	25%	(no more than 75%)

H - Net Fire Flow Required

F + G Factors	**-25%**

Calculated Fire Flow:	**5738**	**L/min**
Fire Flow:	**6000**	**L/min** (round to the nearest 1000th)
Fire Flow:	**100**	**L/s**

Hydrant Flow Test Report

Residual Hydrant Number _____

Operator: Lee Stansfield

Date: 03-Jun-24 Time: 10:15 AM

Witness: Region of Peel

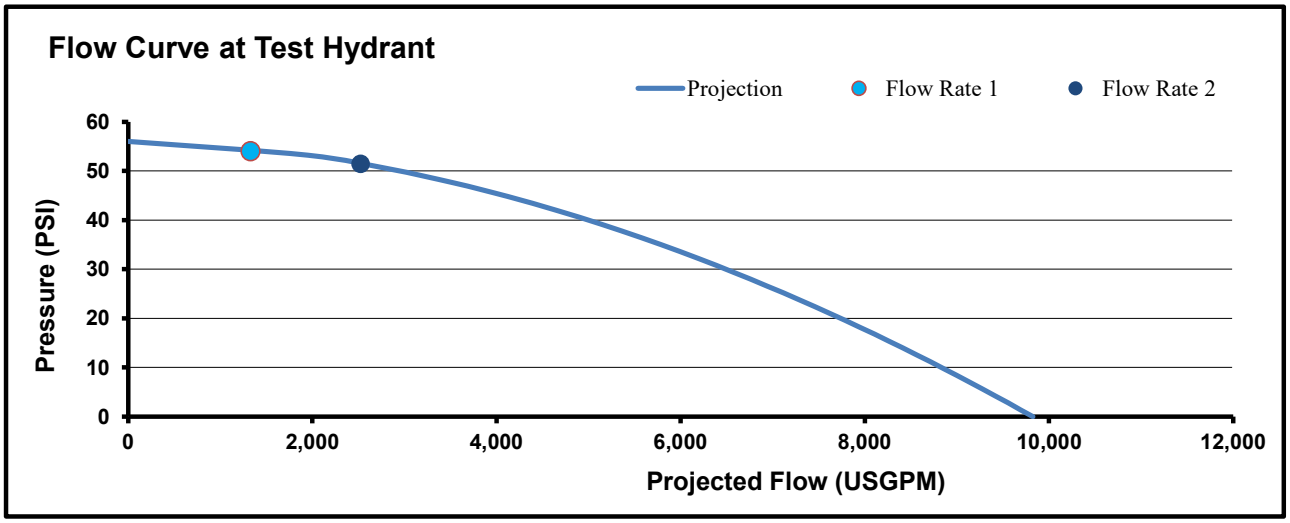
Residual Test Hydrant:	1745 Bloor Street		
Hydrant Number:		NFPA Colour Code:	**CLASS AA - BLUE**
Owner:	Region of Peel		

STATIC PRESSURE:	56 psi	386 kPa	Pressure Drop
RESIDUAL PRESSURE 1:	54 psi	372 kPa	3.6%
RESIDUAL PRESSURE 2:	51.5 psi	355 kPa	8.0%

			Hydrant Number
Flow Hydrants:	A	1715 Bloor Street	
	B		
	C		

Hydrant No.	Flow Device	Outlet Dia. (in.)	Flow Rate 1 Reading (psi)	Flow Rate 1 (USGPM)	Flow Rate 2 Reading (psi)	Flow Rate 2 (USGPM)
A	Pitot	2.5	18	662	14	584
A	Pitot	2.5	18	662	14	584
A	HoseMonster	4"		0	-	1350
B	Pitot	2.5		0		0
B	Pitot	2.5		0		0
Total Flow (USGPM)				1324		2517
Total Flow (L/second)				84		159
Available Flow At Test Hydrant at 20 ps			6,304	USGPM	7,738	USGPM
			398	L/second	488	L/second

Average Projection at 20 PSI 7,021 USGPM



Comments/Discrepencies/Diagram:

Watermark Solutions Limited
(705) 250-0368 www.watermark.ca

Hydrant Flow Test Report

Residual Hydrant Number _____

Operator: Lee Stansfield

Date: 03-Jun-24 Time: 11:00 AM

Witness: Region of Peel

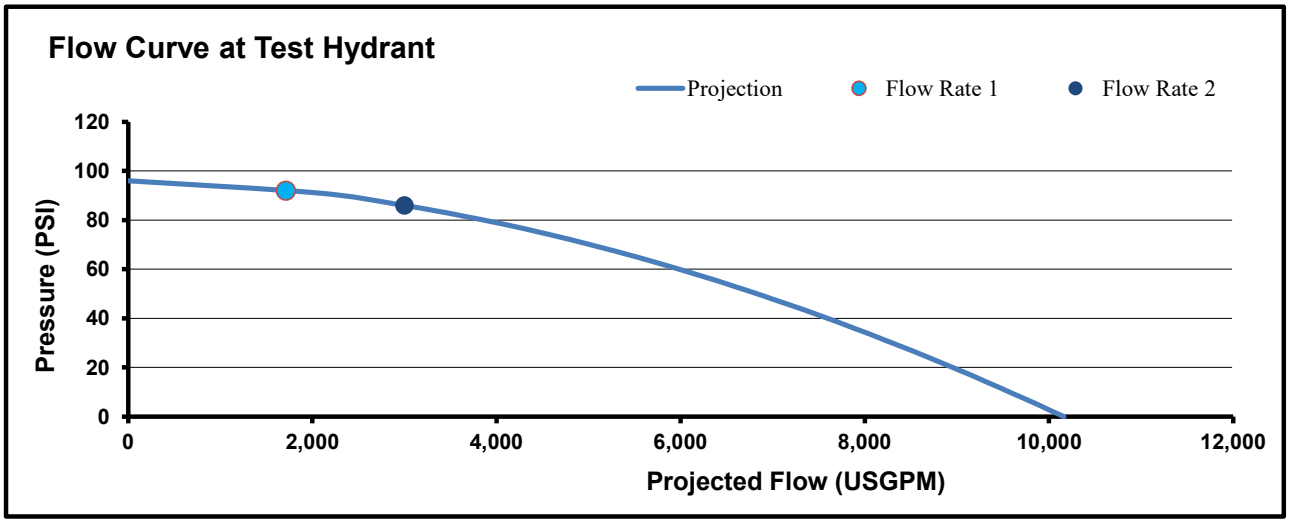
Residual Test Hydrant:	3355 Ponytrail Drive		
Hydrant Number:		NFPA Colour Code:	**CLASS AA - BLUE**
Owner:	Region of Peel		

STATIC PRESSURE:	96 psi	662 kPa	Pressure Drop
RESIDUAL PRESSURE 1:	92 psi	634 kPa	4.2%
RESIDUAL PRESSURE 2:	86 psi	593 kPa	10.4%

			Hydrant Number
Flow Hydrants:	A	3320 Ponytrail Drive	
	B		
	C		

Hydrant No.	Flow Device	Outlet Dia. (in.)	Flow Rate 1 Reading (psi)	Flow Rate 1 (USGPM)	Flow Rate 2 Reading (psi)	Flow Rate 2 (USGPM)
A	Pitot	2.5	30	854	20	698
A	Pitot	2.5	30	854	20	698
A	HoseMonster	4"		0	-	1600
B	Pitot	2.5		0		0
B	Pitot	2.5		0		0
Total Flow (USGPM)				1709		2995
Total Flow (L/second)				108		189
Available Flow At Test Hydrant at 20 ps			8,380	USGPM	8,955	USGPM
			529	L/second	565	L/second

Average Projection at 20 PSI	8,668	USGPM



Comments/Discrepencies/Diagram:

Watermark Solutions Limited
(705) 250-0368 www.watermark.ca

Hydrant Flow Test Report

Residual Hydrant Number _____

watermark water loss management

Operator: Lee Stansfield

Date: 30-Jul-24 Time: 10:30 AM

Witness: Region of Peel

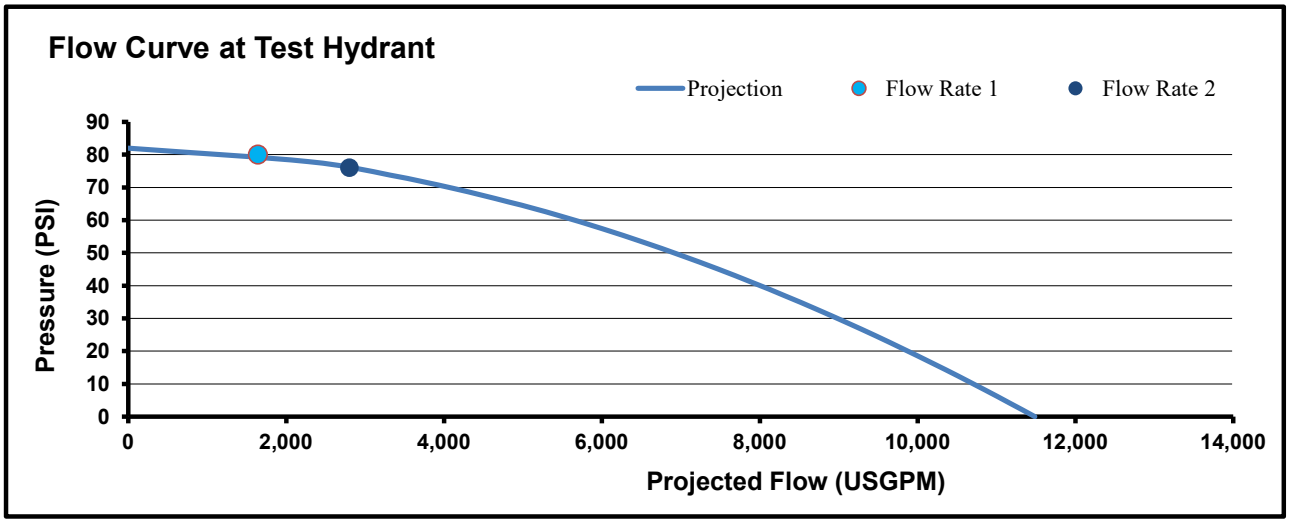
Residual Test Hydrant:	Fieldgate northwest of High School		
Hydrant Number:		NFPA Colour Code:	**CLASS AA - BLUE**
Owner:	Region of Peel		

STATIC PRESSURE:	82 psi	565 kPa	Pressure Drop
RESIDUAL PRESSURE 1:	80 psi	552 kPa	2.4%
RESIDUAL PRESSURE 2:	76 psi	524 kPa	7.3%

			Hydrant Number
Flow Hydrants:	A	3575 Fieldgate Drive	
	B		
	C		

Hydrant No.	Flow Device	Outlet Dia. (in.)	Flow Rate 1 Reading (psi)	Flow Rate 1 (USGPM)	Flow Rate 2 Reading (psi)	Flow Rate 2 (USGPM)
A	Pitot	2.5	28	825	16	624
A	Pitot	2.5	27	811	16	624
A	HoseMonster	4"		0	-	1550
B	Pitot	2.5		0		0
B	Pitot	2.5		0		0
Total Flow (USGPM)			1636		2798	
Total Flow (L/second)			103		177	
Available Flow At Test Hydrant at 20 ps			10,451	USGPM	9,875	USGPM
			659	L/second	623	L/second

Average Projection at 20 PSI	10,163	USGPM



Comments/Discrepencies/Diagram:

Watermark Solutions Limited
(705) 250-0368 www.watermark.ca

APPENDIX C

Sanitary Servicing Calculations

EXISTING SANITARY DEMAND

Municipality:	City of Mississauga
Project Name:	3403-3445 Fieldgate Drive
Project No.	[2655-7074]
Completed By:	J.P.L.
Checked By:	J.S.
Date:	2024-08-16

Average Demand Calculation

Tenure Type	Area (ha)	*Pop. Density (persons/ha)	No. of Units	Pop. Density (persons/unit)	Population (persons)	Sanitary Demand (L/cap/d)	Average Demand (L/s)
Commercial	0.38	50	N/A	N/A	19	270.0	0.06
Total					**19**		**0.06**

*Commercial population density is based on the Region of Peel - Linear Wastewater Standards - Section 2.1.2, dated 2023/03/29

Peak Demand Calculation

Average Sanitary Demand (L/s)	Total Population	*M	Site Area (ha)	**Infiltration (L/s)	Total Peak Flow (L/s)
0.06	19	4.0	1.58	0.32	**0.55**

*$M = 1 + 14/(4 + (P/1000)^{0.5})$

**Based on 0.20 L/s/ha of gross area

PROPOSED SANITARY DEMAND

Municipality: City of Mississauga
Project Name: 3403-3445 Fieldgate Drive
Project No. [2655-7074]
Completed By: J.P.L.
Checked By: J.S.
Date: 2024-08-16

Average Demand Calculation

Tenure Type	Area (ha)	*Pop. Density (persons/ha)	No. of Units	**Pop. Density (persons/unit)	Population (persons)	Sanitary Demand (L/cap/d)	Average Demand (L/s)
Commercial	0.29	50	N/A	N/A	15	270.0	0.05
Townhouses	N/A	N/A	13	3.4	44	290.0	0.15
Small Apartments (Studio, 1Bed)	N/A	N/A	272	1.7	462	290.0	1.55
Large Apartments (1Bed+D, 2Bed, 2 Bed+D, 3Bed, 3Bed+D)	N/A	N/A	307	3.1	952	290.0	3.19
Total					**1473**		**4.94**

*Commercial population density is based on the Region of Peel - Linear Wastewater Standards - Section 2.1.2, dated 2023/03/29
**Population density is based on the Region of Peel - Linear Wastewater Standards - Table 2-2, dated 2023/03/29

Peak Demand Calculation

Average Sanitary Demand (L/s)	Total Population	*M	Site Area (ha)	**Infiltration (L/s)	Total Peak Flow (L/s)
4.94	1473	3.7	1.46	0.29	**18.57**

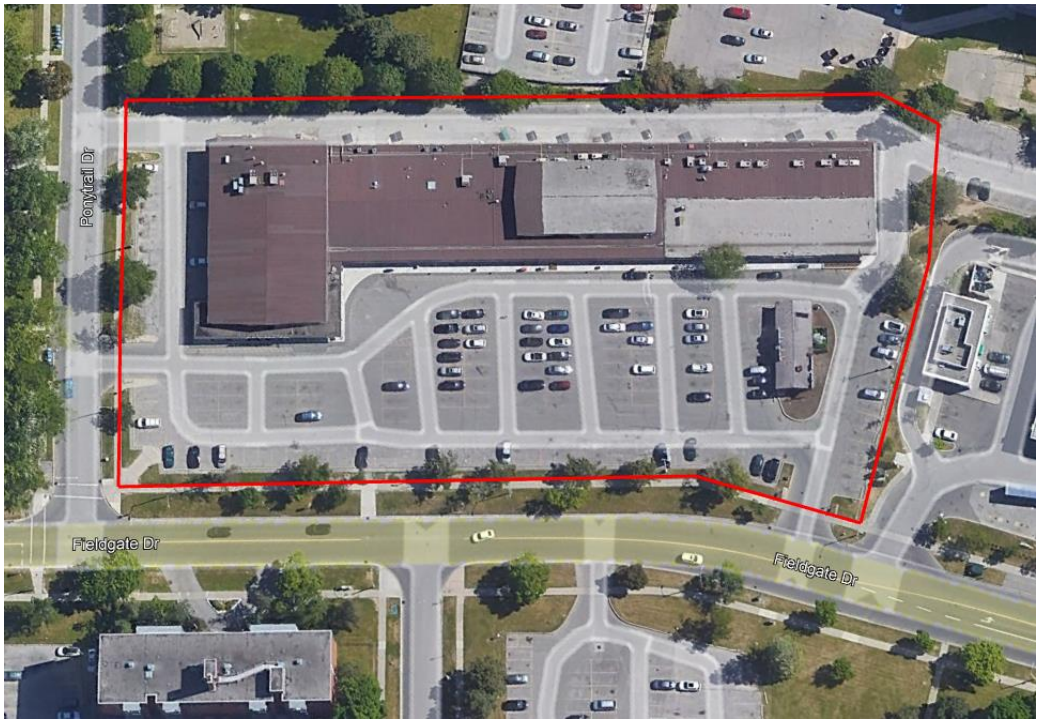
*$M = 1 + 14/(4 + (P/1000)^{0.5})$
**Based on 0.20 L/s/ha of gross area

APPENDIX D

Stormwater Management Calculations

G2S Consulting Inc.
4361 Harvester Rd., Unit 12, Burlington, ON L7L 5M4
P 905.331.3735 F 905.642.5999
G2Sconsulting.com

Hydrogeological Investigation



3403-3455 Fieldgate Drive, Mississauga, Ontario

G2S24018D

Sajecki Planning Inc.
227 Pape Avenue
Mississauga, ON
M4M 2W3

July 2024

Executive Summary

G2S Consulting Inc. (G2S) was retained by Sajecki Planning Inc. (the Client) to complete a Hydrogeological Investigation for the property located at 3403-3455 Fieldgate Drive in Mississauga, Ontario (referred to herein as the 'Site').

The irregular-shaped Site is located on the north side of Fieldgate drive, at the northeast corner of the intersection with Ponytrail drive. The Site covers an approximate plan area of 15,840 m^2 (3.91 acres) with approximately 150 m of frontage on Fieldgate Drive, 80 m of frontage on Ponytrail Drive, and 25 m of frontage on Bloor Street. The 'Study Area', which is defined as being the area including the Site and lands within approximately 250 m of the Site, consists of residential, commercial, institutional, and recreational land use. Etobicoke Creek is located approximately 530 m northeast of the Site. The Site location is illustrated on Drawing 1 in Appendix A.

The Site is currently developed with an existing commercial plaza and smaller secondary commercial dwelling along with its access roads and parking areas. It is understood that development plan includes the demolition of the existing commercial plaza, and the construction of a high rise building which will comprise three towers (13, 18, and 20 storeys) and two levels of underground parking. Based on a pre-design statistics report provided to G2S by the Client, the proposed underground parking level will have an approximate footprint of 12,679 m^2 and the underside of footing (USF) is expected to be approximately 7 m below ground surface (bgs).

The purpose of this assignment was to prepare a hydrogeological investigation report for the proposed development at the Site and to assess the stratigraphic and hydrogeological conditions for the purpose of estimating construction dewatering flow rates (short-term) and post-construction dewatering flow rates (long-term). This report was prepared to present the study findings for supporting an application for a Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR).

G2S is completing a Geotechnical Investigation and a Phase Two Environmental Site Assessment for the Site and the boreholes and monitoring wells from these assignments were utilized for this hydrogeological investigation. Refer to Drawing 2 in Appendix A for the Borehole and Monitoring Well Location Plan.

To meet these objectives, the following tasks were undertaken:

1. Completion of an elevation survey for the boreholes and monitoring wells at the Site;

2. Completion of a minimum of three groundwater level monitoring events over a three-month period;

3. Sampling groundwater from one monitoring well for chemical testing to the City of Mississauga and Region of Peel Sewer Use By-Laws (filtered and unfiltered samples for metals and total suspended solids (TSS));

4. Completion of in-situ hydraulic conductivity testing in three monitoring wells;

5. Completion of a water well search for properties located within 250 m of the Site;

6. Completion of a hydrogeologic analysis, including review of grain size analyses data from the Geotechnical Investigation completed by G2S;

7. Estimation of construction dewatering flow rates (short-term) and estimate postconstruction dewatering flow rates (long-term) based on current proposed plans and monitoring well data; and

8. Preparation of a hydrogeological investigation report to summarize the background review information, field work and laboratory results, subsurface conditions, construction dewatering needs, and assessment of the potential impacts of the dewatering, including conclusions and recommendations together with illustrative tables, figures, drawings and back-up data in appendices.

Based on the proposed development features and our findings of the Site setting, subsurface conditions, results of field work, and laboratory analyses, the hydrogeological site assessment salient points for the dewatering needs are summarized in the following paragraphs.

1. It is understood that development plan includes the demolition of the existing commercial plaza, and the construction of a high rise building which will consist of three towers (13, 18, and 20 storeys) and two levels of underground parking.

2. The subsurface conditions generally consist of fill materials overlying deposits of silt, sand/silty sand/sandy silt, silty sand/sandy silt till, clayey silt till and shale bedrock. Bedrock was encountered and/or inferred by auger/sampler refusal at boreholes BH105, BH107, BH108 and BH110 and coring in boreholes BH102, BH106 and BH109 at elevations ranging between approximately 121.9 and 130.2 m asl.

3. The measured hydrostatic groundwater levels ranged from 134.3 to 130.6 m asl in the monitoring wells during the most recent round of groundwater level measurements (June 11, 2024).

4. The water-bearing units that will be exposed in the excavations during construction include fill, silt, sand/silty sand/sandy silt, silty sand/sandy silt till, clayey silt till, and shale bedrock, with calculated K values between 1.2×10^{-5} and 5.9×10^{-8} m/sec.

5. The required groundwater lowering (drawdown) is recommended 1 m below the base of the excavation to maintain dry working conditions.

6. The construction dewatering flow rate (short-term) is summarized in the following table:

Calculated Maximum Total Dewatering Rate Including Factors of Safety

Excavation	Steady State Dewatering (L/day)	Initial Drawdown Surcharge (L/day)	Precipitation and Runoff (L/day)	Maximum Total Dewatering Requirement **(L/day)**	Maximum Total Dewatering Requirement with 1.5x Safety Factor (L/day)
2-Levels of Underground Parking	219,997	109,998	332,822	662,818	994,227

7. The permanent dewatering flow rate (long-term) is summarized in the following table:

Long Term (Permanent) Dewatering Requirements

Excavation	Long Term Daily Dewatering Rate (L/day)	Long Term Daily Dewatering Rate with 1.5x Safety Factor (L/day)
2-Levels of Underground Parking	224,630	336,994

8. Construction dewatering will require maximum daily dewatering rates of up to 994,227 L/day; therefore, a PTTW would be required for the proposed temporary construction dewatering.

9. Long-term dewatering will require maximum daily dewatering rates of up to 336,994 L/day; therefore, a PTTW would be required for the proposed temporary long-term dewatering.

10. Based on the groundwater chemical testing results, it was found that for discharge to City of Mississauga storm and sanitary sewers, the groundwater quality in the unfiltered groundwater sample did not comply with the City of Mississauga storm sewer discharge by-law criteria for total suspended solids (TSS) and aluminium. It is important to note that the elevated levels were measured in an unfiltered sample which is not representative of the dewatering discharge from a decantation tank or equivalent treatment system to remove the suspended solids and phosphorous. Treatment and/or removal of suspended solids and phosphorous prior to discharge will be a key component of dewatering mitigation. Additional confirmatory sampling and analyses of the construction dewatering discharge are recommended to confirm compliance with the criteria of the receiving system to be used.

11. All monitoring wells and dewatering wells should be abandoned in accordance with the Ontario Regulation 903, as amended. The Site owner is considered to be the well owner of the monitoring wells installed at the Site (“well owner” Section 1.0, Regulation 903). When the monitoring wells are no longer required, it is the owner’s responsibility to arrange for abandonment in accordance with Ontario Water Resources Act–R.R.O. 1990, Regulation 903 – Amended to O. Reg. 128/03.

Table of Contents

Appendices

List of Tables

Drawings (in Appendix A)

1. Introduction

G2S Consulting Inc. (G2S) was retained by Sajecki Planning Inc. (the Client) to complete a Hydrogeological Investigation for the property located at 3403-3445 Fieldgate Avenue in Mississauga, Ontario (referred to herein as the 'Site').

1.1 Site Description

Table 1: General Site Details

Municipal Address	3403-3445 Fieldgate Avenue, Mississauga, Ontario
UTM Coordinates	17T 613850 m E, 4831119 m N
General Site Location	Located on the north side of Fieldgate drive, at the northeast corner of the intersection with Ponytrail drive. The 'Study Area', which is defined as being the area including the Site and lands within approximately 250 m of the Site, consists of residential, commercial, institutional, and recreational land use. Etobicoke Creek is located approximately 530 m northeast of the Site.
Approximate Plan Area	15,840 m^2 (3.91 acres) with approximately 150 m of frontage on Fieldgate Drive, 80 m of frontage on Ponytail Drive, and 25 m of frontage on Bloor Street.
Legal Description	BLK J PL 719 TORONTO; S/T RIGHT IN TT175194; S/T TT172757 MISSISSAUGA
Current Wastewater and Potable Water Servicing	Municipal (Lake Ontario)
Proposed Development Plan	A high rise building which will comprise three towers (13, 18, and 20 storeys) and two levels of underground parking.
Current Site Occupant	Site Building 1: • 3407 Fieldgate Drive: Computer and Printing • 3409 Fieldgate Drive Forest Glen Deli and Appetizer • 3411 Fieldgate Drive: Dollarcade • 3415 Fieldgate Drive: Maxwell Physiotherapy and Rehab • 3417 Fieldgate Drive: Dixie Bloor Neighbourhood Centre (LINC English Classes) • 3419 Fieldgate Drive: Coin Laundry, Suya Express • 3421 Fieldgate Drive: The Hairspot, Pizza Wings and More • 3423 Fieldgate Drive: Subway • 3425 Fieldgate Drive: Karachi Grill • 3427 Fieldgate Drive: Fieldgate Pharmacy • 3429 Fieldgate Drive: Vacant (formerly medical offices)3431 Fieldgate Drive: Dixie Bloor Neighbourhood Centre (English Classes) • 3433 Fieldgate Drive: The Bun Man • 3435 Fieldgate Drive: Dixie Bloor Neighbourhood Centre (LINC English Classes) • 3437 Fieldgate Drive: Optic Chiasma, Vacant (formerly Fairway Cleaners) • 3439 Fieldgate Drive: Dixie Bloor Neighbourhood Centre

	• 3441 Fieldgate Drive: Hasty Market and Vape Store • 3443 Fieldgate Drive: Vacant (formerly Balkan Grill) • 3445 Fieldgate Drive: IC Food World Site Building 2: 3403 Fieldgate Drive: Fieldgate Dental
Surrounding Land Uses	North: Residential apartment buildings at 811 Ponytrail Drive and 1745 Bloor Street.
	South: Fieldgate Drive followed by residential buildings located at 1665 Bloor Street and 3450 Fieldgate Drive.
	East: Bloor Street followed by a mixed use residential and commercial building 3315 Fieldgate Drive. Commercial dwelling at 1715 Bloor Street.
	West: Ponytrail Drive followed by a residential building at 3320 Ponytrail Drive.

The Site location is illustrated on Drawing 1 in Appendix A.

1.2 Proposed Site Development

It is understood that development plan includes the demolition of the existing commercial plaza, and the construction of a high rise building which will consist of three towers (13, 18, and 20 storeys) and two levels of underground parking.

Based on a pre-design statistics report provided to G2S by the Client, the proposed underground parking level will have an approximate footprint of 12,679 m^2 and the underside of footing (USF) is expected to be approximately 7 m below ground surface (bgs).

2. Terms of Reference

The purpose of this assignment was to prepare a hydrogeological investigation report for the proposed development at the Site and to assess the stratigraphic and hydrogeological conditions for the purpose of evaluating short-term (temporary) dewatering requirements during Site development as well as estimated post-construction dewatering flow rates (long-term) after the Site has been developed. This report was prepared to present the study findings for supporting an application for a Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR).

3. Scope of Work

The scope of work for the investigation included the following tasks:

1. Completion of an elevation survey for the boreholes and monitoring wells at the Site;

2. Completion of a minimum of three groundwater level monitoring events over a three-month period;

3. Sampling groundwater from one monitoring well for chemical testing to the City of Mississauga and Region of Peel Sewer Use By-Laws (filtered and unfiltered samples for metals and total suspended solids (TSS));

4. Completion of in-situ hydraulic conductivity testing in three monitoring wells;

5. Completion of a water well search for properties located within 250 m of the Site;

6. Completion of a hydrogeologic analysis, including review of grain size analyses data from the Geotechnical Investigation completed by G2S;

7. Estimation of construction dewatering flow rates (short-term) and estimate postconstruction dewatering flow rates (long-term) based on current proposed plans and monitoring well data; and

8. Preparation of a hydrogeological investigation report to summarize the background review information, field work and laboratory results, subsurface conditions, construction dewatering needs, and assessment of the potential impacts of the dewatering, including conclusions and recommendations together with illustrative tables, figures, drawings and back-up data in appendices.

4. Previous Reports

G2S was provided the following reports for the Site:

1. Phase One Environmental Site Assessment, 3403-3445 Fieldgate Drive, Mississauga, Ontario, prepared by Pinchin, Pinchin File. 315068, dated October 3, 2022

2. Phase Two Environmental Site Assessment, 3403-3445 Fieldgate Drive, Mississauga, Ontario, prepared by Pinchin, Pinchin File. 315068.001, dated December 22, 2022

G2S has completed the following reports for the Site:

1. Phase One Environmental Site Assessment Update, 3403-3445 Fieldgate Drive, Mississauga, Ontario, Reference G2S24018A, dated May 2024.

2. Phase Two Environmental Site Assessment Update, 3403-3445 Fieldgate Drive, Mississauga, Ontario, Reference G2S24018B, dated May 2024.

3. Geotechnical Investigation, Proposed Mixed Use Development, 3403-3445 Fieldgate Drive, Mississauga, Ontario, Reference G2S24018C, dated July 2024.

As part of the G2S Geotechnical Investigation, ten boreholes, three of which were completed as a groundwater monitoring wells, were advanced on-Site and were utilized for this Hydrogeological Investigation. Grain size distribution testing for three samples was undertaken, included in Appendix E.

As part of the Phase Two Environmental Site Assessment, six boreholes, three of which were completed as groundwater monitoring wells, were advance on-Site and were utilized for this Hydrogeological Investigation.

5. Site Setting and Water Well Survey

5.1 Site Topography and Drainage

The Site is generally flat sloping slightly down toward the southwest. There are no drainage features (i.e., open ditches or swales) present on-Site, and surface water is inferred to follow topography and flow southeast over the developed ground surface toward Fieldgate Drive. The nearest surface water body is Etobicoke Creek, located approximately 530 m northeast of the Site.

5.2 Site Physiographic, Geologic and Hydrogeologic Setting

The subsurface conditions generally consist of fill materials overlying deposits of silt, sand/silty sand/sandy silt, silty sand/sandy silt till, clayey silt till and shale bedrock. Bedrock was encountered and/or inferred by the auger/sampler refusal at BH105, BH107, BH108 and BH110 and coring in BH102, BH106 and BH109 at depths ranging between approximately 121.9 and 130.2 m asl.

Based on elevations interpolated from topographic survey plan titled “Surveyor’s Real Property Report and Topography of Block J Registered Plan 719, City of Mississauga, Regional Municipality of Peel”, dated April 26, 2023, by Genesis Land Surveying Inc, elevations at the Site range from approximately 136.2 m asl at the northwest corner of the Site to 133.95 m asl on the east portion of the Site. The regional direction of shallow groundwater flow in the vicinity of the Site is expected to be southeast toward Lake Ontario located approximately 5.6 km from the Site.

5.3 MECP Water Well Records and Site Observations

The Site and properties within an approximate 250 m radius of the Site were searched within the current MECP Water Well Information System (WWIS) database. A total of 18 water well records were located within the search radius, none of which were located on-Site. The locations of the water well records are shown on Drawing 1 in Appendix A and a copy of the well record summary is included in Appendix B.

The use of the water wells within the 250 m radius include two monitoring (MO), five monitoring testhole (MT), one not used (NU) and ten wells that did not identify their use. Although ten wells did not identify their use, since the City of Mississauga supplies drinking and potable water via Lake Ontario, and the Site is located within a developed urban area, it is unlikely any of the wells within the search radius are for drinking water purposes.

A reconnaissance of the Site was conducted during the field work to identify existing structures, land uses, and potential sources of groundwater contamination, if any, which may be located within the potential dewatering zone of influence (approximately 47.1 m).

The major features surrounding the Site included:

a) Major arterial roads, including Fieldgate Drive and Bloor Street.

b) Properties comprise primarily residential, commercial, institutional, and recreational land use.

c) Etobicoke Creek is located approximately 530 m northeast of the Site.

6. Field Work and Laboratory Analysis

6.1 Borehole Drilling and Monitoring Well Installation

As part of the Geotechnical Investigation completed for the Site, ten boreholes were advanced between March 12 and 15, 2024, three of which were completed as groundwater monitoring wells. As a part of the Phase Two Environmental Site Assessment completed for the Site, six boreholes were advanced at the Site on April 29, 2024, three of which were completed as groundwater monitoring wells. The newly installed monitoring wells were utilized for the Hydrogeological Investigation. The monitoring wells installed by G2S as a part of the Geotechnical Investigation and the Phase Two ESA are identified as BH/MW101, BH/MW102, BH/MW106, BH/MW210, BH/MW202, BH/MW203. In addition, seven existing monitoring wells installed at the Site (MW1 through MW7) in 2022 were utilized for the Hydrogeological Investigation.

Field work for this assignment included collection of groundwater levels, groundwater sampling, and borehole permeability testing. The borehole and monitoring well locations are shown on Drawing 2 included in Appendix A. Geodetic Elevations at the ground surface of the borehole locations were Interpolated from the provided topographic survey plan titled “Surveyor’s Real Property Report and Topography of Block J Registered Plan 719, City of Mississauga, Regional Municipality of Peel”, dated April 26, 2023, by Genesis Land Surveying Inc.

The details of the monitoring well construction used in this assignment are shown on the Borehole Logs in Appendix C.

6.2 Groundwater Monitoring, Sampling and Borehole Permeability Testing

6.2.1 Groundwater Monitoring

Groundwater was not encountered in the boreholes during drilling. Groundwater levels were measured in each of the monitoring wells between April and June 2024, using a Solinst™ groundwater level reader, which was cleaned between uses at each monitoring well location.

6.2.2 Groundwater Sampling

Development/purging of one monitoring well for sanitary and storm sewer analysis was completed on May 13, 2024, and involved removal of a minimum of three to five well volumes or until the well was dry, in accordance with fixed volume and well evacuation purging procedures as outlined in ASTM D6452-99 (2005).

In an effort to minimize potential cross-contamination, dedicated sampling equipment was used in the groundwater well. The equipment was used with new nitrile gloves.

Groundwater samples were collected from the monitoring well identified as BH/MW106 (screened in shale bedrock), on May 13, 2024. The groundwater samples were field logged and placed in clean, laboratory provided bottles, stored in an insulated cooler on ice, and delivered directly to Paracel Laboratories Ltd. (Paracel) for analysis of the City of Mississauga storm sewer discharge parameters and the Peel Region sanitary sewer discharge parameters. Particular attention was applied to visual and olfactory evidence of potential contamination such as odours and sheens during the course of the field work.

6.2.3 Borehole Permeability Testing

In situ borehole permeability was determined through falling head (slug) testing, performed in monitoring wells identified as BH/MW101, BH/MW106 and MW2 on June 11, 2024. The falling head testing was completed according to ASTM procedure D4044 “Standard Test Method for (Field Procedure) for Instantaneous Change in Head (Slug) Tests for Determining Hydraulic Properties of Aquifers”.

Prior to conducting the tests, the monitoring wells were developed to remove any fines introduced into the screen following construction. The wells were then left to recharge to static water level. The test was carried out by inserting a data logger into the bottom of the well, then filling the monitoring well with water until the water level reached the approximate top of the casing. The loggers were then used to record the change in head over time. Once the well had returned to 63% of its static water level or the logger had recorded a sufficient amount of data, the logger was removed. The results were then calculated using the Hvorslev Method.

Groundwater levels were monitored before and during falling head testing using both manual readings with a Solinst™ groundwater level reader and automatic readings with a Solinst™ water level logger.

6.3 Laboratory Testing

6.3.1 Water Sample Chemical Analysis

To address the potential in-construction groundwater dewatering discharge quality issues, groundwater samples (collected from BH/MW106) were submitted to Paracel for chemical analyses. Paracel is accredited by The Standards Council of Canada (SCC) and The Canadian Association for Laboratory Accreditation (CALA).

The unfiltered groundwater sample collected from BH/MW106 (identified as sample BH/MW106-UF) was analyzed for the parameters contained within the City of Mississauga storm sewer discharge parameters and the Peel Region sanitary sewer discharge parameters, which includes selected organic, inorganic, and microbiological parameters. A filtered sample was also collected from BH/MW106 (identified as sample BHMW106-F) and analyzed for metals and total suspended solids (TSS).

The following is a summary of the groundwater samples submitted for analysis.

Table 2: Samples Submitted for Analytical Testing

Sample Location	Sample I.D.	Screened Interval Elevation (m) and Depth (m bgs)	Description	Type of Chemical Analysis
BH/MW106	BH/MW106-UF	127.32 – 124.22 (7.68 – 10.78)	Clear, no odour or sheen	City of Mississauga Storm Sewer By-law No. 0046-2022 (March 23, 2022) Discharge parameters. Peel Region Sanitary Sewer By-law No. 53-2010 (2010) Discharge parameters.
	BH/MW106-F			Metals, TSS

6.3.2 Soil Particle Size Distribution Analyses

The following three representative soil samples obtained from the Site were submitted to the G2S laboratory for particle size distribution analyses:

- BH101 S5 (clayey silt till)
- BH105 S8 (clayey silt till)
- BH109 S10 (silty clay till)

7. Findings

7.1 Summarized Subsurface Conditions

Reference is made to Drawing 2 in Appendix A and the Borehole Logs in Appendix C for details of the field work including sampling locations, visual soil classification, standard penetration test N values (where applicable), inferred stratigraphy, groundwater observations, and monitoring well installation details. It is noted that the subsurface conditions described below include boreholes and monitoring wells advanced as part of the Geotechnical Investigation completed by G2S.

The boundaries indicated on the borehole logs are intended to reflect transition zones for the purpose of hydrogeological assessment and should not be interpreted as exact planes of geological change.

7.1.1 Pavement Structure

In BH101 and BH103 to BH110, a surficial asphaltic concrete layer with a thickness ranging between approximately 90 to 150 mm was encountered over approximately 80 to 175 mm thick granular material. A surficial granular layer with a thickness of approximately 150 mm was encountered at BH102 location.

7.1.2 Fill

In all investigated boreholes, fill material was encountered below the pavement structure/granular. The fill consisted generally of clayey silt or silty sand/sand and gravel. Organic material was indicated within the fill layer at the locations of BH101, BH104, BH106 to BH108, and BH110. The fill material extended to depths ranging between 0.8 and 1.5 metres below the existing grade (m bgs). The moisture content for the fill ranged between 7 and 37%, indicating moist to wet conditions.

7.1.3 Silt

Silt material was encountered beneath the fill in BH102 and extended to a depth of approximately 2.3 m bgs. The SPT “N” values of this silt deposit ranged from 11 blows per 300 millimetres of penetration, indicating compact condition. The moisture content for the silt was in the order of 17%, indicating moist conditions.

7.1.4 Sand/Silty Sand/Sandy Silt

Sand/silty sand/sandy silt material was encountered beneath the fill in BH103 to BH105 and BH107 to BH110 and extended to depths ranging from approximately 3.8 and 6.1 m bgs. The SPT “N” values of this sand/silty sand/sandy silt deposit ranged between 10 and 30 blows per 300 millimetres of penetration, indicating compact to dense compactness. The moisture content of the silty sand/sandy silt till ranged between 3% and 21%, indicating moist to wet conditions.

7.1.5 Silty Sand/Sandy Silt Till

Silty sand/sandy silt till material was encountered beneath the fill in BH101 and BH106, beneath the silt in BH102, and beneath the sand/silty sand/sandy silt in BH103, BH104, BH109, and BH110, and extended to depths ranging from approximately 3.0 and 9.1 m bgs.

The SPT “N” values of this silty sand/sandy silt till deposit ranged between 12 to in excess of 50 blows per 300 millimetres of penetration, indicating compact to very dense compactness. The moisture content for the silty sand/sandy silt till ranged between 7% and 22%, indicating moist to wet conditions.

7.1.6 Clayey Silt Sill

Clayey silt till was encountered beneath the sand/silty sand/sandy silt in BH104, BH105, BH107 and BH108, beneath the silty sand/sandy silt till in the remaining investigated boreholes. The clayey silt till deposit extended to the depths ranged between approximately 4.0 and 12.2 m bgs. This clayey silt till. Boreholes BH101, BH103, and BH104 were terminated in this deposit. With “N” values ranging from 20 to in excess of 50 blows per 300 millimetres of penetration indicating the clayey sandy silt till deposit was classified as very stiff to hard in consistency. The moisture content for the clayey silt till ranged between 7% and 16%, indicating moist conditions. Boreholes BH101, and BH103 to BH104 were terminated in this deposit. Based on three (3) grain size analyses, the clayey silt till contained between 40 to 54% gravel, 17 to 19% sand, 21 to 34% silt, and 89 to 10% clay sized particles. Based on the laboratory results for two (2) selected samples of this deposit, the liquid limit ranged between 26% and 27%, and the plastic limit ranged between 18% and 19%, indicating low to moderate plasticity.

7.1.7 Shale Bedrock

Weathered to unweathered shale bedrock was encountered and/or inferred by the auger/sampler refusal at BH105, BH107, BH108 and BH110 and coring in BH102, BH106 and BH109 at elevations ranging between approximately 121.9 and 130.2 m asl. The approximate depth and elevation of the shale bedrock surface/probable shale bedrock surface at the borehole locations are presented in Table 3 below:

Table 3: Approximate Depth and Elevation of Shale Bedrock surface

Borehole ID	Depth of Shale Bedrock Surface Below Existing Grade (m)	Approximate Relative Elevation of Bedrock Surface (m asl)	Remarks
BH102	6.1	129.0	Proven by coring. (~Elev. 129.0 to 122.7 m)
BH105	9.1	126.2	Inferred by auger and sampler refusal
BH106	5.0	130.0	Proven coring. (~Elev. 129.8 to 124.2 m)
BH107	4.8	130.2	Inferred by auger and sampler refusal
BH108	9.1	125.4	Inferred by auger and sampler refusal
BH109	10.7	123.8	Proven coring. (~Elev. 123.6 to 119.2 m)
BH110	12.2	121.9	Inferred by auger and sampler refusal

Due to the method of drilling and sampling, the surface elevation of the bedrock can be different than indicated on the borehole logs. Typically, the till overlying the shale contains slabs of limestone that may give a false indication of the bedrock level. Based on our experience and the available published information, the upper portion of the bedrock is typically weathered and becomes more sound with depth.

The shale was typically grey of the Georgian Bay formation and contained increasing limestone/siltstone content. Based on the Ministry of Northern Development and Mines Map 2544, *Bedrock Geology of Ontario, Southern Sheet*, the bedrock in the Site vicinity consists of Georgian Bay Shale of the Upper Ordovician period. Sandstone, shale, dolostone, and siltstone (Lockport formation) lenses may also be encountered within the shale.

7.2 Groundwater Conditions

Groundwater was not encountered in the boreholes during drilling. The measured hydrostatic groundwater levels ranged from 134.3 to 130.6 m asl in the monitoring wells during the most recent round of groundwater level measurements (June 11, 2024). Groundwater levels are subject to seasonal fluctuations and variations in precipitation. A summary of groundwater data is included in the following table.

Table 4: Summary of Groundwater Levels

Monitoring Well I.D.	Ground Surface Elevation	Well Depth from Ground Surface (m)	Screened Interval Elevation (m) and Depth (m bgs)	Groundwater Elevation (m) (Depth mbgs)			
				Apr 12, 2024	May 6, 2024	May 13, 2024	Jun 11, 2024
BH/MW101	136.15	3.84	133.81-132.31 (2.34-3.84)	134.3 (1.83)	-	134.6 (1.60)	134.3 (1.90)
BH/MW106	135.00	10.78	127-32-124.22 (7.68-10.78)	132.1 (2.90)	-	132.2 (2.80)	132.3 (2.74)
MW1	134.03	5.94	131.19-128.09 (2.84-5.94)	130.6 (3.44)	130.6 (3.43)	130.6 (3.44)	130.6 (3.42)
MW2	134.54	6.17	131.47-128-37 (3.07-6.17)	130.8 (3.78)	130.8 (3.71)	130.9 (3.68)	130.9 (3.68)
MW3	133.95	4.31	132.74-129.64 (1.21-4.31)	-	130.7 (3.23)	130.7 (3.25)	130.7 (3.27)
MW4	135.38	5.05	133.43-130.33 (1.95-5.05)	131.9 (3.52)	131.9 (3.45)	131.0 (4.42)	131.7 (3.67)
MW201	135.53	4.55	134.08-130.98 (1.45-4.55)	-	134.0 (1.58)	133.9 (1.60)	-
MW202	135.39	4.57	133.92-130.82 (1.47-4.57)	-	133.8 (1.63)	133.7 (1.65)	133.6 (1.77)
MW203	135.13	4.80	133.44-130.34 (1.70-4.80)	-	133.1 (2.08)	-	133.0 (2.11)

Drawing 2 in Appendix A shows the monitoring well locations, measured groundwater levels and surface elevations.

Based on G2S' Site observations and short-term water level measurements, the groundwater table in the shallow aquifer underlying the Site appeared to be flowing to the southeast. The expected direction of groundwater flow in the Study Area is to the southeast, following surface topography towards Lake Ontario, located approximately 5.6 km southeast of the Site.

7.3 Estimated Hydraulic Conductivity

7.3.1 In-Situ Hydraulic Conductivity Testing

Falling head tests were carried out in three monitoring wells (BH/MW101, BH/MW106 and MW2) on June 11, 2024. The results of the analyses are presented in Appendix D. The hydraulic conductivities of the subsurface strata at the Site are as shown in the following table.

Table 5: Hydraulic Conductivity Estimates – Slug Testing

Monitoring Well I.D.	Ground Surface Elevation (m)	Elevation of Well Screen (m)	Stratum Captured by Well Screen	Hydraulic Conductivity (Rising Head Test, m/s)
BH/MW101	136.15	133.81-132.31 (2.34-3.84)	Silty sand till/silty clay till	7.5×10^{-7} m/sec
BH/MW106	135.00	127.32-124.22 (7.68-10.78)	Grey shale	5.9×10^{-8} m/sec
MW2	134.54	131.47-128.37 (3.07-6.17)	Sand	1.2×10^{-5} m/sec

7.3.2 Grain Size Analysis

Typical rates of hydraulic conductivity for the soil types found at this Site during the investigation are as follows (Freeze and Cherry, 1979):

- Silty sand till/silty clay till - 10^{-6} m/s 10^{-12} m/s
- Shale - 10^{-9} m/s 10^{-12} m/s
- Fine sand - 10^{-2} m/s 10^{-6} m/s

The grain size analysis curves confirming the soil classifications and hydraulic conductivity ranges are presented in Appendix E.

7.4 Groundwater Quality

The laboratory certificate of analysis, including chain-of-custody record, compared to the City of Mississauga storm sewer discharge parameters and the Peel Region sanitary sewer discharge parameters are included in Appendix F.

Based on the results of chemical analysis on samples tested, the quality of the groundwater samples complied with the applicable guidelines with the following exception below.

Table 6: Exceedances of the City of Mississauga Sewer Discharge Criteria

Sample Location	Parameter	Region of Peel Sanitary Sewer Discharge Criteria (mg/L)	Region of Peel Storm Sewer Discharge Criteria (mg/L)	Concentration (mg/L)		
				Sample I.D.		
				BH/MW106-UF (sample 1)	BH/MW106-UF (sample 1)	BH/MW106-F
BH/MW106	Total Suspended Solids	350	15	**153**	**205**	9
	Aluminium	50	1.0	**4.04**	**4.47**	<0.01

Notes: UF – Unfiltered; F – Filtered; NT – Not tested, NC – No criteria
Italics – Concentration exceeds City of Hamilton Sanitary Sewer Discharge Criteria
Bold – Concentration exceeds City of Hamilton Storm Sewer Discharge Criteria

8. Construction Dewatering Analysis

Based on excavation locations, dimensions, and depths provided for this report, the soil excavation and subsequent construction of the 2-level underground parking structure will require dewatering to lower the groundwater table within the excavation to maintain a dry excavation base and sidewalls.

Temporary dewatering requirements are dependent on factors such as excavation parameters (excavation dimensions, infrastructure invert elevations, the number of concurrent excavations, etc.), hydrogeological conditions at the Site (groundwater levels, soil/bedrock hydrogeological parameters, etc.), construction and dewatering methodologies (open cuts, dewatering pits, sumps, wellpoints, etc.), and the amount of groundwater drawdown required to achieve and maintain dry working conditions and stable excavations.

Additionally, factors such as the use of shoring would be expected to influence the rate of groundwater inflow into the excavation. The calculations provided below assume an open excavation as a conservative factor of safety.

It is important to note that the dewatering contractor retained to perform construction dewatering is solely responsible for achieving and maintaining dry working conditions at the Site at all times. The calculations and dewatering rates/volumes provided below are not directives for a dewatering contractor, and the dewatering contractor must review the information, calculations, and recommendations provided as part of their own assessment of dewatering requirements to determine appropriate methodologies and designs for their construction dewatering project.

8.1 Excavation Requirements and Temporary Construction Dewatering Assumptions

During the construction project dewatering, operations are expected to take place twenty-four hours per day to maintain a dry excavation. Dewatering calculations include a number of variables such as the static groundwater level, soil hydraulic conductivity, aquifer thickness, confined aquifer conditions, etc., that can be adjusted to provide conservative buffers to account for conditions beyond those encountered in the available monitoring wells.

Table 7 below summarizes the preliminary excavation requirements for the proposed bulk excavation of the Site. Additionally, the table below includes the following buffers as factors of safety:

- A buffer of 1 m for the excavation invert elevation to ensure groundwater is drawn down 1 m below the base of the excavation to maintain a dry work surface. The excavation invert is taken as Elev. 128.0 m asl (7 m bgs), which is understood to be the lowest excavation depth for the construction of the underground parking (two levels).

- A buffer of approximately 5% for the proposed underground parking excavation area (12,679 m^2) to account for an excavation large enough to accommodate working around the excavation perimeter.

- A “squared off” excavation shape to account for excavation dimension adjustments during the construction process.

- An initial groundwater elevation in the area of the underground parking excavation corresponding to the highest measured groundwater level from the on-Site monitoring wells (Elev. 134.60 m asl measured at BH/MW101 on May 13, 2024).

Table 7: Preliminary Excavation Requirements

Excavation	Excavation Area (m^2) (+5%)	Excavation Depth (m asl and m bgs) (-1 m)	Groundwater Elevation (m asl)
2-Level of Underground Parking	13,313 m^2	127.0 (7)	134.60

It is very important to consider that all construction dewatering calculations provided in this report are based on the draft development concept design provided by the client. If design changes or other site plan modifications result in changes to the information listed above, the dewatering calculations below will need to be revised accordingly.

8.1.1 Excavation

It is understood the following concurrent tasks should be contemplated for construction dewatering:

- Concurrent excavation of the full footprint for the underground parking structure.

It is very important to consider that if modifications to the concurrent construction tasks are desired, the calculated dewatering requirements would need to be reassessed.

8.1.2 Dewatering Assumptions

Dewatering calculations have been prepared for the concurrent tasks noted above based on the following assumptions to account for variability in soil and groundwater conditions:

- Aquifer hydraulic conductivity of 4.27 x 10^{-6} m/s (the average measured hydraulic conductivity from slug test analysis completed by G2S in June 2024).
- An aquifer depth of Elev. 124.00 m asl.
- An initial groundwater elevation in the area of the underground parking excavation corresponding to the highest measured groundwater level from the on-Site monitoring wells (Elev. 134.60 m asl measured at BH/MW101 on May 13, 2024).

8.2 Dewatering Calculations

To estimate the steady-state dewatering flow rate needed to maintain dry conditions for the excavations at the Site, the following equation (for radial flow to an unconfined aquifer) from Powers (2007) was used:

$$Q = \frac{\pi K\left(H^2 - {h_w}^2\right)}{\ln\left(\frac{R_o}{r_e}\right)}$$

Where:

Q = Flow Rate (m^3/sec)

H = Initial Saturated Thickness (Piezometric Head) of Aquifer (m)

h_w = Dewatered Saturated Thickness (Piezometric Head) of Aquifer (m)

K = Soil Hydraulic Conductivity (m/sec)

r_e = Effective radius, $r_e = \sqrt{(excavation\ area/\pi)}$ (m)

R_o = Radius of influence, $R_o = 3000*(H-h_w)*\sqrt{K}$ (m)

Using the assumptions listed in Section 8.1 and its subsections, the steady-state inflow rates and radii of influence listed in the table below were estimated.

Table 8: Steady-State Dewatering Requirements

Excavation	Daily Dewatering Rate (L/day)	Radius of Influence (m)
2-Levels of Underground Parking	219,997	~47.1

8.2.1 Calculated Dewatering Rates, With Factors of Safety

It is important to consider that dewatering requirements will be highest at the start of the dewatering process when the volume of water stored within the pore spaces of the overburden deposits must be extracted. This storage must be accounted for to allow for rapid achievement of drawdown targets.

Initial drawdown of the overburden soils within a short period of time would be expected to require additional pumping capacity. An initial drawdown requirement has been calculated assuming a surcharge of 50% of the estimated steady state dewatering rate.

Additionally, it is important to consider that during and after precipitation events significantly higher dewatering flow rates may be required to account for direct precipitation and surficial runoff falling into an excavation. For the purpose of assessing precipitation/runoff dewatering requirements, a 25 mm storm event within 24 hours has been assumed.

The table below provides a summary of the calculated dewatering rates and factors of safety for the bulk excavation of the Site.

Table 9: Calculated Maximum Total Dewatering Rate Including Factors of Safety

Excavation	Steady State Dewatering (L/day)	Initial Drawdown Surcharge (L/day)	Precipitation and Runoff (L/day)	Maximum Total Dewatering Requirement (L/day)	Maximum Total Dewatering Requirement with 1.5x Safety Factor (L/day)
2-Levels of Underground Parking	219,997	109,998	332,822	662,818	994,227

The totals shown in the table above indicate a potential maximum dewatering requirement of up to 994,227 L/day for simultaneous dewatering of the entire Site. As the calculated dewatering requirements are more than 400,000 L/day, a Permit to Take Water (PTTW) will be required.

While the conservative assumptions and factors of safety discussed in the preceding sections combine to create very conservative dewatering calculations, it is important to consider the variable nature of the overburden soils and aquifer and the potential for groundwater ingress from upper and lower stratigraphic units.

The potential maximum dewatering requirements outlined above are reasonable based on the information available; however, performing one or several pumping tests of the shallow overburden aquifer in advance of designing and installing mitigation systems would provide empirical data that could be used to refine maximum daily pumping requirements. Additionally, deep test pits can be excavated to monitor the short-term groundwater conditions. The client, the construction contractor, and the dewatering contractor shall review the dewatering calculations provided above and make their own determinations regarding the potential maximum daily dewatering requirements for the project.

8.3 Long-Term (Permanent) Dewatering Requirements

It is understood that long term (permanent) dewatering is being considered for the project. Designing the underground levels to be waterproof and resist hydrostatic uplift is always recommended over perpetual dewatering due to the risk of pump failure or piping infrastructure failure over time.

Long-term dewatering calculations (based on the formula provided in Section 8.2 above) were prepared to evaluate permanent dewatering requirements using the following assumptions:

- Aquifer hydraulic conductivity of 4.27 x 10^{-6} m/s (the average measured hydraulic conductivity from slug test analysis completed by G2S in June 2024).
- An aquifer depth of Elev. 124.00 m asl.
- An initial groundwater elevation in the area of the underground parking excavation corresponding to the highest measured groundwater level from the on-Site monitoring wells (Elev. 134.60 m asl measured at BH/MW101 on May 13, 2024).
- An assumed foundation footprint of 12,679 m^2 for the underground parking, and an underslab drainage elevation of 7 m bgs (elevation 128.00 m asl).

The table below provides the conservatively estimated long term maximum dewatering requirement for the underground parking garage.

Table 10: Long Term (Permanent) Dewatering Requirements

Excavation	Long Term Daily Dewatering Rate (L/day)	Long Term Daily Dewatering Rate with 1.5x Safety Factor (L/day)
2-Levels of Underground Parking	224,630	336,994

As the calculated long-term dewatering requirements are more than 50,000 L/day, a PTTW would be required for long-term permanent dewatering.

9. Permit Requirements and Dewatering Discharge

Ontario Regulation 387/04 requires authorization from the Ministry of the Environment, Conservation, and Parks (MECP) for all water takings over 50,000 L/day. Ontario Regulation 63/16 specifies that for temporary construction dewatering at rates between 50,000 and 400,000 L/day an Environmental Activity and Sector Registry (EASR) may be obtained in lieu of a Permit to Take Water (PTTW). Dewatering at rates of more than 400,000 L/day require a PTTW to authorize groundwater withdrawal.

As shown in Section 8.2.1, construction dewatering will have a potential maximum dewatering requirement of up to 994,227 L/day; therefore, an PTTW would be required for the proposed temporary construction dewatering.

As shown in Section 8.3, permanent dewatering will have a potential maximum dewatering requirement of up to 336,994 L/day; therefore, a PTTW would be required for the long-term permanent dewatering.

9.1 Dewatering Discharge

On May 13, 2024, water chemistry samples were obtained from one monitoring well (BH/MW106), identified as sample BH/MW106-UF (unfiltered) and BH/MW106-F (filtered). The laboratory Certificates of Analysis are included in Appendix F for reference.

The water chemistry samples were obtained using low flow pumps, helping to minimize the inclusion of sediments into the water samples.

Water chemistry analysis results were compared to the City of Mississauga storm sewer discharge parameters and the Peel Region sanitary sewer discharge parameters

9.1.1 City of Mississauga Storm Sewer Use By-Law

Groundwater chemistry samples collected from monitoring well BH/MW105 exhibited exceedances of the following City of Mississauga Storm Sewer Use By-Law criteria limits:

- Total Suspended Solids (TSS) in the unfiltered groundwater sample (262 and 153 mg/L versus criteria of 15 mg/L).

- Aluminum in the unfiltered groundwater sample (4.04 and 4.47 mg/L versus criteria of 0.4 mg/L).

Based on the analysis results, discharge to municipal storm sewers would require treatment such as settling tanks with flocculation and/or mechanical filtration (using filter bags) to reduce TSS and aluminium concentrations to acceptable levels. The filtered sample collected from BH/MW106 met the applicable criteria for discharge to municipal storm sewers; therefore, the above noted treatment options would be viable dewatering solutions.

During construction dewatering operations, regular sampling and analysis of discharge would be required to confirm continued compliance with the City of Mississauga Storm Sewer Use By-Law. In the event parameter exceedances were measured, treatment of discharge would need to be adjusted/modified/supplemented to City of Mississauga Storm Use By-Law criteria limits.

9.1.2 Region of Peel Sanitary Sewer Use By-Law

Groundwater chemistry samples did not exhibit any exceedances of the Region of Peel Sanitary Sewer Use By-Law criteria limits.

Based on the analysis results, discharge to municipal sanitary sewers would not require treatment prior to discharge. During construction dewatering operations, regular sampling and analysis of discharge would be required to confirm continued compliance with the Region of Peel Sewer Use By-Law. In the event parameter exceedances are measured, treatment such as settling tanks with flocculation and/or mechanical filtration (using filter bags), or additional specialized treatment for specific parameters, may be required to achieve Region of Peel Sanitary Sewer Use By-Law criteria limits.

9.2 Evaluation of Potential Impacts

9.2.1 Local Groundwater Sources

The Site and properties within an approximate 250 m radius of the Site were searched within the current MECP Water Well Information System (WWIS) database. A total of 18 water well records were located within the search radius. The locations of the water well records are shown on Drawing 1 in Appendix A and a copy of the well record summary is included in Appendix B.

The use of the water wells within the 250 m radius include two monitoring (MO), five monitoring testhole (MT), one not used (NU) and ten wells that did not identify their use. Although ten wells did not identify their use, since the City of Mississauga supplies drinking and potable water via Lake Ontario, and the Site is located within a developed urban area, it is unlikely any of the wells within the search radius are for drinking water purposes.

9.2.2 Baseflow Reduction in Waterbodies

Etobicoke Creek is located approximately 530 m northeast of the Site. The water body is located outside the radius of influence (47.1 m) and as such no reduction in baseflow is anticipated.

9.2.3 Induced Movement of Contaminant Plumes

Based on the subsurface investigations completed for the Site, an isolated area in the northwest portion of the property has VOCs in groundwater at concentrations above the Table 3 Site Condition Standards. A remedial action plan has not yet been initiated to remove the VOC impacts, but it is expected that action will be taken prior to the start of construction. VOC analysis should be added to the dewatering discharge monitoring program.

The radius of influence has been calculated to be approximately 47.1 m during construction dewatering. There is potential for groundwater contamination from off-Site sources within these distances to be drawn toward the Site, depending on conditions at the time of pumping. Should this be the case, treatment of groundwater contamination may be required prior to discharge to the sewer. Additional confirmatory sampling and analyses of the construction dewatering discharge are recommended to confirm compliance with the criteria of the receiving system to be used.

9.2.4 Confined Groundwater Conditions and Excavation Bottom Heave

While confined aquifer conditions were not observed in the monitoring wells installed on-Site, bottom heave occurring in excavations due to unweighting of the soil/bedrock as a result of excavations removing soil/bedrock weight overlying pressurized aquifer conditions should still be considered a possibility as a conservative factor of safety. Diligent observation of conditions in the excavation is recommended to monitor for potential bottom heaving. In the unlikely event bottom heaving or other issues due to pressurized aquifer conditions occur, the construction and dewatering strategies for the project would need to be revised.

9.2.5 Potential Ground Subsidence in Adjacent Structures (Settlement)

The potential ground subsidence (settlement) of the soil within the zone of influence due the lowering of the groundwater level during construction dewatering was assessed considering the maximum drawdown to be achieved. The ground settlement results from the increase in effective stresses, which could be estimated as 10 kPa per each one metre of drawdown, caused by the lowering of the groundwater level and subsequent decrease in pore pressure. In addition, settlement associated with dewatering may occur due to the loss of fine particles (migration of fines) within the dewatering system as a result of pumping. Therefore, adequate filtration at the system ingress points should be maintained all times to reduce the potential of soils migration through the system.

9.2.5.1 Potential Settlement due to Increase in Effective Pore Water Space

The maximum amount of settlement is expected to occur in the area adjacent to maximum drawdown points, and the potential of settlement will decrease substantially towards the radius of influence limit. The total drawdown required is 8 metres, which includes the depth of excavation (7.0 mbgs) plus the additional 1.0 metre drawdown to maintain dry working conditions. For our investigation, we reference the highest groundwater level estimated at ~Elev. 134.60 masl Therefore, the drawdown will be within the native sand, silty sand/sandy silt, silty sand/sandy silt till and the cohesive clayey silt till deposit. The maximum thickness of the cohesionless deposit is 4.6 m and the thickness of the cohesive clayey silt till deposit ranged between 0.5 to 4.5 m. Given the presence of shale bedrock at depths of approximately 4.3 to 10.7 mbgs below this cohesive deposit, the thickness considered for deformation analysis would be approximated to 4.5 metres.

The anticipated settlement during construction is primarily due to consolidation within the underlying native clayey silt till. Assuming the soil is normally consolidated and that both the increase in effective vertical stress and the coefficient of compressibility remain constant with depth, a simplified one-dimensional calculation can be employed to estimate settlement:

$$Sc = m_v \, \Delta\delta \, H$$

Where:

Sc: Total consolidation of the clay deposit

$\Delta\delta$: The effective vertical stress increment

m_v: The coefficient of the volume compressibility

H: The thickness of the clay deposit

Using approximate parameters, the potential settlement at the area adjacent to the shoring (the area of maximum drawdown) was estimated to be in the order of 9 mm.

9.2.5.2 Potential Settlement due to Fine Particles Migration

The other potential cause for settlement during construction dewatering is the loss of fine soil particles into the dewatering system, which in turn may trigger the creation of voids/cavities within the subsurface stratum and lead to further settlement. High-speed pumping can create steep hydraulic gradients around the dewatering wells or trenches. This increased hydraulic gradient can lead to a higher velocity of groundwater flow, which can cause soil particles to be mobilized and carried away, particularly fines. This process can lead to additional settlement and potentially create voids or loose zones in the soil structure. As such, mitigation measures are recommended to reduce/eliminate the risk of settlement during temporary dewatering.

9.2.6 Proposed Mitigation Measures for Potential Ground Subsidence

Considering the ZOI (approximately 47.1 m), as well as the temporary nature of the operation, the potential settlement under these conditions on the surrounding structures/utilities is expected to be relatively insignificant. The following monitoring and mitigative measures are recommended for buildings/structures considered sensitive to ground settlement and located within the radius of influence:

- A pre-construction condition survey of buildings/structures located within the estimated Zone of Influence as the baseline condition prior to dewatering.
- Installation of settlement monitoring monuments for buildings/structures and underground utilities geotechnically considered susceptible to potential settlement.
- Surveying of the above-noted settlement monuments prior to dewatering and during dewatering twice a week and provide the collected data to the geotechnical engineer of record (G2S) for evaluation. The estimated potential and actual settlements should also be reviewed by a structural engineer to assess the potential damage to existing structures.

If the above-noted evaluation indicates an undesirable deformation, the dewatering scope will require modification. If the surveying records indicated no significant deformation after a period of 30 days, the settlement monitoring can be terminated.

In addition, the following mitigation measures should be put in place to reduce/eliminate the risk of settlement due to fine particles migration during temporary dewatering:

- The dewatering system should be designed to better control the pumping discharge rate, the discharged water velocity, and to provide adequate filtration for the pumping equipment.
- Drawdown should be monitored and be assessed regularly during the different stages of dewatering to make sure that the assumed soil property and the estimated drawdown rates are consistent with the field results.

- The TSS and aluminum levels in the discharged water should be monitored and analyzed on regular basis during construction.

- The fine particles accumulation in the sedimentation tanks must be monitored during construction.

If soldier piles and lagging shoring system was used, geotextile filter fabric should be installed behind the lagging boards to prevent the migration of fine through the spaces between the boards.

9.2.7 Dewatering Discharge Quantity and Quality

The construction dewatering discharge receptor was not known at the time of the issuance of this report; however, discharge to local storm or sanitary sewers is the most likely receptor in the urban setting of the Site.

Based on the limited chemical test results of the unfiltered groundwater samples analyzed, the quality of the water did not comply with the City of Mississauga storm sewer discharge by-law criteria for TSS or aluminum.

It is important to note that the elevated levels were measured in an unfiltered sample which is not representative of the dewatering discharge from a decantation tank or equivalent treatment system to remove the parameters exceeding the criteria. Treatment and/or removal of the parameters exceeding the criteria prior to discharge will be a key component of dewatering mitigation. Additional confirmatory sampling and analyses of the construction dewatering discharge are recommended to confirm compliance with the criteria of the receiving system to be used.

The VOC impacts in groundwater in the northwest section of the property should be remediated prior to construction or treated prior to discharge. VOC analysis should be added to the discharge monitoring program.

Discharge permits are required from the City of Mississauga for short-term groundwater discharge to the municipal sewers.

9.2.8 Monitoring Well Decommissioning

The Site owner is considered to be the well owner of the monitoring wells installed at the Site (“well owner” Section 1.0, Regulation 903). When the monitoring wells are no longer required, it is the owner’s responsibility to arrange for abandonment in accordance with the Ontario Water Resources Act, O. Reg. 903/90, amended to O. Reg. 372/07.

10. Summary and Conclusions

Based on the proposed development features and our findings of the Site setting, subsurface conditions, results of field work, and laboratory analyses, the hydrogeological site assessment salient points for the dewatering needs are summarized in the following paragraphs.

1. It is understood that development plan includes the demolition of the existing commercial plaza, and the construction of a high rise building which will consist of three towers (13, 18, and 20 storeys) and two levels of underground parking.

2. The subsurface conditions generally consist of fill materials overlying deposits of silt, sand/silty sand/sandy silt, silty sand/sandy silt till, clayey silt till and shale bedrock. Bedrock was encountered and/or inferred by auger/sampler refusal at boreholes BH105, BH107, BH108 and BH110 and coring in boreholes BH102, BH106 and BH109 at depths ranging between approximately 121.9 and 130.2 m asl.

3. The measured hydrostatic groundwater levels ranged from 134.3 to 130.6 m asl in the monitoring wells during the most recent round of groundwater level measurements (June 11, 2024).

4. The water-bearing units that will be exposed in the excavations during construction include fill, silt, sand/silty sand/sandy silt, silty sand/sandy silt till, clayey silt till, and shale bedrock, with calculated K values between 1.2×10^{-5} and 5.9×10^{-8} m/sec.

5. The required groundwater lowering (drawdown) is recommended 1 m below the base of the excavation to maintain dry working conditions.

6. The construction dewatering flow rate (short-term) is summarized in the following table:

Calculated Maximum Total Dewatering Rate Including Factors of Safety

Excavation	Steady State Dewatering (L/day)	Initial Drawdown Surcharge (L/day)	Precipitation and Runoff (L/day)	Maximum Total Dewatering Requirement **(L/day)**	Maximum Total Dewatering Requirement with 1.5x Safety Factor (L/day)
2-Levels of Underground Parking	219,997	109,998	332,822	662,818	994,227

7. The permanent dewatering flow rate (long-term) is summarized in the following table:

Long Term (Permanent) Dewatering Requirements

Excavation	Long Term Daily Dewatering Rate (L/day)	Long Term Daily Dewatering Rate with 1.5x Safety Factor (L/day)
2-Levels of Underground Parking	224,630	336,994

8. Construction dewatering will require maximum daily dewatering rates of up to 994,227 L/day; therefore, a PTTW would be required for the proposed temporary construction dewatering.

9. Long-term dewatering will require maximum daily dewatering rates of up to 336,994 L/day; therefore, a PTTW would be required for the proposed temporary long-term dewatering.

10. Based on the groundwater chemical testing results, it was found that for discharge to City of Mississauga storm and sanitary sewers, the groundwater quality in the unfiltered groundwater sample did not comply with the Region of Peel storm sewer discharge by-law criteria for total suspended solids (TSS) and aluminium. It is important to note that the elevated levels were measured in an unfiltered sample which is not representative of the dewatering discharge from a decantation tank or equivalent treatment system to remove the suspended solids and phosphorous. Treatment and/or removal of suspended solids and phosphorous prior to discharge will be a key component of dewatering mitigation. Additional confirmatory sampling and analyses of the construction dewatering discharge are recommended to confirm compliance with the criteria of the receiving system to be used.

11. All monitoring wells and dewatering wells should be abandoned in accordance with the Ontario Regulation 903, as amended. The Site owner is considered to be the well owner of the monitoring wells installed at the Site (“well owner” Section 1.0, Regulation 903). When the monitoring wells are no longer required, it is the owner’s responsibility to arrange for abandonment in accordance with Ontario Water Resources Act–R.R.O. 1990, Regulation 903 – Amended to O. Reg. 128/03.

11. References and Supporting Documentation

a) Freeze, R.A. and Cherry, J.A. (1979) Groundwater. Prentice-Hall, Inc., Englewood Cliffs.

b) *"Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario" Ministry of the Environment of Ontario, December 1996.*

c) Singer SN, Cheng CK, Scafe MG. (2003). *The Hydrogeology of Southern Ontario, Second Edition*, Report from the Ontario Ministry of the Environment.

d) *The Ontario Water Resources Act – R.R.O. 1990, Regulation 903 – Amended to O. Reg. 128/03, August 2003.0.8*

e) *"Protocol for Analytical Methods Used in the Assessment of Properties Under Part XV.1 of the Environmental Protection Act", March 2004.*

f) *Ontario Regulation 153/04 (made under the Environmental Protection Act), May 2004, as amended.*

g) *Environmental Protection Act, R.S.O. 1990, Chapter E.19, as amended, September 2004.*

h) *"Phase One Environmental Site Assessment, 3403-3445 Fieldgate Drive, Mississauga, Ontario",* prepared by Pinchin, Pinchin File. 315068, dated October 3, 2022

i) *"Phase Two Environmental Site Assessment, 3403-3445 Fieldgate Drive, Mississauga, Ontario",* prepared by Pinchin, Pinchin File. 315068.001, dated December 22, 2022

j) *"Phase One Environmental Site Assessment Update, 3403-3445 Fieldgate Drive, Mississauga, Ontario",* prepared by G2S, Reference G2S24018A, dated May 2024.

k) *"Phase Two Environmental Site Assessment Update, 3403-3445 Fieldgate Drive, Mississauga, Ontario",* prepared by G2S, Reference G2S24018B, dated May 2024.

l) *"Geotechnical Investigation, Proposed Mixed Use Development, 3403-3445 Fieldgate Drive, Mississauga, Ontario",* prepared by G2S, Reference G2S24018C, dated July 2024.

12. Limitations

The hydrogeological advice and recommendations provided in this report are based on the information obtained during this investigation. It may be possible that the subsurface conditions vary between and beyond the investigated borehole and monitoring well locations. For the purpose of this report, it is assumed that the conditions outside of and between the exact borehole locations are similar to the conditions observed in the boreholes. The change in subsurface stratigraphy reported on the borehole logs has also been interpreted based on non-continuous sampling, therefore, changes in stratigraphy as shown on the borehole logs and as discussed in this report should not be regarded as exact lines of geological change. The subsurface conditions at the Site may change with the passage of time and/or by human intervention.

The findings along with the hydrogeological advice and recommendations provided in this report are limited to the conditions at the Site at the time of this investigation as described herein. Conclusions presented in this report should not be construed as legal advice. If Site conditions or applicable standards change or if any additional information becomes available at a future date, changes to the findings, conclusions and recommendations in this report may be necessary.

Through any subsurface investigation by boreholes and/or monitoring wells, it may not be possible to identify all aspects of the subsurface conditions at the Site that could affect construction costs, techniques, equipment, and scheduling. Contractors bidding on or undertaking work on the project must be directed to draw their own conclusions as to how the subsurface conditions may affect them, based on their interpretation of the subsurface conditions and/or their own investigations.

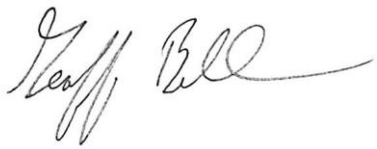
This report has been prepared for the sole benefit of Sajecki Planning Inc. and is intended to provide hydrogeological advice and recommendations based on the subsurface conditions investigated in the monitoring wells on-Site. This report is the copyright of G2S Consulting Inc. (G2S) and may not be used by any other person or entity without the expressed written consent of Sajecki Planning Inc and G2S. Any use which a third party makes of this report, or any reliance on decisions made based on it, is the responsibility of such third parties. G2S accepts no responsibility for damages, if any suffered by any third party as a result of decisions made or actions based on this report. It is recognized that City of Mississauga in their capacity as the planning and building authority under Provincial statues, may make use of and rely upon this report cognizant of the limitations thereof, both as are expressed and implied.

13. Closing Remarks

We trust this report is satisfactory for your purposes. Should you have any questions, please do not hesitate to contact this office.

Yours truly,

G2S Consulting Inc.



Geoff Bell, P.Geo (limited)
Principal, Senior Geoscientist

Steve Campbell, P.Geo
Principal, Senior Geoscientist

Appendix A:
Drawings

LEGEND

- APPROXIMATE SITE BOUNDARY
- APPROXIMATE 250 m RADIUS STUDY AREA
- APPROXIMATE WATER WELL LOCATION BASED ON MECP WELL RECORD MAP

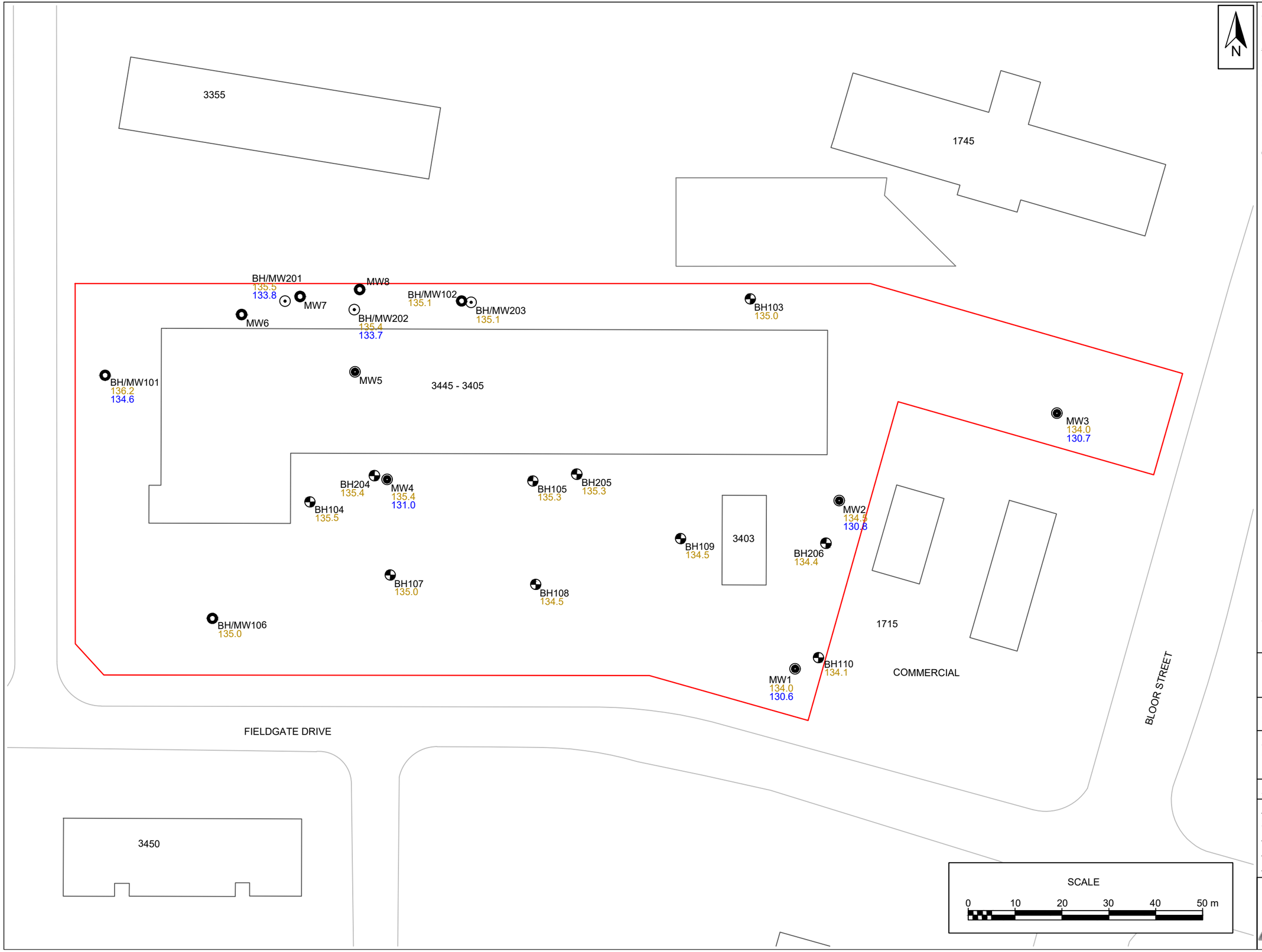
REFERENCE:
DRAWING REPRODUCED USING CITY OF MISSISSAUGA AND MECP WELL RECORD MAP

TITLE:
MECP WATER WELL RECORD LOCATION PLAN

CLIENT:
SAJECKI PLANNING INC.

LOCATION:
3403 - 3445 FIELDGATE DRIVE,
MISSISSAUGA, ONTARIO

PROJECT NO.:	G2S24018D
DRAWING:	1
SCALE:	AS SHOWN
DATE:	JULY 2024
DRAWN BY:	RL
FILE NAME:	G2S24018D.dwg



LEGEND

- APPROXIMATE SITE BOUNDARY
- BOREHOLE ADVANCED BY G2S (APRIL 2024)
- BOREHOLE / MONITORING WELL ADVANCED BY G2S (APRIL 2024)
- BOREHOLE ADVANCED BY G2S (MARCH 2024)
- BOREHOLE/GROUNDWATER MONITORING WELL ADVANCED BY G2S (MARCH 2024)
- BOREHOLE/GROUNDWATER MONITORING WELL ADVANCED BY OTHERS (NOVEMBER 2022)
- DAMAGED BOREHOLE/GROUNDWATER MONITORING WELL ADVANCED BY OTHERS (NOVEMBER 2022)
- 88.88 GROUND SURFACE ELEVATION (m)
- 88.88 MEASURED GROUNDWATER ELEVATION (m) (MAY 13, 2024)

REFERENCE:
DRAWING REPRODUCED USING THE CITY OF MISSISSAUGA INTERACTIVE MAPPING WEBSITE

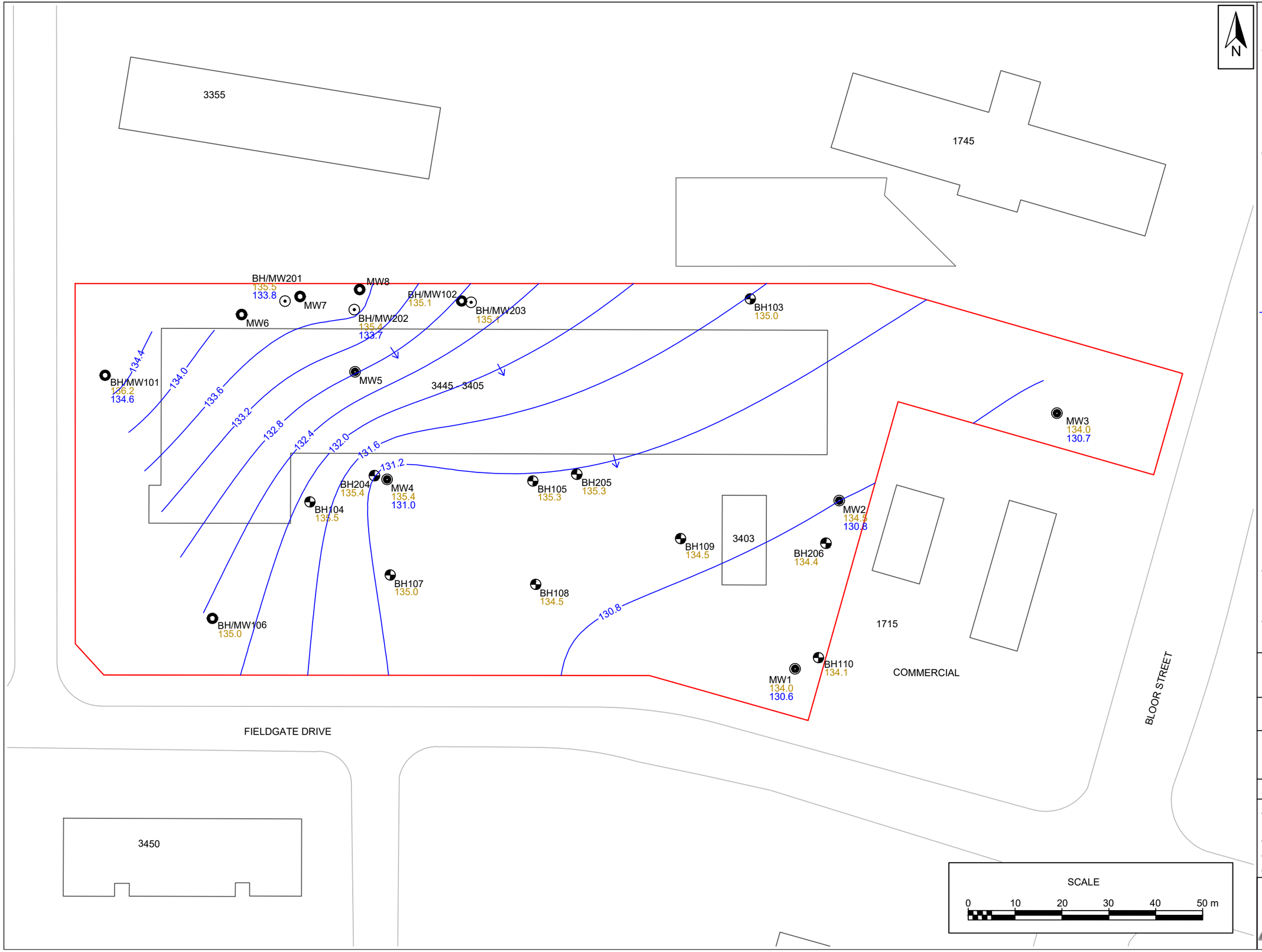
TITLE:
BOREHOLE AND MONITORING WELL LOCATION PLAN

CLIENT:
SAJECKI PLANNING INC.

LOCATION:
3403 - 3445 FIELDGATE DRIVE
MISSISSAUGA, ONTARIO

PROJECT NO.: G2S24018D

DRAWING:	2
SCALE:	AS SHOWN
DATE:	JULY 2024
DRAWN BY:	RL
FILE NAME:	G2S24018D.dwg



LEGEND

- APPROXIMATE SITE BOUNDARY
- BOREHOLE ADVANCED BY G2S (APRIL 2024)
- BOREHOLE / MONITORING WELL ADVANCED BY G2S (APRIL 2024)
- BOREHOLE ADVANCED BY G2S (MARCH 2024)
- BOREHOLE/GROUNDWATER MONITORING WELL ADVANCED BY G2S (MARCH 2024)
- BOREHOLE/GROUNDWATER MONITORING WELL ADVANCED BY OTHERS (NOVEMBER 2022)
- DAMAGED BOREHOLE/GROUNDWATER MONITORING WELL ADVANCED BY OTHERS (NOVEMBER 2022)
- 88.88 GROUND SURFACE ELEVATION (m)
- 88.88 MEASURED GROUNDWATER ELEVATION (m) (MAY 13, 2024)*
- INFERRED GROUNDWATER DIRECTION

NOTE:

*GROUNDWATER CONTOURS PRODUCED USING MW1, MW2, MW3, MW4, BH/MW101, BH/MW201, AND BH/MW202.

REFERENCE:

DRAWING REPRODUCED USING THE CITY OF MISSISSAUGA INTERACTIVE MAPPING WEBSITE

TITLE:

GROUNDWATER CONTOUR PLAN -

MAY 13, 2024

CLIENT:

SAJECKI PLANNING INC.

LOCATION:

3403 - 3445 FIELDGATE DRIVE

MISSISSAUGA, ONTARIO

PROJECT NO.: G2S24018D

DRAWING:	3
SCALE:	AS SHOWN
DATE:	JULY 2024
DRAWN BY:	RL
FILE NAME:	G2S24018D.dwg

Appendix B:
Summary of Water Well Records

Water Well Records

May 31, 2024
4:29:26 PM

TOWNSHIP CON L	UTM	DATE CN	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
MISSISSAUGA CITY	17 613979 4831215 W	2016-10 7295	1.79			MO	0010 10	7276722 (Z230893) A203433	BRWN FILL DRY 0007 GREY SAND SILT DRY 0010 SAND WBRG 0020
MISSISSAUGA CITY	17 613981 4830934 W	2006-03 7215	2				0004 10	4910100 (Z43667) A034903	
MISSISSAUGA CITY	17 613939 4831004 W	2006-01 7215	0.79			NU	0020 49	4910102 (Z43652) A031384	
MISSISSAUGA CITY	17 613920 4831000 W	2006-07 6607		FR 0015				4910290 (Z52268) A	
MISSISSAUGA CITY	17 613940 4831030 W	2006-12 6607	1.97	FR 0013			0010 10	7039277 (Z59625) A048423	BRWN SILT CLAY SAND 0010 GREY SAND SILT 0015 GREY SAND 0020
MISSISSAUGA CITY	17 614044 4831097 W	2008-09 7241	1.59			MT	0012 10	7112119 (Z88785) A078047	BRWN SAND LOOS 0005 GREY SILT SAND SOFT 0017 GREY FSND SILT HARD 0022
MISSISSAUGA CITY	17 614062 4830935 W	2008-09 7241	1.59			MT	0009 10	7112120 (Z88783) A078048	BRWN SAND LOOS 0005 GREY SILT SAND SOFT 0015 GREY FSND SILT WBRG 0019
MISSISSAUGA CITY	17 613920 4831020 W	2005-12 6607	2.00	0012			0020 10	4910055 (Z42187) A036840	BRWN FSND 0020 GREY FSND 0030
MISSISSAUGA CITY	17 613985 4830999 W	2008-09 7241	1.59			MT	0006 10	7112127 (Z88786) A077945	BRWN SAND LOOS 0008 GREY SILT SAND SOFT 0013 GREY FSND SILT HARD 0016
MISSISSAUGA CITY	17 613976 4831128 W	2017-03 7437	2	0007		MO	0007 10	7285463 (Z239291) A218172	BRWN SAND WBRG 0002 BRWN SAND WBRG 0005 GREY SAND WBRG 0010 BLCK SAND WBRG 0017
MISSISSAUGA CITY	17 614100 4830958 W	2017-06 7247	2	UT 0015		TH MO	0015 10	7316005 (Z272470) A223268	---- 0001 BRWN CLAY SILT SAND 0025
MISSISSAUGA CITY	17 613985 4830999 W	2020-11 7241						7375546 (Z342773) A077945 P	
MISSISSAUGA CITY	17 613997 4831010 W	2020-11 7241						7375547 (Z342772) A077944 P	
MISSISSAUGA CITY	17 613997 4831010 W	2008-09 7241	1.59			MT	0008 10	7112126 (Z88784) A077944	BRWN SAND LOOS 0005 GREY SILT SAND SOFT 0012 GREY FSND SAND SOFT 0018

TOWNSHIP CON L	UTM	DATE CN	CASING DIA	WATER	PUMP TEST	WELL USE	SCREEN	WELL	FORMATION
MISSISSAUGA CITY DS N 01 003	17 614056 4831244 W	2021-10 7241						7404588 (Z374670) A334111 P	
MISSISSAUGA CITY DS N 01 003	17 614023 4831266 W	2021-10 7241						7404585 (Z372060) A320458 P	
MISSISSAUGA CITY DS N 01 003	17 613998 4831268 W	2021-10 7241						7404586 (Z372061) A320459 P	
MISSISSAUGA CITY DS N 01 003	17 614055 4831301 W	2021-10 7241						7404587 (Z372062) A320460 P	

Notes:
UTM: UTM in Zone, Easting, Northing and Datum is NAD83; L: UTM estimated from Centroid of Lot; W: UTM not from Lot Centroid
DATE CNTR: Date Work Completedand Well Contractor Licence Number
CASING DIA: .Casing diameter in inches
WATER: Unit of Depth in Fee. See Table 4 for Meaning of Code

PUMP TEST: Static Water Level in Feet / Water Level After Pumping in Feet / Pump Test Rate in GPM / Pump Test Duration in Hour : Minutes
WELL USE: See Table 3 for Meaning of Code
SCREEN: Screen Depth and Length in feet
WELL: WEL (AUDIT #) Well Tag . A: Abandonment; P: Partial Data Entry Only

1. Core Material and Descriptive te

Code	Description	Code	Description	Code	Description	Code	Description	Code	Description
BLDR	BOULDERS	FCRD	FRACTURED	IRFM	IRON FORMATION	PORS	POROUS	SOFT	SOFT
BSLT	BASALT	FGRD	FINE-GRAINED	LIMY	LIMY	PRDG	PREVIOUSLY DUG	SPST	SOAPSTONE
CGRD	COARSE-GRAINED	FGVL	FINE GRAVEL	LMSN	LIMESTONE	PRDR	PREV. DRILLED	STKY	STICKY
CGVL	COARSE GRAVEL	FILL	FILL	LOAM	TOPSOIL	QRTZ	QUARTZITE	STNS	STONES
CHRT	CHERT	FLDS	FELDSPAR	LOOS	LOOSE	QSND	QUICKSAND	STNY	STONEY
CLAY	CLAY	FLNT	FLINT	LTCL	LIGHT-COLOURED	QTZ	QUARTZ	THIK	THICK
CLN	CLEAN	FOSS	FOSILIFEROUS	LYRD	LAYERED	ROCK	ROCK	THIN	THIN
CLYY	CLAYEY	FSND	FINE SAND	MARL	MARL	SAND	SAND	TILL	TILL
CMTD	CEMENTED	GNIS	GNEISS	MGRD	MEDIUM-GRAINED	SHLE	SHALE	UNKN	UNKNOWN TYPE
CONG	CONGLOMERATE	GRNT	GRANITE	MGVL	MEDIUM GRAVEL	SHLY	SHALY	VERY	VERY
CRYS	CRYSTALLINE	GRSN	GREENSTONE	MRBL	MARBLE	SHRP	SHARP	WBRG	WATER-BEARING
CSND	COARSE SAND	GRVL	GRAVEL	MSND	MEDIUM SAND	SHST	SCHIST	WDFR	WOOD FRAGMENTS
DKCL	DARK-COLOURED	GRWK	GREYWACKE	MUCK	MUCK	SILT	SILT	WTHD	WEATHERED
DLMT	DOLOMITE	GVLY	GRAVELLY	OBDN	OVERBURDEN	SLTE	SLATE		
DNSE	DENSE	GYPS	GYPSUM	PCKD	PACKED	SLTY	SILTY		
DRTY	DIRTY	HARD	HARD	PEAT	PEAT	SNDS	SANDSTONE		
DRY	DRY	HPAN	HARDPAN	PGVL	PEA GRAVEL	SNDY	SANDYOAPSTONE		

2. Core Color

Code	Description
WHIT	WHITE
GREY	GREY
BLUE	BLUE
GREN	GREEN
YLLW	YELLOW
BRWN	BROWN
RED	RED
BLCK	BLACK
BLGY	BLUE-GREY

3. Well Use

Code	Description	Code	Description
DO	Domestic	OT	Other
ST	Livestock	TH	Test Hole
IR	Irrigation	DE	Dewatering
IN	Industrial	MO	Monitoring
CO	Commercial	MT	Monitoring TestHole
MN	Municipal		
PS	Public		
AC	Cooling And A/C		
NU	Not Used		

4. Water Detail

Code	Description	Code	Description
FR	Fresh	GS	Gas
SA	Salty	IR	Iron
SU	Sulphur		
MN	Mineral		
UK	Unknown		

Appendix C:
Borehole Logs

BOREHOLE NUMBER 101

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-15 **COMPLETED** 24-3-15
GROUND ELEVATION 99.7 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE	SPT N VALUES / Undrained Shear Strength (kPa)	MOISTURE / PLASTICITY	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
	0.12 ASPHALT: ~120 mm	99.58	S1A							Flushmount protective casing set in concrete
	0.27 GRANULAR: ~150 mm	99.43	S1B	SPT	9					
1	FILL: Silty sand, brown, organics, moist		S2A							Bentonite seal
	1.5	98.20	S2B	SPT	9					
2	SILTY SAND TILL: Brown, some gravel, moist, dense		S3	SPT	35					Filter sand
			S4	SPT	47					
3	3.0	96.70								
	SILTY CLAY TILL: Grey, some sand, some gravel, moist, hard		S5	SPT	50	50/100 mm				Slotted screen
4	4.0	95.70	S6	SPT	50	50/150 mm				

Borehole terminated at 4.0 m.

BOREHOLE NUMBER 102

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-15 **COMPLETED** 24-3-15
GROUND ELEVATION 98.6 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger+ Rock Coring
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE	SPT N VALUES (N values ▲ / CPT values △: 10, 20, 30, 40); Undrained Shear Strength (kPa) (Pocket Penetrometer ✕ / Vane ✚: 40, 80, 120, 160)	MOISTURE / PLASTICITY (PL, MC, LL: 10, 20, 30)	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
0.18	GRANULAR: ~175 mm	98.43	S1A						Flushmount protective casing set in concrete	
	FILL: Sand, brown, some silt, moist		S1B	SPT	11					
			S2	SPT	13					
1.5	SILT: Brown, some sand, moist, compact	97.10	S3	SPT	11					
2.3	SANDY SILT TILL: Grey, some clay, some gravel, moist,, dense	96.30	S4	SPT	30					
3.0	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, hard	95.60	S5	SPT	34				Bentonite seal	
			S6	SPT	38					
6.1		92.50	S7	SPT	50	50/50 mm				
6.2	Weathered Shale: Georgian Bay Formation, Grey	92.40	S8	RC						
	BEDROCK: Grey shale, Refer to Log of Rock Core for details of bedrock coring		S9	RC						
			S10	RC					Filter sand	
			S11	RC					Slotted screen	
			S12	RC						
12.3		86.26								

Borehole terminated at 12.3 m.

BOREHOLE NUMBER 103

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-14 **COMPLETED** 24-3-14
GROUND ELEVATION 98.5 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE
0.09	ASPHALT: ~90 mm	98.41	S1A	SPT	31
0.23	GRANULAR: ~140 mm	98.27	S1B		
1.5	FILL: Silty sand, dark brown, moist to very moist	97.00	S2	SPT	5
	SAND: Light brown, some silt, occasional silt zones, moist, compact		S3	SPT	22
			S4	SPT	30
3.4		95.10	S5A	SPT	25
3.8	occasional silt zone	94.70	S5B		
	SILTY SAND TILL: Grey, some gravel to gravelly, moist, compact to dense		S6	SPT	38
			S7	SPT	43
6.1		92.40			
	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, hard		S8	SPT	50
			S9	SPT	50
			S10	SPT	50
10.1		88.40	S11	SPT	50

SPT N VALUES
N values ▲ 10 20 30 40 CPT values △
Undrained Shear Strength (kPa)
Pocket Penetrometer × Vane ✚
40 80 120 160

MOISTURE / PLASTICITY
PL MC LL
10 20 30

50/125 mm
50/150 mm
50/125 mm
50/25 mm

SOIL GAS READINGS HEX/IBL (ppm)

WELL CONSTRUCTION

GRAIN SIZE DISTRIBUTION %
GR SA SI & CL

No further progress due to auger and sampler refusal on possible bedrock
Borehole terminated at 10.1 m.

Upon completion of drilling
Cave at 6.7 m
Free water at 5.5 m

BOREHOLE NUMBER 104

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-12 **COMPLETED** 24-3-12
GROUND ELEVATION 99.0 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE	SPT N VALUES / Undrained Shear Strength (kPa)	MOISTURE / PLASTICITY (PL MC LL)	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
0.15	ASPHALT: ~150 mm	98.85								
0.26	GRANULAR: ~110 mm	98.74	S1	SPT	13					
1 1.00	FILL: Silty sand, brown to dark brown, trace gravel, wood pieces, organics, moist	98.00	S2A / S2B	SPT	7					
1.5	becoming brown, no organics, moist	97.50	S3	SPT	13					
2	SILTY SAND/SANDY SILT: Brownish grey, trace gravel, moist, compact		S4A / S4B	SPT	21					
3			S5	SPT	24					
3.8		95.20								
4 4.3	CLAYEY SILT TILL: Grey, some sand, some gravel, shale fragments, moist, hard	94.70	S6	SPT	50	50/150 mm				
			S7	SPT	50	50/2[illegible]mm				
	No further progress due to auger and sampler refusal on possible bedrock Borehole terminated at 4.3 m.									

Upon completion of drilling
Cave at 2.1 m
No free water

BOREHOLE NUMBER 105

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-13 **COMPLETED** 24-3-13
GROUND ELEVATION 98.8 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	GRAPHIC LOG	NUMBER	TYPE	N VALUE	SPT N VALUES / Undrained Shear Strength (kPa)	MOISTURE / PLASTICITY	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
0.11	ASPHALT: ~110 mm	98.69									
0.26	GRANULAR: ~150 mm	98.54		S1	SPT	12					
1	FILL: Sand, brown, some silt, moist to very moist			S2	SPT	5					
1.5		97.30									
2	SANDY SILT: Brown, very moist, compact			S3	SPT	10					
3				S4	SPT	10					
				S5	SPT	18					
3.8		95.00									
4	SAND: Brown, some silt, moist, compact			S6	SPT	21					
4.6		94.20									
5	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, hard			S7	SPT	30					
6				S8	SPT	49					
				S9	SPT	45					
7											
8				S10	SPT	46					
9											
9.1		89.70					50/25 mm				
9.2	Weathered Shale: Georgian Bay Formation, Grey	89.60		S11	SPT	50					
	No further progress due to auger and sampler refusal on possible bedrock Borehole terminated at 9.2 m.										

Upon completion of drilling
Cave at 7.8 m
No free water

BOREHOLE NUMBER 106

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd. **PROJECT NAME** Proposed Mixed Use Development

PROJECT NUMBER G2S24018 **PROJECT LOCATION** 3403-3445 Fieldgate Dr, Mississauga, ON

DATE STARTED 24-3-12 **COMPLETED** 24-3-12 **GROUND ELEVATION** 98.5 m

DRILLING CONTRACTOR Davis Drilling Ltd. **LOGGED BY** DB **CHECKED BY** AA

DRILLING METHOD Continuous Flight Hollow Stem Auger+ Rock Coring **NOTES**

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE	SPT N VALUES / Undrained Shear Strength (kPa)	MOISTURE / PLASTICITY	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
0.16	ASPHALT: ~160 mm	98.34								
0.24	GRANULAR: ~80 mm	98.26								
1	FILL: Clayey silt, dark grey, organics, trace sand, moist		S1	SPT	12					
			S2A	SPT	13					
1.5		97.00	S2B							
2	SILTY SAND TILL: Grey, some clay, some gravel, moist, compact		S3	SPT	12					
2.3		96.20								
3	SANDY SILT TILL: Grey, some clay, some gravel, moist, compact		S4	SPT	20					
3.0		95.50								
4	CLAYEY SILT TILL: Grey, some sand, some gravel, shale fragments, moist, hard		S5	SPT	30					Bentonite seal
5			S6	SPT	50		50/50 mm			
5.0		93.50	S7	SPT	50		50/25 mm			
6	BEDROCK: Grey shale, Refer to Log of Rock Core for details of bedrock coring		S8	RC						
			S9	RC						
7			S10	RC						Filter sand
8										
9			S11	RC						Slotted screen
10			S12	RC						
10.7		87.76								

Borehole terminated at 10.7 m.

Flushmount protective casing set in concrete

SPT N VALUES: N values ▲ 10 20 30 40 CPT values △

Undrained Shear Strength (kPa): Pocket Penetrometer × 40 80 120 160 Vane ✚

MOISTURE / PLASTICITY: PL MC LL 10 20 30

BOREHOLE NUMBER 107

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-12 **COMPLETED** 24-3-12
GROUND ELEVATION 98.5 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE
0.10	ASPHALT: ~100 mm	98.40			
0.21	GRANULAR: ~110 mm	98.29	S1	SPT	9
0.80	FILL: Sand, brown, trace silt, very moist	97.70	S2	SPT	9
1.5	becoming clayey silt, dark grey to grey, some sand, trace organics, very moist	97.00	S3	SPT	12
	SILTY SAND/SANDY SILT: Grey, trace gravel, moist, compact to dense		S4	SPT	18
			S5	SPT	31
3.8	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, very stiff to hard	94.70	S6	SPT	23
4.8		93.70	S7	SPT	50
4.9	Weathered Shale: Georgian Bay Formation, Grey	93.60	S8	SPT	50
	No further progress due to auger and sampler refusal on possible bedrock Borehole terminated at 4.9 m.				

SPT N VALUES
N values ▲ 10 20 30 40 CPT values △
Undrained Shear Strength (kPa)
Pocket Penetrometer × 40 80 120 160 Vane ✚

MOISTURE / PLASTICITY
PL MC LL
10 20 30

50/50 mm
50/25 mm

SOIL GAS READINGS HEX/IBL (ppm)

WELL CONSTRUCTION

GRAIN SIZE DISTRIBUTION %
GR SA SI & CL

Upon completion of drilling
No cave
Free water at 4.8 m

BOREHOLE NUMBER 108

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-13 **COMPLETED** 24-3-13
GROUND ELEVATION 98.0 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE
0.09	ASPHALT: ~90 mm	97.91	S1A	SPT	6
0.20	GRANULAR: ~110 mm	97.80	S1B		
0.30	FILL: Silty sand, brown, moist	97.70	S2A	SPT	10
1			S2B		
1.5	becoming silt, dark grey, organics, some sand, moist	96.50			
2	SILTY SAND: Brown, trace gravel, moist, compact		S3	SPT	20
3			S4	SPT	18
4			S5	SPT	19
			S6	SPT	23
4.9		93.10	S7A	SPT	20
5	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, very stiff to hard		S7B		
6			S8	SPT	50/100 mm
7					
8			S9	SPT	>>
9					
9.1		88.90			50/75 mm
9.2	Weathered Shale: Georgian Bay Formation, Grey	88.80	S10	SPT	50
	No further progress due to auger and sampler refusal on possible bedrock Borehole terminated at 9.2 m.				

SPT N VALUES
N values ▲ 10 20 30 40 CPT values △
Undrained Shear Strength (kPa)
Pocket Penetrometer × Vane ✚
40 80 120 160

MOISTURE / PLASTICITY
PL MC LL
10 20 30

SOIL GAS READINGS HEX/IBL (ppm)

WELL CONSTRUCTION

GRAIN SIZE DISTRIBUTION % GR SA SI & CL

Upon completion of drilling
Wet cave at 4.3 m

BOREHOLE NUMBER 109

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd. **PROJECT NAME** Proposed Mixed Use Development

PROJECT NUMBER G2S24018 **PROJECT LOCATION** 3403-3445 Fieldgate Dr, Mississauga, ON

DATE STARTED 24-3-14 **COMPLETED** 24-3-14 **GROUND ELEVATION** 98.1 m

DRILLING CONTRACTOR Davis Drilling Ltd. **LOGGED BY** DB **CHECKED BY** AA

DRILLING METHOD Continuous Flight Hollow Stem Auger+ Rock Coring **NOTES**

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE	SPT N VALUES / Undrained Shear Strength (kPa)	MOISTURE / PLASTICITY	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
0.12	ASPHALT: ~120 mm	97.98								
0.24	GRANULAR: ~120 mm	97.86	S1	SPT	5					
0.80	FILL: Silty sand, dark brown to brown, trace gravel, moist	97.30	S2	SPT	13		79.4			
	SILTY SAND: Brown, trace gravel, reworked appearance at top portion, moist, compact		S3	SPT	18					
			S4	SPT	18					
			S5	SPT	19					
			S6	SPT	18		91.7			
			S7	SPT	22					
5.3	SILTY SAND TILL: Grey, some gravel, moist, very dense	92.80	S8	SPT	58	>>				
			S9	SPT	54	>>				
7.6	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, hard	90.50	S10	SPT	50	50/125 mm				
			S11	SPT	50	50/150 mm				
10.7		87.40	S12	SPT	50	50/25 mm				
11.0	Weathered Shale: Georgian Bay Formation, Grey	87.10	S13	RC						
	BEDROCK: Grey shale, Refer to Log of Rock Core for details of bedrock coring		S14	RC						
			S15	RC						

(Continued Next Page)

BOREHOLE NUMBER 109

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd. **PROJECT NAME** Proposed Mixed Use Development

PROJECT NUMBER G2S24018 **PROJECT LOCATION** 3403-3445 Fieldgate Dr, Mississauga, ON

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	GRAPHIC LOG	NUMBER	TYPE	N VALUE	SPT N VALUES N values ▲ CPT values △ 10 20 30 40 / Undrained Shear Strength (kPa) Pocket Penetrometer × Vane ✚ 40 80 120 160	MOISTURE / PLASTICITY PL MC LL 10 20 30	SOIL GAS READINGS HEX/IBL (ppm)	WELL CONSTRUCTION	GRAIN SIZE DISTRIBUTION % GR SA SI & CL
15.2		82.86									

Borehole terminated at 15.2 m.

Cave-in material and free water were not measured due to drilling/coring method

BOREHOLE NUMBER 110

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Proposed Mixed Use Development
PROJECT NUMBER G2S24018
PROJECT LOCATION 3403-3445 Fieldgate Dr, Mississauga, ON
DATE STARTED 24-3-13 **COMPLETED** 24-3-13
GROUND ELEVATION 97.6 m
DRILLING CONTRACTOR Davis Drilling Ltd.
LOGGED BY DB **CHECKED BY** AA
DRILLING METHOD Continuous Flight Hollow Stem Auger
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	N VALUE
0.12	ASPHALT: ~120 mm	97.48			
0.28	GRANULAR: ~160 mm	97.32	S1	SPT	7
0.60	FILL: Sand and gravel, brown, some silt, moist	97.00	S2A	SPT	11
			S2B		
1.5	becoming sandy silt, dark grey, organics, moist	96.10	S3	SPT	19
	SILTY SAND: Brown to grey, trace gravel, moist to wet, compact		S4	SPT	21
			S5	SPT	24
			S6	SPT	18
			S7	SPT	20
6.1	SILTY SAND TILL: Grey, some gravel, moist, dense to very dense	91.50	S8	SPT	31
			S9	SPT	50
9.1	SILTY CLAY TILL: Grey, some sand, some gravel, shale fragments, moist, hard	88.50	S10	SPT	37
			S11	SPT	46
12.2	WEATHERED SHALE: Grey, very dense	85.40	S12	SPT	50
13.3	No further progress due to auger and sampler refusal on possible bedrock Borehole terminated at 13.3 m.	84.30	S13	SPT	50

SPT N VALUES
N values ▲ CPT values △
10 20 30 40

Undrained Shear Strength (kPa)
Pocket Penetrometer × Vane ✚
40 80 120 160

MOISTURE / PLASTICITY
PL MC LL
10 20 30

50/75 mm
50/125 mm
50/50 mm

SOIL GAS READINGS HEX/IBL (ppm)

WELL CONSTRUCTION

GRAIN SIZE DISTRIBUTION %
GR SA SI & CL

Upon completion of drilling
Cave a 4.5 m
Free water at 4.3 m

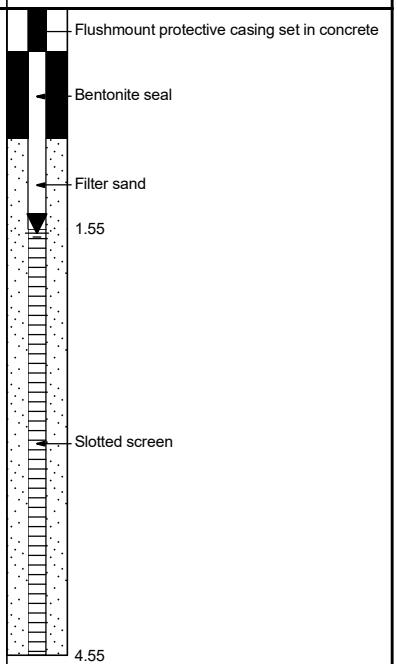
2021 G2S GEOTECH BOREHOLE LOG G2S24018 BOREHOLE LOGS.GPJ G2S 2021 BH DATA TEMPLATE.GDT 24-4-16

BH/MW NUMBER 201

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Phase Two ESA
PROJECT NUMBER G2S24018B
PROJECT LOCATION 3403-3445 Fieldgate Drive, Mississauga, ON
DATE STARTED 24-4-29 **COMPLETED** 24-4-29
GROUND ELEVATION 135.53 m
DRILLING CONTRACTOR Ace Environmental Drilling Ltd.
LOGGED BY HP **CHECKED BY** WB/SC
DRILLING METHOD Geoprobe - Direct Push
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	SOIL GAS READINGS HEX/IBL (ppm)
0.2	GRANULAR: ~175 mm	135.36			
	FILL: Clayey silt, brown, trace sand, reworked appearance, moist		S1	DP	0/0
1			NR		
1.5		134.01			
	SILTY SAND: Brown, some gravel, reworked appearance, moist		S2	DP	0/0
2					
2.4		133.09			
	becoming grey		S3		0/0
3					
3.0		132.49			
	SILT: Grey, till-like, moist		S4	DP	0/0
4					
4.4		131.11			
	WEATHERED SHALE		S5		0/0
4.9		130.65	S6	DP	0/0



No further progress due to sampler refusal on possible bedrock
Borehole terminated at 4.9 m.

Water Level Readings:

Date	Depth (m)	Elev. (m)
2024-05-06	1.58	133.95
2024-05-13	1.60	133.93

BH/MW NUMBER 202

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Phase Two ESA
PROJECT NUMBER G2S24018B
PROJECT LOCATION 3403-3445 Fieldgate Drive, Mississauga, ON
DATE STARTED 24-4-29 **COMPLETED** 24-4-29
GROUND ELEVATION 135.39 m
DRILLING CONTRACTOR Ace Environmental Drilling Ltd.
LOGGED BY HP **CHECKED BY** WB/SC
DRILLING METHOD Geoprobe - Direct Push
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	SOIL GAS READINGS HEX/IBL (ppm)
0.1	GRANULAR: ~125 mm	135.27			
	SILTY SAND: Brown, moist to very moist		S1	DP	25/0
1			NR		
2			S2		15/0
2.1		133.26			
	SANDY SILT: Brown, very moist to wet		S3	DP	10/0
3					
3.0		132.35			
	becoming grey, wet		S4	DP	25/0
4			NR		
4.6		130.82			
4.9	SHALE / TILL COMPLEX: Grey, moist	130.51	S5	DP	0/0

WELL DIAGRAM:
- Flushmount protective casing set in concrete
- Bentonite seal
- Filter sand
- 1.57
- Slotted screen
- 4.57

No further progress due to sampler refusal on possible bedrock
Borehole terminated at 4.9 m.

Water Level Readings:

Date	Depth (m)	Elev. (m)
2024-05-06	1.63	133.76
2024-05-13	1.65	133.74

BH/MW NUMBER 203

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Phase Two ESA
PROJECT NUMBER G2S24018B
PROJECT LOCATION 3403-3445 Fieldgate Drive, Mississauga, ON
DATE STARTED 24-4-29 **COMPLETED** 24-4-29
GROUND ELEVATION 135.13 m
DRILLING CONTRACTOR Ace Environmental Drilling Ltd.
LOGGED BY HP **CHECKED BY** WB/SC
DRILLING METHOD Geoprobe - Direct Push
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	NUMBER	TYPE	SOIL GAS READINGS HEX/IBL (ppm)
0.1	GRANULAR: ~125 mm	135.01			
	FILL: Silty sand, brown, trace gravel, moist to very moist		S1	DP	0/0
1			NR		
1.5	becoming grey, wet	133.61	S2		0/0
2			S3	DP	0/0
2.9	SANDY SILT: Grey, wet	132.24	S4		0/0
3			S5		5/0
4.0	SHALE / TILL COMPLEX: Grey, moist	131.18		DP	
4			S6		10/0
4.9		130.25	NR	DP	

WELL DIAGRAM: Flushmount protective casing set in concrete; Bentonite seal; Filter sand; 1.80; Slotted screen; 4.80

No further progress due to sampler refusal on possible bedrock
Borehole terminated at 4.9 m.

Water Level Readings:

Date	Depth (m)	Elev. (m)
2024-05-06	2.08	133.05

BOREHOLE NUMBER 204

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Phase Two ESA
PROJECT NUMBER G2S24018B
PROJECT LOCATION 3403-3445 Fieldgate Drive, Mississauga, ON
DATE STARTED 24-4-29 **COMPLETED** 24-4-29
GROUND ELEVATION 135.39 m
DRILLING CONTRACTOR Ace Environmental Drilling Ltd.
LOGGED BY HP **CHECKED BY** WB/SC
DRILLING METHOD Geoprobe - Direct Push
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	GRAPHIC LOG	NUMBER	TYPE	SOIL GAS READINGS HEX/IBL (ppm)	WELL DIAGRAM
	0.1 ASPHALT: ~50 mm	135.34					
	0.1 GRANULAR: ~75 mm	135.27		S1	DP	0/0	
	0.3 FILL: Silty sand, brown, trace gravel, moist	135.09		S2		0/0	
1	becoming dark brown, odour noted			NR			
	1.5	133.87					
2	SILTY SAND: Dark brown, reworked appearance, moist			S3	DP	0/0	
	2.1 becoming light brown	133.26		S4		0/0	
3	3.0	132.35					
	SANDY SILT: Grey, moist			S5	DP	0/0	
4	4.1	131.29		S6		0/0	
	SHALE / TILL COMPLEX: Grey, moist			S7		0/0	
	4.9	130.51		S8	DP	0/0	

No further progress due to sampler refusal on possible bedrock
Borehole terminated at 4.9 m.

Upon completion of drilling
No cave
No free water

BOREHOLE NUMBER 205

Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd.
PROJECT NAME Phase Two ESA
PROJECT NUMBER G2S24018B
PROJECT LOCATION 3403-3445 Fieldgate Drive, Mississauga, ON
DATE STARTED 24-4-29 **COMPLETED** 24-4-29
GROUND ELEVATION 135.28 m
DRILLING CONTRACTOR Ace Environmental Drilling Ltd.
LOGGED BY HP **CHECKED BY** WB/SC
DRILLING METHOD Geoprobe - Direct Push
NOTES

DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	GRAPHIC LOG	NUMBER	TYPE	SOIL GAS READINGS HEX/IBL (ppm)	WELL DIAGRAM
0.1	ASPHALT: ~75 mm	135.21					
0.1	GRANULAR: ~50 mm	135.16					
1	FILL: Silty sand, brown, trace gravel, moist			S1	DP	0/0	
				NR			
2				S2	DP	0/0	
				S3		0/0	
3	3.0	132.24					
	SANDY SILT: Brown, trace gravel, moist			S4	DP	0/0	
4				S5		0/0	
	4.6	130.71					
	becoming wet			S6	DP	0/0	
5	5.5	129.80					
	becoming grey			S7		0/0	
6	6.1	129.19					
	Borehole terminated at 6.1 m.						Upon completion of drilling No cave No free water

BOREHOLE NUMBER 206

G2S Consulting Inc.

CLIENT Forest Glen Shopping Centre Ltd. **PROJECT NAME** Phase Two ESA

PROJECT NUMBER G2S24018B **PROJECT LOCATION** 3403-3445 Fieldgate Drive, Mississauga, ON

DATE STARTED 24-4-29 **COMPLETED** 24-4-29 **GROUND ELEVATION** 134.44 m

DRILLING CONTRACTOR Ace Environmental Drilling Ltd. **LOGGED BY** HP **CHECKED BY** WB/SC

DRILLING METHOD Geoprobe - Direct Push **NOTES**

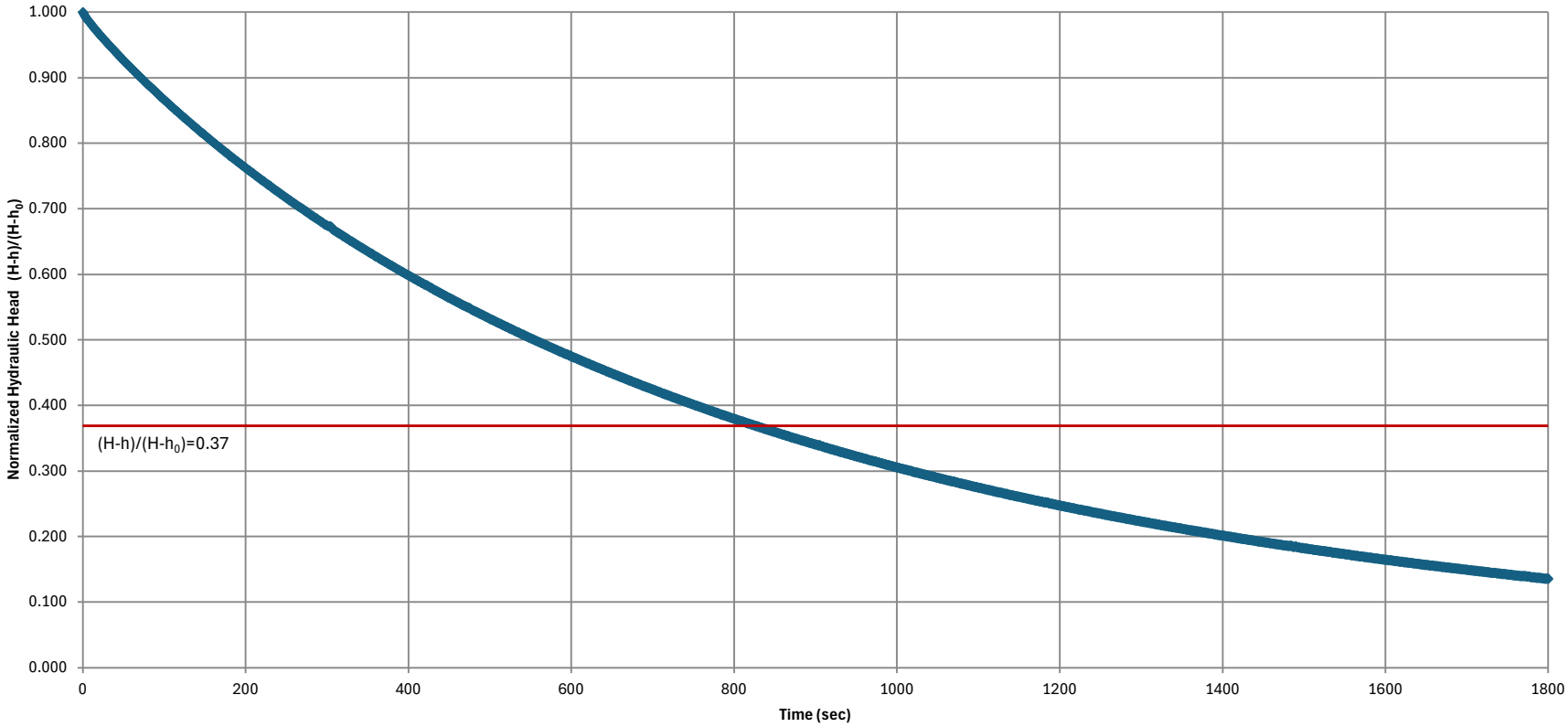
DEPTH (m)	MATERIAL DESCRIPTION	ELEVATION (m)	GRAPHIC LOG	NUMBER	TYPE	SOIL GAS READINGS HEX/IBL (ppm)	WELL DIAGRAM
0.1	ASPHALT: ~75 mm	134.37					
0.2		134.27		S1		0/0	
0.3	GRANULAR: ~100 mm	134.14		S2		0/0	
0.6	FILL: Silty sand, light brown, moist	133.84		S3	DP	0/0	
1	becoming silty clay, dark brown, moist						
	becoming sand, light brown, moist			NR			
1.5		132.92					
2	SILTY SAND: Light brown, reworked appearance, moist			S4		0/0	
				S5	DP	0/0	
3							
4				S6	DP	0/0	
4.6		129.87					
5	becoming wet			S7	DP	0/0	
5.8		128.66					
6	SANDY SILT: Brown, wet			S8		0/0	
6.1		128.35					

Borehole terminated at 6.1 m.

Upon completion of drilling
No cave
No free water

Appendix D:
Hydraulic Testing

BH/MW101
Slug Test Analysis
3403 - 3445 Fieldgate Drive, Mississauga, Ontario



Hvorslev Method for Slug Test Analysis

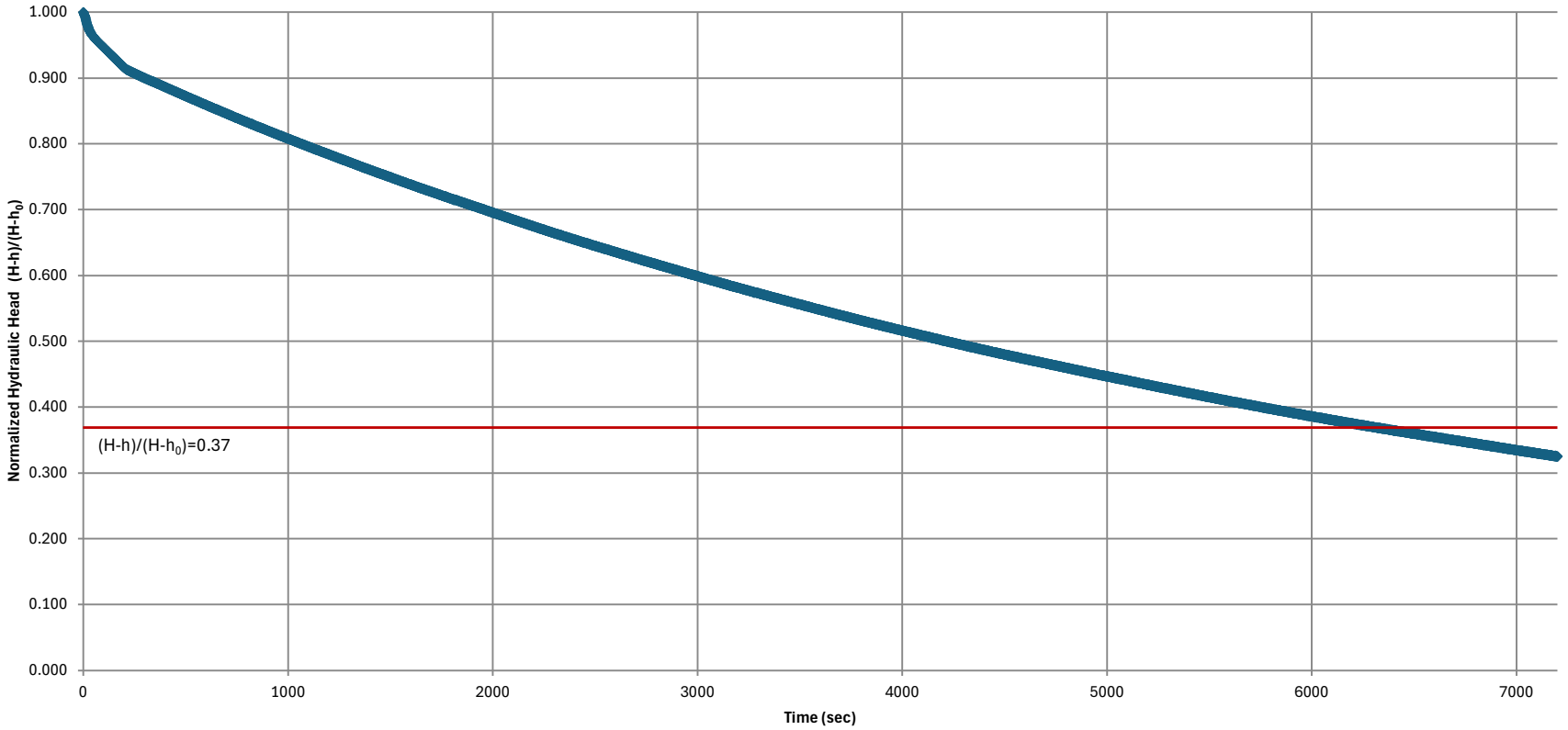
stickup=	NA	m	casing stickup from ground surface
SWL=	1.69	m	Static Water Level (mBTOP)
r =	0.025	m	casing radius
L =	1.5	m	screen length
R =	0.076	m	borehole radius
$H-h_o$ =	1.66	m	Water level change at T=0
$T_{0.37}$ =	823	sec	T at (H-h)/(H-h0)=0.37

$$k = \frac{r^2 \ln(L/R)}{2LT_{0.37}}$$

k= 7.5E-07 m/sec

11-Jun-24

BH/MW106
Slug Test Analysis
3403 - 3445 Fieldgate Drive, Hamilton, Ontario



Hvorslev Method for Slug Test Analysis

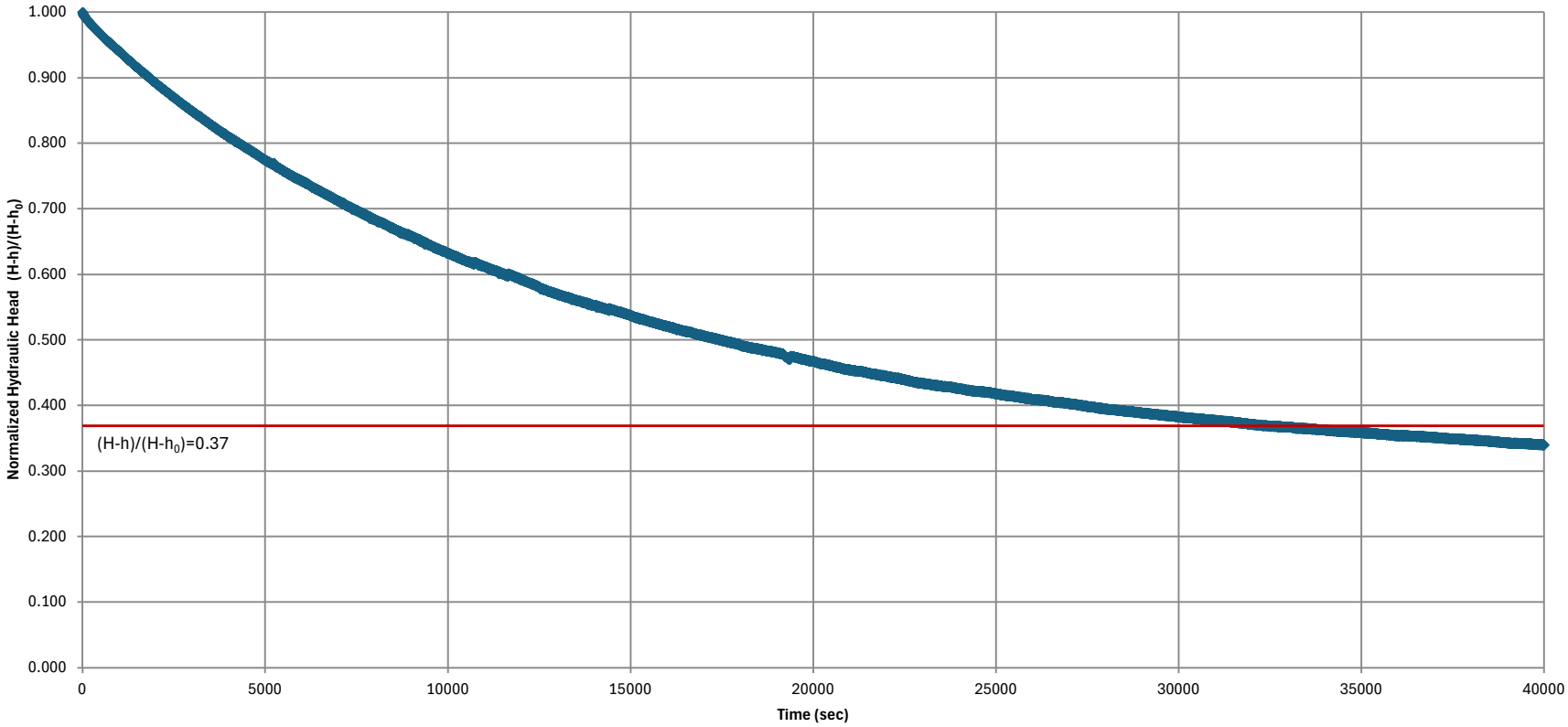
stickup=	NA	m	casing stickup from ground surface
SWL=	2.60	m	Static Water Level (mBTOP)
r =	0.025	m	casing radius
L =	3.1	m	screen length
R =	0.076	m	borehole radius
$H\text{-}h_o$ =	2.60	m	Water level change at T=0
$T_{0.37}$ =	6289	sec	T at $(H\text{-}h)/(H\text{-}h_0)=0.37$

$$k = \frac{r^2 \ln(L/R)}{2LT_{0.37}}$$

k= 5.9E-08 m/sec

11-Jun-24

MW2
Slug Test Analysis
3403-3455 Fieldgate Drive, Hamilton, Ontario



Hvorslev Method for Slug Test Analysis

stickup=	NA	m	casing stickup from ground surface
SWL=	3.59	m	Static Water Level (mBTOP)
r =	0.025	m	casing radius
L =	3.1	m	screen length
R =	0.076	m	borehole radius
$H-h_o$ =	3.40	m	Water level change at T=0
$T_{0.37}$ =	470	sec	T at (H-h)/(H-h0)=0.37

$$k = \frac{r^2 \ln(L/R)}{2LT_{0.37}}$$

k= 8.0E-07 m/sec

11-Jun-24

Appendix E:
Grain Size Analyses

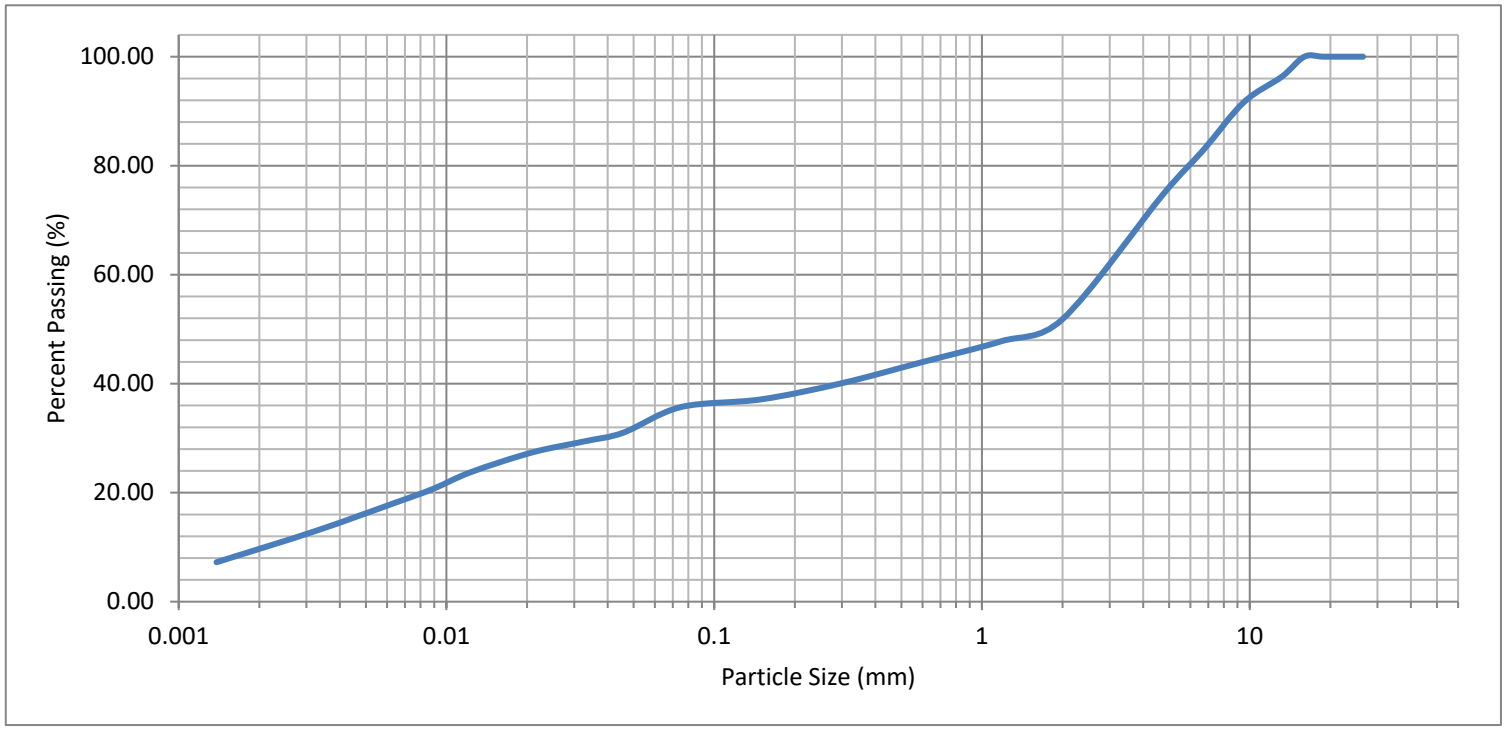
G2S Consulting Inc.
4361 Harvester Rd., Unit 12, Burlington, ON L7L 5M4
P 905.331.3735 F 905.642.5999
G2Senvironmental.com

Project No.:	G2S24018C	**Lab No.:**	24027A
Project Name:	Proposed Mixed Use Development - Fieldgate Dr., Mississuaga	**Borehole/Sample No.:**	BH101-S5

ISSMGE SOIL CLASSIFICATION

CLAY	SILT			SAND			GRAVEL		
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE

SIEVE SIZE: 1 2 6 20 60 #200 #100 #50 #16 #8 #4 3/8" 3/4" 2-1/2"



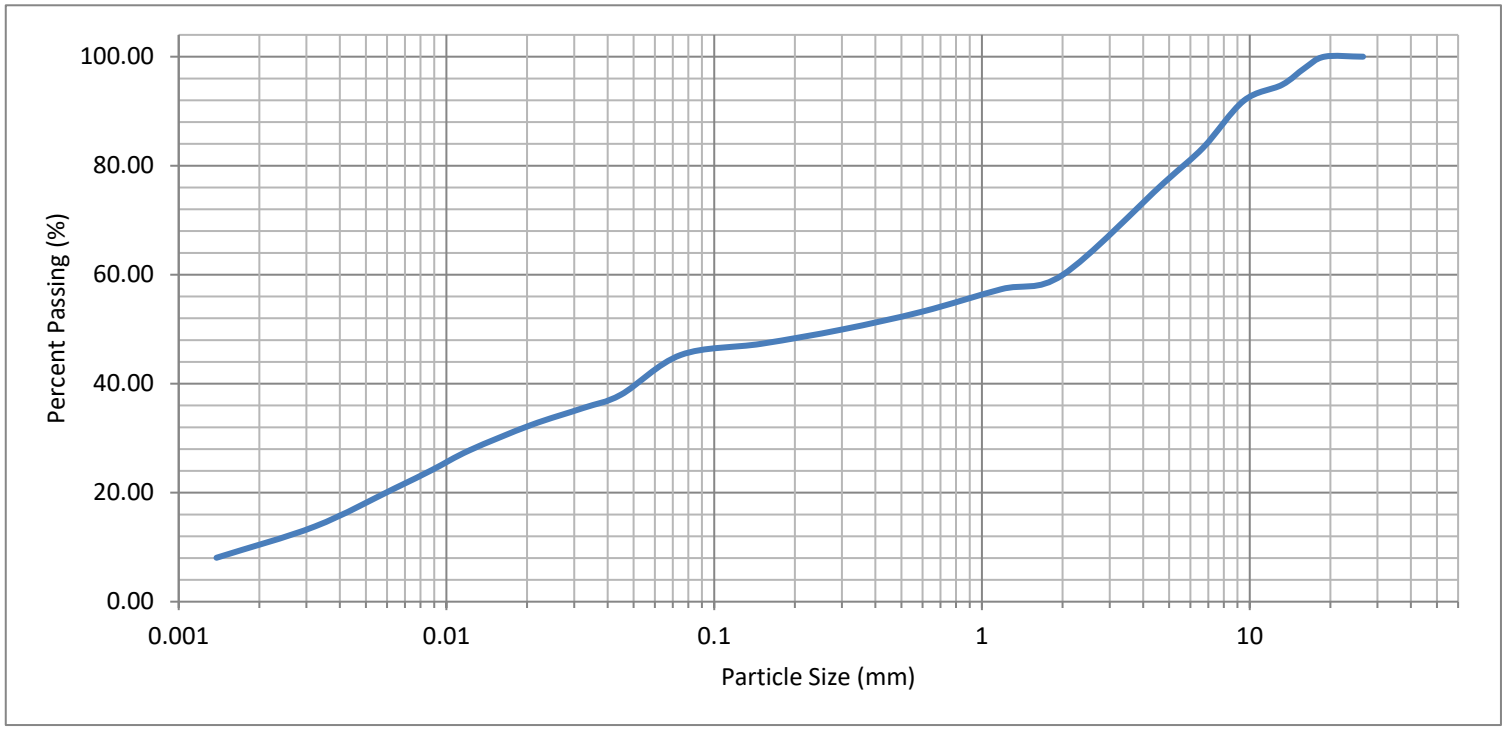
G2S Consulting Inc.
4361 Harvester Rd., Unit 12, Burlington, ON L7L 5M4
P 905.331.3735 F 905.642.5999
G2Senvironmental.com

Project No.:	G2S24018C	**Lab No.:**	24027B
Project Name:	Proposed Mixed Use Development - Fieldgate Dr., Mississuaga	**Borehole/Sample No.:**	BH105-S8

ISSMGE SOIL CLASSIFICATION

CLAY	SILT			SAND			GRAVEL		
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE

SIEVE SIZE: 1 2 6 20 60 #200 #100 #50 #16 #8 #4 3/8" 3/4" 2-1/2"



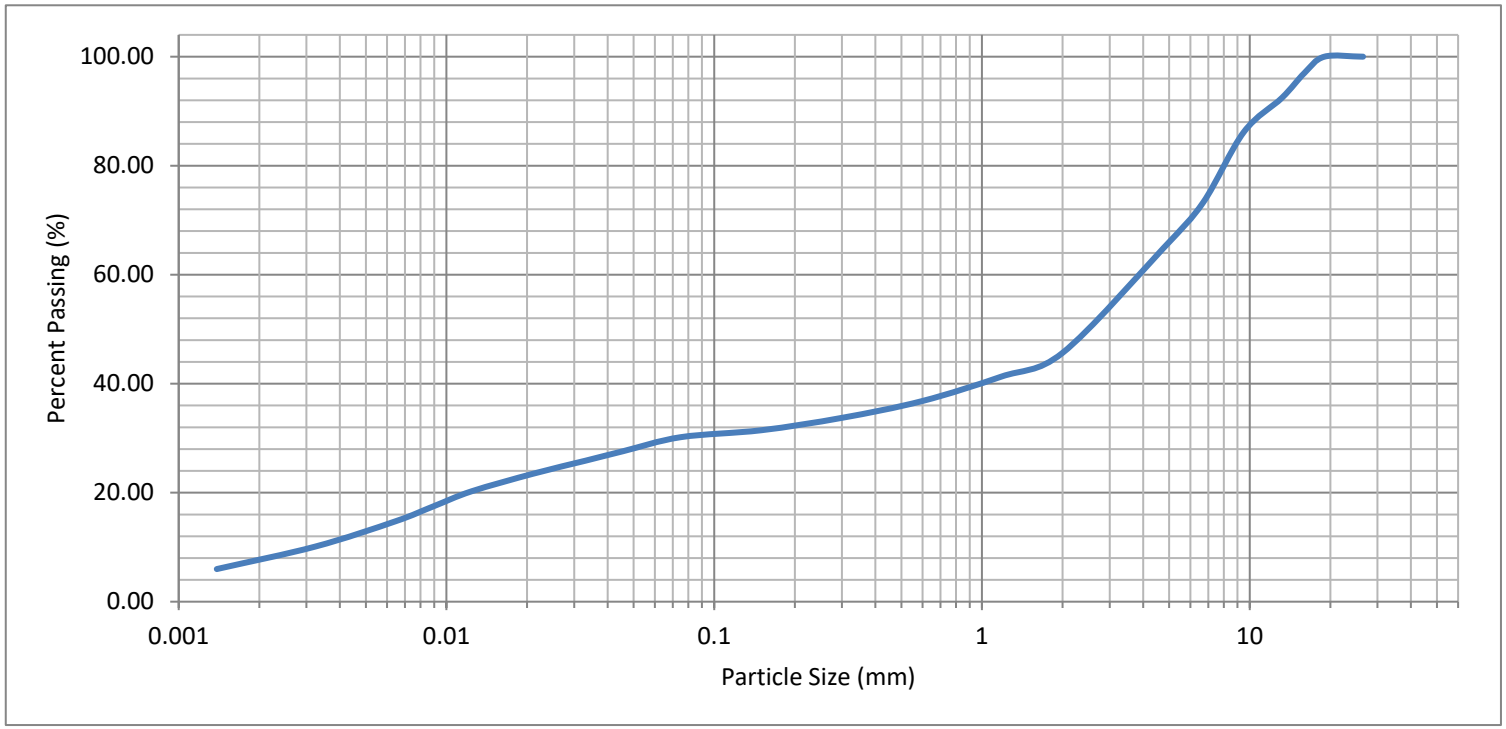
G2S Consulting Inc.
4361 Harvester Rd., Unit 12, Burlington, ON L7L 5M4
P 905.331.3735 F 905.642.5999
G2Senvironmental.com

Project No.:	G2S24018C	**Lab No.:**	24027C
Project Name:	Proposed Mixed Use Development - Fieldgate Dr., Mississuaga	**Borehole/Sample No.:**	BH109-S10

ISSMGE SOIL CLASSIFICATION

CLAY	SILT			SAND			GRAVEL		
	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE	FINE	MEDIUM	COARSE

SIEVE SIZE: 1 2 6 20 60 #200 #100 #50 #16 #8 #4 3/8" 3/4" 2-1/2"



Appendix F:
Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.

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25 West Beaver Creek Rd., Unit 7
Richmond Hill, ON, L4B 1K2
1-800-749-1947
www.paracellabs.com

Subcontracted Analysis

G2S Environmental Consulting Inc. (Burlington)
4361 Harvester Rd, Unit 12
Burlington, ON L7L 5M4
Attn: Jacob Pinter

Paracel Report No.	**2420104**
Client Project(s):	**Fieldgate**
Client PO:	**G2S24018**
Reference:	**#24-345 Mississauga - Peel Sewer By-Law**
CoC Number:	**66341**

Order Date:	13-May-24
Report Date:	24-May-24

Sample(s) from this project were subcontracted for the listed parameters. A copy of the subcontractor's report is attached

Paracel ID	Client ID	Analysis
2420104-01	BH/MW106-UF	Peel - Sanitary: Nonylphenols & Ethoxylates

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

23-May-2024

Paracel Laboratories
Attn : Dale Robertson

300-2319 St.Laurent Blvd.
Ottawa, ON
K1G 4K6, Canada

Phone: 613-731-9577
Fax:613-731-9064

Date Rec. : 16 May 2024
LR Report: **CA12482-MAY24**
Reference: Project#: 2420104

Copy: #1

CERTIFICATE OF ANALYSIS
Final Report

Sample ID	Sample Date & Time	Temperature Upon Receipt °C	Nonylphenol µg/L	Nonylphenol Ethoxylates µg/L	Nonylphenol monoethoxylate µg/L	Nonylphenol diethoxylate µg/L
1: Analysis Start Date		---	21-May-24	21-May-24	21-May-24	21-May-24
2: Analysis Start Time		---	11:12	11:12	11:12	11:12
3: Analysis Completed Date		---	22-May-24	22-May-24	22-May-24	22-May-24
4: Analysis Completed Time		---	15:15	15:15	15:15	15:15
5: RL		---	1	10	10	10
6: BH/MW106 - UF	13-May-24 13:00	8.0	< 1	< 10	< 10	< 10

RL - SGS Reporting Limit

Nonylphenol Ethoxylates is the sum of nonylphenol monoethoxylate and nonylphenol diethoxylate.

Kimberley Didsbury
Project Specialist,
Environment, Health & Safety

OnLine LIMS

0003719358

SGS Canada Inc.
P.O. Box 4300 - 185 Concession St.
Lakefield - Ontario - KOL 2HO
Phone: 705-652-2000 FAX: 705-652-6365

LR Report : **CA12482-MAY24**

Quality Control Report

Organic Analysis														
Parameter	Reporting Limit	Unit	Method Blank	Duplicate				LCS / Spike Blank			Matrix Spike / Reference Material		
				Result 1	Result 2	RPD	Acceptance Criteria	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
							%		Low	High		Low	High
Nonylphenol and Ethoxylates - QCBatchID: GCM0307-MAY24													
Nonylphenol	1.0	µg/L	<1					55	55	120			
Nonylphenol diethoxylate	10	µg/L	<10					73	55	120			
Nonylphenol Ethoxylates	10	µg/L	<10										
Nonylphenol monoethoxylate	10	µg/L	<10					67	55	120			

OnLine LIMS

0003719358

PARACE LABORATORIES L

Paracel ID: 2420104

vd.
J8
.com

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2420104	Nº 66341

Client Name: G2S	Project Ref: Fieldgate	Page 1 of 1
Contact Name: Jacob Pinter + Whitney Bowden	Quote #: standing offer	Turnaround Time
Address: Burlington	PO #: G2524018	☐ 1 day ☐ 3 day
Telephone: 905 719 5253	E-mail: jacobp@g2sconsulting.com whitneyb@g2sconsulting.com	☐ 2 day ☒ Regular
		Date Required:

☐ REG 153/04 ☐ REG 406/19	Other Regulation	Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)
☐ Table 1 ☐ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO	
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ CCME ☐ MISA	
☐ Table 3 ☐ Agri/Other	☒ SU - Sani ☐ SU - Storm	
☐ Table ___	Mun: Peel Region	
For RSC: ☐ Yes ☐ No	☐ Other:	

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Required Analysis: Peel Region Sanitary Sewer Discharge
1	BH/MW106-UF	GW		14	May 13/24	1pm	X
2							
3							
4							
5							
6							
7							
8							
9							
10							

Comments:

Method of Delivery:

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab:	Verified By: SO
Relinquished By (Print): Jacob Pinter	Date/Time: May 13/24 17:00	Date/Time: May 15, 2024 9:26	Date/Time: May 15, 2024 4:44
Date/Time: May 13/24 (4:40pm)	Temperature: 17.7 °C	Temperature: 16.7 °C	pH Verified: ☐ By: SO

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Certificate of Analysis

G2S Environmental Consulting Inc. (Burlington)
4361 Harvester Rd, Unit 12
Burlington, ON L7L 5M4
Attn: Jacob Pinter

Client PO: G2S24018
Project: Fieldgate
Custody: 66343

Report Date: 16-May-2024
Order Date: 13-May-2024

Order #: 2420107

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2420107-01	BH/MW106-F

Approved By:

Mark Foto, M.Sc.
Lab Supervisor

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Metals, ICP-MS	EPA 200.8 - ICP-MS	15-May-24	15-May-24
Total Suspended Solids	SM 2540D - Gravimetric	15-May-24	16-May-24

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Sewer Use - Peel: San/Comb	Sewer Use - Mississauga: Storm

Certificate of Analysis

Report Date: 16-May-2024

Client: **G2S Environmental Consulting Inc. (Burlington)**

Order Date: 13-May-2024

Client PO: **G2S24018**

Project Description: Fieldgate

	Client ID:	BH/MW106-F	-	-	-	Criteria:	
	Sample Date:	13-May-24 09:00	-	-	-	Sewer Use - Peel: San/Comb	Sewer Use - Mississauga: Storm
	Sample ID:	2420107-01	-	-	-		
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
General Inorganics							
Total Suspended Solids	2 mg/L	9	-	-	-	350 mg/L	15 mg/L
Metals - Total							
Aluminum	0.01 mg/L	<0.01	-	-	-	50 mg/L	1 mg/L
Antimony	0.001 mg/L	<0.001	-	-	-	5 mg/L	-
Arsenic	0.01 mg/L	<0.01	-	-	-	1 mg/L	0.02 mg/L
Bismuth	0.005 mg/L	<0.005	-	-	-	-	-
Boron	0.05 mg/L	3.61	-	-	-	-	-
Cadmium	0.001 mg/L	<0.001	-	-	-	0.7 mg/L	0.008 mg/L
Chromium	0.05 mg/L	<0.05	-	-	-	5 mg/L	0.08 mg/L
Cobalt	0.001 mg/L	0.002	-	-	-	5 mg/L	-
Copper	0.005 mg/L	<0.005	-	-	-	3 mg/L	0.04 mg/L
Lead	0.001 mg/L	<0.001	-	-	-	3 mg/L	0.12 mg/L
Manganese	0.05 mg/L	0.44	-	-	-	5 mg/L	2 mg/L
Molybdenum	0.005 mg/L	0.010	-	-	-	5 mg/L	-
Nickel	0.005 mg/L	<0.005	-	-	-	3 mg/L	0.08 mg/L
Selenium	0.005 mg/L	<0.005	-	-	-	1 mg/L	0.02 mg/L
Silver	0.001 mg/L	<0.001	-	-	-	5 mg/L	0.12 mg/L
Tin	0.01 mg/L	<0.01	-	-	-	5 mg/L	-
Titanium	0.01 mg/L	<0.01	-	-	-	5 mg/L	-
Vanadium	0.001 mg/L	<0.001	-	-	-	-	-
Zinc	0.02 mg/L	<0.02	-	-	-	3 mg/L	0.2 mg/L

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
Total Suspended Solids	ND	2	mg/L					
Metals - Total								
Aluminum	ND	0.01	mg/L					
Antimony	ND	0.001	mg/L					
Arsenic	ND	0.01	mg/L					
Bismuth	ND	0.005	mg/L					
Boron	ND	0.05	mg/L					
Cadmium	ND	0.001	mg/L					
Chromium	ND	0.05	mg/L					
Cobalt	ND	0.001	mg/L					
Copper	ND	0.005	mg/L					
Lead	ND	0.001	mg/L					
Manganese	ND	0.05	mg/L					
Molybdenum	ND	0.005	mg/L					
Nickel	ND	0.005	mg/L					
Selenium	ND	0.005	mg/L					
Silver	ND	0.001	mg/L					
Tin	ND	0.01	mg/L					
Titanium	ND	0.01	mg/L					
Vanadium	ND	0.001	mg/L					
Zinc	ND	0.02	mg/L					

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Total Suspended Solids	40.0	2	mg/L	43.0			7.2	10	
Metals - Total									
Aluminum	4.53	0.01	mg/L	4.47			1.4	20	
Antimony	ND	0.001	mg/L	ND			NC	20	
Arsenic	ND	0.01	mg/L	ND			NC	20	
Bismuth	ND	0.005	mg/L	ND			NC	20	
Boron	3.47	0.05	mg/L	3.43			1.3	20	
Cadmium	ND	0.001	mg/L	ND			NC	20	
Chromium	ND	0.05	mg/L	ND			NC	20	
Cobalt	0.006	0.001	mg/L	0.005			7.4	20	
Copper	0.008	0.005	mg/L	0.007			7.1	20	
Lead	0.002	0.001	mg/L	0.002			5.3	20	
Manganese	0.571	0.05	mg/L	0.549			3.9	20	
Molybdenum	0.009	0.005	mg/L	0.009			1.0	20	
Nickel	0.010	0.005	mg/L	0.010			2.1	20	
Selenium	ND	0.005	mg/L	ND			NC	20	
Silver	ND	0.001	mg/L	ND			NC	20	
Tin	ND	0.01	mg/L	ND			NC	20	
Titanium	0.060	0.01	mg/L	0.062			4.4	20	
Vanadium	0.011	0.001	mg/L	0.011			1.2	20	
Zinc	ND	0.02	mg/L	ND			NC	20	

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
Total Suspended Solids	23.0	2	mg/L	ND	107	75-125			
Metals - Total									
Aluminum	59.1	0.01	mg/L	ND	118	80-120			
Arsenic	54.6	0.01	mg/L	0.436	108	80-120			
Bismuth	52.7	0.005	mg/L	0.168	105	80-120			
Boron	395	0.05	mg/L	343	105	80-120			
Cadmium	53.7	0.001	mg/L	0.003	107	80-120			
Chromium	65.5	0.05	mg/L	0.799	129	80-120			QM-07
Cobalt	61.7	0.001	mg/L	0.528	122	80-120			QM-07
Copper	56.2	0.005	mg/L	0.717	111	80-120			
Lead	50.2	0.001	mg/L	0.193	100	80-120			
Manganese	122	0.05	mg/L	54.9	134	80-120			QM-07
Molybdenum	59.4	0.005	mg/L	0.866	117	80-120			
Nickel	59.5	0.005	mg/L	0.986	117	80-120			
Selenium	45.6	0.005	mg/L	0.095	91.1	80-120			
Silver	52.6	0.001	mg/L	0.062	105	80-120			
Tin	54.4	0.01	mg/L	0.145	109	80-120			
Titanium	73.7	0.01	mg/L	6.24	135	80-120			QM-07
Vanadium	66.7	0.001	mg/L	1.11	131	80-120			QM-07
Zinc	51.0	0.02	mg/L	1.75	98.4	80-120			

Qualifier Notes:

QC Qualifiers:

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

PARACEL LABORATORIES LTI

Paracel ID: 2420107

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2420107	Nº 66343

Client Name: G2S	Project Ref: Fieldgate	Page 1 of 1
Contact Name: Jacob Pinter + Whitney Bauder	Quote #: Standing Offer	Turnaround Time
Address: Burlington	PO #: G2S24018	☐ 1 day ☐ 3 day
Telephone: 905 7195253	E-mail: jacobp@g2sconsulting.com whitneyb@g2sconsulting.com	☐ 2 day ☒ Regular
		Date Required:

☐ REG 153/04 ☐ REG 406/19

Other Regulation: ☐ REG 558 ☐ PWQO ☐ CCME ☐ MISA ☒ SU - Sani ☒ SU - Storm

☐ Table 1 ☐ Res/Park ☐ Med/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
For RSC: ☐ Yes ☐ No

Mun: PEEL / Mississauga
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	Required Analysis: Metals	Required Analysis: TSS
1	BH/MW 106 - F	GW		2	May 13/24	1:45pm	X	X
2								
3								
4								
5								
6								
7								
8								
9								
10								

Comments:

Method of Delivery: Drop Box

Relinquished By (Sign):	Received By Driver/Depot: JM	Received at Lab: SD	Verified By: SD
Relinquished By (Print): Jacob Pinter	Date/Time: May 13/24 17:00	Date/Time: May 15, 2024 9:20	Date/Time: May 15, 2024 9:43
Date/Time: May 13/24 (4:45pm)	Temperature: 16.1 °C	Temperature: 16.7 °C	pH Verified: ☐ By: SD

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Certificate of Analysis

G2S Environmental Consulting Inc. (Burlington)
4361 Harvester Rd, Unit 12
Burlington, ON L7L 5M4
Attn: Jacob Pinter

Client PO: G2S24018
Project: Fieldgate
Custody: 66342

Report Date: 24-May-2024
Order Date: 13-May-2024

Order #: 2420105

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2420105-01	BH/MW106-UF

Approved By:

Dale Robertson, BSc
Laboratory Director

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Biochemical Oxygen Demand	SM 5210B - DO Probe	16-May-24	16-May-24
Chlorine, total	HACH - DPD Colourimetric	15-May-24	15-May-24
Chromium, hexavalent - water	MOE E3056 - colourimetric	15-May-24	15-May-24
Cyanide, total	MOE E3015 - Auto Colour	16-May-24	16-May-24
E. coli	MOE E3407	15-May-24	15-May-24
Mercury by CVAA	EPA 245.2 - Cold Vapour AA	16-May-24	16-May-24
Metals, ICP-MS	EPA 200.8 - ICP-MS	15-May-24	15-May-24
Mississauga - Storm: VOCs	EPA 624 - P&T GC-MS	23-May-24	23-May-24
PAHs by GC-MS, Sewer Use	based on EPA 8270 - GC-MS, extraction	23-May-24	24-May-24
PCBs, total	EPA 608 - GC-ECD	17-May-24	17-May-24
pH	EPA 150.1 - pH probe @25 °C	16-May-24	16-May-24
Phenolics	EPA 420.2 - Auto Colour, 4AAP	16-May-24	16-May-24
Phosphorus, total, water	EPA 365.4 - Auto Colour, digestion	16-May-24	16-May-24
Total Suspended Solids	SM 2540D - Gravimetric	15-May-24	16-May-24

Certificate of Analysis

Report Date: 24-May-2024

Client: G2S Environmental Consulting Inc. (Burlington)

Order Date: 13-May-2024

Client PO: G2S24018

Project Description: Fieldgate

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Sewer Use - Mississauga: Storm	-
BH/MW106-UF	Total Suspended Solids	2 mg/L	153	15 mg/L	-
BH/MW106-UF	Aluminum	0.01 mg/L	4.04	1 mg/L	-

Certificate of Analysis

Report Date: 24-May-2024

Client: G2S Environmental Consulting Inc. (Burlington)

Order Date: 13-May-2024

Client PO: G2S24018

Project Description: Fieldgate

	Client ID:	BH/MW106-UF	-	-	-	**Criteria:**	
	Sample Date:	13-May-24 13:30	-	-	-	**Sewer Use -**	-
	Sample ID:	2420105-01	-	-	-	**Mississauga: Storm**	
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
Microbiological Parameters							
E. coli	1 CFU/100mL	54 [2]	-	-	-	200 CFU/100mL	-
General Inorganics							
BOD	2 mg/L	8	-	-	-	15 mg/L	-
Chlorine, total	0.01 mg/L	<0.01 [3]	-	-	-	1 mg/L	-
Cyanide, total	0.01 mg/L	<0.01	-	-	-	0.02 mg/L	-
pH	0.1 pH Units	7.7	-	-	-	6.00 - 9.00 pH Units	-
Phenolics	0.001 mg/L	<0.001	-	-	-	0.008 mg/L	-
Phosphorus, total	0.01 mg/L	0.09	-	-	-	0.4 mg/L	-
Total Suspended Solids	2 mg/L	153	-	-	-	15 mg/L	-
Metals							
Chromium (VI)	10 ug/L	<10	-	-	-	0.04 mg/L	-
Metals - Total							
Aluminum	0.01 mg/L	4.04	-	-	-	1 mg/L	-
Arsenic	0.01 mg/L	<0.01	-	-	-	0.02 mg/L	-
Cadmium	0.001 mg/L	<0.001	-	-	-	0.008 mg/L	-
Chromium	0.05 mg/L	<0.05	-	-	-	0.08 mg/L	-
Copper	0.005 mg/L	0.007	-	-	-	0.04 mg/L	-
Lead	0.001 mg/L	0.002	-	-	-	0.12 mg/L	-
Manganese	0.05 mg/L	0.50	-	-	-	2 mg/L	-
Mercury	0.0001 mg/L	<0.0001	-	-	-	0.0004 mg/L	-
Nickel	0.005 mg/L	0.010	-	-	-	0.08 mg/L	-
Selenium	0.005 mg/L	<0.005	-	-	-	0.02 mg/L	-
Silver	0.001 mg/L	<0.001	-	-	-	0.12 mg/L	-
Zinc	0.02 mg/L	<0.02	-	-	-	0.2 mg/L	-
Volatiles							

Certificate of Analysis

Report Date: 24-May-2024

Client: G2S Environmental Consulting Inc. (Burlington)

Order Date: 13-May-2024

Client PO: G2S24018

Project Description: Fieldgate

	Client ID:	BH/MW106-UF	-	-	-	Criteria:	
	Sample Date:	13-May-24 13:30	-	-	-	Sewer Use -	-
	Sample ID:	2420105-01	-	-	-	Mississauga: Storm	
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
Volatiles							
Benzene	0.5 ug/L	<0.5	-	-	-	0.002 mg/L	-
1,2-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	0.0056 mg/L	-
1,4-Dichlorobenzene	0.5 ug/L	<0.5	-	-	-	0.0068 mg/L	-
Ethylbenzene	0.5 ug/L	<0.5	-	-	-	0.002 mg/L	-
Methylene Chloride	5.0 ug/L	<5.0	-	-	-	0.0052 mg/L	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-	0.017 mg/L	-
1,1,2,2-Tetrachloroethane	0.5 ug/L	<0.5	-	-	-	0.0044 mg/L	-
Tetrachloroethylene	0.5 ug/L	<0.5	-	-	-	0.0044 mg/L	-
Toluene	0.5 ug/L	<0.5	-	-	-	0.002 mg/L	-
Trichloroethylene	0.5 ug/L	<0.5	-	-	-	0.0076 mg/L	-
m,p-Xylenes	0.5 ug/L	<0.5	-	-	-	-	-
o-Xylene	0.5 ug/L	<0.5	-	-	-	-	-
Xylenes, total	0.5 ug/L	<0.5	-	-	-	0.0044 mg/L	-
4-Bromofluorobenzene	Surrogate	109%	-	-	-	-	-
Dibromofluoromethane	Surrogate	114%	-	-	-	-	-
Toluene-d8	Surrogate	110%	-	-	-	-	-
Semi-Volatiles							
1-Methylnaphthalene	0.00005 mg/L	<0.00005	-	-	-	-	-
2-Methylnaphthalene	0.00005 mg/L	<0.00005	-	-	-	-	-
Acenaphthene	0.00005 mg/L	<0.00005	-	-	-	-	-
Acenaphthylene	0.00005 mg/L	<0.00005	-	-	-	-	-
Anthracene	0.00001 mg/L	<0.00001	-	-	-	-	-
Benzo [a] anthracene	0.00001 mg/L	<0.00001	-	-	-	-	-
Benzo [a] pyrene	0.00001 mg/L	<0.00001	-	-	-	-	-
Benzo [b] fluoranthene	0.00005 mg/L	<0.00005	-	-	-	-	-

Certificate of Analysis

Report Date: 24-May-2024

Client: **G2S Environmental Consulting Inc. (Burlington)**

Order Date: 13-May-2024

Client PO: **G2S24018**

Project Description: Fieldgate

	Client ID:	BH/MW106-UF	-	-	-	**Criteria:**	
	Sample Date:	13-May-24 13:30	-	-	-	**Sewer Use -**	-
	Sample ID:	2420105-01	-	-	-	**Mississauga: Storm**	
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
Semi-Volatiles							
Benzo [g,h,i] perylene	0.00005 mg/L	<0.00005	-	-	-	-	-
Benzo [k] fluoranthene	0.00005 mg/L	<0.00005	-	-	-	-	-
Chrysene	0.00005 mg/L	<0.00005	-	-	-	-	-
Dibenzo [a,h] anthracene	0.00005 mg/L	<0.00005	-	-	-	-	-
Fluoranthene	0.00001 mg/L	<0.00001	-	-	-	-	-
Fluorene	0.00005 mg/L	<0.00005	-	-	-	-	-
Indeno [1,2,3-cd] pyrene	0.00005 mg/L	<0.00005	-	-	-	-	-
Naphthalene	0.00005 mg/L	<0.00005	-	-	-	-	-
Phenanthrene	0.00005 mg/L	<0.00005	-	-	-	-	-
Pyrene	0.00001 mg/L	<0.00001	-	-	-	-	-
PAHs, Total	0.0034 mg/L	<0.0007	-	-	-	0.002 mg/L	-
2-Fluorobiphenyl	Surrogate	72.4%	-	-	-	-	-
Terphenyl-d14	Surrogate	94.8%	-	-	-	-	-
PCBs							
PCBs, total	0.0001 mg/L	<0.0001	-	-	-	0.0004 mg/L	-
Decachlorobiphenyl	Surrogate	63.7%	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics								
BOD	ND	2	mg/L					
Chlorine, total	ND	0.01	mg/L					
Cyanide, total	ND	0.01	mg/L					
Phenolics	ND	0.001	mg/L					
Phosphorus, total	ND	0.01	mg/L					
Total Suspended Solids	ND	2	mg/L					
Metals								
Chromium (VI)	ND	10	ug/L					
Metals - Total								
Aluminum	ND	0.01	mg/L					
Arsenic	ND	0.01	mg/L					
Cadmium	ND	0.001	mg/L					
Chromium	ND	0.05	mg/L					
Copper	ND	0.005	mg/L					
Lead	ND	0.001	mg/L					
Mercury	ND	0.0001	mg/L					
Manganese	ND	0.05	mg/L					
Nickel	ND	0.005	mg/L					
Selenium	ND	0.005	mg/L					
Silver	ND	0.001	mg/L					
Zinc	ND	0.02	mg/L					
Microbiological Parameters								
E. coli	ND	1	CFU/100mL					
PCBs								
PCBs, total	ND	0.0001	mg/L					
Surrogate: Decachlorobiphenyl	*).00042*		*%*	*84.7*	*60-140*			
Semi-Volatiles								
1-Methylnaphthalene	ND	0.00005	mg/L					
2-Methylnaphthalene	ND	0.00005	mg/L					
Acenaphthene	ND	0.00005	mg/L					
Acenaphthylene	ND	0.00005	mg/L					
Anthracene	ND	0.00001	mg/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [a] anthracene	ND	0.00001	mg/L					
Benzo [a] pyrene	ND	0.00001	mg/L					
Benzo [b] fluoranthene	ND	0.00005	mg/L					
Benzo [g,h,i] perylene	ND	0.00005	mg/L					
Benzo [k] fluoranthene	ND	0.00005	mg/L					
Chrysene	ND	0.00005	mg/L					
Dibenzo [a,h] anthracene	ND	0.00005	mg/L					
Fluoranthene	ND	0.00001	mg/L					
Fluorene	ND	0.00005	mg/L					
Indeno [1,2,3-cd] pyrene	ND	0.00005	mg/L					
Naphthalene	ND	0.00005	mg/L					
Phenanthrene	ND	0.00005	mg/L					
Pyrene	ND	0.00001	mg/L					
Surrogate: 2-Fluorobiphenyl	*0.0126*		*%*	*62.8*	*31-154*			
Surrogate: Terphenyl-d14	*0.0158*		*%*	*79.2*	*37-156*			
Volatiles								
Benzene	ND	0.5	ug/L					
1,2-Dichlorobenzene	ND	0.5	ug/L					
1,4-Dichlorobenzene	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Methylene Chloride	ND	5.0	ug/L					
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L					
Tetrachloroethylene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
Trichloroethylene	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.5	ug/L					
Surrogate: 4-Bromofluorobenzene	*78.2*		*%*	*97.8*	*50-140*			
Surrogate: Dibromofluoromethane	*62.8*		*%*	*78.5*	*50-140*			
Surrogate: Toluene-d8	*81.9*		*%*	*102*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
BOD	508	2	mg/L	ND			NC	20	
Chlorine, total	ND	0.01	mg/L	ND			NC	13	INOG15
Cyanide, total	ND	0.01	mg/L	ND			NC	20	
pH	8.1	0.1	pH Units	8.1			0.1	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Phosphorus, total	0.016	0.01	mg/L	0.018			13.5	15	
Total Suspended Solids	40.0	2	mg/L	43.0			7.2	10	
Metals									
Chromium (VI)	ND	10	ug/L	ND			NC	20	
Metals - Total									
Aluminum	4.53	0.01	mg/L	4.47			1.4	20	
Arsenic	ND	0.01	mg/L	ND			NC	20	
Cadmium	ND	0.001	mg/L	ND			NC	20	
Chromium	ND	0.05	mg/L	ND			NC	20	
Copper	0.008	0.005	mg/L	0.007			7.1	20	
Lead	0.002	0.001	mg/L	0.002			5.3	20	
Mercury	ND	0.0001	mg/L	ND			NC	20	
Manganese	0.571	0.05	mg/L	0.549			3.9	20	
Nickel	0.010	0.005	mg/L	0.010			2.1	20	
Selenium	ND	0.005	mg/L	ND			NC	20	
Silver	ND	0.001	mg/L	ND			NC	20	
Zinc	ND	0.02	mg/L	ND			NC	20	
Microbiological Parameters									
E. coli	22	1	CFU/100mL	30			30.8	30	BAC04, BAC12
Volatiles									
Benzene	ND	0.5	ug/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Methylene Chloride	ND	5.0	ug/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
1,1,2,2-Tetrachloroethane	ND	0.5	ug/L	ND			NC	30	
Tetrachloroethylene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
Trichloroethylene	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*75.6*		*%*		*94.5*	*50-140*			
Surrogate: Dibromofluoromethane	*78.8*		*%*		*98.5*	*50-140*			
Surrogate: Toluene-d8	*80.5*		*%*		*101*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
General Inorganics									
BOD	234	2	mg/L	ND	117	71-121			
Cyanide, total	0.049	0.01	mg/L	ND	97.5	64-136			
Phenolics	0.025	0.001	mg/L	ND	100	67-133			
Phosphorus, total	0.998	0.01	mg/L	0.018	98.0	80-120			
Total Suspended Solids	23.0	2	mg/L	ND	107	75-125			
Metals									
Chromium (VI)	200	10	ug/L	ND	100	70-130			
Metals - Total									
Aluminum	59.1	0.01	mg/L	ND	118	80-120			
Arsenic	54.6	0.01	mg/L	0.436	108	80-120			
Cadmium	53.7	0.001	mg/L	0.003	107	80-120			
Chromium	65.5	0.05	mg/L	0.799	129	80-120			QM-07
Copper	56.2	0.005	mg/L	0.717	111	80-120			
Lead	50.2	0.001	mg/L	0.193	100	80-120			
Mercury	0.0029	0.0001	mg/L	ND	95.3	70-130			
Manganese	122	0.05	mg/L	54.9	134	80-120			QM-07
Nickel	59.5	0.005	mg/L	0.986	117	80-120			
Selenium	45.6	0.005	mg/L	0.095	91.1	80-120			
Silver	52.6	0.001	mg/L	0.062	105	80-120			
Zinc	51.0	0.02	mg/L	1.75	98.4	80-120			
PCBs									
PCBs, total	0.001	0.0001	mg/L	ND	124	60-140			
Surrogate: Decachlorobiphenyl	*0.000450*		*%*		*90.0*	*60-140*			
Semi-Volatiles									
1-Methylnaphthalene	0.00388	0.00005	mg/L	ND	77.6	25-127			
2-Methylnaphthalene	0.00379	0.00005	mg/L	ND	75.8	21-119			
Acenaphthene	0.00350	0.00005	mg/L	ND	70.0	50-140			
Acenaphthylene	0.00327	0.00005	mg/L	ND	65.4	50-140			
Anthracene	0.00311	0.00001	mg/L	ND	62.3	29-126			
Benzo [a] anthracene	0.00338	0.00001	mg/L	ND	67.6	29-126			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Benzo [a] pyrene	0.00387	0.00001	mg/L	ND	77.4	29-111			
Benzo [b] fluoranthene	0.00428	0.00005	mg/L	ND	85.6	26-111			
Benzo [g,h,i] perylene	0.00391	0.00005	mg/L	ND	78.1	23-128			
Benzo [k] fluoranthene	0.00394	0.00005	mg/L	ND	78.8	23-135			
Chrysene	0.00388	0.00005	mg/L	ND	77.7	29-137			
Dibenzo [a,h] anthracene	0.00395	0.00005	mg/L	ND	79.1	20-131			
Fluoranthene	0.00364	0.00001	mg/L	ND	72.7	24-131			
Fluorene	0.00333	0.00005	mg/L	ND	66.7	28-123			
Indeno [1,2,3-cd] pyrene	0.00371	0.00005	mg/L	ND	74.1	20-128			
Naphthalene	0.00343	0.00005	mg/L	ND	68.6	29-118			
Phenanthrene	0.00370	0.00005	mg/L	ND	74.1	34-108			
Pyrene	0.00403	0.00001	mg/L	ND	80.5	29-131			
Surrogate: 2-Fluorobiphenyl	*0.0120*		*%*		*60.2*	*31-154*			
Surrogate: Terphenyl-d14	*0.0141*		*%*		*70.4*	*37-156*			
Volatiles									
Benzene	42.2	0.5	ug/L	ND	105	60-130			
1,2-Dichlorobenzene	34.9	0.5	ug/L	ND	87.3	60-130			
1,4-Dichlorobenzene	36.6	0.5	ug/L	ND	91.4	60-130			
Ethylbenzene	38.4	0.5	ug/L	ND	96.0	60-130			
Methylene Chloride	40.6	5.0	ug/L	ND	102	60-130			
1,1,2,2-Tetrachloroethane	32.4	0.5	ug/L	ND	81.0	60-130			
Tetrachloroethylene	35.6	0.5	ug/L	ND	89.0	60-130			
Toluene	40.2	0.5	ug/L	ND	100	60-130			
Trichloroethylene	39.8	0.5	ug/L	ND	99.6	60-130			
m,p-Xylenes	73.0	0.5	ug/L	ND	91.2	60-130			
o-Xylene	35.7	0.5	ug/L	ND	89.4	60-130			
Surrogate: 4-Bromofluorobenzene	*78.3*		*%*		*97.9*	*50-140*			
Surrogate: Dibromofluoromethane	*89.2*		*%*		*111*	*50-140*			
Surrogate: Toluene-d8	*81.9*		*%*		*102*	*50-140*			

Qualifier Notes:

Sample Qualifiers :

2: Confluent background colonies on filter: may interfere with target reactions and the analysts' ability to count E. coli & Total Coliform. The target colonies may be under-represented.
Applies to Samples: BH/MW106-UF

3: Chlorine in aqueous solutions is not stable and should be analyzed immediately after sampling (field measurement). This sample was analyzed after delivery to the lab.
Applies to Samples: BH/MW106-UF

QC Qualifiers:

BAC04	Duplicate QC data falls within method prescribed 95% confidence limits.
BAC12	Confluent background colonies on filter: may interfere with target reactions and the analysts' ability to count E. coli & Total Coliform. The target colonies may be under-represented.
INOG15	Chlorine in aqueous solutions is not stable and should be analyzed immediately after sampling (field measurement). This sample was analyzed after delivery to the lab.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

Paracel ID: 2420105

PARACEL LABORATORIES LTD

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2420105	№ 66342

Client Name:	G2S	Project Ref:	Fieldgate
Contact Name:	Jacob Pinter + Whitney Bowden	Quote #:	Standing Offer
Address:	Burlington	PO #:	G2S24018
Telephone:	905 719 5253	E-mail:	jacob p @g2s consulting.com whitney b@g2s consulting.com

Page 1 of 1

Turnaround Time

☐ 1 day ☐ 3 day
☐ 2 day ☒ Regular
Date Required:

☐ REG 153/04 ☐ REG 406/19
☐ Table 1 ☐ Res/Park ☐ Med/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other
☐ Table ___
For RSC: ☐ Yes ☐ No

Other Regulation
☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☒ SU - Storm
Mun: Mississauga
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analysis

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken Date	Sample Taken Time	City of Mississauga Storm Sewer (by-law)											
1	BH/MW 106 - UF	GW		15			X											
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery: [signature]

Relinquished By (Sign): [signature]	Received By Driver/Depot: [signature]	Received at Lab: SD	Verified By: SD
Relinquished By (Print): Jacob Pinter	Date/Time: May 13/24 17:00	Date/Time: May 15, 2024 9:20a	Date/Time: May 15, 2024 9:44a
Date/Time: May 13/24 (4:40pm)	Temperature: 17.9 °C	Temperature: 16.7 °C	pH Verified: ☐ By: SD

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Certificate of Analysis

G2S Environmental Consulting Inc. (Burlington)
4361 Harvester Rd, Unit 12
Burlington, ON L7L 5M4
Attn: Jacob Pinter

Client PO: G2S24018
Project: Fieldgate
Custody: 66341

Report Date: 27-May-2024
Order Date: 13-May-2024

Order #: 2420104

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2420104-01	BH/MW106-UF

Approved By:

Mark Foto, M.Sc.
Lab Supervisor

Certificate of Analysis

Report Date: 27-May-2024

Client: **G2S Environmental Consulting Inc. (Burlington)**

Order Date: 13-May-2024

Client PO: **G2S24018**

Project Description: Fieldgate

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Anions	EPA 300.1 - IC	15-May-24	15-May-24
CBOD	SM 5210B - DO Probe	16-May-24	21-May-24
Cyanide, total	MOE E3015 - Auto Colour	16-May-24	16-May-24
Mercury by CVAA	EPA 245.2 - Cold Vapour AA	16-May-24	16-May-24
Metals, ICP-MS	EPA 200.8 - ICP-MS	15-May-24	15-May-24
Oil & Grease, mineral/synthetic	SM5520F - Gravimetric	24-May-24	24-May-24
Oil & Grease, total	SM5520B - Gravimetric, hexane soluble	24-May-24	24-May-24
PCBs, total	EPA 608 - GC-ECD	17-May-24	17-May-24
Oil & Grease, animal/vegetable	SM5520 - Gravimetric	24-May-24	24-May-24
Peel - Sanitary: Phthalates	EPA 625	27-May-24	27-May-24
Peel - Sanitary: VOCs	EPA 624 - P&T GC-MS	15-May-24	15-May-24
pH	EPA 150.1 - pH probe @25 °C	16-May-24	16-May-24
Phenolics	EPA 420.2 - Auto Colour, 4AAP	16-May-24	16-May-24
Phosphorus, total, water	EPA 365.4 - Auto Colour, digestion	16-May-24	16-May-24
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	16-May-24	16-May-24
Total Suspended Solids	SM 2540D - Gravimetric	15-May-24	16-May-24

Summary of Criteria Exceedances

(If this page is blank then there are no exceedances)

Only those criteria that a sample exceeds will be highlighted in red

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted have exceeded the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Sewer Use - Peel: San/Comb	-

	Client ID:	BH/MW106-UF	-	-	-	**Criteria:**	
	Sample Date:	13-May-24 13:00	-	-	-	**Sewer Use - Peel:**	-
	Sample ID:	2420104-01	-	-	-	**San/Comb**	
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
General Inorganics							
CBOD	2 mg/L	17	-	-	-	300 mg/L	-
Cyanide, total	0.01 mg/L	<0.01	-	-	-	2 mg/L	-
pH	0.1 pH Units	7.6	-	-	-	5.50 - 10.00 pH Units	-
Phenolics	0.001 mg/L	<0.001	-	-	-	1 mg/L	-
Phosphorus, total	0.01 mg/L	0.10	-	-	-	10 mg/L	-
Total Suspended Solids	2 mg/L	205	-	-	-	350 mg/L	-
Total Kjeldahl Nitrogen	0.1 mg/L	6.4	-	-	-	100 mg/L	-
Anions							
Fluoride	0.1 mg/L	0.3	-	-	-	10 mg/L	-
Sulphate	1 mg/L	242	-	-	-	1500 mg/L	-
Metals - Total							
Aluminum	0.01 mg/L	4.47	-	-	-	50 mg/L	-
Antimony	0.001 mg/L	<0.001	-	-	-	5 mg/L	-
Arsenic	0.01 mg/L	<0.01	-	-	-	1 mg/L	-
Cadmium	0.001 mg/L	<0.001	-	-	-	0.7 mg/L	-
Chromium	0.05 mg/L	<0.05	-	-	-	5 mg/L	-
Cobalt	0.001 mg/L	0.005	-	-	-	5 mg/L	-
Copper	0.005 mg/L	0.007	-	-	-	3 mg/L	-
Lead	0.001 mg/L	0.002	-	-	-	3 mg/L	-
Mercury	0.0001 mg/L	<0.0001	-	-	-	0.01 mg/L	-
Manganese	0.05 mg/L	0.55	-	-	-	5 mg/L	-
Molybdenum	0.005 mg/L	0.009	-	-	-	5 mg/L	-
Nickel	0.005 mg/L	0.010	-	-	-	3 mg/L	-
Selenium	0.005 mg/L	<0.005	-	-	-	1 mg/L	-
Silver	0.001 mg/L	<0.001	-	-	-	5 mg/L	-

	Client ID:	BH/MW106-UF	-	-	-	**Criteria:**	
	Sample Date:	13-May-24 13:00	-	-	-	**Sewer Use - Peel:**	-
	Sample ID:	2420104-01	-	-	-	**San/Comb**	
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
Metals - Total							
Tin	0.01 mg/L	<0.01	-	-	-	5 mg/L	-
Titanium	0.01 mg/L	0.06	-	-	-	5 mg/L	-
Zinc	0.02 mg/L	<0.02	-	-	-	3 mg/L	-
Volatiles							
Benzene	0.0005 mg/L	<0.0005	-	-	-	0.01 mg/L	-
Chloroform	0.0005 mg/L	<0.0005	-	-	-	0.04 mg/L	-
1,2-Dichlorobenzene	0.0005 mg/L	<0.0005	-	-	-	0.05 mg/L	-
1,4-Dichlorobenzene	0.0005 mg/L	<0.0005	-	-	-	0.08 mg/L	-
cis-1,2-Dichloroethylene	0.0005 mg/L	<0.0005	-	-	-	4 mg/L	-
trans-1,3-Dichloropropylene	0.0005 mg/L	<0.0005	-	-	-	0.14 mg/L	-
Ethylbenzene	0.0005 mg/L	<0.0005	-	-	-	0.16 mg/L	-
Methyl Ethyl Ketone (2-Butanone)	0.0050 mg/L	<0.0050	-	-	-	8 mg/L	-
Methylene Chloride	0.0050 mg/L	<0.0050	-	-	-	2 mg/L	-
Styrene	0.0005 mg/L	<0.0005	-	-	-	8 mg/L	-
1,1,2,2-Tetrachloroethane	0.0005 mg/L	<0.0005	-	-	-	1.4 mg/L	-
Tetrachloroethylene	0.0005 mg/L	<0.0005	-	-	-	1 mg/L	-
Toluene	0.0005 mg/L	<0.0005	-	-	-	0.27 mg/L	-
Trichloroethylene	0.0005 mg/L	<0.0005	-	-	-	0.4 mg/L	-
Xylenes, total	0.0005 mg/L	<0.0005	-	-	-	1.4 mg/L	-
Dibromofluoromethane	Surrogate	116%	-	-	-	-	-
Toluene-d8	Surrogate	112%	-	-	-	-	-
4-Bromofluorobenzene	Surrogate	115%	-	-	-	-	-
Hydrocarbons							
Oil & Grease, animal/vegetable	0.5 mg/L	<0.5	-	-	-	150 mg/L	-
Oil & Grease, mineral/synthetic	0.5 mg/L	<0.5	-	-	-	15 mg/L	-

	Client ID:	BH/MW106-UF	-	-	-	**Criteria:**	
	Sample Date:	13-May-24 13:00	-	-	-	**Sewer Use - Peel:**	-
	Sample ID:	2420104-01	-	-	-	**San/Comb**	
	Matrix:	Groundwater	-	-	-		
	MDL/Units						
Hydrocarbons							
Oil & Grease, total	0.5 mg/L	<0.5	-	-	-	-	-
Semi-Volatiles							
Bis(2-ethylhexyl)phthalate	0.001 mg/L	<0.001	-	-	-	0.012 mg/L	-
Di-n-butylphthalate	0.001 mg/L	<0.001	-	-	-	0.08 mg/L	-
Terphenyl-d14	Surrogate	90.8%	-	-	-	-	-
PCBs							
PCBs, total	0.05 ug/L	<0.05	-	-	-	0.001 mg/L	-
Decachlorobiphenyl	Surrogate	71.7%	-	-	-	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions								
Fluoride	ND	0.1	mg/L					
Sulphate	ND	1	mg/L					
General Inorganics								
CBOD	ND	2	mg/L					
Cyanide, total	ND	0.01	mg/L					
Phenolics	ND	0.001	mg/L					
Phosphorus, total	ND	0.01	mg/L					
Total Suspended Solids	ND	2	mg/L					
Total Kjeldahl Nitrogen	ND	0.1	mg/L					
Hydrocarbons								
Oil & Grease, mineral/synthetic	ND	0.5	mg/L					
Oil & Grease, total	ND	0.5	mg/L					
Metals - Total								
Aluminum	ND	0.01	mg/L					
Antimony	ND	0.001	mg/L					
Arsenic	ND	0.01	mg/L					
Cadmium	ND	0.001	mg/L					
Chromium	ND	0.05	mg/L					
Cobalt	ND	0.001	mg/L					
Copper	ND	0.005	mg/L					
Lead	ND	0.001	mg/L					
Mercury	ND	0.0001	mg/L					
Manganese	ND	0.05	mg/L					
Molybdenum	ND	0.005	mg/L					
Nickel	ND	0.005	mg/L					
Selenium	ND	0.005	mg/L					
Silver	ND	0.001	mg/L					
Tin	ND	0.01	mg/L					
Titanium	ND	0.01	mg/L					
Zinc	ND	0.02	mg/L					
PCBs								
PCBs, total	ND	0.05	ug/L					

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Surrogate: Decachlorobiphenyl	*0.424*		*%*	*84.7*	*60-140*			
Semi-Volatiles								
Bis(2-ethylhexyl)phthalate	ND	0.001	mg/L					
Di-n-butylphthalate	ND	0.001	mg/L					
Surrogate: 2-Fluorobiphenyl	*0.0152*		*%*	*76.0*	*76-125*			
Surrogate: Nitrobenzene-d5	*0.0140*		*%*	*70.0*	*68-125*			
Surrogate: Terphenyl-d14	*0.0172*		*%*	*85.8*	*70-125*			
Volatiles								
Benzene	ND	0.0005	mg/L					
Chloroform	ND	0.0005	mg/L					
1,2-Dichlorobenzene	ND	0.0005	mg/L					
1,4-Dichlorobenzene	ND	0.0005	mg/L					
cis-1,2-Dichloroethylene	ND	0.0005	mg/L					
trans-1,3-Dichloropropylene	ND	0.0005	mg/L					
Ethylbenzene	ND	0.0005	mg/L					
Methyl Ethyl Ketone (2-Butanone)	ND	0.0050	mg/L					
Methylene Chloride	ND	0.0050	mg/L					
Styrene	ND	0.0005	mg/L					
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L					
Tetrachloroethylene	ND	0.0005	mg/L					
Toluene	ND	0.0005	mg/L					
Trichloroethylene	ND	0.0005	mg/L					
Xylenes, total	ND	0.0005	mg/L					
Surrogate: 4-Bromofluorobenzene	*0.0908*		*%*	*113*	*50-140*			
Surrogate: Dibromofluoromethane	*0.0936*		*%*	*117*	*50-140*			
Surrogate: Toluene-d8	*0.0880*		*%*	*110*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Fluoride	ND	0.1	mg/L	ND			NC	20	
Sulphate	4.70	1	mg/L	4.56			3.0	10	
General Inorganics									
CBOD	3940	2	mg/L	4260			7.7	20	
Cyanide, total	ND	0.01	mg/L	ND			NC	20	
pH	8.1	0.1	pH Units	8.1			0.1	3.3	
Phenolics	ND	0.001	mg/L	ND			NC	10	
Phosphorus, total	0.016	0.01	mg/L	0.018			13.5	15	
Total Suspended Solids	40.0	2	mg/L	43.0			7.2	10	
Total Kjeldahl Nitrogen	0.75	0.1	mg/L	0.88			15.9	16	
Metals - Total									
Aluminum	4.53	0.01	mg/L	4.47			1.4	20	
Antimony	ND	0.001	mg/L	ND			NC	20	
Arsenic	ND	0.01	mg/L	ND			NC	20	
Cadmium	ND	0.001	mg/L	ND			NC	20	
Chromium	ND	0.05	mg/L	ND			NC	20	
Cobalt	0.006	0.001	mg/L	0.005			7.4	20	
Copper	0.008	0.005	mg/L	0.007			7.1	20	
Lead	0.002	0.001	mg/L	0.002			5.3	20	
Mercury	ND	0.0001	mg/L	ND			NC	20	
Manganese	0.571	0.05	mg/L	0.549			3.9	20	
Molybdenum	0.009	0.005	mg/L	0.009			1.0	20	
Nickel	0.010	0.005	mg/L	0.010			2.1	20	
Selenium	ND	0.005	mg/L	ND			NC	20	
Silver	ND	0.001	mg/L	ND			NC	20	
Tin	ND	0.01	mg/L	ND			NC	20	
Titanium	0.060	0.01	mg/L	0.062			4.4	20	
Zinc	ND	0.02	mg/L	ND			NC	20	
Volatiles									
Benzene	ND	0.0005	mg/L	ND			NC	30	

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Chloroform	ND	0.0005	mg/L	ND			NC	30	
1,2-Dichlorobenzene	ND	0.0005	mg/L	ND			NC	30	
1,4-Dichlorobenzene	ND	0.0005	mg/L	ND			NC	30	
cis-1,2-Dichloroethylene	ND	0.0005	mg/L	ND			NC	30	
trans-1,3-Dichloropropylene	ND	0.0005	mg/L	ND			NC	30	
Ethylbenzene	ND	0.0005	mg/L	ND			NC	30	
Methyl Ethyl Ketone (2-Butanone)	ND	0.0050	mg/L	ND			NC	30	
Methylene Chloride	ND	0.0050	mg/L	ND			NC	30	
Styrene	ND	0.0005	mg/L	ND			NC	30	
1,1,2,2-Tetrachloroethane	ND	0.0005	mg/L	ND			NC	30	
Tetrachloroethylene	ND	0.0005	mg/L	ND			NC	30	
Toluene	ND	0.0005	mg/L	ND			NC	30	
Trichloroethylene	ND	0.0005	mg/L	ND			NC	30	
m,p-Xylenes	ND	0.0005	mg/L	ND			NC	30	
o-Xylene	ND	0.0005	mg/L	ND			NC	30	
Surrogate: 4-Bromofluorobenzene	*0.0911*		*%*		*114*	*50-140*			
Surrogate: Dibromofluoromethane	*0.0949*		*%*		*119*	*50-140*			
Surrogate: Toluene-d8	*0.0892*		*%*		*112*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Fluoride	1.01	0.1	mg/L	ND	101	70-130			
Sulphate	15.0	1	mg/L	4.56	104	74-126			
General Inorganics									
CBOD	274	2	mg/L	ND	137	62-129			QS-02
Cyanide, total	0.049	0.01	mg/L	ND	97.5	64-136			
Phenolics	0.025	0.001	mg/L	ND	100	67-133			
Phosphorus, total	0.998	0.01	mg/L	0.018	98.0	80-120			
Total Suspended Solids	23.0	2	mg/L	ND	107	75-125			
Total Kjeldahl Nitrogen	1.85	0.1	mg/L	0.88	96.7	81-126			
Hydrocarbons									
Oil & Grease, mineral/synthetic	6.60	0.5	mg/L	ND	66.0	65-110			
Oil & Grease, total	19.0	0.5	mg/L	ND	95.0	85-110			
Metals - Total									
Aluminum	59.1	0.01	mg/L	ND	118	80-120			
Arsenic	54.6	0.01	mg/L	0.436	108	80-120			
Cadmium	53.7	0.001	mg/L	0.003	107	80-120			
Chromium	65.5	0.05	mg/L	0.799	129	80-120			QM-07
Cobalt	61.7	0.001	mg/L	0.528	122	80-120			QM-07
Copper	56.2	0.005	mg/L	0.717	111	80-120			
Lead	50.2	0.001	mg/L	0.193	100	80-120			
Mercury	0.0029	0.0001	mg/L	ND	95.3	70-130			
Manganese	122	0.05	mg/L	54.9	134	80-120			QM-07
Molybdenum	59.4	0.005	mg/L	0.866	117	80-120			
Nickel	59.5	0.005	mg/L	0.986	117	80-120			
Selenium	45.6	0.005	mg/L	0.095	91.1	80-120			
Silver	52.6	0.001	mg/L	0.062	105	80-120			
Tin	54.4	0.01	mg/L	0.145	109	80-120			
Titanium	73.7	0.01	mg/L	6.24	135	80-120			QM-07
Zinc	51.0	0.02	mg/L	1.75	98.4	80-120			
PCBs									

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
PCBs, total	1.24	0.05	ug/L	ND	124	65-135			
Surrogate: Decachlorobiphenyl	*0.450*		*%*		*90.0*	*60-140*			
Semi-Volatiles									
Bis(2-ethylhexyl)phthalate	0.0084	0.001	mg/L	ND	84.0	50-140			
Di-n-butylphthalate	0.0083	0.001	mg/L	ND	83.1	50-140			
Surrogate: 2-Fluorobiphenyl	*0.0152*		*%*		*76.0*	*76-125*			
Surrogate: Nitrobenzene-d5	*0.0140*		*%*		*70.0*	*68-125*			
Surrogate: Terphenyl-d14	*0.0164*		*%*		*82.2*	*70-125*			
Volatiles									
Benzene	0.0420	0.0005	mg/L	ND	105	60-130			
Chloroform	0.0439	0.0005	mg/L	ND	110	60-130			
1,2-Dichlorobenzene	0.0381	0.0005	mg/L	ND	95.2	60-130			
1,4-Dichlorobenzene	0.0389	0.0005	mg/L	ND	97.3	60-130			
cis-1,2-Dichloroethylene	0.0364	0.0005	mg/L	ND	91.1	60-130			
trans-1,3-Dichloropropylene	0.0417	0.0005	mg/L	ND	104	60-130			
Ethylbenzene	0.0367	0.0005	mg/L	ND	91.6	60-130			
Methyl Ethyl Ketone (2-Butanone)	0.0797	0.0050	mg/L	ND	79.7	50-140			
Methylene Chloride	0.0305	0.0050	mg/L	ND	76.3	60-130			
Styrene	0.0346	0.0005	mg/L	ND	86.4	60-130			
1,1,2,2-Tetrachloroethane	0.0378	0.0005	mg/L	ND	94.5	60-130			
Tetrachloroethylene	0.0332	0.0005	mg/L	ND	83.0	60-130			
Toluene	0.0368	0.0005	mg/L	ND	91.9	60-130			
Trichloroethylene	0.0416	0.0005	mg/L	ND	104	60-130			
m,p-Xylenes	0.0735	0.0005	mg/L	ND	91.8	60-130			
o-Xylene	0.0385	0.0005	mg/L	ND	96.4	60-130			
Surrogate: 4-Bromofluorobenzene	*0.0804*		*%*		*100*	*50-140*			
Surrogate: Dibromofluoromethane	*0.0915*		*%*		*114*	*50-140*			
Surrogate: Toluene-d8	*0.0759*		*%*		*94.9*	*50-140*			

Qualifier Notes:

QC Qualifiers:

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on other acceptable QC.
QS-02	Spike level outside of control limits. Analysis batch accepted based on other QC included in the batch.

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

PARACE LABORATORIES L

Paracel ID: 2420104

vd.
J8
.com

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2420104	Nº 66341

Client Name: G2S	Project Ref: Fieldgate	Page 1 of 1
Contact Name: Jacob Pinter + Whitney Bowden	Quote #: standing offer	Turnaround Time
Address: Burlington	PO #: G2S24018	☐ 1 day ☐ 3 day
Telephone: 905 719 5253	E-mail: jacobp@g2sconsulting.com whitneyb@g2sconsulting.com	☐ 2 day ☒ Regular
		Date Required:

☐ REG 153/04 ☐ REG 406/19	Other Regulation
☐ Table 1 ☐ Res/Park ☐ Med/Fine	☐ REG 558 ☐ PWQO
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ CCME ☐ MISA
☐ Table 3 ☐ Agri/Other	☒ SU - Sani ☐ SU - Storm
☐ Table ___	Mun: Peel Region
For RSC: ☐ Yes ☐ No	☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Sample Taken: Date	Sample Taken: Time	Required Analysis: Peel Region Sanitary Sewer Discharge
1	BH/MW106-UF	GW		14	May 13/24	1pm	X
2							
3							
4							
5							
6							
7							
8							
9							
10							

Comments:

Method of Delivery: Hand Bag

Relinquished By (Sign):	Received By Driver/Depot:	Received at Lab: SO	Verified By: SO
Relinquished By (Print): Jacob Pinter	Date/Time: May 13/24 17:00	Date/Time: May 15, 2024 9:26	Date/Time: May 15, 2024 9:44a
Date/Time: May 13/24 (4:40pm)	Temperature: 17.7 °C	Temperature: 16.7 °C	pH Verified: ☐ By: SO

PRE-DEVELOPMENT RUNOFF COEFFICIENT

Municipality: City of Mississauga
Project Name: 3403-3445 Fieldgate Drive
Project No. [2655-7074]
Completed By: J.P.L.
Checked By: J.S.
Date: 2024-08-16

DRAINAGE AREA - DRAINING TO FIELDGATE DRIVE

Type of Area	Area (ha)	Runoff Coeff.*	A x C
Impervious	1.33	0.90	1.20
Pervious	0.12	0.25	0.03
External	0.06	0.90	0.05
Sub Total	**1.51**		**1.28**

Weighted Coefficient without Adjustment Factor	**0.85**
Weighted Coefficient with 10-Yr Adjustment Factor	**0.85**

RELEASE RATES

Municipality: City of Mississauga
Project Name: 3403-3445 Fieldgate Drive
Project No. [2655-7074]
Completed By: J.P.L.
Checked By: J.S.
Date: 2024-08-16

RAINFALL INTENSITY

Design Storm Event	A	B	C	I (mm/hr)
2-Year	610.0	4.6	0.780	59.892
5-Year	820.0	4.6	0.780	80.511
10-Year	1010.0	4.6	0.780	99.166
25-Year	1160.0	4.6	0.780	113.893
50-Year	1300.0	4.7	0.780	127.133
100-Year	1450.0	4.9	0.780	140.690

I=A/(T + B)^C
T=15 minutes

EXISTING PEAK DISCHARGE RATE TO FIELDGATE DRIVE

Weighted Runoff Coefficient with Adjustment Factor, C	0.85	
Drainage Area	**1.51**	**ha**
2-Year Peak Flow, Q_2	213.6	L/s
5-Year Peak Flow, Q_5	287.1	L/s
10-Year Peak Flow, Q_{10}	353.6	L/s
25-Year Peak Flow, Q_{25}	406.1	L/s
50-Year Peak Flow, Q_{50}	453.3	L/s
100-Year Peak Flow, Q_{100}	501.7	L/s

MAX. ALLOWABLE RELEASE RATE TO STORM SEWER ALONG FIELDGATE DRIVE

Weighted Runoff Coefficient with Adjustment Factor, C	0.85	
Drainage Area	**1.51**	**ha**
Q_{A1}= Total Max Allowable Release Rate = 2-Year Peak Flow	353.6	L/s

Max. Allowable Release Rate to Fieldgate Drive: **353.6** **L/s**

POST-DEVELOPMENT RUNOFF COEFFICIENT

Municipality: City of Mississauga
Project Name: 3403-3445 Fieldgate Drive
Project No. [2655-7074]
Completed By: J.P.L.
Checked By: J.S.
Date: 2024-08-16

DRAINAGE AREA - DRAINING TO STORMWATER MANAGEMENT TANK (WITHOUT PARKLAND DEDICATION)

Site Features	Area (ha)	Runoff Coeff.	A x C
Impervious Roof Top	0.73	0.90	0.66
Other Impervious (Walkways/Drive Aisle)	0.46	0.50	0.23
Softscaping	0.27	0.50	0.13
External Areas	0.06	0.90	0.05
Sub Total	**1.51**		**1.07**

Weighted Coefficient Without Adjustment Factor	**0.71**
Weighted Coefficient with 100-Yr Adjustment Factor	**0.89**

CONTROL ORIFICE

Municipality: City of Mississauga
Project Name: 3403-3445 Fieldgate Drive
Project No. [2655-7074]
Completed By: J.P.L.
Checked By: J.S.
Date: 2024-08-16

Allowable Release Rate to Fieldgate Drive =	353.6	L/s

Orifice	
Diameter (mm)	300
Area (m^2)	0.071
Orifice Coefficient	0.82
Gravity (m^2/s)	9.81
K	1.0
D/S HGL (m)	N/A
Orifice Invert (m)	132.04

Effective Head (m)	Depth Water At CTL MH (m)	Qp (L/s)	Elevation of Water (m)	Volume in Tank (m3)
0.00	0.15	0.0	132.19	25.50
0.50	0.65	181.5	132.69	110.50
1.00	1.15	256.7	133.19	195.50
1.25	1.40	287.0	133.44	238.00
1.89	2.04	353.0	134.08	346.80
2.21	2.36	381.7	134.40	401.20

ORIFICE FLOW $Q(m^3/s)$= COEF*AREA*(2*GRAVITY*HEAD/K)^0.5
WEIR FLOW $Q(m^3/s)$= CLH^1.5 C=1.5

REQUIRED STORMWATER STORAGE

Municipality: City of Mississauga
Project Name: 3403-3445 Fieldgate Drive
Project No. [2655-7074]
Completed By: J.P.L.
Checked By: J.S.
Date: 2024-08-16

MODIFIED RATIONAL METHOD

Area (ha)	1.51
C	0.89
Allowable Release Rate to Fieldgate Drive (L/s)	353.6
Actual Release Rate (L/s)	287.0

Allowable Groundwater Pump Rate (L/s)	0.00

City of Mississauga: 100-Year Storm Event	
A	1450
B	4.9
C	0.78

Time (min)	100-YEAR RAINFALL EVENT				Total Runoff Volume (m^3)	Max. Release Volume (m^3)	Req'd Storage Volume (m^3)
	Intensity 100-Year (mm/yr)	Surface Runoff (L/s)	Allowable G.W. (L/s)	Total Runoff (L/s)			
15	140.69	524.73	0.00	524.73	472.26	258.34	213.92
20	118.12	440.56	0.00	440.56	528.68	344.45	184.22
25	102.41	381.96	0.00	381.96	572.94	430.57	142.38
30	90.77	338.56	0.00	338.56	609.41	516.68	92.73
35	81.77	304.99	0.00	304.99	640.48	602.80	37.68
40	74.58	278.16	0.00	278.16	667.58	688.91	0.00
45	68.68	256.17	0.00	256.17	691.65	775.02	0.00
50	63.75	237.78	0.00	237.78	713.34	861.14	0.00
55	59.56	222.15	0.00	222.15	733.10	947.25	0.00
60	55.95	208.69	0.00	208.69	751.27	1033.36	0.00
65	52.81	196.95	0.00	196.95	768.10	1119.48	0.00
70	50.03	186.62	0.00	186.62	783.79	1205.59	0.00
75	47.58	177.44	0.00	177.44	798.49	1291.70	0.00
80	45.38	169.24	0.00	169.24	812.34	1377.82	0.00
85	43.39	161.85	0.00	161.85	825.43	1463.93	0.00
90	41.60	155.16	0.00	155.16	837.86	1550.05	0.00
95	39.97	149.07	0.00	149.07	849.68	1636.16	0.00
100	38.47	143.50	0.00	143.50	860.97	1722.27	0.00
105	37.10	138.38	0.00	138.38	871.78	1808.39	0.00
110	35.84	133.66	0.00	133.66	882.14	1894.50	0.00
115	34.66	129.29	0.00	129.29	892.10	1980.61	0.00
120	33.58	125.23	0.00	125.23	901.69	2066.73	0.00
125	32.57	121.46	0.00	121.46	910.94	2152.84	0.00

Required Storage (m^3):	**214.0**

Provided Storage (m^3):	**0.0**

WATER BALANCE

Municipality:	City of Mississauga
Project Name:	3403-3445 Fieldgate Drive
Project No.	[2655-7074]
Completed By:	J.P.L.
Checked By:	J.S.
Date:	2024-08-16

A = REQUIRED AVG. ANNUAL PRECIPITATION TO BE RETAINED ON SITE 5 mm

B = INITIAL ABSTRACTION (WITHOUT PARKLAND DEDICATION)

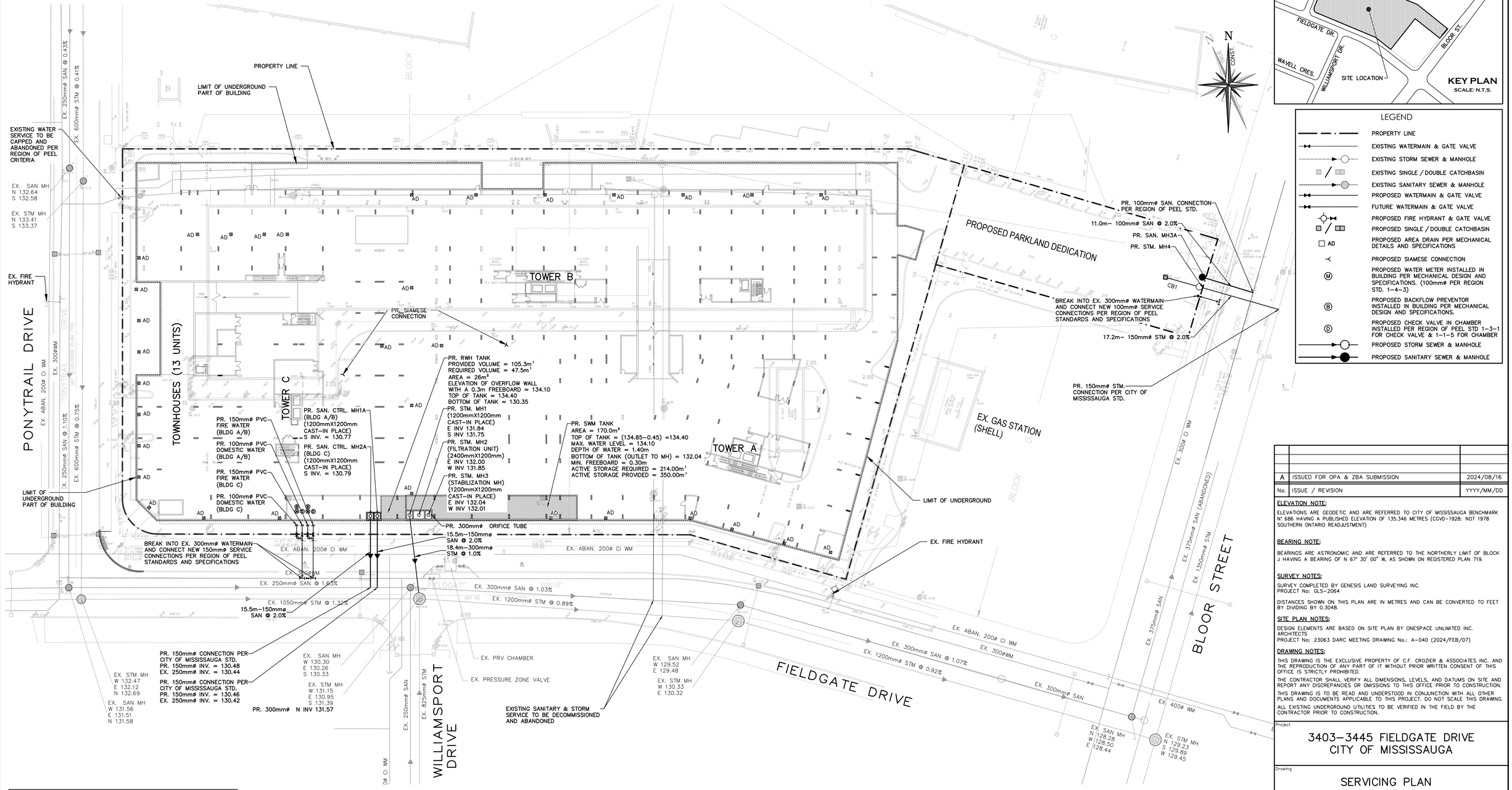
Site Features	Area	% of Site	Initial	Overall Site
Conventional Roof	0.73	50.3%	1	0.50
Other Impervious (Walkway/Drive Aisle)	0.46	31.2%	1	0.31
Softscaping	0.27	18.4%	5	0.92
Total	**1.46**	**100.0%**		**1.74**

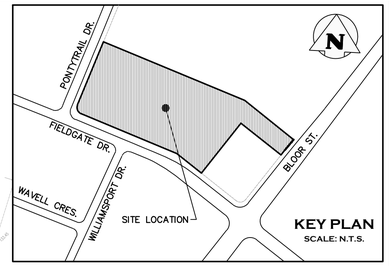
Over the site area, the overall site capture in mm translates to a volume of: **25.31** m^3

SUMMARY

A= Required Average Annual Precipitation Depth to be Retained	**5**	**mm**
B= Total Capture Over Entire Site Through the Surface (IA)	**1.74**	**mm**
C= Total Capture Over Entire Site Through Tree Canopy Interception	**0.00**	**mm**
D= Total Captured Over Entire Site (B + C)	**1.74**	**mm**
Deficit = A - B =	**3.3**	**mm**
Total Capture Over Entire Site Through the Surface = B x Area =	**25.31**	**m^3**
Total Required 5mm Retention = A x Area =	**72.85**	**m^3**
Total Required Volume for Rain Harvesting	**47.54**	**m^3**

DRAWINGS





LEGEND

- PROPERTY LINE
- EXISTING WATERMAIN & GATE VALVE
- EXISTING STORM SEWER & MANHOLE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EXISTING SANITARY SEWER & MANHOLE
- PROPOSED WATERMAIN & GATE VALVE
- FUTURE WATERMAIN & GATE VALVE
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SINGLE / DOUBLE CATCHBASIN
- AD — PROPOSED AREA DRAIN PER MECHANICAL DETAILS AND SPECIFICATIONS
- PROPOSED SIAMESE CONNECTION
- (M) — PROPOSED WATER METER INSTALLED IN BUILDING PER MECHANICAL DESIGN AND SPECIFICATIONS. (100mmø PER REGION STD. 1-4-3)
- (B) — PROPOSED BACKFLOW PREVENTOR INSTALLED IN BUILDING PER MECHANICAL DESIGN AND SPECIFICATIONS.
- (D) — PROPOSED CHECK VALVE IN CHAMBER INSTALLED PER REGION OF PEEL STD 1-3-1 FOR CHECK VALVE & 1-1-5 FOR CHAMBER
- PROPOSED STORM SEWER & MANHOLE
- PROPOSED SANITARY SEWER & MANHOLE

EXISTING LOCATIONS OF WATER SERVICE CONNECTIONS AND SANITARY / STORM LATERALS TO BE PRE-LOCATED PRIOR TO CONSTRUCTION. CONNECTIONS TO BE DECOMMISSIONED AND ABANDONED AS PER REGION OF PEEL STANDARDS.

NOTE:
PROPOSED AREA DRAINS TO DISCHARGE TO BUILDING STORM SYSTEM. AREA DRAINS AND INTERNAL BUILDING PLUMBING PER MECHANICAL DETAILS AND SPECIFICATIONS.

10 0m 10 20 30
SCALE: 1:400

No.	ISSUE / REVISION	YYYY/MM/DD
A	ISSUED FOR OPA & ZBA SUBMISSION	2024/08/16

ELEVATION NOTE:
ELEVATIONS ARE GEODETIC AND ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK N° 686 HAVING A PUBLISHED ELEVATION OF 135.346 METRES (CGVD-1928: NOT 1978 SOUTHERN ONTARIO READJUSTMENT)

BEARING NOTE:
BEARINGS ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHERLY LIMIT OF BLOCK J HAVING A BEARING OF N 67° 30' 00" W, AS SHOWN ON REGISTERED PLAN 719.

SURVEY NOTES:
SURVEY COMPLETED BY GENESIS LAND SURVEYING INC.
PROJECT No: GLS-2064

DISTANCES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

SITE PLAN NOTES:
DESIGN ELEMENTS ARE BASED ON SITE PLAN BY ONESPACE UNLIMITED INC. ARCHITECTS
PROJECT No: 23063 DARC MEETING DRAWING No.: A-040 (2024/FEB/07)

DRAWING NOTES:

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Project
3403–3445 FIELDGATE DRIVE
CITY OF MISSISSAUGA

Drawing
SERVICING PLAN

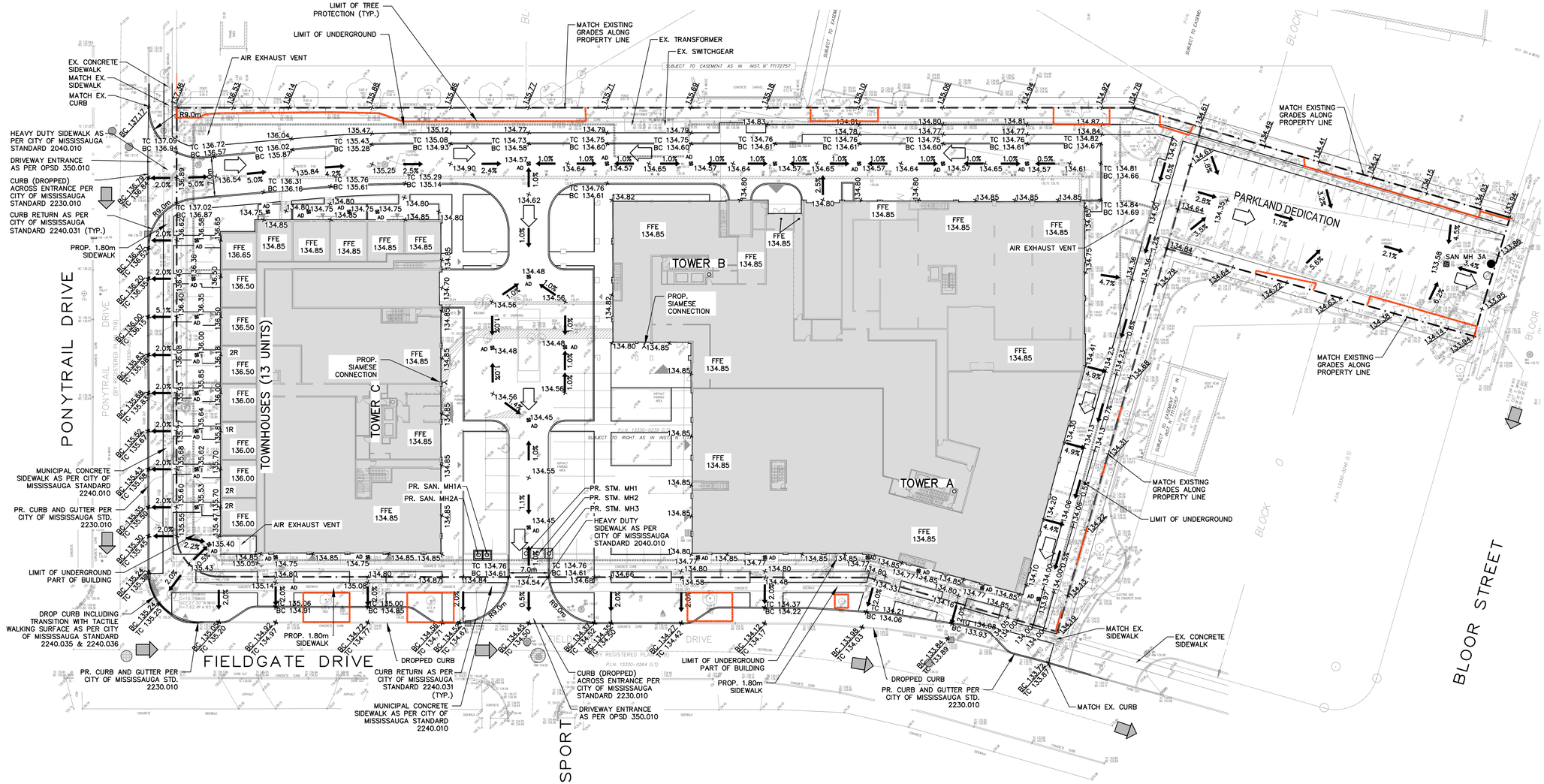
NOT FOR CONSTRUCTION

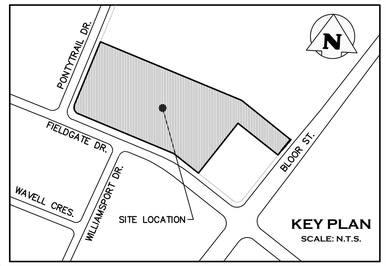
Stamp

Stamp
LICENSED PROFESSIONAL ENGINEER
J. M. SCOTT
100214964
AUG 16 2024
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
211 YONGE STREET
SUITE 600
TORONTO, ON M5B 1M4
416-477-3392 T
WWW.CFCROZIER.CA

Drawn	U.P.	Design	K.W.	Project No.	2655-7074
Check	J.S.	Date	2024/06/17	Scale	1: 400
				Dwg.	C102





LEGEND

- PROPERTY LINE
- EXISTING FENCE
- x215.00 EXISTING GRADE
- EXISTING MAJOR OVERLAND FLOW DIRECTION
- x215.00 PROPOSED GRADE
- 215.00 PROPOSED MOBILINX GRADE
- x215.00 PROPOSED GRADE (TO MATCH EXISTING)
- 2.0% PROPOSED MINOR FLOW DIRECTION
- 2.0% PROPOSED GRASSED SWALE
- BUILDING ENTRANCE (PERSONNEL DOOR)
- BUILDING ENTRANCE (OVERHEAD DOOR)
- PROPOSED MAJOR OVERLAND FLOW DIRECTION
- PROPOSED FIRE HYDRANT & GATE VALVE
- PROPOSED SIAMESE (FIRE DEPT.) CONNECTION
- AD PROPOSED AREA DRAIN PER MECHANICAL DETAILS AND SPECIFICATIONS
- AREA LIMIT FOR EXISTING TREES TO BE PROTECTED

No.	ISSUE / REVISION	YYYY/MM/DD
A	ISSUED FOR OPA & ZBA SUBMISSION	2024/08/16

ELEVATION NOTE:

ELEVATIONS ARE GEODETIC AND ARE REFERRED TO CITY OF MISSISSAUGA BENCHMARK N° 686 HAVING A PUBLISHED ELEVATION OF 135.346 METRES (CGVD–1928: NOT 1978 SOUTHERN ONTARIO READJUSTMENT)

BEARING NOTE:

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SURVEY NOTES:

SURVEY COMPLETED BY GENESIS LAND SURVEYING INC.
PROJECT No: GLS–2064

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SITE PLAN NOTES:

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PROJECT No: 23063 DARC MEETING DRAWING No.: A–040 (2024/FEB/07)

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ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Project

3403–3445 FIELDGATE DRIVE
CITY OF MISSISSAUGA

Drawing

GRADING PLAN

NOT FOR CONSTRUCTION

Stamp

Stamp

LICENSED PROFESSIONAL ENGINEER
J. M. SCOTT
100214964
AUG 16 2024
PROVINCE OF ONTARIO

CROZIER CONSULTING ENGINEERS
211 YONGE STREET
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Drawn	Design	Project No.	
U.P.	K.W.		2655–7074
Check	Date	Scale	Dwg.
J.S.	2024/06/17	1:400	C103

10 0m 10 20 30
SCALE: 1:400