Azure Group

October 24, 2022

Weston Consulting
201 Millway Avenue #19, Concord
ON, L4K 5K8

Attention: Mr. Kaveh Wahdat - Planner

Re: Hydrogeological Assessment
3016-3032 Kirwin Avenue & 3031 Little John Lane
Mississauga, Ontario

Dear Sir:

Azure Group Inc. (Azure) was retained by Weston Consulting (The Client) to conduct a Hydrogeological Assessment at the property located at 3016-3032 Kirwin Avenue & 3031 Little John Lane in Mississauga, Ontario (The Subject Property). Azure thereby retained in partnership Azimuth Environmental Consulting, Inc. (Azimuth) to complete the Hydrogeological Assessment. As indicated in the completed report, the purpose of the Hydrogeological Assessment was to characterize the existing hydrogeological conditions at and in the vicinity of the Site, assess the need for, and options for, groundwater control in association with the proposed construction, evaluate potential impacts to the local groundwater regime resulting from the proposed construction, and identify appropriate mitigative measures, as warranted.

At the time of the site visit(s), the Site was vacant land covered with bushes, shrubs and trees. Vehicular access to the Site was from a gravel paved driveway off of Kirwin Avenue and Little John Lane, located on the northern and southern boundaries of the property. The Site had a total area of approximately 6,609 m² (1.6 acres). Azure retained Altech Drilling & Investigative Services Ltd., Ontario to complete the drilling program and Azure's representatives were on-site from April 6th, 2022 to April 8th, 2022 to conduct the field work. The scope of work consisted of the drilling of ten (10) boreholes (BH1 to BH10) to a maximum depth of approximately 9.0 metres (m) below grade or until refusal. Boreholes BH1, BH2, BH3, BH101 and BH106 were completed as groundwater monitoring wells. Representative soil samples were retrieved from each borehole and submitted for analyses of moisture content and grain size analysis. All figures showing the approximate location of the boreholes are included in the following report completed by Azimuth.

CLOSURE

This report has been prepared for the benefit of Weston Consulting (The Client), and their clients.

Any other person or entity without the express written consent of Azure Group Inc. (Azure) and the client may not rely upon the report. Any use that a party makes of this report, or any reliance on decisions made based on it, are the responsibility of such parties. Azure accepts no liability and no responsibility whatsoever for damages, if any, suffered by any party as a result of decisions made or actions based on this report.

An environmental site characterization is a limited sampling of a site. The conclusions given herein are based on information gathered at the specific locations and can only be extrapolated to an undefined limited area around these locations. The extent of the limited area depends on the soil and groundwater conditions, as well as the history of the subject property reflecting natural, construction, and other activities. In addition, analyses have been carried out for a limited number of chemical parameters, and it should not be inferred that other chemical species are not present.

Due to the nature of the investigation and the limited data available, Azure cannot warrant against undiscovered environmental liabilities. No other warranty or representation, either expressed or implied, is included or intended in this report. Should any conditions at the site be encountered, which differ from those at the sampling locations and/or additional site information become available, Azure requests that this information be brought to our attention so that we may re-assess the conclusions presented herein. It should also be noted that current environmental Regulations, Guidelines, Policies, Standards, Protocols and Objectives are subject to change, and such changes, when put into effect, could alter the conclusions and recommendations noted throughout this report.

We trust this is satisfactory. Should any queries arise, please feel free to contact this office.

Yours truly,

AZURE GROUP INC.

Preliminary Hydrogeological Assessment

3016 – 3032 Kirwin Ave., Mississauga, Ontario

Prepared for:
Azure Group

Prepared by:
Azimuth Environmental
Consulting, Inc.

October, 2022

AEC 22-056

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

Environmental Assessments & Approvals

October 24, 2022 AEC 22-056

Azure Group
6751 Professional Court, Suite 201
Mississauga, Ontario
L4V 1Y3
Attention: Samantha Desgrosseilliers

Re: **Preliminary Hydrogeological Assessment:**
3016 – 3032 Kirwin Ave., Mississauga, Ontario

Dear Samantha,

Azimuth Environmental Consulting, Inc. (Azimuth) is pleased to provide our Preliminary Hydrogeological Assessment for the property 3016 – 3032 Kirwin Ave., within the City of Mississauga (the "Site"). This evaluation focused on the existing soil and ground water regime underlying the Site and the potential for the proposed eight (8) story residential building and associated parking development to impact the existing conditions.

Should you have any questions or wish to discuss the report in greater detail, please do not hesitate to contact the undersigned.

Yours truly,

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

PROFESSIONAL GEOSCIENTIST
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PRACTISING MEMBER
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Environmental Scientist

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1.0 INTRODUCTION

Azimuth Environmental Consulting Inc. (Azimuth) has been retained by the Azure Group to conduct a Preliminary Hydrogeological Assessment for the property 3016-3032 Kirwin Avenue within the City of Mississauga (the "Site") (Figure 1).

The purpose of this assessment is to characterize the existing hydrogeological conditions at the Site, and determine any potential constraints to the proposed development plan. This assessment also addresses Source Water Protection policies developed under the *Clean Water Act* as they pertain to water quantity and quality issues.

1.1 Background

The Site is rectangular in shape, 6,385 m^2 (0.6 hectares (ha)) in size and is to be redeveloped as an 8 storey residential building with Underground parking. The Site is located on the south side of Kirwin Avenue; a small cleared area remains from the historical residential dwellings at the Site along the east of the site. As per the proposed development plans provided, the development will be accessed from Kirwin Avenue and will include two (2) below grade parking levels extending approximately 7 m below grade. The proposed Site development plans are provided in Appendix B.

The purpose of this assessment is to characterize the existing physical geological and hydrogeological conditions at the Site and the potential for the proposed development to impact the existing environmental / hydrogeological conditions. The report follows a standard format addressing typical requirements of both the City of Mississauga and Credit Valley Conservation Authority for hydrogeological submissions within the Credit Valley source water protection zone.

2.0 ENVIRONMENTAL SETTING

2.1 Soil

The Soil Map of Peel County (Report No. 18) (Hoffman, et al., 1953) defines the surficial soil for the Site as part of the Cooksville Series; however the Site sits just north of the divide between the Fox Series which uses the location of Dundas Street in the 1950's as the divide. Based on the mapping, the region is also crosscut with Alluvial fans (Alluvial Series) spreading north from the Lake Ontario shoreline. For the purposes of this investigation we will assume that the location of Dundas Road has not significantly moved and the Site sits within the Cooksville Series. The Cooksville Series is described as shallow or very shallow surficial dark grey clay laden loams overtop of shallow grey shale. Cooksville clay Loams are classified within Soil Group D. Group D soils represent material with very high runoff potential and restricted to highly restrictive

infiltration rates. Of note Soils within Group D can have high shrink/swell potentials. This soils description is line with the physical investigation done onsite.

2.2 Physiography

The Ontario Geologic Survey (Chapman and Putnam 1984) describes the Site area as being located within the Iroquois Plain physiographic region. This region extends from the Trent River approximately 300 km to the Niagara River. The Iroquois Plain is subdivided into 8 regions; the Subject Site sits within the Hamilton to Toronto region, a thin region defined by the current and ancient shoreline of Lake Iroquois. This section is represented by multiple sand and gravel alluvial outwash sections and the flat, smoothed historic fine grained bedding of Lake Iroquois.

2.3 Topography and Drainage

The topographic relief at the Site is quite limited with elevations ranging from approximately 113 masl in the north along Kirwin Avenue to a low of 110 masl in the south west along Little John Lane. The current Site drainage is expected to follow the local topographic dip to the southwest towards Cooksville Creek, located approximately 70 m west of the Site, although any surface runoff exiting the Site is expected to be captured by the municipal drainage system in the area. Run on to the Site is not expected from the surrounding developments based on the topographic setting and curb and gutters present along the upslope side of the Site.

2.4 Bedrock Geology

The underlying bedrock geology has been described by the Ontario Geologic Survey (OGS) as being composed of grey calcareous shale of the Georgian Bay Formation of (Ontario Geologic Survey , 2011). The formation is Upper Ordovician in age. Based on the thickness mapping surrounding the site the Site, bedrock can be expected somewhere between 3 and 8 mbgs (Gao, et al., 2006), which is in agreement with the results of the boreholes advanced on Site. Shallow bedrock was identified in BH1, 2 and 3, all having weathered shale identified within the soil samples in the lower section of each log.

2.5 Quaternary Geology

The Quaternary Soil Map of Ontario (Onatrio Geological Survey, 2003) defines the local surficial soils in the vicinity of the Site as Paleozoic in age comprised of undifferentiated carbonate and clastic sedimentary rock, which is exposed at surface or covered by a discontinuous, thin layer of drift. This area also borders on an area characterized as the Halton Till, which consists predominantly of a silt to silty clay matrix. The Halton Till is texturally variable but is generally a sandy silt to clayey silt till interbedded with silt, clay, sand and gravel. In some areas it is very clay-rich where the Ontario Ice Lobe has

overridden glaciolacustrine deposits of the Lake Ontario basin. The Halton Till is typically 3 to 6 m thick but locally it can exceed 15 to 30 m in thickness in the western part of the study area.

Based on the Site specific soils data provided by the Azure Group subsurface investigation the Site is underlain by a thin topsoil layer (10 cm) overtop of a fill mixture consisting of sand, silt and clay of different compositional percentages to a depth of around 3.5 mbgs. Below this level the boreholes intersect a native Silty-Clay layer to the upper contact of the underlain Weathered Shale bedrock which was encountered in five (5) of the advanced boreholes below 7 mbgs, all of the boreholes all indicate a content of weathered Shale fragments below ~6.5 mbgs. The inclusion of the fragments indicate that the bedrock interface is very close to this depth, which is in agreement with both afore mentioned mapped Quaternary description and the drift thickness mapping results. Based on the observed Site soils, it is likely these material represent Halton Till.

For reference, the borehole locations are illustrated on Figure 2, while the borehole logs are provided in Appendix C.

2.6 Hydrogeology

The Ontario Ministry of Environment, Conservation, and Parks (MECP) Water Well Records were referenced for any recorded well information within the vicinity of the Site (500 m) (MECP, 2021). The Site and surrounding area is likely to be serviced with water and sewer utilities; however well records can be used to gain subsurface information which can provide insight into shallow geological formation within the area. The well records found in the vicinity of the Site that are pertinent to this assessment are summarized in Table 1 and are shown on Figure 3. The thirty-six (36) surrounding wells in the MECP well record database indicate that one (1) was a decommission record, one was completed in 1952 and is the only record of a potable water supply well (No. 4902211). The remaining thirty-four (34) well records were for advanced as test holes in the area. The wells were drilled to depths between 3 and 15 m. Nine of the well records were not available online. The remaining records have been included in Appendix C. The well records indicate that the grey /blue shale bedrock surface is quite limited, between 2 and 5 mbgs in fourteen of the well records. The overburden soils identified in these records were primarily clay and silt with some sand and or gravel, which matches the geological literature outlined above, as well as the Site specific soils identified the drilling program. Given the age of the wells and the fact the area has been municipally serviced for many years, it is unlikely that the supply well is still in use.

Table 1: MECP Water Well Database Summary (500 m radius from Site)

Well ID	Date Completed	Depth (m)	Depth to Bedrock (m)	Distance to Site (m)	Direction to Site
4902211	1958-11-12	15.5	5.2	201	N
4909841	2005-06-30	7.6	7.6	201	NNE
7107988	2008-06-02	6.1		215	SW
7140001	2010-01-20	6.7	6.1	233	E
7144432	2010-03-22	3.7		201	E
7145320	2010-04-28	4.8	2.5	467	NE
7148379	2010-06-21	3.1		262	NW
7148380	2010-06-21	3.4		260	NW
7148381	2010-06-21	0		415	NW
7196498	2012-10-09	7.6		115	SW
7202168	2012-11-20	6.09		200	SE
7210777	2013-10-11	5.5		60	S
7210806	2013-10-11	4.9		61	S
7210807	2013-10-11	4.7		62	S
7263541	2016-04-11	5.2	4.3	260	W
7263542	2016-04-11	5.2	3.7	265	W
7263543	2016-04-11	5.2	4.3	280	W
7263544	2016-04-24	1.4		285	W
7277547	2016-11-18	3		290	W
7277548	2016-11-17	3	3.0	430	SW
7278591	2016-11-25	5.3	2.5	360	NW
7296547	2017-09-12	4		425	SSW
7296548	2017-09-12	4		430	SSW
7296549	2017-09-12	4.3	3.0	420	SSW
7306688	2017-09-13	7.6		0	Onsite
7330071	2018-12-17	4		445	S
7332231	2019-04-08	4.5	2.1	350	NW
7345861	2019-07-03	3.7		326	NW
7345862	2019-07-03	3.7		325	NW
7358771	2020-04-24	0		410	SW
7358772	2020-04-24	0		400	SW
7358773	2020-04-24	0		400	SSW
7361501	2020-03-12	0		351	NW
7378766	2020-12-09	6.7	4.6	0	Onsite
7378767	2020-12-09	6.7	4.6	0	Onsite
7378768	2020-12-09	6.7	4.6	0	Onsite

3.0 SOURCE WATER PROTECTION

A review of the Source Water Protection Areas as identified on the MECP Source Protection Information Atlas website indicates the Site is contained within South Peel Drinking Water Intake Protection Zone (IPZ) 2, as well as within a Highly Vulnerable Aquifer Area (HVA). However, it is not within a Significant Ground Water Recharge Area (SGRA), Wellhead Protection Area (WHPA-D), WHPA-Q2, Issues Contributing Area (ICA). Given the IPZ, consideration may need to be given for stormwater control measures at the Site.

4.0 MONITORING

4.1 Previous Site Investigations

Azure Group Inc. completed a geotechnical drilling program at the Site in 2022 and it is also understood that a previous Phase II Environmental Site Assessment (ESA) as completed which included drilling and installation of monitoring wells on Site. These reports were not available at the time of report issuance: however, the borehole logs for the current monitoring wells on Site were provided and utilized in this assessment. The details of which are summarized in subsequent sections.

4.1.1 Site Drilling & Monitoring Well Installations

A drilling program was undertaken by Azure as part of the above mentioned geotechnical between April 1st and April 8th 2022. Ten (10) boreholes were advanced across the site, three (3) were then completed as ground water monitoring wells for the Site as illustrated on Figure 4, with borehole logs and a location plan included in Appendix D. It is noted that a collection of 3 additional historic wells are present at the Site from an Azure site investigation in December 2020 as well as two (2) additional wells, the history and construction details are not known, these are assumed to be related to the wells installed in 2017 (Appendix C record number 7306688). The onsite wells are summarized Table 2 below.

4.2 Ground Water Level Monitoring

As part of assessment, ground water levels were monitored on the May 11th 2022 by Azimuth staff. The ground water measurements have been included within Table 2 below and used to create Figure 4 with the inferred groundwater flow direction.

Currently the base of the underground parking level has been established at 6.7 mbgs such that the building foundation will encroach into the water table by up to ~1.5 m. As such, these seasonally high ground water elevations need to be considered in the building design such that proper waterproofing is being incorporated within the basement level.

The inferred ground water flow direction is illustrated on Figure 4, which shows a south flow pattern, which matches the direction of a buried section of the Cooksville Creek.

Table 2: Ground Water Elevation Data

Ground Water Elevation Table												
Azimuth Project Number			22-056									
Project Site			Kirwin Ave									
Town/Region			Mississauga, Peel									
			GPS (Zone 17)									
Well ID	Easting	Northing	Elevation (MRD)	Stick Up	Elevation of Screen Bottom (mASL)	Elevation of Screen Top (mASL)	Date	Depth to Water (mBTOP)	Depth to Bottom (mBTOP)	Depth to Water (mBGS)	Depth to Bottom (mBGS)	Groundwater Elevation (mASL)
BH1	612103	4826454	113.31	0.85	106.69	109.74	05-11-2022	5.06	7.47	4.21	6.62	109.10
BH2	612080	4826562	112.56	0.65	104.97	108.02	05-11-2022	5.94	8.24	5.29	7.59	107.27
BH3	612091	4826465	113.31	1.10	106.68	109.73	05-11-2022	5.36	7.73	4.26	6.63	109.05
BH101	612090	4826483	113.39	1.04	107.11	110.16	05-11-2022	5.75	7.32	4.71	6.28	108.68
BH106	612033	4826412	110.78	0.92	105.28	108.33	05-11-2022	3.87	6.42	2.95	5.50	107.83
Unknown 1*	612108	4826460	113.0*	0.79	105.34	108.39	05-11-2022	4.96	8.45	4.17	7.66	108.83
Unknown 2*	612101	4826439	112.5*	0.68	104.97	108.02	05-11-2022	4.75	8.21	4.07	7.53	108.43

GPS Location based on hand held device and is not a Surveyed location.
Elevations are in metres above sea level (mASL) Provided by Azure
*BH with unknown origin on site close to locations of BH 102 and 103, no known elevation was surveyed

4.3 Hydraulic Conductivity Testing

In order to understand the hydraulic characteristics of the underlying overburden, transient hydraulic tests were performed on the Site monitoring wells following the 2022 drilling program. The transient test involves the instantaneous injection or withdrawal of a volume or slug of water or solid cylinder of known volume. This is accomplished by adding or displacing a known volume to/from a well and measuring water level response time to return to equilibrium. Water level measurements were recorded both manually and with automatic dataloggers, which were programmed to record the pressure of water above the data logger every second. Data was analyzed using the Hvorslev Method (1976) for unconfined aquifers, which assumes a homogeneous, isotropic medium in which soil and water are incompressible. Hydraulic testing results are summarized in Table 3 (below).

The soil transmissivity for the Site is varied by an order of magnitude. Based on the local geology reported from both the borehole logs and from the surrounding water well records this is what was expected. The result of the slug test is included in Appendix E. The measured hydraulic conductivity is within the published range for a silty clay material (Freeze & Cherry, 1979).

Table 3: Hydraulic Testing Results

Hydraulic Test Results				
Azimuth Project Number		22-056		
Project Site		Kirwin Avenue		
Town/Region		Mississauga, Peel Region		
Well	Test Date	Screen Interval (MRD)	Screen Material	Hydraulic Conductivity (m/sec)
BH/MW106	2022-04-08	108.3-105.2	Clay/Silt	5.56E-09
BH/MW2	2022-04-08	108.2-104.9	Clay/Silt	2.28E-08
Site Average				1.42E-08
Site Max				2.28E-08

4.4 Water Quality

A water quality sample was taken from one onsite well location to provide some insight to the requirements of dewatering water treatments. The results of which are included in Appendix F. The results are compared to the Provincial Water Quality Standards as the discharge point is unknown at this time; the City of Mississauga has both storm and sanitary sewers in the area, as well as a watercourse to the south (Cooksville Creek). The PWQO Standards were chosen as they are more stringent than that of the sewer bylaw standards. Of the tested parameters Total Phosphorous exceeded the PWQO standard. The total phosphorus concentrations are significantly elevated, but this along with the metal constituents are interpreted to be sourced from the elevated sediment load in the sample; this is evidenced by the elevated turbidity at these locations (181 NTU). The nutrient analysis was completed on water that was unfiltered, and therefore contained high concentration of sediment particles. The increased phosphorus is therefore likely attributed to the excess nutrients that are bound to the sediment grains in suspension and dissolved within the acidified nutrients bottle. As such, discharge of any potential dewatering effluent into storm sewer or natural environment would not likely represent any impact assuming proper sediment controls are in place for any dewatering discharge. To confirm the effluent discharge into the storm sewer system, a secondary sample meeting all of the requirements of The City By-Law would need to be collected, which can be confirmed ahead of any potential construction dewatering.

5.0 WATER BALANCE

In order to determine the potential changes to the natural ground water recharge conditions, a pre- and post-development water balance assessment has been completed using the Thornthwaite and Mather method (1957). This method evaluates evapotranspiration based on precipitation and temperature. Residual soil saturation is a function of topography and soil type. Monthly data are tabulated from daily average

temperature and precipitation, and the water budget is a continuous calculation over the period of record. To clarify, the method and the approach used by many individuals in examining infiltration resets annual conditions (moisture deficit, snow storage, etc) over the winter months because of the general lack of infiltration during the frost period. However, we maintain those records and carry them forward from month to month during the entire period of record.

Values were determined on a monthly basis, compiled from daily Environment Canada meteorological data station located in Toronto Leaster B. Pearson International Airport (Station 6158733), Ontario between 1950 and 2021. The calculations are based on the average conditions during this period; the average precipitation was 779 mm, rainfall was 632 mm, evapotranspiration was 490 mm and the surplus was 289 mm.

5.1 Land Use

5.1.1 Pre-Development

The pre-development Site area was classified according to land use/vegetation type. Approximate pre-development land use classification areas are provided in Table 4.

Table 4: Pre-Development Area Classification

Land Use	Land Area (m^2)
Forest	4,300
Landscaped Grass	2,085
TOTAL	**6,385**

Land within the pre-development scenario is considered 0% impervious

5.1.2 Post-Development

The land classification in the post-development scenario was classified based on the Site Development Plans (Appendix B). Post-development land use classification areas are provided in Table 5:

Table 5: Post-Development Area Classification

Land Use	Land Area (m^2)
Impervious(building/driveway)	3,433
Pervious (landscaped/undeveloped)	502
Parkland Dedication	**2,450**
TOTAL	**6,385**

Land within the post-development scenario is considered 54% impervious. The post-development areas are illustrated in Appendix B.

It is noted that impervious areas included landscaped areas atop the below grade parking structure and any infiltration in these areas will likely be required to be drained to sewer or discharged to surface via a sump pump such that no infiltration would be expected.

5.2 Infiltration

Infiltration is generated one of two ways: (1) directly from rainfall impact or snowmelt on pervious surfaces; and (2) indirectly when runoff from impervious surfaces is diverted into adjacent naturalized areas.

Infiltration factors for the Site were estimated based on the underlying soil, local topography, and ground cover as per Table 2 of the Ministry of Environment and Energy (MOEE) Hydrogeological Technical Information Requirements for Land Development Applications (1995).

The soil variable factor was determined by taking into account information obtained from the regional geologic mapping and the field work programs completed for the Site. This information suggests that the surficial material at the Site is primarily composed of a silty clay. The infiltration factors utilized in the water balance assessment are summarized in Table 6 below.

Table 6: Summary of Pervious Land Infiltration Factor

Scenario	Land Use	Infiltration Factor	Assumption
Pre-Development	Landscaped Grass	0.4	Flat Land (0.2), Clay/silt (0.1), Maintained Grass Cover (0.1)
	Forest	0.5	Flat Land (0.2), Clay/silt (0.1), Woodland cover (0.2)
Post-Development	Landscaped Grass	0.4	Flat Land (0.2), Clay/silt (0.1), Maintained Grasses (0.1)
	Dedicated Parkland	0.5	Flat Land (0.2), Clay/Silt (0.1), Woodland Cover[1] (0.2)

1- Dedicated Parkland surficial cover is assumed to be a mix of treed space to match the John C. Price Parklkand existing adjacent to the dedication lands.

5.2.1 Pre-Development Infiltration

Pre-development direct infiltration was determined by multiplying the annual average surplus amount, the area of each land use, and the infiltration factor for each land use. The pre-development annual infiltration is therefore 862 m^3/year (Appendix D).

5.2.2 Post-Development Infiltration

Post-development infiltration (without mitigation) was determined by multiplying the annual average surplus amount, the area of each land use, and the infiltration factor for each land use. The post-development annual direct infiltration is therefore 412 m^3/year. There is therefore a decrease in infiltration of 450 m^3/year from pre- to post-development without mitigation measures employed.

5.3 Water Balance Summary

Using the climate model data and calculations mentioned above, the water balance was completed for pre-development and post-development without mitigation (Appendix D) as no stormwater drainage plans were available at the time of reporting.

The pre-development infiltration volume is 862 m^3/year. This assumes the Site is vacant as it sits today. The post-development without mitigation infiltration volume is 412 m^3/year, which is a deficit of 450 m^3/year. This is based on the proposed development as described in Section 1.0 of this report and illustrated in Appendix B (Site Development Plans).

6.0 DEWATERING ASSESSMENT

As noted above, the proposed development and associated underground parking and servicing, have been shown to be positioned below the water table. In this area, ground water elevations are represented by the installed monitoring wells. Based on the monitoring completed on the wells, the high ground table sits at 109.10 mASL, and the estimated base of the two (2) level underground parking slab proposed to be at 6.7 mbgs (107.45 mASL). Given these elevations place the foundation approximately 3.6 m into the water table (approximately 2m below the slab), for a dry working area at the base of the excavation, a construction dewatering plan will be needed.

Since the required drawdown is greater than 1.5 m, the use of shallow well points or educator systems may be required. The exact dewatering methodology will depend on site-specific conditions and will be determined by the dewatering contractor.

Dewatering discharge is assumed to be handled on-site with discharge ultimately being into either the municipal stormwater or sanitary infrastructure assumed to run along Kirwin Avenue.

6.1 Drawdown Conditions

The details utilized for this assessment are derived from the KEA design drawings (Appendix B). These details including location, width, length and base elevations for the

proposed building were utilized to determine the maximum drawdown required for construction in relation to the water table conditions for the Site as illustrated in Figure 4 appended.

Although the water table contouring illustrated on Figure 4 shows a decline to the south, for the purposes of the dewatering assessment, it has been assumed a high water table elevation of 109.10 mASL (BH/MW1) extends across the entire site area. In reality, there is a likely decline as illustrated in the contours toward the southeast which could limit the drawdown requirements for the south section of the excavation; however, this conservancy is utilized to address the limited ground water elevation points in this area as monitoring well coverage is limited on the Site. Regardless, based on the measured high ground water table (109.10 mASL) and the excavation base elevations (105.45), ground water lowering during construction will be approximately 3.6 m. This is based on the following assumptions:

- Construction ground water lowering will target a depth of 2 m below the base of the P2 slab to ensure dry working conditions within the utility trenching needed below the slab and footings;
- To be conservative, the hydraulic conductivity value referenced (2.28×10^{-7} m/sec) in this assessment has been increased from the high-end estimate of the overburden aquifer single well response testing (SWRT) included in Appendix G a order of magnitude. This was done to account for potential higher permeable horizons than what was tested;
- The most elevated ground water elevation / depth of ground water was assumed to apply to the area; and
- The entire proposed building is assumed to be constructed as single dewatering undertaking installed at one time. If the dewatering was done in sections, then the volumes and Zone of Influence would be reduced;

The actual drawdown will depend on construction timing.

6.2 Approximate Dewatering Volumes

For the dewatering a rectangular configuration where the relationship of length/width is greater than 1.5, calculations for the dewatering rate / volume were completed using the steady state method from Powers, *et al*. (1992) for estimating radial flow to an excavation in an unconfined aquifer.

The following equation was used:

$$Q = \frac{\pi K(H^2 - h^2)}{ln(\frac{R_o}{R_s})} + 2(\frac{LK(H^2 - h^2)}{2L})$$

Based on Equation 6.12 in systems where l/w> 1.5 (Powers, P.E., 1992) Where:

Q (m^3/Day)

K - Hydraulic Conductivity (m/Day)

H – Distance from Static water level to bottom of Aquifer (m)

h – lowest water level needed from static (m)

R_o- Radius of conical depression (m) (Taken from Equation 6.14(Powers, P.E., 1992))

$$Ro = 3(H - h)\sqrt{k}$$

Where

K- Hydraulic Conductivity (m/Sec)

R_s – Equivalent Radius (m)

$$R_s = \frac{l + w}{\pi}$$

l- Length of excavation/trench

w- width of trench

in systems where l/w> 1.5

The full dewatering assessment can be found in Appendix G

Based on the information provided, the dewatering required for construction is 27,720 L/day. A 3x safety factor can then be applied to each of the above volumes for a conservative estimate (83,160 L/day). These values are based on worst case spring season ground high ground water table depths. The dewatering volume could be lower during the summer and fall months.

Any construction dewatering between 50,000 L/day and 400,000 L/day can be completed after registration under the Environmental Activity and Sector Registry (EASR). Any active construction dewatering above 400,000 L/day requires a Permit To Take Water (PTTW). As noted above, the magnitude of dewatering required will vary on the timing of construction and less dewatering could be needed in the summer drought conditions. Peak ground water elevation typically occurs between mid April and the end of May. Based on the calculations, it is likely that construction dewatering would be above the 50,000 L/day but below the threshold of 400,000 L for a PTTW, as such an EASR will be required. Potential dewatering requirements can be minimized if work is completed during the drier summer months.

Not included in the calculations above is the influx of stormwater from single 24 hour storm events. These numbers are estimated based on the Ministry of Transportation (Ministry) Intensity Duration Frequency (IDF) curves. Using the numbers provided by the Ministry, if the Site experiences a five (5) year storm event (56 mm across 24 hours) during the excavation an additional 289 m^3 (219,000 L) into the excavation, in this event, pumping could continue under the registered EASR. Any of the larger less frequent (10

yr, 25 yr, 100 yr) storm events would require a staged approach where the excavation could be pumped at the 400,000 L/day over two (2) days to facilitate the removal of the storm water without exceeding the threshold of requiring a PTTW registration.

6.3 Post Construction Dewatering

It is our understanding that although the finished floor elevation of the building foundation encroaches into the water table by approximately 1.6 m, the planned waterproofing of the foundation will limit potential concerns with respect to the ground water at the Site with regards to permanent dewatering of the Site.

However, if the foundation is not waterproofed and the same assumptions as above are used, substituting the final floor elevation would be utilized for the dewatering depth (107.45 mASL) establishing a dewatering requirement of approximately 18 m^3/day. A 3x safety factor can then be applied to the above volumes for a conservative estimate of 54 m^3/day (54,000 L/day). This volume will make the registration of PTTW required for the permanent dewatering of the foundation.

6.4 Impact Assessment

Based on the information calculated, the largest zone of influence is 60 m from the edge of the dewatering zone; however this is the maximum distance where any measurable water table decline would be observed. However, more significant decline in ground water levels (2 m) will be contained within approximately 57 m of the Site

As the area is municipally serviced, there are not anticipated to be any private wells located within the radius of influence. There is a creek located approximately 70 m south west of the Site; however this is located at the very extent of the zone of influence, and is not expected to be affected by the dewatering process. Further to this if the creek was used as the discharge point, any minimal drawdown would be negated by the discharge.

The site is located within the Intake Protection Zone 2 for the South Peel Drinking Water intake which identifies that the site is within approximately two (2) hours surface water travel time to the point of the intake. This will have to be taken into account when considering the design of the dewatering discharge treatment.

7.0 SUMMARY AND CONCLUSIONS

Azimuth was retained by the Azure Group to conduct a Preliminary Hydrogeological Assessment for the property located along Kirwin Avenue inclusive of 3016-3032 within the City of Mississauga. The purpose of this assessment is to characterize the existing preliminary hydrogeological conditions at the Site and the potential for the proposed

development to impact the existing environmental / hydrogeological conditions. The report also addresses many of the CVC and Source Water Protection policy requirements.

The Site is rectangular in shape, 6,385 m^2 (0.6 hectares (ha)) in size and is to be redeveloped as an 8 storey residential building with underground parking. The Site is located on the south side of Kirwin Avenue; a gravel driveway and small paved area in the south side of the property remain from historical residential dwellings at the Site. As per the proposed development plans, the development will be accessed from Kirwin Avenue and will include two (2) below grade parking levels extending approximately 7 m below grade.

The Site is found at an elevation ranging between approximately 110 masl to 113 masl at with a slight southern slope. The existing Site drains via overland flow towards the existing City of Mississauga infrastructure along Little John Lane. Site native soils are composed of mostly silts and clays.

The inferred ground water flow direction is shown to be in a southern direction, which matches the direction of a buried section of the Cooksville Creek. Water table conditions fluctuated across the area ranging between 2.9 and 5.2 mbgs, this fluctuation is assumed to be based on the elevation of the bedrock in the area, which consists of a shallow weathered shale.

Hydraulic conductivity testing was completed at a number of the Site monitoring wells indicating the hydraulic conductivity of the site is ranging between 5 x 10^{-9} to 2 x10^{-8} m/s.

The pre-development infiltration volume is 862 m^3/year. This assumes the Site is currently not landscaped and vacant. The post-development without mitigation infiltration volume is 412 m^3/year, which is a deficit of 450 m^3/year.

At the time of report issuance, no formal storm water plans were developed, such that it is uncertain as to whether any LID's will be included in the development plan to mitigate any of the ground water infiltration loss. However, given the limited size of the Site and presence of underground parking structure, there will not likely be sufficient area to implement such measures.

The overall deficit is considered large; however, the area is municipally serviced such that there is unlikely any private supply wells in the area, while surface water features are limited to a creek approximately 70 m southeast of the Site. The limited permeability of

the soils would also indicate that the Site likely has little ground water infiltration capacity such that influence on the adjacent creek will not likely be impacted.

The proposed development will include the construction underground car parking with associated underground servicing (water, sewer, storm water). It is assumed that new service connections to Kirwin Avenue will be established as part of the proposed development. Based on the current development plan, dewatering will be required across the entire site due to the underground parking area. The assessment is based on the measured water table depths during the May, 2022 monitoring event; however water table conditions could vary seasonally. However, it is noted that the dewatering volumes are quite low such that even an increase in water table will not have a significant impact on water taking volumes. Consideration needs to be given to the quality of the dewatering discharge, which may require treatment prior to discharge city's storm water network or the local surface water creek. It is assumed that this will require obtaining a discharge permit from the city prior to initiation of any dewatering activities at the Site. Additional water quality samples may be required to confirm dewatering discharge quality.

As per Ontario Regulation 903 requirements, all existing monitoring wells which are no longer utilized at the Site will need to be properly decommissioned as per O.Reg. 903 (Wells Regulation) prior to commencement of building construction.

As the building foundation encroaches well into the water table, the planned waterproofing of the foundation will limit potential concerns with respect to the ground water at the Site. Dewatering will be required to facilitate construction; however, the dewatering assessment would indicate that the radius of influence does not extend to the closest natural feature which is a creek located 60 m south east of the Site. Similarly, the area is municipally serviced for water such that there is no expectation that any private wells exist within the area of influence.

8.0 REFERENCES

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Chapman, L. J. and Putnam, D. F. 1984. *Physiography of Southern Ontario.* Third Editioin. s.l. : Ministry of Natural Resources, 1984.

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Ontario Geologic Survey . 2011. *1:250000 Scale Bedrock Geology of Ontario.* s.l. : Queens Printer, 2011.

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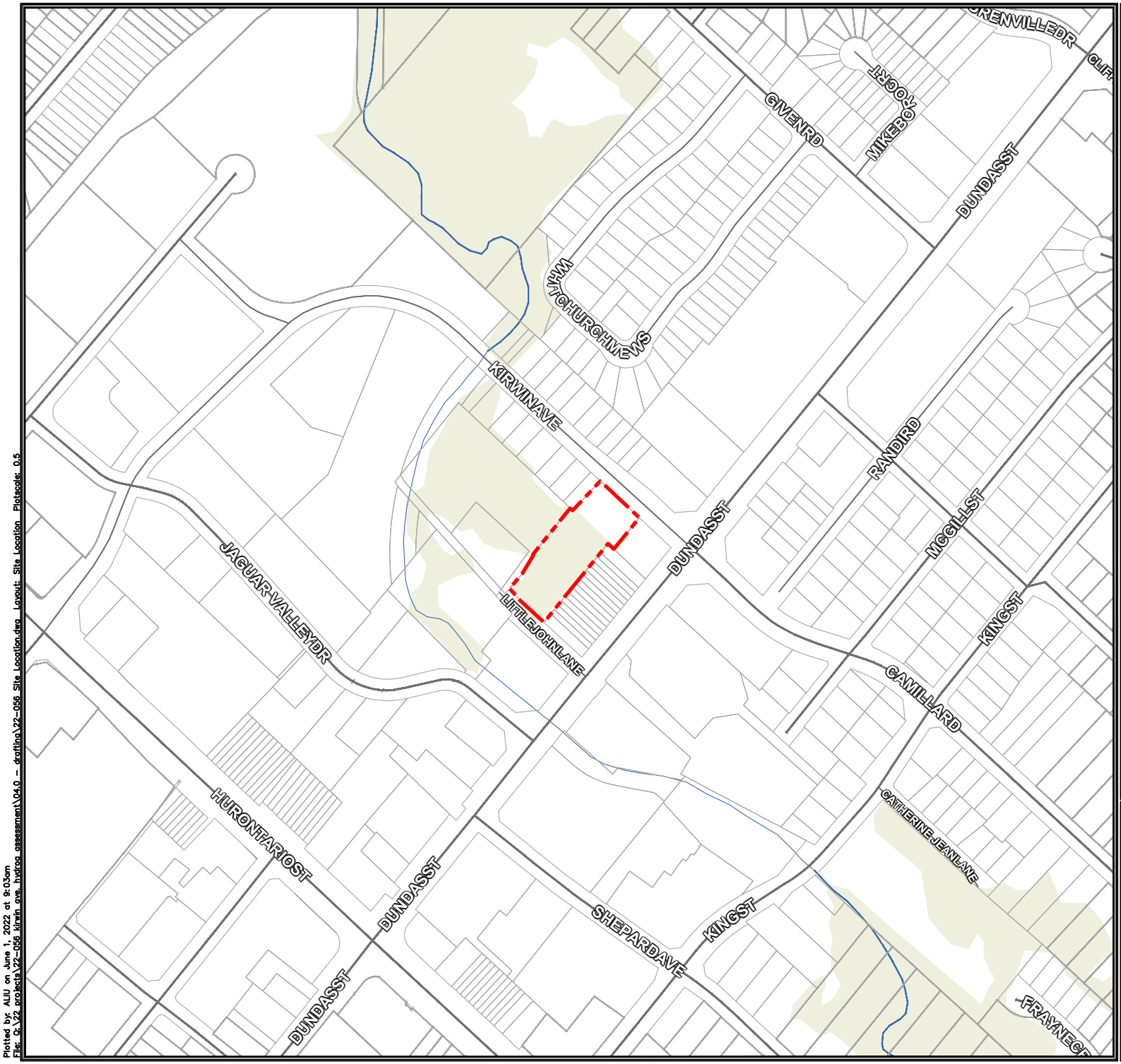
APPENDICES

Appendix A: **Figures**
Appendix B: **Proposed Development Plan**
Appendix C: **MECP Well Records & Site Borehole Logs**
Appendix D: **Water Balance Summary Tables**
Appendix E: **Hydraulic Conductivity Testing**
Appendix F: **Water Quality Data**
Appendix G: **Dewatering Calculations**

APPENDIX A

Figures



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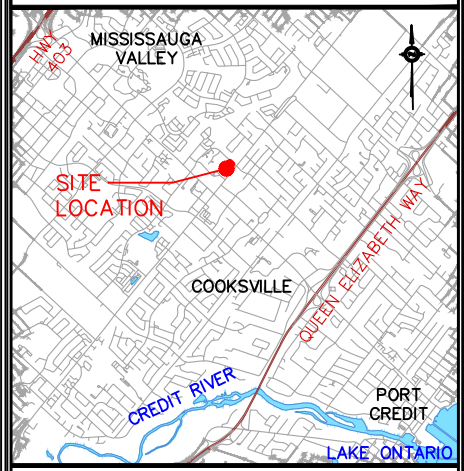


REGIONAL MAP

SCALE 1:100000

0 125.0 250.0

HORIZONTAL SCALE 1:5000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.

ENVIRONMENTAL ASSESSMENTS & APPROVALS

SITE LOCATION

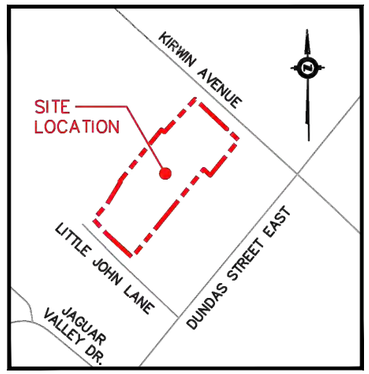
3016-3032 KIRWIN AVE.
MISSISSAUGA, ON

DATE ISSUED: *JUNE 2022*	Figure No.
CREATED BY: *A.L.*	
PROJECT NO.: *22-056*	1
REFERENCE: *CITY OF MISSISSAUGA*	

LEGEND:

APPROX. PROPERTY BOUNDARY

100.00 0.5m CONTOURS (masl; GTA DEM 2002)



LOCATION PLAN

0 12.50 25.0

HORIZONTAL SCALE 1:500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

SITE LAYOUT

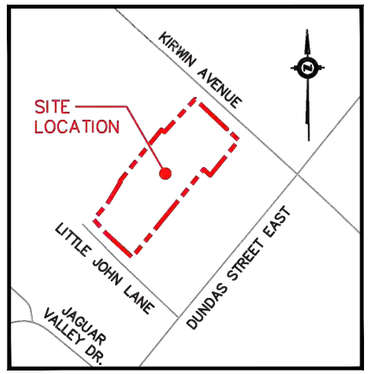
3016-3032 KIRWIN AVE.
MISSISSAUGA, ON

DATE ISSUED:	*JUNE 2022*	Figure No. 2
CREATED BY:	*A.L.*	
PROJECT NO.:	*22-056*	
REFERENCE:	*CITY OF MISSISSAUGA*	

Plotted by: ALU on June 1, 2022 at 9:04am
File: Q:\22 projects\22-056 Kirwin ave, hydrog assessment\04.0 - drafting\22-056 Site Layout.dwg Layout: Site Layout Plotscale: 0.5

LEGEND:

- APPROX. PROPERTY BOUNDARY
- 500m RADIUS STUDY AREA
- WATERCOURSE (NDMNRF, 2021)
- 100.00 — 0.5m CONTOUR (masl; GTA DEM 2002)
- WATER WELL LOCATIONS / I.D. (MECP, 2022)



LOCATION PLAN

0 100.00 200.0

HORIZONTAL SCALE 1:4000

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

NATURAL FEATURES AND SURROUNDING WELLS

3016-3032 KIRWIN AVE. MISSISSAUGA, ON

DATE ISSUED:	JUNE 2022	Figure No. 3
CREATED BY:	A.L.	
PROJECT NO.:	22-056	
REFERENCE:	CITY OF MISSISSAUGA	

Plotted by: ALU on June 1, 2022 at 9:07am
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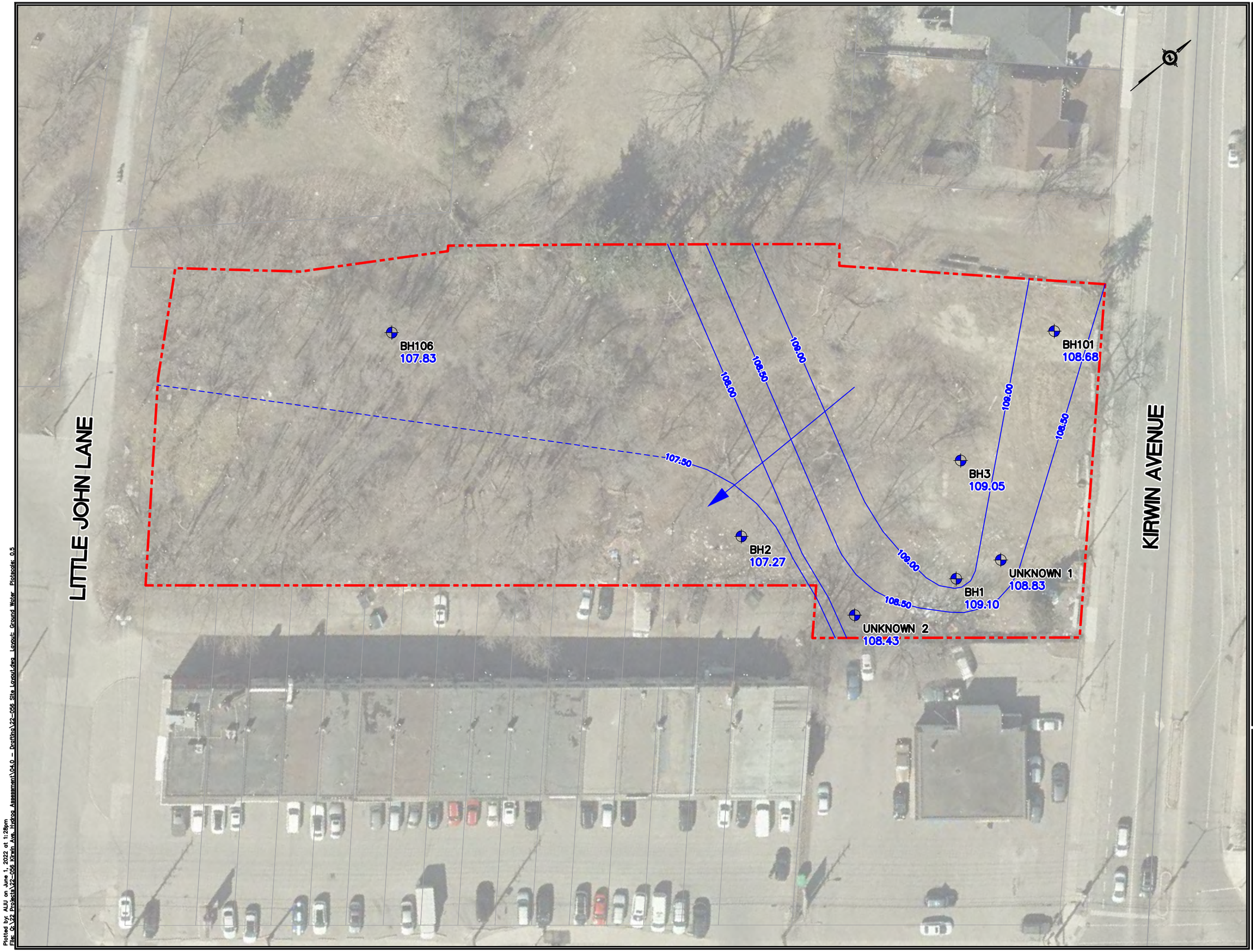
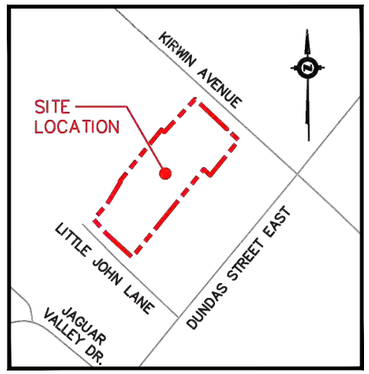


LEGEND:

- APPROX. PROPERTY BOUNDARY
- 100.00 — 0.5m CONTOURS (masl)
- INFERRED DIRECTION OF GROUND WATER FLOW



LOCATION PLAN

0 12.50 25.0

HORIZONTAL SCALE 1:500

AZIMUTH ENVIRONMENTAL CONSULTING, INC.
ENVIRONMENTAL ASSESSMENTS & APPROVALS

GROUND WATER CONTOURS

3016-3032 KIRWIN AVE.
MISSISSAUGA, ON

DATE ISSUED:	*JUNE 2022*	Figure No.
CREATED BY:	*A.L.*	4
PROJECT NO.:	*22-056*	
REFERENCE:	*CITY OF MISSISSAUGA*	

Plotted by: ALU on June 1, 2022 at 1:28pm
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APPENDIX B

Proposed Development Plan

PROPOSED 8 STOREY RENTAL BUILDING

3016 -3022 KIRWIN AVE, MISSISSAUGA, ON, CANADA

DRAWING LIST:

Sheet Number	Sheet Name
A000	COVER PAGE
A001	SITE PLAN & STATS
A101	PARKING GARAGE LEVEL 2
A102	PARKING GARAGE LEVEL 1
A103	GROUND FLOOR
A104	2ND FLOOR PLAN
A105	3RD FLOOR PLAN
A106	4TH FLOOR PLAN
A107	5TH FLOOR PLAN
A108	6TH FLOOR PLAN
A109	7TH FLOOR PLAN
A110	8TH FLOOR PLAN
A111	MECHANICAL FLOOR PLAN
A112	ROOF PLAN
A201	EAST ELEVATION
A202	WEST ELEVATION
A203	NORTH ELEVATION
A204	SOUTH ELEVATION
A205	SECTION 1 E/W
A206	SECTION 2 N/S

CONSULTANTS:

ARCHITECT:

KFA ARCHITECTS + PLANNERS INC.

197 SPADINA AVENUE, SUITE 500
TORONTO, ON
M5T 2C8

TEL: 416 633 6226

PLANNING:

WESTON CONSULTING

268 BERKELEY ST
TORONTO, ON
M5A 2X5

TEL: 905-738-8080

ACOUSTIC:

VALCOUSTICS

30 WERTHEIM CT
RICHMOND HILL, ON
L4B 1B9

TEL: 416-633-6226 EXT. 222

LANDSCAPE:

MSLA

170 THE DONWAY WEST, SUITE 206
NORTH YORK, ON
M3C 2G3

TEL: 416-492-9966 EXT. 26

ARBORIST / ENVI.

BEACON ENVIRONMENTAL

80 MAIN ST N
MARKHAM, ON
L3P 1X5

TEL: 519-835-6455

WIND:

THEAKSON ENVIRONMENTAL

GLENGARRY CRESCENT
FERGUS, ON
N1M 3E2

TEL: 519-787-2910

TRANSPORTATION:

LEA CONSULTING

425 UNIVERSITY AVENUE, SUITE 400
TORONTO, ON
M5G 1T6

TEL: 905-470-0015 ext. 245

CIVIL ENGINEER:

LEA CONSULTING

425 UNIVERSITY AVENUE, SUITE 400
TORONTO, ON
M5G 1T6

TEL: 905-470-0015 ext.328

3016 KIRWIN AVE

3016-3022 Kirwin Avenue
Mississauga - ON - Canada

No.	Description	Date
1	Issued for Review	2020/07/27
2	Issued for Review	2020/09/29
3	Issued for Review	2020/12/17
4	Issued for Review	2021/02/04
5	ISSUED FOR OPA/ZBA	2021/03/10

CONTEXT KEY PLAN

PROJECT NORTH

STAMP

CLIENT

DVB Real Estate Investaments Inc.

KFA architects + planners inc.

PROJECT NO: 20009

SCALE:

DATE: Feb. 04, 2020

DRAWN BY: FC, LF

DRAWING TITLE

COVER PAGE

DRAWING NO

A000

TOPOGRAPHIC SURVEY OF
ALL OF LOTS 27 TO 30 REGISTERED PLAN No. C-14 AND PART OF LOT 5 REGISTERED PLAN TOR-12 AND PART OF LOT 15 CONCESSION 1, NORTH OF DUNDAS STREET
(GEOGRAPHIC TOWNSHIP OF TORONTO, COUNTY OF PEEL)
CITY OF MISSISSAUGA
REGIONAL MUNICIPALITY OF PEEL

SCALE 1 : 200

0 5 10 15 metres

VAN HARTEN SURVEYING INC.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:

THIS SURVEY WAS COMPLETED ON THE 14th DAY OF OCTOBER, 2016.

DATE: OCTOBER 26, 2016

LUKE G. WILCOX
ONTARIO LAND SURVEYOR

BENCHMARK:

ELEVATIONS ARE REFERRED TO CANADIAN GEODETIC DATUM, 1928 AND WERE DERIVED FROM THE CITY OF MISSISSAUGA BENCHMARK No. 793; LOCATED ON THE NORTH FACE AT THE EAST CORNER OF CONCRETE END POST OF BOX CULVERT UNDER DUNDAS STREET EAST ON SOUTH SIDE OF DUNDAS STREET EAST, 15m EAST OF JAGUAR VALLEY DRIVE; PUBLISHED ELEVATION OF 110.955 METRES

SITE BENCHMARK; NAIL IN HYDRO POLE; APPROXIMATELY AT THE NORTH WEST CORNER OF LOT 27, REGISTERED PLAN No. C-14; 113.220 METRES AS SHOWN ON PLAN

PROPERTY DESCRIPTION:

ALL OF PINS 13715-0055, 13715-0071, 13715-0072, 13715-0073 AND 13715-0074; ALL OF LOTS 27 TO 30, REGISTERED PLAN No. C-14 AND PART OF LOT 5, REGISTERED PLAN TOR-12 AND PART OF LOT 15, CONCESSION 1, NORTH OF DUNDAS STREET, (GEOGRAPHIC TOWNSHIP OF TORONTO, COUNTY OF PEEL), CITY OF MISSISSAUGA, REGIONAL MUNICIPALITY OF PEEL

AREA - 0.639 ha. (6389.0 sq. metres)

LINETYPES

CONCRETE CURBS	
UNDERGROUND CABLE	CATV CATV
OVERHEAD TEL	TEL TEL
GAS LINE	GAS
SANITARY SEWER	SAN
WATERMAIN	W W
STORM SEWER	STM
OVERHEAD HYDRO	OH OH
CHAIN LINK FENCE (UNLESS OTHERWISE NOTED)	x x x
CENTRELINE OF ROAD	
TOP OF BANK	

DECIDUOUS TREE — CONIFEROUS TREE

BUSH — SAPLING • SAPC or SAPD

SYMBOLS

HYDRO POLE	HP
LIGHT STANDARD	LS
HYDRO METER	HM
CATCHBASIN	
MANHOLE	MH
GAS METER	GM
MONITORING WELL	MW
FIRE HYDRANT	FH
WATER VALVE	WV
SIGN	

BEARING AND COORDINATE NOTE:

1. BEARINGS ARE GRID BEARINGS AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE REFERRED TO THE UTM PROJECTION, ZONE 17, NAD 83 (CSRS-2010) ADJUSTMENT.
2. DISTANCES SHOWN ON THIS PLAN ARE ADJUSTED GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY AN AVERAGED COMBINED SCALE FACTOR OF 0.999745

BEARING COMPARISONS:

FOR THE PURPOSES OF BEARING COMPARISONS, PREVIOUS SURVEYS HAVE BEEN ROTATED TO UTM BEARINGS BY THE ANGLES SHOWN BELOW.

PLAN	ROTATION FOR NORTHEAST BEARINGS
P1	-0°55'15"
P2, P4	-1°43'20"
P3	-0°54'00"

LEGEND:

	DENOTES SURVEY MONUMENT SET
	DENOTES SURVEY MONUMENT FOUND
SIB	DENOTES .025 x .025 x 1.20 STANDARD IRON BAR
IB	DENOTES .015 x .015 x 0.60 IRON BAR
SSIB	DENOTES .025 x .025 x 0.60 SHORT STANDARD IRON BAR
RP	DENOTES .015 DIA. X 0.07 ROUND IRON BAR WITH STAMPED WASHER
PB	DENOTES .025 x .025 x 0.30 PLASTIC BAR
CC	DENOTES CUT CROSS
WIT	DENOTES WITNESS
OU	DENOTES ORIGIN UNKNOWN
VH	DENOTES VAN HARTEN SURVEYING INC., O.L.S.'s
VH	DENOTES VAN HARTEN SURVEYING INC., O.L.S.'s
923	DENOTES P. W. TARASICK, O.L.S.
819	DENOTES R. H. BcBAIN, O.L.S.
1163	DENOTES A. J. WINTLE, O.L.S.
1493	DENOTES J. F. G. YOUNG, O.L.S.
D&T	DENOTES DUNN & TAYLOR, O.L.S.'s
MMM	DENOTES MARSHAL, MACKLIN, MONAGHAN LIMITED
P1	DENOTES PLAN BY TARASICK, McMILLAN LIMITED, DATED MARCH 30, 1999
P2	DENOTES REGISTERED PLAN No. C-14
P3	DENOTES PLAN 43R-3434
P4	DENOTES PLAN BY McBAIN & CARMICHAEL LTD., DATED SEPTEMBER 27, 1994
P5	DENOTES PLAN OF SURVEY BY YOUNG & YOUNG SURVYEING INC., DATED DECEMBER 11, 1989
P6	DENOTES PLAN BY TARASICK, McMILLAN LIMITED, DATED JANUARY 17, 1986

CALL BEFORE YOU DIG

THE LOCATION OF SERVICES ON THIS DRAWING ARE ONLY APPROXIMATE AND BASED ON SURFACE FEATURES LOCATED AT THE TIME OF THE TOPOGRAPHIC SURVEY. PRIOR TO ANY CONSTRUCTION IT IS THE RESPONSIBILITY OF THE CONTRACTOR/BUILDER TO ENSURE THE EXACT LOCATION OF ALL UTILITIES.

METRIC:

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

REVISION SCHEDULE

No.	DATE	BY	COMMENTS
1	10/24/16	EEL	FIRST SUBMISSION TO CLIENT
2	10/27/16	EEL	SECOND SUBMISSION TO CLIENT

ASSOCIATION OF ONTARIO LAND SURVEYORS
PLAN SUBMISSION FORM
1974300

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR
In accordance with Regulation 1026, Section 29(3)

Van Harten SURVEYING INC.
LAND SURVEYORS and ENGINEERS

Elmira	Guelph	Orangeville
Ph: 519-669-5070	Ph: 519-821-2763	Ph: 519-940-4110

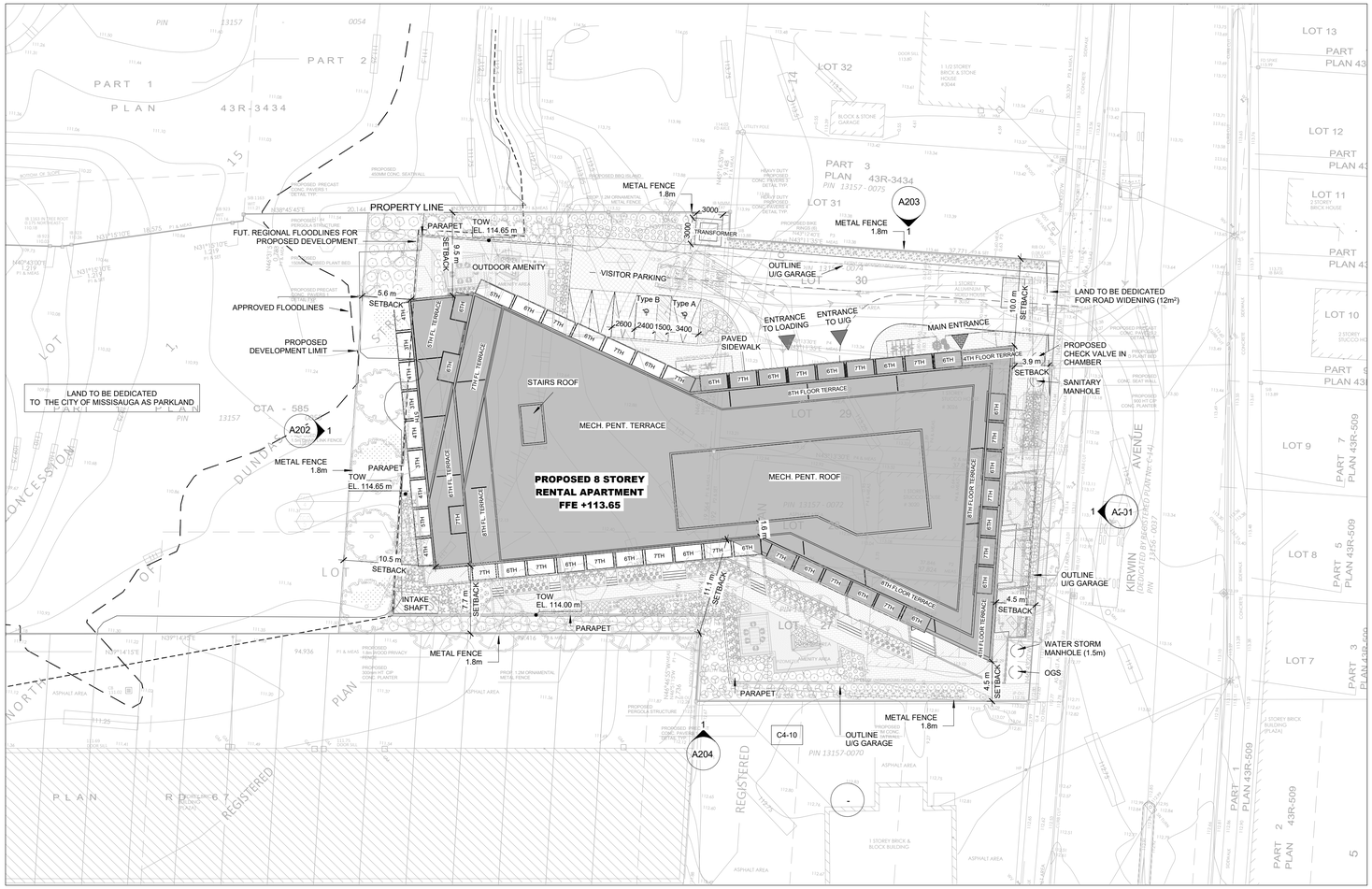
www.vanharten.com info@vanharten.com

DRAWN BY: EEL | CHECKED BY: AJM | PROJECT No. 24130-16

Oct 27,2016-1:53pm
\\Oserver2\data\GEOGRAPHIC\Mississauga\C14\ACAD\TOPO-LTS27-30 C14 (24130-16) UTM 2010.dwg

1. SATELLITE AERIAL VIEW

2. TOPOGRAPHIC AERIAL VIEW



3. SITE PLAN / 1:300

3016-3022 Kirwin Ave

Review: February 04th, 2021

Legal Description

ALL OF LOTS 27 TO 30 REGISTERED PLAN No. C-14 AND PART OF LOT 5 REGISTERED PLAN TOR-12 AND PART OF LOT 15 CONCESSION 1, NORTH OF DUNDAS STREET CITY OF MISSISSAUGA REGIONAL MUNICIPALITY OF PEEL

Site

Gross Site Area		**6,385.0** m²	*68,730 sf*
Parkland Dedication		2,450.0 m²	*26,372 sf*
Road Widening Area		12.0 m²	*129 sf*
Net Site Area		**3,923.0** m²	*42,228 sf*
Lot Frontage		50.3 m	
Lot Depth		131.4 m	

Building proposal

Building Footprint		1,703.0 m²	
Building Height		25.5 m	**Mech. Pent. Excluded*
Gross Floor Area	*(Based on GFA - Apartment Zone)*	11,120.0 m²	
Lot Coverage (%)	*(Based on Gross Site Area)*	27%	
Lot Coverage (%)	*(Based on Net Site Area)*	43%	
FSI	*(GFA / Gross Site Area)*	**1.74**	
FSI	*(GFA / Net Site Area)*	**2.83**	

Proposed Areas	Floor	**GCA** (m²)**	**GFA* (m²)**	*Total (ft²)*
	Ground Floor	1,583.0	930.0	*10,011*
	TH 2nd Floor	600.0	600.0	*6,459*
	2nd Floor	1,585.0	1,525.0	*16,415*
	3rd Floor	1,703.0	1,628.0	*17,524*
	4th Floor	1,508.0	1,448.0	*15,587*
	5th Floor	1,427.0	1,367.0	*14,715*
	6th Floor	1,370.0	1,297.0	*13,961*
	7th Floor	1,311.0	1,265.0	*13,617*
	8th Floor	1,106.0	1,060.0	*11,410*
	Total GFA	12,193.0	11,120.0	*119,699*
Total Proposed GFA			**11,120.0 m²**	*119,699 ft²*

***Gross Floor Area (GFA)** - Apartment Zone 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 part of the building used for mechanical floor area, stairwells, elevators, motor vehicle parking, bicycle parking, storage lockers, below-grade storage, any enclosed area used for the collection or storage of disposable or recyclable waste generated within the building, common facilities for the use of the residents of the building, a day care and amenity area.

****Gross Construction Area (GCA)** - The total enclosed area of a floor or building measured to the outside surface of the permanent exterior walls of the building or structure or to a predetermined surface, or plane as in the case of overhangs and projections to the outside surface of the building.

Unit Count	Units	1 Bed	2 Bed	3 Bed
Ground Floor	10			
2nd Floor	20			
3rd Floor	23			
4th Floor	22			
5th Floor	20			
6th Floor	19			
7th Floor	18			
8th Floor	16			
Total Units	**148**	113	32	3
		76.4%	21.6%	2.0%

Vehicular Parking

Parking Required	UNITS	PARKING	RATIO
Rental 1 Bed @1.18 per unit	113	133	*1.18*
Rental 2 Bed @1.36 per unit	32	44	*1.36*
Rental 3 Bed @1.5 per unit	3	5	*1.50*
	Tot:	**181**	
Rental Visitors @ 0.15 per unit	148	22	*0.15*
Total Vehicular Parking Required		**Tot:** **204**	

Parking Provided (estimated)

	At Grade	P1 Level	P2 Level	Sub Total	*Ratio*
Residential	0	64	93	157	*1.06*
Residential Visitor	5	16	0	21	*0.14*
	5	80	93	178	
Total Vehicular Parking Provided				**Tot:** **178**	**1.20**

Bicycle Parking

Required

	Ratio		
Short Term Residential	*0.08 x unit*		12
Long Term Residential	*0.7 x unit*		104
		Tot:	**115**

Provided (estimated)

	At Grade	P1 Level	
Short Term Residential	14	0	
Long Term Residential	0	101	
		Tot:	**115**

Landscaped Area

Soft Landscaping	912.0 m²	*23%*
Hard Landscaping	760.0 m²	*19%*
Green Roof	466.0 m²	*12%*
Total Landscape	**2138.0 m²**	*54%*

Amenity Area

Amenity Area Required

5.6 m² per unit	828.8 m²
Total Amenities Required	**828.8 m²**

Amenity Area Provided (estimated)

1) **Indoor**		
Ground Floor	330.0 m²	
2) **Outdoor**		
Ground Floor	100.0 m²	
Roof	450.0 m²	
Total Amenities	**880.0 m²**	*5.9 sqm x unit*

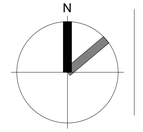
3016 KIRWIN AVE

3016-3022 Kirwin Avenue
Mississauga - ON - Canada

No.	Description	Date
1	Issued for Review	2020/07/27
2	Issued for Review	2020/09/29
3	Issued for Review	2020/12/17
4	Issued for Review	2021/02/04
5	ISSUED FOR OPA/ZBA	2021/03/10

11x17 FORMAT
HALF SCALE

North Arrow



Stamp

KFA architects + planners inc.
197 SPADINA AVE - SUITE 500
TORONTO - ON - M5T 2C8
416.633.6226
www.kfarchitecture.com

Project No:	20009
Scale:	1 : 300
Date:	Feb. 04, 2020
Drawn by:	FC

Drawing Title

SITE PLAN & STATS

Drawing Number

A001

3016
KIRWIN AVE

3016-3022 Kirwin Avenue
Mississauga - ON - Canada

No.	Description	Date
1	ISSUED FOR OPA/ZBA	2021/03/10
2	ISSUED FOR OPA/ZBA	2022/01/21
8	Issued for Coordination	2022/07/27
9	Issued for Coordination	2022/08/22

North Arrow

Stamp

KFA architects + planners inc.
197 SPADINA AVE - SUITE 500
TORONTO - ON - M5T 2C8
416.633.6226
www.kfarchitecture.com

Project No:	20009
Scale:	1 : 150
Date:	Feb. 04, 2020
Drawn by:	FC

Drawing Title

GROUND FLOOR

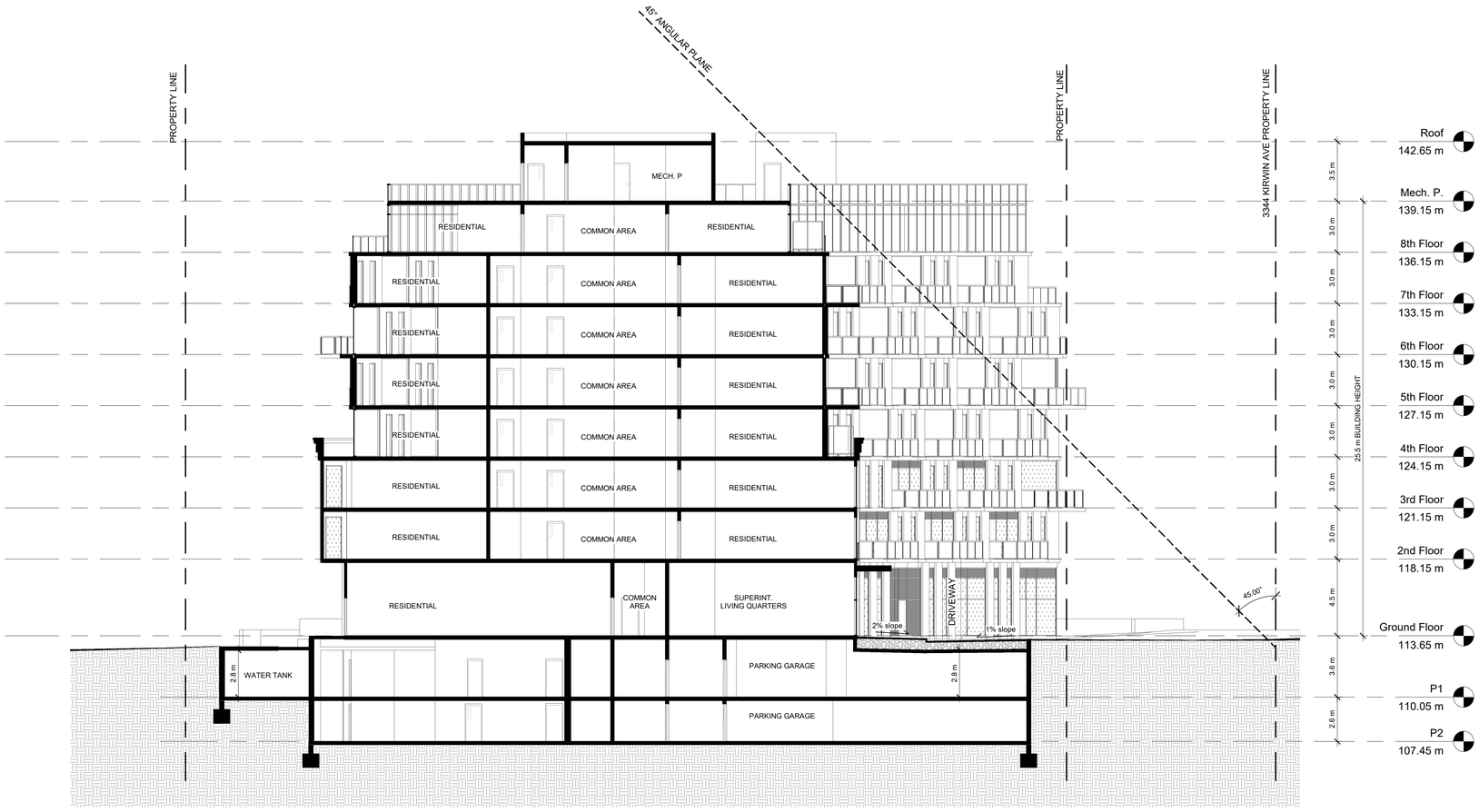
Drawing Number

A103

3016
KIRWIN AVE

3016-3022 Kirwin Avenue
Mississauga - ON - Canada

No.	Description	Date
1	ISSUED FOR OPA/ZBA	2021/03/10
2	ISSUED FOR OPA/ZBA	2022/01/21
8	Issued for Coordination	2022/07/27
9	Issued for Coordination	2022/08/22



KFA architects + planners inc.
197 SPADINA AVE - SUITE 500
TORONTO - ON - M5T 2C8
416.633.6226
www.kfarchitecture.com

Project No:	20009
Scale:	1 : 150
Date:	Feb. 04, 2020
Drawn by:	FC

Drawing Title

SECTION 1 E/W

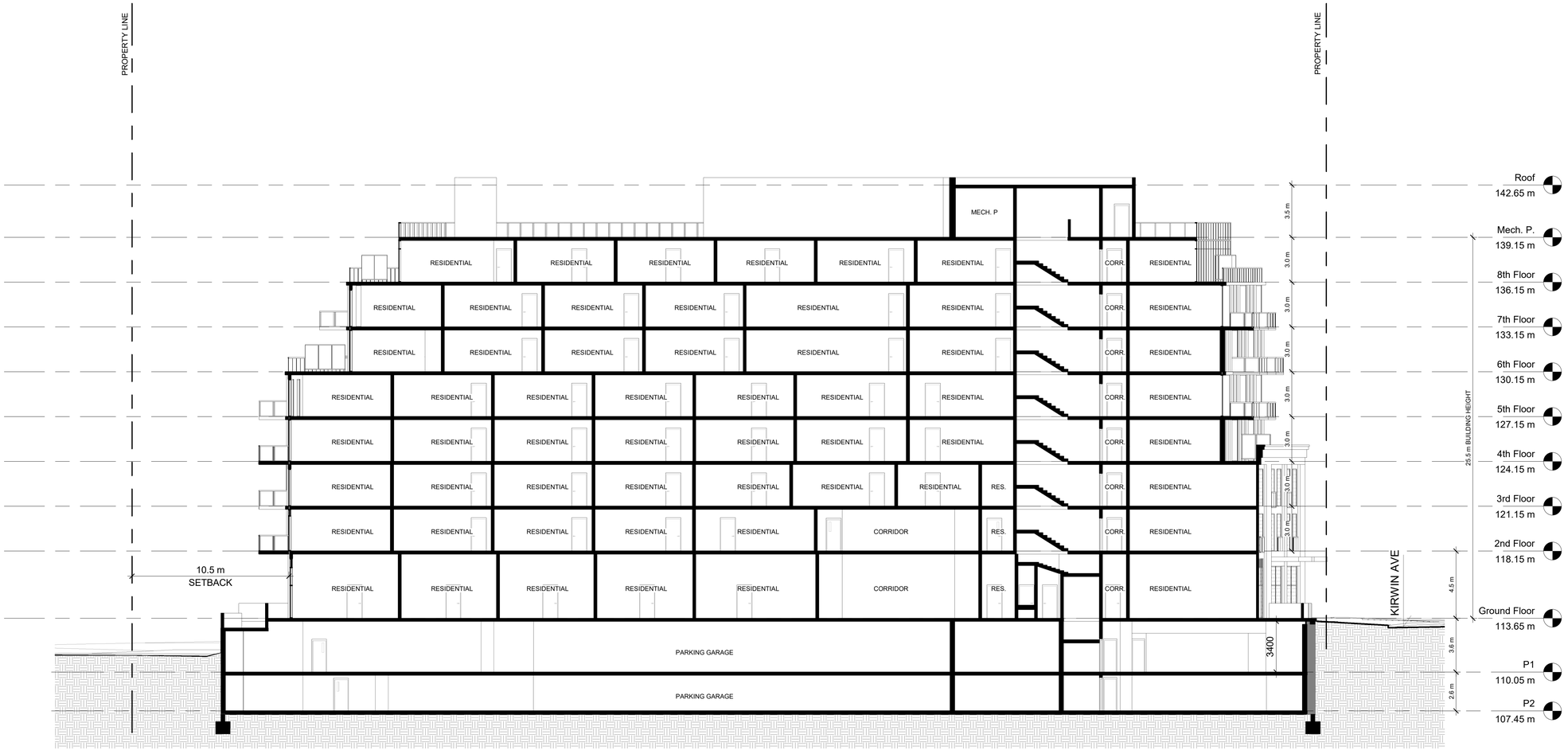
Drawing Number

A205

3016
KIRWIN AVE

3016-3022 Kirwin Avenue
Mississauga - ON - Canada

No.	Description	Date
1	ISSUED FOR OPA/ZBA	2021/03/10
2	ISSUED FOR OPA/ZBA	2022/01/21
8	Issued for Coordination	2022/07/27
9	Issued for Coordination	2022/08/22



KFA architects + planners inc.
197 SPADINA AVE - SUITE 500
TORONTO - ON - M5T 2C8
416.633.6226
www.kfarchitecture.com

Project No:	20009
Scale:	1 : 150
Date:	Feb. 04, 2020
Drawn by:	FC

Drawing Title

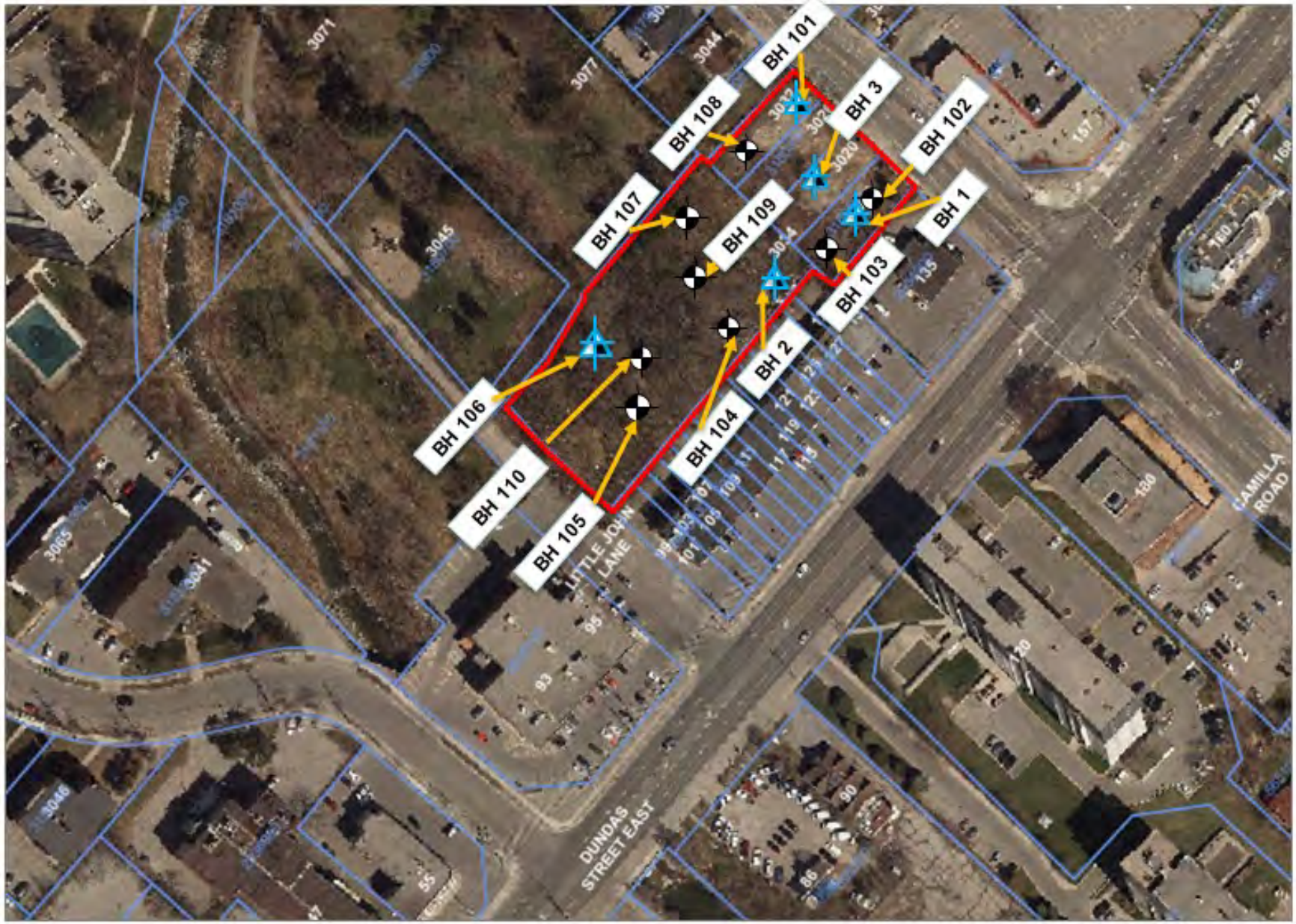
SECTION 2 N/S

Drawing Number

A206

APPENDIX C

MECP Well Records & Site Borehole Logs



Approximate location Subject Property

Approximate location of Boreholes

Approximate Location of Monitoring Well

0 20 40m

Source: City of Mississauga Interactive Maps
© 2022 City of Mississauga

Title	Project	Project No.	Scale	Date	Figure No.
Borehole Location Plan	3016, 3020, 3026 & 3032 Kirwin Avenue and 3031 Littlejohn Lane City of Mississauga, Ontario	2202-001	As drawn	April, 2022	4

BH1

PROJECT NUMBER: 2012-001
PROJECT NAME: Phase Two ESA
CLIENT: DBV Real Estate Investments Inc.
ADDRESS: 3031 Littlejohn Ln and 3016, 3020, 3026, 3032 & 3034 Kirwin Av, Mississauga

UTM COORD. (m) 17 T611938 m E 4826562 m N
HOLE SIZE/SAMPLING METHOD: 50 mm /SS
RIG MODEL: Diedrich D-120
DRILLING METHOD: Spilt Spoon, Hollow Stem A
SAMPLING LENGTH: 0.762 m

TOTAL WELL DEPTH: 6.8 mbgs
SURFACE ELEVATION: 113.13 masl
WELL SCREEN: 3.05 m; #10 Slot Screen
WATER LEVEL: 4.46 mbgs

COMMENTS : masl: meter above sea level - SS: Split-Spoon

LOGGED BY ST
CHECKED BY AT

Elevation (masl)	Depth (m)	Soil Sample ID	Sample Type	% Recovery (0–100)	Soil Lab Analyses	Graphic Log	Material Description	HSVC as Isobutylene (ppm)	HSVC as Hexane (ppm)
113	0	1	SS				100 mm Topsoil		
							SILTY CLAY FILL, brown, some gravel, moist-wet, no odours & stains	0	0.0
112.5	0.5								
	1	2	SS		PAHs, M&I			0	0.0
112									
	1.5	3	SS				SILTY SAND FILL, brown, some gravel & cobbles, dry, no odours & stains	0	0.0
111.5									
	2								
111		4	SS					0	0.0
	2.5								
110.5									
	3	5	SS					0	0.0
110									
	3.5								
109.5									
	4	6	SS		PHC, VOC, DUP-S1		SILTY CLAY, brown-grey, moist, some gravel & rocks, firm - stiff	0	0.0
109									
	4.5								
108.5		7A	SS					0	0.0
	5								
108		7B					- grey, stiff to hard, weathered shale fragments		
	5.5	8	SS					0	0.0
107.5									
	6								
107		9	SS					0	0.0
	6.5								
106.5									
	7								
106									

Well Diagram

BH2

PROJECT NUMBER: 2012-001
PROJECT NAME: Phase Two ESA
CLIENT: DBV Real Estate Investments Inc.
ADDRESS: 3031 Littlejohn Ln and 3016, 3020, 3026, 3032 & 3034 Kirwin Av, Mississauga

UTM COORD. (m) 17 T611938 m E 4826562 m N
HOLE SIZE/SAMPLING METHOD: 50 mm /SS
RIG MODEL: Diedrich D-120
DRILLING METHOD: Spilt Spoon, Hollow Stem A
SAMPLING LENGTH: 0.762 m

TOTAL WELL DEPTH: 6.06 mbgs
SURFACE ELEVATION: 112.56 masl
WELL SCREEN: 3.05 m; #10 Slot Screen
WATER LEVEL: 4.86 mbgs

COMMENTS : masl: meter above sea level - SS: Split-Spoon

LOGGED BY ST
CHECKED BY AT

Elevation (masl)	Depth (m)	Soil Sample ID	Sample Type	% Recovery	Soil Lab Analyses	Graphic Log	Material Description	HSVC as Isobutylene (ppm)	HSVC as Hexane (ppm)
112.5	0	1	SS				Topsoil and Asphalt		
112	0.5						SILTY SAND FILL, brown, some gravel & cobbles, dry, no odours & stains	0	0.0
111.5	1	2	SS		M&I			0	0.0
111	1.5	3	SS					0	0.0
110.5	2	4	SS					0	0.0
110	2.5	5A	SS					0	0.0
109.5	3	5B							
109	3.5	6	SS		PHC, VOC		SILTY CLAY, grey, some organic, moist, soft-firm	0	0.0
108.5	4								
108	4.5	7	SS				- stiff to hard	0	0.0
107.5	5						- weathered shale fragments		
107	5.5	8	SS					0	0.0
106.5	6								
106	6.5								
105.5	7								

Well Diagram

BH3

PROJECT NUMBER: 2012-001
PROJECT NAME: Phase Two ESA
CLIENT: DBV Real Estate Investments Inc.
ADDRESS: 3031 Littlejohn Ln and 3016, 3020, 3026, 3032 & 3034 Kirwin Av, Mississauga

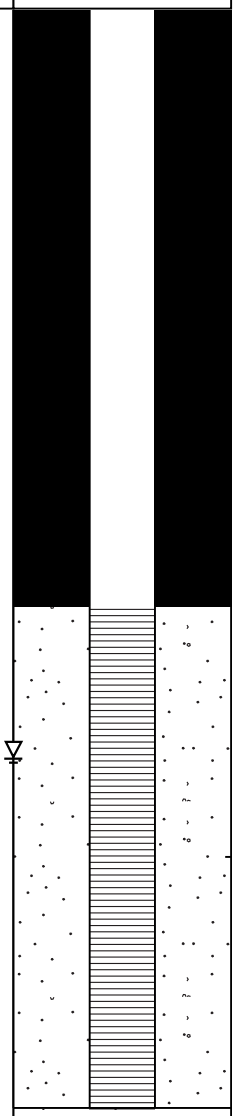
UTM COORD. (m) 17 T611938 m E 4826562 m N
HOLE SIZE/SAMPLING METHOD: 50 mm /SS
RIG MODEL: Diedrich D-120
DRILLING METHOD: Spilt Spoon, Hollow Stem A
SAMPLING LENGTH: 0.762 m

TOTAL WELL DEPTH: 6.57 mbgs
SURFACE ELEVATION: 113.31 masl
WELL SCREEN: 3.05 m; #10 Slot Screen
WATER LEVEL: 4.48 mbgs

COMMENTS : masl: meter above sea level - SS: Split-Spoon

LOGGED BY ST
CHECKED BY AT

Elevation (masl)	Depth (m)	Soil Sample ID	Sample Type	% Recovery	Soil Lab Analyses	Graphic Log	Material Description	HSVC as Isobutylene (ppm)	HSVC as Hexane (ppm)
113	0	1	SS				100 mm Topsoil		
	0.5						SILTY SAND FILL, brown, some gravel & cobbles, dry, no odours & stains	0	0.0
112.5	1	2	SS		M&I			0	0.0
112	1.5	3	SS					0	0.0
111.5	2	4	SS					0	0.0
111	2.5	5	SS					0	0.0
110.5	3	6	SS				SILTY CLAY, brown-grey, moist, some gravel & rocks, firm - stiff	0	0.0
110	3.5	7A	SS				- grey	0	0.0
109.5	4	7B					- weathered shale fragments		
109	4.5	8	SS					0	0.0
108.5	5	9	SS					0	0.0
108	5.5							0	0.0
107.5	6								
107	6.5								
106.5	7								
106									



AZURE GROUPDRAWING NO. 2

JOB NUMBER 2202-001BH101

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa) | ***G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content***

Temperature: 5°C

Started/Date **April 1,2022Time: 8.55 am** **Sheet 1of 1**
Finished/Date **April 1,2022Time: 5:30 pm**
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 113.399 m G.W. Depth: 5.4 m G.W. Elevation: 107.13 mApril13, 2022Time: 1 pm

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u (kPa)	G.W.T	Remark
0	113.4	250 mm Topsoil	SS	1	6			
		Soft to firmdark brown silty clay/clayey silt trace sand, gravel, and organics						
.75	112.7		SS	2	5			
1.5	111.9		SS	3	5			
2.25	111.2	Compact SILTY SAND/SANDY SILT trace gravel, moist below 2.2 m	SS	4	37			
3.0	110.4		SS	5	36			
		Loose below 3.0 m, wet						
4.6	108.8		SS	6	19			
		Stiff to very grayish brown stiff SILTY CLAY/CLAYEY SILT trace sand and gravel, wet below 4.0 m					5.4 m	
6.1	107.9		SS	7	55			
		Hard grey CLAYEY SILT trace to some shale fragmentsbelow 6.0 m						
7.6	105.8		SS	8	>80			
8.2	105.2	Refusal at 8.2 m			>80			

EOB

AZURE GROUPDRAWING NO. 3

JOB NUMBER 2202-001BH102

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022Time: 8.55 am **Sheet 1of 1**
Finished/Date April 8,2022Time: 5:30 pm
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 113.094 m G.W. Depth: G.W. Elevation: Time:

Depth/Elev. (m)		Soil Description	Type/No		N	C_u(kPa)	G.W.T	Remark
0	113.1	250 mm Topsoil Soft to firmdark brown silty clay/clayey silt trace sand, gravel, and organics, moist	SS	1	8			
.75	112.4	Trace gravel, possible cobbles, moist below 0.7 m	SS	2	8			
1.5	111.6	Compact SILTY SAND/SANDY SILT trace gravel, moist below 1.8 m	SS	3	15			
2.25	110.9	Very dense SAND & GRAVEL below 2.2 m, moist (possible boulder)	SS	4	>80			
3.0	110.1	Very dense SAND & GRAVEL, moistbelow 3.0 m, possible cobbles	SS	5	66			
4.6	108.5	Compact SAND & GRAVEL trace clay, wet below 4.0 m	SS	6	22			
6.1	105.5	Hardgrey SILTY CLAY/CLAYEY SILT trace shale fragments, wet below 6.0 m	SS	7	52			
7.6	105.5	Hard grey SILTY CLAY/CLAYEY SILT with SHALE fragments below 7.0 m Hard weathered shale Below 9.0 M	SS	8	>80			
9.8	103.3	Refusal at 9.8 m	SS	9.8	>80			

EOB

AZURE GROUPDRAWING NO. 4

JOB NUMBER 2202-001BH103

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022Time: 4.45 am **Sheet 1of 1**
Finished/Date April 8,2022Time: 6:30 pm
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 112.5 m G.W. Depth: G.W. Elevation: Time:

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u(kPa)	G.W.T	Remark
0	112.5	250 mm Topsoil Dark brown silty clay/clayey silt trace sand, gravel, and organics	AS	1				
.75	111.8		AS	2				
1.5	111.0		AS	3				
2.25	110.3	SILTY SAND/SANDY SILT trace gravel, moist below 2.2 m	AS	4				
3.0	109.5		AS	5				
4.6	107.9	Stiff to very stiff SILTY CLAY/CLAYEY SILT trace sand and gravel, wet below 4.0 m	SS	6				
6.1	106.4	Hard CLAYEY SILT/SILTY CLAY trace gravel, wet below 6.0 m	SS	7	50			
7.6	104.9	Hard CLAYEY SILT/SILTbelow 7.0 m	SS	8	>80			
9.2	103.3	Refusal at 8.2 m	SS	9	>80			

EOB

AZURE GROUPDRAWING NO. 5

JOB NUMBER 2202-001BH104

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 7, 2022Time: 3.10 am **Sheet 1of 1**
Finished/Date April 7,2022Time: 6:30 pm
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 112.1 m G.W. Depth: G.W. Elevation: Time:

Depth/Elev. (m)		Soil Description	Type/No		N	C_u(kPa)	G.W.T	Remark
0	112.1	250 mm Topsoil Dark brown silty sand/sandy silt trace clay, gravel, and organics	AS	1				
.75	111.4	Dark brown SILTY CLAY trace gravel and organics below 0.7 m	AS	2				
1.5	110.6	Light brown CLAYEY SILT trace gravel below 1.5 m	AS	3				
2.25	109.9	SILTY CLAY/CLAYEY SILT, trace gravel, wet below 2.2 m	AS	4				
3.0	109.1	Hard CLAYEY SILT/SILTY CLAY below 3.0 m	AS	5				
4.6	107.5		AS	6				
6.1	106.0		SS	7	>80			
		Hard grey CLAYEY SILT/SILTY trace sand and gravel, wetbelow 6.0 m						
7.6	104.5		SS	7	>80			
9.2	102.9		SS	8	>80			
		Hard CLAYEY SILT with SHALE trace gravel below 9. M						
9.8	102.3	Refusal at 9.8 m	SS	9	>80			

EOB

AZURE GROUPDRAWING NO. 6

JOB NUMBER 2202-001BH105

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022Time: Sheet 1of 1
Finished/Date April 8,2022Time:
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 110.8 m G.W. Depth: G.W. Elevation: Time:

Depth/Elev. (m)		Soil Description	Type/No			C_u(kPa)	G.W.T	Remark
0	110.8	250 mm Topsoil Dark brown silty sand/sandy silt trace clay, gravel, and organics	AS	1				
.75	110.1	Sand trace clay and gravel below 0.75 m, moist to wet	AS	2				
1.5	109.3	SAND/SILTY SAND trace clay & GRAVEL, Wetbelow 1.5 m	AS	3				
2.25	108.6		AS	4				
3.0	107.8		AS	5				
4.6	106.2	Grey CLAYEY SILT, SILT trace sands below 4.6 m, wet	AS	6				
6.1	104.7	Very dense SILTY SAND/SANDY SILTtrace Gravel and clay, wet below 6.0 m	SS	7	>80			
7.6	103.2		SS	8	>80			
9.2	101.6	Hard CLAYEY SILT with weathered SHALE below 9.0 m	SS	9	>80			
9.8	101.0	Refusal at 9.8 m	SS	10	>80			

EOB

AZURE GROUP DRAWING NO. 7

JOB NUMBER 2202-001BH(MW)106

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022Time: Sheet 1of 1
Finished/Date April 8,2022Time:
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 110.78 m G.W. Depth: 2.69 mG.W. Elevation: 108.09mTime:

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u (kPa)	G.W.T	Remark
0	110.8	250 mm Topsoil Dark brown SILTY SAND/SANDY SILTtrace clay, gravel, and organics	SS	1				
.75	110.1		SS	2				
1.5	109.3	CLAYEY SILT trace clay & GRAVEL, Wet below 1.5 m	SS	3				
2.25	108.6		SS	4				
							2.7 m	
3.0	107.8		SS	5				
4.6	106.2	Grey CLAYEY SILT trace gravel below, wet below4.6 m	SS	6		225.0		
6.1	104.7	Hard grey CLAYEY SILT trace to some shale fragments, wet below 6.0 m	SS	7	>80	225.0		
7.6	103.2		SS	8	>80	225.0		
9.2	101.6	Hard grey CLAYEY SILT with weathered SHALE below 9.0 m, wet	SS	9	>80			
9.8	101.0	Refusal at 9.8 m	SS	10	>80			

EOB

AZURE GROUP DRAWING NO. 8

JOB NUMBER 2202-001BH(MW)107

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022 **Time:** 11:45 **Sheet** 1of 1
Finished/Date April 8,2022 **Time:**
Azure Rep: AmitPal **Auger Type:** 150 mm Open
G. S. El: 113.26 m **G.W. Depth:** **G.W. Elevation:** **Time:**

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u (kPa)	G.W.T	Remark
0	113.3	50 mm Asphalt Looseto very loosedark brown silty sand/sandy silt trace to some organics, gravel,and clay, moist	SS	1	5			
.75	112.6		SS	2	7			
1.5	111.8	Compactbelow 1.5 m	SS	3	18			
2.25	111.1	Very dense below 2.2 m , possible boulders	SS	4	80			
3.0	110.3	Dense below3.0 m, wet	SS	5	43			
4.6	108.7	Dense SILTY SAND/SAND possible boulders, wet below 4.0 m	SS	6	47			
6.1	107.2	Hard grey SILTY CLAY/CLAYEY SILT trace gravel, wet below 5.0 m	SS	7	47			
7.6	105.7	Hard grey weathered SHALE with hard SILTY CLAY	SS	8	>80			
9.2	104.1	Grey Weathered SHALE below 9.2 m	SS	9	>80			
10.7	102.6		SS	10	>80			
11.0	102.3	Refusal at 7.8 m	SS	11	>80			

EOB

AZURE GROUPDRAWING NO. 9

JOB NUMBER 2202-001BH108

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022**Time:** 8:00 am**Sheet** 1of 1
Finished/Date April 8,2022**Time:**
Azure Rep: AmitPal**Auger Type:** 150 mm Open
G. S. El: 113.28 m **G.W. Depth:** **G.W. Elevation:** **Time:**

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u (kPa)	G.W.T	Remark
0	113.3	250 mm Topsoil Dark brown SILTY SAND/SANDY SILT trace clay, gravel, and organics	AS	1				
.75	112.6		AS	2				
1.5	111.8	Light brown SILTY SAND,trace clay and gravel, moist below 1.5 m,	AS	3	7			
2.25	111.1		AS	4				
3.0	110.3	Brown SILTY SAND with GRAVEL, moist below 3.0 m	AS	5	28			
4.6	108.7	Light brown SILTY SANDY/SANDY SILT trace to some clay and gravel, moist below 4.0 m	AS	6	25			
6.1	107.2	Hard CLAYEY SILTSILTY CLAY trace to some shale fragments, wet below 6.0 m	SS	7	45			
7.6	105.7	Grey weathered SHALE with SILTY CLAYtrace gravel, moist below 7.0 m	SS	8	75			
9.2	104.1	Grey weathered SHALE with SILTY CLAY trace gravel, moist below 9.0 m	SS	9	>80			
10.7	102.6		SS	10	>80			
11.3	102.0	Refusal at 11.3 m	SS	11	>80			

EOB

AZURE GROUP DRAWING NO. 10

JOB NUMBER 2202-001BH109

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa)	G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content

Temperature: 5°C

Started/Date April 8, 2022 **Time:** 8:50 am **Sheet** 1of 1
Finished/Date April 8,2022 **Time:**
Azure Rep: AmitPal **Auger Type:** 150 mm Open
G. S. El: 112.5 m **G.W. Depth:** **G.W. Elevation:** **Time:**

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u (kPa)	G.W.T	Remark
0	112.5	250 mm Topsoil Dark brown SILTY SAND/SANDY SILT trace clay, gravel, and organics	AS					
.75	111.8		AS					
1.5	111.0	CLAYEY SILT trace clay &gravel, wet below 1.5 m	AS					
2.25	110.3		AS					
3.0	109.5		AS					
4.6	109.5	Grey CLAYEY SILT trace gravel below 4.6 m, wet below 4.0 m	AS					
6.1	106.4	Hard CLAYEY SILT/SILTY CLAY trace shale fragments, wet below 6.0 m	SS		>80			
7.6	104.9		SS		>80			
9.2	103.3	Hard CLAYEY SILT with weathered SHALE below 9.0 m, wet	SS		>80			
9.8	102.7	Refusal at 9.8 m	SS		>80			

EOB

AZURE GROUP DRAWING NO. 11

JOB NUMBER 2202-001BH110

PROJECT LOCATION: 3016 – 3032 Kirwin Avenue &3031 Little John Lane, Mississauga, Ontario

Client: Black Creek Group

C_u = Shear Strength (kPa) | ***G%= Gravel, S% = Sand, F% = Fines (Silt and Clay), M = Moisture Content***

Temperature: 5°C

Started/Date April 8, 2022Time: Sheet 1of 1
Finished/Date April 8,2022Time:
Azure Rep: AmitPalAuger Type: 150 mm Open
G. S. El: 110.88 m G.W. Depth: G.W. Elevation: Time:

Depth (m)	Elev. (m)	Soil Description	Type	No	N	C_u (kPa)	G.W.T	Remark
0	110.9	250 mm Topsoil Dark brown SILTY SAND/SANDY SILT trace clay, gravel, and organics	AS	1				
.75	110.2		AS	2				
1.5	109.4	CLAYEY SILT trace sand&gravel, wet below 1.5 m	AS	3				
2.25	108.7		AS	4				
3.0	107.9	SILTY SAND/SANDY SILT, wet below 3.0 m	AS	5				
4.6	106.3	Grey CLAYEY SILT trace gravel below 4.6 m, wet below 4.0 m	AS	6		225.0		
6.1	104.8	Hard CLAYEY SILT trace to some gravels, wet below 6.0 m	SS	7	>80	225.0		
7.6	103.3	Hard grey CLAYEY SILT trace shale fragments below 7.5 m	SS	8	>80			
9.2	101.7	Hard grey CLAYEY SILT with weathered SHALE below 9.0 m, wet	SS	9	>80			
9.8	101.1	Refusal at 9.8 m	SS	10	>80			

EOB

7296549

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below)
A199313 A199313
Tag#: A199313

Well Record

Regulation 903 Ontario Water Resources Act

S-20827 Page _____ of _____

ROYAL BANK OF CANADA

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2 Dundas Street West			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	6 11 692	48 26 127		WKQ-010354 A0 - A02

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Blk	asphalt			0	3"
Brown	Clay	silt		3"	10'
Grey	Shale			10'	14'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	6"	Concrete	
6"	3'	Bentonite	
3'	14'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☒ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	.225	0	4'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25	PVC	10	4'	14'

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	14'	6"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

See Map "C"

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
Ontario	L3R 8V2	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Vanderkooy, Andrew

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3619	Andrew Vanderkooy	20170929

Comments: General contractor: Pinchin Environmental

Well owner's information package delivered ☐ Yes ☒ No

Date Package Delivered

Date Work Completed 20170912

Ministry Use Only

Audit No. Z270105

OCT 05 2017

Received

0506E (2014/11) Ministry's Copy

S - 20827

*03-C "WP03-C"
added
17 T 611692 4826127
43.57974°N -79.61661°E
Elevation= 112.4m

*02-B "WP02-B"
added
17 T 611750 4826092
43.57942°N -79.61590°E
Elevation= 111.1m

*01-A "WP01-A"
added
17 T 611702 4826091
43.57942°N -79.61650°E
Elevation= 112.0m

**all waypoints removed...

C-7241
Z270105

OCT 05 2017

SOIL ENGINEERS - 1709-5004

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)*: A223241

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	NYX CAPITAL CORP.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
1131A LESLIE ST., STE. 201	TORONTO	ONTARIO	M3C3L8	4165485590

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
3032 KIRWIN DR.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	MISSISSAUGA	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	611943	4826580		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Brown	Earth Fill, silty Clay and Sand	Some Silt	Loose - Compact	0	12.5
Brown	Fine - Medium Sand	Tr. Silt, Some Grav	Compact	12.5	15
Grey	Silty Clay, Till	Some Sand, Tr. Gravel, Occ. Silt layers, Cobbs/Boulders	Hard	15	25

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	13	Bentonite	2.31

Method of Construction

☐ Cable Tool ☐ Diamond
☑ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, specify

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☑ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
2	PVC	1/8	0	15

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
2 1/8	PVC	10	15	25

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☑ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water	Other, specify
12.5	☐	☐ Fresh ☑ Untested	
	☐	☐ Fresh ☐ Untested	
	☐	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	25	6

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

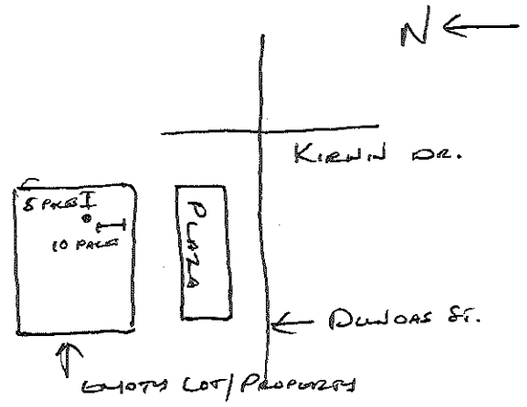
Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: 3 WELL CLUSTER

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
STRONG SOIL SEARCH INC.	7247

Business Address (Street Number/Name)	Municipality
5265 SIDELINE 16	CLAREMONT

Province	Postal Code	Business E-mail Address
ONTARIO	L1Y1A1	strongsoilsearchinc@bellnet.ca

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9056491115	NETO, NELSON

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3174		2018/02/28

Well owner's information package delivered: ☐ Yes ☑ No

Date Package Delivered: ____

Date Work Completed: 2017/09/15

Ministry Use Only

Audit No. Z272465

MAR 02 2018

Received

7330071

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A252016

Well Record

Regulation 903 Ontario Water Resources Act

8-23003 Page ____ of ____

CITY OF MISSISSAUGA

[redacted]

County/District/Municipality | City/Town/Village: Mississauga | Province: Ontario | Postal Code

UTM Coordinates: NAD 83 Zone 17 Easting 612724 Northing 4826160

Municipal Plan and Sublot Number | Other

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Top Soil			0	2'
Brown	Clay	Silt		2'	5'
Grey	Silt	Clay		5'	13'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.5'	concrete	
0.5'	2'	Holeplug	
2'	13'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ ~~Other~~, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ ~~Test Hole~~ ☐ ~~Monitoring~~
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	0.125"	0	3'

Status of Well

☐ Water Supply
☐ Replacement Well
☐ ~~Test Hole~~
☐ Recharge Well
☐ Dewatering Well
☐ ~~Observation~~ and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25"	PVC	10	3'	13'

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh Untested / Other, *specify*
	☐	☐ ☐ / ☐
	☐	☐ ☐ / ☐
	☐	☐ ☐ / ☐

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	13'	6"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping ____ hrs + ____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

See Map

MW1

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: Strata Soil Sampling | Well Contractor's Licence No.: 7241

Business Address (Street Number/Name): 165 Shields Court | Municipality: Markham

Province: ON | Postal Code: L3R 8N2 | Business E-mail Address: wrecords@strataSoil.com

Bus. Telephone No. *(inc. area code)*: [redacted] | Name of Well Technician (Last Name, First Name): Walker, Jonathon

Well Technician's Licence No.: 38333 | Signature of Technician and/or Contractor | Date Submitted: 2019/03/15

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed: 2018/12/17

Ministry Use Only

Audit No. Z304914

Received MAR 15 2019

0506E (2014/11) Ministry's Copy

S-23002.

Geoplaner V2.8 - [in English | auf deutsch]

dd.ddddd°

MAR 15 2019

2301914

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 246265

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☑ Metric ☐ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization: EQUITY THREE HOLDINGS INC./EOB LTD.	Email Address: [redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
[redacted]			

Country	Province	Postal Code	Telephone Number
CANADA	ONTARIO	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	3085	HURONTARIO ST.	

Lot	Concession	County/District/Municipality
		PEEL

City/Town	Province	Postal Code
MISSISSAUGA	Ontario	L5A 4E4

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	611496	4826433	Test UTM in Map	

Other: BH 2

3. Overburden and Bedrock Material *

Well Depth * 4.5 (m)

General Colour	Most Common Material	Other Materials	General Description	Depth From (m)	Depth To (m)
Black		Asphalt		0	0.1
Grey	Gravel			0.1	0.3

Brown	Sand			0.3	1.5
Brown	Silt	Clay		1.5	2.1
Grey	Shale		Weathered	2.1	4.5

4. Annular Space *

Depth From (m)	Depth To (m)	Type of Sealant Used (Material and Type)	Volume Placed (cubic metres)
0	0.3	CONCRETE	0.01
0.3	2.7	BENTONITE CHIPS	0.08

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☑ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☐ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☑ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. Status of Well *

☐ Water Supply ☐ Replacement Well ☐ Test Hole
☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole
☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality
☐ Abandoned, other (specify) _____
☐ Other (specify) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (cm)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (m)	Depth To (m)
5.1	Plastic	0.65	0	3

9. Construction Record - Screen

Outside Diameter (cm)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (m)	Depth To (m)
6.4	Plastic	10	3	4.5

10. Water Details

Water found at Depth (m)	☐ Gas	Kind of Water	☐ Fresh	☑ Untested	☐ Other (specify)

11. Hole Diameter

Depth From (m)	Depth To (m)	Diameter (cm)
0	4.5	21

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (L/min)

Draw down *

Time (min)	Static Level	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (m)														

Recovery *

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (m)													

After test of well yield, water was

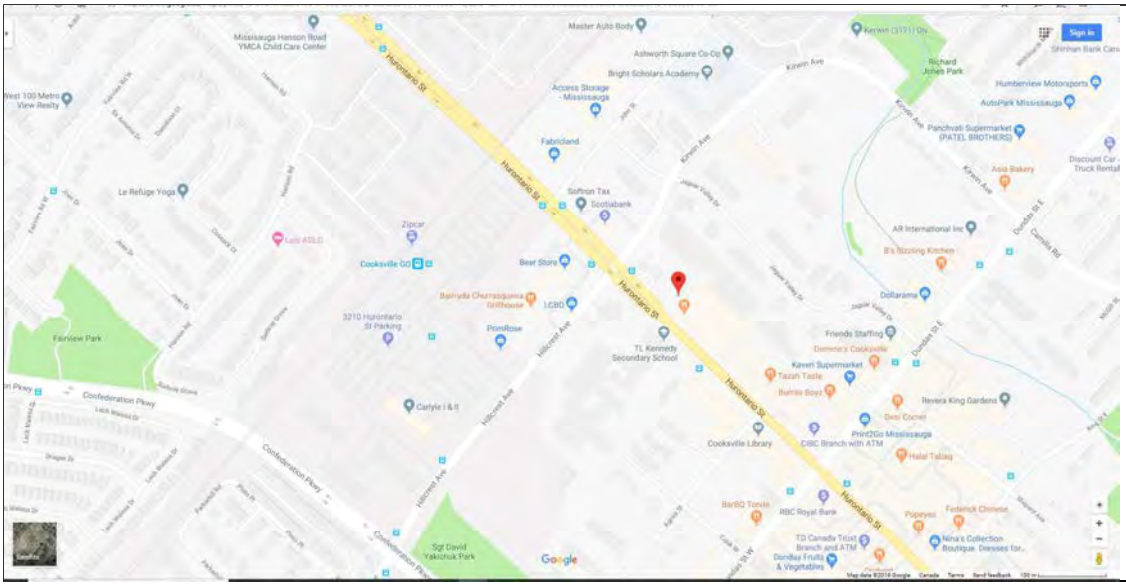
☐ Clear and sand free ☐ Other (specify)

Pump intake set at (m)	Pumping rate (L/min)	Duration of pumping hrs + min	Final water level end of pumping (m)	Disinfected? *
				☐ Yes ☑ No

Recommended pump depth (m)	Recommended pump rate (L/min)	Well production (L/min)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger



14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☐ No		2019/04/08

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
Geo-Environmental Drilling Inc.	6607

Business Address

Unit Number	Street Number	Street Name *
	1	Mansewood Court

City/Town/Village *	Province	Postal Code *
Halton Hills	Ontario	L7J 0A1

Business Telephone Number	Business Email Address
905-876-3388	dgunn@geo-environmentaldrilling.com

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
PAQUETTE	JEFF	2386

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
PAQUETTE	JEFF	romana@geo-environmentaldrilling.com

Signature		Date Submitted (yyyy/mm/dd)
Jeff Paquette	Digitally signed by Jeff Paquette Date: 2019.05.09 14:56:02 -04'00'	2019/05/09

17. Ministry Use Only

Audit Number

BALY VF8S

5-25112

Ontario — Ministry of the Environment, Conservation and Parks

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. (Place Sticker and/or Print Below): A291838 — Tag#:A291838

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	Well Constructed by Well Owner
	City of Mississauga		☐

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
300 City Centre Dr	Miss	ON	L5B3C1	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2515 Shepard ave			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	L5A2H7

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	612068	4826167		

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Sand			0	3'
Brown	Silt	Sand		3'	14'
Grey	Silt	Sand		14'	18

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.5'	concrete	
.5'	7'	holeplug	
7'	18'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☑ Other, specify: Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☑ Test Hole ☑ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
2"	PVC	.165	0	8'

Status of Well

☐ Water Supply ☐ Replacement Well ☑ Test Hole ☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
2.25"	PVC	10	8'	18'

Water Details

Water found at Depth	Kind of Water
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	18'	6"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

See Map MWC

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality
129 Ringwood Drive	Stouffville

Province	Postal Code	Business E-mail Address
ON	L4A8C1	wrecord@stratasoil.com

Bus.Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9059407919	Kyle Gilbert

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3435	[signature]	20200430

Comments:

Well owner's information package delivered: ☐ Yes ☐ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 20200429

Ministry Use Only — Audit No. Z334740 — Received MAY 20 2020

0506E (2018/12) Ministry's Copy

Google Maps 2515 Shepard Ave

Imagery ©2020 First Base Solutions, Maxar Technologies, Map data ©2020 20 m

C-7241
Z-3474-0

MAY 20 2020

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

Personal information contained on this form is collected pursuant to sections 35-50 and 75(2) of the *Ontario Water Resources Act* and section 16.3 of the Wells Regulation. This information will be used for the purpose of maintaining a public record of wells in Ontario. This form and the information contained on the form will be stored in the Ministry's well record database and made publicly available. Questions about this collection should be directed to the Water Well Customer Service Representative at the Wells Help Desk, 125 Resources Road, Toronto Ontario M9P 3V6, at 1-888-396-9355 or wellshelpdesk@ontario.ca.

Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 308294

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization: Emblem Developments	Email Address: [redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
		[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	90	Dundas Street East	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
Mississauga	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	611907	4826370	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 20 (ft)

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

				(ft)	(ft)
Brown	Fill		Loose	0	15
Grey	Clay	Till	Packed	15	20

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	9	Bentonite	1.5
9	20	Sand Pack	1.8

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☑ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. Status of Well *

☐ Water Supply ☐ Replacement Well ☐ Test Hole
☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole
☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality
☐ Abandoned, other (specify) _____
☐ Other (specify) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
2	Plastic	0.2	0	10

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
2.5	Plastic	10	10	20

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	20	7.5

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

Time (min)	Static Level	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)														

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

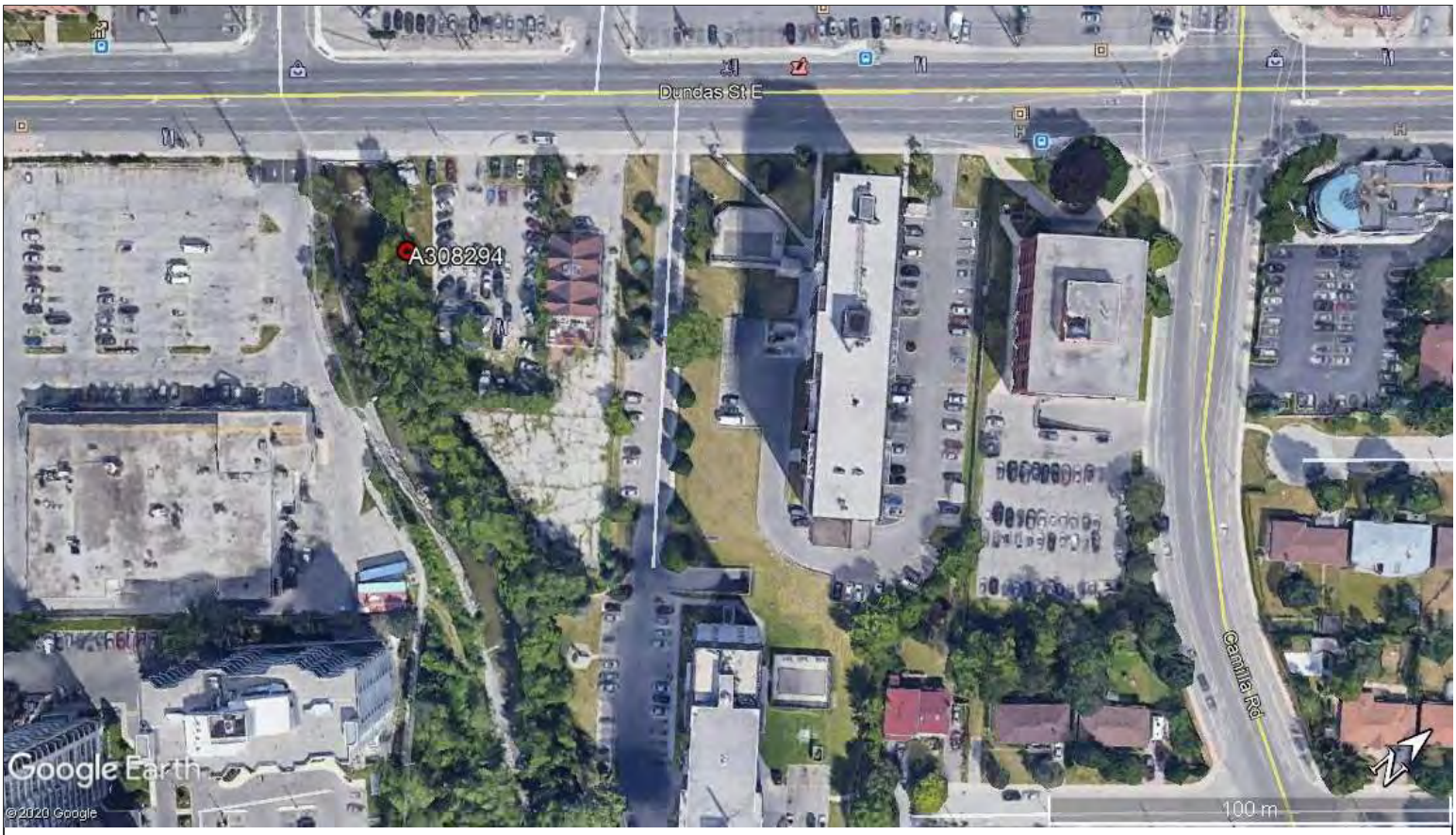
☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☑ Make map area bigger



14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☐ Yes ☑ No		2020/10/22

Comments

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
Davis Drilling Ltd	7472

Business Address

Unit Number	Street Number	Street Name *
	873	Nipissing Rd

City/Town/Village *	Province	Postal Code *
Milton	ON	L9T 4Z4

Business Telephone Number	Business Email Address
905-299-6915	davisdrilling@bellnet.ca

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
Borsellino	Nicholas	3579

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
Borsellino	Nicholas	davisdrilling@bellnet.ca

Signature	Date Submitted (yyyy/mm/dd)
Nicholas Borsellino Digitally signed by Nicholas Borsellino Date: 2020.11.23 08:27:50 -05'00'	2020/11/23

17. Ministry Use Only

Audit Number

OTWV PHOK

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

Notice of Collection of Personal Information

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Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A 307705

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization	Email Address
DBV Real Estate Investments Inc.	[redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
	Ontario	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	3026	Kirwin Ave	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
Mississauga	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	611938	4826579	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 22 (ft)

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

				(ft)	(ft)
Brown	Gravel	Sand		0	15
Blue	Shale		Weathered	15	22

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	11	Bentonite Chip	3.52
11	22	No. 2 Sand	3.52

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☑ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☐ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. Status of Well *

☐ Water Supply ☐ Replacement Well ☐ Test Hole
☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole
☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality
☐ Abandoned, other (specify) _____
☐ Other (specify) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
2	Plastic	0.15	0	12

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
2.3	Plastic	10	12	22

10. Water Details

Water found at Depth 17.5 (ft)	☐ Gas	Kind of water ☐ Fresh	☐ Untested	☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	22	8

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

Time (min)	Static Level	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)														

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☑ Yes ☐ No	2021/01/25	2020/12/09

Comments
56946-bh1

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
Altech Drilling & Investigative Services	7282

Business Address

Unit Number	Street Number	Street Name *
	410	Pinebush Road

City/Town/Village *	Province	Postal Code *
Cambridge	Ontario	N1T 1Z6

Business Telephone Number	Business Email Address
519-650-5557	

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
Stranz	Brandon	4021

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
Stranz	Brandon	bstranz@altechworld.com

Signature		Date Submitted (yyyy/mm/dd)
Brandon Stranz	Digitally signed by Brandon Stranz Date: 2021.01.25 08:12:40 -05'00'	2021/01/25

17. Ministry Use Only

Audit Number
KCE2 XI4N

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

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Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A307718

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization	Email Address
DBV Real Estate Investments Inc.	[redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
	Ontario	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	3026	Kirwin Ave	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
Mississauga	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	611926	4826559	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 19 (ft)

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

				(ft)	(ft)
Brown	Gravel	Sand		0	15
Blue	Shale		Weathered	15	19

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	8	Bentonite Chip	2.56
8	19	No. 2 Sand	3.52

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☑ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☐ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. Status of Well *

☐ Water Supply ☐ Replacement Well ☐ Test Hole
☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole
☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality
☐ Abandoned, other (specify) _____
☐ Other (specify) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
2	Plastic	0.15	0	9

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
2.3	Plastic	10	9	19

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	19	8

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

Time (min)	Static Level	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)														

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☑ Yes ☐ No	2021/01/25	2020/12/09

Comments
56946-bh2

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
Altech Drilling & Investigative Services	7282

Business Address

Unit Number	Street Number	Street Name *
	410	Pinebush Road

City/Town/Village *	Province	Postal Code *
Cambridge	Ontario	N1T 1Z6

Business Telephone Number	Business Email Address
519-650-5557	

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
Stranz	Brandon	4021

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
Stranz	Brandon	bstranz@altechworld.com

Signature		Date Submitted (yyyy/mm/dd)
Brandon Stranz	Digitally signed by Brandon Stranz Date: 2021.01.25 08:11:31 -05'00'	2021/01/25

17. Ministry Use Only

Audit Number
22K9 P6LU

Ontario

Ministry of the Environment, Conservation and Parks

Well Record - Regulation 903

Ontario Water Resources Act

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Fields marked with an asterisk (*) are mandatory.

Well Tag Number *
A307719

Type *

☑ Construction ☐ Abandonment

Measurement recorded in: *

☐ Metric ☑ Imperial

1. Well Owner's Information

Last Name and First Name, or Organization is mandatory. *

Last Name	First Name
[redacted]	
Organization	Email Address
DBV Real Estate Investments Inc.	[redacted]

Current Address

Unit Number	Street Number *	Street Name *	City/Town/Village
		[redacted]	

Country	Province	Postal Code	Telephone Number
	Ontario	[redacted]	

2. Well Location

Address of Well Location

Unit Number	Street Number *	Street Name *	Township
	3026	Kirwin Ave	

Lot	Concession	County/District/Municipality

City/Town	Province	Postal Code
Mississauga	Ontario	

UTM Coordinates	Zone *	Easting *	Northing *		Municipal Plan and Sublot Number
NAD 83	17	611933	4826568	Test UTM in Map	

Other

3. Overburden and Bedrock Material *

Well Depth * 22 (ft)

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To

				(ft)	(ft)
Brown	Gravel	Sand		0	15
Blue	Shale		Weathered	15	22

4. Annular Space *

Depth From (ft)	Depth To (ft)	Type of Sealant Used (Material and Type)	Volume Placed (cubic feet)
0	11	Bentonite Chip	3.52
11	19	No. 2 Sand	3.52

5. Method of Construction *

☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☑ Boring ☐ Air percussion ☐ Diamond
☐ Jetting ☐ Driving ☐ Digging ☐ Rotary (Air) ☐ Augering ☐ Direct Push
☐ Other (specify) _____

6. Well Use *

☐ Public ☐ Industrial ☐ Cooling & Air Conditioning
☐ Domestic ☐ Commercial ☐ Not Used
☐ Livestock ☐ Municipal ☑ Monitoring
☐ Irrigation ☐ Test Hole ☐ Dewatering
☐ Other (specify) _____

7. Status of Well *

☐ Water Supply ☐ Replacement Well ☐ Test Hole
☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole
☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality
☐ Abandoned, other (specify) _____
☐ Other (specify) _____

8. Construction Record - Casing * (use negative number(s) to indicate depth above ground surface)

Inside Diameter (in)	Open Hole **or** Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness	Depth From (ft)	Depth To (ft)
2	Plastic	0.15	0	12

9. Construction Record - Screen

Outside Diameter (in)	Material (Plastic, Galvanized, Steel)	Slot Number	Depth From (ft)	Depth To (ft)
2.3	Plastic	10	12	22

10. Water Details

Water found at Depth (ft)	☐ Gas	Kind of water ☐ Fresh ☐ Untested ☐ Other

11. Hole Diameter

Depth From (ft)	Depth To (ft)	Diameter (in)
0	22	8

12. Results of Well Yield Testing

☐ Pumping Discontinued

Explain _____

If flowing give rate

☐ Flowing _____ (GPM)

Draw down

Time (min)	Static Level	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)														

Recovery

Time (min)	1	2	3	4	5	10	15	20	25	30	40	50	60
Water Level (ft)													

After test of well yield, water was

☐ Clear and sand free ☐ Other (specify)

Pump intake set at (ft)	Pumping rate (GPM)	Duration of pumping hrs + min	Final water level end of pumping (ft)	Disinfected? * ☐ Yes ☑ No

Recommended pump depth (ft)	Recommended pump rate (GPM)	Well production (GPM)

13. Map of Well Location *

Map 1. Please Click the map area below to import an image file to use as the map. ☐ Make map area bigger

14. Information

Well owner's information package delivered	Date Package Delivered (yyyy/mm/dd)	Date Work Completed (yyyy/mm/dd) *
☑ Yes ☐ No	2021/01/25	2020/12/09

Comments
56946-bh3

15. Well Contractor and Well Technician Information

Business Name of Well Contractor *	Well Contractor's License Number *
Altech Drilling & Investigative Services	7282

Business Address

Unit Number	Street Number	Street Name *
	410	Pinebush Road

City/Town/Village *	Province	Postal Code *
Cambridge	Ontario	N1T 1Z6

Business Telephone Number	Business Email Address
519-650-5557	

Last Name of Well Technician *	First Name of Well Technician *	Well Technician's License Number *
Stranz	Brandon	4021

16. Declaration *

☑ I hereby confirm that I am the person who constructed the well and I hereby confirm that the information on the form is correct and accurate.

Last Name	First Name	Email Address
Stranz	Brandon	bstranz@altechworld.com

Signature		Date Submitted (yyyy/mm/dd)
Brandon Stranz	Digitally signed by Brandon Stranz Date: 2021.01.25 08:07:21 -05'00'	2021/01/25

17. Ministry Use Only

Audit Number
KK5G 2P5X

UTM 17 Z 611664 E
5 R 4826420 N

Elev. DUNDAS ST N.

Basin C 24 F
LOT 15

49 No. 2211

GROUND WATER BRANCH
JAN 8 1959
ONTARIO WATER RESOURCES COMMISSION

The Ontario Water Resources Commission Act, 1957

WATER WELL RECORD

County or District PEEL Township, Village, Town or City MISSISSAUGA

[redacted] completed 12 (day) NOV (month) 58 (year)

[redacted] ess

Casing and Screen Record

Inside diameter of casing 6"
Total length of casing 22 FT
Type of screen —
Length of screen —
Depth to top of screen —
Diameter of finished hole 6"

Pumping Test

Static level 10 FT
Test-pumping rate 10 G.P.M.
Pumping level 10
Duration of test pumping 4 HRS
Water clear or cloudy at end of test CLEAR
Recommended pumping rate 10 G.P.M.
with pumping level of 10

Well Log

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
TOPSOIL & GRAVEL	0	17			
BLUE SHALE	17	51	40	41	FRESH

Water Record

For what purpose(s) is the water to be used?
HOUSE

Is well on upland, in valley, or on hillside?
UPLAND

Drilling Firm B. Hyndman & Sons

Address 494 LAKESHORE RD
MIMICO

Licence Number 113

Name of Driller J.B. Hyndman

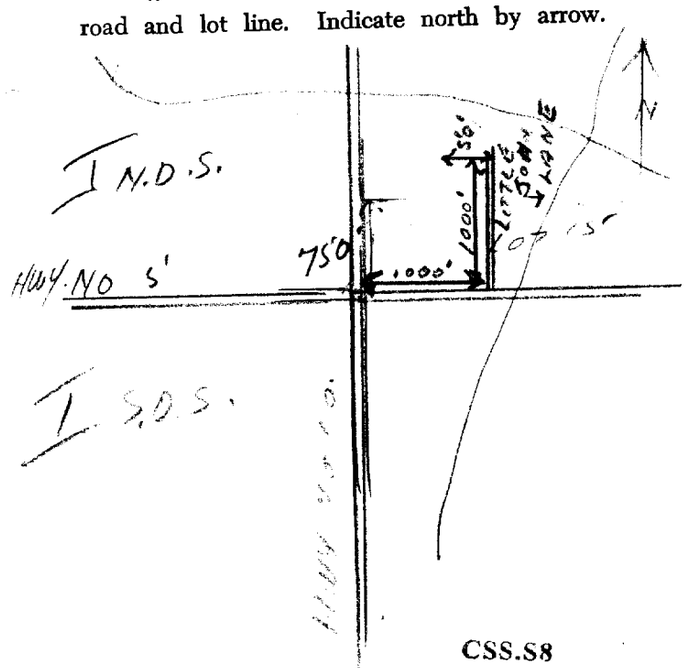
Address

Date Jan 2 59

(Signature of Licensed Drilling Contractor)

Location of Well

In diagram below show distances of well from road and lot line. Indicate north by arrow.



Form 5
15M-58-4149

CSS.S8

Ontario Ministry of the Environment

Well A027603 (t number below)

A027603

NAYLOR 0506116
VANGSSA
June 30/05

Well Record

Regulation 903 Ontario Water Resources Act

page ___ of ___

Instructions for Completing Form

- For use in the **Province of Ontario** only. This document is a permanent **legal** document. Please retain for future reference.
- All Sections **must** be completed in full to avoid delays in processing. Further instructions and explanations are available on the back of this form.
- Questions regarding completing this application can be directed to the Water Well Management Coordinator at 416-235-6203.
- **All metre measurements shall be reported to 1/10th of a metre.**
- Please print clearly in blue or black ink only.

Ministry Use Only

MUN | CON | LOT

Well Owner's Information and Location of Well Information

First Name	Last Name	Mailing Address (Street Number/Name, RR, Lot, Concession)
CITY OF	MISSISSAUGA	300 CITY CENTRE DRIVE

County/District/Municipality	Township/City/Town/Village	Province	Postal Code	Telephone Number (include area code)
PEEL	MISSISSAUGA	Ontario	L5B 3C1	905-896-5136

Address of Well Location (County/District/Municipality)	Township	Lot	Concession
PEEL			

RR#/Street Number/Name	City/Town/Village	Site/Compartment/Block/Tract etc.
KIRWIN AVE	MISSISSAUGA	

GPS Reading	NAD	Zone	Easting	Northing	Unit Make/Model	Mode of Operation
	83	17	611802	4826734	MAGELLAN	☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Depth To (Metres)
GREY	SILT		CLAY & SHALE FRAGMENTS	0	7.6

Hole Diameter

Depth From	Depth To (Metres)	Diameter (Centimetres)
0	7.6	15

Water Record

Water found at Metres	Kind of Water
4.5 m	☒ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
___ m	☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:
___ m	☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:

After test of well yield, water was
☐ Clear and sediment free
☐ Other, specify

Chlorinated ☐ Yes ☒ No

Construction Record

Inside diam centimetres	Material	Wall thickness centimetres	Depth From	Depth To (Metres)
Casing				
1.9	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	.4	0	4.5
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
	☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized			
Screen				
Outside diam		Slot No.		
2.7	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	10	4.5	7.6
No Casing or Screen				
	☐ Open hole			

Test of Well Yield

Pumping test method	Draw Down Time min	Draw Down Water Level Metres	Recovery Time min	Recovery Water Level Metres
Pump intake set at - (metres)	Static Level			
Pumping rate - (litres/min)	1		1	
Duration of pumping ___hrs +___ min	2		2	
Final water level end of pumping ___metres	3		3	
Recommended pump type. ☐ Shallow ☐ Deep	4		4	
Recommended pump depth. ___metres	5		5	
Recommended pump rate. (litres/min)	10		10	
	15		15	
If flowing give rate - (litres/min)	20		20	
	25		25	
If pumping discontinued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record

☒ Annular space ☐ Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
0	.3	CONCRETE	
.3	4.0	BENTONITE	

Method of Construction

☐ Cable Tool ☐ Rotary (air) ☐ Diamond ☐ Digging
☐ Rotary (conventional) ☐ Air percussion ☐ Jetting ☐ Other
☐ Rotary (reverse) ☒ Boring ☐ Driving

Water Use

☐ Domestic ☐ Industrial ☐ Public Supply ☒ Other TEST
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

Final Status of Well

☐ Water Supply ☐ Recharge well ☐ Unfinished ☐ Abandoned, (Other)
☒ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information

Name of Well Contractor	Well Contractor's Licence No.
GEO ENVIRONMENTAL DRILLING	6607

Business Address (street name, number, city etc.)
340 MARKET DR. MILTON ON

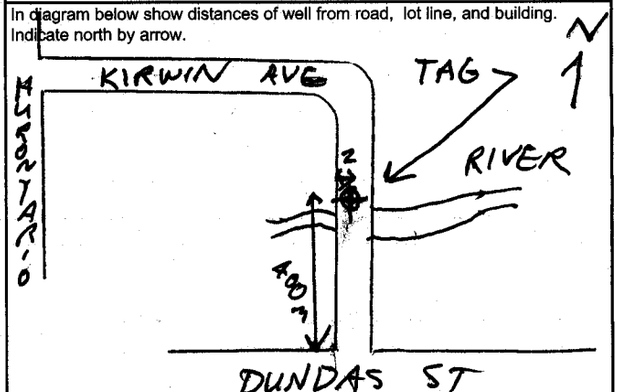
Name of Well Technician (last name, first name)	Well Technician's Licence No.
BAILEY, RYAN	T-3111

Signature of Technician/Contractor
X

Date Submitted YYYY 05 MM 06 DD 30

Location of Well

In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.



Audit No. Z 32255

Date Well Completed YYYY 05 MM 06 DD 30

Was the well owner's information package delivered? ☐ Yes ☐ No

Date Delivered YYYY MM DD

Ministry Use Only

Data Source

Contractor 6607

Date Received JUL 22 2005 YYYY MM DD

Date of Inspection YYYY MM DD

Remarks

Well Record Number

0506E (09/03)

Contractor's Copy ☐ Ministry's Copy ☐ Well Owner's Copy ☐

Cette formule est disponible en français

Ontario Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)*
A 068177
A068177

Well Record
Regulation 903 Ontario Water Resources Act
Page 1 of 1

Well Owner's Information
[redacted]

60 DUNDAS STREET | Mississauga
County/District/Municipality: Peel | City/Town/Village: Mississauga | Province: Ontario | Postal Code: L5A 1W4

UTM Coordinates NAD 83 | Zone | Easting | Northing | GPS Unit Make | Model | Mode of Operation
1) 17 611971 4826314 | GARMIN | ETREX | ☐ Undifferentiated ☒ Averaged ☐ Differentiated, specify

Overburden and Bedrock Materials *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	To
black	asphalt		Packed	0	.05
brown	gravel	medium, coarse sand	Packed	.05	.25
grey	silt	fine sand, gravel	Dense	.25	6.10
	wells GPS	2) 17/611981/4826271			
		3) 17/612170/4826252			
Consultant	Construction	Control			

Annular Space/Abandonment Sealing Record

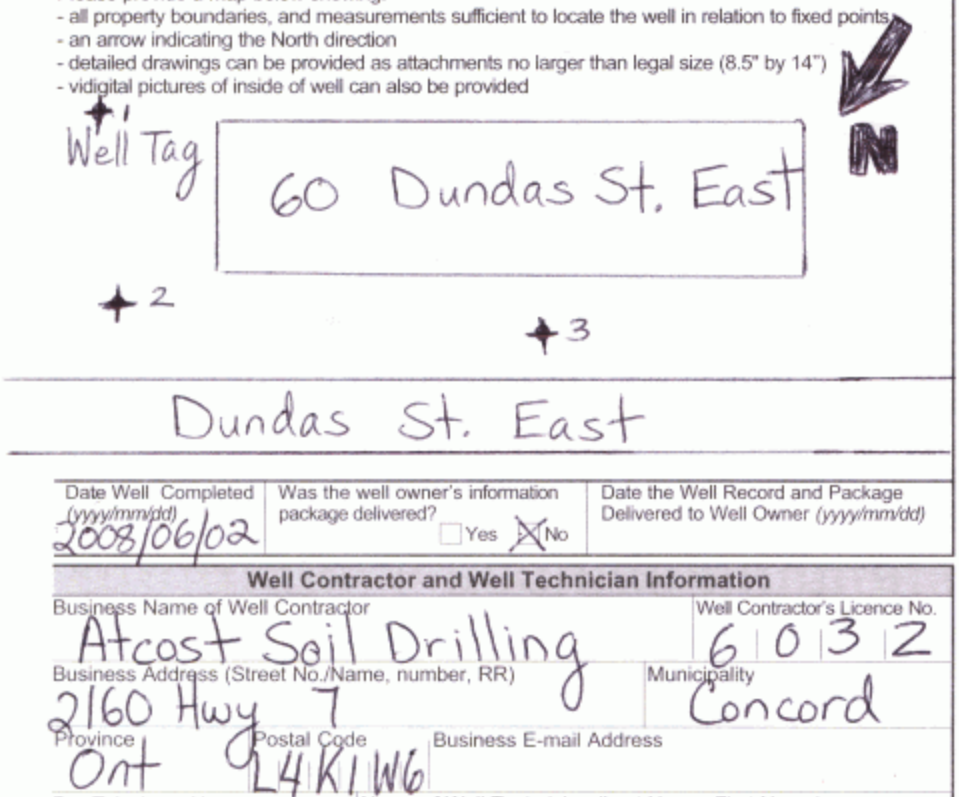
Depth Set at (Metres) From	To	Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)
0	.30	concrete	
.30	1.50	bentonite	

Method of Construction
☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Rotary (Air) ☐ Digging ☐ Air percussion ☒ Boring ☐ Other, specify

Water Use
☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☒ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Status of Well
☐ Water Supply ☐ Dewatering Well ☒ Observation and/or Monitoring Hole ☐ Replacement Well ☐ Abandoned, Insufficient Supply ☐ Alteration (Construction) ☐ Test Hole ☐ Abandoned, Poor Water Quality ☐ Other, specify ☐ Recharge Well ☐ Abandoned, other, specify

Location of Well
Please provide a map below showing:
- all property boundaries, and measurements sufficient to locate the well in relation to fixed points
- an arrow indicating the North direction
- detailed drawings can be provided as attachments no larger than legal size (8.5" by 14")
- vidigital pictures of inside of well can also be provided



Date Well Completed (yyyy/mm/dd): 2008/06/02
Was the well owner's information package delivered? ☐ Yes ☒ No
Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd):

Well Contractor and Well Technician Information
Business Name of Well Contractor: Atcost Soil Drilling | Well Contractor's Licence No.: 6032
Business Address (Street No./Name, number, RR): 2160 Hwy 7 | Municipality: Concord
Province: Ont | Postal Code: L4K1W6 | Business E-mail Address:
Bus. Telephone No. (inc. area code): 9056691253 | Name of Well Technician (Last Name, First Name): Green Wayne
Well Technician's Licence No. | Signature of Technician: Wayne Green | Date Submitted (yyyy/mm/dd): 2008/06/09

Results of Well Yield Testing
Check box if after test of well yield, water was:
☐ Clear and sand free ☐ Cannot develop to sand-free state

If pumping discontinued, give reason:

Pumping test method

Pump intake set at (Metres)

Pumping rate (Litres/min)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (Metres)

Recommended pump type ☐ Shallow ☐ Deep

Recommended pump depth ____ Metres

Recommended pump rate (Litres/min)

If flowing give rate (Litres/min)

Draw Down Time (Min)	Water Level (Metres)	Recovery Time (Min)	Water Level (Metres)
Static Level		Static Level	
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Water Details
Water found at Depth ____ Metres ☐ Gas | Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Water found at Depth ____ Metres ☐ Gas | Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals
Water found at Depth ____ Metres ☐ Gas | Kind of Water ☐ Fresh ☐ Salty ☐ Sulphur ☐ Minerals

Casing Used
☐ Galvanized ☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete

Screen Used
☐ Galvanized ☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete

No Casing and Screen Used
☐ Open Hole

Disinfected? ☐ Yes ☐ No

Casing and Well Details
Diameter of the Hole (Centimetres): 10
Depth of the Hole (Metres): 6.10
Wall Thickness (Metres): Sch 40
Inside Diameter of the Casing (Metres): .05
Depth of the Casing (Metres): [redacted] 2.13

Ministry Use Only
Audit No.: z69137 | Well Contractor No.:
Date Received (yyyy/mm/dd): JUL 11 2008 | Date of Inspection (yyyy/mm/dd):
Remarks:

0506E (11/2006)

Ministry's Copy

Ontario — Ministry of the Environment

Well Tag No. *(Place Sticker and/or Print Below)* A096214

Well Record

Regulation 903 Ontario Water Resources Act

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
225 Dundas St. E.			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga.	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	612122	4826747		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Fill	Rock, Sand.	moist	0'	5'
Brown	silt	sand	moist - dry	5'	18'
Gray	silt		moist	18'	20'
Gray	weathered shale		moist	20'	22'

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
22'	11'	Sand.	
11'	1'	Bentonite	
1'	0'	Sand, casing; concrete	

Method of Construction

- ☐ Cable Tool
- ☐ Diamond
- ☒ Rotary (Conventional)
- ☐ Jetting
- ☐ Rotary (Reverse)
- ☐ Driving
- ☐ Boring
- ☐ Digging
- ☐ Air percussion
- ☐ Other, *specify* _____

Well Use

- ☐ Public
- ☐ Commercial
- ☐ Not used
- ☐ Domestic
- ☐ Municipal
- ☐ Dewatering
- ☐ Livestock
- ☒ Test Hole
- ☐ Monitoring
- ☐ Irrigation
- ☐ Cooling & Air Conditioning
- ☐ Industrial
- ☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	Plastic	Sch.40	12'	0'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2"	Plastic	10	22'	12'

Status of Well

- ☐ Water Supply
- ☐ Replacement Well
- ☒ Test Hole
- ☐ Recharge Well
- ☐ Dewatering Well
- ☐ Observation and/or Monitoring Hole
- ☐ Alteration (Construction)
- ☐ Abandoned, Insufficient Supply
- ☐ Abandoned, Poor Water Quality
- ☐ Abandoned, other, *specify*
- ☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	☐
	☐ Fresh ☐ Untested	☐	☐
	☐ Fresh ☐ Untested	☐	☐

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
22'	0'	8"

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Profile Drilling Inc.	7215

Business Address (Street Number/Name)	Municipality
149 Northfinch Dr.	North York

Province	Postal Code	Business E-mail Address
Ont.	M3N1X2	jason@profiledrilling.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
4166504644	Slocki, Jason

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
2978		2010/02/11

Results of Well Yield Testing

After test of well yield, water was:
- ☐ Clear and sand free
- ☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

Disinfected?
- ☐ Yes
- ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

See Attached.

Comments:

Well owner's information package delivered
- ☐ Yes
- ☐ No

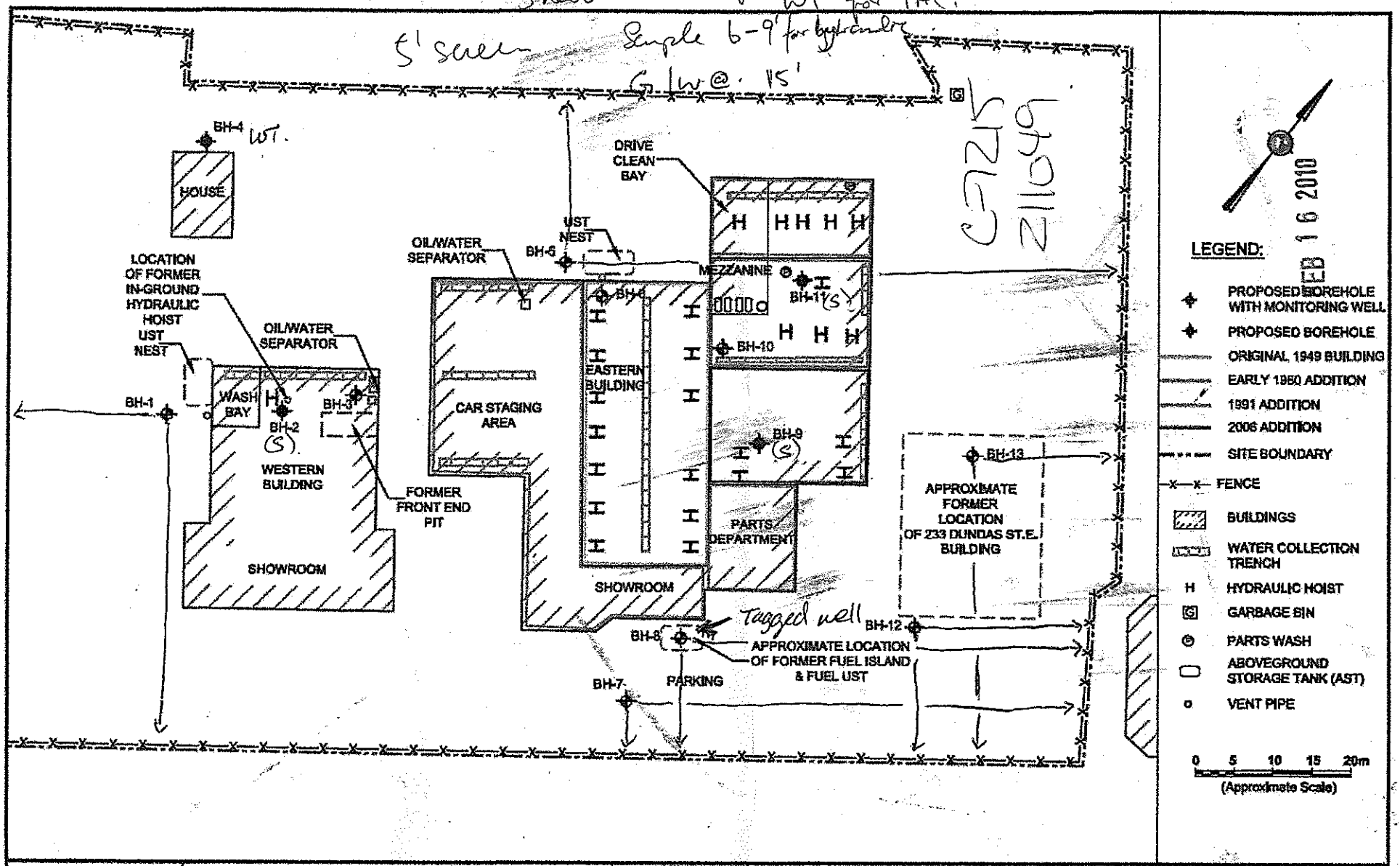
Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2010/01/20

Ministry Use Only

Audit No. Z110049

Received FEB 16 2010



CLIENT LOGO	CLIENT: HAWLEY PONTIAC BUICK CADILLAC LTD.	DWN BY: MM CHK'D BY: MR	PROJECT: PHASE II ESA	REV. NO.: A DATE: DECEMBER 2009
AMEC Earth & Environmental 160 Traders Boulevard East Mississauga, Ontario L4Z 3K7		DATUM: PROJECTION: SCALE: AS SHOWN	TITLE: PROPOSED BOREHOLE LOCATION PLAN 225 DUNDAS STREET EAST MISSISSAUGA, ONTARIO	PROJECT NO: PROPOSAL 1216 FIGURE No.: FIGURE 1

P:\DECOM\Proposals\2009\1216 Hawley Pontiac 225 Dundas St W, Mississauga Phase II ESA\PI ESA\TO91059-Figure 3-Detailed Site Plan.dwg — Layout1 — Dec. 14, 2009 1:40pm — michael.macaraeg

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A095349

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
225 Dundas St E			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	L5A 1W8

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	612126	4826690		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
	Grout			0	12

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To

Status of Well

☐ Water Supply
☐ Replacement Well
☐ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☑ Other, *specify* Decommission

Water Details

Water found at Depth (m/ft)	Gas	Kind of Water: Fresh	Untested	Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
12	0	4

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

See map

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Profile Drilling	7215

Business Address (Street Number/Name)	Municipality
149 Norfinch DR Units 4-8	North York

Province	Postal Code	Business E-mail Address
ON	M3N1W2	Jason@ProfileDrilling

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
4166506444	Slocki, Jason

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
2978		2010 04 09

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2010 03 22

Ministry Use Only

Audit No. Z112536

Received MAY 12 2010

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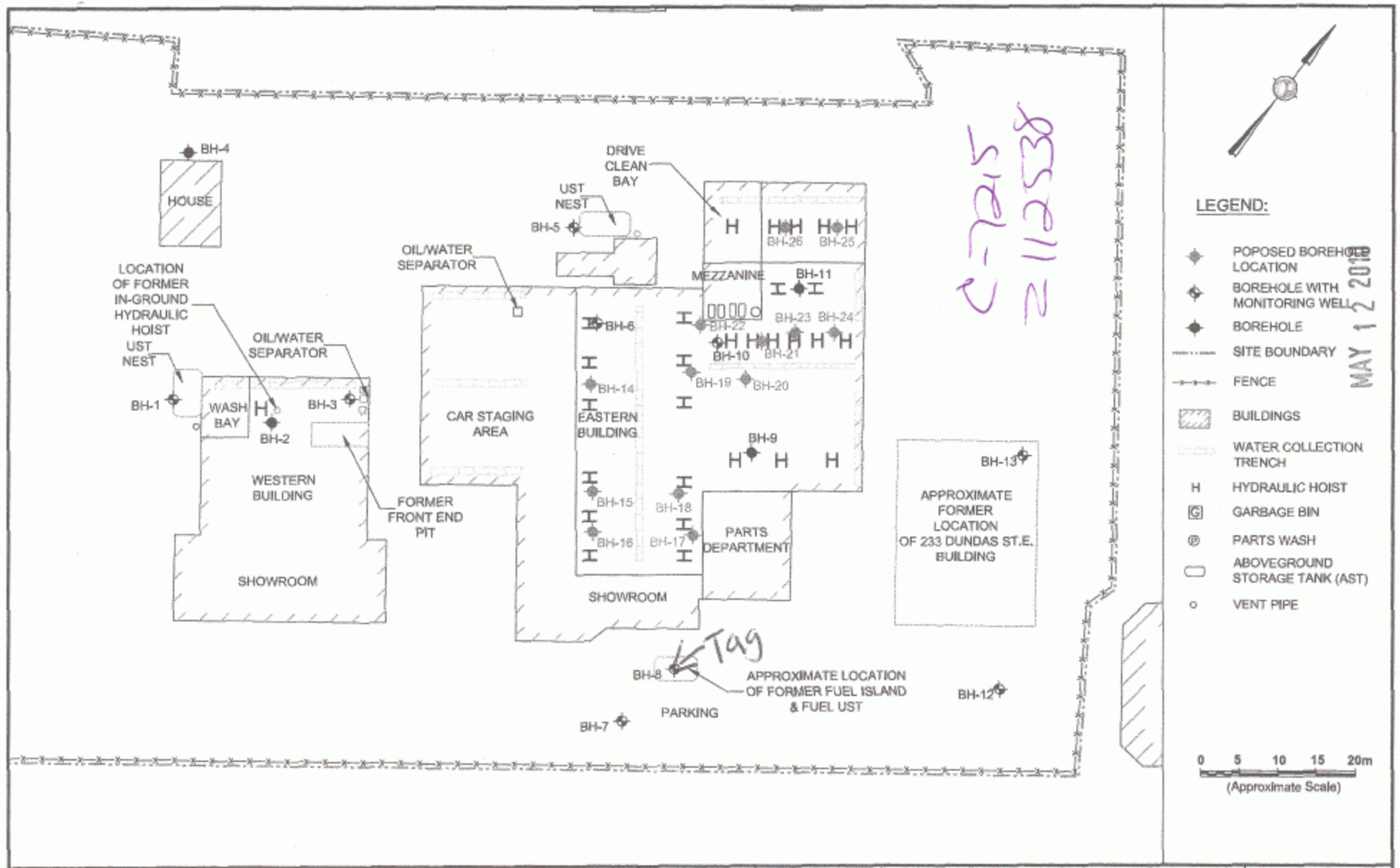
Ministry's Copy



C-215
211538

MAY 12 2010

	CLIENT: HAWLEY PONTIAC BUICK CADILLAC LTD.	DWN BY: ZF	PROJECT: PHASE II ESA	REV. NO.: A
		CHK'D BY: MR		DATE: FEBRUARY 2010
AMEC Earth & Environmental 3190 Steeles Avenue East, Unit #305, Markham, Ontario L3R 1G9	amec		TITLE: PROPOSED BOREHOLE LOCATION PLAN 225 DUNDAS STREET EAST MISSISSAUGA, ONTARIO	PROJECT NO: TC91017
		SCALE: AS SHOWN		FIGURE No. FIGURE 1

R:\01 - PROJECTS\2009\TC91017-225 Dundas St.E\Figures\TC91017-Figure 2-Borehole Location Plan.dwg - Layout1 - Feb. 09, 2010 12:54pm - zhanna.furman

Ontario — Ministry of the Environment

Measurements recorded in: [X] Metric [ ] Imperial

Well Tag No. (Please Staple and/or Print Below): A 096787 A096787

Well Record

Regulation 903 Ontario Water Resources Act

7282 Page 3 of 3

[redacted]

Well Location

Address of Well Location (Street Number/Name): ~~81 Talbot Road West~~ 38-40 Dundas St. West

Township:

Lot:

Concession:

County/District/Municipality:

City/Town/Village: ~~Leamington~~ Mississauga

Province: Ontario

Postal Code:

UTM Coordinates: NAD 83 Zone 17 Easting 611696 Northing 4826996

Municipal Plan and Sublot Number:

Other: WKQ-002528 A0 - A02

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
black	Asphalt		soft	0	.1
brown	sand		soft	.1	2.7
grey	Shale	S.H	hard	2.7	4.8

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.31	Concrete	.0031
.31	3	Bentonite	.0126
3	4.8	Silica Sand	.0084

Method of Construction

[ ] Cable Tool [ ] Diamond
[ ] Rotary (Conventional) [ ] Jetting
[ ] Rotary (Reverse) [ ] Driving
[ ] Boring [ ] Digging
[ ] Air percussion
[X] Other, specify: Direct Push

Well Use

[ ] Public [ ] Commercial [ ] Not used
[ ] Domestic [ ] Municipal [ ] Dewatering
[ ] Livestock [X] Test Hole [ ] Monitoring
[ ] Irrigation [ ] Cooling & Air Conditioning
[ ] Industrial
[ ] Other, specify:

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
4.03	PVC	.36	0	3.3

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.82	PVC	10	3.3	4.8

Status of Well

[ ] Water Supply
[ ] Replacement Well
[X] Test Hole
[ ] Recharge Well
[ ] Dewatering Well
[X] Observation and/or Monitoring Hole
[ ] Alteration (Construction)
[ ] Abandoned, Insufficient Supply
[ ] Abandoned, Poor Water Quality
[ ] Abandoned, other, specify
[ ] Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Other
	[ ] Fresh [ ] Untested	[ ] Gas [ ] Other, specify
	[ ] Fresh [ ] Untested	[ ] Gas [ ] Other, specify
	[ ] Fresh [ ] Untested	[ ] Gas [ ] Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	4.8	10.9

Results of Well Yield Testing

After test of well yield, water was:
[ ] Clear and sand free
[ ] Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ___ hrs + ___ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

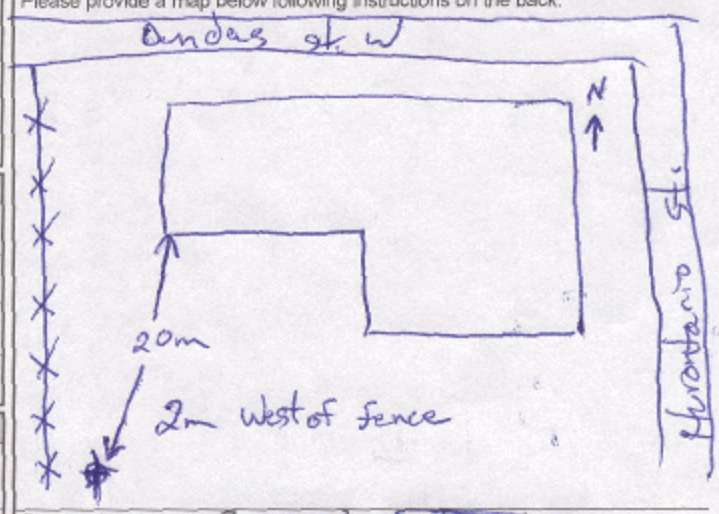
Well production (l/min / GPM)

Disinfected? [ ] Yes [ ] No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.



Comments: ~~General contractor~~: ~~The Dragun Corporation~~

Well Contractor and Well Technician Information

Business Name of Well Contractor: Strata Soil Sampling Inc.

Well Contractor's Licence No.: 7241

Business Address (Street Number/Name): 147-2 West Beaver Creek Road

Municipality: Richmond Hill

Province: Ontario

Postal Code: L4B 1C6

Business E-mail Address: wrecords@stratasoil.com

Bus. Telephone No. (inc. area code): 905-764-9304

Name of Well Technician (Last Name, First Name): Robinson Travis

Well Technician's Licence No.: 3159

Signature of Technician and/or Contractor:

Date Submitted: 2010/04/30

Well owner's information package delivered: [ ] Yes [X] No

Date Package Delivered: YYYY MM DD

Date Work Completed: 2010/04/28

Ministry Use Only

Audit No. z114336

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Ontario — Ministry of the Environment

Measurements recorded in: ☑ Metric ☐ Imperial

Well Tag No. (Place Sticker and/or Print Below) A103044

Well Record

Regulation 903 Ontario Water Resources Act

7554 Page 1 of 2

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
120 Dundas street east			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	610592	4806397		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Sand	gravel	loose	0	1.83
Brown	Clay	Soft	Dense	1.83	3.1

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.31	concrete	0.0005
0.31	1.5	Bentonite	0.0025
1.5	3.1	Sand	0.0825

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☐ ~~Other~~, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☑ Test Hole ☐ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.175	Plastic	0.356	0	1.5

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	Plastic	10	1.5	3.1

Status of Well

☐ Water Supply
☐ Replacement Well
☑ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, specify
☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	3.1	5.71

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

See attached

MW1

A103044

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241

Business Address (Street Number/Name)	Municipality
2-147 West Beaver Creek Dr	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B1C6	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
9057649304	Mutt, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3448		2010/06/21

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed 2010/06/21

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Measurements recorded in: ☒ Metric ☒ Imperial

(Print Below) **A103036**

Well Record

Regulation 903 Ontario Water Resources Act

Page 2 of 2

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
120 Dundas Street East			
County/District/Municipality	**City/Town/Village**	**Province**	**Postal Code**
	Mississauga	Ontario	
UTM Coordinates NAD 8 3 — Zone 17 — Easting 611598 — Northing 4826414	**Municipal Plan and Sublot Number**	**Other**	

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Sand	gravel	Loose	0	1.83
Grey	Clay	Silt	Dense	1.83	3.35

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.31	Concrete	0.0005
0.31	1.83	Bentonite	0.003
1.83	3.35	Sand	0.0025

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☑ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
3.45	Plastic	0.345	0	1.83

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
4.21	Plastic	10	1.83	3.35

Status of Well

☐ Water Supply ☐ Replacement Well ☑ Test Hole ☐ Recharge Well ☐ Dewatering Well ☑ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* ☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	3.35	5.71

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

See attached MW2. A103036.

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7241
Business Address (Street Number/Name)	**Municipality**
2-147 West Beaver Creek Dr	Richmond Hill
Province	**Postal Code**	**Business E-mail Address**
ON	L4B1C6	wrecords@stratasoil.com
Bus. Telephone No. (inc. area code)	**Name of Well Technician (Last Name, First Name)**
9057649304	Magd, Mike
Well Technician's Licence No.	**Signature of Technician and/or Contractor**	**Date Submitted**
3448	[signature]	2010/07/31

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No		2010/06/21

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Audit No. z119051

Received JUL 16 2010

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Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* **A103045**

Well Record

Regulation 903 Ontario Water Resources Act

7559 Page _____ of _____

[redacted]

Address of Well Location (Street Number/Name)	Township	Lot	Concession
120 Dundas Street E			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 8 3	17	611435	4826412		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0'	0.5'	Cement	
0.5'	5'	Bentonite	
5'	16'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☑ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☐ Other, *specify* _____

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☑ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify* _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1.5"	Plastic	0.25"	0'	6'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
1.75"	Plastic	10	6'	16'

Status of Well

☐ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☒ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* _____ ☐ Other, *specify* _____

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, *specify*

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0'	16'	4.5"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify* _____

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

see Map

MW3-1

Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling	7124

Business Address (Street Number/Name)	Municipality
2-147 West Beaver Creek Dr	Richmond Hill

Province	Postal Code	Business E-mail Address
ON	L4B 1C6	wreed@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905 764 9304	Mair, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3448		2010 06 31

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	Y Y Y Y M M D D	2010 06 21

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Received JUL 16 2010

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Well T: A 034011 (below)

Well Record

Regulation 903 Ontario Water Resources Act

Measurements recorded in: [X] Metric [ ] Imperial

Page 1 of 1

Well Owner's Information

First Name	Last Name /	E-mail Address	Well Constructed by Well Owner
MATAS	HOMES [redacted]		[ ]

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code
109 THOMAS ST	OAKVILLE	ON	L6J 3A7 [redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
86 DUNDAS ST E	MISSISSAUGA		

County/District/Municipality	City/Town/Village	Province	Postal Code
PEEL	MISSISSAUGA	Ontario	L5A 4G8

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	611918	4826373		

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BROWN			FILL	0	4.6
GREY	SILT			4.6	6.2
GREY			DENSE	6.2	7.6
MW2 ORS 17 611966 4826355					

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	.3	CEMENT	
.3	2.8	BENTONITE CHIPS	

Method of Construction

[ ] Cable Tool [ ] Diamond
[ ] Rotary (Conventional) [ ] Jetting
[ ] Rotary (Reverse) [ ] Driving
[X] Boring [ ] Digging
[ ] Air percussion
[ ] Other, *specify*

Well Use

[ ] Public [ ] Commercial [ ] Not used
[ ] Domestic [ ] Municipal [ ] Dewatering
[ ] Livestock [X] Test Hole [X] Monitoring
[ ] Irrigation [ ] Cooling & Air Conditioning
[ ] Industrial
[ ] Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
5	PLASTIC	.3	0	3.1

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
6	PLASTIC	010	3.1	7.6

Status of Well

[ ] Water Supply
[ ] Replacement Well
[ ] Test Hole
[ ] Recharge Well
[ ] Dewatering Well
[X] Observation and/or Monitoring Hole
[ ] Alteration (Construction)
[ ] Abandoned, Insufficient Supply
[ ] Abandoned, Poor Water Quality
[ ] Abandoned, other, *specify*
[ ] Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	
3	[ ] Fresh [X] Untested	[ ] Gas [ ] Other, *specify*
	[ ] Fresh [ ] Untested	[ ] Gas [ ] Other, *specify*
	[ ] Fresh [ ] Untested	[ ] Gas [ ] Other, *specify*

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	7.6	12

Results of Well Yield Testing

After test of well yield, water was:
[ ] Clear and sand free
[ ] Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

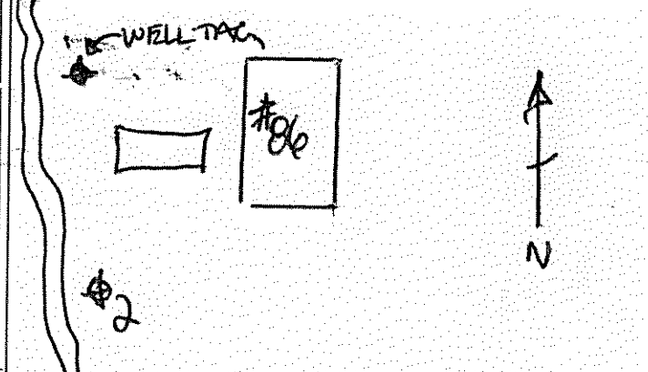
Disinfected? [ ] Yes [ ] No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

DUNDAS ST E



Comments:

12-A 187

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
ATCOST DRILLING	6032

Business Address (Street Number/Name)	Municipality
2160 HWY 6	YORK

Province	Postal Code	Business E-mail Address
ONT	L4K 1W6	

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
1056691253	BARTLETT, SEAN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
2519	[signature]	2012 10 15

Well owner's information package delivered	Date Package Delivered	Date Work Completed
[ ] Yes [X] No		2012 10 09

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Audit No. Z 121323

Received JAN 31 2013

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13/10/12

Ontario Ministry of the Environment

Well Record for Well Cluster - Part 1 of 3

(Only for Multiple Test Holes or Dewatering Wells)

Regulation 903 Ontario Water Resources Act

All measurements recorded in: ☐ Metric ☒ Imperial

Follow instructions on the front and back of this form. Print or Type

Well Tag No. of Deep [illegible] (Print Well Tag No.) **Tag#: A139584**

Well # on Drawing of Deepest Well: MW1

Page 1 of 1

Well Cluster Location Information

Address of Well Location (Street Number(s)/Name(s), RR, if available)	Lot(s)	Concession(s)	Geographic Township	County/District/Upper Tier Municipality
206 Dundas st E				

City, Town, Village or Hamlet	Province	GPS Unit Make	Model	Unit Mode of Operation
Mississauga	Ontario	Garmin	ETrex	☒ Undifferentiated ☐ Averaged ☐ Differentiated, specify:

Mandatory Attachments/Additional Information

☒ Land Owner Consent Form must be attached.

☒ Detailed Drawing of All Well Locations must be attached.

I, the person constructing the well, will promptly submit to the Director, on request, any additional information in my custody or control related to any well in the well cluster that I have constructed.

Signature of Technician/Contractor: [signature] Date (yyyy/mm/dd): 2013/05/17

Well Details

Well # on Drawing	UTM Coordinates Zone	Easting	Northing	Hole Depth (m/ft)	Hole Diameter (cm/in)	Method of Construction	Casing Material; Diameter (cm/in)	Casing (m/ft) From	Casing (m/ft) To	Screen Interval (m/ft) From	Screen Interval (m/ft) To	Annular Space Material (m/ft) From	Annular Space Material (m/ft) To	Annular Space Material: Material:	Overburden/Bedrock or Abandonment Filing Material Intervals (m/ft)	Static Water Level (m/ft)	Date of Completion (yyyy/mm/dd)
MW1	17	612139	4826648	20'	6"	Rotary	2"PVC	0'	10'	10'	20'	20' 9'	9' 2'	SAND Bentonite			2012/11/20
MW2	17	612144	4826658	19'	6"	Rotary	2"PVC	0'	9'	9'	19'	19' 8'	8' 2'	SAND Bentonite			2012/11/20

Well Contractor and Well Technician Information

Business Name of Well Contractor	Business Address (Street Number/Name, RR)	Municipality	Province
Profile Drilling Inc	6525 Northam Dr	Mississauga	ON

Postal Code	Bus. Telephone No.	Well Contractor's Licence No.	Business E-mail Address
L4V 1T2	416-650-6444	7215	mike@profiledrilling.com

Name of Well Technician (First Name, Last Name)	Well Technician's Licence No.	Signature of Well Technician	Date Submitted (yyyy/mm/dd)
Mike Slodki	3571	[signature]	2013/05/17

Date First Well in Cluster Constructed or Abandoned (yyyy/mm/dd)	Date Last Well in Cluster Completed (yyyy/mm/dd)
2012/11/20	2012/11/20

Well Abandonment

Person Abandoning the Wells:

Name _____ (Print or Type) - See instruction 11 on the back of this form

Ministry Use Only

Date Received (yyyy/mm/dd)	Audit No.
MAY 26 2013	C 20417

Comments:

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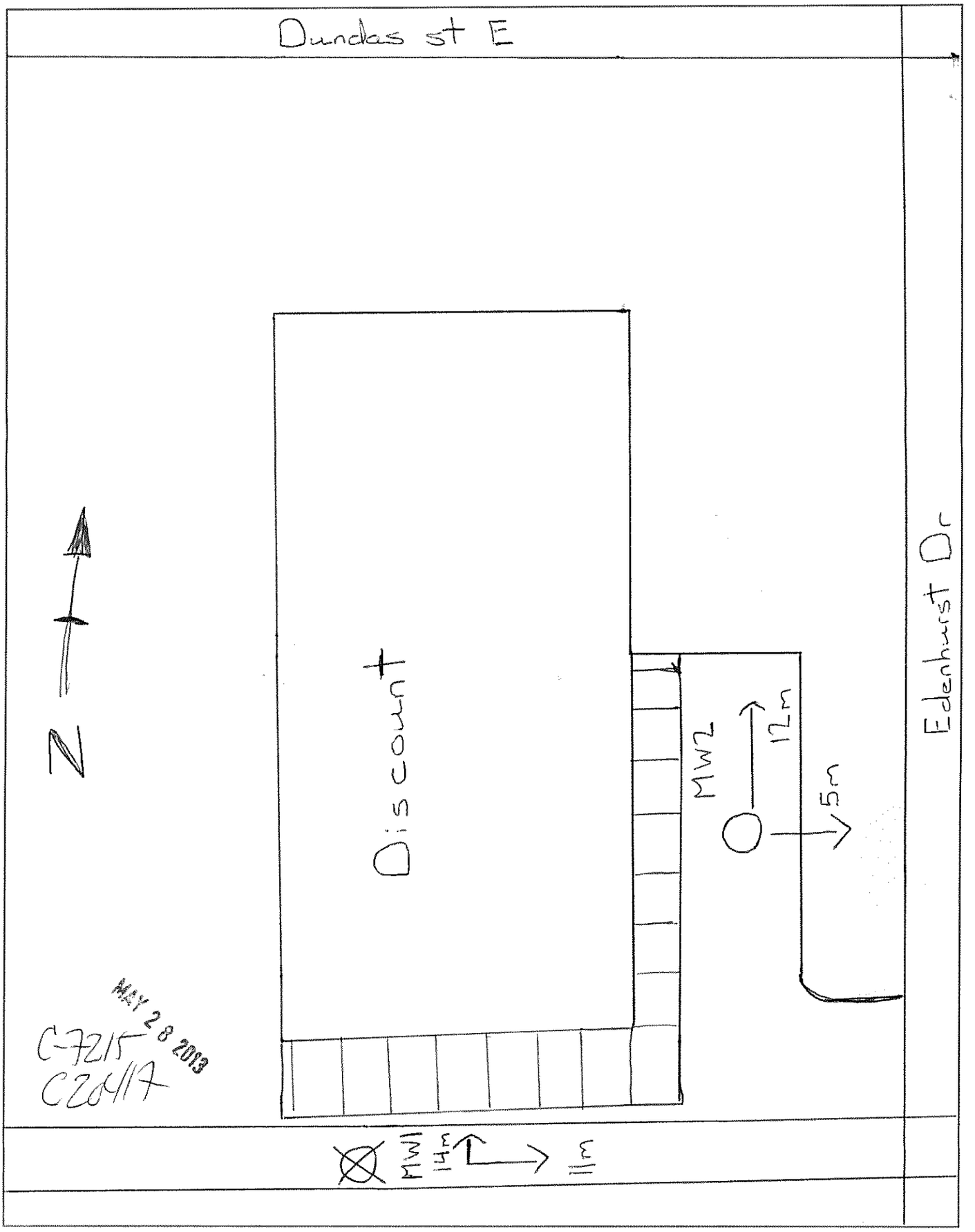
Well Record for Well Cluster - Part 3 of 3
Detailed Drawing of All Well Locations

Note: This **Well Record for Well Cluster Part 3 - Detailed Drawing of all Well Locations,** must be attached to Parts 1 and 2. The drawing must include all property boundaries, an arrow indicating the North direction, all named roads and sufficient measurements to locate all wells in the cluster in relation to fixed points. The drawing must show the location of each well and each well must be numbered on the drawing to match number used for that well on the **Well Record for Well Cluster Parts 1 and 2.** The well with the well tag must be clearly identified on the Drawing.
UTM coordinates should appear beside each well, if space permits. Additional comments on wells can be included on the drawing

Well Tag Number: # A139584

"Well Record for Well Cluster" Form Audit Number: # C 20417



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Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. (Place Sticker and/or Print Below) Tag#: A156353 A156353 S-146660

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	Starlight Apartments Ltd		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
401 the west Mall Suite 1100	Toronto	ON	M9C5J5	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
100 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	619174	4832637		WKQ-006380 A0 - A02

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Fill			0	3'
Brown	Silty	Sand		3'	10'
Grey	Silty	Clay		10'	18'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.5'	Flushmount/concrete	
0.5'	7'	Benseal	
7'	18'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☐ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☐ Test Hole ☐ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	0.25"	0	8'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25"	PVC	10	8'	18'

Status of Well

☐ Water Supply ☐ Replacement Well ☐ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	18'	6"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

See map

MW-1

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hil

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	[illegible] Mark

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3708	[signature]	2013 10 1

Comments: General contractor: Pinchin Environmental

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☐ No	[illegible]	2013 10 16

Ministry Use Only

Audit No. Z 179768

Received 2013

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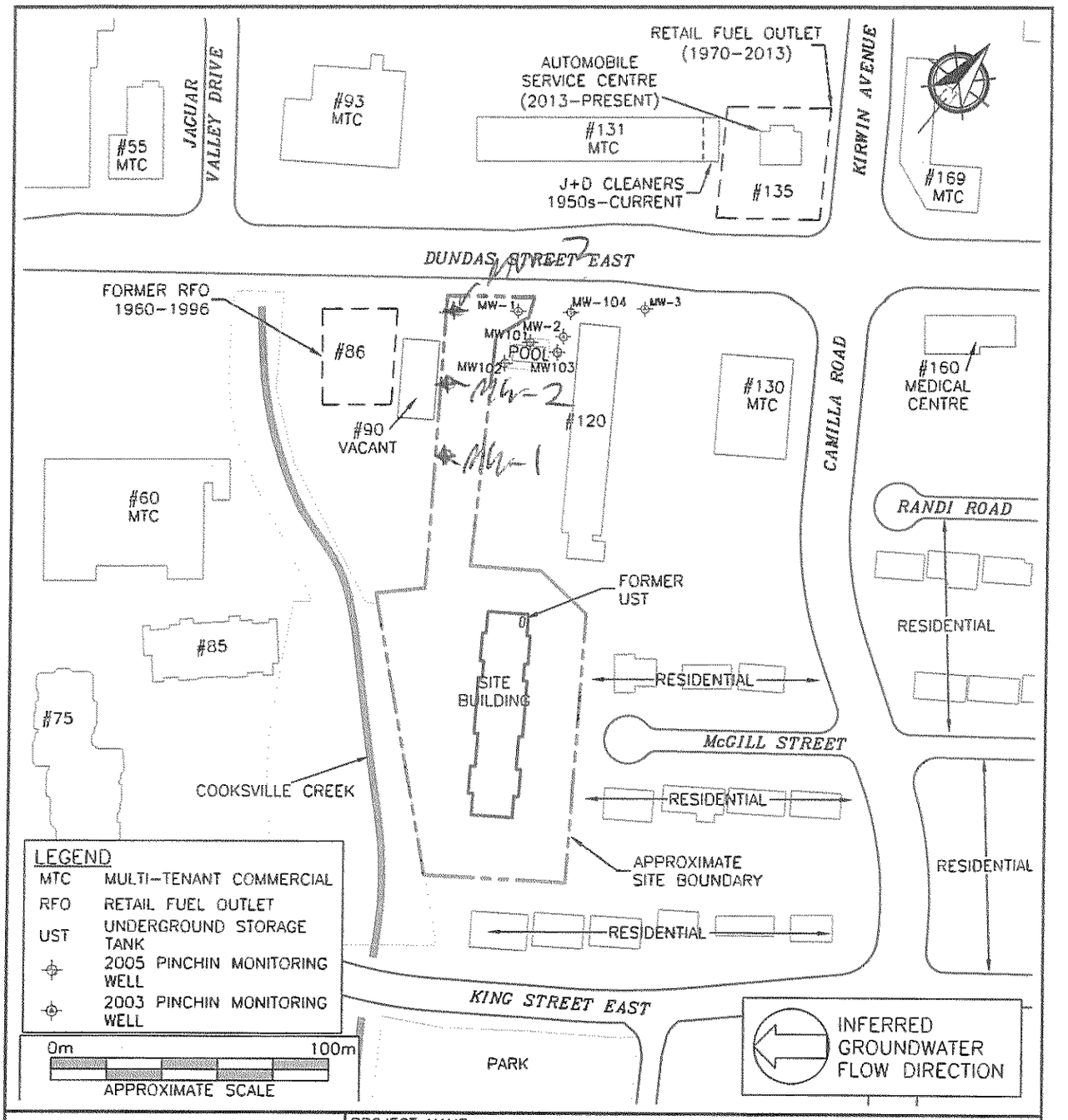

PINCHIN ENVIRONMENTAL

PROJECT NAME	[redacted]		
CLIENT NAME	[redacted]		
PROJECT LOCATION	100 DUNDAS STREET EAST, MISSISSAUGA, ONTARIO		
FIGURE NAME	SITE AND SURROUNDING LANDUSE PLAN		FIGURE NO.
APPROXIMATE SCALE	PROJECT NO.	DATE	2
AS SHOWN	87839	SEPT. 2013	

C-7241 2179768

NOV 12 2013

7210806

Ontario Ministry of the Environment

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. (Place Sticker and/or Print Below) Tag#: A156350 A156350

S-14660

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

STARLIGHT APARTMENTS LTD.

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
100 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates Zone Easting Northing	Municipal Plan and Sublot Number	Other
NAD 8 3 17 611928 4826423		WKQ-006380 A0 - A02

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	To
Black	Ashpalt			0	4"
Brown	Silty	Sand		4"	8'
Gray	Silty	Clay		8'	16'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.5'	Flushmount/concrete.	
0.5'	5'	Holeplug	
5'	16'	Sand	

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ___ hrs + ___ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☑ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☑ Test Hole ☑ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
2"	PVC	0.25"	0	6'

Status of Well

☐ Water Supply ☐ Replacement Well ☑ Test Hole ☐ Recharge Well ☐ Dewatering Well ☐ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
2.25"	PVC	10	6'	16'

Map of Well Location

Please provide a map below following instructions on the back.

See map MW-3

Water Details

Water found at Depth (m/ft) ☐ Gas — Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Water found at Depth (m/ft) ☐ Gas — Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Water found at Depth (m/ft) ☐ Gas — Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	16	6"

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hil

Province	Postal Code	Business E-mail Address
Ontario	L4B 1C6	wrecords@stratasoil.co

Bus.Telephone No. (inc. area code) 905-764-9304 — Name of Well Technician (Last Name, First Name) Casselman, Mark

Well Technician's Licence No. 3 7 0 8 — Signature of Technician and/or Contractor — Date Submitted 2013 11 01

Comments: General contractor: Pinchin Environmental

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered Y Y Y Y M M D D

Date Work Completed 2013 10 16

Ministry Use Only

Audit No. Z179767

Received NOV 12 2013

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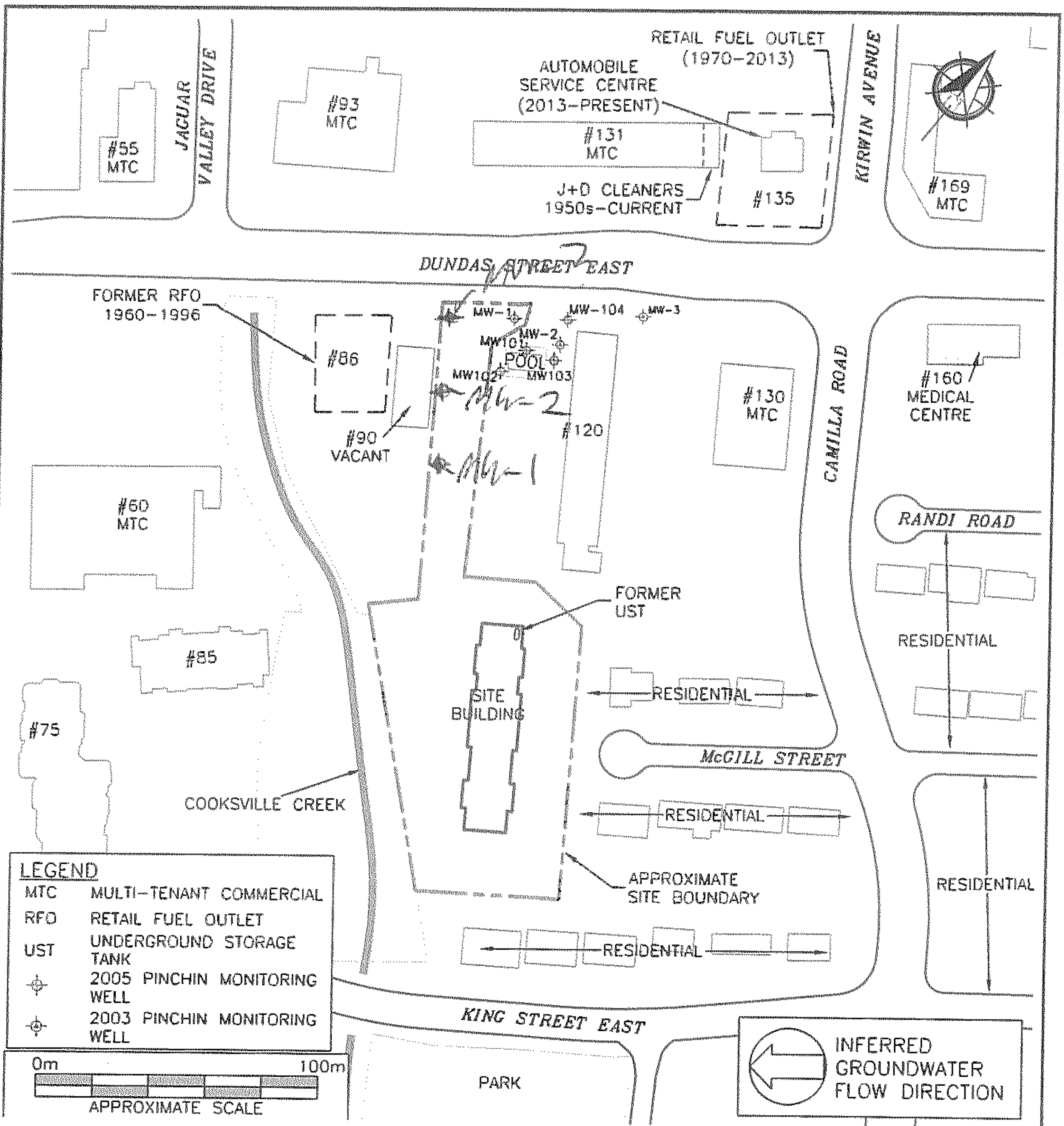

PINCHIN ENVIRONMENTAL

PROJECT NAME	[redacted]
CLIENT NAME	[redacted]
PROJECT LOCATION	100 DUNDAS STREET EAST, MISSISSAUGA, ONTARIO
FIGURE NAME	SITE AND SURROUNDING LANDUSE PLAN
FIGURE NO.	2
APPROXIMATE SCALE	AS SHOWN
PROJECT NO.	87839
DATE	SEPT. 2013

NOV 2013

7210807

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* Tag#: A156352 A156352

5-14660

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

[redacted]

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
100 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	619478	4826410		WKQ-006380 A0 - A02

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Brown	Fill			0	3'
Brown	Silty	Sand		3'	8'
Gray	Silty	Clay		8'	15.5'

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m^3/ft^3)
0	0.5'	Flush mount/Concrete	
0.5'	4.5'	Hole plug	
4.5'	15.5'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☒ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	0.25"	0	5.5'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25"	PVC	10	5.5'	15.5'

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☐ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	15.5'	6"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

See Map

MW-2.

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
147-2 West Beaver Creek Road	Richmond Hill

Province	Postal Code	Business E-mail Address
Ontario	L4B 1G6	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	MARK

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3708		2013/11/01

Comments: General contractor: Pinchin Environmental

Well owner's information package delivered	Date Package Delivered	Ministry Use Only
☐ Yes ☐ No		Audit No. Z179766
	Date Work Completed: 2013/10/31	NC Received 2013

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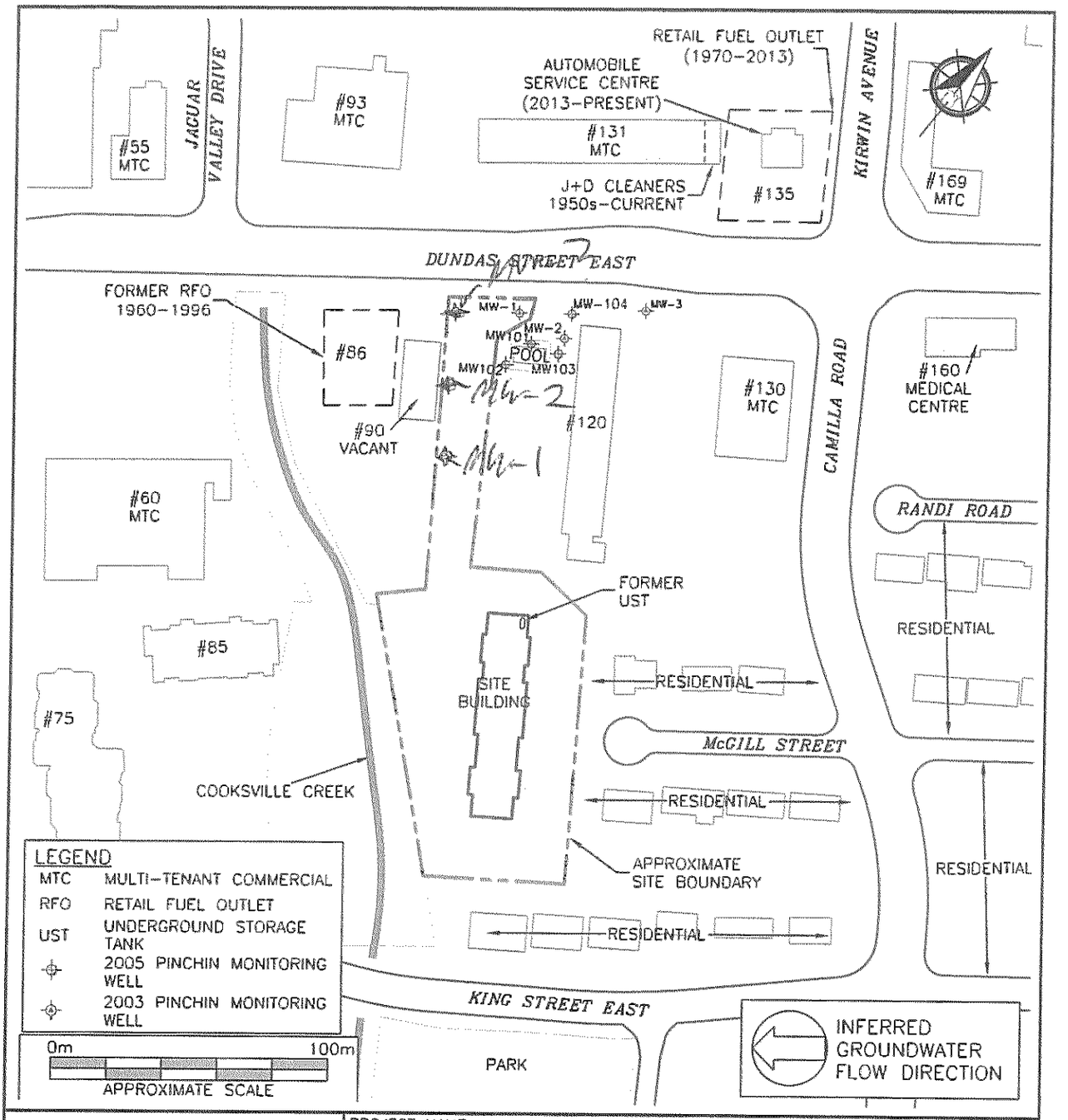

PINCHIN ENVIRONMENTAL

PROJECT NAME	[redacted]	
CLIENT NAME	[redacted]	
PROJECT LOCATION	100 DUNDAS STREET EAST, MISSISSAUGA, ONTARIO	
FIGURE NAME	SITE AND SURROUNDING LANDUSE PLAN	FIGURE NO. 2
APPROXIMATE SCALE	AS SHOWN	
PROJECT NO.	87839	
DATE	SEPT. 2013	

C-7241 2179766

NOV [illegible] 13

Ontario Ministry of the Environment and Climate Change

Tag#: A197898

S-18471

A197898

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☐ Metric ☑ Imperial

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CIBC Corporate Real Estate		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
55 Yonge St, 4th Floor	Toronto	On	M5E1J4	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	611697	4826279		WKQ-008852 A0 - A03

Overburden and Bedrock Materials/Abandonment Sealing Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	Asphalt			0	3"
BRN	Sand	Silt		3"	5'
BRN/GRY	Silt	Clay/Sand		5'	14½
GRY	Shale	Weathered		14½	17'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
17'	6'	Sand	
6'	0	Holeplug	
		Flowmont	

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Water Level (m/ft)	Recovery Time (min)	Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☒ Test Hole ☒ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	To
2"	PVC	.25	0	7'

Status of Well

☐ Water Supply ☐ Replacement Well ☒ Test Hole ☐ Recharge Well ☐ Dewatering Well ☒ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	To
2.25	PVC	.10	7'	17'

Map of Well Location

Please provide a map below following instructions on the back.

MW1

Water Details

Water found at Depth	Kind of Water
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	17'	6"

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
Ontario	L3R 8V2	wrecords@stratasoil.com

Bus.Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Teccese, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3376		2016 05 11

Comments: General contractor: Pinchin Environmental

Well owner's information package delivered ☐ Yes ☒ No

Date Package Delivered

Date Work Completed 2016 05 11

Ministry Use Only

Audit No. Z231550

Received MAY 27 2016

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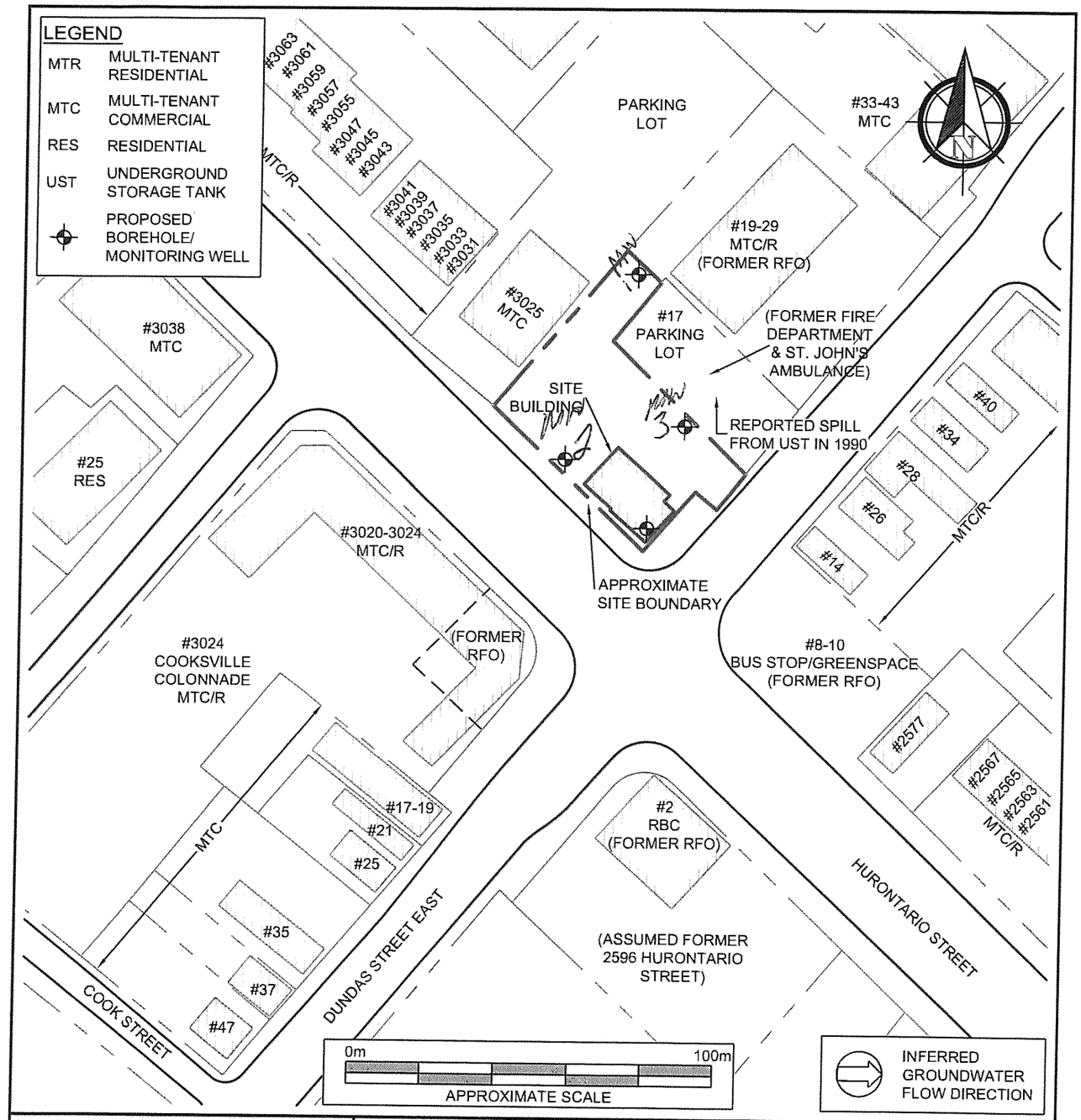

PINCHIN

PROJECT NAME: PHASE II ENVIRONMENTAL SITE ASSESSMENT			
CLIENT NAME: CIBC CORPORATE REAL ESTATE			
PROJECT LOCATION: 5 DUNDAS STREET EAST, MISSISSAUGA, ONTARIO			
FIGURE NAME: PROPOSE BOREHOLE/ MONITORING WELL LOCATION PLAN			FIGURE NO.: 2
APPROXIMATE SCALE: AS SHOWN	PROJECT NO.: 111021.002	DATE: MAR. 2016	

MAY 27 2016

C-7241 223550

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag# : A197938

A197938

S-1847

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CIBC Corporate Real Estate		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
55 Yonge St 4th floor	Toronto	On	M5E1J4	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	611689	4826238		WKQ-008852 A0 - A03

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	Asphalt			0	3'
BRN	Sand	Silt		3"	5'
BRN/GRY	Silt	Sand/Clay		5'	12½
GRY	Shale	w	weathered	12½	17'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
17'	6'	Sand	
6'	0	Hydrated Bentonite	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☒ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☒ Test Hole ☒ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	.25	0	7'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25	PVC	10	7'	17

Status of Well

☐ Water Supply ☐ Replacement Well ☒ Test Hole ☐ Recharge Well ☐ Dewatering Well ☒ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Water Details

Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify
Water found at Depth (m/ft)	☐ Gas	Kind of Water: ☐ Fresh ☐ Untested ☐ Other, specify

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	17'	6"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

MW 2

Comments: General contractor: Pinchin Environmental

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
Ontario	L3R 8V2	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Leccese, Mike

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
7330		2016/04/11

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered

Date Work Completed 2016/04/11

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Audit No. Z231549

MAY 27 2016 Received

0506E (2014/11)

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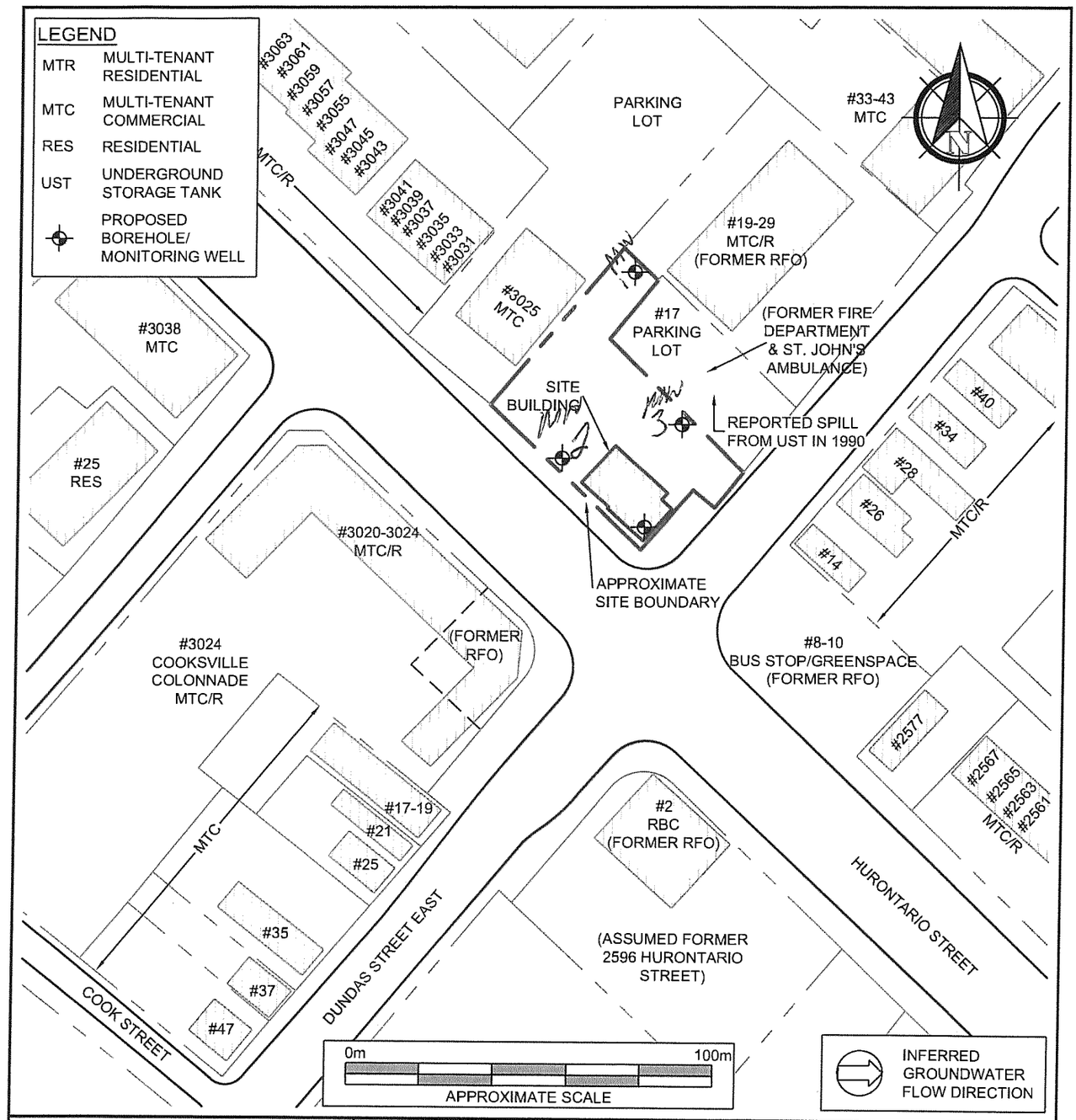
S-18471



PINCHIN

PROJECT NAME: PHASE II ENVIRONMENTAL SITE ASSESSMENT			
CLIENT NAME: CIBC CORPORATE REAL ESTATE			
PROJECT LOCATION: 5 DUNDAS STREET EAST, MISSISSAUGA, ONTARIO			
FIGURE NAME: PROPOSE BOREHOLE/ MONITORING WELL LOCATION PLAN			FIGURE NO.: 2
APPROXIMATE SCALE: AS SHOWN	PROJECT NO.: 111021.002	DATE: MAR. 2016	

MAY 27 2016

C-7211 7231549

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag#: A197940 (Yellow)

A197940

S-1847

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CIBC Corporate Real Estate		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. (inc. area code)
55 Yonge St 42nd floor	Toronto	ON	M5L1J4	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	610714	4826242		WKQ-008852 A0 - A03

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BLK	Asphalt			0	3"
BRN	Sand	Silt		3"	5'
BRN/GRY	Silt	Clay		5'	14'
GRY	Shale		Weathered	14'	17'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
17'	6'	Sand	
6'	0	Hydrated Bentonite	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☐ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☒ Test Hole ☒ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	.25	0	7'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25	PVC	.10	7'	17'

Status of Well

☐ Water Supply ☐ Replacement Well ☒ Test Hole ☐ Recharge Well ☐ Dewatering Well ☒ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, *specify* ☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*	0	17'	6"
Water found at Depth (m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			
Water found at Depth (m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify*			

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping _____ hrs + _____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

NW

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
Ontario	L3R 8V2	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Leccese, Nick

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
7258		2016/04/11

Comments: General contractor: Pinchin Environmental

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☐ Yes ☒ No		2016/04/11

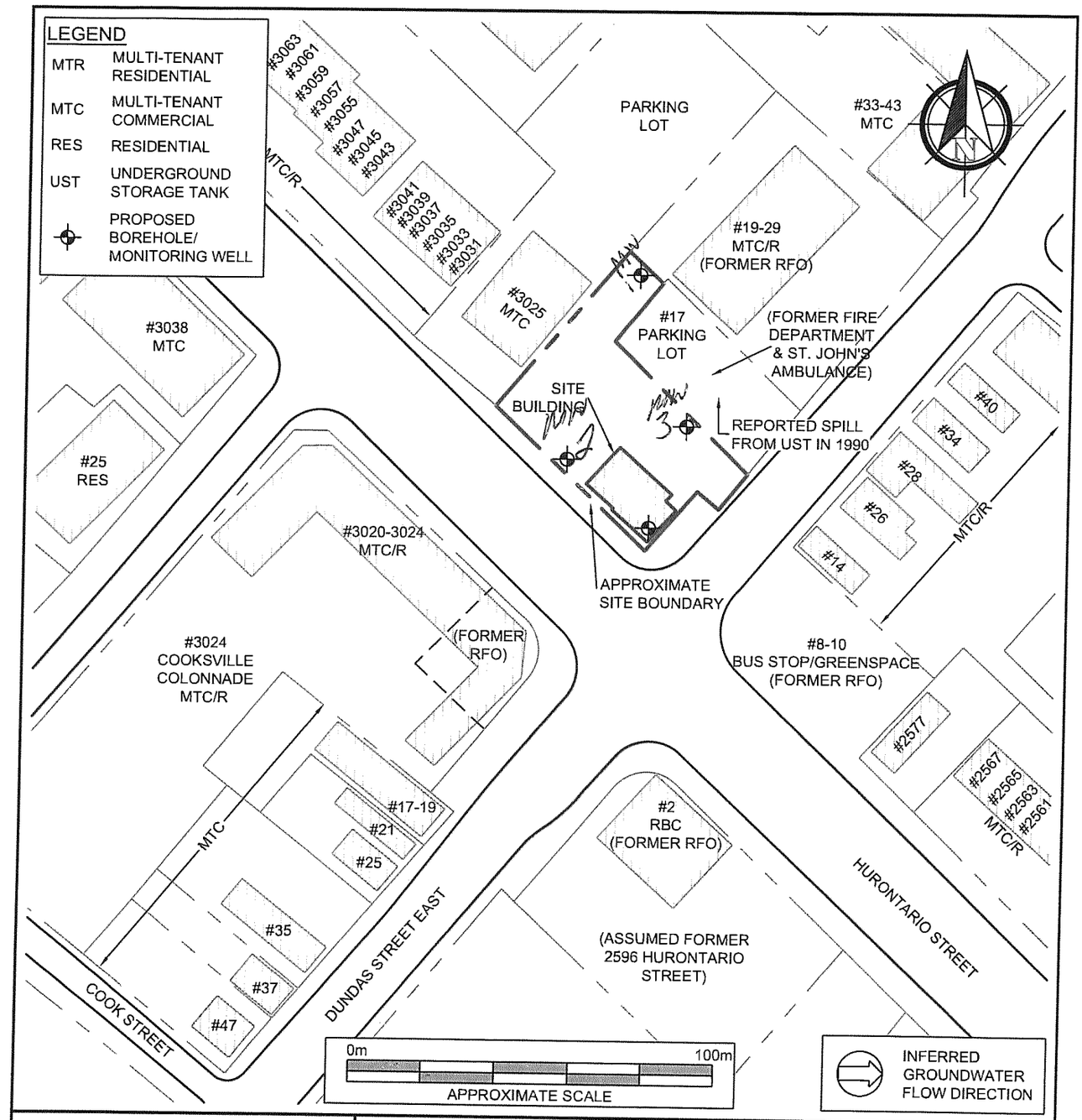
Ministry Use Only

Audit No. Z231548

Received MAY 27 2016

0506E (2014/11) **Ministry's Copy**

S-18471



PINCHIN

PROJECT NAME: PHASE II ENVIRONMENTAL SITE ASSESSMENT			
CLIENT NAME: CIBC CORPORATE REAL ESTATE			
PROJECT LOCATION: 5 DUNDAS STREET EAST, MISSISSAUGA, ONTARIO			
FIGURE NAME: PROPOSE BOREHOLE/ MONITORING WELL LOCATION PLAN			FIGURE NO.: 2
APPROXIMATE SCALE: AS SHOWN	PROJECT NO.: 111021.002	DATE: MAR. 2016	

C-7241 7231548

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* A197985

S-18471

Well Record

Regulation 903 Ontario Water Resources Act

Page _____ of _____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
	CIBC Corporate Real Estate		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
55 Yonge St, 4th floor	Toronto	ON	M5E1J4	

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
5 Dundas Street East			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	611711	4826220		WKQ-008919 A0 - A00

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Grey	Concrete			0	0.5'
Brown	Fill			0.5'	2'
Grey	clay			2'	4.5'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	0.5'	concrete/flushmount	
0.5'	1.5'	Bensead	
1.5'	4.5'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond
☐ Rotary (Conventional) ☐ Jetting
☐ Rotary (Reverse) ☐ Driving
☐ Boring ☐ Digging
☐ Air percussion
☒ Other, *specify* Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used
☐ Domestic ☐ Municipal ☐ Dewatering
☐ Livestock ☒ Test Hole ☒ Monitoring
☐ Irrigation ☐ Cooling & Air Conditioning
☐ Industrial
☐ Other, *specify*

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
1.25"	PVC	0.125"	0	2'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
1.5"	PVC	10	2'	4.5'

Status of Well

☐ Water Supply
☐ Replacement Well
☒ Test Hole
☐ Recharge Well
☐ Dewatering Well
☒ Observation and/or Monitoring Hole
☐ Alteration (Construction)
☐ Abandoned, Insufficient Supply
☐ Abandoned, Poor Water Quality
☐ Abandoned, other, *specify*
☐ Other, *specify*

Water Details

Water found at Depth (m/ft)	Kind of Water	Gas	Other, specify
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	
	☐ Fresh ☐ Untested	☐	

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	4.5'	2.25"

Results of Well Yield Testing

After test of well yield, water was:
☐ Clear and sand free
☐ Other, *specify*

If pumping discontinued, give reason:

Pump intake set at *(m/ft)*

Pumping rate *(l/min / GPM)*

Duration of pumping _____ hrs + _____ min

Final water level end of pumping *(m/ft)*

If flowing give rate *(l/min / GPM)*

Recommended pump depth *(m/ft)*

Recommended pump rate *(l/min / GPM)*

Well production *(l/min / GPM)*

Disinfected? ☐ Yes ☐ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level				
1			1	
2			2	
3			3	
4			4	
5			5	
10			10	
15			15	
20			20	
25			25	
30			30	
40			40	
50			50	
60			60	

Map of Well Location

Please provide a map below following instructions on the back.

See Map

MW1

Comments: General contractor: Pinchin Environmental

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality	Province	Postal Code	Business E-mail Address
165 Shields Court	Markham	Ontario	L3R 8V2	wrecords@stratasoil.com

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)	Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
905-764-9304	Walker, Jonathan	5833		Y Y Y Y M M D D

Well owner's information package delivered: ☐ Yes ☒ No

Date Package Delivered: Y Y Y Y M M D D

Date Work Completed: 2016 04 24

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Audit No. Z231466

Received MAY 27 2016

MAY 27 2016

0506E (2014/11)

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7296548

Ontario — Ministry of the Environment and Climate Change

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. (Place Sticker and/or Print Below) A199312 A199312 Tag#: A199312

Well Record

Regulation 903 Ontario Water Resources Act

S-20827 Page ____ of ____

ROYAL BANK OF CANADA

Address of Well Location (Street Number/Name)	Township	Lot	Concession
2 Dundas Street West			

County/District/Municipality	City/Town/Village	Province	Postal Code
	Mississauga	Ontario	

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
NAD 83	17	611750	4826092		WKQ-010354 A0 - A02

Overburden and Bedrock Materials/Abandonment Sealing Record *(see instructions on the back of this form)*

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
Blk	Asphalt			0	3"
Brown	silt	clay		3"	10'
Grey	Shale			10'	13'

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	6"	Concrete	
6"	2'	Bentonite	
2'	13'	Sand	

Method of Construction

☐ Cable Tool ☐ Diamond ☑ Rotary (Conventional) ☐ Jetting ☐ Rotary (Reverse) ☐ Driving ☐ Boring ☐ Digging ☐ Air percussion ☐ Other, specify Direct Push

Well Use

☐ Public ☐ Commercial ☐ Not used ☐ Domestic ☐ Municipal ☐ Dewatering ☐ Livestock ☒ Test Hole ☒ Monitoring ☐ Irrigation ☐ Cooling & Air Conditioning ☐ Industrial ☐ Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
2"	PVC	.225	0	3'

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft) From	Depth (m/ft) To
2.25	PVC	10	3'	13'

Status of Well

☐ Water Supply ☐ Replacement Well ☒ Test Hole ☐ Recharge Well ☐ Dewatering Well ☒ Observation and/or Monitoring Hole ☐ Alteration (Construction) ☐ Abandoned, Insufficient Supply ☐ Abandoned, Poor Water Quality ☐ Abandoned, other, specify ☐ Other, specify

Water Details

Water found at Depth (m/ft)	Kind of Water	Other, specify
☐ Gas	☐ Fresh ☐ Untested	
☐ Gas	☐ Fresh ☐ Untested	
☐ Gas	☐ Fresh ☐ Untested	

Hole Diameter

Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
0	13'	6"

Results of Well Yield Testing

After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping ____ hrs + ____ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

Well production (l/min / GPM)

Disinfected? ☐ Yes ☐ No

Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	
25		25	
30		30	
40		40	
50		50	
60		60	

Map of Well Location

Please provide a map below following instructions on the back.

See Map

3"

Comments: General contractor: Pinchin Environmental

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
Strata Soil Sampling Inc.	7241

Business Address (Street Number/Name)	Municipality
165 Shields Court	Markham

Province	Postal Code	Business E-mail Address
Ontario	L3R 8V2	wrecords@stratasoil.com

Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)
905-764-9304	Vanderpool, Andrew

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
3164	Andrew Vanderpool	2017 09 29

Well owner's information package delivered ☐ Yes ☐ No

Date Package Delivered ____

Date Work Completed 2017 09 12

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Audit No. Z270104

OCT 15 2017

Received

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APPENDIX D

Water Balance Summary Tables

Table C: Water Balance Summary Table

Characteristic	Site			
	Pre-Development	Post-Development	Change (Pre to Post)	
Inputs (Volume)				
Precipitation (m^3/yr)	4,974	4,974	0	0%
Run-On (m^3/yr)	0	0	0	NA
Other Inputs (m^3/yr)	0	0	0	NA
Total Inputs (m^3/yr)	4,974	4,974	0	0%
Outputs (Volume)				
Precipitation Surplus (m^3/yr)	1,845	2,993	1,147	62%
Net Surplus (m3/yr)	1,845	2,993	1,147	62%
Evapotranspiration (m^3/yr)	3,129	1,981	-1,147	-37%
Infiltration (m^3/yr)	862	412	-450	-52%
Rooftop Infiltration (m^3/yr)	0	0	0	NA
Total Infiltration (m^3/yr)	**862**	**412**	**-450**	**-52%**
Run-Off Pervious Areas (m^3/yr)	983	441	-542	-55%
Run-Off Impervious Areas (m^3/yr)	0	2,139	2,139	NA
Total Run-Off (m^3/yr)	983	2,581	1,598	163%
Total Outputs (m^3/yr)	**4,974**	**4,974**	**0**	**0%**

Table A: Pre-Development

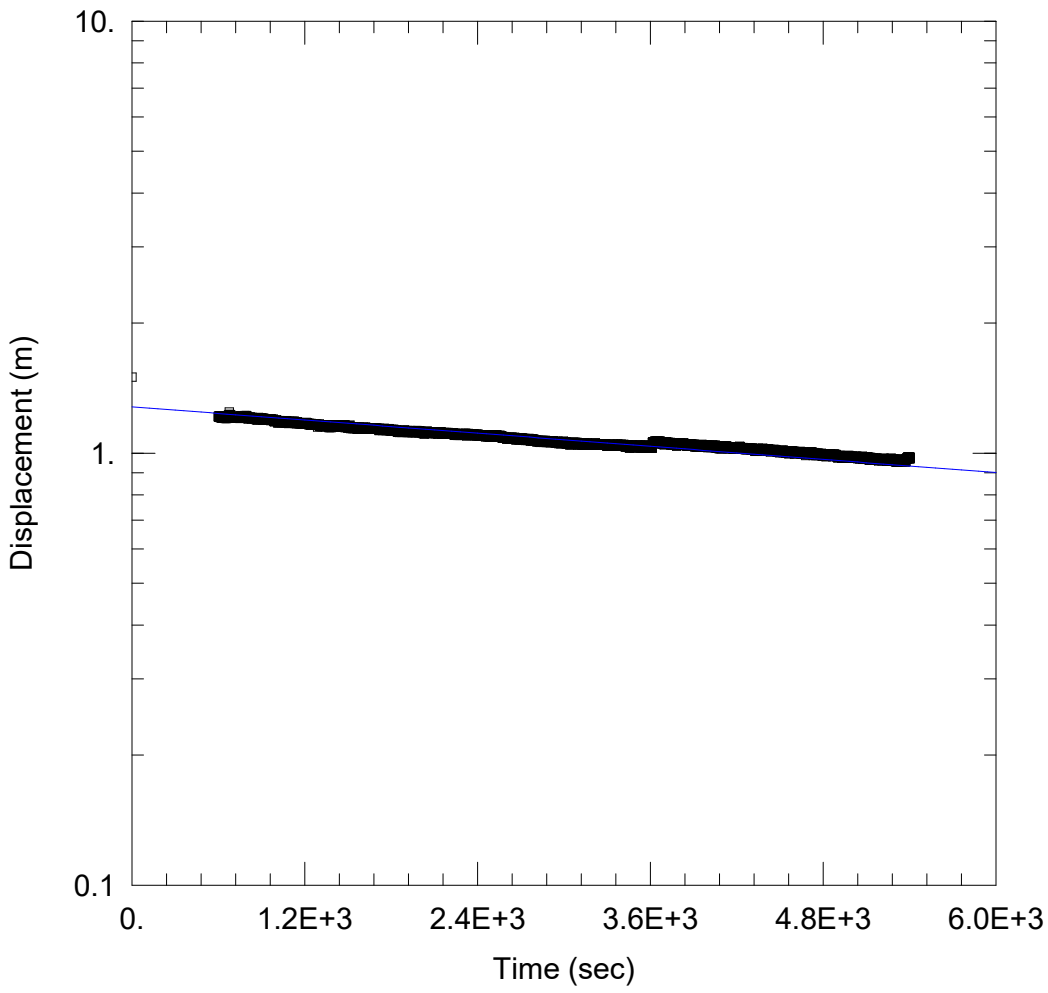
Catchment Designation	Forest	Landscaped Grass	Total
Area (m^2)	4,300	2,085	6,385
Pervious Area (m^2)	4,300	2,085	6,385
Impervious Area (m^2)	0	0	0
Infiltration Factors			
Topography Infiltration Factor	0.2	0.2	
Soil Infiltration Factor	0.1	0.1	
Land Cover Infiltration Factor	0.2	0.1	
Infiltration Factor	0.5	0.4	
Run-Off Coefficient	0.5	0.6	
Run-Off From Impervious Surfaces	0.8	0.8	
Inputs (Per Unit Area)			
Precipitation (mm/yr)	779	779	779
Rainfall (mm/yr)	632	632	632
Run-On (mm/yr)	0	0	0
Other Inputs (mm/yr)	0	0	0
Total Inputs (mm/yr)	**779**	**779**	779
Outputs (Per Unit Area)			
Precipitation Surplus (mm/yr)	289	289	289
Net Surplus (mm/yr)	289	289	289
Evapotranspiration (mm/yr)	490	490	490
Infiltration (mm/yr)	145	116	135
Surplus Infiltration (mm/yr)	0	0	0
Total Infiltration (mm/yr)	145	116	135
Run-Off Pervious Areas (mm/yr)	145	173	154
Run-Off Impervious Areas (mm/yr)	0	0	0
Total Run-Off (mm/yr)	145	173	154
Total Outputs (mm/yr)	**779**	**779**	**779**
Difference (Inputs - Outputs)	**0**	**0**	**0**
Inputs (Volumes)			
Precipitation (m^3/yr)	3,350	1,624	4,974
Run-On (m^3/yr)	0	0	0
Other Inputs (m^3/yr)	0	0	0
Total Inputs (m^3/yr)	**3,350**	**1,624**	**4,974**
Outputs (Volumes)			
Precipitation Surplus (m^3/yr)	1,243	603	1,845
Net Surplus (m^3/yr)	1,243	603	1,845
Evapotranspiration (m^3/yr)	2,107	1,022	3,129
Infiltration (m^3/yr)	621	241	862
Surplus Infiltration (m^3/yr)	0	0	0
Total Infiltration (m^3/yr)	**621**	**241**	**862**
Run-Off Pervious Areas (m^3/yr)	621	362	983
Run-Off Impervious Areas (m^3/yr)	0	0	0
Total Run-Off (m^3/yr)	621	362	983
Total Outputs (m^3/yr)	3,350	1,624	4,974
Difference (Inputs - Outputs)	**0**	**0**	**0**

Table B: Post-Development (no mit)

Catchment Designation	Parkland Dedication	Landscaped Grass	Structure	Total
Area (m^2)	2,450	502	3,433	6,385
Pervious Area (m^2)	2,450	502	0	2,952
Impervious Area (m^2)	0	0	3,433	3,433
Infiltration Factors				
Topography Infiltration Factor	0.2	0.2	0	
Soil Infiltration Factor	0.1	0.1	0	
Land Cover Infiltration Factor	0.2	0.1	0	
Infiltration Factor	0.5	0.4	0	
Run-Off Coefficient	0.5	0.6	1	
Run-Off From Impervious Surfaces	0.8	0.8	0.8	
Inputs (Per Unit Area)				
Precipitation (mm/yr)	779	779	779	779
Rainfall (mm/yr)	632	632	632	632
Run-On (mm/yr)	0	0	0	0
Other Inputs (mm/yr)	0	0	0	0
Total Inputs (mm/yr)	**779**	**779**	**779**	779
Outputs (Per Unit Area)				
Precipitation Surplus (mm/yr)	289	289	623	469
Net Surplus (mm/yr)	289	289	623	469
Evapotranspiration (mm/yr)	490	490	156	310
Infiltration (mm/yr)	145	116	0	65
Surplus Infiltration (mm/yr)	0	0	0	0
Total Infiltration (mm/yr)	145	116	0	65
Run-Off Pervious Areas (mm/yr)	145	173	0	69
Run-Off Impervious Areas (mm/yr)	0	0	623	335
Total Run-Off (mm/yr)	145	173	623	404
Total Outputs (mm/yr)	**779**	**779**	**779**	**779**
Difference (Inputs - Outputs)	**0**	**0**	**0**	**0**
Inputs (Volumes)				
Precipitation (m^3/yr)	1,909	391	2,674	4,974
Run-On (m^3/yr)	0	0	0	0
Other Inputs (m^3/yr)	0	0	0	0
Total Inputs (m^3/yr)	**1,909**	**391**	**2,674**	**4,974**
Outputs (Volumes)				
Precipitation Surplus (m^3/yr)	708	145	2,139	2,993
Net Surplus (m^3/yr)	708	145	2,139	2,993
Evapotranspiration (m^3/yr)	1,201	246	535	1,981
Infiltration (m^3/yr)	354	58	0	412
Surplus Infiltration (m^3/yr)	0	0	0	0
Total Infiltration (m^3/yr)	**354**	**58**	**0**	**412**
Run-Off Pervious Areas (m^3/yr)	354	87	0	441
Run-Off Impervious Areas (m^3/yr)	0	0	2,139	2,139
Total Run-Off (m^3/yr)	354	87	2,139	2,581
Total Outputs (m^3/yr)	1,909	391	2,674	4,974
Difference (Inputs - Outputs)	**0**	**0**	**0**	**0**

APPENDIX E

Hydraulic Conductivity Testing



WELL TEST ANALYSIS

Data Set: X:\...\BH2 Logger.aqt
Date: 06/02/22 Time: 17:50:09

PROJECT INFORMATION

Company: Azimuth Environmental
Client: Azure Group
Project: 22-056
Location: Mississauga
Test Date: May 11th 2022

AQUIFER DATA

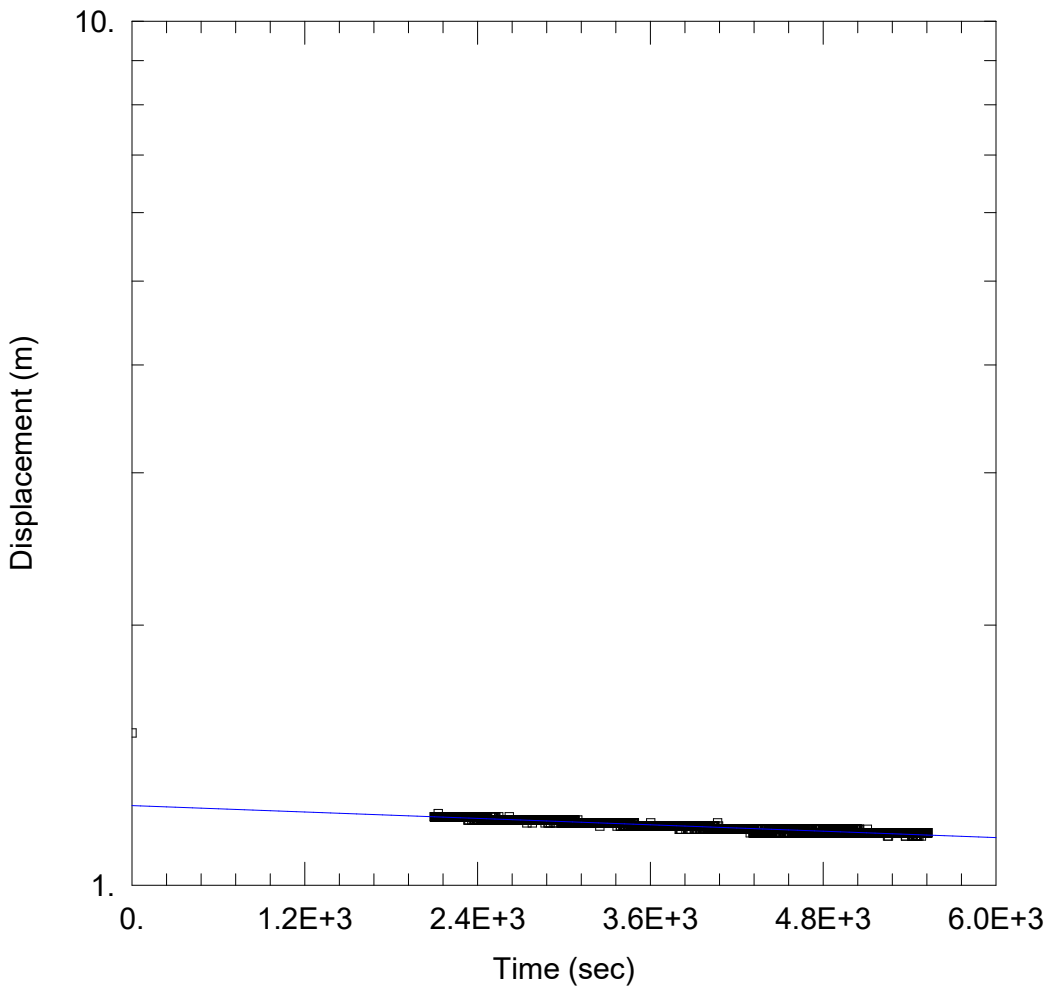
Saturated Thickness: 3.34 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH2)

Initial Displacement: 1.5 m
Total Well Penetration Depth: 3.34 m
Casing Radius: 0.0254 m
Static Water Column Height: 4.9 m
Screen Length: 3.05 m
Wellbore Radius: 0.1524 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 2.278E-8 m/sec
y0 = 1.28 m



WELL TEST ANALYSIS

Data Set: X:\...\BH106 Logger.aqt
Date: 06/02/22 Time: 17:49:51

PROJECT INFORMATION

Company: Azimuth Environmental

AQUIFER DATA

Saturated Thickness: 3.58 m Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (BH106)

Initial Displacement: 1.5 m
Total Well Penetration Depth: 3.58 m
Casing Radius: 0.0254 m
Static Water Column Height: 3.84 m
Screen Length: 3.05 m
Wellbore Radius: 0.1524 m

SOLUTION

Aquifer Model: Unconfined
Solution Method: Hvorslev
K = 5.564E-9 m/sec
y0 = 1.236 m

APPENDIX F

Water Quality Data

Results of Surface Water Chemical Analyses

Parameter	Symbol	Units	Provincial Water Quality Objectives (1994) Objective	BH-3 Sampled on: 2022-05-11 Sampled by: Azimuth Analyzed Caduceon
Saturation pH		N/A	-	6.73
pH		N/A	6.5-8.5	7.51
Langlier Index		N/A	-	0.777
Alkalinity (as CaCO3)		mg/L	262	244
Bicarbonate (as CaCO3)	HCO_3^-	mg/L	-	244
Carbonate (as CaCO3)	CO_3^{-2}	mg/L	-	< 5
Hydroxide		mg/L	-	< 5
Electrical Conductivity		uS/cm	-	3380
Fluoride	F^-	mg/L	-	< 1
Chloride	Cl^-	mg/L	-	777
Nitrate as N	NO_3-N	mg/L	-	5.47
Nitrite as N	NO_2-N	mg/L	-	< 0.5
Bromide	Br^-	mg/L	-	< 4
Sulphate	SO_4^{-2}	mg/L	-	83
Calcium	Ca	mg/L	-	247
Magnesium	Mg	mg/L	-	26.7
Sodium	Na	mg/L	-	393
Potassium	K	mg/L	-	4.9
Ammonia as N	NH_3-N	mg/L	-	0.02
Phosphate as P	PO_4^{-3}	mg/L	-	0.005
Total Phosphorus	P	mg/L	0.03	**2.89**
Reactive Silica	Si	mg/L	-	9.33
Total Organic Carbon	TOC	mg/L	-	1.1
Colour		Colour Units	-	< 2
Turbidity		NTU	-	181
Aluminum	Al	mg/L	0.075	0.29
Antimony	Sb	mg/L	0.02	0.0002
Arsenic	As	mg/L	0.005	< 0.0003
Barium	Ba	mg/L	-	0.265
Boron	B	mg/L	0.2	0.04
Cadmium	Cd	mg/L	0.0002	< 0.000029
Chromium	Cr	mg/L	0.0089	0.001
Copper	Cu	mg/L	0.005	0.0009
Iron	Fe	mg/L	0.3	0.259
Lead	Pb	mg/L	0.001	0.00024
Manganese	Mn	mg/L	-	0.032
Mercury	Hg	mg/L	0.0002	< 0.00002
Molybdenum	Mo	mg/L	0.04	0.0003
Nickel	Ni	mg/L	0.025	< 0.01
Selenium	Se	mg/L	0.1	0.004
Silver	Ag	mg/L	0.0001	0.0003
Strontium	Sr	mg/L	-	0.623
Thallium	Tl	mg/L	0.0003	< 0.00005
Tin	Sn	mg/L	-	< 0.05
Titanium	Ti	mg/L	-	0.008
Uranium	U	mg/L	0.005	0.0006
Vanadium	V	mg/L	0.006	0.0005
Zinc	Zn	mg/L	0.03	< 0.005
Total Dissolved Solids	TDS	mg/L	-	1678
Total Hardness (as CaCO3)		mg/L	-	727
% Difference/Ion Balance		%	-	4.69
Biochemical Oxygen Demand	BOD	mg/L	-	< 3
Total Kjeldahl Nitrogen	TKN	mg/L	-	5.9
Chemical Oxygen Demand	COD	mg/L	-	31
Phenols		mg/L	0.001	< 0.001
Total Suspended Solids	TSS	mg/L	-	
Conductivity (field)		µS/cm	-	
Temperature (field)		°C	-	
pH (field)			-	
Redox		mV	-	
Dissolved Oxygen		mg/L	-	

Bold and highlighted indicates PWQO exceedance
INS - Insufficient sample quantity to analyze for parameter

APPENDIX G

Dewatering Calculations

Pumping Rates Calculations

Project: Kirwin Ave Construction Phase
Project Number: 22-056

Legend:
- Fill in
- Leave alone
- calculated number

K m/sec 2.28E-07
K m/d calc 1.97E-02

Open Cut Calculations (Rectangular Excavation)

ℓ / ω >1.5

$$Q = \frac{\pi K(H^2 - h^2)}{ln(\frac{R_o}{R_s})} + 2(\frac{LK(H^2 - h^2)}{2L})$$

Based on Equation 6.12 in systems where l/w> 1.5 (Powers, P.E., 1992) Where:

Q (m^3/Day)

K - Hydraulic Conductivity (m/Day)

H – Distance from Static water level to bottom of Aquifer (m)

h – lowest water level needed from static (m)

R_o- Radius of conical depression (m) (Taken from Equation 6.14 (Powers, P.E., 1992))

$$Ro = 3(H - h)\sqrt{k}$$

Where

K- Hydraulic Conductivity (m/Sec)

R_s – Equivalent Radius (m)

$$R_s = \frac{l + w}{\pi}$$

l- Length of excavation/trench

w- width of trench

in systems where l/w> 1.5

Parameter	Units		Q_R	
K	**m/d**	0.01968192	21.06	m^3/d
H	**m**	7.10	2.44E-04	m^3/Sec
h	**m**	3.65		
R	**m**	46.3		
	ω	47		
	ℓ	83		
			Q_T	
Rs	**m**	41	21.06 m^3/d	21,065
ln(Ro/Rs)		0.113		
			Q_T	
Limit	400 m^3/d		63.19 m^3/d **Expected Pumping Rate with contingency**	63,194
EASR	50 m^3/d			
			EASR Reqired	

300.0% Contingency for the variability in hydraulic conductivity that could be experienced and to provide flexibility to address additional drainage needed as a result of precipitation events.

50.00% Porosity Table from Freeze and Cherry 1979

Storage Volume					
	Thickness (m)	m^3	L	30 day (m^3)	60 Day (m^3)
Clayey Silt	3.6	7119	7.12E+06	79	40
		0	0	0	0
Total	3.6	7119	7119325	79	40

Table 2.4 Range of Values of Porosity

	n(%)
Unconsolidated deposits	
Gravel	25–40
Sand	25–50
Silt	35–50
Clay	40–70
Rocks	
Fractured basalt	5–50
Karst limestone	5–50
Sandstone	5–30
Limestone, dolomite	0–20
Shale	0–10
Fractured crystalline rock	0–10
Dense crystalline rock	0–5

Precipitation Event into excavation					
Storm Event	(mm)	Depth (m)	Area m2	(m3)	(L)
2-yr 24-hr.	56.2	0.0562	3901	219	219236
5-yr 24-hr.	74.2	0.0742	3901	289	289454
25-yr 24-hr.	101.2	0.1012	3901	395	394781
100-yr 24-hr.	123.6	0.1236	3901	482	482164
Climate Normals (/Yr)	709	0.709	3901	2766	2765809
Climate Normals (/Day Average 6 months)				17	16762

Pumping Rates				
Time	m^3/day	m^3/hour	L/Min	
Storage (30 day pre excavation)	142.3	6	99	EASR Reqired
Storage (60 day pre excavation)	102.7	4	71	EASR Reqired
Construction	63.19	2.6	44	EASR Reqired

ω – excavation width
ℓ – excavation length

	W	L	L/W
Development footprint requiring dewatering	47	83	1.765957

Note: Width and length of the excavation is assuming PL to PL

K Max used 2.28E-07 m/sec

		mRD
Ground Surface from:	Finished Floor (Drawing)	113.65

		mASL	Water Column	
High Water Table		109.10		BH/MW1
Bottom of excavation (mbgs)	8.7	105.45		Set to 2 mb finished P2 Slab
Bottom of lowest screen		104.90		Based on the lowest elevation of known screens
Dewatering Target (Construction)		105.45	3.65	
Dewatering Target (Operations)				
Aquifer depth		102.00	7.10	Based on assumed bedrock elevation in the area

Pumping Rates Calculations

Project: Kirwin Ave Development Post Construction
Project Number: 22-056

Legend:
- Fill in
- Leave alone
- calculated number

K m/sec 2.28E-07
K m/d calc 1.97E-02

Open Cut Calculations (Rectangular Excavation)

ℓ / ω >1.5

$$Q = \frac{\pi K(H^2 - h^2)}{ln(\frac{R_o}{R_s})} + 2(\frac{LK(H^2 - h^2)}{2L})$$

Based on Equation 6.12 in systems where l/w> 1.5 (Powers, P.E., 1992) Where:

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K - Hydraulic Conductivity (m/Day)

H – Distance from Static water level to bottom of Aquifer (m)

h – lowest water level needed from static (m)

R_o- Radius of conical depression (m) (Taken from Equation 6.14 (Powers, P.E., 1992))

$$Ro = 3(H - h)\sqrt{k}$$

Where

K- Hydraulic Conductivity (m/Sec)

R_s – Equivalent Radius (m)

$$R_s = \frac{l + w}{\pi}$$

l- Length of excavation/trench

w- width of trench

in systems where l/w> 1.5

Parameter	Units		Q_R	
K	**m/d**	0.01968192	18.01	m^3/d
H	**m**	7.10	2.08E-04	m^3/Sec
h	**m**	1.65		
R	**m**	49.2		
	ω	47		
	ℓ	83		
			Q_T	
Rs	**m**	41	18.01 m^3/d	18,006
ln(Ro/Rs)		0.173		
			Q_T	
Limit	400 m^3/d		54.02 m^3/d	54,019
EASR	50 m^3/d			

Expected Pumping Rate with contingency

EASR Reqired

300.0% Contingency for the variability in hydraulic conductivity that could be experienced and to provide flexibility to address additional drainage needed as a result of precipitation events.

ω – excavation width
ℓ – excavation length

	W	L	L/W
Development footprint requiring dewatering	47	83	1.765957

Note: Width and length of the excavation is assuming PL to PL

K Max used 2.28E-07 m/sec

		mASL
Ground Surface from:	Finished Floor (Drawing)	113.65

		mASL	Water Column	
High Water Table		109.10		BH/MW1
Bottom of excavation (mbgs)	6.7	107.45		Set to 2 mb finished P2 Slab
Bottom of lowest screen		104.90		Based on the lowest elevation of known screens
Dewatering Target (Construction)		107.45	1.65	
Dewatering Target (Operations)		107.45	1.65	
Aquifer depth		102.00	7.10	Based on assumed bedrock elevation in the area