

September 2, 2022

Queenscorp (Erin Mills) Inc. 2 Queen Elizabeth Boulevard Toronto, ON M8Z 1L8

Attention: Ms. Ida Assogna

Vice President of Land Development

Re: Hydrogeological Assessment

4099 Erin Mills Parkway, Mississauga, Ontario

Pinchin File: 299799.001

Pinchin Ltd. (Pinchin) has been retained by Queenscorp (Erin Mills) Inc. (Client) to provide a hydrogeological assessment for the proposed redevelopment of the property located at 4099 Erin Mills Parkway (Site), in the City of Mississauga (City), Ontario.

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A hydrogeological assessment was conducted at the Site to support the Development Application process for the proposed redevelopment. This letter provides a summary of soil and groundwater conditions at the Site and a conservative estimate of the volume of water that may require management during the construction and operations phases of the redevelopment of the Site. An evaluation of the quality of groundwater that could theoretically be discharged as part of the potential Site dewatering is also provided.

1.0 INTRODUCTION AND BACKGROUND

The Site is located on the northeast side of Erin Mills Parkway, east of the intersection of Erin Mills Parkway and Folkway Drive, and is bounded by roadways to the northwest, northeast and southwest and by residential houses to the southeast. The approximate site location is shown on Figures 1 and 2.

The Site comprises a parcel of land with a total area of approximately 2.64 hectares (6.52 acres), and is currently occupied by a retail plaza, and ancillary asphalt access roads and parking. It is understood that the Client intends to redevelop the Site for a mixed-use development consisting of townhouse residential units and condominium units with some retail at grade.

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1.1 Purpose

The purpose of this hydrogeological assessment was to characterize the soil and groundwater conditions of the Site, evaluate the dewatering requirements for the proposed construction and operations phases of the development, evaluate the groundwater quality of potential discharge water, assess any potential impacts on the surrounding environment due to the proposed development, and provide recommendations concerning mitigative measures, if required.

1.2 Proposed Development Parameters

Based on information provided by the Client, the proposed design consists of five residential buildings (Building A to Building E) and seven rows of back-to-back four-storey townhouses.

Development design plans dated August 26, 2022, prepared by Turner Fleischer Architects Inc., are provided in Appendix I.

The following site and design information and statistics parameters are summarized:

- The total site area: 26.405 m²:
- Building A: 10 storey with one additional penthouse level on the top
 Building B, C and E: 6 storey with one additional penthouse level on the top
 Building D: 6 storey with one additional penthouse level on the top;
- The five residential buildings provide a total of 591 one-to three-bedroom units, and the seven rows of townhouse buildings provide a total of 112 two-bedroom units;
- A combined Level 1 (P1) underground parking at the lowest elevation of approximately 151 m above mean sea level (masl), with an approximate area of 24,785 m²; and
- A partial Level 2 (P2) underground parking at the lowest elevation of 148 masl, with an approximate area of 9,060 m².

Based on the available topographic data, the topographic elevation at the Site ranges from approximately 160 masl in the west corner to 154.5 masl in the east corner. The elevations measured at the five monitoring well locations range from approximately 155.6 masl to 158.9 masl.

1.3 Previous and Current Investigations

It is not known if any subsurface investigations were previously conducted at the Site. There were no previous reports provided for review.

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A geotechnical investigation was conducted concurrently with this hydrogeological assessment by Pinchin, for which a total of five boreholes were drilled at the Site to the maximum depth of 9.3 m below ground surface (mbgs) and were completed as monitoring wells identified as BH/MW1 to BH/MW5. The approximate borehole and monitoring well locations are shown on Figure 2.

The data obtained from the drilling program was used in this hydrogeological assessment and the monitoring wells were utilized for groundwater monitoring, sampling and testing.

2.0 METHODOLOGY

As mentioned, this hydrogeological assessment was conducted at the Site concurrently with a geotechnical investigation, and five monitoring wells identified as BH/MW1 to BH/MW5 were completed at the Site for groundwater monitoring, sampling and testing. The approximate monitoring well locations are shown on Figure 2. The monitoring well construction details are provided in Table 1.

The completed scope of work for the hydrogeological assessment consisted of the following tasks:

- A review of well installation details obtained from the drilling program;
- A desktop water well inventory survey using data from the MECP Water Well Information
 System (WWIS) database within 250 m of the Site property boundaries;
- A review and summary of the regional geology and hydrogeology, and its linkage to the site-specific geology and hydrogeology;
- Groundwater level monitoring on a monthly basis after well installation between
 December 2021 and June 2022;
- Rising head hydraulic conductivity testing of selected monitoring wells;
- Preparation of local scale geologic cross-sections, groundwater elevation contours and flow directions;
- Background groundwater quality analysis for Peel Region Sewer Use By-law parameters;
- A review of the conceptual/architectural design and details of the proposed redevelopment, and completion of a dewatering assessment for the construction and operations phases of the proposed redevelopment;
- Potential impact assessment with mitigative measures, if required; and
- Preparation of a hydrogeological assessment report summarizing the findings of the investigation.

3.0 WATER WELL RECORDS

Water well records from within a 250 m radius of the Site were accessed from the Ontario Ministry of the Environment, Conservation and Parks (MECP) Water Well Information System (WWIS).

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Based on a review of the water well database, a total of 10 water well records were found within a radius of 250 m from the Site. The MECP water well records are provided in Appendix II. The approximate MECP water well locations are presented on Figure 3. There is one water supply well recorded in the study area, identified as No. 4905328. All of the other well records are related to test holes, observation wells, monitoring wells or abandoned wells, or for wells with no detailed information. One monitoring well (No. 7315183) was found to be filed on-Site. However, no details for the well were available.

Based on the water well records, the encountered soils were variable, including clay, silt, sand or gravel. Two dewatering wells (No. 7223310 and No. 7223311) that plotted 150 m northwest of the Site indicated that the shale bedrock was encountered at depths ranging from 26.8 mbgs to 29.3 mbgs, and the groundwater level was measured at 11.6 mbgs.

4.0 GEOLOGY

Based on data from the Ontario Geological Survey, the Site is located in the Shale Plain physiographic landform within the South Slope physiographic region, underlain by the Queenston Formation of shale, siltstone, minor limestone and sandstone.

5.0 SURFACE WATER AND TOPOGRAPHY

Based on the Credit Valley Watershed Plan, the Site is located in the Mullet Creek Subwatershed, with Sawmill Creek to the south and southeast, within the Credit River Watershed under the jurisdiction of the Credit Valley Conservation (CVC). No open water body is located on or adjacent to the Site. The Credit River drains into Lake Ontario approximately 8.2 km southeast of the Site.

As shown on Figure 3, the majority of the study area is in the range between 150 masl and 160 masl in elevation. The Site generally slopes towards the east or southeast towards the Credit River. A creek identified as Dunn Creek, a tributary of Sawmill Creek, is located approximately 220 m south of the Site.

6.0 RESULTS

6.1 Soil Stratigraphy

In general, the soil stratigraphy at the Site comprises an asphaltic concrete pavement structure underlain by fill material followed by gravel and sand and a silt seam underlain by bedrock to the maximum borehole termination depths of approximately 6.0 to 9.3 mbgs (Elevations 151.7 to 147.8).

An asphaltic concrete pavement structure was encountered in all of the boreholes at the Site and was observed to comprise 85 mm of asphaltic concrete overlying 220 to 300 mm of granular fill material.

Fill material was encountered underlying the asphalt and granular fill within all boreholes and extended to depths ranging between 0.1 and 0.4 mbgs (155.4 to 158.8 masl). The fill material generally comprised of sand, some gravel and trace of silt with traces of wood pieces, organics and rootlets.

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Sand was encountered underlying the fill material in Boreholes BH2, BH4 and BH5 and extended to the maximum depth of 3.0 mbgs (Elevation 153.1 masl). The same layer encountered in Boreholes BH4 and BH5 underlying a seam of silt and extends to the depth of 3.0 to 3.5 mbgs (Elevation 152.2 to 154.5 masl). The sand deposit generally comprised of sand to silty sand with trace to some gravel.

A silt seam was encountered in all boreholes between the depths of 0.6 and 4.5 mbgs. The thickness of the silt seam was between 0.8 and 1.5 m and generally comprised of clayey silt to sandy silt with some to trace gravel. The results of two particle size distribution analyses completed on samples of the silt material indicate that the samples contain 4 to 10% gravel, 19 to 10% sand, 63 to 47% silt, and 24 to 22% clay.

Gravel was encountered underlying the fill material in Borehole BH1, underlying the silt seam in Boreholes BH1 and BH3, and underlying the sand deposit in Boreholes BH4 and BH5, and extends to the depth of the bedrock surface, ranging from 2.2 to 6.2 mbgs (Elevation 155.2 to 151.0 masl). The gravel deposit is generally comprised of highly weathered bedrock with some sand.

Bedrock was encountered in all of the boreholes at depths ranging from 2.3 to 6.2 mbgs (Elevation 155.2 to 151.0 masl) and confirmed by rock coring using NQ size barrels in Boreholes BH1 and BH4. The depth to the bedrock surface as encountered at the borehole locations is summarized in the following table:

Borehole ID	Ground Surface Elevation (masl)	Depth of Bedrock (mbgs)	Top of Bedrock Elevation (masl)
BH1	158.9	6.2*	152.7
BH2	156.1	4.5	151.5
ВН3	157.5	2.3	155.2
BH4	155.7	4.7*	151.0
ВН5	157.5	4.9	152.6

* confirmed by coring

The bedrock is highly weathered near-surface (approximately the upper 2.0 meters) with measured RQD values of 6%, indicating that the upper 2.0 meters of bedrock is of very poor quality. The RQD values in the deeper bedrock increased to 29 to 38%, still indicative of poor quality.

The details of the soil descriptions and stratigraphy are presented in the Borehole Logs provided in Appendix III. Cross-sections showing the stratigraphy across the Site are provided on Figures 4A and 4B of this report.

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6.2 Water Level Elevations and Groundwater Flow Regime

Groundwater level measurements were undertaken in all of the monitoring wells on a monthly basis between December 2021 and June 2022. The groundwater level data is presented in Table 2 of this letter report.

The measured groundwater levels ranged from 3.08 mbgs at BH/MW4 (June 2, 2022) to 6.14 mbgs at BH/MW1 (January 13, 2022), and groundwater level elevations ranged from 151.14 masl at BH/MW4 (February 2, 2022) to 154.15 masl at BH/MW1 (December 7, 2021). The maximum average of the groundwater levels across the Site was found to be 152.93 masl, measured on June 2, 2022.

Based on the groundwater elevations measured on January 13, 2022, groundwater elevation contours were prepared and are presented on Figure 5. The groundwater flow direction across the Site was inferred to be generally towards the south and southeast.

6.3 Hydraulic Conductivity Estimates

Rising head hydraulic conductivity (K-) tests were conducted in three monitoring wells (BH/MW1, BH/MW2 and BH/MW5) on December 13, 2021 and January 13, 2022. The results of the K-tests and data processing records are provided in Appendix IV.

The estimated hydraulic conductivities (K-values) for the screened intervals at the three tested on-Site wells are as follows:

MWs	Screen Interval (mbgs)	Screen Interval (mbgs) Screened Medium				
BH/MW1	6.1 – 9.2	Shale	6.0 X 10 ⁻⁵			
BH/MW2	3.0 – 6.1	Silt; Shale	4.6 X 10 ⁻⁴			
BH/MW5	3.0 – 6.1	Gravel; Shale	1.4 X 10 ⁻⁵			
	7.3 X 10 ⁻⁵					

The K-values at the Site ranged from 1.4×10^{-5} cm/sec (BH/MW5) to 4.6×10^{-4} cm/sec (BH/MW2), with a geometric mean of 7.3×10^{-5} cm/sec.

7.0 DEWATERING ASSESSMENT

The proposed development will have a partial two-level and a full one-level underground parking structure. The P2 Level will be at an elevation of 148 masl and the P1 Level will be at 151 masl.

Shale bedrock was encountered in the boreholes at elevations ranging from 151 masl to 155.2 masl, and the proposed building will be anticipated to be founded within the bedrock.

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Assuming that the excavation extends to 1 m below the designed P1 and P2 elevations to allow for construction of the footings/foundations and the underground floor slab, the excavation will extend to the elevations of 147 masl for the P2 Level and 150 masl for the P1 Level.

Based on the groundwater monitoring, the groundwater elevations measured between December 2021 and June 2022 in the on-site monitoring wells ranged from 151.14 masl to 154.15 masl, which are above the P2 Level elevation (147 masl) and the P1 Level elevation (150 masl). Therefore, groundwater control will be required during the construction and operations phases of the buildings.

7.1 Short-Term Dewatering Estimates

7.1.1 Groundwater Inflow

Based on the design, a conservative groundwater dewatering scenario during construction was undertaken that employed the following parameters and assumptions.

- The excavation or dewatering area is 9,060 m² for the P2 Level excavation and 26,405 m² assuming a whole site excavation;
- Assuming that the target dewatering level will be 0.5 m below the excavation bottom, the target groundwater elevation will be 149.5 masl for the P1 Level and 146.5 masl for the P2 Level;
- The initial groundwater level will be assumed to be 155 masl (the highest groundwater level measured over the period of record was 154.15 masl at BH/MW1).
- The hydraulic conductivity is 1.1 x 10⁻⁴ cm/sec (1.5 times the average of the hydraulic conductivities estimated from the three tested monitoring wells).

Based on the above assumptions, the short-term construction dewatering rate and zone of influence were estimated and are presented below.

Dewatering Area (m²)	Initial Water Level (masl)	Target Water Level (masl)	K- Estimate (cm/sec)	Estimated Zone of Influence (m from Edge of Excavation)	Dewatering Rate (without Safety Factor) (L/day)	Dewatering Rate Estimate with Safety Factor of 2 or 100% (L/day)
26,405	155	149.5	1.1 x 10 ⁻⁴	17	61,563	123,126
9,060	149.5	146.5	1.1 x 10 ⁻⁴	9	22,067	44,134
	Total			17	83,630	167,260

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It should be noted that the application of a Safety Factor provides a more conservative assessment for planning purposes to account for potential variabilities in the hydraulic conductivities in the soil and bedrock across the Site. In addition, during the initial stages of the construction dewatering, the dewatering volumes would be greater than those under a steady state condition, because the water stored in the soils is also being removed.

The above total volume estimate, assuming that one bulk excavation will be undertaken for the underground structure, and including a Safety Factor of 2, or 100%, is above the threshold for an Environmental Activity Sector Registration (EASR) requirement for construction dewatering of more than 50,000 L/day (50 m³/day) and below the threshold limit of 400,000 L/day (400 m³/day) for a Permit-to-Taka-Water (PTTW) requirement. An EASR registration will be required for the construction of the proposed building.

7.1.2 Stormwater Inflow

A significant amount of the dewatering demand from any construction project is the volume of water that is derived from stormwater that is generated during and after precipitation events. In the case of the proposed development, it will be necessary to handle stormwater that will accumulate within the excavation footprint.

For planning purposes, dewatering estimates are developed assuming the potential occurrence of extreme storm events, which are based upon events that have an observed "return period" or period of recurrence.

Based on the Canadian Climatic Normals 1981-2010 Station Data for Toronto Pearson International Airport Station, the days which had a precipitation rate between 10 mm/day and 25 mm/day vary from 0.77 to 2.6 days per year, with an average of 1.9 days per year, and the days which had a precipitation rate greater than 25 mm/day vary from 0.07 to 0.9 days per year, with an average of 0.4 days per year.

The volume of water that can be generated within the Site at the full excavation extent of the underground levels of 26,405 m² was estimated for a 30 mm/day high-precipitation storm event.

The estimated stormwater inflow is summarized below:

Excavation Area (m²)	Precipitation Rate (mm/day)	Stormwater Volume (L/day)
26,405	30	792,150

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The dewatering requirement from a high-precipitation storm with a rate of 30 mm/day is estimated to be 792,150 L/day. It should be noted that the above estimate does not take into account any infiltration or evaporation in the excavation area. However, it should also be noted that, for infrequent extreme storm events, the great majority of the generated stormwater becomes run-off or accumulates in the excavation area, due to the fixed assimilative capacity of the soils and the minimal evaporation until the cessation of the event.

7.1.3 Summary of Construction Dewatering Estimates

Based on the short-term construction dewatering calculations discussed above, the estimated construction phase dewatering rates are summarized below.

Construction Dewatering	Total Volume without Safety Factor for Groundwater (L/day)	Total Volume with Safety Factor of 2 for Groundwater (L/day)
Discharge of Groundwater	83,630	167,260
Discharge of Stormwater	792,150	792,150
Discharge of Groundwater and Stormwater	875,780	959,410

7.2 Long-Term Dewatering Estimate - Operations

The same calculation methodology for short-term dewatering estimate was used for the long-term dewatering estimate, except for employing a different target groundwater level, which is just below the projected P2 or P1 slab elevation and using the footprint areas for the P1 and P2 Levels. The following parameters were employed:

• Footprint Area: 9,060 m² for P2 Level and 24,785 m² for P1 Level, and

Target Water Level: 125.07 m (0.2 m below P2/P1 concrete slab).

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The estimated long-term dewatering rate and zone of influence are presented below.

Footprint Area (m²)	Initial Water Level (masl)	Target Water Level (masl)	K- Estimate (cm/sec)	Estimated Zone of Influence (m from edge of Excavation)	Dewatering Rate (without safety factor) (L/day)	Dewatering Rate Estimate with safety factor of 2 or 100% (L/day)
24,785	155	150.8	1.1 X 10 ⁻⁴	13	39,008	78,016
9,060	150.8	147.8	1.1 X 10 ⁻⁴	9	16,550	33,100
	Тс	otal	13	55,558	111,116	

The total dewatering volume estimated for long-term building operations, including a Safety Factor of 2, is above the threshold for long-term dewatering of 50,000 L/day (50 m³/day) that triggers a PTTW requirement from the MECP. A PTTW will be required for the proposed building operations.

8.0 GROUNDWATER QUALITY

One groundwater sample was obtained on January 11, 2022 from BH/MW2 (Sample ID: MW2) to evaluate the water quality with reference to the Peel Region Sewer Use By-Law parameter criteria, for storm sewer and sanitary sewer discharge.

The groundwater sample was submitted to and analyzed by Bureau Veritas Laboratories (BV). BV has been accredited by the Canadian Association For Laboratory Accreditation Inc. (CALA).

The analytical results were compared with the Peel Region Sewer Use Bylaw – Sanitary and Storm Sewer Discharge Limits. Exceedances of the Sanitary and/or Storm Sewer Discharge limits were detected in the analyzed water samples for four parameters, including total suspended solids (TSS), phosphorus, manganese and zinc, which are listed below.

Monitoring Well	Parameter	Unit	Storm Water Guideline Value	Sanitary Sewer Guideline Value	Measured Concentration
	TSS	mg/L	<u>15</u>	<u>350</u>	470
BH/MW2	Phosphorus	mg/L	0.4	10	0.8
511/1111112	Manganese	mg/L	<u>0.05</u>	5	0.069
	Zinc	mg/L	0.04	3	0.061

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It is considered that the exceedances of the sewer use discharge limits are attributed to sediment within the sample and may be reduced to acceptable levels following treatment for TSS prior to discharge. It should be noted, however, that manganese is commonly present in elevated concentrations in shallow groundwater in the Greater Toronto Area. Sampling and analysis of a filtered groundwater sample for metals should be considered to evaluate the effect of filtering discharge groundwater on the concentrations of these parameters.

9.0 CONCLUSIONS

Pinchin provides the following conclusions arising out of the Hydrogeology Assessment activities to date:

- The Site is located in the Shale Plain physiographic landform within the South Slope physiographic region, underlain by the Queenston Formation of shale, siltstone, minor limestone and sandstone.
- The Site is located in the Mullet Creek Subwatershed, bordered with Saw Mill Creek to the South, within the Credit River Watershed under the jurisdiction of the Credit Valley Conservation (CVC). No open water body is located on or adjacent to the Site. The Credit River drains into Lake Ontario approximately 8.2 km southeast of the Site.
- In general, the soil stratigraphy at the Site comprises an asphaltic concrete pavement structure underlain by fill material followed by sands, silt, and gravel, underlain by bedrock. Shale bedrock was encountered at depths ranging from 2.3 to 6.2 mbgs (Elevation 155.2 to 151.0 masl);
- Groundwater level measurements completed between December 2021 and June 2022 indicated that the measured groundwater levels ranged from 3.08 mbgs to 6.14 mbgs, with groundwater elevations ranging from 151.14 masl to 154.15 masl. The groundwater flow direction was inferred to be generally towards the south and southeast;
- The hydraulic conductivities (K-values) estimated from three monitoring well locations ranged from 1.4 x 10⁻⁵ cm/sec to 4.6 x 10⁻⁴ cm/sec, with a geometric mean of 7.3 x 10⁻⁵ cm/sec;
- The short-term dewatering rate that was estimated for the construction phase, incorporating a Safety Factor of 2, is 167,260 L/day for construction dewatering from groundwater, with a maximum discharge of 959,410 L/day from groundwater and storm water estimated at a daily precipitation of 30 mm/day;
- The long-term dewatering rate estimated for the proposed building operations phase is 111,116 L/day;
- An EASR registration will be required for the short-term construction dewatering, and a PTTW will be required the long-term drainage discharge; and

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 A groundwater quality assessment completed as per Peel Region Sewer Use Bylaw indicated that the water generated at the Site could not be discharged to the local sewer system without appropriate treatment for TSS, and potentially phosphorus, manganese or zinc.

10.0 RECOMMENDATIONS

Pinchin present the following recommendations to support the detailed design of the proposed development:

 Sampling and analysis of a filtered groundwater sample for metals and phosphorus is recommended to evaluate the effect of filtering discharge groundwater on the concentrations of these parameters.

11.0 LIMITATIONS

Conclusions derived are specific to the immediate area of study and cannot be extrapolated extensively away from sample or testing locations. Samples have been analyzed for a limited number of parameters, and the absence of information relating to a specific contaminant does not indicate that it is not present.

This report was prepared for the exclusive use of the Client and the City of Mississauga, subject to the terms, conditions and limitations contained within the duly authorized proposal for this project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the sole responsibility of such third parties. Pinchin accepts no responsibility for damages suffered by any third party as a result of decisions made or actions conducted.

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Pinchin makes no other representations whatsoever, including those concerning the legal significance of its findings, or as to other legal matters touched on in this report, including, but not limited to, ownership of any property, or the application of any law to the facts set forth herein. With respect to regulatory compliance issues, regulatory statutes are subject to interpretation and these interpretations may change over time.

Pinchin will not be responsible for any consequential or indirect damages. Pinchin will only be liable for damages resulting from negligence or wilful misconduct of Pinchin. All claims by the Client shall be deemed relinquished if not made within two years after last date of services provided.

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12.0 CLOSING REMARKS

We trust that the information provided in this letter meets your requirements. If you have any questions, or require additional information, please do not hesitate to contact either of the undersigned.

Yours truly,

Pinchin Ltd.

Prepared by:

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Encl.: Figures

Table 1 – Monitoring Well Construction Details

Table 2 - Water Level Summary Table

Appendix I - Site Plans

Appendix II – Water Well Records

Appendix III - Borehole Logs

Appendix IV – Rising Head Hydraulic Conductivity Test Curves

Appendix V – Laboratory Analytical Results

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Reviewed by:

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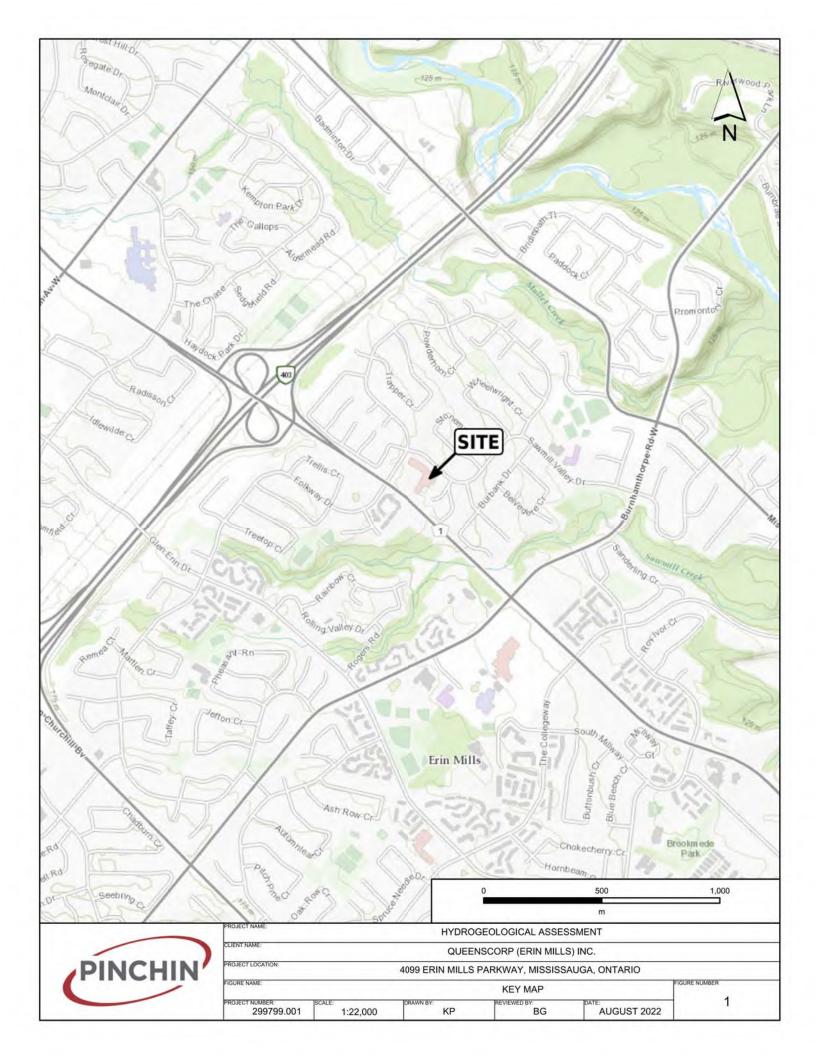
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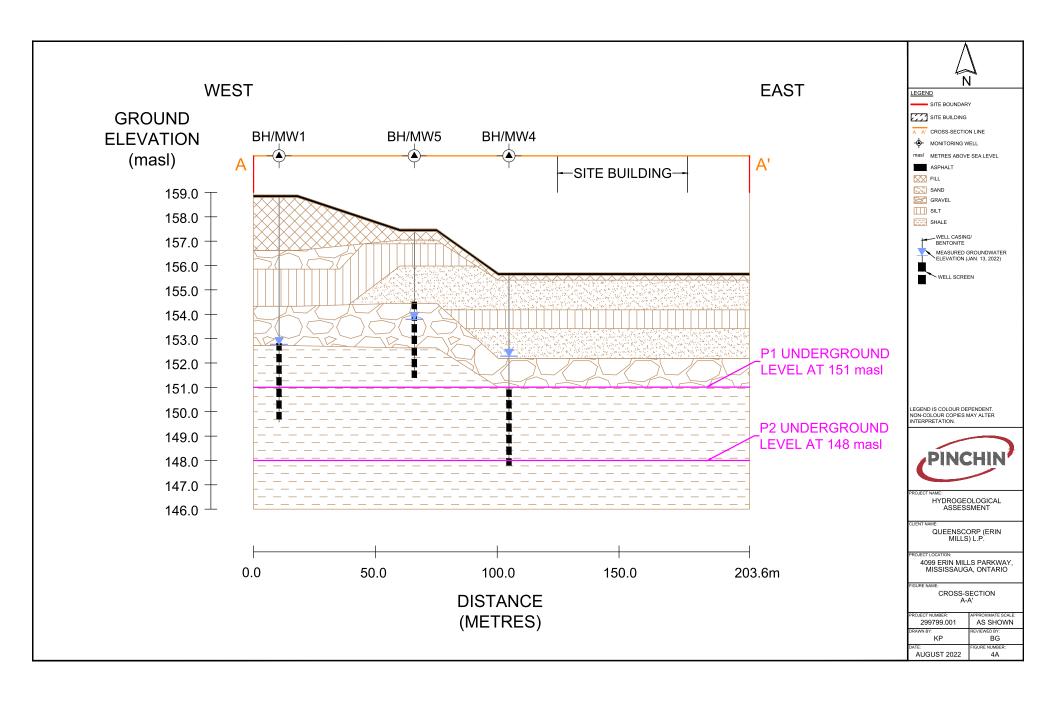
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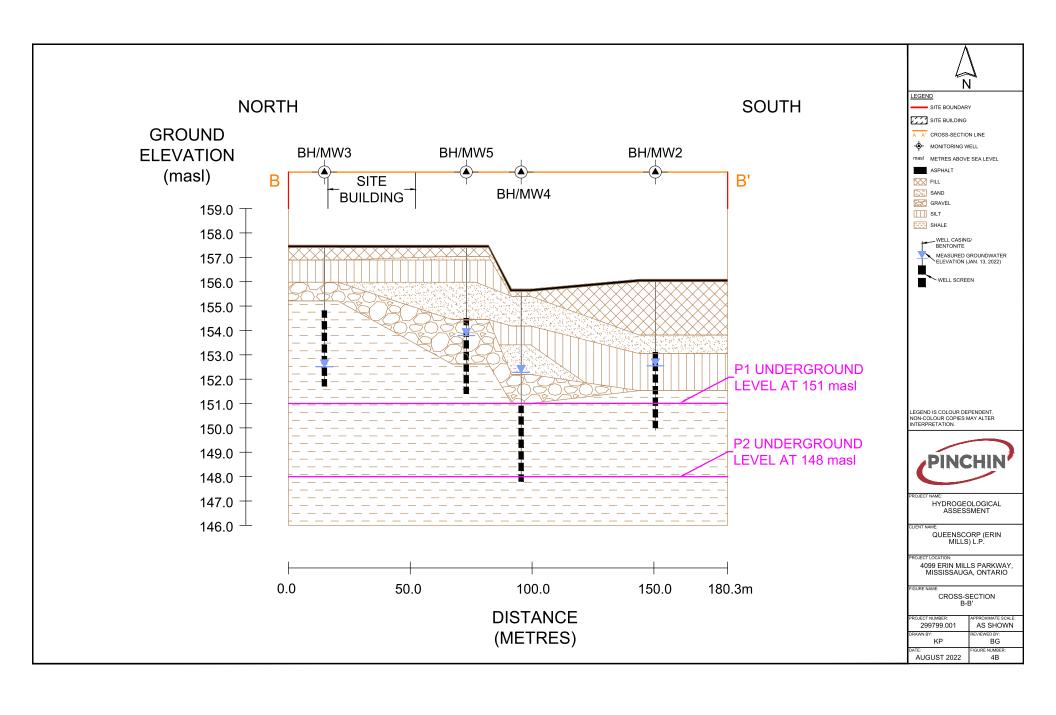






Table 1
MONITORING WELL CONSTRUCTION DETAILS

Queenscorp (Erin Mills) Inc. 4099 Erin Mills Parkway, Mississauga, Ontario

				Well Construction Details										
Monitoring Well	Ground Surface Elevation (masl)	Top of Pipe Elevation (masl)	Borehole Depth (mbgs)	Stick-Up Height (metres)	Well Diameter (centimetres)	Screen Slot Size	Monitoring Well Screen Interval (mbgs)	Screen length (metres)	Bedrock Depth (mbgs)	Screened Soil				
BH/MW1	158.90	158.85	9.30	-0.05	5.1	010	6.1 - 9.2	3.1	6.2	gravel; shale				
BH/MW2	156.10	155.98	6.20	-0.12	5.1	010	3 - 6.1	3.1	4.6	silt; shale				
BH/MW3	157.53	157.42	5.80	-0.11	5.1	010	2.7 - 5.8	3.1	2.3	shale				
BH/MW4	155.78	155.64	7.90	-0.14	5.1	010	4.8 - 7.9	3.1	4.7	shale				
BH/MW5	157.51	157.40	6.10	-0.11	5.1	010	3 - 6.1	3.1	4.9	gravel; shale				

Notes:

masl = metres above sea level mbgs = metres below ground surface

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GROUNDWATER ELEVATION DATA

Queenscorp (Erin Mills) Inc. 4099 Erin Mills Parkway, Mississauga, Ontario

				December 7, 2021				January 13, 2022	2		February 2, 2022			March 2, 2022		
Monitoring Well	Ground Surface Elevation (masl)	Top of Pipe Elevation (masl)	Monitoring Well Screen Interval (mbgs)		Groundwater Below Ground Surface (mbgs)			Groundwater Below Ground Surface (mbgs)		Groundwater Level to Top of Pipe (mTOP)	Groundwater Below Ground Surface (mbgs)			Groundwater Below Ground Surface (mbgs)	Calculated Groundwater Elevation (masl)	
BH/MW1	158.90	158.85	6.1 - 9.2	4.70	4.75	154.15	6.09	6.14	152.76	5.96	6.01	152.89	5.88	5.93	152.97	
BH/MW2	156.10	155.98	3 - 6.1	3.53	3.65	152.45	3.43	3.55	152.55	3.61	3.73	152.37	-	-	-	
BH/MW3	157.53	157.42	2.7 - 5.8	4.96	5.07	152.46	4.91	5.02	152.51	5.07	5.18	152.35	-	-	-	
BH/MW4	155.78	155.64	4.8 - 7.9	3.84	3.98	151.80	3.36	3.50	152.28	4.50	4.64	151.14	4.18	4.32	151.46	
BH/MW5	157.51	157.40	3 - 6.1	3.71	3.82	153.69	3.61	3.72	153.79	-	-	-	-	-	-	

Notes:

masl = metres above sea level mbgs = metres below ground surface

Page 2 of 3 Pinchin File: 299799.001



					April 1, 2022			May 2, 2022		June 2, 2022			
Monitoring Well	Ground Surface Elevation (masl)	Top of Pipe Elevation (masl)		Groundwater Level to Top of Pipe (mTOP)				Groundwater Below Ground Surface (mbgs)	Calculated Groundwater Elevation (masl)	Groundwater Level to Top of Pipe (mTOP)	Groundwater Below Ground Surface (mbgs)	Calculated Groundwater Elevation (masl)	
BH/MW1	158.90	158.85	6.1 - 9.2	5.70	5.75	153.15	5.86	5.91	152.99	5.69	5.74	153.16	
BH/MW2	156.10	155.98	3 - 6.1	3.34	3.46	152.64	3.41	3.53	152.57	3.42	3.54	152.56	
BH/MW3	157.53	157.42	2.7 - 5.8	4.96	5.07	152.46	4.98	5.09	152.44	4.97	5.08	152.45	
BH/MW4	155.78	155.64	4.8 - 7.9	3.99	4.13	151.65	3.65	3.79	151.99	2.94	3.08	152.70	
BH/MW5	157.51	157.40	3 - 6.1	3.84	3.95	153.56	3.69	3.80	153.71	3.63	3.74	153.77	

Notes:

masl = metres above sea level mbgs = metres below ground surface

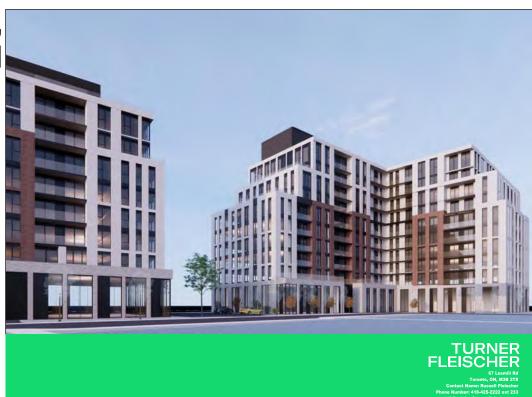
Page 3 of 3 Pinchin File: 299799.001

APPENDIX I Site Plans

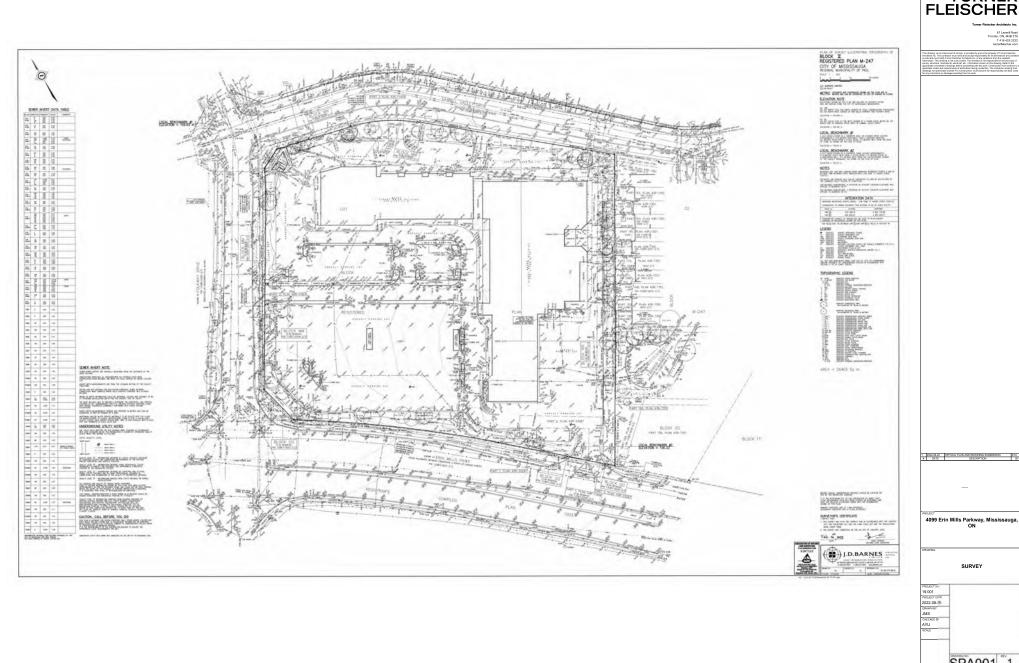


Queenscorp (Erin Mills) Inc. 2 Queen Elizabeth Blvd Etobicoke, ON M8Z 1L8

4099 Erin Mills Parkway, Mississauga, ON



OFFICIAL PLAN AND REZONING SUBMISSION AUGUST 22, 2022



TURNER FLEISCHER

SPA001 1

STATISTICS

26,405 59,024 284,223 635,335 NEW PROPOSAL GFA FSI 2.24 NEW RESIDENTIAL UNIT# 703

GFA BREAKDOWN

	DESCRIPT	ION			RESIDENTIAL			RETA		TOTAL	OFA
DESCRIPTION			TOTA	L GFA		NET SALEABLE		MEIA	ac.	TOTAL GFA	
	TYPE	HEIGHT (m)	m2	ft2	m2	ft2	UNIT	m2	ft2	m2	ft2
U/G PARKING		2 LEVELS	459	4941						459	4,941
BUILDING 'A'	RESIDENTIAL BASE	33.6	15,064	162,152	13,120	141,226	197	411	4,429	15,476	166,581
BUILDING 'B'	RESIDENTIAL BASE	21.2	11,286	121,480	9,585	103,173	-142			11,286	121,480
BUILDING 'C'	RESIDENTIAL BASE	21.2	5,815	62,595	4,935	53,131	80		March 1	5,815	62,595
BUILDING 'D'	RESIDENTIAL BASE	26.0	7,308	78,664	6,213	66,877	95	365	3,926	7,673	82,591
BUILDING 'E'	RESIDENTIAL BASE	21.9	6,184	66,569	5,221	56,195	77			6,184	66,569
TOTAL			46,117	496,401	39,075	420,601	591	776	8.356	46.893	504,757

	purechina	HON	1000	RESIDENTIAL					TOTAL	CEA
	DIESCRIPTION		TOTA	TOTAL GFA		NET SALEABLE			TOTAL	UFA
	TYPE	HEIGHT (m)	m2	ft2	m2	ft2	UNIT		m2	R2
B-B STACKED TOWNHOUSES	108.3M2/ UNIT	10.3 70 11.3	12,131	130,578	12,131	130,578	112		12,131	130,578

PARKING REQUIRED

RESIDENTIAL	UNITS#	MIN. RATE	PARKING SPACES
BUILDING 'A'	107	1.1	217
BUILDING 'B'	142	1.1	156
BUILDING 'C"	.80	1.1	88
BUILDING 'D'	95	1.1	105
BUILDING 'E'	77	1.1	85
B-B STACKED TOWNHOUSES	112	1.1	123
SUB TOTAL	703		773
NON-RESIDENTIAL			
RESIDENTIAL VISITOR	703	0.2	141
RETAIL	776.3	5/100M2	39
SUB TOTAL (BEFORE SHARIN	GI		180
SUB TOTAL (AFTER SHARING	1		141
TOTAL (BEFORE SHARING)			953
TOTAL CAPTER CALABORIST			figh.

AMENITY REQUIRED 5.6m2 per unit

AMENIT REQUIRED	
5.6m2 per unit	3936.8 m2
AMENITY PROVIDED	
INDOOR	1621.03 m2

BICYCLE PARKING - REQUIRED

	RESIDENTIAL		NON-RESIDENT	TOTAL	
USE	RATIO	SPACES	RATIO	SPACES	
SHORT TERM (CLASS B)	0.05 / UNIT	35	0.20 / 100m ³	0	35
LONG TERM (CLASS A)	0.60 / UNIT	422	0.15 / 100m²	0	422
TOTAL REQUIRED		457		0	457

PARKING PROVIDED

FLOOR	U	TOTAL	
The second	RESIDENTIAL	NON-RESIDENTIAL	
FLOOR 1		26	2
U/G LEVEL 1	558	115	67
U/G LEVEL 2	215		21:
YOTAL PROVIDED	773	141	91
RATIO	14		

ACCESSIBLE PARKING - PROVIDED

LLDOIL	SPA	SPACES	
	RESIDENTIAL	VISITOR	
FLOOR 1		1	
U/G LEVEL 1	1	- 5	. 7
U/G LEVEL 2	2		
TOTAL PROVIDED	4 4		10

GROSS FLOOR AREA DEFINITION

CITY OF MISSISSAUGA ZONING BY-LAW

Gross Floor Area / (GFA) - Apartment Zone

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.

FLOOR TOTAL PROVIDED

BICYCLE PARKING - PROVIDED

means the sum of the areas of each storey of a building, structure or part thereof, above or below established grade, excluding storage below established grade and a parking structure above or below established grade, measured from the exterior of outside walls, or from the midpoint of common valish.

means the sum of the areas of each storey of a building above or below established grade, measured from the exterior of outside walls of the building including floor area occupied by interior walls but excluding any per of the building used for mechanical floor area stairwile, elevators, mortor verificip periority, plotype parking, storegie bockers, below-picked storage, any enclosed area used of the oblicitions oftenge of disposable recyclable waste generated within the building, common facilities for the use of the residents of the buildings day care and amenty area. (077–2017)

means the sum of the areas of each story above or below established grade, measured from the exterior of outside walls, or from the mispoint of common valls, including the area of any floor system or assembly located within a story which is designed or used for access and passage by persons and including a plans of the building or shoutcar or part thereof betwee wistellands grade used for relat, office, including or shoutcar or part thereof such of mechanical floor area;

(1) any grad of the building, structure or part thereof such of mechanical floor area;
(2) areas of stainwals, wasterooms or developed, standards or several part of the building or structure or part thereof;
(3) any grad of the building or structure or part thereof above or bother established grade used for motor whole parting or the provision of loading (4) any part of the building or structure or part thereof above the observable parting or the provision of loading (4) any part of the building or structure or part thereof above the observable parting or the provision of loading (4) any part of the building, structure or part thereof above the parting or the provision of loading (4) and or the parting or the provision of loading (4) and or the parting or the provision of loading (4) and the building, structure or part thereof provided and reserved for the personal needs of the occupants of the building, structure or part thereof including function occurs.

RESIDENTIAL
SHORT TERM (CLASS B) LONG TERM (CLASS A) SUB-TOTAL

SALEABLE UNIT MIX PROVIDED - UNIT TOTALS

	BLUG					TOTAL	AVG. UP	III SIZE	
		1B	2B	2B+D	3B		m²	ft ^a	
	A	130	39	16	12	197	66.6	717	
	В	86	37	16	3	142	67.5	726	
	C	56	16	5	3	80	61.7	664	
	D	57	17	15	6	95	65.4	704	
BLDG	E	55	10	5	7	77	67.8	730	
A+B+C+D									
+E	SUBTOTAL	384	119	57	31	501	591		
	TOTAL UNITS	384	1	76	31	331			
	UNIT MIX	65.0%	20.1%	9.6%	5.2%	100.0%	66.1	711	
	UNIT MIX TOTAL	65.0%	29.	8%	5.2%	100.0%	00.1	711	
	AVG UNIT SIZE	57.4	75.3	83.7	106.6	m²			
	AVG UNIT SIZE TOTAL	57.4	72	2.8	93.8	m²			

BLDG	TYPE	AVGUN	TSIZE
	28	m2	ft2
TH	112	108.3	1166
TOTAL UNITS	117		

TURNER FLEISCHER

subtant's drawings below proceeding with the work. In and requirements of authorities having justification, earliestly subtant for Construction Florid secure ful and or clamages securing from his work.	construction must conform to all. The costructor working from responsibility and bear costs.
Sheet List	

Sheet Name	Sheet Number
SURVEY	SPA001
STATISTICS	SPA002
STATISTICS	SPA003
CONTEXT PLAN	SPA004
SITE PLAN / ROOF PLAN	SPA005
UNDERGROUND LEVEL 02	SPA101
UNDERGROUND LEVEL 01	SPA102
TH LOWER GROUND FLOOR	SPA150
FLOOR 01	SPA151
MEZZANINE	SPA152
FLOOR 02	SPA153
FLOOR 03 - 04	SPA154
FLOOR 05	SPA155
FLOOR 06	SPA156
FLOOR 07	SPA157
FLOOR 08	SPA158
FLOOR 09-10	SPA159
M.P.H.	SPA160
BUILDING ELEVATIONS 'A'	SPA310
BUILDING ELEVATIONS 'B'	SPA311
BUILDING ELEVATIONS 'B'	SPA312
BUILDING ELEVATIONS 'C'	SPA313
BUILDING ELEVATIONS 'D'	SPA314
BUILDING ELEVATIONS 'E'	SPA319
TOWNHOUSE ELEVATIONS E	SPA316
N-S SITE SECTION	SPA401
W-E SITE SECTIONS	SPA402
3D PERSPECTIVES	SPA402 SPA801
	SPA802
3D PERSPECTIVES	
3D PERSPECTIVES	SPA803
3D PERSPECTIVES	SPA804
SHADOW STUDY ANALYSIS	SPA810
SHADOW STUDY ANALYSIS	SPA811
SHADOW STUDIES_JUNE	SPA812
SHADOW STUDIES_JUNE	SPA813
SHADOW STUDIES_JUNE	SPA814
SHADOW STUDIES_JUNE	SPA815
SHADOW STUDIES_SEPTEMBER	SPA816
SHADOW STUDIES_SEPTEMBER	SPA817
SHADOW STUDIES_SEPTEMBER	SPA818
SHADOW STUDIES_DECEMBER	SPA819
SHADOW STUDIES_DECEMBER	SPA820

2022-05-22	OFFICIAL PLAN AND REZONING SUBMISSION	AY1
DATE	DESCRIPTION	

4099 Erin Mills Parkway, Mississauga, ON

STATISTICS



SPA002 1

^{*}BICYCLE PARKING SPACES SHALL NOT BE REQUIRED FOR NON-RESIDENTIAL USES WITH LESS THAN 1000 m* OF GFA - NON-RESIDENTIAL

ESTABLISHED GRADE AND HEIGHT DEFINITIONS

CITY OF MISSISSAUGA ZONING BY-LAW

Building Height

(1) means, with reference to the height of a building, shoutche or gost thereof, except a detached detailed, semi-desched, duplex, tiplex, extended a set of the controlled of

S) insers, with inference to the insight of a bummhouse, look to back bomhouse and stacked bomhouse, the vertical distance between the context offset and E, 11 between the springer point of the order bodd feet for ord.

2.2 the mean height level between the earness and rights of a stoped roof.

2.3 the mean height level between the earness and rights or point of the flat roof where there is a flat roof on top of a stoped roof, or 2.3 the mean height level between the earness and rights or point of the flat roof where there is a flat roof on top of a stoped roof, or (order 2016 February 16).

(Intel-2016 JAF Code 2016 February 16) See Television (S) S

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. (3098-2011)

Context Grade

mans, with reference to a loverhouse, back to back townhouse or stacked townhouse, the everage of 12 grade points, eight of which are backed named the particular of the site and board with the backed in the location of the proposed building(s).

(3) the points backed 10 cm outside the subject all feet may be site properly lines;
(3) the points backed 10 cm outside the subject all feet midports of the site properly lines;
(3) the points backed 10 cm outside the subject all feet where the "Time the abort purpoys") then, the subject all feet and the site properly lines properly lines and the subject all feet and the site properly lines properly lines and the subject all feet and the site properly lines properly lines properly lines properly lines properly lines and the subject all feet and the site properly lines properly

ESTABLISHED GRADE CALCULATION BLDG A

LENGTH N	BEGIN ELEV. (E1)	END ELEV. (E2)	(£1+£21/2	LENGTH (m)	(E1+E2)/2 x (
1 -	160.75	160.20	360.48	39.53	6343.58
2	160.20	159.16	159.68	22.80	3640.70
1	159.16	158.93	159.05	22.03	3503.76
4	158.93	158.11	158.52	16.83	5838.29
. 5	158,11	159.48	158.80	25.10	3985.75
6	153.48	160.52	160.00	50.80	8128.00
7	160.52	180.75	160.64	8.10	1301.14

TOTAL.	205.19	32741.23
ESTABLISHED GRADE	32,741.23 / 205.19	159.57

ESTABLISHED GRADE CALCULATION BLDG B

LENGTHN	BEGIN FLEY: (E3)	END ELEV. (EZ)	(81+62)/2	LENGTH (m)	1[1+[2]/2×1
1	159.59	159.78	159.44	54.97	5764.14
7	159.28	158.00	158.64	44.87	7118.18
1	158.00	157.02	157.51	20.20	3181.70
4	157.02	156.76	116.89	22.31	3500.22
5	156.76	157.83	137.30	12.00	1687.54
-6:	.157.83	158.51	158.17	30.14	4767.24
7	158.51	119.28	158.90	38.35	6093.62
1	159.28	159.59	159.44	21.00	3667.01

TOTAL	245.84	38979.65
TABLISHED GRADE	38,979.65 / 245.84	158.56

ESTABLISHED GRADE CALCULATION BLDG C

LENGTH N	BEGIN ELEV. (E1)	END ELEV- (EZ)	1E1+E21/2	LENGTH (m)	(E1+E2)/2 + E
1	158.79	139.46	159.11	11.46	1823.57
1	159.46	157.73	158.60	21.00	3547.69
3	157.73	157.85	157.79	11.46	1808.27
4	157.85	156.59	157.22	72.31	3507.52
4.	157.85	158.79	158.32	23.00	3641.36
3	157.63	159.37	158.50	23.00	3645.50
.6	159.37	158.49	158,93	24.76	3935.11
7	158.49	158.22	158.30	6.71	1062.58
- 8	158.22	157,72	157.97	18.92	2988.79
. 9	157.72	157.63	157.68	30.10	4746.02

TOTAL	194.72	30106.31
ESTABLISHED GRADE	30,806.39 / 194.72	158.21

ESTABLISHED GRADE CALCULATION BLDG E

LENGTHN	BEGIN ELEV. (E1)	END ELEV. (K2)	(E1+E2)/2	LENGTIS (HI)	(E1+E2)/2.e
1	156.75	156.24	156.50	57.60	9014.11
7	156.24	155.87	156.06	12.00	1872.66
- 1	155.87	155.87	155.87	2.54	395.91
4	155.87	155.72	155.80	11.00	1713.75
- 5	155.72	156.49	156.11	\$5.10	8601.39
	156.49	156.75	156.62	21.00	3602.26

TOTAL	363.24	25200.07
ESTABLISHED GRADE	25,200.07 / 161.24	156.29

ESTABLISHED GRADE CALCULATION BLDG D

LENGTH N	BEGIN FLEV. (E1)	END ELEV, (EZ)	((1+)2)/2	LEMETH (M)	(E1+(2)/2 + L
1	158.86	157,47	158.17	26.00	4112.29
- 2	137.47	157.02	157.25	10.70	4827.43
- 8	157.02	156.83	156.93	17.90	2808.96
4	156.83	156.89	156.86	18.00	2923.48
5.	156.89	157.56	157.23	11.50	1808.09
- 6	157.56	158.86	158.21	51.40	8131.99

OTAL.	155.50	24512.23
TABLISHED GRADE	24,512.23 / 155.5	157.63

Foint.					
1	156.98		156.45		156.93
2	156.58		156.95	10	156.67
1	156.93	1	156.17	11	156.30
4	196.52		153.15	12	156.64
				TOTAL	1876.22
				CONTEXT GRADE	156.35

CONTEXT GRADE CALCULATION TOWNHOUSE 2

1	156.58	5	156.95	797	156.93
3	156.30	- 6	156.58	10	156.67
.1	156.47	7	151.15	- 11	156.30
-141	116.57	- 1	153.40	13	156.64

Point.		4			
1	156.20	5	156.58	9.	156.35
2	155.90	6	156.21	in in	156.98
4	156.09	- 7	153.30	- 11	156.25
4	155.69	-	151.62	12	155.95

TOTAL	1869.03	
CONTEXT GRADE	155.75	

CONTEXT GRADE 156.03

CONTEXT GRADE CALCULATION TOWNHOUSE 4

Point				the second	
1	155.85	5	156.21		156.00
1	155.51	6	153.87	jn jn	155.58
3	155.74	7	153.62	-11	155.97
-	155.40		153.90		155.50

CONTEXT GRADE CALCULATION TOWNHOUSE 5

Point:					
1	155.48	5	155.55	9	155.32
2	155.51	6	155.30	10	155.64
1	155.41	7	153.90	- 11	154.01
	155.46		154.91		155.13

Point					
-1	185.51	7.5	155.30	- 9	155.56
3	256.15	/6	158.23	10	156,30
3.	155.47	7	154.91	- 11	154.85
4	156.08	- 1	155.96	12	155.96

TOTAL	1868.30
CONTEXT GRADE	155.69

CONTEXT GRADE CALCULATION TOWNHOUSE ?

Point:					
- 1	156.15	- 5	156.40	.9.	156.05
2	156.80	6	156.83	10	156.70
1	156.08	.1	153.85	- 11	255.85
-4	156.73		156.71	- 12	156.91

TOTAL	3877.08
CONTEXT GRADE	156.42

	TH BLOCK NUMBER	TH-1	TH-2	TH - 3	TH-4	TH - 5	TH-6	TH - 7
- 1	BUILDING HEIGHT (m)	10.41	10.33	10.61	11.33	10.82	10.87	10.54

TURNER FLEISCHER

1 2022-98-22 OFFICIAL PLAN AND REZONING SUBMISSION ANU # DATE DESCRIPTION BY

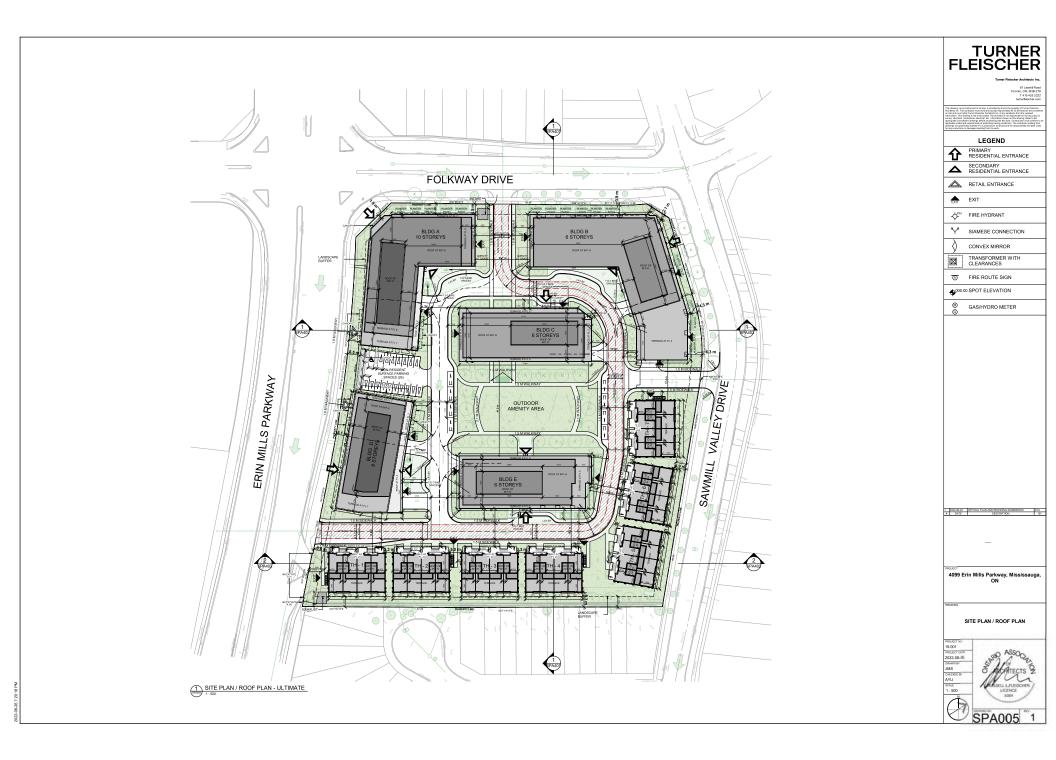
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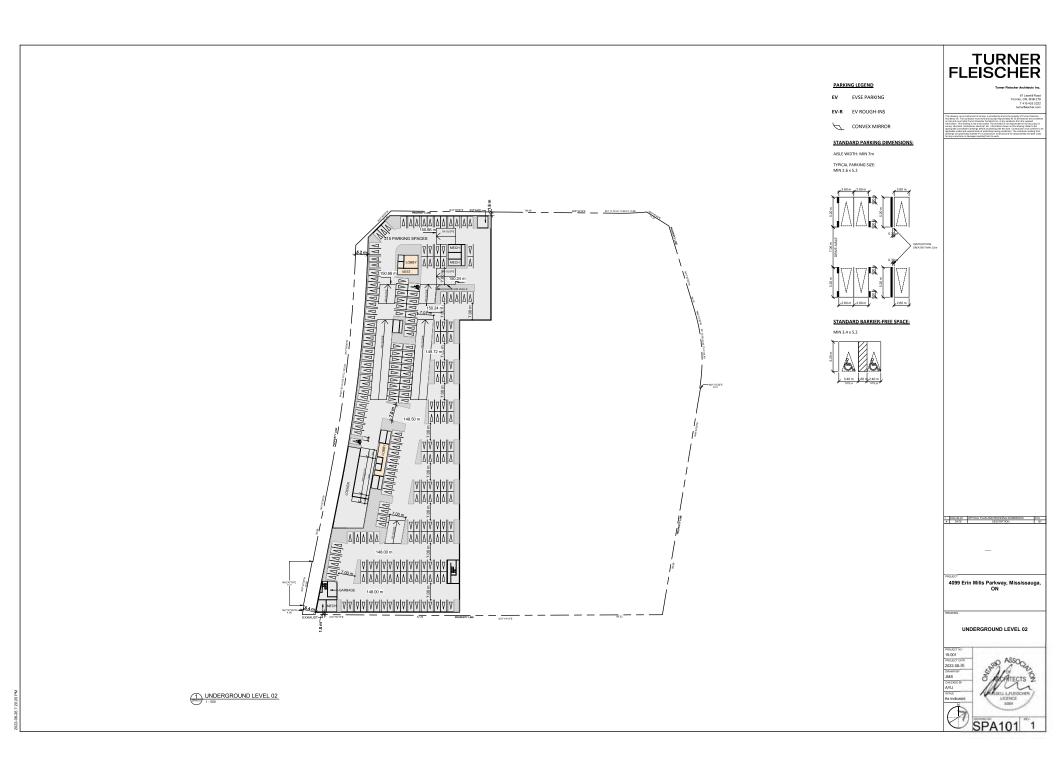
STATISTICS

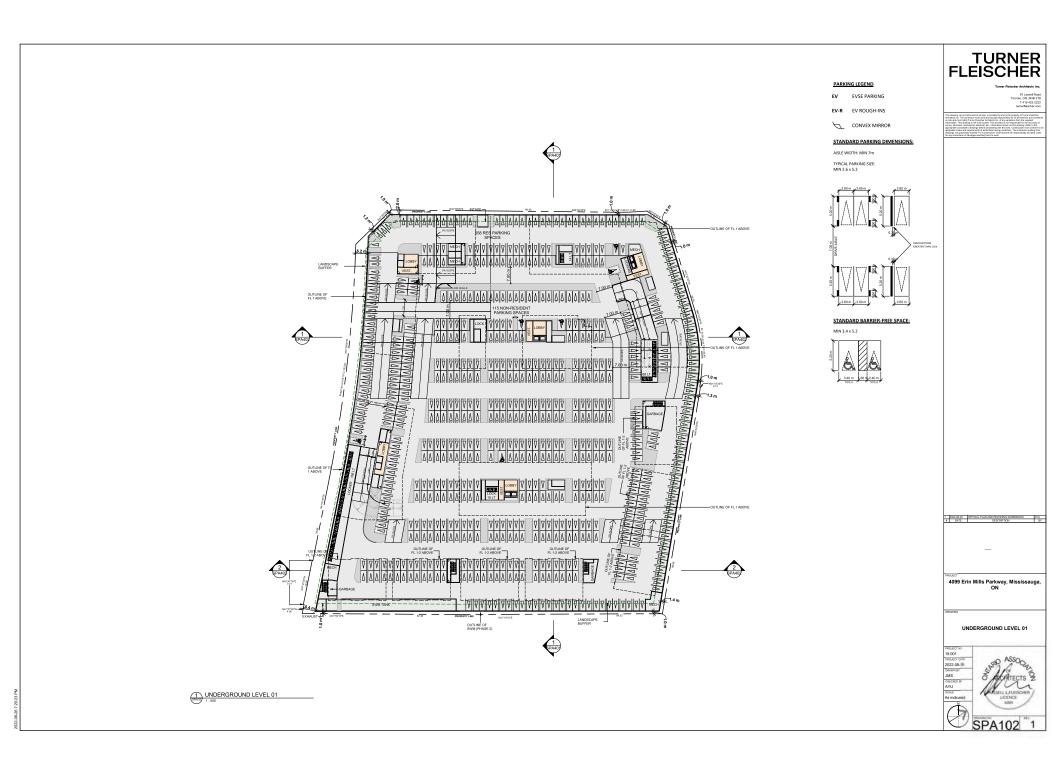


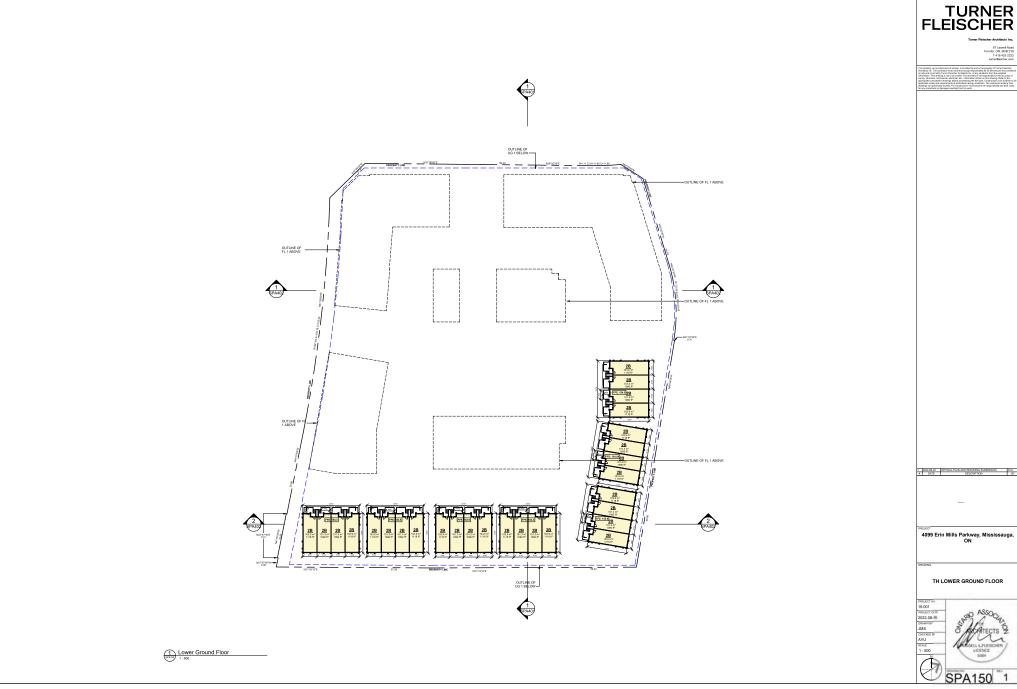
SPA003 1



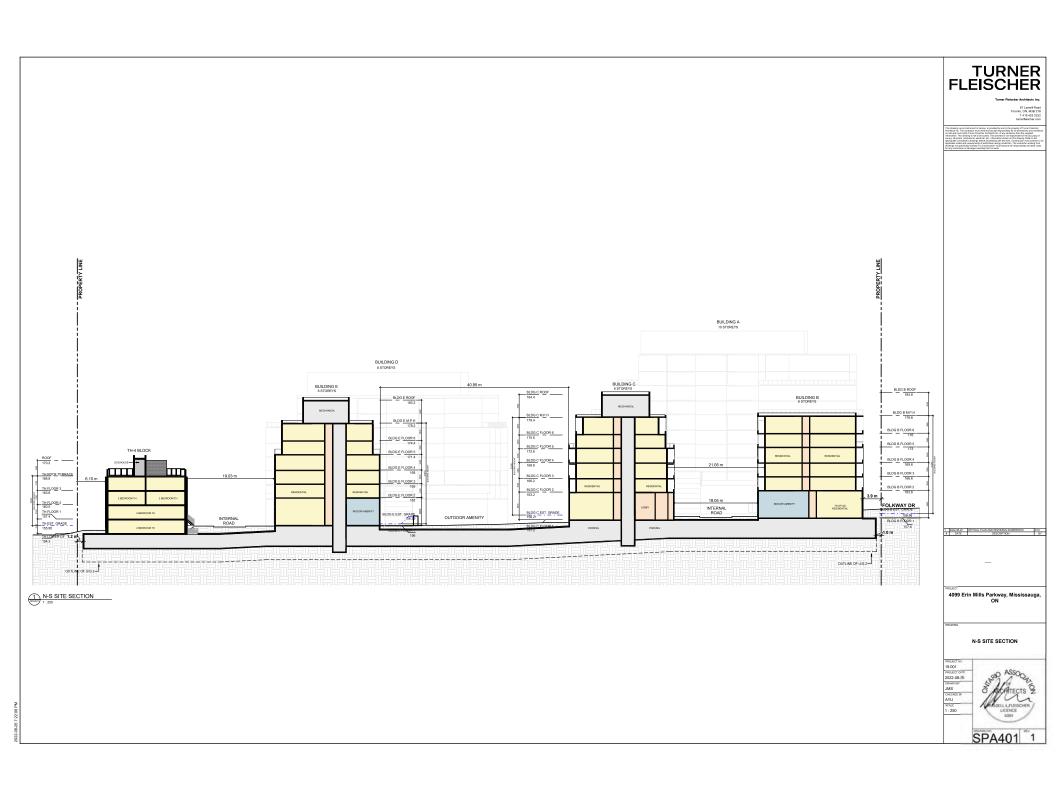














APPENDIX II
Water Well Records

MECP Water Well Records

Well ID *	Well Record Information	Well Tag # (since 2003) ♀	Audit # ^{\$}	Contractor Lic# \$	Well Depth (m) ‡	Date of Completion (MM/DD/YYYY) [≎]
4905328	PDF HTML	N/A	N/A	4320	13.4	10/12/1976
7203541	HTML	A143785	Z172372	7241	7.6	06/03/2013
7203542	HTML	A143813	Z172374	7241	5.2	06/03/2013
7214289	PDF HTML	A012086	Z169565	2576	N/A	07/22/2013
7223310	PDF HTML	A160390	Z184302	2576	34.7	05/23/2014
7223311	PDF HTML	A160395	Z184303	2576	33.5	05/23/2014
7234923	PDF HTML	A160395	Z193684	2576	N/A	09/19/2014
7234924	PDF HTML	A160390	Z193683	2576	N/A	09/19/2014
7299706	PDF HTML	A231662	Z268859	7360	7.6	08/31/2017
7315183	HTML	A247272	C43006	7147	N/A	06/28/2018

Well#: 4905328

General Colour	Most Common Material	Other Materials	General Description	Depth	Depth
				From	То
BRWN	MSND	CLAY		0 ft	44 ft

Domestic water supply, concrete to 34', galvanized to 44', fresh water at 14', water level at 12', recommended pump rate at 3 GPM

Well#: 7203541

General Colour	Most Common Material	Other Materials	General Description	Depth	Depth	
				From	То	
BRWN	LOAM	LOOS		0 ft	2 ft	
BRWN	SILT	SAND	LOOS	2 ft	11 ft	
GREY	SILT	CLAY	DNSE	11 ft	25 ft	

monitoring /test hole

Well#: 7203542

General Colour	Most Common Material	Other Materials	General Description	Depth	Depth
				From	То
BRWN	LOAM	LOOS		0 ft	2 ft
BRWN	SILT	SAND	DNSE	2 ft	4 ft
BRWN	SAND	SILT	SOFT	4 ft	17 ft

monitoring /test hole

Well#: 7214289; abandoned well

Well#: 7223310

General Colour	Most Common Material	Other Materials	General Description	Depth	Depth
				From	То
BRWN	FILL			0 ft	10 ft
BRWN	CLAY	GRVL		10 ft	25 ft
GREY	GRVL	STNS	WBRG	25 ft	96 ft
BLUE	SHLE			96 ft	114 ft

Dewatering, 9" steel 84~94', 94~114', untested water at 96', water level at 38'

Well#: 7223311

General Colour	Most Common Material	Other Materials	General Description	Depth	Depth
				From	То
BRWN	FILL			0 ft	2 ft
BRWN	CLAY	GRVL	STNS	2 ft	25 ft
GREY	GRVL	SILT	LYRD	25 ft	88 ft
BLUE	SHLE			88 ft	110 ft

Dewatering, 8" steel 70~110', untested water at 88', water level at 38'

Well#: 7234923; abandoned well

Well#: 7234924; abandoned well

Well#: 7299706

General Colour	Most Common Material	Other Materials	General Description	Depth	Depth
				From	То
	FILL			0 ft	5 ft
BRWN	CLAY	SILT		5 ft	25 ft

Observation Well

Well#: 7315183, no well details

APPENDIX III
Borehole Logs



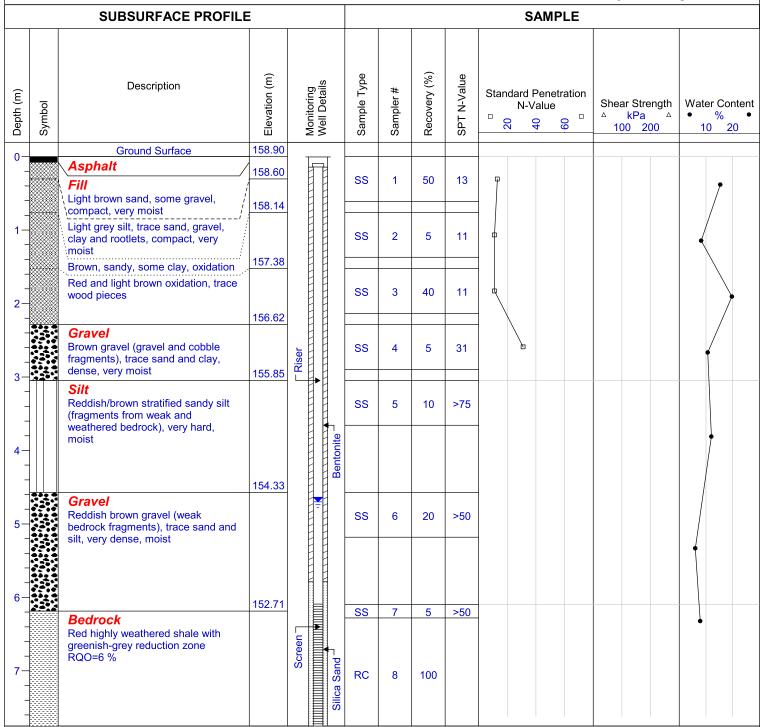
Project #: 299799.000 Logged By: HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 02, 2021 Project Manager: RM



Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger, HQ-Rock Coring

Well Casing Size: 51 mm

Top of Casing Elevation: 158.85 masl

Grade Elevation: 158.90 masl



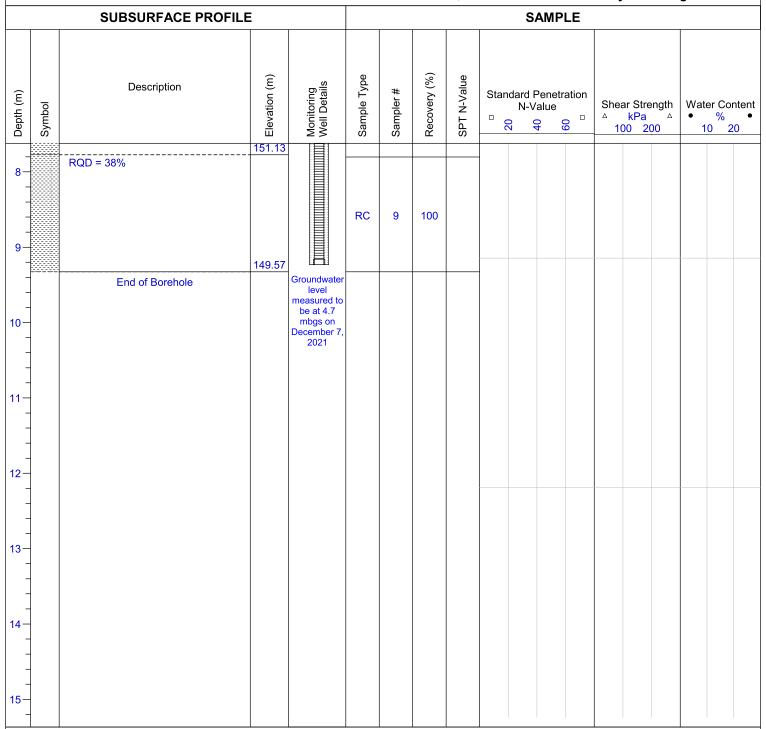
Project #: 299799.000 Logged By: HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 02, 2021 Project Manager: RM



Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger, HQ-Rock Coring

Well Casing Size: 51 mm

Top of Casing Elevation: 158.85 masl

Grade Elevation: 158.90 masl



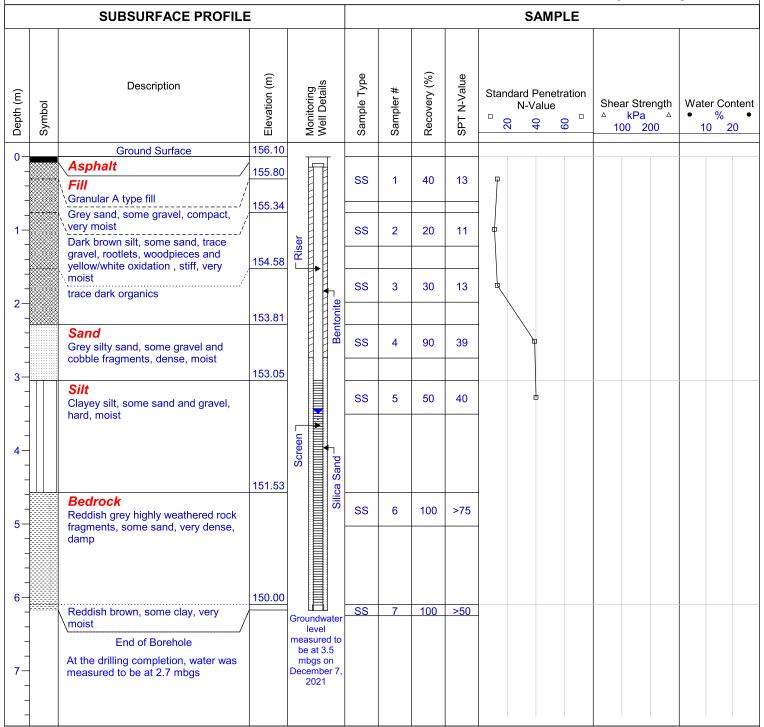
Project #: 299799.000 Logged By: HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 03, 2021 Project Manager: RM



Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger

Well Casing Size: 51 mm

Grade Elevation: 156.10 masl

Top of Casing Elevation: 155.98 masl



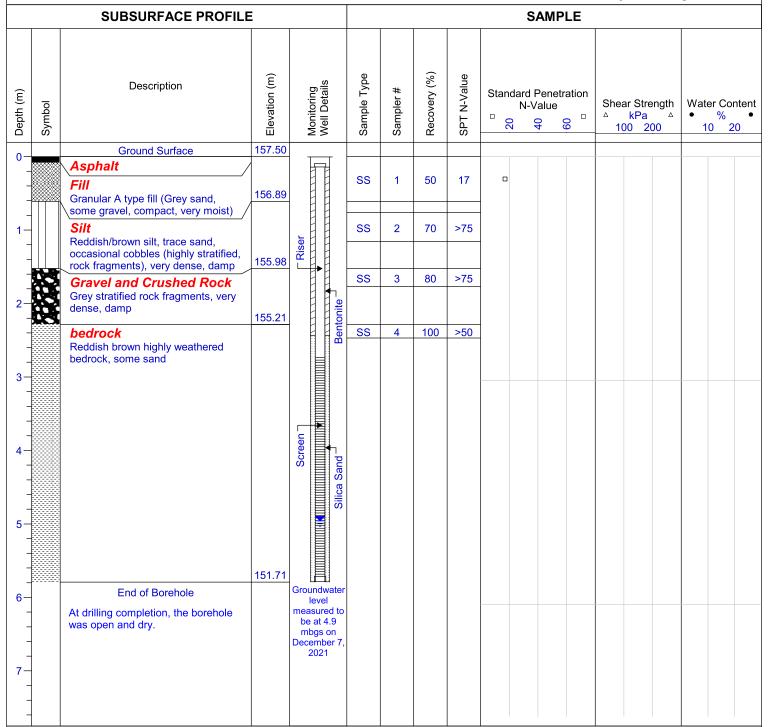
Project #: 299799.000 **Logged By:** HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 03, 2021 Project Manager: RM



Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger

Well Casing Size: 51 mm

Grade Elevation: 157.50 masl

Top of Casing Elevation: 157.42 masl



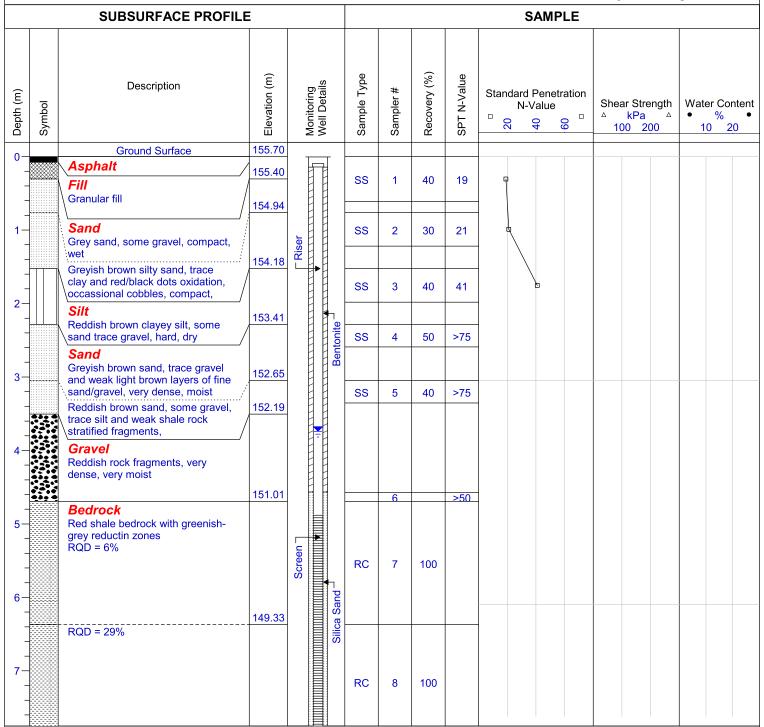
Project #: 299799.000 **Logged By:** HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 02, 2021 Project Manager: RM



Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger, HQ-Rock Coring

Well Casing Size: 51 mm

Grade Elevation: 155.70 masl

Top of Casing Elevation: 155.64 masl



Project #: 299799.000 **Logged By:** HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 02, 2021 Project Manager: RM

	SUBSURFACE PROFILE SAMPLE						30.7.1				
		SUBSURFACE FRUFILE	•						JAIVIFLE		
Depth (m)	Symbol	Description	Elevation (m)	Monitoring Well Details	Sample Type	Sampler #	Recovery (%)	SPT N-Value	Standard Penetration N-Value 0,0 0,0 0	Shear Strength [△] kPa [△] 100 200	Water Content • % 10 20
-			147.78								
8		End of Borehole	147.78	Groundwater level measured to be at 3.8 mbgs on December 7, 2021							
- - - 15-											

Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger, HQ-Rock Coring

Well Casing Size: 51 mm

Grade Elevation: 155.70 masl

Top of Casing Elevation: 155.64 masl



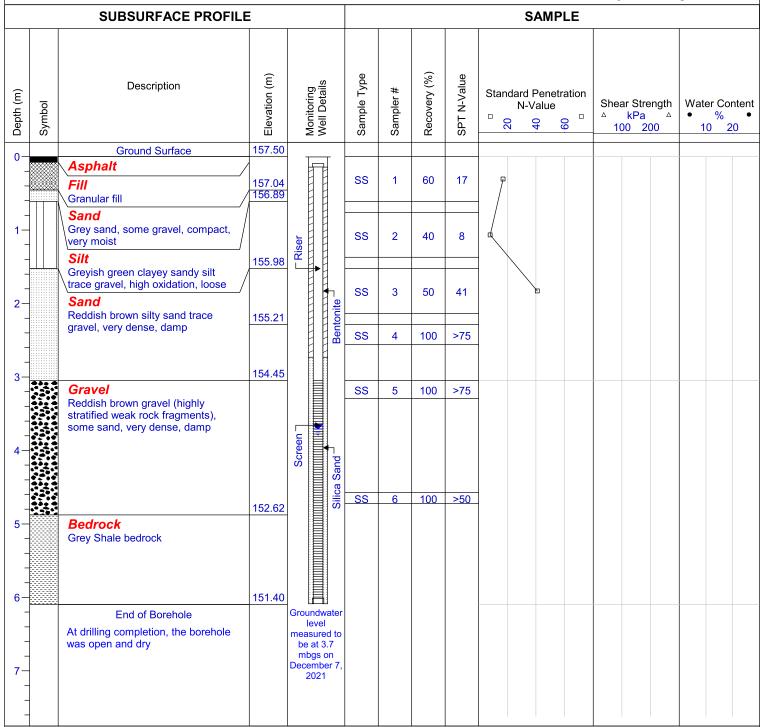
Project #: 299799.000 **Logged By:** HE

Project: Preliminary Geotechnical Investigation

Client: Queenscorp (Erin Mills) Inc.

Location: 4099 Erin Mills Parkway, Mississauga, Ontario

Drill Date: December 03, 2021 Project Manager: RM



Contractor: Strata Drilling Group

Drilling Method: Split Spoon / Hollow Stem Auger

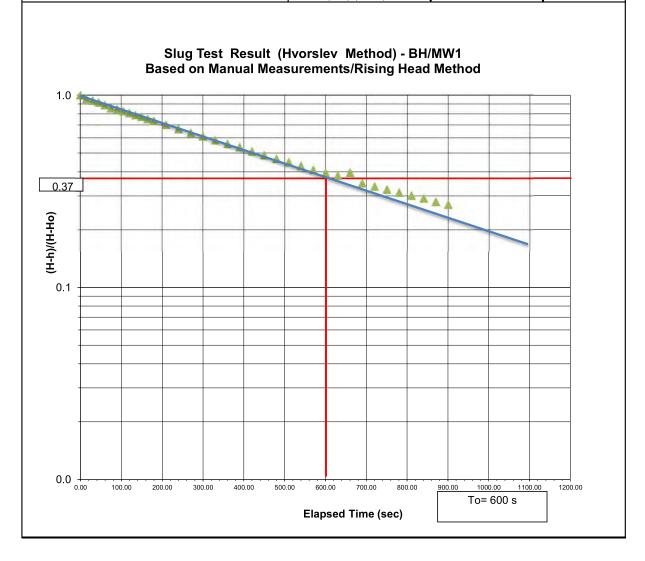
Well Casing Size: 51 mm

Grade Elevation: 157.50 masl

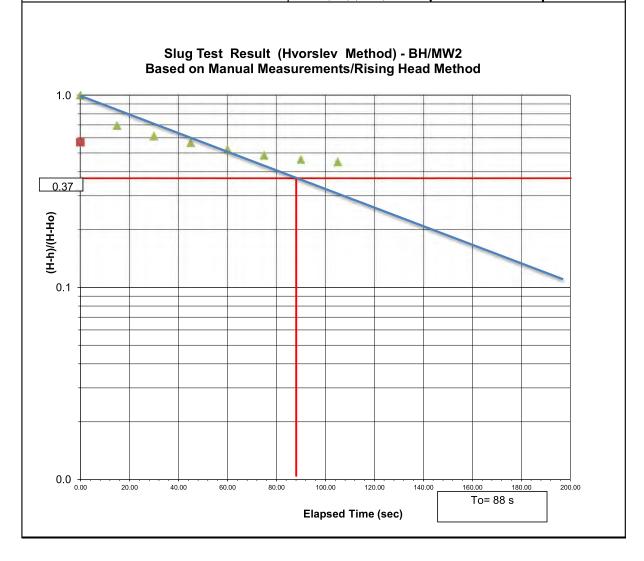
Top of Casing Elevation: 157.40 masl

APPENDIX IV
Rising Head Hydraulic Conductivity Test Curves

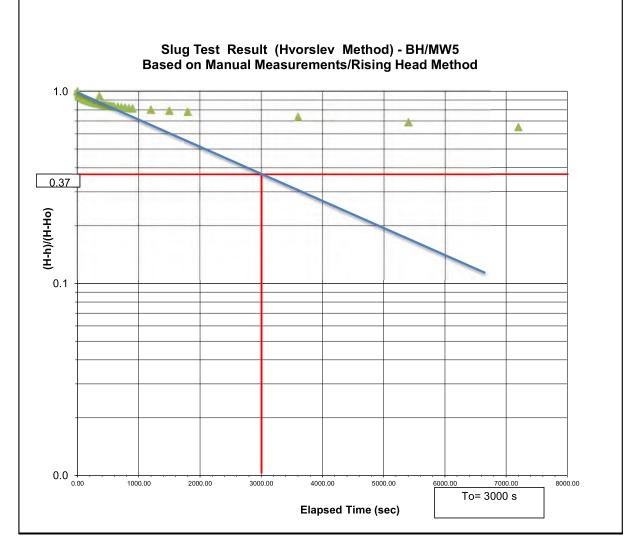
Slug Test: BH/MW1 Project No.: 299799.001							
Project Location: 4099 Erin Mills Parkway, Mississauga, Ontario							
Data Source: based on Manual Measurements as per Rising Head Method dated January 13, 2022 Conducted by: Yorgan Pitt							
Interpreted by:	Bujing Guan	H =	Initial Water Head prio	r to test			
Processing Date:	3/17/2022 Ho = Water Head at time = 0						
Screen Depth (mbgs):	6.1 - 9.2	h =	Water Head/Level at ti	me t			
Screened Soil:	shale						
Well Diameter:	2"	L =	305	cm			
Static Water Level (mbgs):	6.14	R =	10.2	cm			
Initial Reading (mTOP)	6.09	r =	2.54	cm			
Test Start Reading (H0) (mTOP)	7.1	To=	600	sec			
Test End Reading (mTOP)	6.363	$K = r^2 \ln(L/R)/(2LTo) =$	6.0E-05	cm/s			



Slug Test: BH/MW2 Project No.: 299799.001							
Project Location: 4099 Erin Mills Parkway, Mississauga, Ontario							
Data Source: based on Manual Measurements as per Rising Head Method dated December 8, 2021 Conducted by: Yorgan Pitt							
Interpreted by:	Bujing Guan	H =	Initial Water Head prio	r to test			
Processing Date:	3/17/2022	7/2022 Ho = Water Head at time = 0					
Screen Depth (mbgs):	3 - 6.1	h =	Water Head/Level at ti	me t			
Screened Soil:	silt; shale						
Well Diameter:	2"	L =	255	cm			
Static Water Level (mbgs):	3.55	R =	10.2	cm			
Initial Reading (mTOP)	3.43	r =	2.54	cm			
Test Start Reading (H0) (mTOP)	4	To=	88	sec			
Test End Reading (mTOP)	3.686	$K = r^2 \ln(L/R)/(2LTo) =$	4.6E-04	cm/s			



Slug Test: BH/MW5 Project No.: 299799.001								
Project Location: 4099 Erin Mills Parkway, Mississauga, Ontario								
Data Source: based on Manual Measurements as per Rising Head Method dated January 13, 2022								
Conducted by: Yorgan Pitt								
Interpreted by:	Bujing Guan	Bujing Guan H = Initial Water Head prior t						
Processing Date:	3/17/2022	Ho =	Ho = Water Head at time = 0					
Screen Depth (mbgs):	3 - 6.1	h =	Water Head/Level at time t					
Screened Soil:	gravel; shale							
Well Diameter:	2"	L =	239	cm				
Static Water Level (mbgs):	3.71	R =	10.2	cm				
Initial Reading (mTOP)	3.61	r =	2.54	cm				
Test Start Reading (H0) (mTOP)	4.8	To=	3000	sec				
Test End Reading (mTOP)	4.384	$K = r^2 \ln(L/R)/(2LTo) =$	1.4E-05	cm/s				



APPENDIX V
Laboratory Analytical Results



Your Project #: 299799.001 Your C.O.C. #: 861563-01-01

Attention: Craig Kelly

Pinchin Ltd 2360 Meadowpine Blvd Unit # 2 Mississauga, ON CANADA L5N 6S2

Report Date: 2022/01/26

Report #: R6977234 Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C207343 Received: 2022/01/11, 16:00

Sample Matrix: Water # Samples Received: 1

" Jumples Received. 1		D-4-	D-4-		
Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
ABN Compounds in Water by GC/MS	1	2022/01/12	2022/01/13	CAM SOP-00301	EPA 8270 m
Carbonaceous BOD	1	2022/01/13	2022/01/18	CAM SOP-00427	SM 23 5210B m
Total Cyanide	1	2022/01/12	2022/01/12	CAM SOP-00457	OMOE E3015 5 m
Fluoride	1	2022/01/13	2022/01/14	CAM SOP-00449	SM 23 4500-F C m
Mercury in Water by CVAA	1	2022/01/13	2022/01/13	CAM SOP-00453	EPA 7470A m
Total Metals Analysis by ICPMS	1	N/A	2022/01/14	CAM SOP-00447	EPA 6020B m
E.coli, (CFU/100mL)	1	N/A	2022/01/11	CAM SOP-00552	MOE LSB E3371
Total Nonylphenol in Liquids by HPLC	1	2022/01/18	2022/01/19	CAM SOP-00313	In-house Method
Nonylphenol Ethoxylates in Liquids: HPLC	1	2022/01/18	2022/01/19	CAM SOP-00313	BV Labs Method
Animal and Vegetable Oil and Grease	1	N/A	2022/01/13	CAM SOP-00326	EPA1664B m,SM5520B m
Total Oil and Grease	1	2022/01/12	2022/01/13	CAM SOP-00326	EPA1664B m,SM5520B m
Polychlorinated Biphenyl in Water	1	2022/01/12	2022/01/12	CAM SOP-00309	EPA 8082A m
рН	1	2022/01/13	2022/01/14	CAM SOP-00413	SM 4500H+ B m
Phenols (4AAP)	1	N/A	2022/01/12	CAM SOP-00444	OMOE E3179 m
Sulphate by Automated Colourimetry	1	N/A	2022/01/13	CAM SOP-00464	EPA 375.4 m
Total Kjeldahl Nitrogen in Water	1	2022/01/12	2022/01/12	CAM SOP-00938	OMOE E3516 m
Mineral/Synthetic O & G (TPH Heavy Oil) (1)	1	2022/01/12	2022/01/13	CAM SOP-00326	EPA1664B m,SM5520F m
Total Suspended Solids	1	2022/01/13	2022/01/14	CAM SOP-00428	SM 23 2540D m
Volatile Organic Compounds in Water	1	N/A	2022/01/13	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or



Your Project #: 299799.001 Your C.O.C. #: 861563-01-01

Attention: Craig Kelly
Pinchin Ltd
2360 Meadowpine Blvd
Unit # 2
Mississauga, ON

L5N 6S2

CANADA

Report Date: 2022/01/26

Report #: R6977234 Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BV LABS JOB #: C207343 Received: 2022/01/11, 16:00

implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

 st RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Note: TPH (Heavy Oil) is equivalent to Mineral / Synthetic Oil & Grease

Encryption Key

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Antonella Brasil, Senior Project Manager
Email: Antonella.Brasil@bureauveritas.com
Phone# (905)817-5817

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Report Date: 2022/01/26

Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				RPC713			
Samuellina Bata				2022/01/11			
Sampling Date				14:00			
COC Number				861563-01-01			
	UNITS	Criteria	Criteria-2	MW2	RDL	MDL	QC Batch
Calculated Parameters							
Total Animal/Vegetable Oil and Grease	mg/L	150	-	<0.50	0.50	0.10	7774635
Inorganics							
Total Carbonaceous BOD	mg/L	300	15	<2	2	0.2	7779273
Fluoride (F-)	mg/L	10	-	0.22	0.10	0.020	7781175
Total Kjeldahl Nitrogen (TKN)	mg/L	100	1	0.85	0.10	0.060	7777448
рН	рН	5.5:10.0	6.0:9.0	7.42			7781178
Phenols-4AAP	mg/L	1	0.008	<0.0010	0.0010	0.00030	7777041
Total Suspended Solids	mg/L	350	15	470	10	2.0	7777684
Dissolved Sulphate (SO4)	mg/L	1500	-	120	1.0	0.10	7777523
Total Cyanide (CN)	mg/L	2	0.02	<0.0050	0.0050	0.00010	7777492
Petroleum Hydrocarbons							
Total Oil & Grease	mg/L	-	-	0.80	0.50	0.10	7778211
TPH - Heavy Oils	mg/L	15	-	0.50	0.50	0.10	7778310
Miscellaneous Parameters		•					
Nonylphenol Ethoxylate (Total)	mg/L	0.2	-	<0.025	0.025	0.005	7785531
Nonylphenol (Total)	mg/L	0.02	-	<0.001	0.001	0.0002	7785528
Metals							
Mercury (Hg)	mg/L	0.01	0.0004	<0.00010	0.00010	0.000050	7779268
Total Aluminum (AI)	ug/L	50000	-	15000	4.9	2.0	7779212
Total Antimony (Sb)	ug/L	5000	-	<0.50	0.50	0.30	7779212
Total Arsenic (As)	ug/L	1000	20	12	1.0	0.50	7779212
Total Cadmium (Cd)	ug/L	700	8	<0.090	0.090	0.090	7779212
Total Chromium (Cr)	ug/L	5000	80	27	5.0	5.0	7779212
Total Cobalt (Co)	ug/L	5000	-	13	0.50	0.10	7779212
Total Copper (Cu)	ug/L	3000	50	18	0.90	0.50	7779212
Total Lead (Pb)	ug/L	3000	120	4.4	0.50	0.10	7779212
Total Manganese (Mn)	ug/L	5000	50	770	2.0	0.50	7779212
Total Molybdenum (Mo)	ug/L	5000	-	4.9	0.50	0.20	7779212
No Even edence			•		•		

No Fill Grey

Black

No Exceedance

Exceeds 1 criteria policy/level

Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge.

By-Law Number 53-2010.

Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge.

By-Law Number 53-2010.



Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				RPC713			
Sampling Date				2022/01/11			
Sampling Date				14:00			
COC Number				861563-01-01			
	UNITS	Criteria	Criteria-2	MW2	RDL	MDL	QC Batch
Total Nickel (Ni)	ug/L	3000	80	31	1.0	0.50	7779212
Total Phosphorus (P)	ug/L	10000	-	800	100	30	7779212
Total Selenium (Se)	ug/L	1000	20	<2.0	2.0	0.50	7779212
Total Silver (Ag)	ug/L	5000	120	<0.090	0.090	0.070	7779212
Total Tin (Sn)	ug/L	5000	-	<1.0	1.0	0.50	7779212
Total Titanium (Ti)	ug/L	5000	-	180	5.0	4.0	7779212
Total Zinc (Zn)	ug/L	3000	40	61	5.0	3.0	7779212
Semivolatile Organics		•	•	-		•	•
Bis(2-ethylhexyl)phthalate	ug/L	12	8.8	<8.0	8.0	0.40	7778102
Di-N-butyl phthalate	ug/L	80	15	<8.0	8.0	0.40	7778102
Volatile Organics							
Benzene	ug/L	10	2	<0.40	0.40	0.040	7777231
Chloroform	ug/L	40	2	<0.40	0.40	0.10	7777231
1,2-Dichlorobenzene	ug/L	50	5.6	<0.80	0.80	0.10	7777231
1,4-Dichlorobenzene	ug/L	80	6.8	<0.80	0.80	0.10	7777231
cis-1,2-Dichloroethylene	ug/L	4000	5.6	<1.0	1.0	0.10	7777231
trans-1,3-Dichloropropene	ug/L	140	5.6	<0.80	0.80	0.10	7777231
Ethylbenzene	ug/L	160	2	<0.40	0.40	0.020	7777231
Methylene Chloride(Dichloromethane)	ug/L	2000	5.2	<4.0	4.0	0.20	7777231
Methyl Ethyl Ketone (2-Butanone)	ug/L	8000	-	<20	20	1.0	7777231
Styrene	ug/L	200	-	<0.80	0.80	0.10	7777231
1,1,2,2-Tetrachloroethane	ug/L	1400	17	<0.80	0.80	0.10	7777231
Tetrachloroethylene	ug/L	1000	4.4	<0.40	0.40	0.10	7777231
Toluene	ug/L	270	2	<0.40	0.40	0.020	7777231
Trichloroethylene	ug/L	400	8	<0.40	0.40	0.10	7777231
p+m-Xylene	ug/L	-	-	<0.40	0.40	0.020	7777231
o-Xylene	ug/L	-	-	<0.40	0.40	0.020	7777231
Total Xylenes	ug/L	1400	4.4	<0.40	0.40	0.020	7777231

No Fill Grey

Black

No Exceedance

Exceeds 1 criteria policy/level

Exceeds both criteria/levels

RDL = Reportable Detection Limit QC Batch = Quality Control Batch

Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge.

By-Law Number 53-2010.

Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge.

By-Law Number 53-2010.



Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

PEEL SANITARY & STORM SEWER (53-2010)

Bureau Veritas ID				RPC713			
Sampling Date				2022/01/11 14:00			
COC Number				861563-01-01			
	UNITS	Criteria	Criteria-2	MW2	RDL	MDL	QC Batch
PCBs							
Total PCB	ug/L	1	0.4	<0.05	0.05	0.01	7776905
Microbiological			•			•	
Escherichia coli	CFU/100mL	-	200	<10	10	N/A	7776222
Surrogate Recovery (%)							
2,4,6-Tribromophenol	%	-	-	52			7778102
2-Fluorobiphenyl	%	-	-	39			7778102
2-Fluorophenol	%	-	-	36			7778102
D14-Terphenyl	%	-	-	67			7778102
D5-Nitrobenzene	%	-	-	53			7778102
D5-Phenol	%	-	-	23			7778102
Decachlorobiphenyl	%	-	-	78			7776905
4-Bromofluorobenzene	%	-	-	97			7777231
D4-1,2-Dichloroethane	%	-	-	106			7777231
D8-Toluene	%	-	-	95			7777231

No Fill Grey

Black

No Exceedance

Exceeds 1 criteria policy/level

Exceeds both criteria/levels

RDL = Reportable Detection Limit

QC Batch = Quality Control Batch

Criteria: The Regional Municipality of Peel Sanitary Sewer Discharge.

By-Law Number 53-2010.

Criteria-2: The Regional Municipality of Peel Storm Sewer Discharge.

By-Law Number 53-2010.

N/A = Not Applicable



Bureau Veritas Job #: C207343 Report Date: 2022/01/26

Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

TEST SUMMARY

Bureau Veritas ID: RPC713 **Collected:** 2022/01/11 Sample ID: MW2

Matrix: Water

Shipped: Received: 2022/01/11

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
ABN Compounds in Water by GC/MS	GC/MS	7778102	2022/01/12	2022/01/13	Anh Lieu
Carbonaceous BOD	DO	7779273	2022/01/13	2022/01/18	Surleen Kaur Romana
Total Cyanide	SKAL/CN	7777492	2022/01/12	2022/01/12	Aditiben Patel
Fluoride	ISE	7781175	2022/01/13	2022/01/14	Surinder Rai
Mercury in Water by CVAA	CV/AA	7779268	2022/01/13	2022/01/13	Gagandeep Rai
Total Metals Analysis by ICPMS	ICP/MS	7779212	N/A	2022/01/14	Azita Fazaeli
E.coli, (CFU/100mL)	PL	7776222	N/A	2022/01/11	Sirimathie Aluthwala
Total Nonylphenol in Liquids by HPLC	LC/FLU	7785528	2022/01/18	2022/01/19	Furneesh Kumar
Nonylphenol Ethoxylates in Liquids: HPLC	LC/FLU	7785531	2022/01/18	2022/01/19	Furneesh Kumar
Animal and Vegetable Oil and Grease	BAL	7774635	N/A	2022/01/13	Automated Statchk
Total Oil and Grease	BAL	7778211	2022/01/12	2022/01/13	Saumya Modh
Polychlorinated Biphenyl in Water	GC/ECD	7776905	2022/01/12	2022/01/12	Farag Mansour
рН	AT	7781178	2022/01/13	2022/01/14	Surinder Rai
Phenols (4AAP)	TECH/PHEN	7777041	N/A	2022/01/12	Louise Harding
Sulphate by Automated Colourimetry	KONE	7777523	N/A	2022/01/13	Avneet Kour Sudan
Total Kjeldahl Nitrogen in Water	SKAL	7777448	2022/01/12	2022/01/12	Massarat Jan
Mineral/Synthetic O & G (TPH Heavy Oil)	BAL	7778310	2022/01/12	2022/01/13	Saumya Modh
Total Suspended Solids	BAL	7777684	2022/01/13	2022/01/14	Shaneil Hall
Volatile Organic Compounds in Water	GC/MS	7777231	N/A	2022/01/13	Ancheol Jeong



Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1 0.3°C

Revised Report (2022/01/26): Peel Sanitary and Storm Criteria included as per client request.

Sample RPC713 [MW2]: VOC Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

ABN analysis: Due to the nature of the sample matrix, a smaller than usual portion of the sample was used for extraction. Detection limits were adjusted accordingly.

Results relate only to the items tested.



Bureau Veritas Job #: C207343 Report Date: 2022/01/26

QUALITY ASSURANCE REPORT

Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

			Matrix	Spike	SPIKED	BLANK	Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7776905	Decachlorobiphenyl	2022/01/12	80	60 - 130	71	60 - 130	79	%				
7777231	4-Bromofluorobenzene	2022/01/13	101	70 - 130	101	70 - 130	99	%				
7777231	D4-1,2-Dichloroethane	2022/01/13	106	70 - 130	103	70 - 130	104	%				
7777231	D8-Toluene	2022/01/13	100	70 - 130	101	70 - 130	96	%				
7778102	2,4,6-Tribromophenol	2022/01/13	53	10 - 130	79	10 - 130	68	%				
7778102	2-Fluorobiphenyl	2022/01/13	43	30 - 130	62	30 - 130	64	%				
7778102	2-Fluorophenol	2022/01/13	35	10 - 130	49	10 - 130	49	%				
7778102	D14-Terphenyl	2022/01/13	64	30 - 130	104	30 - 130	99	%				
7778102	D5-Nitrobenzene	2022/01/13	50	30 - 130	77	30 - 130	85	%				
7778102	D5-Phenol	2022/01/13	23	10 - 130	36	10 - 130	32	%				
7776905	Total PCB	2022/01/12	69	60 - 130	72	60 - 130	<0.05	ug/L	NC	40		
7777041	Phenols-4AAP	2022/01/12	104	80 - 120	100	80 - 120	<0.0010	mg/L	0	20		
7777231	1,1,2,2-Tetrachloroethane	2022/01/13	100	70 - 130	96	70 - 130	<0.40	ug/L	NC	30		
7777231	1,2-Dichlorobenzene	2022/01/13	95	70 - 130	94	70 - 130	<0.40	ug/L	NC	30		
7777231	1,4-Dichlorobenzene	2022/01/13	109	70 - 130	108	70 - 130	<0.40	ug/L	NC	30		
7777231	Benzene	2022/01/13	88	70 - 130	87	70 - 130	<0.20	ug/L	NC	30		
7777231	Chloroform	2022/01/13	97	70 - 130	97	70 - 130	<0.20	ug/L	NC	30		
7777231	cis-1,2-Dichloroethylene	2022/01/13	100	70 - 130	99	70 - 130	<0.50	ug/L	NC	30		
7777231	Ethylbenzene	2022/01/13	90	70 - 130	90	70 - 130	<0.20	ug/L	NC	30		
7777231	Methyl Ethyl Ketone (2-Butanone)	2022/01/13	113	60 - 140	108	60 - 140	<10	ug/L	NC	30		
7777231	Methylene Chloride(Dichloromethane)	2022/01/13	98	70 - 130	94	70 - 130	<2.0	ug/L	NC	30		
7777231	o-Xylene	2022/01/13	86	70 - 130	88	70 - 130	<0.20	ug/L	NC	30		
7777231	p+m-Xylene	2022/01/13	93	70 - 130	93	70 - 130	<0.20	ug/L	NC	30		
7777231	Styrene	2022/01/13	105	70 - 130	106	70 - 130	<0.40	ug/L	NC	30		
7777231	Tetrachloroethylene	2022/01/13	88	70 - 130	89	70 - 130	<0.20	ug/L	NC	30		
7777231	Toluene	2022/01/13	94	70 - 130	94	70 - 130	<0.20	ug/L	NC	30		
7777231	Total Xylenes	2022/01/13					<0.20	ug/L	NC	30		
7777231	trans-1,3-Dichloropropene	2022/01/13	120	70 - 130	112	70 - 130	<0.40	ug/L	NC	30		
7777231	Trichloroethylene	2022/01/13	98	70 - 130	99	70 - 130	<0.20	ug/L	NC	30		
7777448	Total Kjeldahl Nitrogen (TKN)	2022/01/12	108	80 - 120	101	80 - 120	<0.10	mg/L	1.5	20	99	80 - 120
7777492	Total Cyanide (CN)	2022/01/12	99	80 - 120	97	80 - 120	<0.0050	mg/L	NC	20		



Bureau Veritas Job #: C207343
Report Date: 2022/01/26

QUALITY ASSURANCE REPORT(CONT'D)

Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RP	D	QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7777523	Dissolved Sulphate (SO4)	2022/01/13	118	75 - 125	106	80 - 120	<1.0	mg/L	NC	20		
7777684	Total Suspended Solids	2022/01/14					<10	mg/L	NC	25	96	85 - 115
7778102	Bis(2-ethylhexyl)phthalate	2022/01/13	65	30 - 130	95	30 - 130	<2.0	ug/L	4.9	40		
7778102	Di-N-butyl phthalate	2022/01/13	70	30 - 130	101	30 - 130	<2.0	ug/L	2.3	40		
7778211	Total Oil & Grease	2022/01/12			97	85 - 115	<0.50	mg/L	1.6	25		
7778310	TPH - Heavy Oils	2022/01/13			92	85 - 115	<0.50	mg/L	1.6	25		
7779212	Total Aluminum (Al)	2022/01/13	121 (1)	80 - 120	101	80 - 120	<4.9	ug/L				
7779212	Total Antimony (Sb)	2022/01/13	102	80 - 120	103	80 - 120	<0.50	ug/L	NC	20		
7779212	Total Arsenic (As)	2022/01/13	99	80 - 120	101	80 - 120	<1.0	ug/L	NC	20		
7779212	Total Cadmium (Cd)	2022/01/13	93	80 - 120	99	80 - 120	<0.090	ug/L	NC	20		
7779212	Total Chromium (Cr)	2022/01/13	100	80 - 120	98	80 - 120	<5.0	ug/L	NC	20		
7779212	Total Cobalt (Co)	2022/01/13	97	80 - 120	97	80 - 120	<0.50	ug/L	0.86	20		
7779212	Total Copper (Cu)	2022/01/13	97	80 - 120	97	80 - 120	<0.90	ug/L	5.8	20		
7779212	Total Lead (Pb)	2022/01/13	89	80 - 120	94	80 - 120	<0.50	ug/L	NC	20		
7779212	Total Manganese (Mn)	2022/01/13	97	80 - 120	99	80 - 120	<2.0	ug/L				
7779212	Total Molybdenum (Mo)	2022/01/13	109	80 - 120	100	80 - 120	<0.50	ug/L	11	20		
7779212	Total Nickel (Ni)	2022/01/13	95	80 - 120	97	80 - 120	<1.0	ug/L	9.7	20		
7779212	Total Phosphorus (P)	2022/01/13	113	80 - 120	116	80 - 120	<100	ug/L	NC	20		
7779212	Total Selenium (Se)	2022/01/13	106	80 - 120	106	80 - 120	<2.0	ug/L	NC	20		
7779212	Total Silver (Ag)	2022/01/13	95	80 - 120	98	80 - 120	<0.090	ug/L	NC	20		
7779212	Total Tin (Sn)	2022/01/13	98	80 - 120	98	80 - 120	<1.0	ug/L	NC	20		
7779212	Total Titanium (Ti)	2022/01/13	102	80 - 120	100	80 - 120	<5.0	ug/L				
7779212	Total Zinc (Zn)	2022/01/13	90	80 - 120	102	80 - 120	<5.0	ug/L	NC	20		
7779268	Mercury (Hg)	2022/01/13	92	75 - 125	101	80 - 120	<0.00010	mg/L	NC	20		
7779273	Total Carbonaceous BOD	2022/01/18					<2	mg/L	0.22	30	102	85 - 115
7781175	Fluoride (F-)	2022/01/14	91	80 - 120	103	80 - 120	<0.10	mg/L	2.8	20		
7781178	На	2022/01/14			102	98 - 103			2.1	N/A		
7785528	Nonylphenol (Total)	2022/01/19	96	50 - 130	94	50 - 130	<0.001	mg/L	NC	40		



Bureau Veritas Job #: C207343 Report Date: 2022/01/26

QUALITY ASSURANCE REPORT(CONT'D)

Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		QC Standard	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	% Recovery	QC Limits
7785531	Nonylphenol Ethoxylate (Total)	2022/01/19	71	50 - 130	72	50 - 130	<0.025	mg/L	NC	40		

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A sample of known concentration prepared by an external agency under stringent conditions. Used as an independent check of method accuracy.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.



FUNDAMENTAL LABORATORY ACCEPTANCE GUIDELINE

Bureau Veritas Job #:

C207343

Invoice To:					Date Received:	2022/01/11
Pinchin Ltd					Your C.O.C. #:	861563-01-01
ATTN: Accounts Payable					Your Project #:	299799.001
2360 Meadowpine Blvd					Bureau Veritas Project Manager:	Antonella Brasil
Unit # 2					Quote #:	A70927
Mississauga, ON						
CANADA L5N 6S2						
Client Contact:						
Craig Kelly						
No discrepancies noted.						
Report Comments						
Received Date:	2022/01/11	Time:	16:00	By:		
Received Date.	2022/01/11	-	10.00	^{Dy.}		
Inspected Date:		Time:		By:		
FLAG Created Date:		Time:		Bv:		



Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

CHEMICA PAR	
CIO PLANTERED S	
Eva Pranjic R	
CHEMIST 3	
Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist	

Sirimathie Aluthwala, Team Lead

BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

- Marie	INV	OICE TO:				REPO	RT TO:					PROJEC	T INFORMATION:			Laboratory Use	Only
Name:	#3103 Pinchin Lt	d		Compa	ny Name:					Quotat	00#	A7092	27			Bureau Veritas Job #:	Bottle Order
	Accounts Payable			Attenti	0	Kelly ; Je	nathan	Abroch	am	P.O.#	U) I II						1111111111
	2360 Meadowpine Mississauga ON L			Addres	s:	wie wie	abrahan	nepin	chin :	OW Project		29979	9.001				861563
	(905) 363-0678		(905) 363-0681		(005)	363-1352				Project	Name:	-				COC #:	Project Mana
	ap@pinchin.com	Fax:	(303) 303-0001	Tet: Email:		ly@pinchin.com	Fax:	-		Site #	40	1.6	4				Antonella Br
REGI	JLATED DRINKING	WATER OR WAT	ER INTENDED E					1		Sample		ED (PLEASE E			_	C#861563-01-01 Turnaround Time (TAT) F	Sequired:
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-	Res/Park Medium/		Sanitary Sewer		V I		2 se 5	wer (6							20000	e applied if Rush TAT is not specified); lard TAT = 5-7 Working days for most tests	
	Ind/Comm Coarse Agri/Other For RSC	Reg 558.	Storm Sewer By	law CC I			plea:	- Se							Pleas	e note: Standard TAT for certain tests such as F	BOD and Dioxins/Furan
	Agricular Trot KSC	MISA PWQO	Municipality 1	CEL) pa	Storm								contact your Project Manager for details.	
		Other					Field Filtered (please circle): Metals / Hg / Cr VI	ary &								Specific Rush TAT (if applies to entire sub- Required:Ti	mission) ime Required:
	Include Criteria	on Certificate of A	nalysis (Y/N)?				D N	Sanit							Rush	Confirmation Number:	(call lab for #)
ample	Barcode Label	Sample (Location)) Identification	Date Sampled	Time Sample	i Matrix	ш.	Pee							#of 1		
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Bureau Veritas Canada (2019) Inc.



Pinchin Ltd

Client Project #: 299799.001

Sampler Initials: JA

Exceedance Summary Table – Peel Region Sanitary 2010 Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
MW2	RPC713-06	Total Suspended Solids	350	470	10	mg/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

Exceedance Summary Table – Peel Region Storm 2010 Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
MW2	RPC713-08	Total Manganese (Mn)	50	770	2.0	ug/L
MW2	RPC713-06	Total Suspended Solids	15	470	10	mg/L
MW2	RPC713-08	Total Zinc (Zn)	40	61	5.0	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.