



King EPCM
3780, 14th Ave., Unit 211
Markham, ON L3R 9Y5
T: 647-459-5647
General@KingEPCM.com
www.KingEPCM.com

HYDROGEOLOGICAL REPORT

AT

**26 ANDERSON BLVD,
TOWNSHIP OF UXBRIDGE, ON**

PREPARED FOR:

ROCCO SCHIPANO ARCHITALCAN DESIGN

July 30th, 2024

Table of Contents

1. Introduction.....	3
2. Site Location	3
3. Site Conditions.....	6
4. MECP Well Records Database.....	6
5. Physiography.....	8
6. Bedrock Geology.....	8
7. Boreholes & Monitoring Wells/Hydrostratigraphy	8
8. In-Situ Measurement of Filed Saturated Hydraulic Conductivity.....	10
9. Source Water Protection	10
10. Groundwater Discharge / Water Balance	12
11. Summary	13
12. Reliance & Signature	14
13. References	15
Appendix I – MECP Map: Well Records	16
Appendix II – Borehole Drill Log.....	17
Appendix III – In-Situ Infiltration Test	18
Appendix IV – Proposed Site Plan.....	19
Appendix VI – Climate Data Table	20
Appendix VII – Water Balance Calculations	21

1. Introduction

King EPCM (the Engineer) was retained by Rocco Schipano Architalcan Design (the Client) to conduct the geotechnical and hydrological investigations for the proposed commercial development located at 26 Anderson Blvd in Uxbridge, Ontario (the Site). These services are part of a consultancy project aimed at the construction of a commercial warehouse with extended parking facilities designed to accommodate heavy vehicles. This report is to be submitted to the Township of Uxbridge, Toronto and Region Conservation Authority (TRCA), and Regional Municipality of Durham (Durham Region).

2. Site Location

The subject property is a vacant land with an area of 8315.04 m² located north of Highway 47 at 26 Anderson Blvd in the Township of Uxbridge, Ontario (Figure 1). It is located within the Oak Ridges Moraine physiographic region, as described by Chapman and Putnam (1984), which is characterized as a complex package of granular sediments deposited in meltwater at the later stages of the last glacial period. The Site is situated in the Reesor Creek Subwatershed in the northwestern corner of the Duffins Creek Watershed (Figures 2 and 3).



Figure 1- The Site area and topographic contour lines of 26 Anderson Blvd, Township of Uxbridge, ON (Region Municipality of Durham, 2024)

The Reesor Creek Subwatershed is 38.9 km² in area with a flood control reservoir and a sewage treatment plant that discharges into the Duffins Creek west river system. It is a rural watershed underlain with predominately loam soils in a temperate climate and, as a result, the land use is dominated by agriculture (Smith et al., 2005). Duffins Creek drains into the north shore of Lake Ontario and connects communities across the Durham Region and York Region, including Pickering, Ajax, Markham, Whitchurch-Stouffville, and Uxbridge. It is one of the healthiest streams in the Greater Toronto Area.

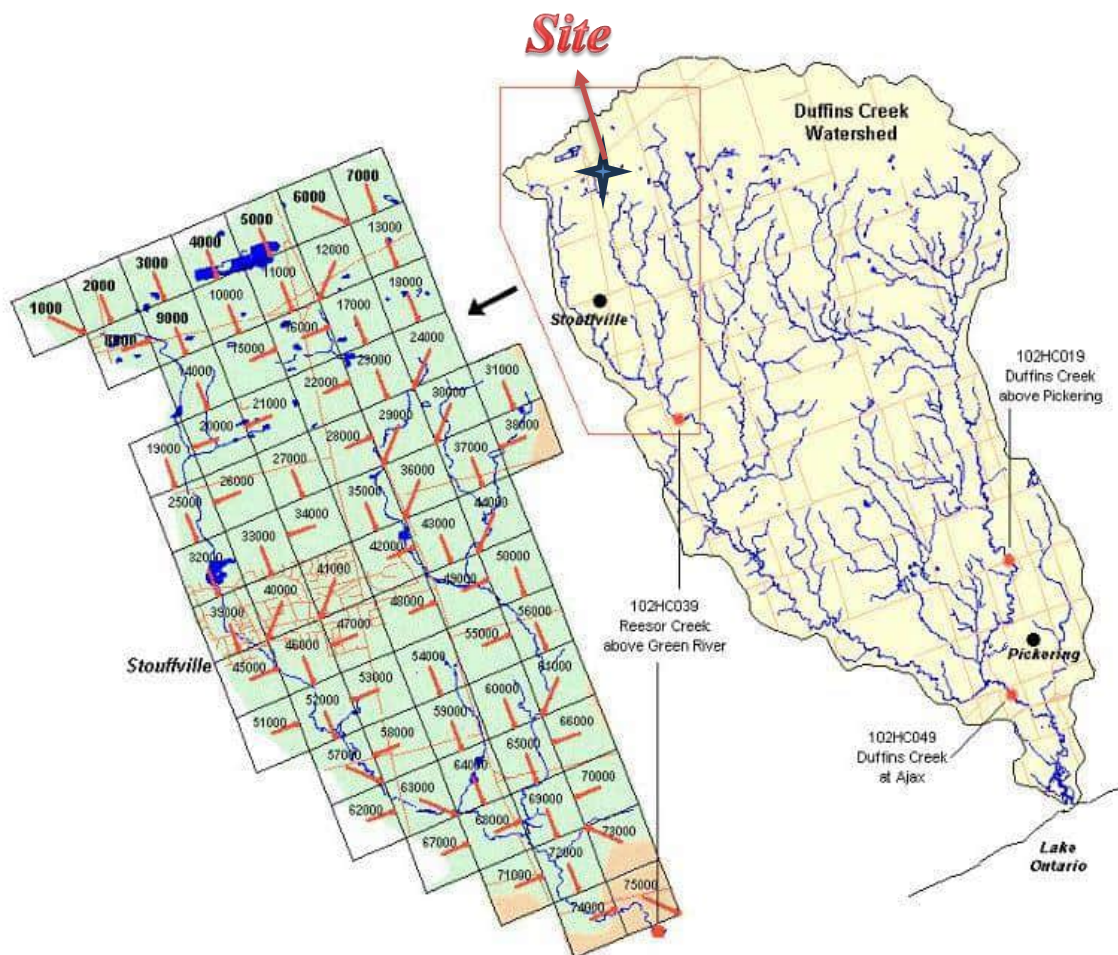


Figure 2 –Reesor Creek Subwatershed, showing the Site location, model grid and flow directions (TRCA, 2003)



Figure 3- Location of the Site in TRCA Regulated Area

The northwest region of the Duffins Creek Watershed is safeguarded within Rouge National Urban Park, where public access to these lands is currently restricted. Additionally, the rural area is characterized by numerous estate subdivisions and non-farm residences.

Historically, Duffins Creek Watershed was dominated by vast forests. With European settlement came deforestation and a variety of agricultural practices, which negatively impacted the local ecosystem. Urbanization followed — but because the area of urban development remains limited, impacts on habitat and species have not been substantial. The high proportion of rural land in Duffins Creek Watershed means that 40% of the watershed has natural cover, of which 25% is forest, 11% is meadow, 3% is successional, and 2% is wetland.

Rural areas dominate the north of the Duffins Creek Watershed, while the southern portions are urban or urbanizing. While Duffins Creek Watershed has experienced urban growth in recent years, less than a third of its lands are urban or in the process of urbanizing. 71% of the watershed remains a predominantly rural landscape.

3. Site Conditions

- The Site is a vacant land located in a rural area without any utilities, buildings and grass.
- The Site is located within the Oak Ridges Moraine physiographic region. It is situated on low-lying land with a low slope to the south.
- This Site is situated in the Reesor Creek Subwatershed in the northwestern corner of the Duffins Creek Watershed, with Silty Sand Hydrologic Soil Group C.
- Based on the TRSPA Water Balance Tool, average annual precipitation, evapotranspiration, runoff, and recharge are 868, 522, 208, and 329 mm/year for this site, respectively (Appendix VI).
- The Duffins Creek Watershed is located almost entirely within the Regional Municipality of York and Durham Regions and drains into Lake Ontario to the south. Its 81 kilometres of streams are in relatively good condition and are dominated by cold-water aquatic communities such as sculpin, trout, and numerous other fish species.
- Due to the presence of permeable surface soils and hummocky topography, the Oak Ridges Moraine is the primary recharge area for the underlying groundwater aquifers of the Duffins Creek Watershed. Groundwater is generally moving from the topographic highs associated with the ORM towards the topographic lows associated with the major stream channels and Lake Simcoe.
- The subject property is within an Ecologically Significant Groundwater Recharge Area (ESGRA) and a TRCA Significant Groundwater Recharge Area (SGRA). The property is identified as being within the Recharge Management Area (WHPA-Q/RMA) under the Official Plan.

4. MECP Well Records Database

- Twenty-four (24) separate well records were found surrounding the Site boundary (Appendix I) including the private well, monitoring well, and test well. The Site property has no private water wells.
- Twenty-four well records indicate groundwater at 13.7 – 48.8 m below grade (mbgl) near the proposed development, while Wells ID # 4604477 & 1906175 with 48.8 mbgl groundwater depth as the maximum groundwater level, located northeast and east of the Site, respectively.
- The site property and well records are within the Reesor Creek Subwatershed in the northwestern corner of the Duffins Creek Watershed and characterized by clay, sand, silt and gravel.
- See Table 1 and Appendix I for MECP Well records within and surrounding the site boundary.

Table 1-MECP Well Records – Surrounding the Site boundary

Well ID #	Year of Construction	Relative Direction of New Development	Surface Soil Type	Other Materials near Surface	Found Groundwater (mbgl)	End of Hole Depth (m)	Estimated Surface Elevation (masl)	Estimated Groundwater (masl)
1906175	1981	E	Clay	Loam	48.8	50.6	348	299.2
1907623	1985	E	Sand	-	30.5	39.9	347	316.5
1907941	1986	S	Clay	Gravel	27.4	29.3	342	314.6
1910896	1990	SE	Clay	-	31.1	32.6	345	313.9
1911828	1993	SW	Clay	Sand	28.4	32.3	336	307.6
1912600	1995	NW	Clay	Sand	13.7	18.9	351	337.3
1916608	2003	NW	Clay	-	33.5	38.1	351	317.5
1916610	2003	NW	Clay	Stone	30.5	33.5	351	320.5
1916611	2003	NW	Clay	Stone	38.1	41.1	351	312.9
1916692	2003	NW	Clay	Stone	22.8	47.2	351	328.2
1917592	2005	NW	Silt	Till	-	25.9	350	-
1918187	2005	SW	Silt	Gravel	23	27.4	338	315
1918241	2006	SW	-	-	-	N/A	343	-
4602711	1960	SE	Clay	-	27.5	32	341	313.5
4602713	1950	NW	Loam	-	27.4	30.5	350	322.6
4604477	1970	NE	PRDG	-	48.8	50.3	347	298.2
7044099	2007	NW	-	-	-	N/A	350	-
7235437	2014	SE	PGVL	-	31.4	32.9	341	309.6
7336673	2019	N	Gravel	-	-	6.1	350	-
7336674	2019	N	Gravel	-	-	6.1	350	-
7336675	2019	N	Gravel	-	-	9.1	350	-
7365118	2020	NE	Sand	Silt	-	3	355	-
7365119	2020	NE	Silt	Sand	-	6.1	352	-
7377481	2020	N	-	-	-	N/A	351	-

5. Physiography

The surficial geology at the project site consists of stone-poor, sandy silt to silty sand-textured till on Paleozoic terrain that is represented as Diamicton on the northern two-thirds of the property and sand deposit on the southern one-third. The Diamicton is likely Newmarket Till.

6. Bedrock Geology

The Site is underlain by the Upper Ordovician age Blue Mountain Formation consisting of uniform soft and laminated dark blue-grey to brown to black shale with thin interbeds of limestone or calcareous siltstone (Hewitt, 1966, 1972; Hamblin 1999). The formation has an open marine provenance (Churcher et al., 1991). No boreholes advanced for the current investigations encountered bedrock. However, based on available geological mapping, it is inferred that the depth to bedrock is approximately 180 to 190 m below ground surface (mbgl) in the Site area. The bedrock surface slopes in a southwesterly direction.

7. Boreholes and Monitoring Wells/Hydrostratigraphy

King EPCM (O. Reg 903 License C-7691) drilled four boreholes (BH101-BH104) on the site property to a depth of 5.5 mbgl on May 28th, 2024 (Figure 4, Table 1), and three boreholes (BH101, BH102 & BH104) were developed into monitoring wells. The boreholes were advanced using dry solid stem auguring. All boreholes were found to be dry on completion of respective drilling operations. Detailed borehole drill logs can be found in Appendix II, while Table 2 below provides a summary. In general, the soil stratigraphy of the Site consists of silty sand, sandy silt and sand with some gravel.

Based on borehole drill logs (Appendix II), and historic well records the site stratigraphy is estimated to be as follows:

- 0 – 1.6 m Grey silty sand/sandy silt with some gravel, moist
- 1.6 – 5.5 m Grey sandy silt with trace gravel/ silty sand to sandy silt/sand, moist
- 5.5 – 12.8 m Brown silt, till, gravel
- 12.8 – 29.2 m Brown sand, gravel



Figure 4- Location of boreholes (BH101-BH104) in the Site

Table 2 - Borehole Summary within the Site

Borehole ID	Date	Northing (UTM)	Easting (UTM)	Surface Elevation (masl)	Relative Position on Site	Hole Depth (m)	Screen Elevations (masl)	Surface Soil type	Groundwater
BH101	28-May, 2024	4875970.098	642165.160	345.538	SE	5.5	341.54-340.04	Silty sand/Sandy silt with some gravel	NO
BH102	28-May, 2024	4876000.365	642127.444	346.530	S	5.5	342.53-341.03		NO
BH103	28-May, 2024	4876070.856	642099.864	348.744	NW	5.5	-		NO
BH104	28-May, 2024	4876055.270	642136.255	348.392	NE	5.5	344.39-342.89		NO

8. In-situ Measurement of Field Saturated Hydraulic Conductivity

Based on a field visit dated May 29, 2024, "field-saturated" hydraulic conductivity, K_{fs} , was achieved using the "Constant Head Well Permeameter" (CHWP) method. K_{fs} was conducted at 26 Anderson Blvd., Uxbridge, ON, using ETC Standard Soils Pask Permeameter Apparatus.

The ETC Pask Permeameter is a convenient and easy-to-use apparatus for ponding a constant head of water in a well, and simultaneously measuring the flow into the soil. The K_{fs} was calculated as:

$$K_{fs} = 1.1 \times 10^{-6} \text{ m/sec} = 1.1 \times 10^{-4} \text{ cm/sec}$$

Then using the temperature correction factor (for $t=14^{\circ}\text{C}$) from the manual:

$$K_a = 7.36 \times 10^{-7} \text{ m/sec} = 7.36 \times 10^{-5} \text{ cm/sec}$$

Correlations between Percolation Time (T-time) and field-saturated hydraulic conductivity (K_{fs}) are often used in the development of on-site water recycling and treatment facilities that operate by infiltration into unsaturated soil. Based on OMMAH (1997) interpolation, the measured infiltration rate may be interpolated as:

$$PT \text{ (T-time)} = 14.1 \text{ min / cm} \quad (\text{unfactored Infiltration Rate} = 42.6 \text{ mm/hour})$$

The engineer's opinion is to trust the values obtained from the OMMAH (1997), with an unfactored surface infiltration rate of 42.6 mm/hour.

For a conservative approach to infiltration speeds, the Wisconsin Department of Natural Resources (2004) method shall be used for the calculation of a factored design infiltration rate and the Engineer's opinion is that the factored engineering design infiltration rate is 17.04 mm/hour, with a safety factor of 2.5. See Appendix III for more details, the calculations, and the graphs provided.

These values combined suggest a soil profile where water can quickly enter the soil but move through it more slowly, potentially indicating a layered soil structure or compaction issues. The rapid surface infiltration combined with slower percolation can be suitable for Raingardens and other stormwater management systems, as they can help retain water, reducing runoff and allowing for slow percolation and groundwater recharge.

9. Source Water Protection

The Site is located within the Toronto Source Protection Area (WHPA-D) with a score of 4 and a stress rating of moderate which means if additional water taking is required then recharge will be needed to

offset any recharge loss. WHPA-D is an area where water and any pollution that may be present can reach the well within 5 to 25 years.

The Site also is in a “Significant Groundwater Recharge Area” and therefore on-site retention for infiltration is required (Figure 5). Source Protection Details for the Site are presented in Table 3.

Table 3: Source Protection Details for Location 26 Anderson Blvd, Uxbridge, ON

Latitude: 44.02354 Longitude: -79.22656 UTM Zone: 17 Easting: 642128.54 Northing: 4876016.57 Upper Tier Municipality: REGIONAL MUNICIPALITY OF DURHAM Lower Tier Municipality: TOWNSHIP OF UXBRIDGE Township Concession and Lot: UXBRIDGE LOT 15 CON 1 Assessment Parcel Address: 26 Anderson Boulevard Assessment Roll #: 18290100020056400000 MECP District: York-Durham MECP Region: Central Region	Source Protection Area: Toronto Wellhead Protection Area: D ; score is 4 Wellhead Protection Area (WHPA-E): No Intake Protection Zone: No Issue Contributing Area: No Significant Groundwater Recharge Area: Yes ; score is N/A Highly Vulnerable Aquifer: No Event Based Area: No Wellhead Protection Area Q1: Yes Stress: Moderate Wellhead Protection Area Q2: Yes Stress: Moderate Intake Protection Zone Q: No
---	--

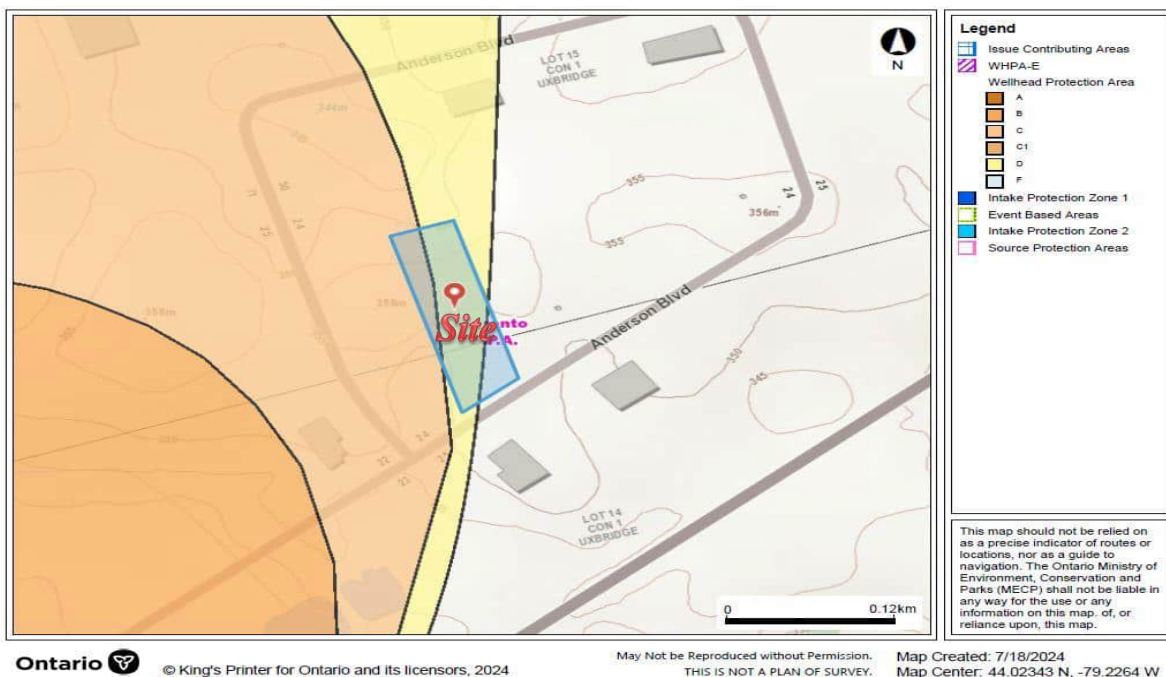


Figure 5 –Showing Site Location within the Toronto Source Protection Area

10. Groundwater Discharge / Water Balance

The Site is in a TRCA Significant Groundwater Recharge Area with a score of 2 with no policies associated with this area. Based on Duffin Creek Watershed Climate Data, precipitation is 868 mm/year, and the average evapotranspiration rate is 522 mm/year (Appendix VI).

Pre-development site conditions have low groundwater infiltration/recharge, as the site is predominantly sandy silt and silty sand soil with slopes <2% grade and therefore a small portion of the runoff flows into the downstream creek through the sheet flow. At 8315 m² with 0% TIMP, there is an estimated 2014 m³/year of groundwater recharge per year. Runoff is 103.8 mm/year = 863 m³/year.

As seen in Table 4 below, pre-development conditions are discussed in detail in Section 3. The site is within the Reesor Creek Subwatershed, part of Duffin Creek Watershed, with Sandy Silt Hydrologic Soil Group C, with 0% TIMP.

The proposed post-development TIMP = 73.7%, and without any LID treatments, the site recharge is estimated at an equivalent of 82 mm/year for the site, or 680 m³/year (66.2% decrease as compared to pre-development).

Table 4 –Water Balance Summary

Characteristic	Site				
	Pre-Development	Post-Development	Change (Pre- to Post-)	Post-Development with Mitigation	Change (Pre- to Post- with Mitigation)
Inputs (Volumes)					
Precipitation (m ³ /yr)	7,217	7,217	0.0%	7,217	0.0%
Run-On (m ³ /yr)	0	0	0.0%	0	0.0%
Other Inputs (m ³ /yr)	0	0	0.0%	0	0.0%
Total Inputs (m³/yr)	7,217	7,217	0.0%	7,217	0.0%
Outputs (Volumes)					
Precipitation Surplus (m ³ /yr)	2,877	5,905	105.2%	5,905	105.2%
Net Surplus (m ³ /yr)	2,877	5,905	105.2%	5,905	105.2%
Evapotranspiration (m ³ /yr)	4,340	1,312	-69.8%	1,312	-69.8%
Infiltration (m ³ /yr)	2,014	680	-66.2%	3,035	50.7%
Rooftop Infiltration (m ³ /yr)	0	0	0.0%	1,914	0.0%
Total Infiltration (m³/yr)	2,014	680	-66.2%	4,950	145.8%
Runoff Pervious Area (m ³ /yr)	863	170	-80.3%	170	-80.3%
Runoff Impervious Area (m ³ /yr)	0	5,055	0.0%	785	0.0%
Total Runoff (m³/yr)	863	5,225	505.4%	955	10.7%
Total Outputs (m³/yr)	7,217	7,217	0.0%	7,217	0.0%

Post-development, TIMP = 73.7%, with all the impermeable surfaces from a reduction of vacant (open sand) area. This causes a reduction of evapotranspiration (-69.8%), while all the precipitation within the TIMP area is managed for 100% recharge and infiltration (+145.8%). The results show that the amount of external outflow has increased compared to the pre-development state (103.8 mm to 628 mm or $\Delta V = +4362 \text{ m}^3$).

Post-development with mitigation, the total rate of infiltration has increased from 242.2 to 595 mm/year or $2014 \text{ m}^3/\text{year}$ to $4950 \text{ m}^3/\text{year}$ (+145.8%). Detailed calculations of water balance for each scenario are presented in Appendix VI.

11. Summary

The property (8315.04 m^2) is located in the Reesor Creek Subwatershed, in the northwestern corner of the Duffins Creek Watershed. The general stratigraphy consists of grey silty sand, sandy silt, sand, and gravel. Four boreholes (BH101-BH104) were drilled up to a depth of 5.5 m on the site property and were found to be dry upon completion of the respective drilling operations. A review of twenty-four well records near the proposed development indicates groundwater at 13.7 to 48.8 mbgl.

The in-situ permeability test indicated a hydraulic conductivity of $7.36 \times 10^{-5} \text{ cm/sec}$, an average unfactored infiltration rate of 42.6 mm/hour, a percolation rate (T-time) of 14.1 min/cm and the factored engineering design infiltration rate is 17.04 mm/hour, with a safety factor of 2.5 for the Site. These measurements collectively suggest that the soil at the Site has good drainage characteristics, making it suitable for applications such as Raingardens, septic systems, and other stormwater management systems. The soil's moderate hydraulic conductivity, high infiltration rate, and acceptable percolation rate indicate it can efficiently manage and disperse water, minimizing the risk of surface runoff and promoting groundwater recharge.

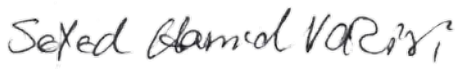
When comparing pre-development and post-development with LID mitigation measures in place, the water balance changes are +145.8% in total infiltration rate and +10.7% in total runoff rate.

Overall, it is the Engineer's opinion that the proposed construction of buildings and driveway combined with proposed LID mitigation (Raingarden) measures does not expect to cause adverse changes to the groundwater quality or quantity.

12. Reliance & Signature

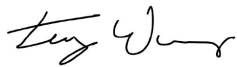
This report is the intellectual property of King EPCM and has been prepared for the sole use of Rocco Schipano Architalcan Design (the Client). King EPCM accepts no liability for claims arising from the use of this report, or from actions taken or decisions made because of this report, by parties other than the Client. The Client may submit this report to the Township of Uxbridge, Toronto and Region Conservation Authority (TRCA), and Regional Municipality of Durham (Durham Region) regarding the Client's rural commercial development project at 26 Anderson Blvd, Uxbridge, ON.

Prepared by:



Seyed Hamid Vaziri, GIT
Geologist
King EPCM

Supervised and reviewed by:



Yu Tao (Tony) Wang, P. Eng.
Principal Engineer
King EPCM



12. References

- Chapman, L.J. and Putnam, D.F. (1984). The Physiography of Southern Ontario. 3rd ed. Special Volume 2. Ontario Ministry of Natural Resources, Ontario Geological Survey, Toronto.
- Churcher, P.L., Johnson, M.D., Telford, P.G. and Barker, J.F. (1991). Stratigraphy and oil shale resource potential of the Upper Ordovician Collingwood Member, Lindsay Formation, southwestern Ontario; Ontario Geological Survey, Open File Report 5817, 98p.
- Hamblin, A. P. (1999). Upper Ordovician strata of southwestern Ontario: synthesis of literature and concepts. Geological Survey of Canada, Open File, 3729, <https://doi.org/10.4095/210366>
- Hewitt, D.F. (1966). Geological notes for map 2117: Paleozoic Geology of Southern Ontario. Ontario Geological Survey, Vol. 15.
- Hewitt, D.F. (1972). Paleozoic Geology of Southern Ontario. Ontario Department of Mines, Toronto.
- Ministry of Environment Conservation and Parks (2021). Map: Well records.
- Ontario Ministry of Municipal Affairs and Housing (OMMAH) (1997). Supplementary Guidelines to the Ontario Building Code 1997. SG-6 Percolation Time and Soil Descriptions. Toronto, Ontario.
- Reynolds, W.D. (1993). Saturated hydraulic conductivity: field measurement. In Carter, M.R. (ed.), Soil Sampling and Methods of Analysis. Canadian Society Soil Science. Lewis Publishers, Boca Raton, FL, USA. 599-613.
- Reynolds, W.D. and Galloway, K.A. and Radcliffe, D.E. (2015). The relationship between perc time and field-saturated hydraulic conductivity for cylindrical test holes. Proceedings of the Annual Conference of the National Onsite Wastewater Recycling Association, West Virginia Beach, West Virginia.
- Smith, D., Li, J. and Banting, D. (2005). A PCSWMM/GIS-based water balance model for the Reesor Creek watershed. Atmospheric Research 77, pp. 388-406.
- Toronto and Region Conservation Authority (2003). Technical Report in Support of the Duffins Creek and Carruthers Creek Watershed Plan.
- Toronto and Region Conservation Authority (2018). Duffins Creek Watershed. Report Card.
- Toronto and Region Conservation Authority, TRSPA Water Balance Tool. <https://trca.ca/conservation/drinking-water-source-protection/trspa-water-balance-tool/>.
- Wisconsin Department of Natural Resources. (2004). Conservation Practice Standards. Site Evaluation for Stormwater Infiltration (1002). Madison, WI.

APPENDIX I – MECP MAP: WEL RECORDS



Site

Municipality Notes

DRAWN	STAMP
HV	
DATE	
July 25, 2024	

KEY MAP

N.T.S.

Beach Cheer Athletics Uxbridge

limited

Site - Urban Construction Equipment

Gabriel Excavating Limited

Anderson Blvd

47

KING

E P C M

3780 14th Ave, Unit 211
Markham, ON, L3R 9Y5
www.KingEPCM.com
647-459-5647

CLIENT

Rocco Schipano Architalcan Design

PROJECT NAME

26 Anderson Blvd

PROJECT LOCATION

26 Anderson Blvd,
Uxbridge, ON
L9P 0C7

PRINT TITLE

MECP HISTORICAL WELL
RECORD RESEARCH

FILE No.

No.	ISSUED FOR:	DATE	DRAW BY	CHECK
V1	Hydrogeological Report	July 25, 2024	HV	TW

MECP Well Records – Surrounding the Site boundary

Well ID #	Year of Construction	Relative Direction of New Development	Surface Soil Type	Other Materials near Surface	Found Groundwater (mbgl)	End of Hole Depth (m)	Estimated Surface Elevation (masl)	Estimated Groundwater (masl)
1906175	1981	E	Clay	Loam	48.8	50.6	348	299.2
1907623	1985	E	Sand	-	30.5	39.9	347	316.5
1907941	1986	S	Clay	Gravel	27.4	29.3	342	314.6
1910896	1990	SE	Clay	-	31.1	32.6	345	313.9
1911828	1993	SW	Clay	Sand	28.4	32.3	336	307.6
1912600	1995	NW	Clay	Sand	13.7	18.9	351	337.3
1916608	2003	NW	Clay	-	33.5	38.1	351	317.5
1916610	2003	NW	Clay	Stone	30.5	33.5	351	320.5
1916611	2003	NW	Clay	Stone	38.1	41.1	351	312.9
1916692	2003	NW	Clay	Stone	22.8	47.2	351	328.2
1917592	2005	NW	Silt	Till	-	25.9	350	-
1918187	2005	SW	Silt	Gravel	23	27.4	338	315
1918241	2006	SW	-	-	-	N/A	343	-
4602711	1960	SE	Clay	-	27.5	32	341	313.5
4602713	1950	NW	Loam	-	27.4	30.5	350	322.6
4604477	1970	NE	PRDG	-	48.8	50.3	347	298.2
7044099	2007	NW	-	-	-	N/A	350	-
7235437	2014	SE	PGVL	-	31.4	32.9	341	309.6
7336673	2019	N	Gravel	-	-	6.1	350	-
7336674	2019	N	Gravel	-	-	6.1	350	-
7336675	2019	N	Gravel	-	-	9.1	350	-
7365118	2020	NE	Sand	Silt	-	3	355	-
7365119	2020	NE	Silt	Sand	-	6.1	352	-
7377481	2020	N	-	-	-	N/A	351	-



Ontario

Ministry
of the
Environment

The Ontario Water Resources Act

WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

(11)

1906175

MUNICIPALITY 19012

CON. CQW

01

COUNTY OR DISTRICT Durham	TOWNSHIP Uxbridge	CON. BLOCK, TRACT, SURVEY, ETC. 1	LOT 25-27 014
Sutherland Dr., Toronto, Ont. M4G1K1		DATE COMPLETED DAY 09 MO 11 YR 81	
NG 759.00	RC 5	ELEVATION 1125	RC 5
BASIN CODE 24			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	clay	top soil	medium	0	3
Grey	clay	stone	hard	3	160
Grey	cemented sand	gravel and water	hard	160	166
Screen set from 163 to 166 ft.					

(31) 00036050278	01602051273	01662281173
32		

WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
0160	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
0166	1 ☒ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
20-23	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
25-28	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL
30-33	1 ☐ FRESH 3 ☐ SULPHUR 2 ☐ SALTY 4 ☐ MINERAL

CASING & OPEN HOLE RECORD	
INSIDE DIAM. INCHES	MATERIAL
064	1 ☒ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE
17-18	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE
24-25	1 ☐ STEEL 2 ☐ GALVANIZED 3 ☐ CONCRETE 4 ☐ OPEN HOLE

SCREEN	SIZE OF OPENING (SLOT NO.)	DIAMETER	LENGTH
	020	06000	03
	MATERIAL AND TYPE		DEPTH TO TOP OF SCREEN
	stainless steel		0158

PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET	MATERIAL AND TYPE
FROM TO	
10-13	14-17
18-21	22-25
26-29	30-33

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 ☐ PUMP 2 ☒ BAILER	0012 GPM	05 HOURS 00 MIN
STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
057 FEET	140 FEET	15 MINUTES 140 FEET 30 MINUTES 140 FEET 45 MINUTES 140 FEET 60 MINUTES 140 FEET
IF FLOWING GIVE RATE	PUMP INTAKE SET AT	WATER AT END OF TEST
--	155 GPM	1 ☒ CLEAR 2 ☐ CLOUDY
RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMPING RATE
☐ SHALLOW ☒ DEEP	155 FEET	0010 GPM

FINAL STATUS OF WELL	1 ☒ WATER SUPPLY 2 ☐ OBSERVATION WELL 3 ☐ TEST HOLE 4 ☐ RECHARGE WELL	5 ☐ ABANDONED, INSUFFICIENT SUPPLY 6 ☐ ABANDONED, POOR QUALITY 7 ☐ UNFINISHED
WATER USE	1 ☒ DOMESTIC 2 ☐ STOCK 3 ☐ IRRIGATION 4 ☐ INDUSTRIAL 5 ☐ OTHER	5 ☐ COMMERCIAL 6 ☐ MUNICIPAL 7 ☐ PUBLIC SUPPLY 8 ☐ COOLING OR AIR CONDITIONING 9 ☐ NOT USED
METHOD OF DRILLING	1 ☒ CABLE TOOL 2 ☐ ROTARY (CONVENTIONAL) 3 ☐ ROTARY (REVERSE) 4 ☐ ROTARY (AIR) 5 ☐ AIR PERCUSSION	6 ☐ BORING 7 ☐ DIAMOND 8 ☐ JETTING 9 ☐ DRIVING

LOCATION OF WELL	
IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.	
DRILLER'S REMARKS	
5 Y W	

NAME OF WELL CONTRACTOR	LICENCE NUMBER
Faulkner Well Drilling Co. Ltd	2104
ADDRESS	
789 Erskine Ave., Peterborough, Ont.	
NAME OF DRILLER OR BORER	LICENCE NUMBER
George Babcock	
SIGNATURE OF CONTRACTOR	SUBMISSION DATE
	DAY 10 MO 11 YR 81

DATA SOURCE	CONTRACTOR	DATE RECEIVED
1	2104	18 11 81
DATE OF INSPECTION	INSPECTOR	
REMARKS		
loc only 08/4/82	C.S.S. 88	



Ontario

WATER WELL RECORD

Temperature (°C)	Rate of reaction
0	0
10	5
20	8
30	10
40	0

1. PRINT ONLY IN SPACES PROVIDED

2. CHECK ☒ CORRECT BOX WHERE APPLICABLE

875459

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

3132

61		PLUGGING & SEALING RECORD	
DEPTH SET AT - FEET		MATERIAL AND TYPE (CEMENT GROUT LEAD PACKER ETC.)	
FROM	TO		
10-13	14-17		
18-21	22-25		
26-29	30-33	80	

LOCATION OF WELL

IN DIAGRAM BELOW SHOW DISTANCES OF WELL FROM ROAD AND LOT LINE. INDICATE NORTH BY ARROW.

010 002 002

DRILLERS REMARKS:

OFFICE USE ONLY	DATA SOURCE	58	CONTRACTOR	59-62	DATE RECEIVED	63-68	80
	DATE OF INSPECTION		INSPECTOR		221086		
REMARKS							



Print only in spaces provided.
Mark correct box with a checkmark, where applicable.

11

Municipality 19012 Con. CON 01

County or District	Township/Borough/City/Town/Village UXBRIDGE TWP. (Uxbridge)	Con block tract survey, etc. CON. 1	Lot 15	25-27
	Address		Date completed 26 day	7 month 95 year

[illegible][illegible]

Figure 1 shows a schematic representation of the 128-item test battery. It consists of two rows of items, labeled 31 and 32. Each row contains 128 items, represented by horizontal lines with vertical tick marks. The items are numbered 1 through 128.

41	WATER RECORD				42
Water found at - feet	Kind of water				
45-62 ¹³	☒ Fresh 2 ☐ Salty	3 ☐ 4 ☐ 6 ☐	Sulphur Minerals Gas	14	
15-18	1 ☐ Fresh 2 ☐ Salty	3 ☐ 4 ☐ 6 ☐	Sulphur Minerals Gas	19	
20-23	1 ☐ Fresh 2 ☐ Salty	3 ☐ 4 ☐ 6 ☐	Sulphur Minerals Gas	24	
23-28	1 ☐ Fresh 2 ☐ Salty	3 ☐ 4 ☐ 6 ☐	Sulphur Minerals Gas	29	
30-33	1 ☐ Fresh 2 ☐ Salty	3 ☐ 4 ☐ 6 ☐	Sulphur Minerals Gas	34	

51		CASING & OPEN HOLE RECORD			
Inside diam inches	Material	Wall thickness inches	Depth - feet		
			From	To	
6 1/4 ¹⁰⁻¹¹	☒ Steel ¹² ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	.188	0	59 ¹³⁻¹⁶	
17-18	☐ Steel ¹⁹ ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			20-23	
24-25	☐ Steel ²⁶ ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic			27-30	

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-44
	#18		6 inches		3 feet	
SCREEN	Material and type			Depth at top of screen		
	STAINLESS STEEL			59		
						feet

61	PLUGGING & SEALING RECORD			
☒ Annular space		☐ Abandonment		
Depth set at - feet		Material and type (Cement grout, bentonite, etc.).		
From	To			
0 ¹⁰⁻¹³	15 ¹⁴⁻¹⁷	BENTONITE		
15 ¹⁸⁻²¹	59 ²²⁻²⁵			
		DRILLING CUTTINGS		
26-29	30-33	80		

PUMPING TEST	Pumping test method AIR ¹⁰ ☐ Pump ☐ Bailor		Pumping rate 20 11-14 GPM		Duration of pumping 1 Hours 17-18 Mins	
	Static level		Water level end of pumping ²⁵		Water levels during ☒ Pumping ☐ Recovery	
	9 19-21 feet	61 22-24 feet	61 26-28 feet	61 29-31 feet	61 32-34 feet	61 35-37 feet
	If flowing give rate 38-41 GPM		Pump intake set at 61 feet		Water at end of test ⁴² ☒ Clear ☐ Cloudy	
	Recommended pump type ☐ Shallow ☒ Deep		Recommended pump setting 43-45 40 feet		Recommended pump rate 46-49 0-20 GPM	
	50-55					

FINAL STATUS OF WELL			4
1	☒ Water supply	5	☐ Abandoned, insufficient supply
2	☐ Observation well	6	☐ Abandoned, poor quality
3	☐ Test hole	7	☐ Abandoned (Other)
4	☐ Recharge well	8	☐ Dewatering
		9	☐ Unfinished
		10	☐ Replacement well

WATER USE		55-56	
1	☒ Domestic	5	☐ Commercial
2	☐ Stock	6	☐ Municipal
3	☐ Irrigation	7	☐ Public supply
4	☐ Industrial	8	☐ Cooling & air conditioning
		9	☐ Not used
		10	☐ Other

METHOD OF CONSTRUCTION		57	
1	☐ Cable tool	5	☐ Air percussion
2	☒ Rotary (conventional)	6	☐ Boring
3	☐ Rotary (reverse)	7	☐ Diamond
4	☐ Rotary (air)	8	☐ Jetting
		9	☐ Driving
		10	☐ Digging
		11	☐ Other

LOCATION OF WELL

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

158203

Name of Well Contractor	Well Contractor's Licence No.
E.S. WELL DRILLING	4738
Address	
GOODWOOD ONT.	
Name of Well Technician	Well Technician's Licence No.
EARL SAUDER	T-0016
Signature of Technician/Contractor	Submission date
<i>Earl Sauder</i>	27 day 1 mo 25 yr

MINISTRY USE ONLY	Data source	58 Contractor	59-62	Date received	63-68
	4738			OCT 20 1995	
	Date of inspection		Inspector		
	Remarks				

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

1916608

Municipality

19012

Con.

CON



County or District <i>Durham</i>	Township/Borough/City/Town/Village <i>Uxbridge Uxbridge</i>	Con block tract survey, etc. <i>Con 1</i>	Lot <i>15</i>
First Name <i>[Redacted]</i>	Address of Well Location <i>[Redacted]</i>	Date completed <i>12 07 03</i>	<i>48-53</i> year
Northings BC	Elevations BC	Basin Code ii	iii iv

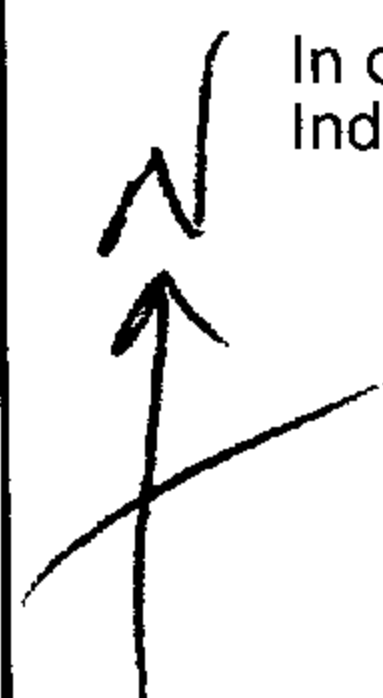
LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
BROWN	CLAY			0	5
	COARSE SAND			5	42
BROWN	CLAY	STONE		42	85
	FINE SAND			85	94
	COARSE SAND			94	110
	COARSE SAND	STONE		110	125

31

32 10 14 15 21 32 43 54 65 75 80
 Sizing a Open Hole Record Sizes of opening 31-33 Diameter 34-38 Length 39-40

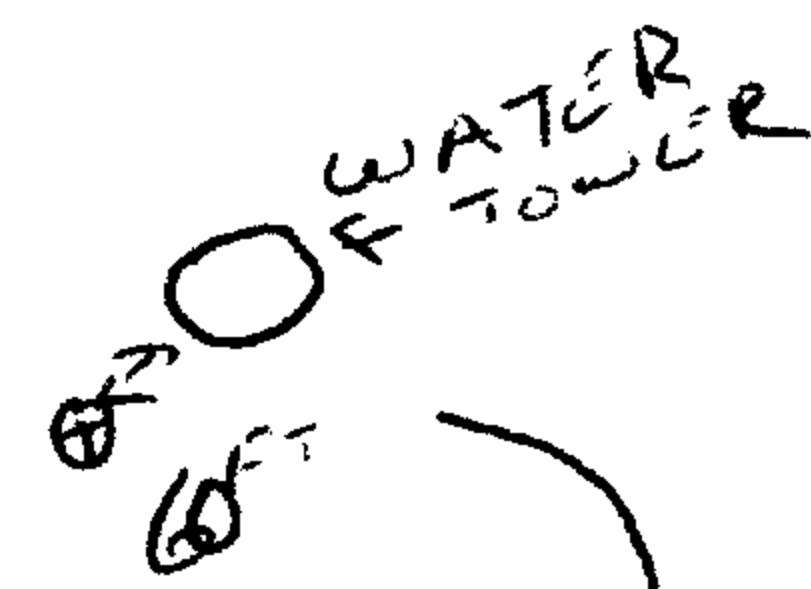
41 WATER RECORD				51 CASING & OPEN HOLE RECORD				61 PLUGGING & SEALING RECORD			
Water found at - feet	Kind of water										
10-13 <i>110</i>	☒ Fresh	☐ Salty	☐ Sulphur ☐ Minerals ☐ Gas	14							
15-18	☐ Fresh	☐ Salty	☐ Sulphur ☐ Minerals ☐ Gas	19							
20-23	☐ Fresh	☐ Salty	☐ Sulphur ☐ Minerals ☐ Gas	24							
25-28	☐ Fresh	☐ Salty	☐ Sulphur ☐ Minerals ☐ Gas	29							
30-33	☐ Fresh	☐ Salty	☐ Sulphur ☐ Minerals ☐ Gas	34							
Inside diam inches	Material		Wall thickness inches	Depth - feet							
10-11 <i>2</i>	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☒ Plastic	12	<i>3/8</i>	From	To	13-16 <i>100</i>					
17-18	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	19				20-23					
24-25	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	26				27-30					
Screen		Size of opening (Slot No.) <i>10</i>		Diameter <i>2</i> inches		Length <i>10</i> feet					
				Material and type <i>PLASTIC</i>		Depth at top of screen 41-44 <i>100</i> feet					
61		PLUGGING & SEALING RECORD									
		☒ Annular space ☐ Abandonment									
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)									
From		To									
10-13 <i>0</i>		14-17 <i>97'</i>		<i>BENTONITE</i>							
18-21		22-25									
26-29		30-33		80							

PUMPING TEST	Pumping test method 10 1 ☐ Pump 2 ☐ Bailer		Pumping rate 11-14 GPM		Duration of pumping 15-16 Hours 17-18 Mins	
	Static level	Water level end of pumping	25 Water levels during 1 ☐ Pumping 2 ☐ Recovery			
	19-21	22-24	15 minutes 26-28	30 minutes 29-31	45 minutes 32-34	60 minutes 35-37
	feet	feet	feet	feet	feet	feet
	If flowing give rate 38-41 GPM		Pump intake set at feet		Water at end of test 42 ☐ Clear ☐ Cloudy	
	Recommended pump type ☐ Shallow ☐ Deep		Recommended pump setting 43-45 feet		Recommended pump rate 46-49 GPM	
50-53						



LOCATION OF WELL

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



FINAL STATUS OF WELL		54	
1 ☐ Water supply 2 ☒ Observation well 3 ☐ Test hole 4 ☐ Recharge well	5 ☐ Abandoned, insufficient supply 6 ☐ Abandoned, poor quality 7 ☒ Abandoned (Other) 8 ☐ Dewatering	9 ☐ Unfinished 10 ☐ Replacement well	
WATER USE		55-56	
1 ☐ Domestic 2 ☐ Stock 3 ☐ Irrigation 4 ☒ Industrial	5 ☐ Commercial 6 ☐ Municipal 7 ☐ Public supply 8 ☐ Cooling & air conditioning	9 ☐ Not use 10 ☐ Other	
METHOD OF CONSTRUCTION		57	
1 ☒ Cable tool 2 ☒ Rotary (conventional) 3 ☐ Rotary (reverse) 4 ☐ Rotary (air)	5 ☐ Air percussion 6 ☐ Boring 7 ☐ Diamond 8 ☐ Jetting	9 ☐ Driving 10 ☐ Digging 11 ☐ Other	

Name of Well Contractor	Well Contractor's Licence No.	Date	58	Contractor	59-62	Date received	63-68
WILSON WATER WELLS		source		5459		JUL 29 2003	
Address		Date of inspection	Inspector				
13787 Hwy #18 STONIFULL CMT							
Name of Well Technician	Well Technician's Licence No.	Remarks					
<i>[Signature]</i>	7-2975						
Signature of Technician/Contractor	Submission date						
<i>[Signature]</i>	15 07 03 day mo yr						

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

1916610

Municipality

19012

Con.

CON

County or District <i>Durham</i>	Township/Borough/City/Town/Village <i>Unbridge Unbridge</i>	Con block tract survey, etc. <i>Con 1</i>	Lot <i>15</i>
Address of Well Location <i>Prouse Rd</i>		Date completed <i>10 07 03</i> day month year	

21 Zone Easting Northing RC Elevation RC Basin Code

1 2 UTM 10 12 17 18 24 25 26 30 31 47

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
BROWN	CLAY	STONE		0	40
	FINE SAND			40	45
BROWN	CLAY	STONE		45	62
	FINE SAND			62	69
BROWN	CLAY	STONE		69	92
	COARSE SAND	STONE		92	105
BROWN	CLAY	STONE		105	110

31

32

41		10		14		15		81	
WATER RECORD									
Water found at - feet				Kind of water					
10-13 <i>100</i>				1 ☒ Fresh	3 ☐ Sulphur	14			
				2 ☐ Salty	4 ☐ Minerals				
					6 ☐ Gas				
15-18				1 ☐ Fresh	3 ☐ Sulphur	19			
				2 ☐ Salty	4 ☐ Minerals				
					6 ☐ Gas				
20-23				1 ☐ Fresh	3 ☐ Sulphur	24			
				2 ☐ Salty	4 ☐ Minerals				
					6 ☐ Gas				
25-28				1 ☐ Fresh	3 ☐ Sulphur	29			
				2 ☐ Salty	4 ☐ Minerals				
					6 ☐ Gas				
30-33				1 ☐ Fresh	3 ☐ Sulphur	34			
				2 ☐ Salty	4 ☐ Minerals				
					6 ☐ Gas				

CASING & OPEN HOLE RECORD				
51 Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 2	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic	12 3/8	0	13-16 90
17-18	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	19		20-23
24-25	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	26		27-30

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
	10		2	inches	10	feet
	Material and type			Depth at top of screen		30
	PLASTIC			90		feet

61 PLUGGING & SEALING RECORD			
☐ Annular space		☐ Abandonment	
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)	
From	To		
10-13 O	14-17 90	BENTONITE	
18-21	22-25		
26-29	30-33	80	

PUMPING TEST	Pumping test method ¹⁰ 1 ☐ Pump 2 ☐ Bailer		Pumping rate ¹¹⁻¹⁴ GPM		Duration of pumping ¹⁵⁻¹⁶ Hours ¹⁷⁻¹⁸ Mins	
	Static level	Water level end of pumping	Water levels during ²⁵ 1 ☐ Pumping 2 ☐ Recovery			
	19-21	22-24	15 minutes ²⁶⁻²⁸	30 minutes ²⁹⁻³¹	45 minutes ³²⁻³⁴	60 minutes ³⁵⁻³⁷
	feet	feet	feet	feet	feet	feet
	If flowing give rate ³⁸⁻⁴¹ GPM		Pump intake set at feet		Water at end of test ⁴² ☐ Clear ☐ Cloudy	
	Recommended pump type ☐ Shallow ☐ Deep		Recommended pump setting ⁴³⁻⁴⁵ feet		Recommended pump rate ⁴⁶⁻⁴⁹ GPM	
50-53						

FINAL STATUS OF WELL		54
1 ☐ Water supply	5 ☐ Abandoned, insufficient supply	9 ☐ Unfinished
2 ☒ Observation well	6 ☐ Abandoned, poor quality	10 ☐ Replacement well
3 ☐ Test hole	7 ☐ Abandoned (Other)	
4 ☐ Recharge well	8 ☐ Dewatering	

WATER USE		55-56
1 ☐ Domestic	5 ☐ Commercial	9 ☐ Not use
2 ☐ Stock	6 ☐ Municipal	10 ☐ Other
3 ☐ Irrigation	7 ☐ Public supply	
4 ☒ Industrial	8 ☐ Cooling & air conditioning	

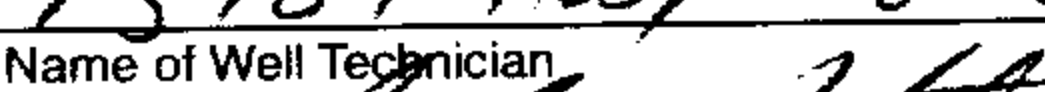
METHOD OF CONSTRUCTION		57
1 ☐ Cable tool	5 ☐ Air percussion	9 ☐ Driving
2 ☒ Rotary (conventional)	6 ☐ Boring	10 ☐ Digging
3 ☐ Rotary (reverse)	7 ☐ Diamond	11 ☐ Other
4 ☐ Rotary (air)	8 ☐ Jetting	

LOCATION OF WELL

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

Well #2

264106

Name of Well Contractor	Well Contractor's Licence No
WIZEN WATER WELLS	
Address	
13787 Hwy 148 STOUFFVILLE ONT	
Name of Well Technician	Well Technician's Licence No
	T-2975
Signature of Technician/Contractor	Submission date
	day mo yr

MINISTRY USE ONLY	Data source	58 Contractor 5459	59-62	Date received	63-68 JUL 29 2003	69-74
	Date of inspection		Inspector			
	Remarks CSS.ESS					



The Ontario Water Resources Act

WATER WELL RECORD

Print only in spaces provided.

Mark correct box with a checkmark, where applicable.

11

1916611

Municipality

19012

Con.

CON

oil

County or District <i>Durham</i>	Township/Borough/City/Town/Village <i>Uxbridge Uxbridge</i>	Con block tract survey, etc. <i>Con 1</i>	Lot <i>15</i>
Address of Well Location <i>Prouse Rd</i>		Date completed <i>14 07 03</i> day month year	
Northing 		RC 	Elevation
Basin Code 		ii iii iv 	

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)

[illegible]

31      

32      

41		10		14		15		81	
WATER RECORD									
Water found at - feet				Kind of water					
10-13		1	☒ Fresh	3	☐ Sulphur	14			
<i>125</i>		2	☐ Salty	4	☐ Minerals				
				6	☐ Gas				
15-18		1	☐ Fresh	3	☐ Sulphur	19			
		2	☐ Salty	4	☐ Minerals				
				6	☐ Gas				
20-23		1	☐ Fresh	3	☐ Sulphur	24			
		2	☐ Salty	4	☐ Minerals				
				6	☐ Gas				
25-28		1	☐ Fresh	3	☐ Sulphur	29			
		2	☐ Salty	4	☐ Minerals				
				6	☐ Gas				
30-33		1	☐ Fresh	3	☐ Sulphur	34			
		2	☐ Salty	4	☐ Minerals				
				6	☐ Gas				

CASING & OPEN HOLE RECORD				
51 Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 2	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☒ Plastic	12 3/8	0	13-16 115'
17-18	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	19		20-23
24-25	1 ☐ Steel 2 ☐ Galvanized 3 ☐ Concrete 4 ☐ Open hole 5 ☐ Plastic	26		27-30

SCREEN	Sizes of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
	10		2	inches	10	feet
	Material and type				Depth at top of screen	30
	PLASTIC				115	feet

61		PLUGGING & SEALING RECORD	
☐ Annular space		☐ Abandonment	
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)	
From	To		
10-13 0	14-17 115	BENTONITE	
18-21	22-25		
26-29	30-33	80	

PUMPING TEST	71 Pumping test method 10 1 ☐ Pump 2 ☐ Bailer		Pumping rate 11-14 GPM		Duration of pumping 15-16 Hours 17-18 Mins	
	Static level	Water level end of pumping	25 Water levels during 1 ☐ Pumping 2 ☐ Recovery			
	19-21	22-24	15 minutes 26-28	30 minutes 29-31	45 minutes 32-34	60 minutes 35-37
	feet	feet	feet	feet	feet	feet
	If flowing give rate 38-41 GPM		Pump intake set at feet		Water at end of test 42 ☐ Clear ☐ Cloudy	
	Recommended pump type ☐ Shallow ☐ Deep		Recommended pump setting 43-45 feet		Recommended pump rate 46-49 GPM	
50-53						

FINAL STATUS OF WELL			54
1 ☐ Water supply	5 ☐ Abandoned, insufficient supply	9 ☐ Unfinished	
2 ☒ Observation well	6 ☐ Abandoned, poor quality	10 ☐ Replacement well	
3 ☐ Test hole	7 ☒ Abandoned (Other)		
4 ☐ Recharge well	8 ☐ Dewatering		
WATER USE			55-56
1 ☐ Domestic	5 ☐ Commercial	9 ☐ Not use	
2 ☐ Stock	6 ☐ Municipal	10 ☐ Other	
3 ☐ Irrigation	7 ☐ Public supply		
4 ☒ Industrial	8 ☐ Cooling & air conditioning		
METHOD OF CONSTRUCTION			57
1 ☐ Cable tool	5 ☐ Air percussion	9 ☐ Driving	
2 ☒ Rotary (conventional)	6 ☐ Boring	10 ☐ Digging	
3 ☐ Rotary (reverse)	7 ☐ Diamond	11 ☐ Other	
4 ☐ Rotary (air)	8 ☐ Jetting		

Name of Well Contractor	Well Contractor's Licence No
WILSON WATER WELLS	5459
Address	
13787 HWY #48 STOUTFURLE CRT	
Name of Well Technician	Well Technician's Licence No
<i>[Signature]</i>	7-2975
Signature of Technician/Contractor	Submission date
<i>[Signature]</i>	15 th 07 03 day mo yr

LOCATION OF WELL

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

The diagram is a hand-drawn sketch on a grid. It shows a rectangular area representing a lot. The top boundary is labeled 'PROUSE RD' and the bottom boundary is labeled 'DURHAM RD'. A vertical line on the left is labeled 'DURHAM RD' and a vertical line on the right is labeled 'CON 2'. A well is marked with a circled 'X' inside the lot. A horizontal double-headed arrow points from the well to the 'PROUSE RD' line, with the text '1 MILE' written below it. In the top left corner, there is a north arrow pointing upwards, labeled 'N'.

Well #3

264107

MINISTRY USE ONLY	Data source	58 Contractor 5459	59-62	Date received	63-68 JUL 29 2003	80
	Date of inspection		Inspector			
Remarks						



The Ontario Water Resources Act

WATER WELL RECORD

Mark correct box with a checkmark, where applicable.

11

1916692

Municipality

19012

Con.

CON

22 23 24

County or District <i>Durham</i>	Township/Borough/City/Town/Village <i>Unbridge Unbricly</i>	Con block tract survey, etc. <i>Con 1</i>	Lot <i>15</i>
Owner's surname <i>Ussell</i>	First Name <i>Ind Park</i>	Address of Well Location <i>4111 BLOOMINGTON RD</i>	Date completed <i>18</i> day <i>08</i> month <i>05</i> year

21	Zone UTM	Easting	Northing	RC	Elevation	RC	Basin Code	ii	iii	iv
		10	10	18	24	25	26	27	28	29

[illegible][illegible]

41		14 15		21	
WATER RECORD					
Water found at - feet		Kind of water			
75 ⁰⁻¹³	1	☒ Fresh	3	☐ Sulphur	14
	2	☐ Salty	4	☐ Minerals	
15-18	1	☐ Fresh	3	☐ Sulphur	19
	2	☐ Salty	4	☐ Minerals	
20-23	1	☐ Fresh	3	☐ Sulphur	24
	2	☐ Salty	4	☐ Minerals	
25-28	1	☐ Fresh	3	☐ Sulphur	29
	2	☐ Salty	4	☐ Minerals	
30-33	1	☐ Fresh	3	☐ Sulphur	34
	2	☐ Salty	4	☐ Minerals	
			6	☐ Gas	

CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
51 10-11 2	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☒ Plastic	12	0	13-16 155
17-18	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	19		20-23
24-25	☐ Steel ☐ Galvanized ☐ Concrete ☐ Open hole ☐ Plastic	26		27-30

SCREEN	Size of opening (Slot No.)	31-33	Diameter	34-38	Length	39-40
			2 inches		10 feet	
	Material and type	41-44		Depth at top of screen	45	36
	PLASTIC			145 feet		

61 PLUGGING & SEALING RECORD			
☒ Annular space		☐ Abandonment	
Depth set at - feet		Material and type (Cement grout, bentonite, etc.)	
From	To		
0-13	13 ⁰⁷	BENTONITE BEVSEAL	
18-21	22-25		
26-29	30-33	80	

PUMPING TEST	Pumping test method ¹⁰ 1 ☐ Pump 2 ☐ Bailer		Pumping rate ¹¹⁻¹⁴ GPM		Duration of pumping ¹⁵⁻¹⁶ Hours ¹⁷⁻¹⁸ Mins	
	Static level	Water level end of pumping	²⁵ Water levels during		1 ☐ Pumping 2 ☐ Recovery	
	¹⁹⁻²¹	²²⁻²⁴	^{15 minutes} ²⁶⁻²⁸	^{30 minutes} ²⁹⁻³¹	^{45 minutes} ³²⁻³⁴	^{60 minutes} ³⁵⁻³⁷
	feet	feet	feet	feet	feet	feet
	If flowing give rate ³⁸⁻⁴¹ GPM		Pump intake set at feet		Water at end of test ⁴² ☐ Clear ☐ Cloudy	
	Recommended pump type ☐ Shallow ☐ Deep		Recommended pump setting ⁴³⁻⁴⁵ feet		Recommended pump rate ⁴⁶⁻⁴⁹ GPM	
	50-53					

FINAL STATUS OF WELL			54
1 ☐ Water supply	5 ☐ Abandoned, insufficient supply	9 ☐ Unfinished	
2 ☒ Observation well	6 ☐ Abandoned, poor quality	10 ☐ Replacement well	
3 ☐ Test hole	7 ☐ Abandoned (Other)		
4 ☐ Recharge well	8 ☐ Dewatering		

WATER USE			55-56
1 ☐ Domestic	5 ☐ Commercial	9 ☐ Not use	
2 ☐ Stock	6 ☐ Municipal	10 ☐ Other	
3 ☐ Irrigation	7 ☐ Public supply		
4 ☐ Industrial	8 ☐ Cooling & air conditioning		

METHOD OF CONSTRUCTION			57
1 ☐ Cable tool	5 ☐ Air percussion	9 ☐ Driving	
2 ☐ Rotary (conventional)	6 ☐ Boring	10 ☐ Digging	
3 ☐ Rotary (reverse)	7 ☐ Diamond	11 ☐ Other	
4 ☒ Rotary (air)	8 ☐ Jetting		

LOCATION OF WELL

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

YOCKM

BLOOMINGTON RD

OBSERVATION well

264132

Name of Well Contractor WILSON'S WATER WELLS	Well Contractor's Licence No. #5459
Address 13787 HWY # 48 STUFFVILLE	
Name of Well Technician MIKE O'BRIEN	Well Technician's Licence No. T-2516
Signature of Technician/Contractor M.C. OB	Submission date day 6 mo 9 yr

MINISTRY USE ONLY	Data source	58 Contractor	59-62	Date received	63-68
	5459		SEP 30 2002		
	Date of inspection	Inspector			
	Remarks				
	CSS, ESS				

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

Well Owner's Information and Location of Well Information

Ministry Use Only												
MUN					CON						LOT	

RR#/Street Number/Name ANDERSON Blvd.				City/Town/Village Uxbridge		Site/Compartment/Block/Tract etc.	
GPS Reading	NAD 83	Zone 17T	Easting 041947	Northing 4876200	Unit Make/Model	Mode of Operation:	☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify _____

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
BROWN	SILTY TILL			0	42'
BROWN	SAND			42'	85'
			WELL DECOMMISSIONING RECORD.		
			OVERDRILL 2" PVC TO 42', REMOVED PIPE E GROUT TO SURFACE		

Hole Diameter		
Depth	Metres	Diameter
From	To	Centimetres
8 1/4"		
Water Record		
Water found at _____ Metres	Kind of Water	
☐ 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	To
Casing				
	☐ Steel ☐ Fibreglass			
	☐ Plastic ☐ Concrete			
	☐ Galvanized			
	☐ Steel ☐ Fibreglass			
	☐ Plastic ☐ Concrete			
	☐ Galvanized			
	☐ Steel ☐ Fibreglass			
	☐ Plastic ☐ Concrete			
	☐ Galvanized			
Screen				
Outside diam	☐ Steel ☐ Fibreglass	Slot No.		
	☐ Plastic ☐ Concrete			
	☐ Galvanized			
No Casing or Screen				
☐ Open hole				

Test of Well Yield				
Pumping test method	Draw Down		Recovery	
	Time min	Water Level Metres	Time min	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.	4		4	
☐ Shallow ☐ Deep				
Recommended pump depth. _____ metres	5		5	
Recommended pump rate.	10		10	
(litres/min)	15		15	
If flowing give rate -	20		20	
(litres/min)	25		25	
If pumping discontin- ued, give reason.	30		30	
	40		40	
	50		50	
	60		60	

Plugging and Sealing Record			☐ Annular space	☒ Abandonment
Depth set at - Metres		Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)	
From	To			
85'	70'	SILICA SAND		
70'	0	BENTONITE GROUT		

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
☐ 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	

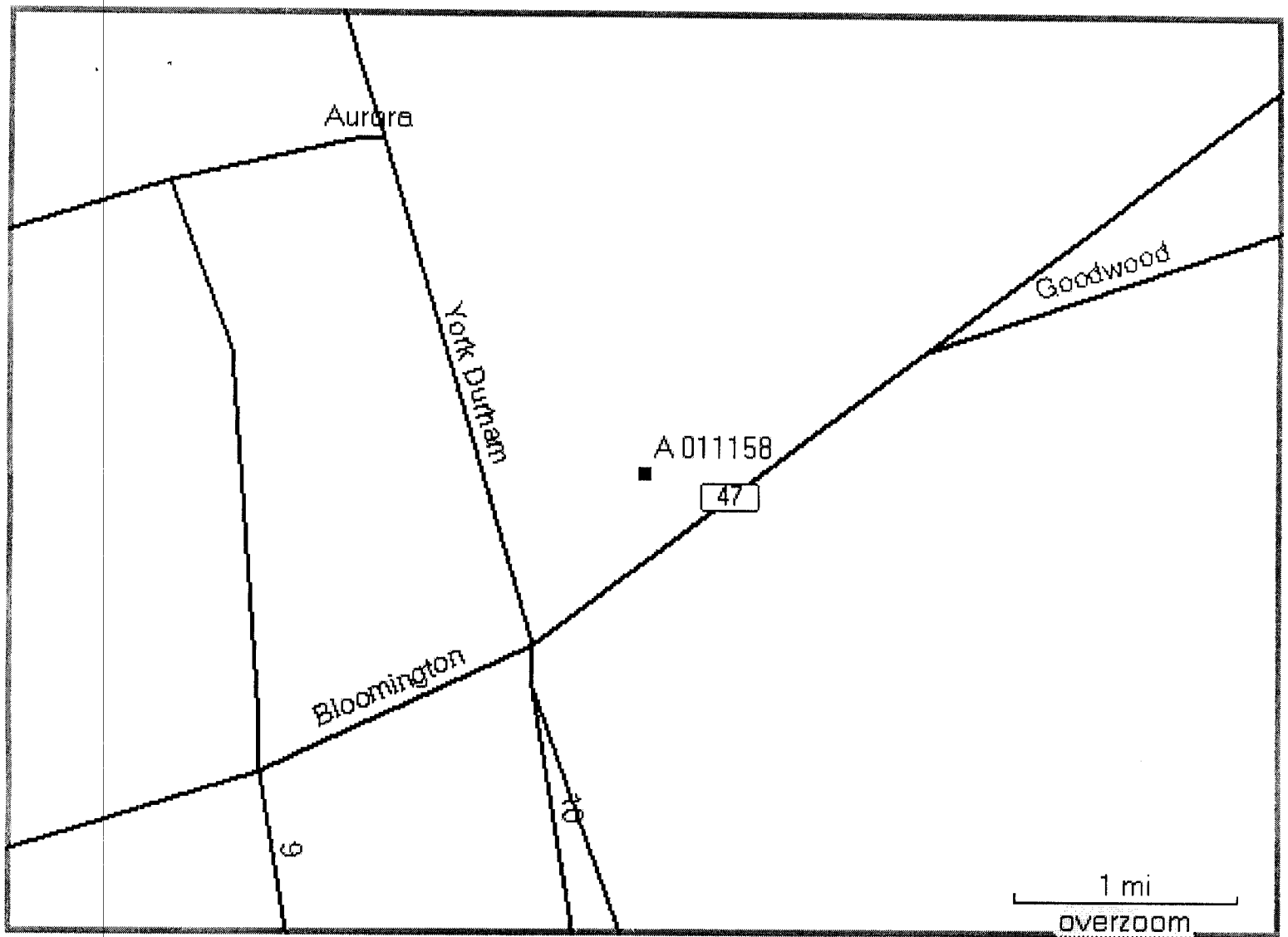
Well Contractor/Technician Information	
Name of Well Contractor LANTECH DRILLING SERVICES	Well Contractor's Licence No. 6809
Business Address (street name, number, city etc.) 3661 MOUNT ALBERT RD, R.R.#1, SHARON ON	
Name of Well Technician (last name, first name) PASCO, TODD	Well Technician's Licence No. T-2252
Signature of Technician/Contractor X DM Mark Williams	Date Submitted MAY 11 2009

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

SEE
ATTACHED.

Audit No. z 23484	Date Well Completed 2005 10 18 YYYY MM DD
Was the well owner's information package delivered? ☐ Yes ☒ No	Date Delivered _____ YYYY MM DD

Ministry Use Only			
Data Source		Contractor	
Date Received		Date of Inspection	
MM	DD	YYYY	MM DD
Remarks		Well Record Number	



223484

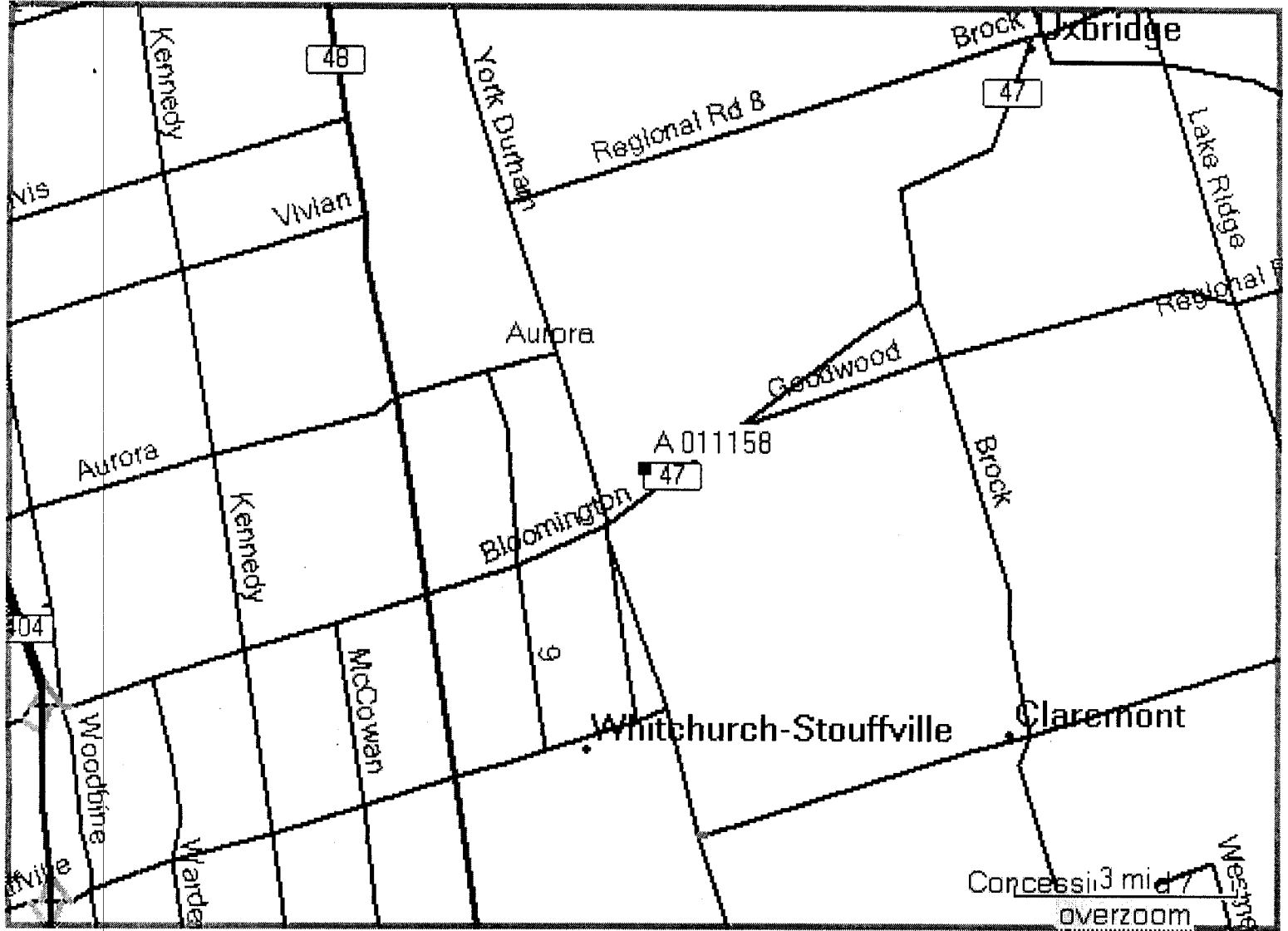
6809

JUN 28 2005

©2003 Garmin Ltd. or its subsidiaries

©2003 DMTI Spatial Inc.

CanMap®, DMTI Spatial and the DMTI Spatial logo are trademarks of DMTI Spatial Inc., Markham, Ontario



Z23484

6809

JUN 28 2005

©2003 Garmin Ltd. or its subsidiaries

©2003 DMTI Spatial Inc.

CanMap®, DMTI Spatial and the DMTI Spatial logo are trademarks of DMTI Spatial Inc., Markham, Ontario

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 |
|--|--------------------------|

Well Owner's Information and Location of Well Information

Address of Well Location (County, Township, Municipality)				Township		13	
RR#/Street Number/Name				City/Town/Village		Site/Compartment/Block/Tract etc.	
13 Anderson Blvd				Uxbridge		Block 50	
GPS Reading	NAD	Zone	Easting	Northing	Unit Make/Model	Mode of Operation:	
	83		791374	440122	Modan Gold	☐ Undifferentiated ☐ Differentiated, specify ☒ Averaged	

Log of Overburden and Bedrock Materials (see instructions)

[illegible]

Hole Diameter			Construction Record					Test of Well Yield				
Depth	Metres	Diameter	Inside diam centimetres	Material	Wall thickness centimetres	Depth		Pumping test method	Draw Down		Recovery	
From	To	Centimetres				From	To		Time min	Water Level Metres	Time min	Water Level Metres
0	27.4	20.5	Casing					Pump intake set at - (metres)	Static Level			
			5	☐ Steel ☒ Plastic ☐ Fibreglass ☐ Concrete ☐ Galvanized	.75	0	24.4	Pumping rate - (litres/min)	1		1	
				☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized				Duration of pumping _____ hrs + _____ min	2		2	
				☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized				Final water level end of pumping _____ metres	3		3	
				☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized				Recommended pump type. ☐ Shallow ☐ Deep	4		4	
				☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized				Recommended pump depth. _____ metres	5		5	
								Recommended pump rate. (litres/min)	10		10	
								If flowing give rate - (litres/min)	15		15	
									20		20	
									25		25	
								If pumping discontinued, give reason.	30		30	
									40		40	
									50		50	
									60		60	
Water Record			Screen									
Water found at 23 Metres / Kind of Water			Outside diam	☐ Steel ☐ Fibreglass ☒ Plastic ☐ Concrete ☐ Galvanized	Slot No.	24.4	27.4					
☐ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:			No Casing or Screen									
☐ m ☐ Fresh ☐ Sulphur ☐ Gas ☐ Salty ☐ Minerals ☐ Other:			☐ Open hole									
After test of well yield, water was												
☐ Clear and sediment free ☐ Other, specify												
Chlorinated ☐ Yes ☒ No												

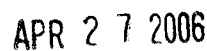
Plugging and Sealing Record			☒ Annular space	☐ Abandonment
Depth set at - Metres		Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)	
From	To			
0	24.4	Bentonite Slurry	1	
24.4	27.4	#3 sand	.15	

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
☐ 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 <i>Groundwork Drilling Inc.</i>	Well Contractor's Licence No. <i>7091</i>
Business Address (street name, number, city etc.) <i>28 Taber Rd Toronto M9W 3A5</i>	
Name of Well Technician (last name, first name) <i>Bertram, Kyle</i>	Well Technician's Licence No. <i>T-3165</i>
Signature of Technician/Contractor <i>[Signature]</i>	Date Submitted YYYY MM DD <i>2005 12 15</i>

Location of Well			
In diagram below show distances of well from road, lot line, and building. Indicate north by arrow.			
see attached.			
Audit No.	Z 09236	Date Well Completed	YYYY 2005 MM 11 DD 24
Was the well owner's information package delivered?	☐ Yes ☒ No	Date Delivered	YYYY MM DD

Ministry Use Only			
Data Source		Contractor	
Date Received		Date of Inspection	
YYYY	MM	YYYY	MM
DD			
Remarks		Well Record Number	



Basin **24** | | | | |**ONTARIO**

The Well Drillers Act

Department of Mines, Province of Ontario

46 № 2713

REC-170

JUL 25 1954

GEOLOGICAL BRANCH
DEPARTMENT OF MINES

Water Well Record

County or Territorial District Ontario Township, Village, Town or City Windsor

Town or City) St. Louis

Date Completed July 1, 1980 Cost or well (excluding pump).....
(day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter(s).....	2 inch	Date.....	July 1950
Length(s) of casing(s).....	100	Static level.....	95 ft
Type of screen.....	tuft	Pumping level.....	90 ft
Length of screen.....	5 feet	Pumping rate.....	5 gallon per minute
Distance from top of screen to ground level.....	9.5 feet	Duration of test.....	5 hours
Is well a gravel-wall type?.....	hard	Distance from cylinder or bowls to ground level.....	

Water Record

Kind (fresh or mineral).....	Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rise
..... <i>Fresh</i>			
Quality (hard, soft, contains iron, sulphur, etc.).....			
..... <i>hard</i>			
Appearance (clear, cloudy, coloured).....			
..... <i>clear</i>			
For what purpose(s) is the water to be used?..			
..... <i>house & stock</i>			
.....			
How far is well from possible source of contamination?.....			
..... <i>100 feet</i>			
What is the source of contamination?....			
..... <i>out house</i>			
Enclose a copy of any mineral analysis that has been made of water.....			

Well Log

Overburden and Bedrock Record

From

To

[illegible]

Location of Well

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

A hand-drawn map of a rectangular area. At the top, a north arrow points upwards, labeled "indicate north by arrow." The word "see" is written above "over" in the top left corner. A diagonal line runs from the top left towards the center. The left side of the rectangle is labeled "W". The bottom left corner is labeled ".45 miles E" and "T line". The right side of the rectangle is labeled "200". The top right corner is labeled "side Room". Inside the rectangle, there are several handwritten notes: "parallel line" near the top right, "not for" near the bottom right, and "S. 17" near the bottom left. A small circle with a cross inside is located near the top right corner.

Situation: Is well on upland, in valley, or on hillside?.....

Drilling Firm... Debs Drilling

Address.....

Name of Driller.....Address.....

Date.....Licence Number.....

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 Help Desk (Toll Free) at 1-888-396-9355.
- All metre measurements shall be reported to 1/10th of a metre.
- Please print clearly in blue or black ink only.

Ministry Use Only

Well Owner's Information (County/District/Municipality) UXBIDGE INDUSTRIAL PARK Township Lot Concession

RR#/Street Number/Name ANDERSON BLVD. City/Town/Village UXBIDGE Site/Compartment/Block/Tract etc.

GPS Reading NAD Zone Easting Northing Unit Make/Model Mode of Operation: ☐ Undifferentiated ☐ Averaged ☐ Differentiated, specify

83 17 641973 4876176

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth From	Metres To
	WELL ABANDONMENT RECORD				
	• ABANDON WELL IN-SITU				
	• INSTALL SAND IN SCREENED INTERVAL				
	• BENTONITE GROUT TO SURFACE.				

Hole Diameter Depth Metres Diameter Centimetres From To 0 122' 8 1/4"	Construction Record Inside diam centimetres Material Wall thickness centimetres Depth Metres From To Casing ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized ☐ Steel ☐ Fibreglass ☐ Plastic ☐ Concrete ☐ Galvanized Screen Outside diam ☐ Steel ☐ Fibreglass Slot No. ☐ Plastic ☐ Concrete ☐ Galvanized No Casing or Screen ☐ Open hole	Test of Well Yield Pumping test method Draw Down Recovery Time min Water Level Metres Time min 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 5A 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
---	---	--

FT Plugging and Sealing Record ☐ Annular space ☒ Abandonment

Depth set at - Metres	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
From To		
0 15'	BENTONITE HOLEPLUG	
15' 99'	BENTONITE GROUT	
99' 101'	BENTONITE HOLEPLUG	
101' 122'	SILICA SAND	

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
☐ Stock ☐ Commercial ☐ Not used
☐ Irrigation ☐ Municipal ☐ Cooling & air conditioning

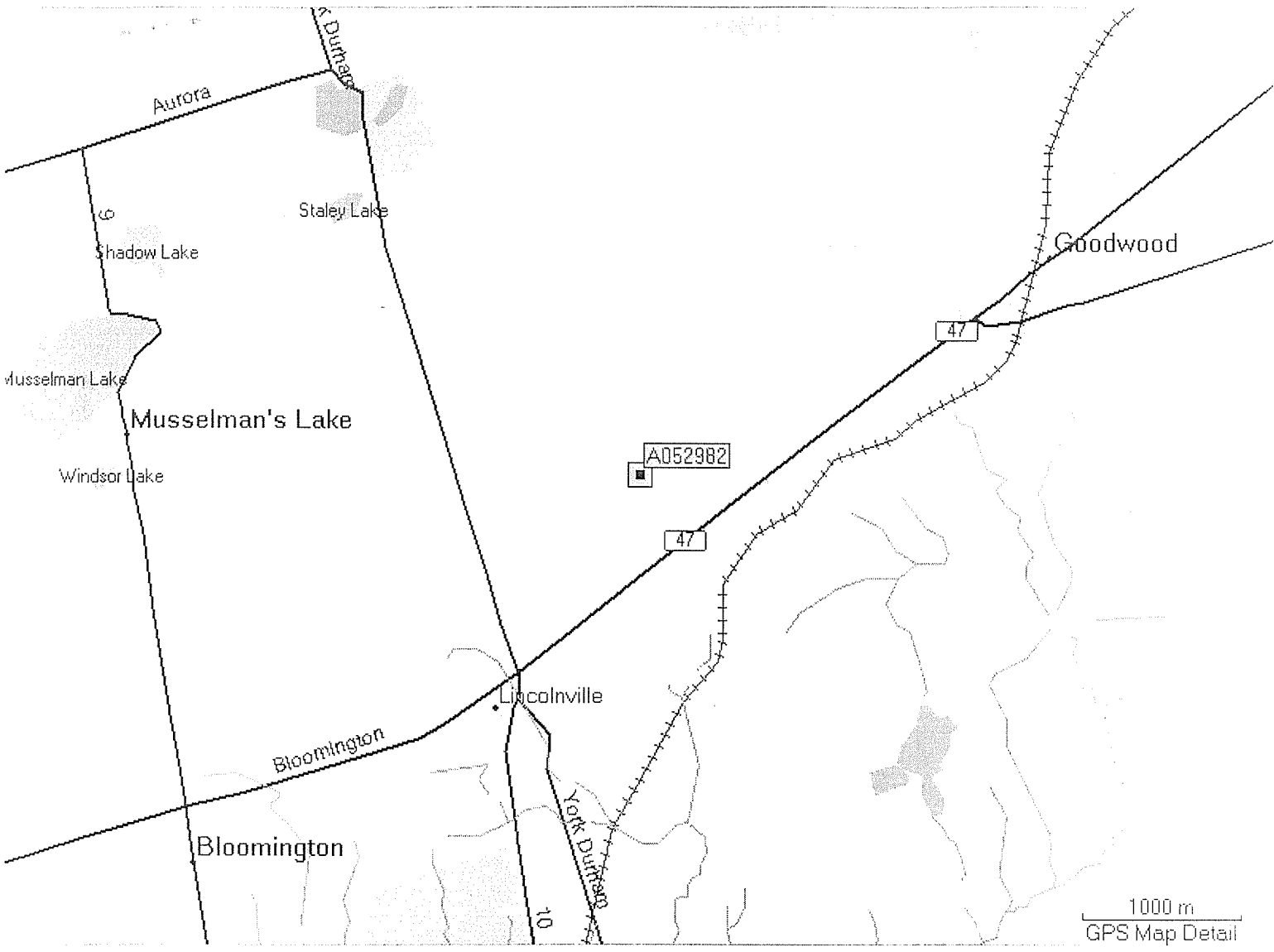
Final Status of Well
☐ Water Supply ☐ Recharge well ☐ Unfinished ☒ Abandoned, (Other)
☐ Observation well ☐ Abandoned, insufficient supply ☐ Dewatering
☐ Test Hole ☐ Abandoned, poor quality ☐ Replacement well

Well Contractor/Technician Information
Name of Well Contractor LANTCH DRILLING SERVICES INC. Well Contractor's Licence No. 6809
Business Address (street name, number, city etc.) 5661 MT. ALBERT ROAD, SHARON, ON
Name of Well Technician (last name, first name) MIKE SOKOLOV Well Technician's Licence No. T-2381
Signature of Technician/Contractor Date Submitted 2007 04 06

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

SEE ATTACHED

Audit No. Z 70829 Date Well Completed 2007 04 05
Was the well owner's information package delivered? ☐ Yes ☒ No Date Delivered
Ministry Use Only
Data Source Contractor 6809
Date Received MAY 28 2007 Date of Inspection
Remarks Well Record Number



Z 70829

[6:809

MAY 28 2007

Address of Well Location (Street Number/Name)			Township		Lot	Concession	
183 Highway 47			Uxbridge		14	1	
County/District/Municipality			City/Town/Village			Province	Postal Code
Uxbridge			Goodwood			Ontario	L4A7X4
UTM Coordinates		Zone	Easting	Northing	Municipal Plan and Sublot Number		Other
NAD		8	3	171642591	4875779		

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	Fine Pea Gravel		Loose	0	43
Brown	Clay / Seams	Fine Sand	Soft	43	84
Grey	Clay / Seams	Fine Sand	Soft	84	103
Brown	Fine Sand		Loose	103	108

Annular Space		
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
From To		
0 20	Bentonite	

Method of Construction		Well Use		
☐ Cable Tool	☐ Diamond	☐ Public	☐ Commercial	☐ Not used
☒ Rotary (Conventional)	☐ Jetting	☒ Domestic	☐ Municipal	☐ Dewatering
☐ Rotary (Reverse)	☐ Driving	☐ Livestock	☐ Test Hole	☐ Monitoring
☐ Boring	☐ Digging	☐ Irrigation	☐ Cooling & Air Conditioning	
☐ Air percussion		☐ Industrial		
☐ Other, specify _____		☐ Other, specify _____		

Construction Record - Casing			Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)	☒ 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 _____
From To				
6" 14	Steel	.188	2 103	
Construction Record - Screen				
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
From To				
6	S. Steel	10	103 107	

Results of Well Yield Testing			
After test of well yield, water was:		Draw Down	
☒ Clear and sand free ☐ Other, specify _____		Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Static Level	
Pump intake set at (m/ft)		1	
Pumping rate (l/min / GPM)		2	
Duration of pumping		3	
1 hrs + min		4	
Final water level end of pumping (m/ft)		5	
98		10	
If flowing give rate (l/min / GPM)		15	
Recommended pump depth (m/ft)		20	
95		25	
Recommended pump rate (l/min / GPM)		30	
5		40	
Well production (l/min / GPM)		50	
7		60	
Disinfected?			
☒ Yes ☐ No			

Map of Well Location	
Please provide a map below following instructions on the back.	
Highway 47 Well North arrow Well location sketch	

Water Details				Hole Diameter	
Water found at Depth	Kind of Water:	☒ Fresh ☒ Untested	Depth (m/ft)	From To	Diameter (cm/in)
103-107 (m/ft) ☐ Gas ☐ Other, specify _____			0 20		10
Water found at Depth	Kind of Water:	☐ Fresh ☐ Untested	20 103		7 7/8
(m/ft) ☐ Gas ☐ Other, specify _____			103 107		6
Water found at Depth	Kind of Water:	☐ Fresh ☐ Untested			
(m/ft) ☐ Gas ☐ Other, specify _____					

Well Contractor and Well Technician Information		
Business Name of Well Contractor	Well Contractor's Licence No.	
Roger Boadway Ent, Ltd.	114113	
Business Address (Street Number/Name)	Municipality	
P.O. Box 397, Sutton West	York	
Province	Postal Code	Business E-mail Address
ON	L0E1R0	boadwaywells@bellnet.ca
Bus. Telephone No. (inc. area code)	Name of Well Technician (Last Name, First Name)	
9057225362	Brown, Phil	
Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
0035	Phil Brown	20150108

Well owner's information package delivered	Date Package Delivered
	20141127
☐ Yes ☒ No	Date Work Completed
	20141127

Ministry Use Only	
Audit No.	2194585
Received	Jan 14 2015

NORTH COUNTRY PROPERTIES INC.

Well Location

Address of Well Location (Street Number/Name)
Anderson Blvd

County/District/Municipality

Township
Uxbridge

City/Town/Village

Province
Ontario

Postal Code

Lot

Concession

UTM Coordinates Zone Easting Northing
NAD 83 17 6420834876201

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 To
	Gravel			0 5
	Silt	fill	Gravel	5 20

Annular Space

Depth Set at (m/ft) From To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
8 0	Bentonite	

Method of Construction

Well Use

Construction Record - Casing

Construction Record - Screen

Water Details

Hole Diameter

Well Contractor and Well Technician Information

Well owner's information package delivered

Date Package Delivered

Date Work Completed

Ministry Use Only

Audit No.

Received

Results of Well Yield Testing

After test of well yield, water was:

If pumping discontinued, give reason:

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping

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?

Map of Well Location

Please provide a map below following instructions on the back.

Anderson Blvd

110m

30m

Anderson Blvd

Comments:

0506E (2018/12)

Ministry's Copy

© Queen's Printer for Ontario, 2018



Measurements recorded in: ☐ Metric ☐ Imperial

Page 1 of 1

Tag#: A268827

NORTH COUNTRY PROPERTIES

Address of Well Location (Street Number/Name) Anderson Blvd		Township	Lot	Concession	
County/District/Municipality		City/Town/Village Uxbridge		Province Ontario	Postal Code
UTM Coordinates Zone Easting Northing NAD 83 17 642069 4876219		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)	
	Gravel			From	To
	Silt	fill	Gravel	0	5
				5	30

Annular Space			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)	
From To			
18 0	Bentonite		

Method of Construction	Well Use
☐ Cable Tool ☐ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☒ Other, specify Auger	☐ Public ☐ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify ☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning ☐ Not used ☐ Dewatering ☒ Monitoring

Construction Record - Casing				Status of Well	
Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		
			From To		
2"	Plastic	1/4	0 20	☐ 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				Status of Well	
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)		
			From To		
2"	Plastic	.10	20 30		

Water Details		Hole Diameter	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	Depth (m/ft)	Diameter (cm/in)
		From To	
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	0 30	6
Water found at Depth (m/ft)	Kind of Water: ☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify		

Well Contractor and Well Technician Information			
Business Name of Well Contractor DrillTech Drilling Ltd		Well Contractor's Licence No. 7131610	
Business Address (Street Number/Name) 1344 Kerrisdale Blvd		Municipality Newmarket	
Province ON	Postal Code L3Y 8N6	Business E-mail Address drilltechdrillingtd.com	
Bus. Telephone No. (inc. area code) 905 771 1397		Name of Well Technician (Last Name, First Name) Desbiens Gilles	
Well Technician's Licence No. 315411	Signature of Technician and/or Contractor	Date Submitted 20190710	

Results of Well Yield Testing			
After test of well yield, water was: ☐ Clear and sand free ☐ Other, specify		Draw Down	
		Time (min)	Water Level (m/ft)
If pumping discontinued, give reason:		Time (min)	Water Level (m/ft)
		Static Level	
Pump intake set at (m/ft)		1	1
Pumping rate (l/min / GPM)		2	2
Duration of pumping hrs + min		3	3
Final water level end of pumping (m/ft)		4	4
If flowing give rate (l/min / GPM)		5	5
Recommended pump depth (m/ft)		10	10
Recommended pump rate (l/min / GPM)		15	15
Well production (l/min / GPM)		20	20
Disinfected? ☐ Yes ☐ No		25	25
		30	30
		40	40
		50	50
		60	60

Map of Well Location
Please provide a map below following instructions on the back.
Anderson Blvd

Comments:	Well owner's information package delivered ☐ Yes ☐ No	Date Package Delivered Y Y Y Y M M D D 20190706	Date Work Completed 20190706	Ministry Use Only Audit No. Z312328 JUL 15 2019 Received
-----------	--	---	---------------------------------	---

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (<https://data.ontario.ca/dataset/well-records>) .



[Go Back to Map](#)

Well ID

Well ID Number: 7365118

Well Audit Number: Z338111

Well Tag Number: A295952

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	45 Anderson Blvd 8
Township	UXBRIDGE TOWNSHIP (UXBRIDGE)
Lot	

Concession	
County/District/Municipality	DURHAM
City/Town/Village	Uxbridge
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642323.00 Northing: 4876414.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BLCK	SAND	SILT		0 ft	10 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed	
0 ft	1 ft	CEMENT		
1 ft	4 ft	HOLEPLUG		
4 ft	10 ft	SAND		

Method of Construction & Well Use

Method of Construction	Well Use	
Rotary (Convent.)		
	Monitoring and Test Hole	

Status of Well

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To	
2 Inch	PLASTIC	0 ft	5 ft	

--	--	--	--

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To	
2.25 Inch	PLASTIC	5 ft	10 ft	

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was		
If pumping discontinued, give reason		
Pump intake set at		
Pumping Rate		
Duration of Pumping		
Final water level		

If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind	

Hole Diameter

Depth From	Depth To	Diameter	
0 ft	10 ft	5 Inch	

Audit Number: Z338111

Date Well Completed: May 20, 2020

Date Well Record Received by MOE: August 14, 2020

Related

How to use a Ministry of the Environment map (<https://www.ontario.ca/page/how-use-ministry-environment-map#wells>)

Technical documentation: Metadata record (<https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77>)

Updated: January 10, 2024
Published: March 20, 2014

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (<https://data.ontario.ca/dataset/well-records>) .



[Go Back to Map](#)

Well ID

Well ID Number: 7365119

Well Audit Number: Z332326

Well Tag Number: A294683

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	45 Anderson Boulevard
Township	UXBRIDGE TOWNSHIP (UXBRIDGE)
Lot	

Concession	
County/District/Municipality	DURHAM
City/Town/Village	Uxbridge
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642378.00 Northing: 4876275.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	SILT	SAND		0 ft	20 ft

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed	
0 ft	9 ft	HOLEPLUG monument		
9 ft	20 ft	SAND		

Method of Construction & Well Use

Method of Construction	Well Use	
Other Method		
direct push	Monitoring and Test Hole	

Status of Well

Observation Wells

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To	
2 Inch	PLASTIC	0 ft	10 ft	

--	--	--	--

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To	
2.25 Inch	PLASTIC	10 ft	25 ft	

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 7241

Results of Well Yield Testing

After test of well yield, water was		
If pumping discontinued, give reason		
Pump intake set at		
Pumping Rate		
Duration of Pumping		
Final water level		

If flowing give rate	
Recommended pump depth	
Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	

15		15	
20		20	
25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind	

Hole Diameter

Depth From	Depth To	Diameter	
0 ft	20 ft	6 Inch	

Audit Number: Z332326

Date Well Completed: July 27, 2020

Date Well Record Received by MOE: August 14, 2020

Related

How to use a Ministry of the Environment map (<https://www.ontario.ca/page/how-use-ministry-environment-map#wells>)

Technical documentation: Metadata record (<https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77>)

Updated: January 10, 2024

Published: March 20, 2014

Map: Well records

This map allows you to search and view well record information from reported wells in Ontario.

Full dataset is available in the Open Data catalogue (<https://data.ontario.ca/dataset/well-records>) .



[Go Back to Map](#)

Well ID

Well ID Number: 7377481

Well Audit Number: Z323114

Well Tag Number:

This table contains information from the original well record and any subsequent updates.

Well Location

Address of Well Location	42 ANDERSON BLVD
Township	UXBRIDGE TOWNSHIP (UXBRIDGE)
Lot	

Concession	
County/District/Municipality	DURHAM
City/Town/Village	Uxbridge
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 17 Easting: 642066.00 Northing: 4876224.00
Municipal Plan and Sublot Number	
Other	

Overburden and Bedrock Materials Interval

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

Annular Space/Abandonment Sealing Record

Depth From	Depth To	Type of Sealant Used (Material and Type)	Volume Placed	

Method of Construction & Well Use

Method of Construction	Well Use	

Status of Well

Abandoned-Other

Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To	

Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To	

Well Contractor and Well Technician Information

Well Contractor's Licence Number: 4102

Results of Well Yield Testing

After test of well yield, water was		
If pumping discontinued, give reason		
Pump intake set at		
Pumping Rate		
Duration of Pumping		
Final water level		
If flowing give rate		
Recommended pump depth		

Recommended pump rate	
Well Production	
Disinfected?	

Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL			
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15		15	
20		20	

25		25	
30		30	
40		40	
45		45	
50		50	
60		60	

Water Details

Water Found at Depth	Kind	

Hole Diameter

Depth From	Depth To	Diameter	

Audit Number: Z323114

Date Well Completed: October 03, 2020

Date Well Record Received by MOE: January 12, 2021

Related

How to use a Ministry of the Environment map (<https://www.ontario.ca/page/how-use-ministry-environment-map#wells>)

Technical documentation: Metadata record (<https://data.ontario.ca/dataset/well-records/resource/3031344e-e3f2-48d5-888c-c1deadfd2f77>)

Updated: January 10, 2024
Published: March 20, 2014

APPENDIX II – BOREHOLE DRILL LOG



GEOTECHNICAL LOG BH101

PROJECT NUMBER 26 Anderson Blvd	DRILLING DATE 2024-05-28	COORDINATES 622165.160, 4875970.098
PROJECT NAME 26 Anderson Blvd, Uxbridge	TOTAL DEPTH 5.5	COORD SYS UTM-17
CLIENT	DIAMETER	COMPLETION 2024-05-28
ADDRESS 26 Anderson Blvd, Uxbridge, ON	CASING uPVC	SURFACE ELEVATION 345.538
LICENCE NO.	SCREEN uPVC Factory Slotted	WELL TOC

COMMENTS	LOGGED BY DP
	CHECKED BY TW

Depth (m)	Graphic Log	Material Description	USCS	Additional Observations	Well Diagram	Elevation (m)	
0.2		SILTY SAND / SANDY SILT, SOME GRAVEL, MOIST, GREY	USCS - SP, SM	800kPa Resistance with less than 5mm displacement. shear vane is tested minimum 60kPa.		345.4	
0.4						345.2	
0.6						345	
0.8						344.8	
1						344.6	
1.2		SAND, TRACE TO SOME SILT, MOIST, GREY	USCS - SW	800kPa Resistance with less than 5mm displacement. shear vane is tested minimum 60kPa.		344.4	
1.4						344.2	
1.6				1000kPa Resistance with less than 5mm displacement. shear vane is tested minimum 50kPa.		344	
1.8						343.8	
2						343.6	
2.2						343.4	
2.4						343.2	
2.6						343	
2.8						342.8	
3						342.6	
3.2						342.4	
3.4						342.2	
3.6						342	
3.8						341.8	
4						341.6	
4.2						341.4	
4.4						341.2	
4.6						341	
4.8						340.8	
5						340.6	
5.2						340.4	
5.4						340.2	
5.6		Termination Depth at:5.5, No Groundwater found till 5.5m.				340	



GEOTECHNICAL LOG BH102

PROJECT NUMBER 26 Anderson Blvd	DRILLING DATE 2024-05-28	COORDINATES 642127.444, 4876000.365
PROJECT NAME 26 Anderson Blvd, Uxbridge	TOTAL DEPTH 5.5	COORD SYS UTM-17
CLIENT	DIAMETER	COMPLETION 2024-05-28
ADDRESS 26 Anderson Blvd, Uxbridge, ON	CASING uPVC	SURFACE ELEVATION 346.530
LICENCE NO.	SCREEN uPVC Factory Slotted	WELL TOC

COMMENTS	LOGGED BY DP
	CHECKED BY TW

Depth (m)	Graphic Log	Material Description	USCS	Additional Observations	Well Diagram	Elevation (m)
0.2		SILTY SAND / SANDY SILT, SOME GRAVEL, MOIST, GREY	USCS - SP, SM	900kPa Resistance with less than 5mm displacement. shear vane is tested minimum 60kPa.		346.4
0.4						346.2
0.6						346
0.8				1200kPa Resistance with less than 5mm displacement. shear vane is tested minimum 60kPa.		345.8
1						345.6
1.2		SILTY SAND TO SANDY SILT, TRACE GRAVEL, MOIST, GREY BOULDERS AND COBBLES ENCOUNTERED	USCS - SW, SM	1000kPa Resistance with less than 5mm displacement. shear vane is tested minimum 70kPa.		345.4
1.4						345.2
1.6						345
1.8						344.8
2						344.6
2.2				1200kPa Resistance with less than 5mm displacement. shear vane is tested minimum 70kPa.		344.4
2.4						344.2
2.6						344
2.8						343.8
3						343.6
3.2						343.4
3.4						343.2
3.6						343
3.8						342.8
4						342.6
4.2						342.4
4.4						342.2
4.6						342
4.8						341.8
5						341.6
5.2						341.4
5.4						341.2
5.6		Termination Depth at:5.5, No Groundwater found till 5.5m.				341



GEOTECHNICAL LOG BH103

PROJECT NUMBER 26 Anderson Blvd	DRILLING DATE 2024-05-29	COORDINATES 642099.864, 4876070.856
PROJECT NAME 26 Anderson Blvd, Uxbridge	TOTAL DEPTH 5.5	COORD SYS UTM-17
CLIENT	DIAMETER	COMPLETION 2024-05-29
ADDRESS 26 Anderson Blvd, Uxbridge, ON	CASING	SURFACE ELEVATION 348.744
LICENCE NO.	SCREEN	WELL TOC

COMMENTS	LOGGED BY DP
	CHECKED BY TW

Depth (m)	Graphic Log	Material Description	USCS	Additional Observations	Elevation (m)
0.2		SI LTYSAND / SANDY SI LT,SOME GRAVEL, MOI ST, GREY	USCS - SP, SM	900kPa Resistance with less than 5mm displacement. shear vane is tested minimum 60kPa.	348.6
0.4					348.4
0.6					348.2
0.8				1000kPa Resistance with less than 5mm displacement. shear vane is tested minimum 50kPa.	348
1					347.8
1.2					347.6
1.4				1200kPa Resistance with less than 5mm displacement. shear vane is tested minimum 70kPa.	347.4
1.6					347.2
1.8		SANDY SI LT,TRACE GRAVEL, MOI ST, GREY COBBLES AND BOULDERS ENCOUNTERED.	USCS - SM		347
2					346.8
2.2					346.6
2.4				1200kPa Resistance with less than 5mm displacement. shear vane is tested minimum 70kPa.	346.4
2.6					346.2
2.8					346
3					345.8
3.2					345.6
3.4					345.4
3.6					345.2
3.8					345
4					344.8
4.2					344.6
4.4					344.4
4.6					344.2
4.8					344
5					343.8
5.2					343.6
5.4					343.4
5.6		Termination Depth at:5.5, No Groundwater found till 5.5m.			343.2



GEOTECHNICAL LOG BH104

PROJECT NUMBER 26 Anderson Blvd	DRILLING DATE 2024-05-29	COORDINATES 642136.255, 4876055.270
PROJECT NAME 26 Anderson Blvd, Uxbridge	TOTAL DEPTH 5.5	COORD SYS UTM-17
CLIENT	DIAMETER	COMPLETION 2024-05-29
ADDRESS 26 Anderson Blvd, Uxbridge, ON	CASING uPVC	SURFACE ELEVATION 348.392
LICENCE NO.	SCREEN uPVC Factory Slotted	WELL TOC

COMMENTS	LOGGED BY DP
	CHECKED BY TW

Depth (m)	Graphic Log	Material Description	USCS	Additional Observations	Well Diagram	Elevation (m)
0.2		SILTY SAND / SANDY SILT, SOME GRAVEL, MOIST, GREY	USCS - SP, SM	1000kPa Resistance with less than 5mm displacement. shear vane is tested minimum 60kPa.		348.2
0.4						348
0.6						347.8
0.8				1200kPa Resistance with less than 5mm displacement. shear vane is tested minimum 50kPa.		347.6
1						347.4
1.2				1400kPa Resistance with less than 5mm displacement. shear vane is tested minimum 70kPa.		347.2
1.4						347
1.6						346.8
1.8		SANDY SILT, TRACE GRAVEL, MOIST, GREY COBBLES AND BOULDERS ENCOUNTERED.	USCS - SM			346.6
2						346.4
2.2				1200kPa Resistance with less than 5mm displacement. shear vane is tested minimum 70kPa.		346.2
2.4						346
2.6						345.8
2.8						345.6
3						345.4
3.2						345.2
3.4						345
3.6						344.8
3.8						344.6
4						344.4
4.2						344.2
4.4						344
4.6						343.8
4.8						343.6
5						343.4
5.2						343.2
5.4						343
5.6		Termination Depth at:5.5, No Groundwater found till 5.5m.				342.8

APPENDIX III – IN-SITU INFILTRATION TEST

In-situ Measurement of Field Saturated Hydraulic Conductivity

1. Field Permeability Test

The "Constant Head Well Permeameter" (CHWP) method (Reynolds, 1993; Elrick and Reynolds, 1986) is based on the observation that when a constant height or "head" of water is ponded in a borehole or "well" augured into unsaturated soil, a "bulb" of field-saturated soil is gradually established around the base of the well. The K_{fs} value achieved through this method can be less than or equal to half of K_s (Saturated hydraulic conductivity) due to partial blocking of soil pores by air bubbles and it is preferred over K_s in the design of on-site stormwater LID infiltration design, because drainage through the soil should be designed to occur at less than complete soil saturation.

The in-situ measurements were done by the ETC Standard Soils Pask Permeameter, is an extended single-head analysis method and calculations procedure used here are based on the work of W.D. Reynolds and D.E. Elrick formerly of the University of Guelph, Ontario, Canada.

The ETC Pask Permeameter is a convenient and easy to use apparatus for ponding a constant head of water in a well, and simultaneously measuring the flow into the soil. The rate of fall (R) of the water level in the permeameter reservoir and reservoir cross-sectional area (X) allows determination of quasi steady water flow rate (Q) into the soil (i.e $Q = XR$). K_{fs} is then calculated using Equation 1 (Reynolds, 1993):

$$K_{fs} = CQ / [2\pi H^2 + C\pi a^2 + (2\pi H/\alpha^*)] \quad (\text{Eq. 1})$$

In which:

K_{fs} = the calculated permeability from the field test

Table 1. Parameters used

Parameter	Description	BH
Soil Texture Factor (α^*) in cm^{-1}	Most structured and medium textured materials; including structured clayey and loamy soils, as well as unstructured medium single-grain sands. This category is generally the first choice for most soils.	0.12
R in cm/min	Quasi steady state (constant) rate of fall of water in permeameter reservoir (Measured in the site)	0.2
μ_k/μ_a	Temperature Correction Factor ($t= 14^\circ\text{C}$)	0.736
C	Shape factor	1.36
X in cm^2	Cross-sectional area of permeameter reservoir	12.8
H in cm	Height of air inlet hole from bottom of the test hole	15
a in cm	Well hole radius	4.15

Based on data described in the above table and using Pask Permeameter ETC Quick Field Reference Tables for Slow Soils, the K_{fs} was calculated as:

$$K_{fs} = 1.1 \times 10^{-6} \text{ m/sec} = 1.1 \times 10^{-4} \text{ cm/sec}$$

And then the temperature corrected permeability would be calculated using equation 2 for the rest of the site, as follows:

$$K_a = K_{fs} \times \mu_k / \mu_a \quad (\text{Eq. 2})$$

In which:

K_a = corrected permeability adjusted for design temperature conditions ($t = 14^\circ\text{C}$)

$$K_a = 7.36 \times 10^{-7} \text{ m/sec} = 7.36 \times 10^{-5} \text{ cm/sec}$$

The field permeability data sheet is in the following.

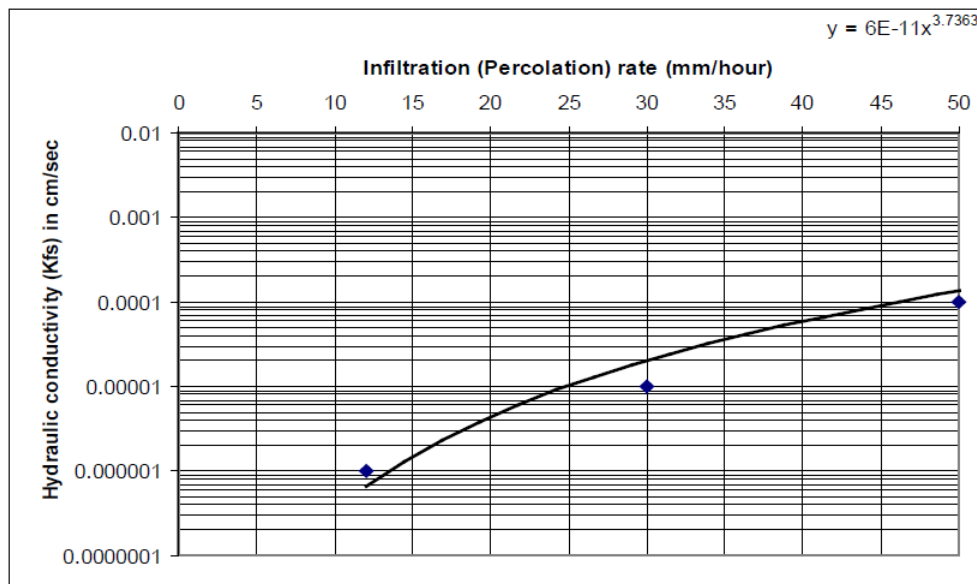
2. Percolation time/infiltration rate for design (OMMAH, 1997)

Despite the newer academic papers published by Reynolds et al. (2015), TRCA and other Conservation Authorities often still review design of infiltration basins based on historic trends. Below are two TRCA (2012) design criteria that describe the relationship between K_{fs} , PT, and infiltration rates, based on the 1997 (OMMAH) supplementary guidelines to OBC (1997).

Table 2. Approximate relationships between hydraulic conductivity, percolation time and infiltration rate

Hydraulic Conductivity, K_{fs} (centimetres/second)	Percolation Time, T (minutes/centimetre)	Infiltration Rate, 1/T (millimetres/hour)
0.1	2	300
0.01	4	150
0.001	8	75
0.0001	12	50
0.00001	20	30
0.000001	50	12

Source: Ontario Ministry of Municipal Affairs and Housing (OMMAH). 1997. Supplementary Guidelines to the Ontario Building Code 1997. SG-6 Percolation Time and Soil Descriptions. Toronto, Ontario.



Source: Ontario Ministry of Municipal Affairs and Housing (OMMAH). 1997. Supplementary Guidelines to the Ontario Building Code 1997. SG-6 Percolation Time and Soil Descriptions. Toronto, Ontario.

Figure 1. Approximate relationship between infiltration rate and hydraulic conductivity

Based on OMMAH interpolation from Table 2 and Figure 1 above, the measured K_{fs} may be interpolated as:

PT (T-Time) = 14.1 min / cm (unfactored Infiltration Rate = 42.6 mm/hour)

3. Factored Engineering Design Infiltration Rate (Wisconsin Department of Natural Resources, 2004)

For a conservative approach to infiltration speeds, the Wisconsin Department of Natural Resources (2004) method shall be used for the calculation of a factored design infiltration rate. The overall soil formation is silty sand, sandy silt and sand with some gravels, with an unfactored infiltration rate = 42.6 mm/hour at the top layer. However, the infiltration rate used to design an infiltration BMP must incorporate a safety correction factor that compensates for potential reductions in soil permeability due to compaction or smearing during construction, gradual accumulation of fine sediments over the lifespan of the BMP and uncertainty in measured values when less permeable soil horizons exist within 1.5 meters below the proposed bottom elevation of the BMP.

Based on Borehole datasets, the soil layer remains consist mainly of sandy silty, silty sand and sand materials with some gravels, including the soil layers 1.5 meters below the proposed bottom of the probable BMP. This means that based on the below Table 3, the measured infiltration rate should be divided by a safety correction factor to calculate the design infiltration rate. Thus, the mean infiltration rate measured at the proposed bottom elevation of the BMP is 42.6 mm/hour, and the mean infiltration rate measured in the slowest underlying soil horizon is 17.04 mm/hour which is negligible, and the ratio of infiltration rates is 2.5.

Table 3. Safety correction factors for calculating design infiltration rates

Ratio of Mean Measured Infiltration Rates ¹	Safety Correction Factor ²
≤ 1	2.5
1.1 to 4.0	3.5
4.1 to 8.0	4.5
8.1 to 16.0	6.5
16.1 or greater	8.5

Source: Wisconsin Department of Natural Resources. 2004. Conservation Practice Standards. Site Evaluation for Stormwater Infiltration (1002). Madison, WI.

Notes:

1. Ratio is determined by dividing the geometric mean measured infiltration rate at the proposed bottom elevation of the BMP by the geometric mean measured infiltration rate of the least permeable soil horizon within 1.5 metres below the proposed bottom elevation of the BMP.
2. The design infiltration rate is calculated by dividing the geometric mean measured infiltration rate at the proposed bottom elevation of the BMP by the safety correction factor.

FIELD PERMEABILITY TEST SHEET

DATE 2024-05-29

TEST PIT # _____

PID # _____

TECHNICIAN Leng

TEST START TIME _____

SITE LOCATION 26 Anderson Blvd, Uxbridge

OWNER'S NAME _____

WETHER/TEMPERATURE 14C°/Cloudy

Soil Texture <u>Standard</u>		Reservoir Diameter (cm) _____		
Soil Structure _____		Well Hole Diameter (cm) <u>8.30</u>		
α^* (cm-1) <u>0.12</u>		Height of Water in Well (cm) _____		
C - Factor <u>1.36</u>		Depth Below Ground Surface (cm) _____		

Time Interval (min)	(1) Elapsed Time (min)	Reservoir Water Level (cm)	(2) Water Drop (cm)	Percolation Rate (R) (cm/min); (2) / (1)
0		43.2		
1	1	43	0.2	0.20
2	1	42.8	0.2	0.20
3	1	42.6	0.2	0.20
4	1	42.5	0.1	0.10
5	1	42.3	0.2	0.20
6	1	42.2	0.1	0.10
7	1	42	0.2	0.20
8	1	41.9	0.1	0.10
9	1	41.7	0.2	0.20
10	1	41.6	0.1	0.10
11	1	41.4	0.2	0.20
12	1	41.3	0.1	0.10
13	1	41.2	0.1	0.10
14	1	41	0.2	0.20
15	1	40.8	0.2	0.20

Quasi Steady-State Rate of Fall (R) = 0.2 cm/min

APPENDIX IV –PROPOSED SITE PLAN

GEODETIC BENCHMARK INFORMATION

BEARING NOTES:

ALL TIES TO CONCRETE FOUNDATION, UNLESS NOTED OTHERWISE. BEARINGS SHOWN HEREON ARE ASTRONOMIC AND ARE REFERRED TO THE NORTHERLY OF ANDERSON BOULEVARD AS SHOWN ON REGISTERED PLAN 40M-2336, HAVING A BEARING OF NNS1° 48' 00"E.

BENCHMARK NOTE:

ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO THE CITY OF TORONTO BENCHMARK No.778477 HAVING AN ELEVATION OF 312.926 M, CGVD28:78. LOCATED IN STEEL ROD WITH BRASS CAP BM ON N SIDE OF TENTH LINE (FORMERLY HWY 47), 7.6 KM E OF JCT OF TENTH LINE AND HWY 48 AT RINGWOOD, 1.1 KM W OF BLOOMINGTON RD, AND 15.2 M N OF CL OF HWY 47. BM IS LOCATED 9.6 M E OF CL OF GRAVEL FARM LANE, 46 CM S OF NORTH RIGHT-OF-WAY FENCE LINE AND 61 CM W OF A BLACK AND YELLOW MARKER POST.

TOPO SURVEY

TOPO SURVEY IS PROVIDED BY MANDARIN SURVEYORS LIMITED, JOB # 2024-012 AND DATED 2024/02/20.

AS-BUILT INFORMATION

AS-BUILT DRAWINGS REFER TO UXBRIDGE INDUSTRIAL SUBDIVISION PHASE 2 BY WESLAKE INC. PROJECT 1740, DATED: JANUARY 2005.

GEOTECHNICAL REPORT

REFER TO GEOTECHNICAL INVESTIGATION REPORT & GEOTECHNICAL FOUNDATION DESIGN RECOMMENDATIONS REPORT B KING EPCM DATED JUNE 21, 2024.

GENERAL NOTES:

- READ ALL CIVIL DRAWINGS IN CONJUNCTION WITH ALL CONTRACT DOCUMENTS, INCLUDING ARCHITECTURAL, STRUCTURAL, ELECTRICAL, MECHANICAL, LANDSCAPE AND VENDOR DRAWINGS AS APPLICABLE.
- ANY RELOCATION OF EXISTING UTILITIES REQUIRED BY THE DEVELOPMENT OF THE SUBJECT LANDS, IS TO BE UNDERTAKEN AT DEVELOPER'S EXPENSE.
- THE LOCATION AND ELEVATION OF ALL EXISTING SERVICES AND UTILITIES ARE TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION TO THE REPAIR OF EXISTING UTILITIES DISTURBED DURING CONSTRUCTION.
- ALL UNDERGROUND SERVICE CONNECTIONS WITHIN PAVED PORTION OF ANY EXISTING ROAD TO BE BACKFILLED WITH UNSHRINKABLE FILL TO THE LATEST TOWN OF UXBRIDGE OR REGION OF DURHAM SPECIFICATIONS.
- SILT FENCE AND SEDIMENT TRAP CONTROL FENCE ARE TO BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY SITE CONSTRUCTION AND SHALL REMAIN IN PLACE AND IN GOOD REPAIR THROUGHOUT THE CONSTRUCTION AND GRADING PHASES.
- PRIOR TO THE START OF CONSTRUCTION, SILT FENCING IS TO BE ERECTED ALONG THE PROPERTY BOUNDARIES.
- ALL AREAS BEYOND THE PLAN OF SUBDIVISION WHICH ARE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF THE AUTHORITY HAVING JURISDICTION AT THE CONTRACTOR'S EXPENSE.
- ALL CONSTRUCTION SIGNING MUST CONFORM TO THE M.T.O. MANUAL OF "UNIFORM TRAFFIC CONTROL DEVICES".
- THE CONTRACTOR SHALL KEEP WORK SITES CLEAN AND FREE OF ALL CONSTRUCTION DEBRIS DURING THE PROCESS OF CONSTRUCTION AND LEAVE THE SITE CLEAN UPON COMPLETION OF WORK OR PORTIONS OF THE WORK.
- ALL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE FOLLOWING:
 - OCCUPATIONAL HEALTH AND SAFETY ACT
 - ONTARIO REGULATION 213/91 - CONSTRUCTION PROJECTS
 - THE ONTARIO BUILDING CODE AND THE NATIONAL BUILDING CODE
 - THE ONTARIO PROVINCIAL STANDARD SPECIFICATIONS / DRAWINGS
- PROVIDE APPROPRIATE SHORING FOR TRENCH EXCAVATION IN ACCORDANCE WITH THE LATEST REVISION OF THE OHSA GUIDELINE FOR CONSTRUCTION PROJECTS.
- ALL BUILDING ELEVATIONS (MAIN FINISHED FLOOR, TOP OF FOUNDATION, BASEMENT FINISHED FLOOR) TO BE COORDINATED WITH ARCHITECTURAL DRAWINGS.

STORM SEWERS:

- ALL CONCRETE PIPE SMALLER THAN 450mm DIAMETER SHALL BE C-14, CLASS 2, CONCRETE PIPE 450mm DIAMETER AND LARGER SHALL BE C-76, CLASS 65-D, UNLESS OTHERWISE NOTED.
- ALL POLYVINYL CHLORIDE (PVC) PIPE SHALL MEET THE C.S.A. REQUIREMENTS AS NOTED WITHIN OPSS. 1841. THE PIPE MATERIAL SHALL HAVE A CELL CLASSIFICATION OF 12454-B OR 12454-C OR ASTM. STD. D-3034 & OPSS. 1841.
- ALL CONCRETE SEWER PIPES SHALL HAVE RUBBER GASKET JOINTS.
- CLASS "B" BEDDING IS TO BE USED AS PER CITY STANDARD 2112.08 SEWER BEDDING AND COVER MATERIAL SHALL CONFIRM WITH CITY STANDARDS 2112.09 AND 2112.10. IF WATER IS PRESENT IN THE TRENCH EXCAVATION THEN 19mm. CLEAR STONE IS TO BE USED FOR BEDDING IN ACCORDANCE WITH CITY STANDARD 2112.11 AND 2112.14 RESPECTIVELY. WHERE WET OR SOFT TRENCH SUBGRADE CONDITIONS ARE ENCOUNTERED, FURTHER ON-SITE GEOTECHNICAL ASSESSMENT MAY BE REQUIRED TO DETERMINE THE APPROPRIATE BEDDING IN ORDER TO STABILIZE THE SUBGRADE FOR SEWER CONSTRUCTION.
- MANHOLE STEPS SHALL BE AS PER OPSD. 405.010.
- MANHOLE COVERS AND FRAMES SHALL BE AS PER OPSD. 401.010.
- SINGLE CATCHBASINS WITHIN ROAD ALLOWANCES SHALL BE AS PER OPSD. 705.010, WITH A 250mm DIAMETER LEAD, DOUBLE CATCHBASINS WITHIN ROAD ALLOWANCES SHALL BE AS PER OPSD. 705.020, WITH A 300mm DIAMETER LEAD.
- ALL CATCHBASIN FRAME AND GRATES SHALL BE AS PER OPSD. 400.020.
- THE TRENCH WIDTH AT THE TOP OF PIPE SHALL BE AS PER STD. 2112.08. IF THE MAXIMUM TRENCH WIDTH IS EXCEEDED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUPPLYING EXTRA BEDDING AND/OR STRONGER PIPE AS REQUIRED.
- ALL STORM SEWER AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH CURRENT TOWN OF UXBRIDGE STANDARDS AND SPECIFICATIONS.
- ALL CATCHBASINS ARE TO BE PLACED ON GRANULAR BEDDING (MINIMUM DEPTH 150mm).

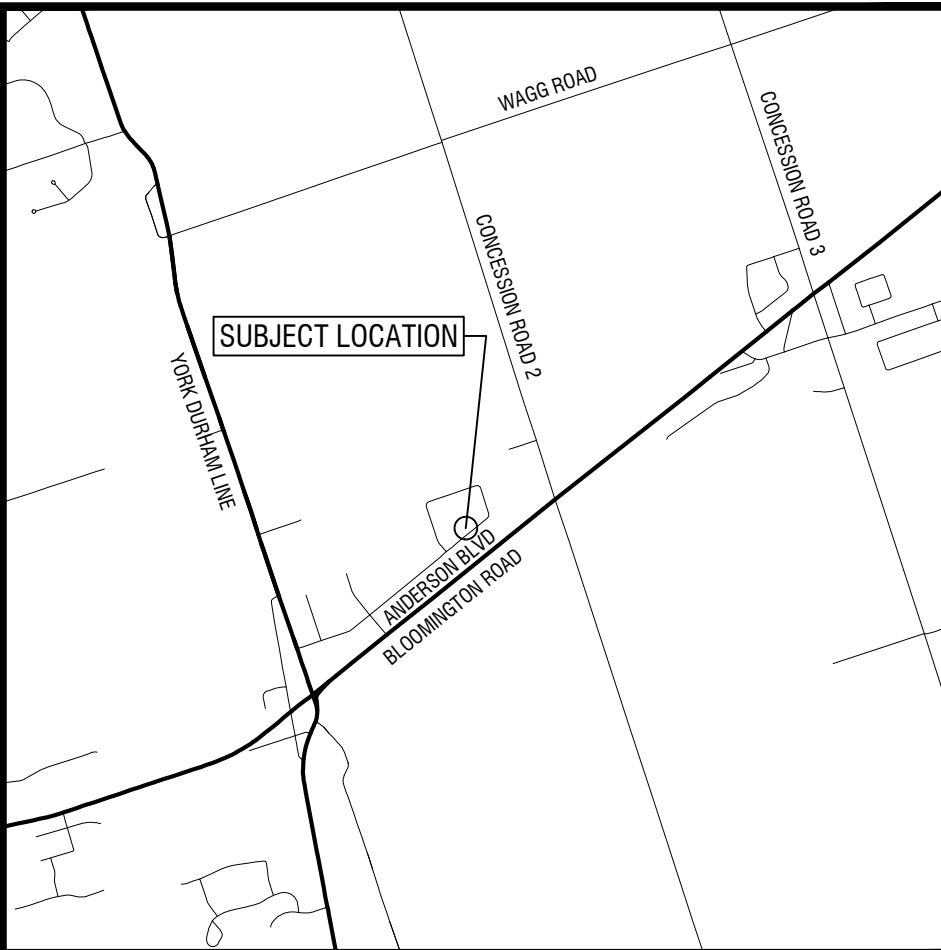
WATERMAIN NOTES:

- ALL WATERMAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH OPSS 441. PIPE MATERIAL SHALL BE CLASS 150 PVC (DR18) IN ACCORDANCE WITH APPLICABLE AWWA STANDARDS, LATEST REVISION.
- WATERMAIN BEDDING SHALL BE AS PER OPSD 802.010.

- A MINIMUM CLEARANCE BETWEEN THE WATERMAIN AND ALL UTILITIES MUST BE KEPT, WHILE STILL MAINTAINING A MINIMUM DEPTH OF COVER AT ALL TIMES.
- WATERMAIN SHALL BE INSTALLED WITH A MINIMUM COVER OF 1.8m.
- PVC WATERMAIN SHALL INCLUDE TRACER WIRE. A TRACER WIRE SHALL BE PROVIDED ALONG THE TOP OF ALL WATERMAINS. THE WIRE IS TO BE SECURED AT EVERY FITTING AND VALVE AND AT INTERVALS NOT TO EXCEED 3m. ALL TRACING WIRES SHALL BE 12 GAUGE, STRANDED COPPER WIRE WITH OUTER PLASTIC COATING.
- MECHANICAL JOINT RESTRAINTS ARE TO BE INSTALLED AT ALL TEES, HORIZONTAL AND VERTICAL BENDS, HYDRANTS, END OF MAINS AND VALVES, AND IN "FILL" AREAS. CONCRETE THRUST BLOCKS ARE NOT PERMITTED UNLESS APPROVED BY THE TOWN ENGINEER. HYDRANT TEES TO BE ANCHOR STYLE.
- CAST IRON MECHANICAL JOINT FITTINGS MEETING AWWA SPECIFICATIONS C-907 AND C.S.A. B138.2 SHALL BE USED ON PVC WATERMAIN 150 TO 300mm IN DIAMETER.
- ALL VALVES SHALL BE RESILIENT WEDGE GATE VALVES WITH VALVE BOX UNLESS OTHERWISE APPROVED BY THE TOWN. VALVES SHALL HAVE A NON-RISING STEM AND A 50mm SQUARE OPERATING NUT, OPENING COUNTER-CLOCKWISE.
- VALVES IN EXCESS OF 1.8m IN DEPTH SHALL REQUIRE A VALVE STEM EXTENSION.
- A MINIMUM HORIZONTAL SEPARATION OF 2.5m SHALL BE MAINTAINED BETWEEN THE WATERMAIN AND ANY SEWER.
- PIPE DEFLECTION SHOULD BE USED WHEREVER POSSIBLE TO MINIMIZE THE USE OF BENDS. WHEREVER IT IS NECESSARY TO DEFLECT FROM A STRAIGHT LINE, EITHER IN THE VERTICAL OR HORIZONTAL PLANE, THE AMOUNT OF DEFLECTION SHALL NOT EXCEED THE RECOMMENDATIONS OF THE MANUFACTURER.
- THE MAXIMUM SIZE OF CONNECTION THAT CAN BE TAPPED INTO A 150mm DIAMETER WATERMAIN IS 50mm IN DIAMETER. WATER SERVICE CONNECTIONS 75mm IN DIAMETER AND LARGER SHALL BE MADE BY INSTALLING A TEE ON THE SUPPLY MAIN.
- THE TOWN ENGINEER MUST BE NOTIFIED AT LEAST 48 HOURS IN ADVANCE OF ANY PRESSURE AND LEAKAGE TESTING, CHLORINATION OR FLUSHING WHICH MUST BE CARRIED OUT IN ACCORDANCE WITH TOWN SPECIFICATIONS AND OPSS 441.

EROSION AND SEDIMENTATION CONTROL

- PRIOR TO COMMENCEMENT OF ANY ON-SITE WORK/SOIL STRIPPING, EROSION & SEDIMENT CONTROL (ESC) MEASURES, AS PER ACCEPTED SITE ALTERATION PLANS. MUST BE INSTALLED AND APPROVED BY THE DEVELOPER'S ENGINEER. ADDITIONAL ESC MEASURES, IF REQUIRED, SHALL BE INSTALLED AS DIRECTED BY THE DEVELOPER'S ENGINEER. THE ESC MEASURES SHALL REMAIN IN PLACE UNTIL DIRECTED BY THE DEVELOPER'S ENGINEER FOR THEIR REMOVAL.
- NO CONSTRUCTION ACTIVITIES OR MACHINERY SHALL BE ALLOWED BEYOND THE SILT FENCE OR LIMITS OF THE PROPERTY.
- THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT DUST CONTROL MEASURES AND CONSTRUCTION PRACTICE GUIDELINES AS APPROVED BY THE CITY.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ESC MEASURES IN WORKING CONDITIONS AT ALL TIMES TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING. THE CONTRACTOR SHALL ROUTINELY INSPECT ALL ESC MEASURES AT A MINIMUM OF ONCE A WEEK AND AFTER EACH RAINFALL EVENT TO ENSURE THAT ESC MEASURES ARE IN PROPER WORKING CONDITIONS. ANY DAMAGES MUST BE REPAIRED WITHIN 24 HOURS.
- ALL CONSTRUCTION VEHICLES MUST ENTER AND EXIT THE SITE ONLY FROM THE APPROVED ACCESS ROUTE(S) AS SHOWN ON THE ACCEPTED EROSION & SEDIMENT CONTROL PLANS.
- ALL DISTURBED GROUND LEFT INACTIVE FOR OVER 30 DAYS SHALL BE VEGETATED, SUBJECT TO WEATHER CONDITIONS, BY SEEDING OR APPROVED EQUIVALENT TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.
- STREETS SHALL BE KEPT CLEAR OF MUD AND DEBRIS AT ALL TIMES.
- THE CONTRACTOR SHALL ENDEAVOUR TO PREVENT MUD TRUCKING ONTO EXISTING RIGHT-OF-WAY AND SHALL PROVIDE CLEAN UP AT HIS/HER OWN EXPENSE AS DIRECTED BY THE DIRECTOR OF ENGINEERING.
- NO EROSION MEASURES, INCLUDING THE SEDIMENTATION POND WILL BE REMOVED WITHOUT NOTIFICATION FROM THE ENGINEER.



KEYPLAN

6			
5			
4			
3			
2			
1			
0	2024/08/30	FOR SITE PLAN APPROVAL	FS
REV.	DATE	DESCRIPTION	BY

MUNICIPALITY:



TOWNSHIP OF UXBRIDGE
Trail Capital of Canada



ENGINEER'S STAMP



LUBAN
7373 LONGHEAD AVENUE, NIAGARA FALLS, ONTARIO, L2G7S4
TEL: 226-688-7928, EMAIL: FENG.SH@LUBAN.CA

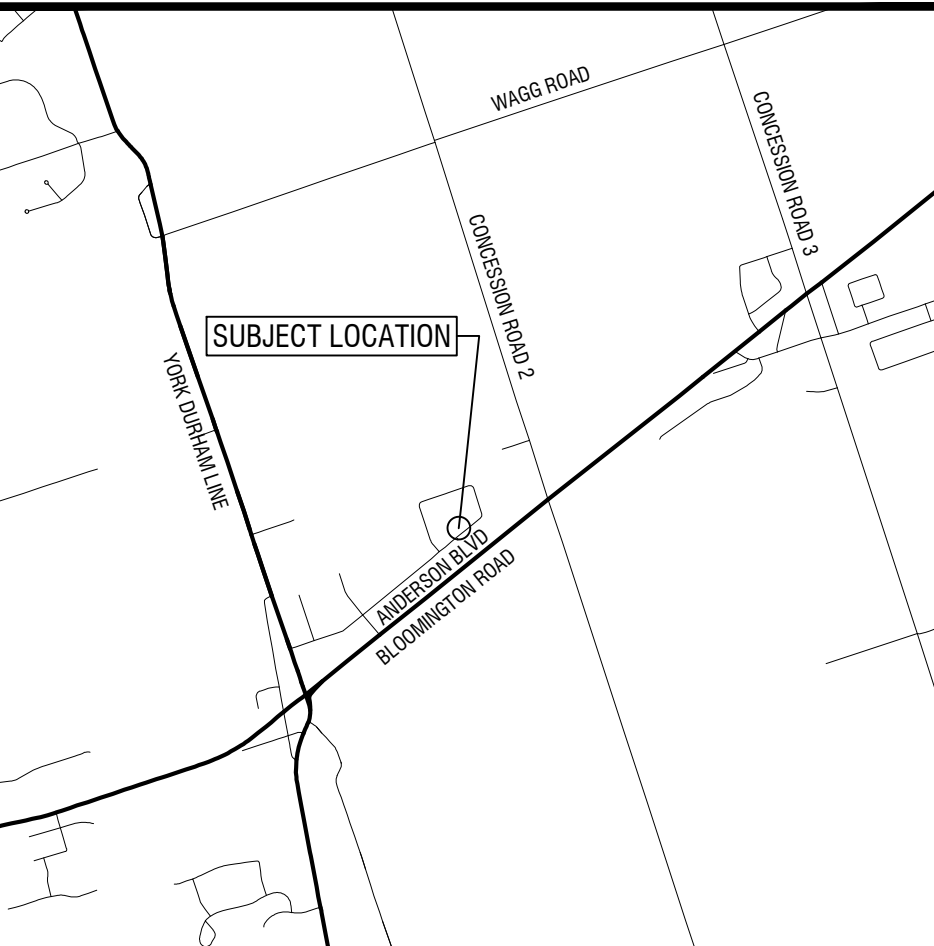
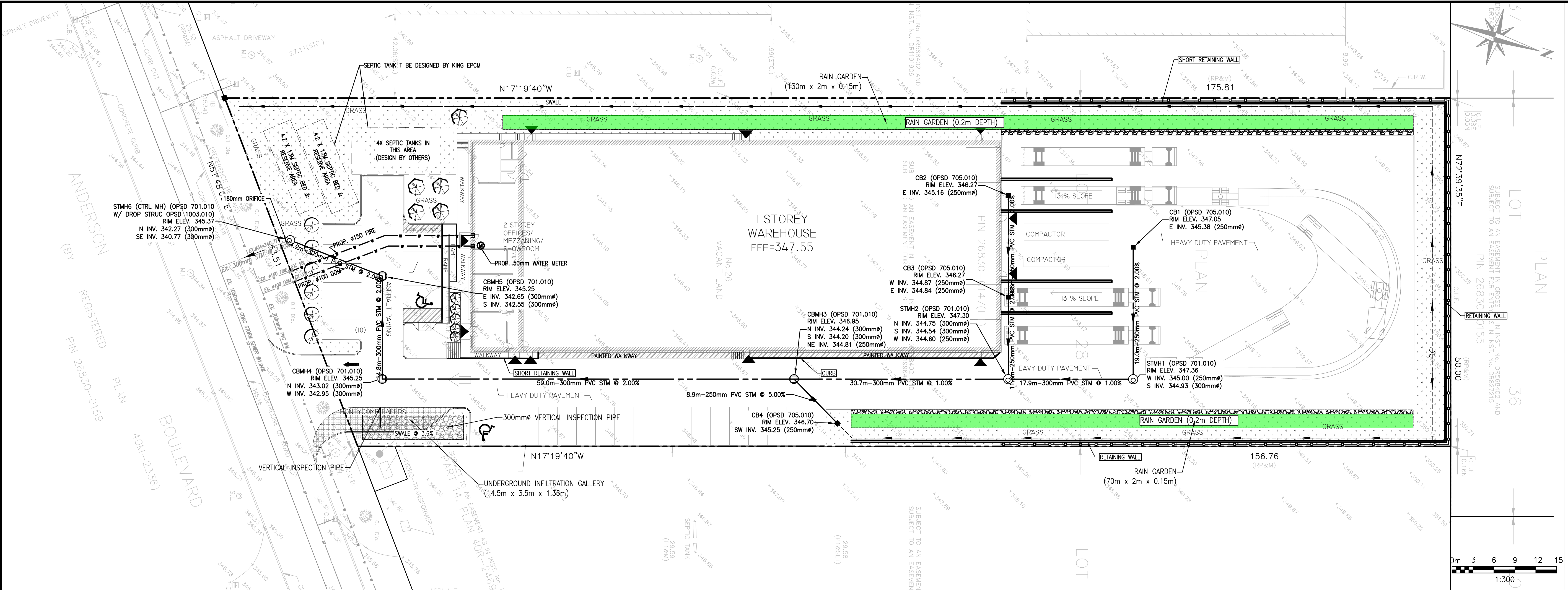
CLIENT:

ARCHITECT:



Architalcan Design Inc.

NOTES			
POPOSED INDUSTRIAL BUILDING			
26 ANDERSON BLVD, UXBRIDGE, ON L9P 0C7			
DESIGNED BY:	MG	SCALE:	CONTRACT No.
CHECKED BY:	FS	HORIZONTAL:	SHEET
DRAWN BY:	MG	VERTICAL:	No 1 OF 5
DATE:	2024/08/30		C1 DRAWING No.



KEYPLAN

LEGEND

□	DENOTES MONUMENT SET
■	DENOTES MONUMENT FOUND
SIB	DENOTES STANDARD IRON BAR
IB	DENOTES IRON BAR
P1	DENOTES PLAN OF SURVEY BY SALNA SURVEYING, O.L.S. DATE FEBRUARY 15, 2012
P2	DENOTES PLAN OF SURVEY BY ERTL-HUNT SURVEYORS, O.L.S. DATE JULY 7, 2023
RP	DENOTES REGISTERED PLAN 40M-24690
1534	DENOTES HUNT SURVEYS INC., O.L.S.
1128	DENOTES DAVID HORWOOD LTD., O.L.S.
IBW	DENOTES IBW SURVEYORS, O.L.S.
PIN	DENOTES PROPERTY IDENTIFIER NUMBER
M	DENOTES MEASURED
N,S,E,W	DENOTES NORTH, SOUTH, EAST, WEST
C.L.F.	DENOTES CHAIN LINK FENCE
C.R.W.	DENOTES CONCRETE RETAINING WALL
U.U.B.	DENOTES UNDERGROUND UTILITY BOX
D.S.	DENOTES DOOR SILL ELEVATION AT ENTRY
STC.	DENOTES TIE TAKEN FROM STUCCO
⊕	DENOTES FIRE HYDRANT
⊙	DENOTES MANHOLE
⊗	DENOTES STREET LAMP
⊕	DENOTES WATER VALVE
■	DENOTES CATCH BASIN
⊙	DENOTES CONIFEROUS TREE
⊙	DENOTES DECIDUOUS TREE

BENCHMARK NOTE
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO THE CITY OF TORONTO BENCHMARK No.778477 HAVING AN ELEVATION OF 312.926 M, COVD28:78, LOCATED IN STEEL ROAD WITH BRASS CAP BM ON N SIDE OF TENTH LINE (FORMERLY HWY 47), 7.6 KM E OF JCT OF TENTH LINE AND HWY 48 AT RINGWOOD, 1.1 KM W OF BLOOMINGTON RD, AND 15.2 M N OF CL OF HWY 47. BM IS LOCATED 9.6 M E OF CL OF GRAVEL FARM LANE, 46 CM S OF NORTH RIGHT-OF-WAY FENCELINE AND 61 CM W OF A BLACK AND YELLOW MARKER POST.

6			
5			
4			
3			
2			
1			
0	2024/08/30	FOR SITE PLAN APPROVAL	FS
REV.	DATE	DESCRIPTION	BY



ENGINEER'S STAMP

ENGINEER:

LUBAN

7373 LONGHEAD AVENUE, NIAGARA FALLS, ONTARIO, L2G7S4
TEL: 226-688-7828, EMAIL: FENG.SH@LUBAN.CA

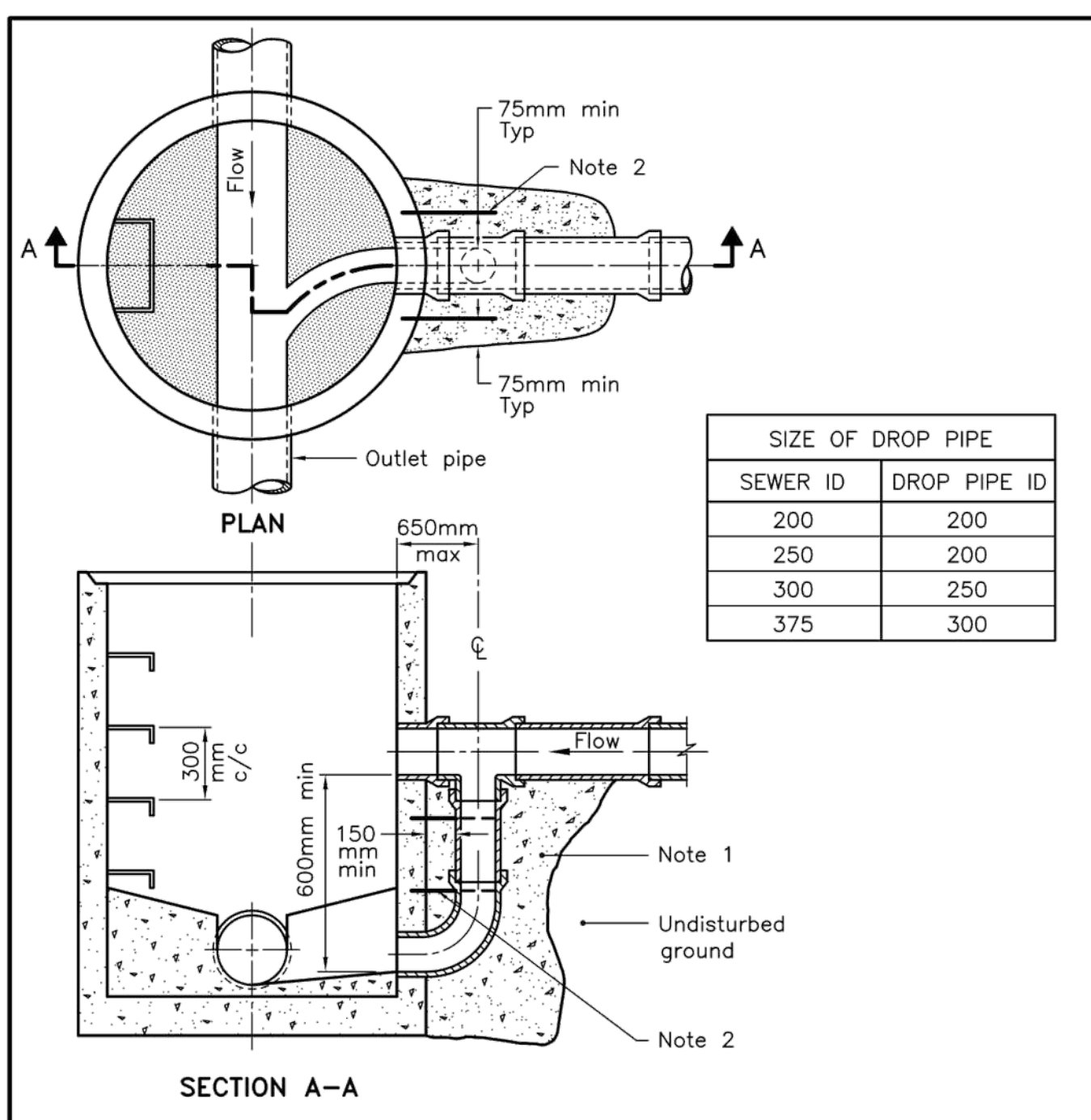
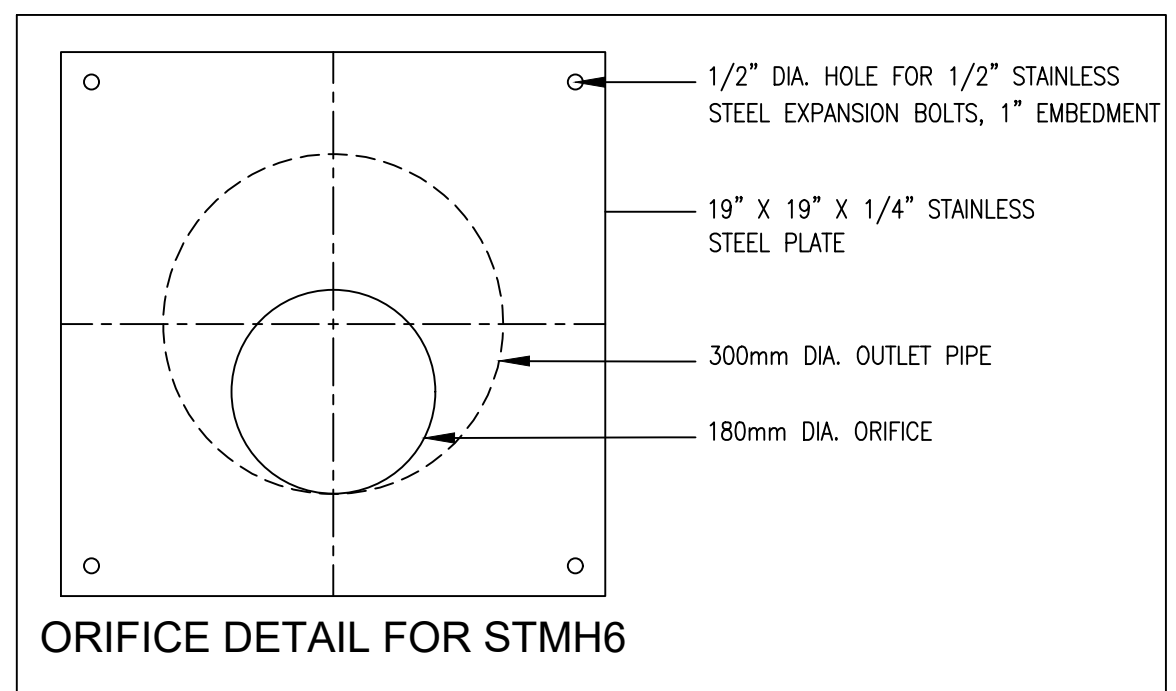
CLIENT:

ARCHITECT:

Architalcan Design Inc.

STE SERVICING PLAN
POPOSED INDUSTRIAL BUILDING
26 ANDERSON BLVD, UXBRIDGE, ON L9P 0C7

DESIGNED BY:	MG	SCALE:	CONTRACT No.
CHECKED BY:	FS	HORIZONTAL: 1:300	SHEET
DRAWN BY:	MG	VERTICAL:	No 2 OF 5
DATE:	2024/08/30		C2 DRAWING No.



NOTES:

1 Concrete to be placed to undisturbed ground and the outside face of the maintenance hole, but there shall be a minimum of 150mm of 15MPa concrete around the drop pipe.

2 Concrete shall be secured to the maintenance hole with 450mm long, 13mm diameter threaded rods and drilled expansion anchors down either side of the drop pipe at 300mm centres.

A All dimensions are in millimetres unless otherwise shown.

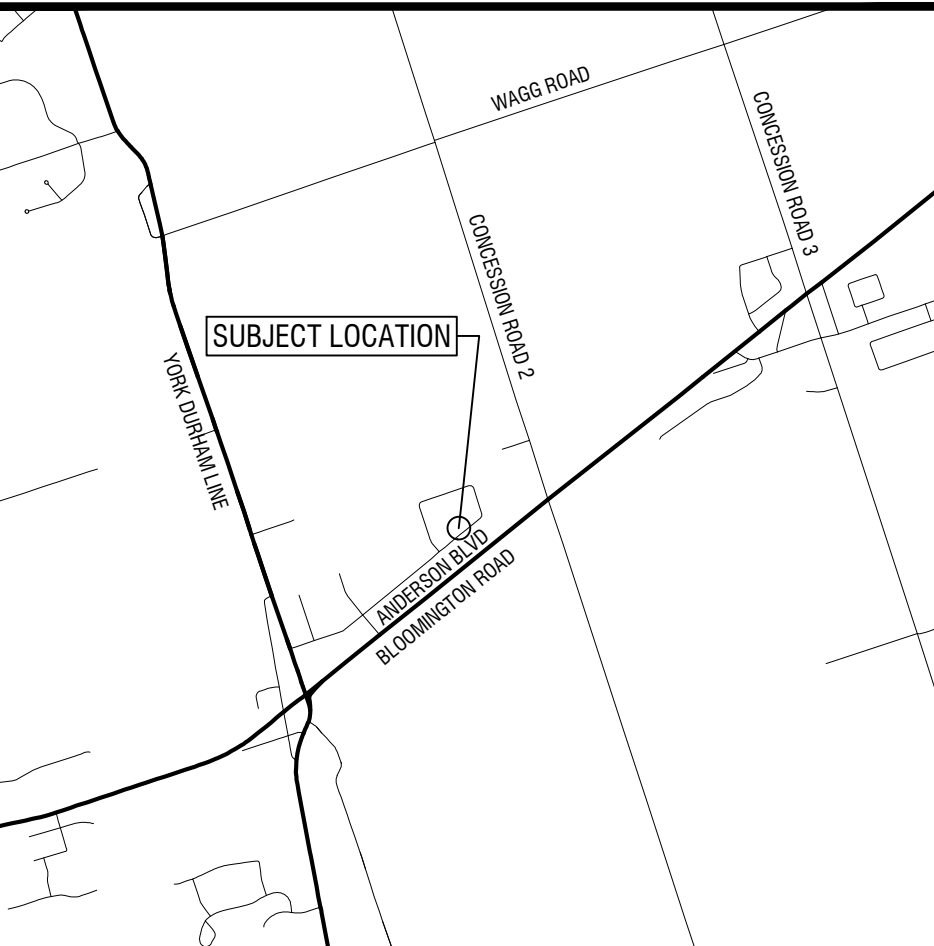
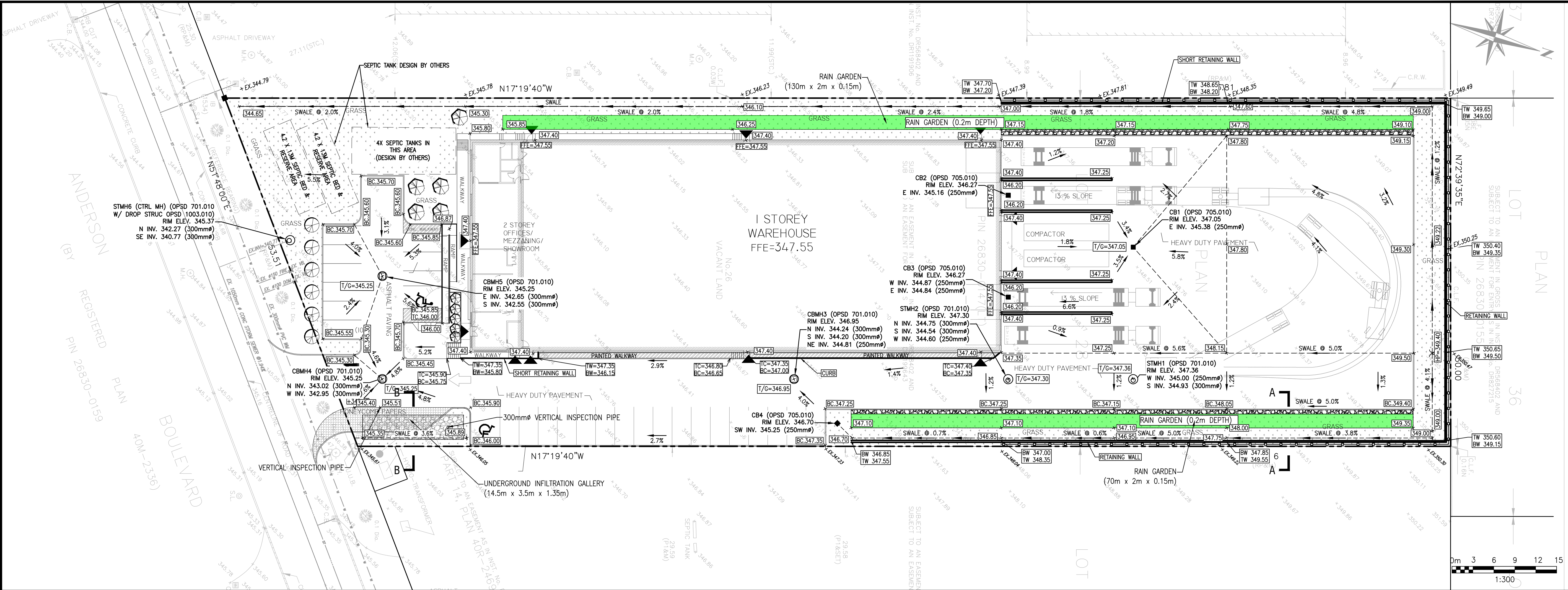
ONTARIO PROVINCIAL STANDARD DRAWING

Nov 2005 Rev 1

CAST-IN-PLACE

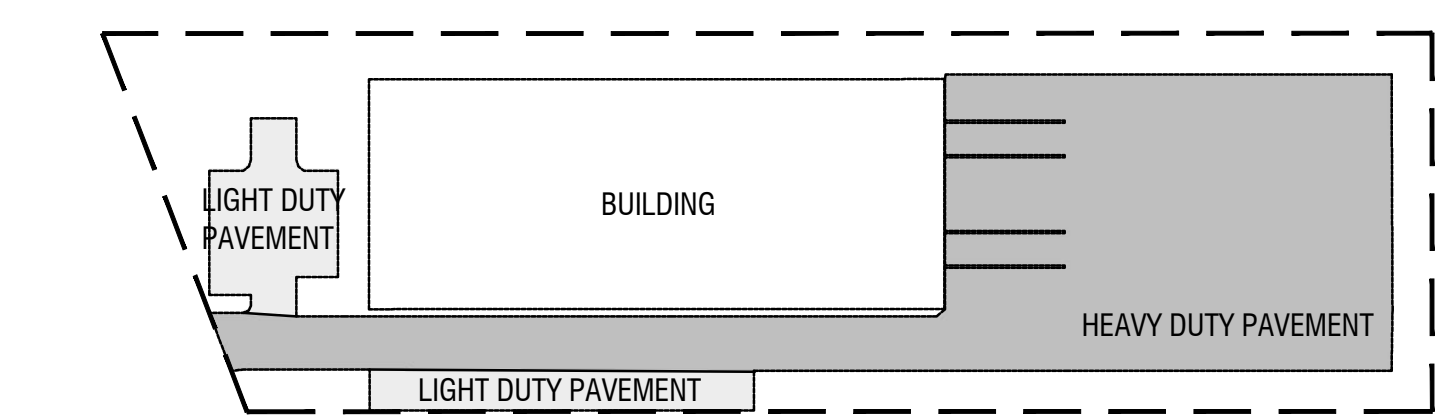
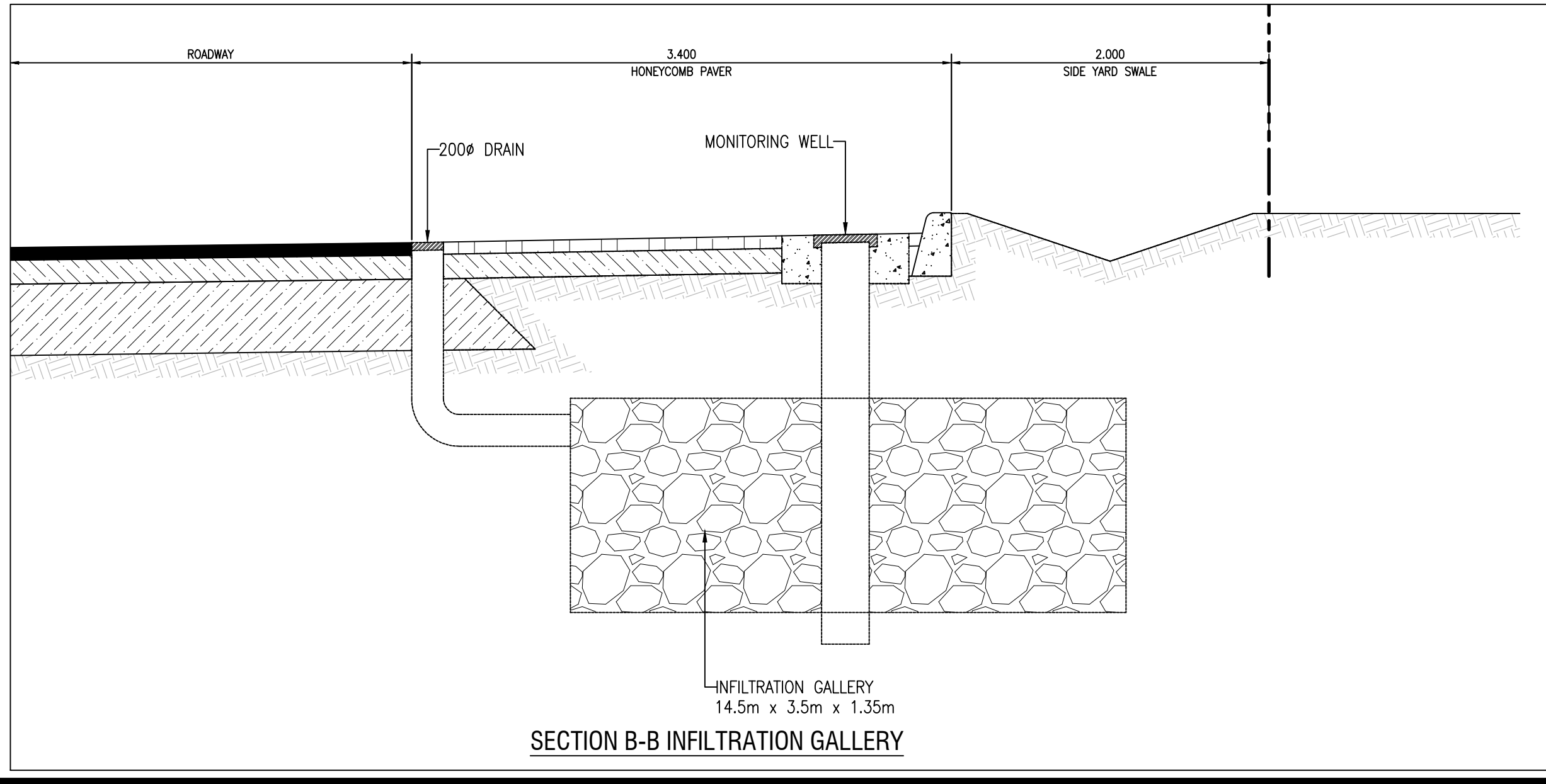
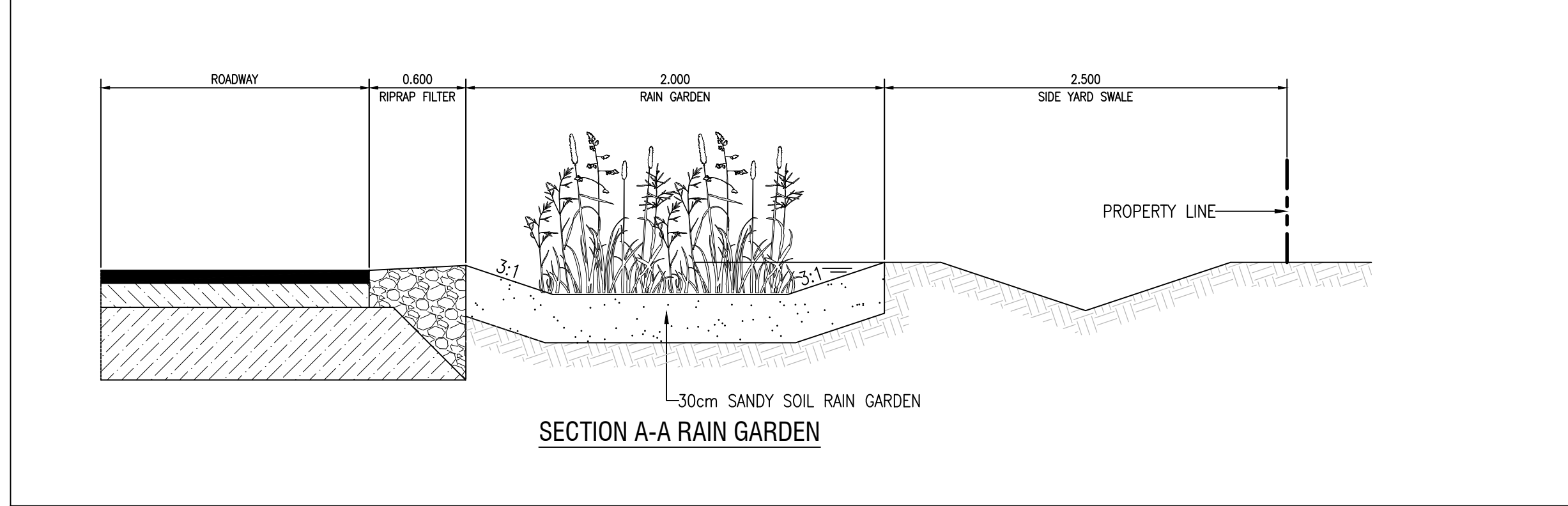
MAINTENANCE HOLE DROP STRUCTURE TEE

OPSD - DATE 1005-01-2010 08:43 AM

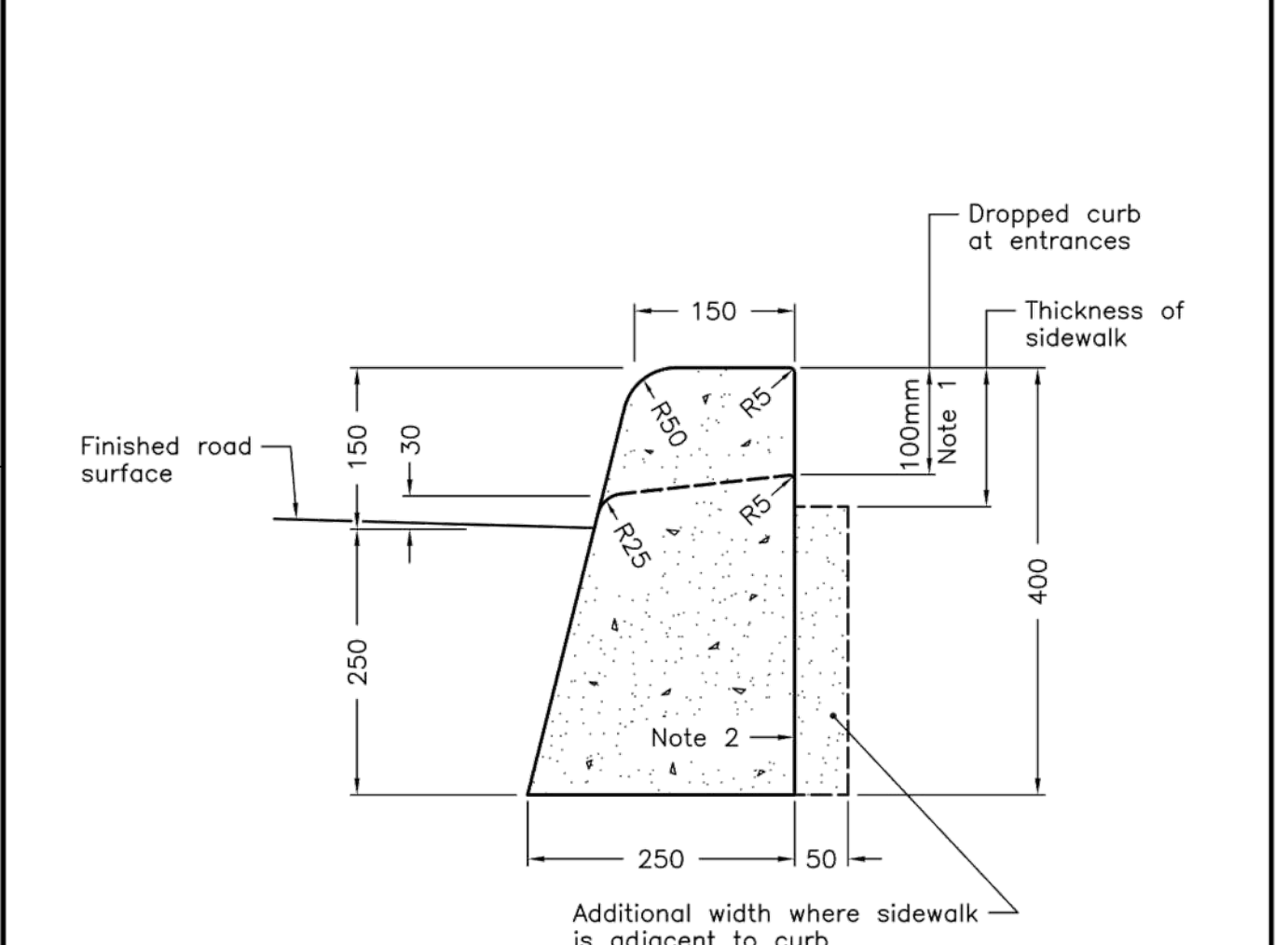


KEYPLAN

LEGEND	
□	DENOTES MONUMENT SET
■	DENOTES MONUMENT FOUND
IB	DENOTES STANDARD IRON BAR
P1	DENOTES PLAN OF SURVEY BY SALNA SURVEYING, O.L.S. DATE FEBRUARY 15, 2012
P2	DENOTES PLAN OF SURVEY BY ERTL-HUNT SURVEYORS, O.L.S. DATE JULY 7, 2023
RP	DENOTES REGISTERED PLAN 40M-24690
1534	DENOTES HUNT SURVEYS INC., O.L.S.
1128	DENOTES DAVID HORWOOD LTD., O.L.S.
IBW	DENOTES IBW SURVEYORS, O.L.S.
IBN	DENOTES PROPERTY IDENTIFIER NUMBER
M	DENOTES MEASURED
N,S,E,W	DENOTES NORTH, SOUTH, EAST, WEST
C.L.F.	DENOTES CHAIN LINK FENCE
C.R.W.	DENOTES CONCRETE RETAINING WALL
U.U.B.	DENOTES UNDERGROUND UTILITY BOX
D.S.	DENOTES DOOR SILL ELEVATION AT ENTRY
STC	DENOTES TIE TAKEN FROM STUCCO
○	DENOTES FIRE HYDRANT
○	DENOTES MANHOLE
○	DENOTES STREET LAMP
○	DENOTES WATER VALVE
○	DENOTES CATCH BASIN
○	DENOTES CONIFEROUS TREE
○	DENOTES DECIDUOUS TREE



Pavement Structure Layers	Light Duty Road / Parking Lot	Heavy Duty Road / Fire Route
HMA Surface Course, OPSS 1150 HL 3	40 mm	40 mm
HMA Surface Course, OPSS 1150 HL 8 (two (2) layers with binder)	50 mm	85 mm
Granular Base Course, OPSS MUNI 1010 Granular A (non-recycle)	150 mm	150 mm
Granular Subbase Course, OPSS MUNI 1010 Granular B Type II (non-recycle)	300 mm	450 mm
Total Thickness	540 mm	725 mm



NOTES:
1 Where sidewalk is continuously adjacent, reduce the dropped curb at entrances to 75mm.
2 For slipforming procedure, a 5% batter is acceptable.
A Treatment at entrances shall be according to OPSS 351.010.
B Outlet treatment shall be according to the OPSS 610 Series.
C The transition from one curb type to another shall be a minimum length of 3.0m, except in conjunction with guide rail where it shall be according to the OPSS 900 Series.
D All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2006	Rev 1
CONCRETE BARRIER CURB		
OPSD 600.110		

6			
5			
4			
3			
2			
1			
0	2024/08/30	FOR SITE PLAN APPROVAL	FS
REV.	DATE	DESCRIPTION	BY

MUNICIPALITY:

TOWNSHIP OF UXBRIDGE
Trail Capital of Canada

ENGINEER'S STAMP

ENGINEER:

LUBAN
7373 LONGHEAD AVENUE, NIAGARA FALLS, ONTARIO, L2G7S4
TEL: 226-688-7928, EMAIL: FENG.SH@LUBAN.CA

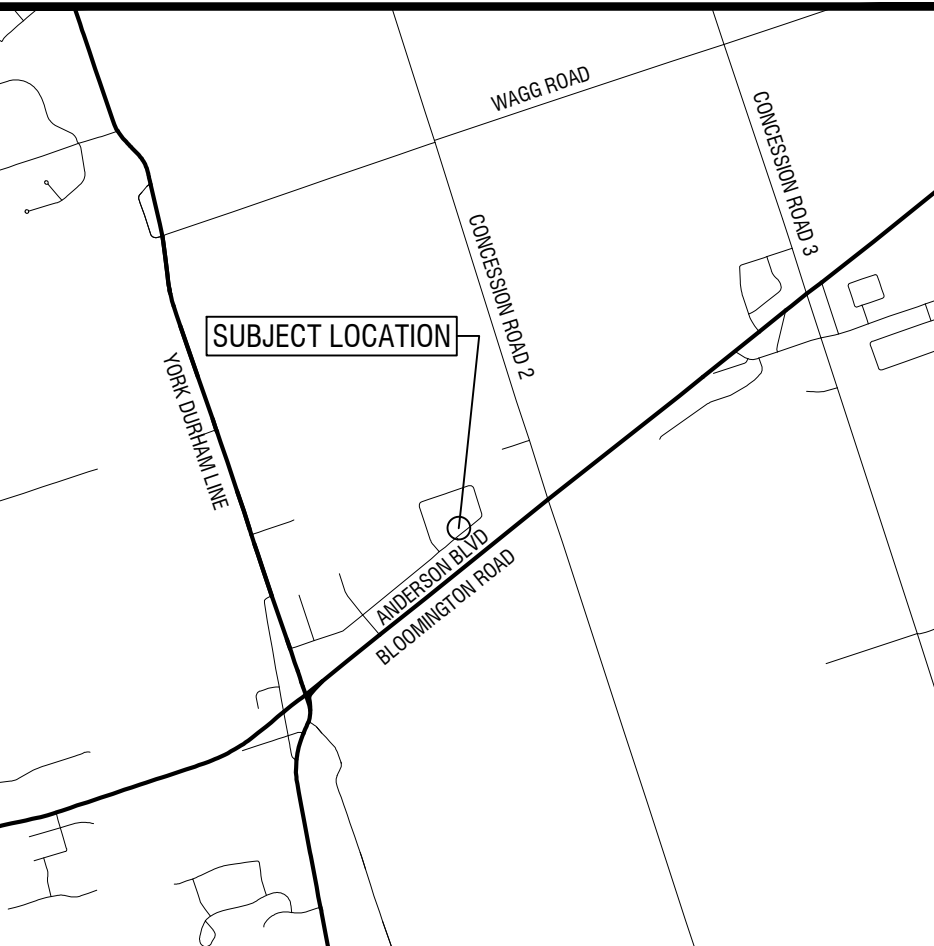
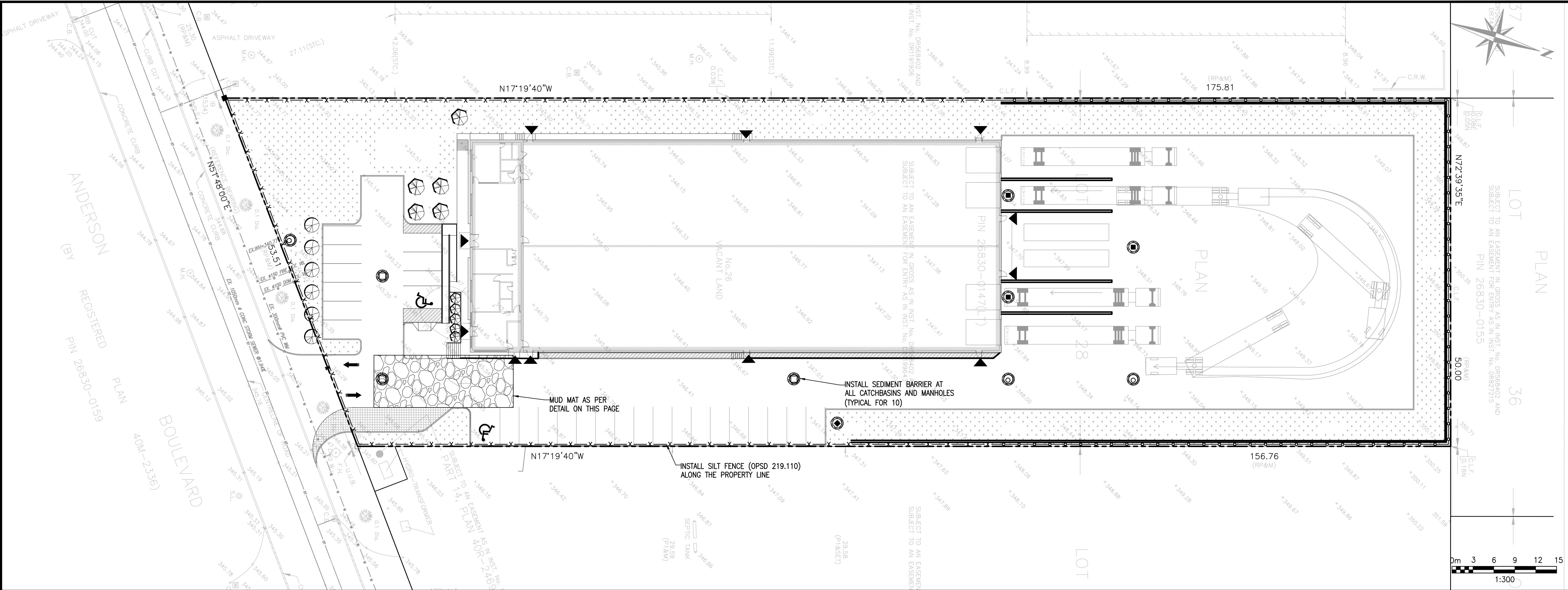
CLIENT:

ARCHITECT:

Architalcan Design Inc.

GRADING PLAN
POPOSED INDUSTRIAL BUILDING
26 ANDERSON BLVD, UXBRIDGE, ON L9P 0C7

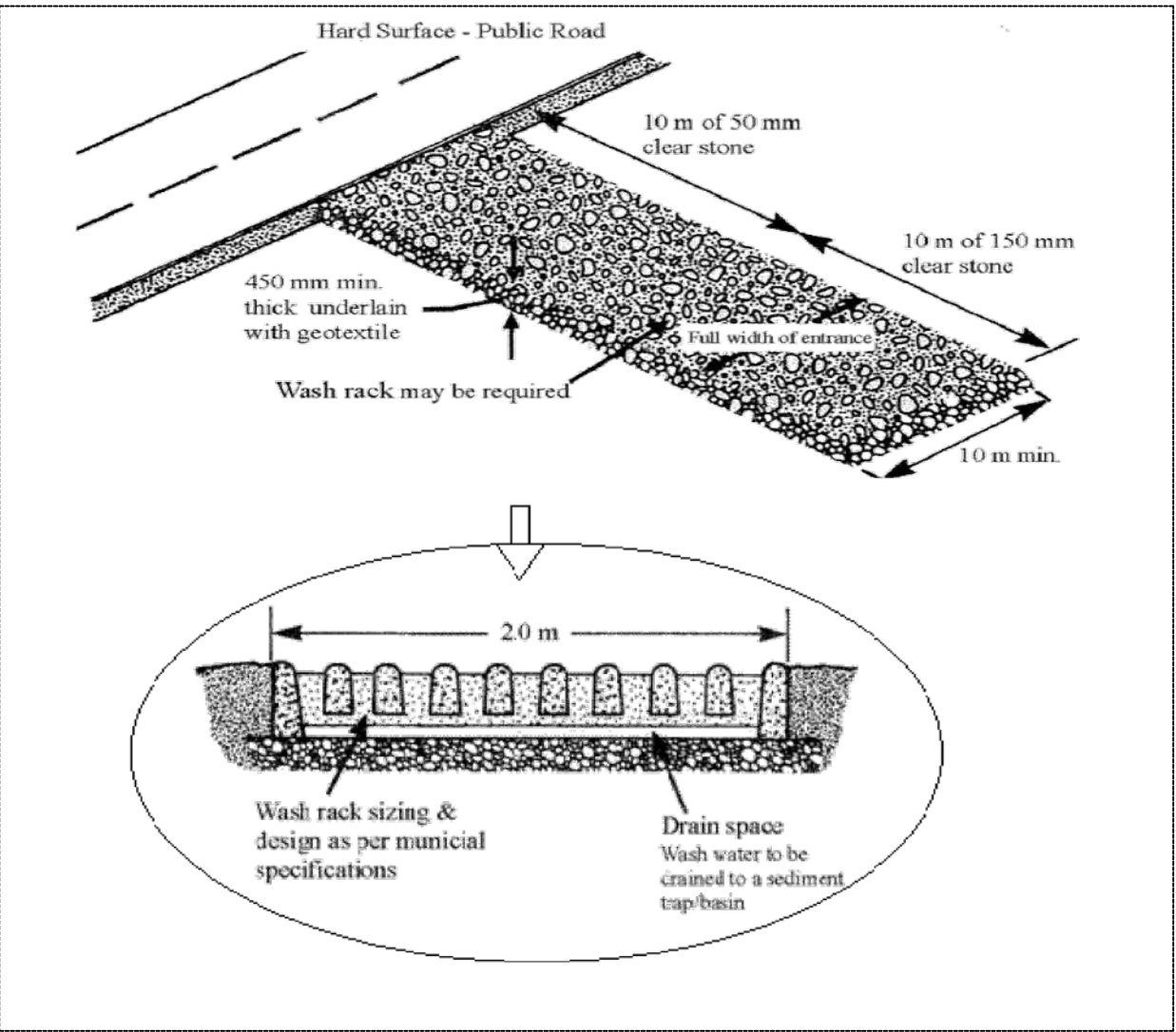
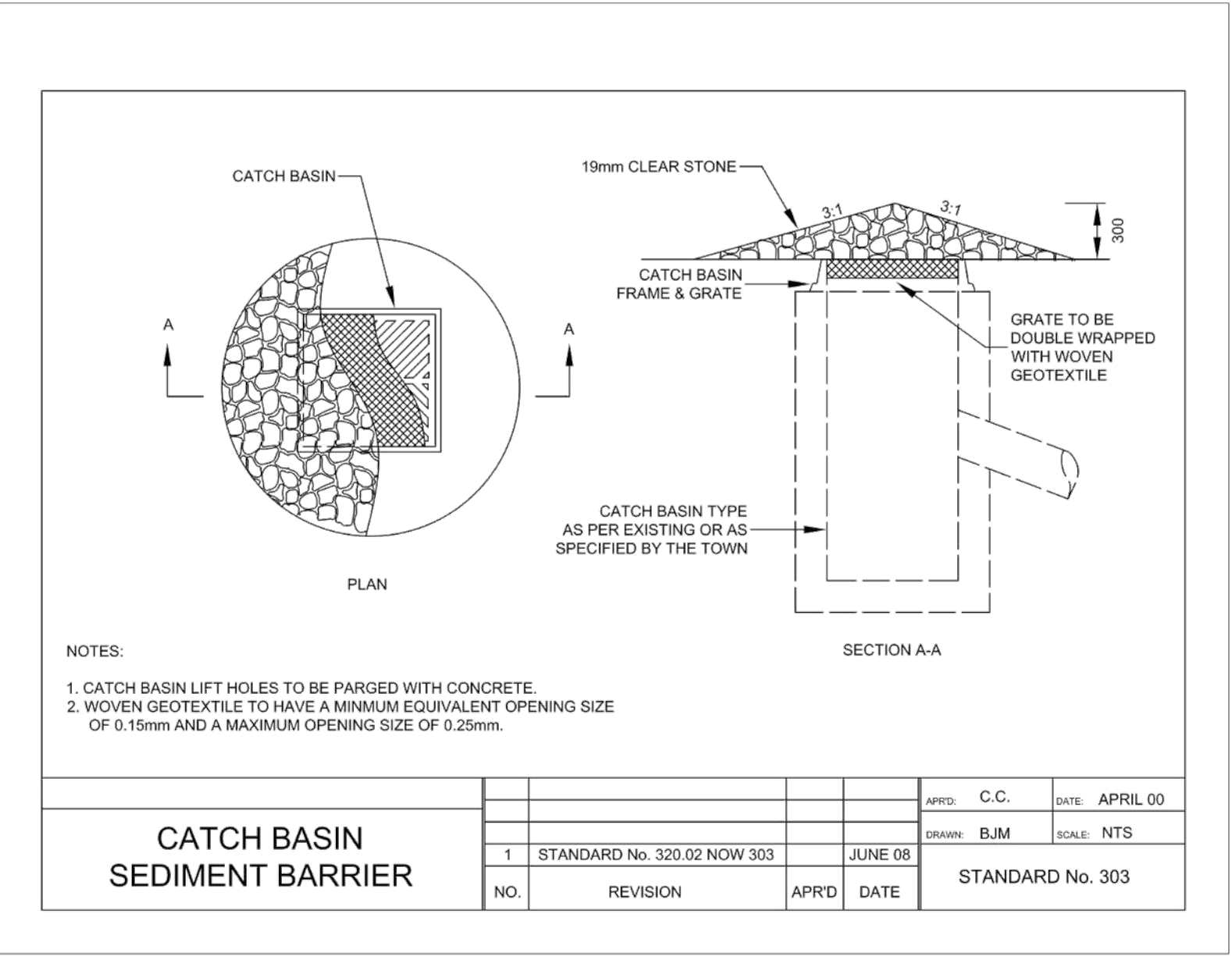
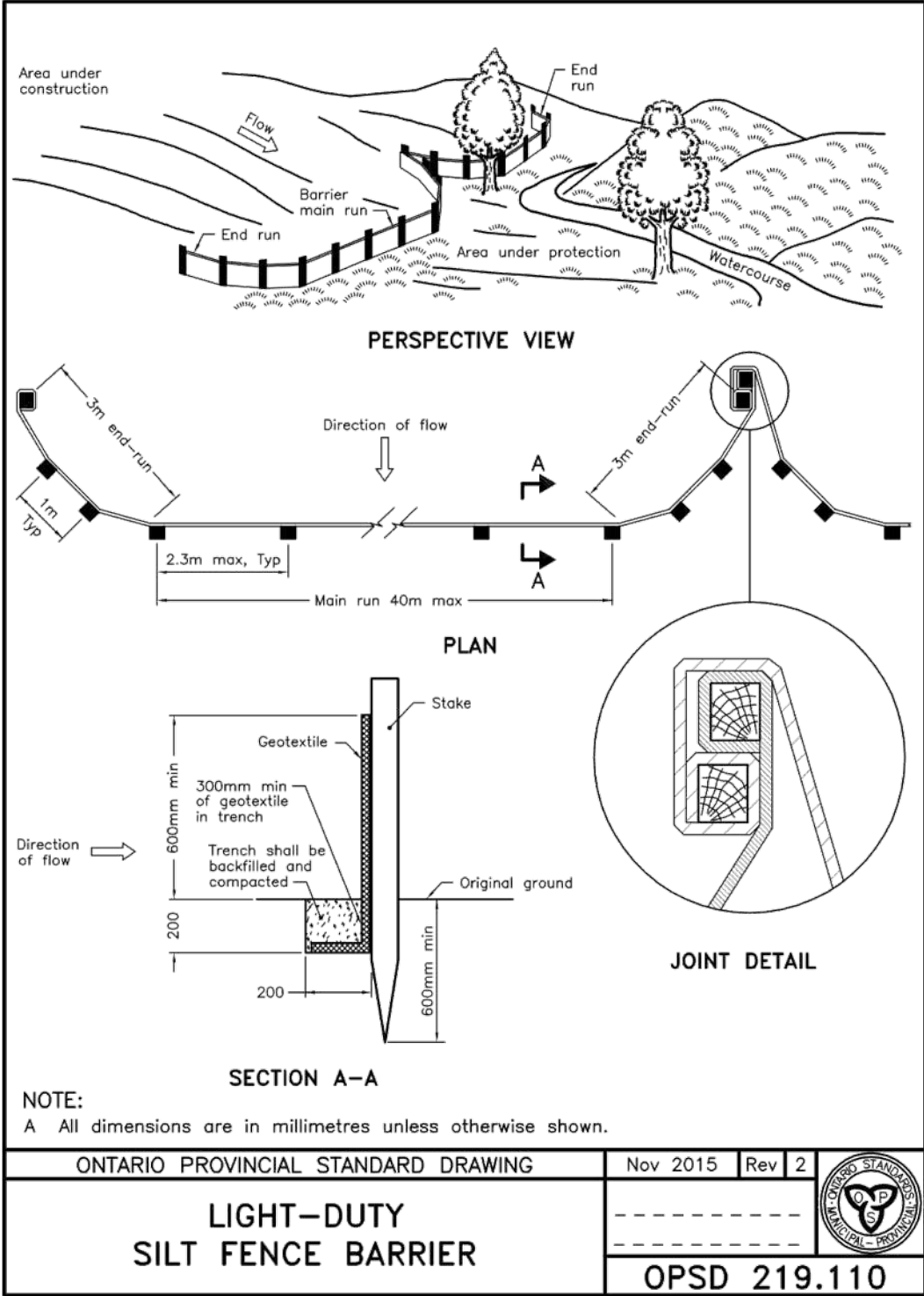
DESIGNED BY: MG	SCALE: HORIZONTAL: 1:300	CONTRACT No.
CHECKED BY: FS	VERTICAL:	SHEET No 3 OF 5
DRAWN BY: MG		C3
DATE: 2024/08/30		DRAWING No.



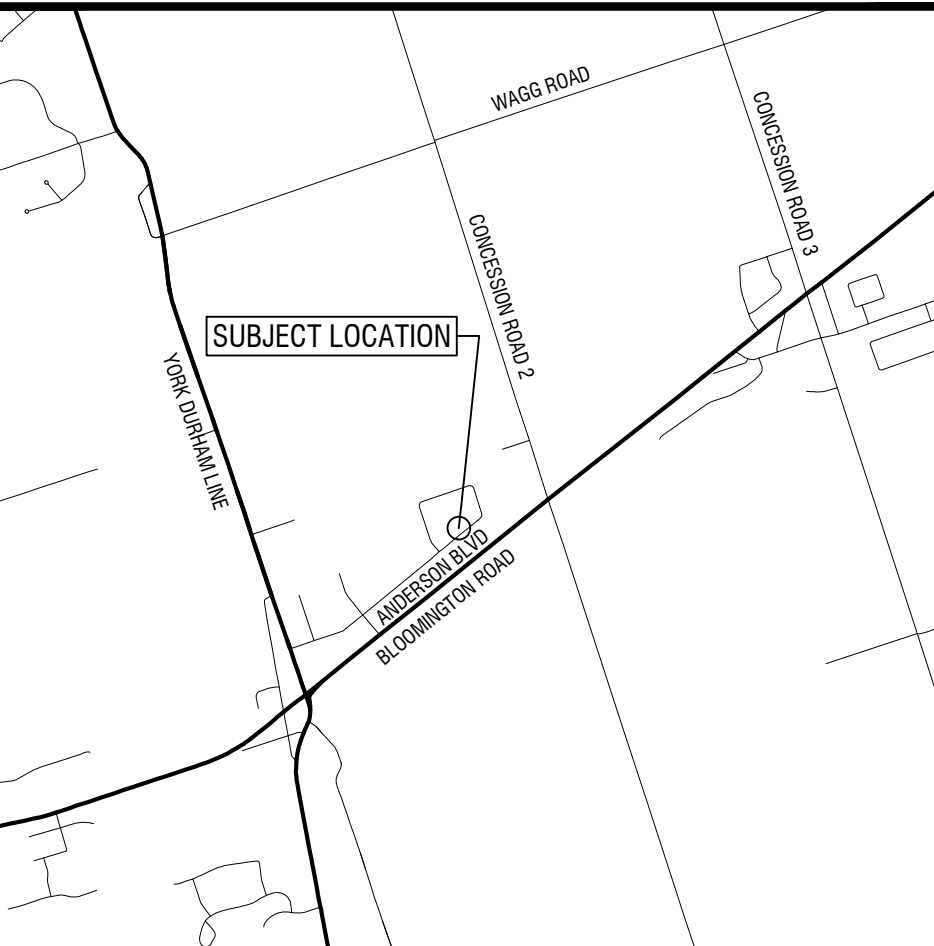
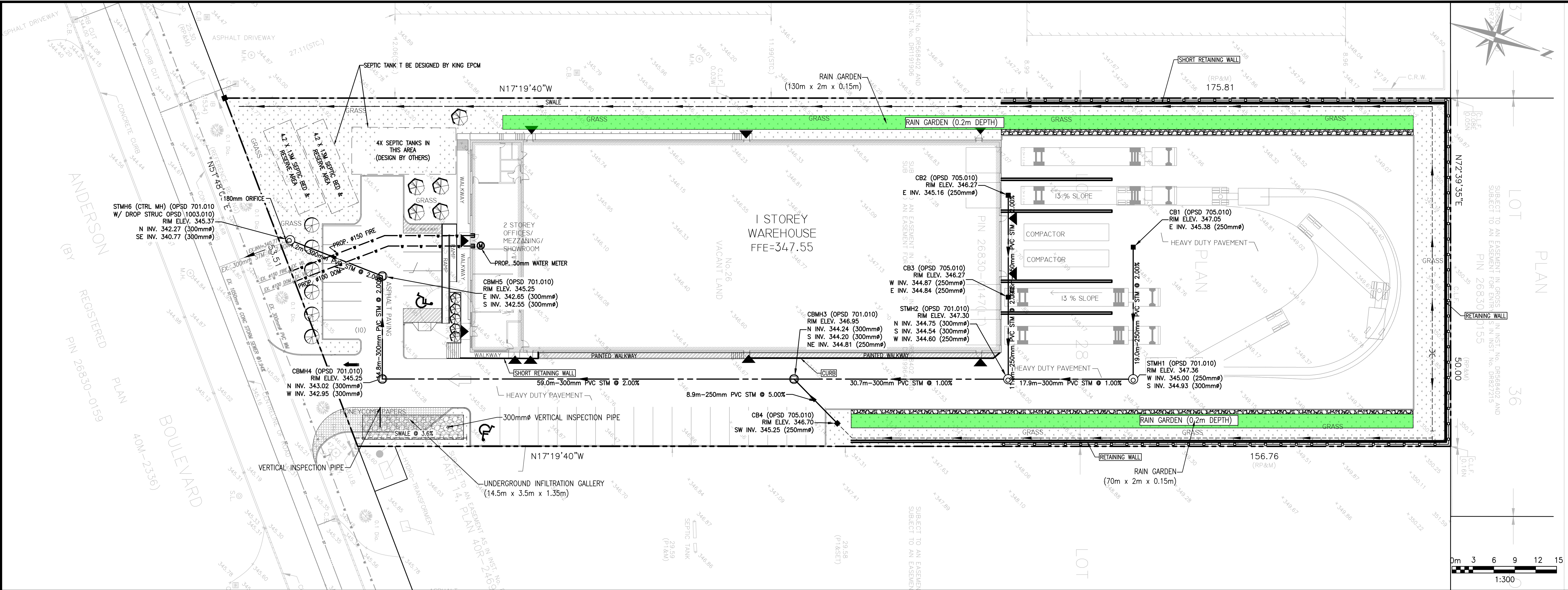
LEGEND			
■	DENOTES MONUMENT SET		
■	DENOTES MONUMENT FOUND		
■	DENOTES STANDARD IRON BAR		
■	DENOTES IRON BAR		
P1	DENOTES PLAN OF SURVEY BY SALNA SURVEYING, O.L.S. DATE FEBRUARY 15, 2012		
P2	DENOTES PLAN OF SURVEY BY ERTL-HUNT SURVEYORS, O.L.S. DATE JULY 7, 2023		
RP	DENOTES REGISTERED PLAN 40M-24690		
1534	DENOTES HUNT SURVEYS INC., O.L.S.		
1128	DENOTES DAVID HORWOOD LTD., O.L.S.		
IBW	DENOTES IBW SURVEYORS, O.L.S.		
PIN	DENOTES PROPERTY IDENTIFIER NUMBER		
M	DENOTES MEASURED		
N,S,E,W	DENOTES NORTH, SOUTH, EAST, WEST		
C.L.F.	DENOTES CHAIN LINK FENCE		
C.R.W.	DENOTES CONCRETE RETAINING WALL		
U.U.B.	DENOTES UNDERGROUND UTILITY BOX		
D.S.	DENOTES DOOR SILL ELEVATION AT ENTRY		
STC.	DENOTES TIE TAKEN FROM STUCCO		
○	DENOTES FIRE HYDRANT		
○	DENOTES MANHOLE		
○	DENOTES STREET LAMP		
○	DENOTES WATER VALVE		
■	DENOTES CATCH BASIN		
○	DENOTES CONIFEROUS TREE		
○	DENOTES DECIDUOUS TREE		

GENERAL NOTES (FOR SITE ALTERATION)

- PRIOR TO COMMENCEMENT OF ANY ON-SITE WORK/SOIL STRIPPING, EROSION & SEDIMENT CONTROL (ESC) MEASURES, AS PER ACCEPTED SITE ALTERATION PLANS. MUST BE INSTALLED AND APPROVED BY THE DEVELOPER'S ENGINEER. ADDITIONAL ESC MEASURES, IF REQUIRED, SHALL BE INSTALLED AS DIRECTED BY THE DEVELOPER'S ENGINEER. THE ESC MEASURES SHALL REMAIN IN PLACE UNTIL DIRECTED BY THE DEVELOPER'S ENGINEER FOR THEIR REMOVAL.
- NO CONSTRUCTION ACTIVITIES OR MACHINERY SHALL BE ALLOWED BEYOND THE SILT FENCE OR LIMITS OF THE PROPERTY.
- THE CONTRACTOR IS RESPONSIBLE TO IMPLEMENT DUST CONTROL MEASURES AND CONSTRUCTION PRACTICE GUIDELINES AS APPROVED BY THE TOWNSHIP OF UXBRIDGE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL ESC MEASURES IN WORKING CONDITIONS AT ALL TIMES TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING. THE CONTRACTOR SHALL ROUTINELY INSPECT ALL ESC MEASURES AT A MINIMUM OF ONCE A WEEK AND AFTER EACH RAINFALL EVENT GREATER THAN 10 MM TO ENSURE THAT ESC MEASURES ARE IN PROPER WORKING CONDITIONS. ANY DAMAGES MUST BE REPAIRED WITHIN 24 HOURS.
- ALL CONSTRUCTION VEHICLES MUST ENTER AND EXIT THE SITE ONLY FROM THE APPROVED ACCESS ROUTE(S) AS SHOWN ON THE ACCEPTED EROSION CONTROL PLANS.
- ALL DISTURBED GROUND LEFT INACTIVE FOR OVER 30 DAYS SHALL BE VEGETATED, SUBJECT TO WEATHER CONDITIONS, BY SEEDING OR APPROVED EQUIVALENT TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.
- STREET SWEEPING/CATCHBASIN CLEANING PROGRAM SHALL BE IMPLEMENTED UPON COMPLETION OF BASE ASPHALT TO THE SATISFACTION OF THE DIRECTOR OF ENGINEERING.
- THE CONTRACTOR SHALL ENDEAVOUR TO PREVENT MUD TRUCKING ONTO EXISTING RIGHT-OF-WAY AND SHALL PROVIDE CLEAN UP AT HIS/HER OWN EXPENSE AS DIRECTED BY THE DIRECTOR OF ENGINEERING.
- NO EROSION MEASURES WILL BE REMOVED WITHOUT NOTIFICATION FROM THE ENGINEER.



SEDIMENT & EROSION CONTROL PLAN			
POPOSED INDUSTRIAL BUILDING			
26 ANDERSON BLVD, UXBRIDGE, ON L9P 0C7			
DESIGNED BY:	MG	SCALE:	CONTRACT No.
CHECKED BY:	FS	HORIZONTAL: 1:300	SHEET
DRAWN BY:	MG	VERTICAL:	No 4 OF 5
DATE:	2024/08/30		C4
			DRAWING No.



KEYPLAN

LEGEND			
□	DENOTES MONUMENT SET		
■	DENOTES MONUMENT FOUND		
SIB	DENOTES STANDARD IRON BAR		
IB	DENOTES IRON BAR		
P1	DENOTES PLAN OF SURVEY BY SALNA SURVEYING, O.L.S. DATE FEBRUARY 15, 2012		
P2	DENOTES PLAN OF SURVEY BY ERTL-HUNT SURVEYORS, O.L.S. DATE JULY 7, 2023		
RP	DENOTES REGISTERED PLAN 40M-24690		
1534	DENOTES HUNT SURVEYS INC., O.L.S.		
1128	DENOTES DAVID HORWOOD LTD., O.L.S.		
IBW	DENOTES IBW SURVEYORS, O.L.S.		
PIN	DENOTES PROPERTY IDENTIFIER NUMBER		
M	DENOTES MEASURED		
N,S,E,W	DENOTES NORTH, SOUTH, EAST, WEST		
C.L.F.	DENOTES CHAIN LINK FENCE		
C.R.W.	DENOTES CONCRETE RETAINING WALL		
U.U.B.	DENOTES UNDERGROUND UTILITY BOX		
D.S.	DENOTES DOOR SILL ELEVATION AT ENTRY		
STC.	DENOTES THE TAKEN FROM STUCCO		
⊙	DENOTES FIRE HYDRANT		
⊙	DENOTES MANHOLE		
⊙	DENOTES STREET LAMP		
⊙	DENOTES WATER VALVE		
■	DENOTES CATCH BASIN		
⊙	DENOTES CONIFEROUS TREE		
⊙	DENOTES DECIDUOUS TREE		

BENCHMARK NOTE
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE REFERRED TO THE CITY OF TORONTO BENCHMARK No.778477 HAVING AN ELEVATION OF 312.926 M, COVD28:78, LOCATED IN STEEL ROD WITH BRASS CAP BM ON N SIDE OF TENTH LINE (FORMERLY HWY 47), 7.6 KM E OF JCT OF TENTH LINE AND HWY 48 AT RINGWOOD, 1.1 KM W OF BLOOMINGTON RD, AND 15.2 M N OF CL OF HWY 47. BM IS LOCATED 9.6 M E OF CL OF GRAVEL FARM LANE, 46 CM S OF NORTH RIGHT-OF-WAY FENCELINE AND 61 CM W OF A BLACK AND YELLOW MARKER POST.

6			
5			
4			
3			
2			
1			
0	2024/08/30	FOR SITE PLAN APPROVAL	FS
REV.	DATE	DESCRIPTION	BY



ENGINEER'S STAMP

ENGINEER:

7373 LIONSHEAD AVENUE, NIAGARA FALLS, ONTARIO, L2G7S4
TEL: 226-688-7828, EMAIL: FENG.SH@LUBAN.CA

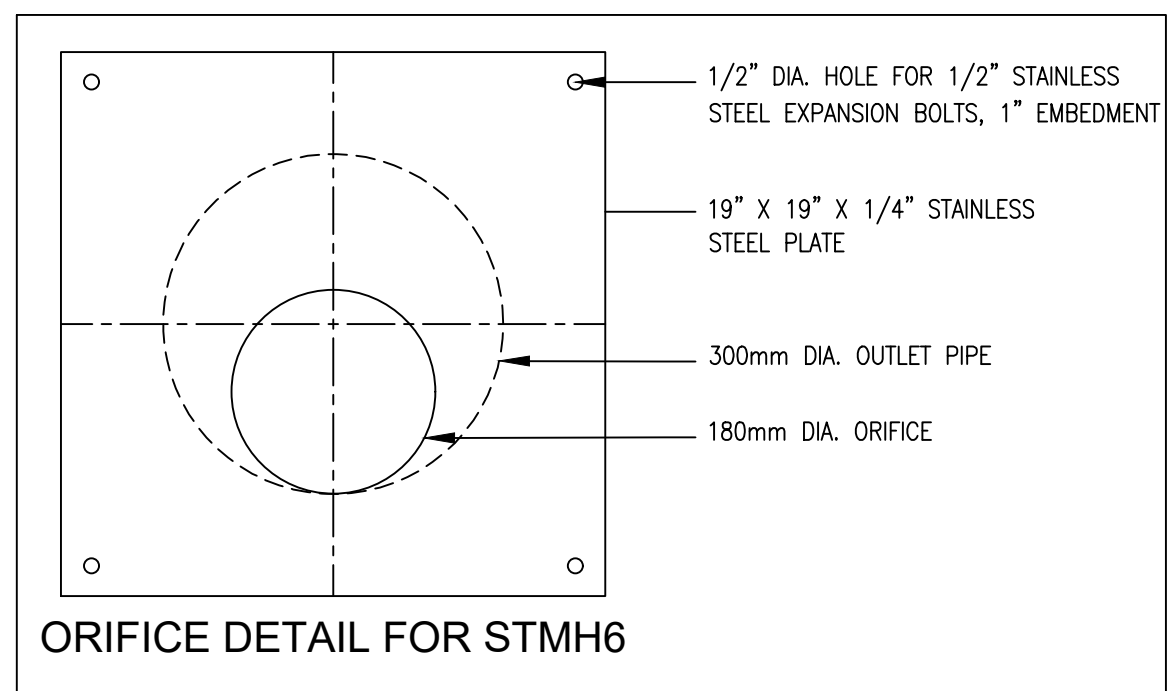
CLIENT:

ARCHITECT:

Architalcan Design Inc.

STE SERVICING PLAN
POPOSED INDUSTRIAL BUILDING
26 ANDERSON BLVD, UXBRIDGE, ON L9P 0C7

DESIGNED BY:	MG	SCALE:	CONTRACT No.
CHECKED BY:	FS	HORIZONTAL:	1:300
DRAWN BY:	MG	VERTICAL:	SHEET
DATE:	2024/08/30		No 2 OF 5
			C2
			DRAWING No.



SIZE OF DROP PIPE	
SEWER ID	DROP PIPE ID
200	200
250	200
300	250
375	300

NOTES:

- Concrete to be placed to undisturbed ground and the outside face of the maintenance hole, but there shall be a minimum of 150mm of 15MPa concrete around the drop pipe.
- Concrete shall be secured to the maintenance hole with 450mm long, 13mm diameter threaded rods and drilled expansion anchors down either side of the drop pipe at 300mm centres.

All dimensions are in millimetres unless otherwise shown.

ONTARIO PROVINCIAL STANDARD DRAWING	Nov 2005	Rev 1	
CAST-IN-PLACE MAINTENANCE HOLE DROP STRUCTURE TEE			
			OPSD - 1003.010

APPENDIX V – CLIMATE DATA TABLE



Guidance Document



Search result (1 of 2) ▶ □ ✕

26 Anderson Blvd, Uxbridge, ●N, L9P 0C7, CAN

Zoom to ...

Precipitation (mm/yr)

868

Evapotranspiration

521

Runoff (mm/yr)

226

Recharge (mm/yr)

364

Show search results for 26 Ande...

26 Anderson Blvd, Uxbridge, ●N, L9 ✕



APPENDIX VI – WATER BALANCE CALCULATIONS

WATER BUDGET- PRE-DEVELOPMENT

WATER BALANCE/WATER BUDGET ASSESSMENT

Catchment Designation	Site
	Vacant/Open Sand
Area (m ²)	8,315
Pervious Area (m ²)	8,315
Impervious Area (m ²)	0
Infiltration Factors	
Topography Infiltration Factor	0.3
Soil Infiltratin Factor	0.4
Land Cover Infiltration Factor	0
MOE Infiltration Factor	0.7
Actual Infiltratin Factor	0.7
Run-Off Coefficient	0.3
Runoff From Impervious Surfaces *	0
Inputs (per unit area)	
Precipitation (mm/yr)	868
Run-On (mm/yr)	0
Other Inputs (mm/yr)	0
Total Inputs (mm/yr)	868
Outputs (per unit area)	
Precipitation Surplus (mm/yr)	346
Net Surplus (mm/yr)	346
Evapotranspiratin (mm/yr)	522
Infiltration (mm/yr)	242.2
Rooftop Infiltration (mm/yr)	0
Total Infiltration (mm/yr)	242.2
Runoff Pervious Area	103.8
Runoff Impervious Area	0
Total Runoff (mm/yr)	103.8
Total Outputs (mm/yr)	868
Difference (Inputs-Outputs)	0
Inputs (Volumes)	
Precipitaiton (m ³ /yr)	7,217
Run-On (m ³ /yr)	0
Other Inputs (m ³ /yr)	0
Total Inputs (m³/yr)	7,217
Outputs (Volumes)	
Precipitation Surplus (m ³ /yr)	2,877
Net Surplus (m ³ /yr)	2,877
Evapotranspiratin (m ³ /yr)	4,340
Infiltration (m ³ /yr)	2,014
Rooftop Infiltration (m ³ /yr)	0
Total Infiltration (m ³ /yr)	2,014
Runoff Pervious Area (m ³ /yr)	863
Runoff Impervious Area (m ³ /yr)	0
Total Runoff (m ³ /yr)	863
Total Outputs (m³/yr)	7,217
Difference (Inputs-Outputs)	0

WATER BUDGET- POST-DEVELOPMENT

WATER BALANCE/WATER BUDGET ASSESSMENT

Catchment Designation	Site			
	Buildings	Driveway/Parking/Walkway	Landscape	Total
Area (m ²)	2,321	3,809	2,185	8,315
Pervious Area (m ²)	0	0	2,185	2,185
Impervious Area (m ²)	2,321	3,809	0	6,130
Infiltration Factors				
Topography Infiltration Factor	0	0	0.3	
Soil Infiltratin Factor	0	0	0.4	
Land Cover Infiltration Factor	0	0	0.1	
MOE Infiltration Factor	0	0	0.8	
Actual Infiltratin Factor	0	0	0.8	
Run-Off Coefficient	1	1	0.2	
Runoff From Impervious Surfaces *	0.95	0.95	0	
Inputs (per unit area)				
Precipitation (mm/yr)	868	868	868	868
Run-On (mm/yr)	0	0	0	0
Other Inputs (mm/yr)	0	0	0	0
Total Inputs (mm/yr)	868	868	868	868
Outputs (per unit area)				
Precipitation Surplus (mm/yr)	824.6	824.6	389	710
Net Surplus (mm/yr)	824.6	824.6	389	710
Evapotranspiratin (mm/yr)	43.4	43.4	479	158
Infiltration (mm/yr)	0	0	311.2	82
Rooftop Infiltration (mm/yr)	0	0	0	0
Total Infiltration (mm/yr)	0	0	311.2	82
Runoff Pervious Area	0	0	77.8	78
Runoff Impervious Area	824.6	824.6	0	825
Total Runoff (mm/yr)	824.6	824.6	77.8	628
Total Outputs (mm/yr)	868	868	868	868
Difference (Inputs-Outputs)	0	0	0	0
Inputs (Volumes)				
Precipitaiton (m ³ /yr)	2,015	3,306	1,896	7,217
Run-On (m ³ /yr)	0	0	0	0
Other Inputs (m ³ /yr)	0	0	0	0
Total Inputs (m ³ /yr)	2,015	3,306	1,896	7,217
Outputs (Volumes)				
Precipitation Surplus (m ³ /yr)	1,914	3,141	850	5,905
Net Surplus (m ³ /yr)	1,914	3,141	850	5,905
Evapotranspiratin (m ³ /yr)	101	165	1,046	1,312
Infiltration (m ³ /yr)	0	0	680	680
Rooftop Infiltration (m ³ /yr)	0	0	0	0
Total Infiltration (m ³ /yr)	0	0	680	680
Runoff Pervious Area (m ³ /yr)	0	0	170	170
Runoff Impervious Area (m ³ /yr)	1,914	3,141	0	5,055
Total Runoff (m ³ /yr)	1,914	3,141	170	5,225
Total Outputs (m ³ /yr)	2,015	3,306	1,896	7,217
Difference (Inputs-Outputs)	0	0	0	0

* Based on the Design Chart 1.07 (MTO, 1997), the runoff coefficients for rooftop and pavement are 0.7 - 0.95 and 0.8 - 0.95, respectively. We used the maximum ratio of 95% for both Asphalt Pavement and Rooftops.

WATER BUDGET- POST-DEVELOPMENT WITH MITIGATION

WATER BALANCE/WATER BUDGET ASSESSMENT

Catchment Designation	Site			
	Buildings	Driveway/Parking/Walkway	Landscape	Total
Area (m ²)	2,321	3,809	2,185	8,315
Pervious Area (m ²)	0	0	2,185	2,185
Impervious Area (m ²)	2,321	3,809	0	6,130
Infiltration Factors				
Topography Infiltration Factor	0	0	0.3	
Soil Infiltratin Factor	0	0	0.4	
Land Cover Infiltration Factor	0	0	0.1	
MOE Infiltration Factor	0	0	0.8	
Actual Infiltratin Factor	0	0	0.8	
Run-Off Coefficient	1	1	0.2	
Runoff From Impervious Surfaces *	0.95	0.95	0	
Inputs (per unit area)				
Precipitation (mm/yr)	868	868	868	868
Run-On (mm/yr)	0	0	0	0
Other Inputs (mm/yr)	0	0	0	0
Total Inputs (mm/yr)	868	868	868	868
Outputs (per unit area)				
Precipitation Surplus (mm/yr)	824.6	824.6	389	710
Net Surplus (mm/yr)	824.6	824.6	389	710
Evapotranspiratin (mm/yr)	43.4	43.4	479	158
Infiltration (mm/yr)	0	618.45	311.2	365
Rooftop Infiltration (mm/yr)	824.6	0	0	230
Total Infiltration (mm/yr)	824.6	618.45	311.2	595
Runoff Pervious Area	0	0	77.8	78
Runoff Impervious Area	0	206.15	0	128
Total Runoff (mm/yr)	0	206.15	77.8	115
Total Outputs (mm/yr)	868	868	868	868
Difference (Inputs-Outputs)	0	0	0	0
Inputs (Volumes)				
Precipitaiton (m ³ /yr)	2,015	3,306	1,896	7,217
Run-On (m ³ /yr)	0	0	0	0
Other Inputs (m ³ /yr)	0	0	0	0
Total Inputs (m ³ /yr)	2,015	3,306	1,896	7,217
Outputs (Volumes)				
Precipitation Surplus (m ³ /yr)	1,914	3,141	850	5,905
Net Surplus (m ³ /yr)	1,914	3,141	850	5,905
Evapotranspiratin (m ³ /yr)	101	165	1,046	1,312
Infiltration (m ³ /yr)	0	2,355	680	3,035
Rooftop Infiltration (m ³ /yr)	1,914	0	0	1,914
Total Infiltration (m ³ /yr)	1,914	2,355	680	4,950
Runoff Pervious Area (m ³ /yr)	0	0	170	170
Runoff Impervious Area (m ³ /yr)	0	785	0	785
Total Runoff (m ³ /yr)	0	785	170	955
Total Outputs (m ³ /yr)	2,015	3,306	1,896	7,217
Difference (Inputs-Outputs)	0	0	0	0

* Based on the Design Chart 1.07 (MTO, 1997), the runoff coefficients for rooftop and pavement are 0.7 - 0.95 and 0.8 - 0.95, respectively. We used the maximum ratio of 95% for both Asphalt Pavement and Rooftops.

WATER BUDGET SUMMARY

WATER BALANCE/WATER BUDGET ASSESSMENT

Characteristic	Site				
	Pre-Development	Post-Development	Change (Pre- to Post-)	Post-Development with Mitigation	Change (Pre- to Post- with Mitigation)
Inputs (Volumes)					
Precipitaiton (m ³ /yr)	7,217	7,217	0.0%	7,217	0.0%
Run-On (m ³ /yr)	0	0	0.0%	0	0.0%
Other Inputs (m ³ /yr)	0	0	0.0%	0	0.0%
Total Inputs (m³/yr)	7,217	7,217	0.0%	7,217	0.0%
Outputs (Volumes)					
Precipitation Surplus (m ³ /yr)	2,877	5,905	105.2%	5,905	105.2%
Net Surplus (m ³ /yr)	2,877	5,905	105.2%	5,905	105.2%
Evapotranspiratin (m ³ /yr)	4,340	1,312	-69.8%	1,312	-69.8%
Infiltration (m ³ /yr)	2,014	680	-66.2%	3,035	50.7%
Rooftop Infiltration (m ³ /yr)	0	0	0.0%	1,914	0.0%
Total Infiltration (m ³ /yr)	2,014	680	-66.2%	4,950	145.8%
Runoff Pervious Area (m ³ /yr)	863	170	-80.3%	170	-80.3%
Runoff Impervious Area (m ³ /yr)	0	5,055	0.0%	785	0.0%
Total Runoff (m ³ /yr)	863	5,225	505.4%	955	10.7%
Total Outputs (m³/yr)	7,217	7,217	0.0%	7,217	0.0%