

August 21, 2024

PH4401-LET.01-REV.01

Cash for Trash Canada
7628 Flewellyn Road
Ottawa, Ontario
K2S 1B6

Attention: Charbel Bouroufail

Subject: **Hydrogeological Report and Terrain Analysis
Proposed Commercial Development
7628 Flewellyn Road
Ottawa, Ontario**



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INTRODUCTION

Further to your request, Paterson has conducted a Hydrogeological Report and Terrain Analysis in support of a Zoning By-Law Amendment for the proposed expansion to the existing commercial development located at 7628 Flewellyn Road in Ottawa, Ontario.

The purpose of this work has been to determine the suitability of the water supply aquifer underlying the site to service the expansion of the proposed commercial development.

The subject site consists of a 20.22 ha lot and is currently occupied by a vehicle salvage yard which includes several structures, a gravel surfaced parking lot and stockpiles of scrap metals. The southern portion of the site is generally vacant. The ground surface across the site generally slopes downward toward the south while the local groundwater flow is likely towards the west, towards the adjacent quarry with regional shallow groundwater flow to the south.

The subject site is bordered by residential dwellings and Flewellyn Road to the north, vacant land to the east, and an existing quarry and associated access roads and fill storage areas to the south and west. The northwest portion of the subject site is currently zoned as RG1(21r) which corresponds to Rural General Industrial Zone with a minimum lot area of 8,000 m² and is located in Ward 21. The remainder of the subject site is identified as RU which refers to Rural Countryside Zone.





A Hydrogeological pre-consultation was completed with a City of Ottawa Hydrogeologist on July 17, 2023. The City Hydrogeologist suggested that additional sampling be completed during the 8-hour pumping test for Polycyclic Aromatic Hydrocarbons (PAHs), Petroleum Hydrocarbons (PHCs) in addition to the standard Subdivision Package suite of parameters, trace metals and Volatile Organic Compounds (VOCs) required by the City of Ottawa Hydrogeological and Terrain Analysis Guidelines (HTAG).

It is understood that two Environmental Activity and Sector Registrations are active at the subject site in accordance with the site usage. Registration Number R-007-467538169, filed November 2, 2016 indicates that the site is registered for the use, operation, enlargement and extension of an end-of-life vehicle waste disposal site. As an active end-of-life vehicle waste disposal site, fluids defined in O. Reg. 85/16 and Reg. 347, such as anti-freeze and fuel, are to be removed over an impermeable surface which has a spill containment system as defined in O. Reg. 85/16.

Further, R-004-71121872151 indicates that the subject site is registered for the use, operation, alteration, engagement or extension or replacement of a waste management system serving the Province of Ontario.

The activities associated with the current site usage as an end-of-life vehicle waste disposal site are provincially regulated and managed by the province of Ontario. Expansion and modifications to the subject site will not result in additional activities detrimental to the underlying aquifer. It is recommended that the client adhere to the current best management practices.

In accordance with Ontario End-of-Life (ELV) Activity Requirements, a Spill Prevention and Management Plan should be developed in support of the Site Plan application and include at a minimum:

- Procedures and materials to be used for spill clean-up.
- The location of all floor drains.
- The location of materials to be used to seal drains in the event of a spill.
- Names of persons to be notified in the event of a spill.
- Schedule for inspecting storage areas, containers and spill containment systems.

DESCRIPTION OF SUBJECT SITE

The subject site is an approximately 20.22 ha lot and is currently occupied by a vehicle salvage yard which includes a one-storey office building, a gravel surfaced parking lot, a weigh scale, an automobile fluid drainage station with various sheds, temporary storage buildings and stockpiles of automobiles and scrap metal product.



The re-zoning application is for the proposed expansion of the commercial development. The subject site will be further developed with new buildings, access lanes, parking areas and designated stockpile areas. Please refer to Figure-1 Key Plan and McRobie - CFT Site Plan – Zoning Amendment Plan, attached, for the proposed site location and site layout.

The subject site is currently serviced by an onsite sewage system and a private drilled well. A new sewage system is proposed to be located within the northeast corner of the site to replace the existing sewage system. Paterson has completed a septic flow calculation and the calculation resulted in a total daily water demand calculation of less than 7,500 L/day. A total daily water demand of 10,000 L/day will be conservatively used to account for future expansions. The calculations are based on Part 8 of the Ontario Building Code (OBC) and are considered to be conservative.

A licensed well contractor (Air Rock Drilling) was retained to install a new drilled well on site on May 18, 2023. The new drilled well, hereby referred to as TW1, was tested in support of the proposed commercial development and was able to provide a sufficient volume of groundwater for the proposed development. Groundwater samples have been collected from the onsite well and submitted to an accredited laboratory for comprehensive testing of bacteriological, chemical and physical water quality parameters consistent with the standard “Subdivision Supply” suite of parameters as well as trace metals, PAHs, PHCs and VOCs.

The suitability of the aquifer to supply the subject site was assessed using the methodology provided in City of Ottawa HTAG.

MISSISSIPPI-RIDEAU SOURCE PROTECTION PLAN

The Mississippi-Rideau Source Protection Plan (MRSPP) provides guidance as to which policies apply to a given property, municipality or specific activity and if there are specific designations that apply to the area. The subject site and surrounding areas have been designated as a Highly Vulnerable Aquifer (HVA), and Wellhead Protection Area D (score of 2) within the MRSPP, and are identified as two of four groundwater related vulnerable areas identified within the Clean Water Act (2006). The four vulnerable areas consist of SGRA, HVA, IPZ and wellhead protection area (WHPA).

Based upon the designation of an HVA and WHPA, the MRSPP provides a list of activities that are prohibited, managed or encouraged to change dependent upon the vulnerable area type. The subject site is mapped to be in WHPA D (Source Protection Atlas), however has a score of 2 (MRSPP). There is no prohibition of land uses on the subject site based upon its existing usage.

Therefore, there are no related requirements for an HVA or WHPA D (score of 2) with a score of less than 8 at this location.



FIELDWORK PROGRAM

Well Installation

As a means to demonstrate the adequacy of the aquifer underlying the subject lands, with respect to water quality and quantity, a new drilled well (Tag # A378991) was constructed by Air Rock Drilling (Air Rock) on May 18, 2023. The MECP Water Well Record (WWR) indicates that the well extends to approximately 36.5 m below ground surface (bgs). The 152 mm steel casing is recorded to extend to 12.8 m bgs, with a 0.61 m stick up. Limestone bedrock was encountered at the ground surface. The onsite WWR demonstrates that the well was installed according to the City of Ottawa HTAG. A copy of the WWR can be found attached.

Well Testing

As a means to evaluate the water supply aquifer intercepted by the well, the well was subjected to an 8-hour constant rate pumping test. The pumping test was conducted on June 1, 2023 under the full-time supervision of Paterson personnel. Prior to the pumping test the well was disinfected as per the MECP Disinfection Instruction Sheet (attached), and a data-logger was installed to monitor the background groundwater levels.

A submersible pump was rented from Air Rock for the pumping test. A licensed water well technician (Air Rock) completed the necessary plumbing related activities. A discharge hose assembly with a gate valve was connected to the rented pump. The discharge line was placed at a sufficient distance to ensure that the discharge water was being directed away from the well and any septic systems in the area. Upon completion of the test, the pump was removed and the well was disinfected by Air Rock.

The pumping test was carried out at a pumping rate of 38 L/min for a duration of 8 hours. During the pumping test, the pumping rate was periodically measured using the timed volume correlation method. The pump rate was maintained within 5% of the selected pump rate. The static water level was recorded manually and an electric datalogger (VanEssen TD-Diver) was installed in the test well prior to the start of the pumping test. The selected rate of 38 L/min provides approximately 1.8 times the maximum total daily design volume for the septic system during the 8-hour pumping test. It should be noted that the actual daily water usage is typically much lower than the theoretical OBC values. The rate was determined to be representative of a flow rate which would be in excess of what the development would require.

The data logger recorded water levels at 30 second intervals. In addition, manual water level readings were taken at periodic intervals during the test.



Recovery data was collected from the well following the completion of the pumping. The well was noted to have achieved 95% recovery approximately 3 minutes after the completion of pumping.

Groundwater samples were collected 4 hours and 8 hours after the start of pumping. Prior to collection of the groundwater samples, the free chlorine residual was verified as non-detectable. The water samples were submitted for comprehensive testing of bacteriological, chemical, and physical water quality parameters consistent with the standard "Subdivision Supply" suite of parameters plus trace metals and VOCs. PHCs were measured at the 8-hour mark.

All samples were collected unfiltered and unchlorinated and were placed directly into clean bottles supplied by the analytical laboratory. Samples were placed immediately into a cooler with ice and were transported directly to Eurofins Environmental Testing Canada Inc. laboratory in Ottawa. All samples were received by the laboratory within 24 hours of collection.

A series of field tests of the pumped water were carried out at the well head during the 8-hour pumping test. The parameters tested at the well head included: pH, total dissolved solids, conductivity, turbidity, true colour, and temperature.

Aquifer Analysis

Water Quantity

Pumping test data from the pumping test performed at TW1 was analyzed using AQTESOLV Pro Version 4.5 aquifer analysis software package by HydroSOLVE Inc. Drawdown data was measured using an electronic water level tape and an electronic datalogger unit.

AQUIFER PARAMETER	RESULT OF ANALYSIS
Transmissivity (m ² /day)	914
Pumping Rate (L/min)	38
Pre-test Static Water Level (m TOC)	12.6
Post-test Water Level (m TOC)	12.7
Available Drawdown (m)	24.1
%Drawdown During Pump Test (%)	0.6
Specific Capacity (L/min/m drawdown)	253



The drawdown data was analyzed using the Theis and Cooper Jacob methods of analysis. Aquifer transmissivity is estimated to be 914 m²/day. Refer to the Theis and Cooper Jacob methods of analysis data sheets attached to this report.

The pumping test results show that TW1 has a high yield to support the water demands that may be required. Overall maximum drawdown, at a constant pumping rate for a period of 8 hours, was approximately 0.15 m (0.6% of the available drawdown). 100% recovery was achieved approximately 3 minutes after the end of pumping.

The total volume of water pumped during the 8-hour pumping event was approximately 18,240 L. This is approximately 1.8 times the maximum total daily design volume of water required to support the proposed commercial development expansion (maximum 10,000 L/day). It should be noted that the actual daily water usage is typically much lower than the theoretical OBC values.

The suitability of the aquifer to supply the proposed site was assessed using the methodology provided in the City of Ottawa HTAG.

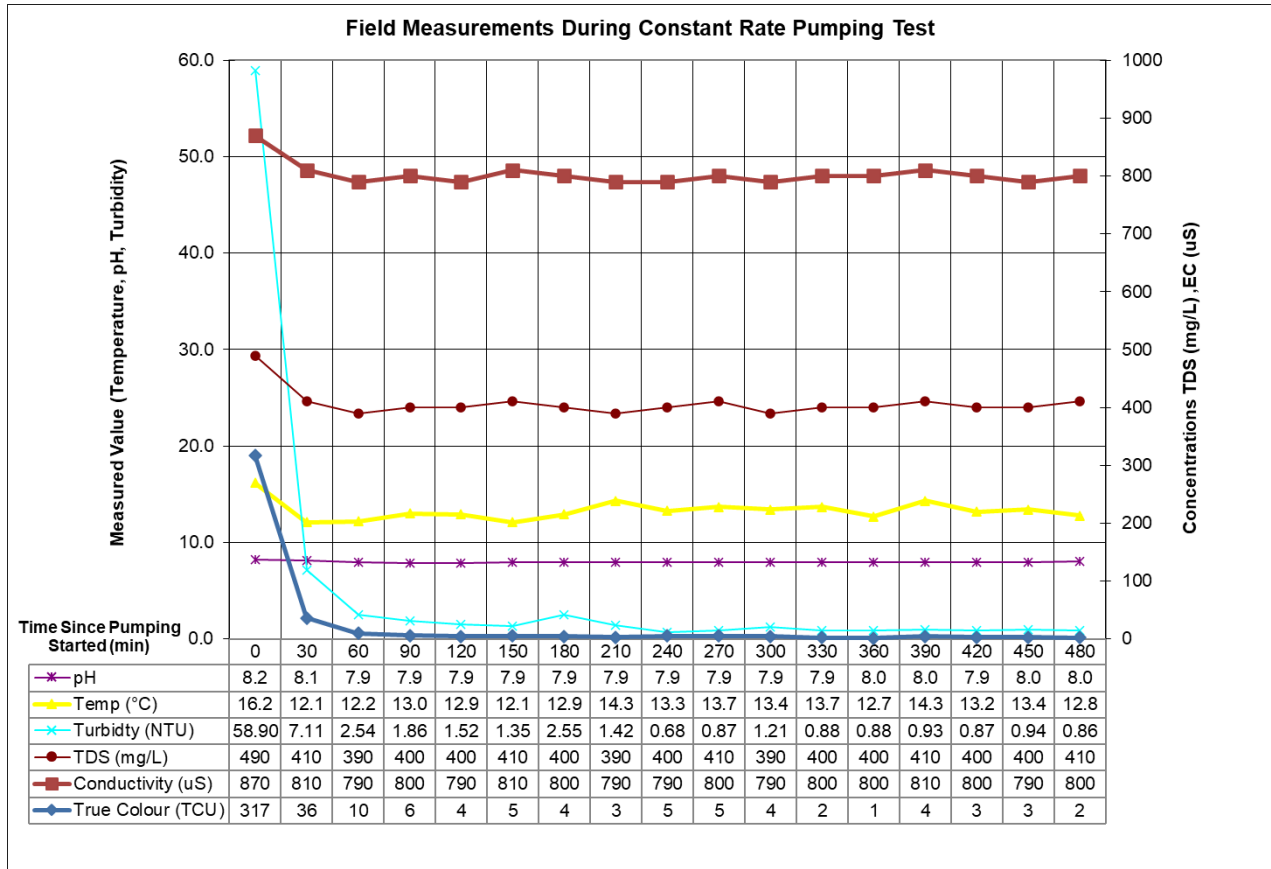
Based on the information summarized in Table 1, it is readily apparent that the water supply well has intercepted an adequately strong water supply aquifer which has sufficient quantity to service the proposed development.

Given the analyses presented and summarized above, it is our opinion that there is an adequate supply of water to support the proposed Re-Zoning Application. Available WWRs of the neighbouring properties on the MECP Well Record mapping website indicated that the wells were screened in limestone bedrock.

Water Quality

Field Data

Turbidity, electrical conductivity, total dissolved solids (TDS), pH, true colour, and temperature were measured at the wellhead during the pumping test performed on TW1. The measurements and time intervals for each of these parameters are summarized on the graphical representation below. In addition, a HACH Pocket Colorimeter II chlorine reader was used to measure the free chlorine residual level. No chlorine residual was detected in the discharge water prior to the collection of the water samples.



Laboratory Data

The Subdivision Package suite of parameters as well as trace metals, PAHs, VOCs, and PHCs laboratory water quality results obtained from the groundwater sample collected from the pumping test of TW1 are provided in Table 2a – 2d below. The laboratory analyses reports can be found attached.



TABLE 2a: GROUNDWATER MICROBIOLOGY & GENERAL GEOCHEMISTRY					
PARAMETER	UNITS	ODWS		TW1	
		LIMIT	TYPE	GW1 (4 hr)	GW2 (8 hr)
				6/1/2022	6/1/2022
MICROBIOLOGICAL					
Escherichia Coli (E.Coli)	ct/100mL	0	MAC	0	0
Total Coliforms	ct/100mL	0	MAC	0	0
GENERAL CHEMICAL - HEALTH RELATED					
Fluoride (F)	mg/L	1.5	MAC	0.68	0.72
Ammonia (N-NH ₃)	mg/L	-	-	0.21	0.21
Nitrite (N-NO ₂)	mg/L	1	MAC	<0.10	<0.10
Nitrate (N-NO ₃)	mg/L	10	MAC	<0.10	<0.10
Total Kjeldahl Nitrogen	mg/L	-	-	0.31	0.29
Turbidity (Field)	NTU	1.0 (5.0)	MAC/AO	0.68	0.86
Turbidity (Laboratory)	NTU	1.0 (5.0)	MAC/AO	1.0	0.4
GENERAL CHEMICAL - AESTHETIC RELATED					
Alkalinity (as CaCO ₃)	mg/L	30-500	OG	278	276
Chloride (Cl)	mg/L	250	AO	69	72
Colour (Apparent)	TCU	5	AO	5	5
Colour (Field - True)	TCU	5	AO	5	2
Conductivity	uS/cm	-	-	777	769
Dissolved Organic Carbon	mg/L	5	AO	1.80	1.70
Hardness (as CaCO ₃)	mg/L	100	OG	254	261
Ion Balance	unitless	-	-	0.99	0.99
pH	unitless	6.5-8.5	AO	8.06	8.1
Phenols	mg/L	-	-	<0.001	<0.001
Sulphate (SO ₄)	mg/L	500	AO	53	55
Sulphide (S ₂ ⁻)	mg/L	0.05	AO	<0.01	<0.01
Tannin & Lignin	mg/L	-	-	<0.5	<0.5
Total Dissolved Solids	mg/L	500	AO	505	500

- ODWS identifies the following types of parameters
 MAC = Maximum Allowable Concentration
 AO = Aesthetic Objective
 OG = Operational Guideline
- Shaded Concentration Indicates an Exceedance of the ODWS Objective



TABLE 2b: GROUNDWATER GEOCHEMISTRY - METALS					
PARAMETER	UNITS	ODWS		TW1	
		LIMIT	TYPE	GW1 (4 hr)	GW2 (8 hr)
				2022-06-01	2022-06-01
Metals					
Aluminum (Al)	mg/L	0.1	OG	<0.01	<0.01
Antimony (Sb)	mg/L	0.006	IMAC	<0.0005	<0.0005
Arsenic (As)	mg/L	0.01	IMAC	<0.001	<0.001
Barium (Ba)	mg/L	1.0	MAC	0.05	0.06
Beryllium (Be)	mg/L	-	-	<0.0005	<0.0005
Boron (B)	mg/L	5.0	IMAC	0.46	0.44
Cadmium (Cd)	mg/L	0.005	MAC	<0.0001	<0.0001
Calcium (Ca)	mg/L	-	-	54	55
Chromium (Cr)	mg/L	0.05	MAC	<0.001	<0.001
Cobalt (Co)	mg/L	-	-	<0.0002	<0.0002
Copper (Cu)	mg/L	1.0	AO	<0.001	<0.001
Iron (Fe)	mg/L	0.3	AO	0.14	0.14
Lead (Pb)	mg/L	0.01	MAC	<0.001	<0.001
Magnesium (Mg)	mg/L	-	-	29	30
Manganese (Mn)	mg/L	0.05	AO	<0.01	<0.01
Mercury (Hg)	mg/L	0.001	MAC	<0.0001	<0.0001
Molybdenum (Mo)	mg/L	-	-	<0.005	<0.005
Nickel (Ni)	mg/L	-	-	<0.005	<0.005
Potassium (K)	mg/L	-	-	5	5
Selenium (Se)	mg/L	0.05	MAC	<0.001	<0.001
Silver (Ag)	mg/L	-	-	<0.0001	<0.0001
Sodium (Na)	mg/L	200	AO	77	75
Strontium (Sr)	mg/L	-	-	4.5	4.56
Thallium (Tl)	mg/L	-	-	<0.0001	<0.0001
Uranium (U)	mg/L	0.02	MAC	<0.001	<0.001
Vanadium (V)	mg/L	-	-	<0.001	<0.001
Zinc (Zn)	mg/L	5.0	AO	<0.01	<0.01

- ODWS identifies the following types of parameters
 MAC = Maximum Acceptable Concentration
 IMAC = Interim Maximum Acceptable Concentration
 AO = Aesthetic Objective
 OG = Operational Guideline
- Shaded Concentration Indicates an Exceedance of the ODWS Objective



TABLE 2c: GROUNDWATER GEOCHEMISTRY - VOLATILES					
PARAMETER	UNITS	ODWS		TW1	
		LIMIT	TYPE	GW1 (4 hr)	GW2 (8 hr)
				6/1/2022	6/1/2022
VOCs Surrogates					
1,2-dichloroethane-d4	%	-	-	116	119
4-bromofluorobenzene	%	-	-	104	101
Toluene-d8	%	-	-	98	97
Volatiles					
1,1,1,2-tetrachloroethane	µg/L	-	-	<0.5	<0.5
1,1,1-trichloroethane	µg/L	-	-	<0.4	<0.4
1,1,2,2-tetrachloroethane	µg/L	-	-	<0.5	<0.5
1,1,2-trichloroethane	µg/L	-	-	<0.4	<0.4
1,1-dichloroethane	µg/L	-	-	<0.4	<0.4
1,1-dichloroethylene	µg/L	14.0	MAC	<0.5	<0.5
1,2-dichlorobenzene	µg/L	200.0	MAC	<0.4	<0.4
1,2-dichloroethane	µg/L	5.0	IMAC	<0.2	<0.2
1,2-dichloropropane	µg/L	-	-	<0.5	<0.5
1,3,5-trimethylbenzene	µg/L	-	-	<0.3	<0.3
1,3-dichlorobenzene	µg/L	-	-	<0.4	<0.4
1,3-Dichloropropylene (cis+trans)	µg/L	-	-	<0.3	<0.3
1,4-dichlorobenzene	µg/L	5.0	MAC	<0.4	<0.4
Acetone	µg/L	-	-	<5	<5
Benzene	µg/L	1.0	MAC	<0.5	<0.5
Bromodichloromethane	µg/L	-	-	<0.3	<0.3
Bromoform	µg/L	-	-	<0.4	<0.4
Bromomethane	µg/L	-	-	<0.5	<0.5
c-1,2-Dichloroethylene	µg/L	-	-	<0.4	<0.4
c-1,3-Dichloropropylene	µg/L	-	-	<0.2	<0.2
Carbon Tetrachloride	µg/L	2.0	MAC	<0.2	<0.2
Chloroethane	µg/L	-	-	<0.2	<0.2
Chloroform	µg/L	-	-	<0.5	<0.5
Dibromochloromethane	µg/L	-	-	<0.3	<0.3
Dichlorodifluoromethane	µg/L	-	-	<0.5	<0.5
Dichloromethane	µg/L	50	MAC	<4.0	<4.0
Ethylbenzene	µg/L	140	MAC	<0.5	<0.5
Ethylene Dibromide	µg/L	-	-	<0.2	<0.2
Hexane	µg/L	-	-	<5	<5
m/p-xylene	µg/L	-	-	<0.4	<0.4
Methyl Ethyl Ketone (MEK)	µg/L	-	-	<2	<2
Methyl Isobutyl Ketone (MIBK)	µg/L	-	-	<5	<5
Methyl Tert Butyl Ether (MTBE)	µg/L	15	AO	<2	<2
Monochlorobenzene	µg/L	80	MAC	<0.5	<0.5
o-xylene	µg/L	-	-	<0.4	<0.4
Styrene	µg/L	-	-	<0.5	<0.5
t-1,2-Dichloroethylene	µg/L	-	-	<0.4	<0.4
t-1,3-Dichloropropylene	µg/L	-	-	<0.2	<0.2
Tetrachloroethylene	µg/L	10	MAC	<0.3	<0.3
Toluene	µg/L	60	MAC	<0.4	<0.4
Trichloroethylene	µg/L	5	MAC	<0.3	<0.3
Trichlorofluoromethane	µg/L	-	-	<0.5	<0.5
Vinyl Chloride	µg/L	1	MAC	<0.2	<0.2
Xylene; total	µg/L	90	MAC	<0.5	<0.5

1. ODWS identifies the following types of parameters
 - MAC = Maximum Acceptable Concentration
 - IMAC = Interim Maximum Acceptable Concentration
 - AO = Aesthetic Objective
 - OG = Operational Guideline
2. Shaded Concentration Indicates an Exceedance of the ODWS Objective



TABLE 2d: GROUNDWATER GEOCHEMISTRY - HYDROCARBONS					
PARAMETER	UNITS	ODWS		TW1	
		LIMIT	TYPE	GW1 (4 hr)	GW2 (8 hr)
				6/1/2022	6/1/2022
PHCs Surrogates					
Alpha-androstrane	%	-	-	106	105
Petroleum Hydrocarbons (PHCs)					
F1 (C6-C10)	µg/L	-	-	<20	<20
F1-BTEX (C6-C10)	µg/L	-	-	<20	<20
F2 (C10-C16)	µg/L	-	-	<20	<20
F3 (C16-C34)	µg/L	-	-	<20	<20
F4 (C34-C50)	µg/L	-	-	<20	<20
Polycyclic Aromatic Hydrocarbons (PAHs)					
1+2-methylnaphthalene	µg/L	-	-		<0.1
1-methylnaphthalene	µg/L	-	-		<0.1
2-methylnaphthalene	µg/L	-	-		<0.1
Acenaphthene	µg/L	-	-		<0.1
Acenaphthylene	µg/L	-	-		<0.1
Benzo(a)anthracene	µg/L	-	-		<0.1
Benzo(a)pyrene	µg/L	0.0	MAC		<0.01
Benzo(b)fluoranthene	µg/L	-	-		<0.05
Benzo(g,h,i)perylene	µg/L	-	-		<0.1
Chrysene	µg/L	-	-		<0.05
Dibenzo(a,h)anthracene	µg/L	-	-		<0.054
Fluoranthene	µg/L	-	-		<0.1
Fluorene	µg/L	-	-		<0.1
Indeno(1,2,3-c,d)pyrene	µg/L	-	-		<0.1
Naphthalene	µg/L	-	-		<0.1
Phenanthrene	µg/L	-	-		<0.1
Pyrene	µg/L	-	-		<0.1

- ODWS identifies the following types of parameters
 - MAC = Maximum Acceptable Concentration
 - IMAC = Interim Maximum Acceptable Concentration
 - AO = Aesthetic Objective
 - OG = Operational Guideline
 - N/A = not tested
- Shaded Concentration Indicates an Exceedance of the ODWS Objective

The bacteriological test results (Certificate of Analysis – Report No. 1997742) indicated that all samples were non-detect (0 ct/100 mL) for E.Coli and Total Coliforms.

The water quality of the subject water supply well meets all Ontario Drinking Water Standards maximum acceptable concentrations (MAC). Furthermore, the water meets all Aesthetic Objectives (AO) and Operational Guidelines (OG) with the exception of the following:

- Hardness (as CaCO₃)
- Total Dissolved Solids



Exceedances of the above parameters are not uncommon for the water supply in the subject aquifer. Each of these groundwater parameters are discussed in detail below.

Hardness as CaCO₃

Hardness, expressed as calcium carbonate, is an operational guideline and does not appear in the ODWS. Rather, it appears in the Technical Support Documents for Ontario Drinking Water Standards, Objectives and Guidelines as a parameter with an operational guideline at 100 mg/L. At the measured concentrations of 254 and 261 mg CaCO₃/L at the 4- and 8-hour marks, respectively, the water is considered to be hard, however, it is below the reasonable treatable limit of 500 mg CaCO₃/L specified in Table 3 of the MOECC guidance document Procedure D-5-5 (1996). The hardness concentration can be treated using conventional softening technologies.

Total Dissolved Solids (TDS)

Total dissolved solids (TDS) refers to the concentration of inorganic substances dissolved in water. The main constituents are typically chloride, sulphates, calcium, magnesium, and bicarbonates. Water with a TDS objective above 500 mg/L of TDS may not be palatable to some users, but taste is subjective. The TDS concentration was 505 and 500 mg/L at the 4- and 8-hour marks, which slightly exceeds the TDS Aesthetic Objective. A point-of-use reverse osmosis unit could be used as a drinking source, if desired. As such, no taste problems will occur when the system is used.

The Langelier Saturation Index (Langelier, 1936) is used to predict the calcium carbonate stability of water. It indicates whether the calcium carbonate will precipitate, dissolve, or be in equilibrium with water. The Langelier calculation provided an LSI of 0.7. Based on the evaluation of the result, the water is super saturated and tends to precipitate a scale layer of calcium carbonate (scale forming but non-corrosive). Based on the LSI of 0.7, a high amount of scaling is not anticipated, and, as the water is super-saturated corrosion is unlikely to occur. Based on the range of stability in the positive direction, there are no mitigative measures needed for corrosion or scaling. If taste concerns or scaling concerns arise, then a reverse osmosis unit can be installed. See Langelier Saturation Index Calculation attached for calculation details.

Sodium

Sodium (Na), an aesthetic parameter, was detected in the laboratory test samples at concentrations of 77 and 75 mg/L in TW1 which does not exceed the ODWS aesthetic objective of 200 mg/L. Although sodium is not toxic and no maximum acceptable concentration has been set, concentrations above 20 mg/L require that the Medical Officer of Health be notified of the water quality results, so that this information may be passed on to local physicians for use in treatment of those requiring a sodium-restricted diet.



Terrain Analysis

Surficial Geology

The field program for the investigation was carried out from May 21 to 25, 2021. At the time, a total of six (6) boreholes were advanced to a maximum depth of 10.1 m below existing ground surface (bgs) and were distributed in a manner to provide general coverage of the subject site. Refer to Paterson Drawing PG5783-1 Test Hole Location plan, attached, for test hole locations.

The borehole locations were recorded and the subsurface conditions, including the soil morphology and depth to the groundwater table (if encountered), were carefully observed and recorded. The soils encountered were classified texturally in the field, and later reviewed in the laboratory.

Generally, the subsurface profile at the test holes consisted of a thin layer of fill and/or topsoil underlain by glacial till or bedrock. The fill was generally observed to consist of brown silty sand with gravel and rock fragments. The topsoil and/or fill were observed to extend to depths ranging between 0.1 and 0.6 m bgs. Glacial till consisting of brown silty sand with gravel, cobbles, and boulders was observed in select boreholes, specifically BH4-21, BH5-21, and BH6-21. Refusal to augering was encountered in all boreholes at depths between 0.2 and 2.2 m bgs. Bedrock was cored in boreholes BH1-21, BH2-21, and BH3-21 starting at depths of 0.15 to 0.2 m bgs extending to maximum depths of 10.1 m bgs. Groundwater was measured to be 1 – 2 m bgs in BH1-21, BH2-21, and BH3-21,

It should be noted that groundwater levels can fluctuate both seasonally and in conjunction with precipitation events. Therefore, groundwater levels could vary at the time of construction. See attached Soil Profile and Data Logs (attached) for more information.

Reference should be made to the borehole logs appended to this report for the details of the soil profiles encountered at each test hole location. The client should be aware that any information pertaining to soils are furnished as a matter of general information only and borehole descriptions are not to be interpreted as descriptive of conditions at locations other than those described by the boreholes themselves.



Hydrogeological Sensitivity of the Site

The subject area currently consists of a vehicle salvage yard (Cash for Trash) and undeveloped land, with residential properties nearby that are supported by private services. The subject site is serviced by an existing private well and septic and the proposed development to be serviced by a new private well (TW1) and septic system. The ground surface slopes gently in the southern direction with an approximate elevation decline of 1.5 m. An additional 1.5 m slope is located along the southern limits of the salvage yard area.

Based upon our field investigation, overburden thickness was observed to be 0.1 to 2.2 m. The overburden generally consists of fill and/ or topsoil, underlain by bedrock or glacial till underlain by bedrock. Based on available geological mapping, the subject site is underlain by Paleozoic limestone with dolostone and shale of the Gull River formation in the Simcoe Group with a general overburden thickness of 0 to 3 m. General groundwater flow direction is anticipated to be towards the south.

Due to the shallow nature of the bedrock, the site is considered to be hydrogeologically sensitive and, therefore, mitigating measures are recommended. Surrounding well records were reviewed on the MECP website, and the shallowest aquifer intercept in the area is recorded to be 11.3 m bgs. Due to the hydrogeological sensitivity of the Site, any future wells should be installed with double the amount of standard casing, and separation distances between potable supply wells and septic system components should be increased to 30 m. It should be noted that double the amount of standard casing equates to 12 m of casing. Any future wells should be installed in accordance with O.Reg 903. Furthermore, it is recommended that, where possible, new wells to be installed are located upgradient of any proposed or existing septic systems.

Conceptual Lot Development Plan

Finalized building plans and design details were not available at the time of report preparation, however, based on discussions with the design team, the onsite well and septic system will service an office, warehouse, and a mechanic shop. An existing building (ie. Previously a house) is used as an automotive sales office.

Total Daily Design Sewage Flow

The re-zoning application only addresses the total capacity of the site area to attenuate septic effluent applied within the property boundaries. The total daily design sewage flow (TDDSF) volume used for this assessment is 10,000 L/day while the expected design flows, calculated under Part 8 – Ontario Building Code, will be less than 7,500 L/day. Further detail to be included with the site plan application.



Typical developments will have lower actual loading compared to the conservative design loads as per the OBC.

Sewage System Design

It is anticipated that a series of buildings and associated roadways, parking spaces, and storage spaced will be constructed on the subject site in the future (i.e upon approval).

The theoretical design for this review consists of using a TDDSF of 10,000 L/day. Specific information will be provided under the site plan application stage.

In order to minimize the risk of long-term contamination of services, a typical minimum separation distance of 15 m is required between any drilled potable supply well and the closest distribution pipe or septic tank of a sewage system. Due to the hydrogeological sensitivity of the site, it is recommended that the separation distance be increased to 30 m. In addition, **a minimum of 100 mm of imported or in-situ soil seal would be required to provide additional isolation due to the shallow overburden (<2 m).**

The proposed development has significant development area available to allow appropriate separation between onsite private services and offsite private services. Based on the available space, the minimum regulatory and recommended separation distances can be easily attained on the subject site.

As building plans and design details were not available at the time of report preparation, a representative sewage system has been assigned to the proposed lot for the purpose of completing the study. A Class 4 sewage system with a fully raised absorption trench style leaching bed may be installed to service the proposed expansion. Assuming the aforementioned buildings, water closets, and employee shifts, the design sewage flow according to the Ontario Building Code would be 8,500 L/day with a conservative TDDSF of 10,000 L/day being used for design.

A minimum length of distribution pipe required for the leaching bed is determined by the formula $QT/200$, as per the OBC, where “Q” is the design sewage flow and “T” is the percolation rate of the leaching bed fill. Based on the design sewage flow of 10,000 L/d, a minimum distribution pipe length of 400 m would be required, assuming a percolation rate of the leaching bed fill used is 8 min/cm. As there is not enough native soil over the bedrock underlying the proposed site to utilize as a dispersal layer, a 100 mm soil seal will be required under the leaching bed/mantle area where less than 2 m of overburden is encountered. The 100 mm soil seal would have an estimated percolation rate of greater than 50 min/cm, therefore an imported sand mantle will be required. The leaching bed area shall be designed such that the loading rate does not exceed 4 L/m²/d. As such, for a daily sewage flow of 10,000 L, the leaching bed area required would be up to 2,500 m². The reader should be aware that numerous other types of Class 4 sewage systems could



potentially be used at the site. A sewage system using tertiary wastewater equipment would require a significantly reduced area, and potentially reduce the height.

A Class 4 sewage system with a conventional absorption trench style leaching bed can be easily accommodated for the proposed expansion due to the size of the subject site (approximately 20.22 ha). The potential leaching bed discussed to service the proposed development requires the greatest footprint of all of the OBC approved styles of beds. This type of bed has been selected for illustration purposes only and the reader should be aware that numerous other types of Class 4 sewage systems could potentially be used for the site.

Predictive Nitrate Impact Assessment

Nitrate is considered to be a critical parameter of concern when assessing impacts to groundwater quality downgradient of an onsite sewage system. MECP Procedure D-5-4 applies for the proposed development. For the purpose of this guideline, the Ontario Drinking Water Objective of 10 mg/L of nitrate is used as an indicator of groundwater impact potential.

Under this guideline, where the lot size is one hectare or larger, a detailed impact assessment may not be required. It has been the City of Ottawa's policy that where the lot size of 0.8 ha or larger, a detailed assessment is typically not required since it is considered to be a low-risk development. The subject site has an area of 20.22 ha. As such, a detailed nitrate impact assessment (NIA) would not typically be necessary.

An NIA was completed below to corroborate our opinion that the property can adequately support the proposed expansion without having adverse impacts on the underlying bedrock aquifer should the minimum separation distances, well construction, and septic system be completed as per the recommendations and the OBC. The values shown in the Predictive Nitrate Impact Assessment attached to this report are summarized below.

<input type="checkbox"/> Site area	20.22 ha
<input type="checkbox"/> Impervious area (%)	57 %
<input type="checkbox"/> Daily sewage flow (Value based on 1m ³ per day flow volume per residential lot)	10 m ³ /d
<input type="checkbox"/> Concentration of nitrate in effluent (Value based on typical effluent concentration)	40 mg/L
<input type="checkbox"/> Surplus Water (The surplus water value was estimated based on Environment Canada Climate Office values with a soil type comprised of silt loam (Urban Lawns/Shallow Rooted Crops) and anthropogenic sources.)	341 mm/yr
<input type="checkbox"/> Combined infiltration factor based on:	0.40



- Topography infiltration factor 0.20
- Soil texture infiltration factor 0.10
- Cover infiltration factor 0.10

The topography infiltration factor of 0.20 is based upon a rolling topography with an average slope between 2.8 to 3.8 m/km, taking into account the different topographies of the area. The soil texture infiltration factor was based upon an “tight impervious clay” to represent the bedrock with a value of 0.1 which is a conservative generalization based upon the site investigations and available geological mapping as the bedrock outcroppings were counted as impervious area for the above NIA calculation. The “cover infiltration factor” was calculated at 0.10 based upon the large open areas on site.

The calculation for a conventional septic system results in a predicted nitrate concentration of 9.37 mg/L nitrate for the subject site, using a value of 40 mg /L nitrate concentration within the effluent. This value was based upon a daily sewage flow of 10 m³ per day, as per the conservative assumption for future sewage discharge volumes.

Based on the results of the predicted nitrate impact assessment, it is our opinion that the property can adequately support the current and future proposed additions without having an adverse impact on the underlying bedrock aquifer.





CONCLUSIONS

Based on the information contained within the body of this report the following conclusions can be drawn:

- The water supply aquifer intercepted by TW1 is considered to be adequate to support the water quantity demands for the proposed commercial development.
 - The preferred water supply intercepted by TW1 contains a water supply that is potable and contains only elevated concentrations of hardness and TDS. The noted parameters can be treated with current readily available water conditioning equipment.
 - The sodium concentration was measured to be above the 20 mg/L reporting limit and, as such, the Medical Officer of Health for the City of Ottawa should be informed to assist area physicians in the treatment of local residents on sodium reduced diets.
 - A residential grade water softener is recommended to facilitate the removal of the hardness concentration if desired. If a water softener is used for the proposed development, the owner should be made aware that additional sodium will be added to the water to reduce hardness. If desired, a point-of-use reverse osmosis system can be used to provide a drinking tap source.
 - The results of the water supply assessment have provided satisfactory evidence that the water supply aquifer underlying the subject site can support the proposed development from both a quality and quantity perspective.
 - The proposed development is sufficient in size to accommodate new sewage systems and meet all the regulatory separation criteria.
 - Future wells should be constructed in accordance with O.Reg. 903 and be installed similar to the well construction of TW1. Future wells should be installed with casing lengths of 12 m (double the standard length) and have a minimum of 30 m separation from all potential sources of contamination.
-



- It is recommended that new wells be constructed upgradient of any proposed or existing septic systems on site, where possible.

- The construction of an on-site sewage system should not affect the performance or water quality associated with a drilled well, contingent upon the on-site sewage system being designed in accordance with the Ontario Building Code (i.e properly sized sewage system and conforming to all separation distances) with a **minimum 100 mm soil seal provided beneath the leaching bed/mantle area**. A tertiary treatment system could be used to provide higher quality effluent and a reduced site footprint. A tertiary treatment system would require an annual maintenance contract.

- A Sewage System Permit and Building Permit needs to be issued for the site prior to the commencement of construction.

- The results of the Hydrogeological Report and Terrain Analysis have provided satisfactory evidence that the subject site can support the proposed expansion to the existing commercial with respect to water quality, quantity and sewage system placement.

We trust that the current submission satisfies your immediate requirements.

Best Regards,

Paterson Group Inc.

Kevin A Pickard, P.Eng.



Michael Killam, P.Eng.

Attachments:

- Figure 1 – Key Plan
- MECP Water Well Records
- Eurofins Certificate of Analysis
- AQTESOLV - Pumping Test Analysis Reports
- Nitrate Impact Assessment Calculations
- Langelier Saturation Index (LSI) Calculation
- Paterson Drawing PG5783-1 – Test Hole Location Plan
- Paterson Soil Profile and Data Sheets
- McRobie – CFT Site Plan Zoning Amendment – Drawing SP-A01



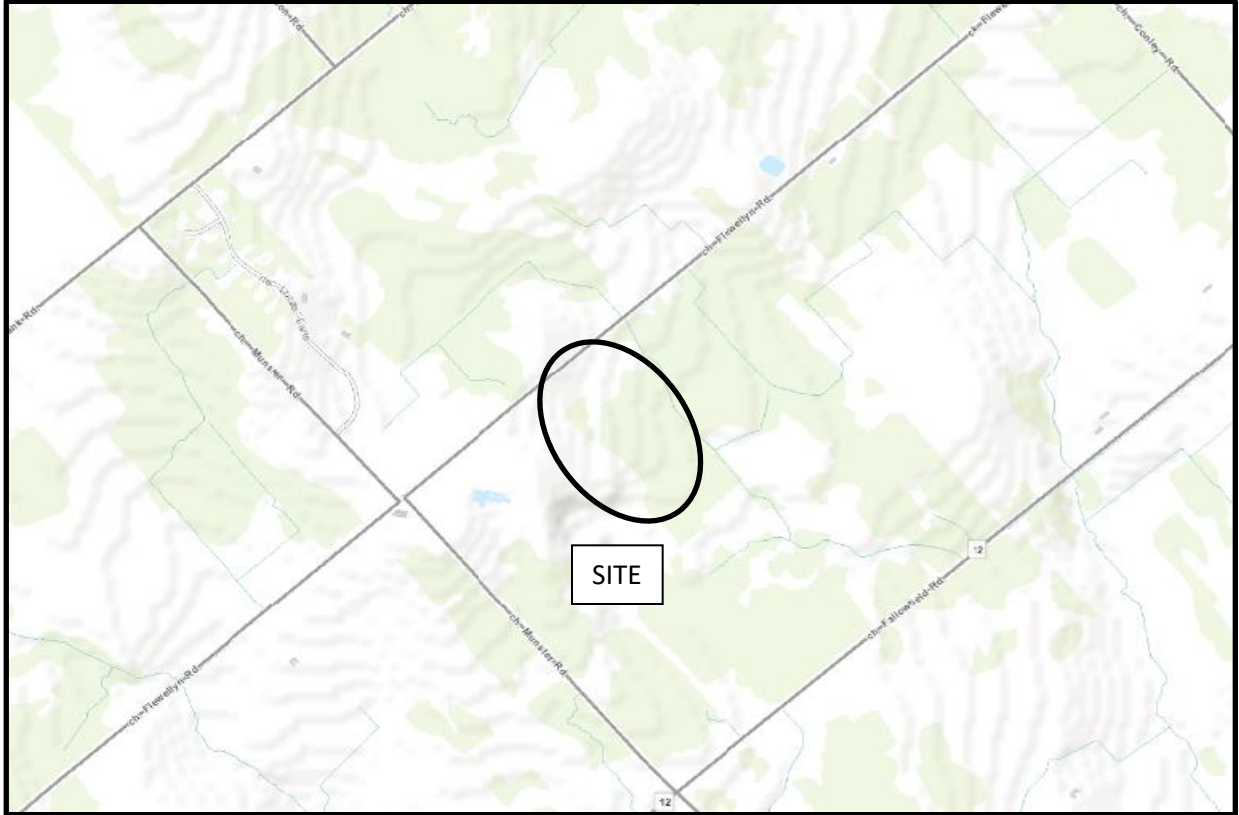


FIGURE 1

KEY PLAN

Measurements recorded in: Metric Imperial

A378991

Regulation 903 Ontario Water Resources Act

Page of

Well Owner's Information

Last Name/Organization: 2852196 Ontario Inc. E-mail Address: Well Constructed by Well Owner

Mailing Address (Street Number/Name): 7628 Flewellyn Road Municipality: Stittsville Province: ON Postal Code: K2S 1B6 Telephone No. (see user guide)

Well Location: Address of Well Location (Street Number/Name): 7628 Flewellyn Road Township: Glouceston Lot: 12 Concession: B

City/Town/Village: Ottawa Postal Code: Other

UTM Coordinates (Zone, Easting, Northing): 18 424230 5006370 Municipal Well and Subst Number: Other

Disclosures and Bedrock Material Maintenance Logging Record (see instructions on the back of this form)

General Colour	Most Common Material	Other Materials	General Description	Depth (m)
Grey	Limestone			0 - 85
Grey	Limestone	w/white Quartzite	Mix	85 - 100
Grey	Limestone	N w/white Quartzite	Mix	100 - 110
Grey	Limestone	bl white Quartzite	Mix	110 - 120

Annular Space

Depth (m) at (m)	Type of Sealing Used (Material and Type)	Volume (litres)
42 - 0'	Neat cement	10.92

Results of Well Yield Testing

Time (min)	Water Level (m)	Quantity (m³)	Remarks
0	36.0'	37.4'	Not tested
1	37.1	38.3	Pump started at 0:00
2	37.1	38	110
3	37.3	38	Pumping rate 20 LPM
4	37.4	38	Duration of pumping 1 min ± 0 min
5	37.5	38	Final water level and if pumping still 37.4'
15	37.3	38	Flowing or non-flowing?
20	37.4	38	Recommended pump depth 100'
25	37.4	38	Recommended pump rate 20 LPM
30	37.4	38	Well production 20 LPM
40	37.4	38	
50	37.4	38	
60	37.4	38	

Method of Construction

Method	Well Use
<input checked="" type="checkbox"/> Cable Tool	<input checked="" type="checkbox"/> Domestic
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Municipal
<input type="checkbox"/> Rotary (Plunger)	<input type="checkbox"/> Test Hole
<input type="checkbox"/> Jetting	<input type="checkbox"/> Monitoring
<input type="checkbox"/> Digging	<input type="checkbox"/> Cooling & Air Conditioning
<input type="checkbox"/> Other specify	<input type="checkbox"/> Industrial
	<input type="checkbox"/> Other specify

Construction Record - Casing

Inside Diameter (mm)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (mm)	Depth (m)	From	To	Status of Well
6 1/4"	Steel	198	+2'	42'	42'	<input type="checkbox"/> Under Supply
6"	Open Hole		42'	120'	120'	<input type="checkbox"/> Reinforced well
						<input type="checkbox"/> Test hole
						<input type="checkbox"/> Recharge well
						<input type="checkbox"/> Dewatering well
						<input type="checkbox"/> Observation and monitoring hole
						<input type="checkbox"/> Irrigation (Construction)
						<input type="checkbox"/> Agricultural, Irradiation, Supply
						<input type="checkbox"/> Abandoned, Poor Water Quality
						<input type="checkbox"/> Abandoned, other specify
						<input type="checkbox"/> Other specify

Construction Record - Screen

Outside Diameter (mm)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m)	From	To

Water Details

Water found at Depth (m)	Kind of Water	Fresh	Unfresh	Other specify
100'	Gas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
110'	Gas	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
	Gas	<input type="checkbox"/>	<input type="checkbox"/>	

Well Contractor and Well Technician Information

Business Name of Well Contractor: Air Rock Drilling Co. Ltd. (Well Contractor's License No. 7861)

Business Address (Street Number/Name): 6050 Franktown Road Municipality: Richmond

Province: ON Postal Code: K0A 2Z0 Business E-mail Address: air-rock@sympatico.ca

Well Technician's License No.: 138082170 Name of Well Technician (Last Name, First Name): Hanna, Jeremy

Well Technician's Signature: [Signature] Date: 2023 05 18





Certificate of Analysis

Client: Paterson Group
9 Auriga Dr
Nepean, ON
K2E 7T9
Attention: Mr. Alex Schopf
PO#: 57632
Invoice to: Paterson Group

Report Number: 1997742
Date Submitted: 2023-06-02
Date Reported: 2023-06-14
Project: PH4401
COC #: 908261

Dear Alex Schopf:

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

Report Comments:

Raheleh
Zafari
R Zafari 2023.06.1
4 14:16:42
-04'00'

APPROVAL: _____
Raheleh Zafari, Environmental Chemist

All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise indicated.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at: <https://directory.cala.ca/>.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is licensed by the Ontario Ministry of the Environment, Conservation, and Parks (MECP) for specific tests in drinking water (license #2318). A copy of the license is available upon request.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by the Ontario Ministry of Agriculture, Food, and Rural Affairs for specific tests in agricultural soils.

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official provincial or federal guideline as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.

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Group	Analyte	MRL	Units	Guideline	1689830 GW 2023-06-01 GW1	1689831 GW 2023-06-01 GW2
Anions	Cl	1	mg/L	AO 250	69	72
	F	0.10	mg/L	MAC 1.5	0.68	0.72
	N-NO2	0.10	mg/L	MAC 1.0	<0.10	<0.10
	N-NO3	0.10	mg/L	MAC 10.0	<0.10	<0.10
	SO4	1	mg/L	AO 500	53	55
General Chemistry	Alkalinity as CaCO3	5	mg/L	OG 30-500	278	276
	Colour (Apparent)	2	TCU	AO 5	5	5
	Conductivity	5	uS/cm		777	769
	DOC	0.5	mg/L	AO 5	1.8	1.7
	pH	1.00		6.5-8.5	8.06	8.10
	Phenols	0.001	mg/L		<0.001	<0.001
	S2-	0.01	mg/L	AO 0.05	<0.01	<0.01
	TDS (COND - CALC)	1	mg/L	AO 500	505*	500
	Turbidity	0.1	NTU	AO 5	1.0	0.4
Hardness	Hardness as CaCO3	1	mg/L	OG 80-100	254*	261*
Hydrocarbons	F1 (C6-C10)	20	ug/L		<20	<20
	F1-BTEX (C6-C10)	20	ug/L		<20	<20
	F2 (C10-C16)	20	ug/L		<20	<20
	F3 (C16-C34)	50	ug/L		<50	<50
	F4 (C34-C50)	50	ug/L		<50	<50
Indices/Calc	Ion Balance	0.01			0.99	0.99
Metals	Ag	0.0001	mg/L		<0.0001	<0.0001
	Al	0.01	mg/L	OG 0.1	<0.01	<0.01
	As	0.001	mg/L	IMAC 0.01	<0.001	<0.001
	B	0.01	mg/L	IMAC 5.0	0.46	0.44

Guideline = ODWSOG

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted.
 Methods references and/or additional QA/QC information available on request.

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

Certificate of Analysis

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 Project: PH4401
 COC #: 908261

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1689830 GW 2023-06-01 GW1	1689831 GW 2023-06-01 GW2
Metals	Ba	0.01	mg/L	MAC 1.0		0.05	0.06
	Be	0.0005	mg/L			<0.0005	<0.0005
	Ca	1	mg/L			54	55
	Cd	0.0001	mg/L	MAC 0.005		<0.0001	<0.0001
	Co	0.0002	mg/L			<0.0002	<0.0002
	Cr	0.001	mg/L	MAC 0.05		<0.001	<0.001
	Cu	0.001	mg/L	AO 1		<0.001	<0.001
	Fe	0.03	mg/L	AO 0.3		0.14	0.14
	Hg	0.0001	mg/L	MAC 0.001		<0.0001	<0.0001
	K	1	mg/L			5	5
	Mg	1	mg/L			29	30
	Mn	0.01	mg/L	AO 0.05		<0.01	0.01
	Mo	0.005	mg/L			<0.005	<0.005
	Na	1	mg/L	AO 200		77	75
	Ni	0.005	mg/L			<0.005	<0.005
	Pb	0.001	mg/L	MAC 0.010		<0.001	<0.001
	Sb	0.0005	mg/L	IMAC 0.006		<0.0005	<0.0005
	Se	0.001	mg/L	MAC 0.05		<0.001	<0.001
	Sr	0.001	mg/L			4.50	4.56
	Tl	0.0001	mg/L			<0.0001	<0.0001
U	0.001	mg/L	MAC 0.02		<0.001	<0.001	
V	0.001	mg/L			<0.001	<0.001	
Zn	0.01	mg/L	AO 5		<0.01	<0.01	
Microbiology	Escherichia Coli	0	ct/100mL	MAC 0		0	0
	Total Coliforms	0	ct/100mL	MAC 0		0	0

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Group	Analyte	MRL	Units	Guideline	1689830 GW 2023-06-01 GW1	1689831 GW 2023-06-01 GW2
Nutrients	N-NH3	0.020	mg/L		0.210	0.209
	Total Kjeldahl Nitrogen	0.100	mg/L		0.309	0.286
PAH	1+2-methylnaphthalene	0.1	ug/L			<0.1
	1-methylnaphthalene	0.1	ug/L			<0.1
	2-methylnaphthalene	0.1	ug/L			<0.1
	Acenaphthene	0.1	ug/L			<0.1
	Acenaphthylene	0.1	ug/L			<0.1
	Anthracene	0.1	ug/L			<0.1
	Benzo(a)anthracene	0.1	ug/L			<0.1
	Benzo(a)pyrene	0.01	ug/L	MAC 0.01		<0.01
	Benzo(b)fluoranthene	0.05	ug/L			<0.05
	Benzo(g,h,i)perylene	0.1	ug/L			<0.1
	Benzo(k)fluoranthene	0.05	ug/L			<0.05
	Chrysene	0.05	ug/L			<0.05
	Dibenzo(a,h)anthracene	0.1	ug/L			<0.1
	Fluoranthene	0.1	ug/L			<0.1
	Fluorene	0.1	ug/L			<0.1
	Indeno(1,2,3-c,d)pyrene	0.1	ug/L			<0.1
Naphthalene	0.1	ug/L			<0.1	
Phenanthrene	0.1	ug/L			<0.1	
Pyrene	0.1	ug/L			<0.1	
PHC Surrogate	Alpha-androstrane	0	%		106	105
Subcontract-Inorg	Tannin & Lignin	0.5	mg/L		<0.5	<0.5
VOCs Surrogates	1,2-dichloroethane-d4	0	%		116	119
	4-bromofluorobenzene	0	%		104	101

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Group	Analyte	MRL	Units	Guideline	1689830 GW 2023-06-01 GW1	1689831 GW 2023-06-01 GW2
VOCs Surrogates	Toluene-d8	0	%		98	97
Volatiles	1,1,1,2-tetrachloroethane	0.5	ug/L		<0.5	<0.5
	1,1,1-trichloroethane	0.4	ug/L		<0.4	<0.4
	1,1,2,2-tetrachloroethane	0.5	ug/L		<0.5	<0.5
	1,1,2-trichloroethane	0.4	ug/L		<0.4	<0.4
	1,1-dichloroethane	0.4	ug/L		<0.4	<0.4
	1,1-dichloroethylene	0.5	ug/L	MAC 14	<0.5	<0.5
	1,2-dichlorobenzene	0.4	ug/L	MAC 200	<0.4	<0.4
	1,2-dichloroethane	0.5	ug/L	IMAC 5	<0.5	<0.5
	1,2-dichloropropane	0.5	ug/L		<0.5	<0.5
	1,3,5-trimethylbenzene	0.3	ug/L		<0.3	<0.3
	1,3-dichlorobenzene	0.4	ug/L		<0.4	<0.4
	1,3-Dichloropropylene (cis+trans)	0.5	ug/L		<0.5	<0.5
	1,4-dichlorobenzene	0.4	ug/L	MAC 5	<0.4	<0.4
	Acetone	5	ug/L		<5	<5
	Benzene	0.5	ug/L	MAC 1	<0.5	<0.5
	Bromodichloromethane	0.3	ug/L		<0.3	<0.3
	Bromoform	0.4	ug/L		<0.4	<0.4
	Bromomethane	0.5	ug/L		<0.5	<0.5
	c-1,2-Dichloroethylene	0.4	ug/L		<0.4	<0.4
	c-1,3-Dichloropropylene	0.5	ug/L		<0.5	<0.5
Carbon Tetrachloride	0.2	ug/L	MAC 2	<0.2	<0.2	
Chloroethane	0.5	ug/L		<0.5	<0.5	
Chloroform	0.5	ug/L		<0.5	<0.5	
Dibromochloromethane	0.3	ug/L		<0.3	<0.3	

Guideline = ODWSOG

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Certificate of Analysis

Client: Paterson Group
 9 Auriga Dr
 Nepean, ON
 K2E 7T9
 Attention: Mr. Alex Schopf
 PO#: 57632
 Invoice to: Paterson Group

Report Number: 1997742
 Date Submitted: 2023-06-02
 Date Reported: 2023-06-14
 Project: PH4401
 COC #: 908261

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1689830 GW 2023-06-01 GW1	1689831 GW 2023-06-01 GW2
Volatiles	Dichlorodifluoromethane	0.5	ug/L			<0.5	<0.5
	Dichloromethane	4.0	ug/L	MAC 50		<4.0	<4.0
	Ethylbenzene	0.5	ug/L	MAC 140		<0.5	<0.5
	Ethylene Dibromide	0.2	ug/L			<0.2	<0.2
	Hexane	5	ug/L			<5	<5
	m/p-xylene	0.4	ug/L			<0.4	<0.4
	Methyl Ethyl Ketone (MEK)	2	ug/L			<2	<2
	Methyl Isobutyl Ketone (MIBK)	5	ug/L			<5	<5
	Methyl Tert Butyl Ether (MTBE)	2	ug/L	AO 15		<2	<2
	Monochlorobenzene	0.5	ug/L	MAC 80		<0.5	<0.5
	o-xylene	0.4	ug/L			<0.4	<0.4
	Styrene	0.5	ug/L			<0.5	<0.5
	t-1,2-Dichloroethylene	0.4	ug/L			<0.4	<0.4
	t-1,3-Dichloropropylene	0.5	ug/L			<0.5	<0.5
	Tetrachloroethylene	0.3	ug/L	MAC 10		<0.3	<0.3
	Toluene	0.4	ug/L	MAC 60		<0.4	<0.4
	Trichloroethylene	0.3	ug/L	MAC 5		<0.3	<0.3
	Trichlorofluoromethane	0.5	ug/L			<0.5	<0.5
Vinyl Chloride	0.2	ug/L	MAC 1		<0.2	<0.2	
Xylene; total	0.5	ug/L	MAC 90		<0.5	<0.5	

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 COC #: 908261

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 442075 Analysis/Extraction Date 2023-06-07 Analyst C M Method P 8270			
Methlynaphthalene, 1-	<0.1 ug/L	56	50-140
Methlynaphthalene, 2-	<0.1 ug/L	56	50-140
Acenaphthene	<0.1 ug/L	58	50-140
Acenaphthylene	<0.1 ug/L	58	50-140
Anthracene	<0.1 ug/L	54	50-140
Benz[a]anthracene	<0.1 ug/L	54	50-140
Benzo[a]pyrene	<0.01 ug/L	50	50-140
Benzo[b]fluoranthene	<0.05 ug/L	72	50-140
Benzo[ghi]perylene	<0.1 ug/L	62	50-140
Benzo[k]fluoranthene	<0.05 ug/L	58	50-140
Chrysene	<0.05 ug/L	56	50-140
Dibenz[a h]anthracene	<0.1 ug/L	58	50-140
Fluoranthene	<0.1 ug/L	58	50-140
Fluorene	<0.1 ug/L	56	50-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	60	50-140
Naphthalene	<0.1 ug/L	58	50-140

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Phenanthrene	<0.1 ug/L	52	50-140
Pyrene	<0.1 ug/L	58	50-140
Run No 442783 Analysis/Extraction Date 2023-06-03 Analyst DRA Method AMBCOLM1			
Escherichia Coli			
Total Coliforms			
Run No 442785 Analysis/Extraction Date 2023-06-02 Analyst M E Method C SM2130B			
Turbidity	<0.1 NTU	100	70-130
Run No 442824 Analysis/Extraction Date 2023-06-05 Analyst AaN Method C SM2120C			
Colour (Apparent)	<2 TCU	105	90-110
Run No 442864 Analysis/Extraction Date 2023-06-04 Analyst PJ Method EPA 8260			
Tetrachloroethane, 1,1,1,2,-	<0.5 ug/L	88	60-130
Trichloroethane, 1,1,1,-	<0.4 ug/L	81	60-130
Tetrachloroethane, 1,1,2,2,-	<0.5 ug/L	109	60-130
Trichloroethane, 1,1,2,-	<0.4 ug/L	87	60-130
Dichloroethane, 1,1,-	<0.4 ug/L	102	60-130

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 Project: PH4401
 COC #: 908261

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Dichloroethylene, 1,1-	<0.5 ug/L	91	60-130
Dichlorobenzene, 1,2-	<0.4 ug/L	104	60-130
Dichloroethane, 1,2-	<0.5 ug/L	82	60-130
Dichloropropane, 1,2-	<0.5 ug/L	82	60-130
1,3,5-trimethylbenzene	<0.3 ug/L	109	60-130
Dichlorobenzene, 1,3-	<0.4 ug/L	100	60-130
Dichloropropene, 1,3-			
Dichlorobenzene, 1,4-	<0.4 ug/L	100	60-130
Acetone	<5 ug/L	80	60-130
Benzene	<0.5 ug/L	84	60-130
Bromodichloromethane	<0.3 ug/L	102	60-130
Bromoform	<0.4 ug/L	84	60-130
Bromomethane	<0.5 ug/L	101	60-130
Dichloroethylene, 1,2-cis-	<0.4 ug/L	110	60-130
Dichloropropene, 1,3-cis-	<0.5 ug/L	102	60-130
Carbon Tetrachloride	<0.2 ug/L	83	60-130
Chloroethane	<0.5 ug/L	103	60-130
Chloroform	<0.5 ug/L	103	60-130

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 Project: PH4401
 COC #: 908261

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Dibromochloromethane	<0.3 ug/L	83	60-130
Dichlorodifluoromethane	<0.5 ug/L	92	60-130
Methylene Chloride	<4.0 ug/L	107	60-130
Ethylbenzene	<0.5 ug/L	80	60-130
Ethylene dibromide	<0.2 ug/L	89	60-130
Petroleum Hydrocarbons F1	<20 ug/L	92	60-140
Hexane (n)	<5 ug/L	100	60-130
m/p-xylene	<0.4 ug/L	102	60-130
Methyl Ethyl Ketone	<2 ug/L	120	60-130
Methyl Isobutyl Ketone	<5 ug/L	110	60-130
Methyl tert-Butyl Ether (MTBE)	<2 ug/L	100	60-130
Chlorobenzene	<0.5 ug/L	83	60-130
o-xylene	<0.4 ug/L	102	60-130
Styrene	<0.5 ug/L	99	60-130
Dichloroethylene, 1,2-trans-	<0.4 ug/L	103	60-130
Dichloropropene, 1,3-trans-	<0.5 ug/L	96	60-130
Tetrachloroethylene	<0.3 ug/L	110	60-130
Toluene	<0.4 ug/L	108	60-130

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Trichloroethylene	<0.3 ug/L	99	60-130
Trichlorofluoromethane	<0.5 ug/L	110	60-130
Vinyl Chloride	<0.2 ug/L	99	60-130
Run No 442872 Analysis/Extraction Date 2023-06-05 Analyst PJ Method EPA 8260			
Xylene Mixture			
Run No 442894 Analysis/Extraction Date 2023-06-05 Analyst PJ Method CCME O.Reg 153/04			
Petroleum Hydrocarbons F1-BTEX			
Run No 442898 Analysis/Extraction Date 2023-06-05 Analyst AsA Method SM2320,2510,4500H/F			
Alkalinity (CaCO3)	<5 mg/L	97	90-110
Conductivity	<5 uS/cm	99	90-110
F	<0.10 mg/L	99	90-110
pH		99	90-110
Run No 442900 Analysis/Extraction Date 2023-06-05 Analyst AsA Method SM 5310B			
DOC	<0.5 mg/L	104	80-120

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 442945 Analysis/Extraction Date 2023-06-06 Analyst IP Method SM5530D/EPA420.2			
Phenols	<0.001 mg/L	103	50-120
Run No 442969 Analysis/Extraction Date 2023-06-06 Analyst SKH Method EPA 351.2			
Total Kjeldahl Nitrogen	<0.100 mg/L	110	70-130
Run No 442981 Analysis/Extraction Date 2023-06-06 Analyst AaN Method SM 4110			
Chloride	<1 mg/L	120	90-110
N-NO2	<0.10 mg/L	104	90-110
N-NO3	<0.10 mg/L	99	90-110
SO4	<1 mg/L	100	90-110
Run No 442983 Analysis/Extraction Date 2023-06-07 Analyst R T Method EPA 350.1			
N-NH3	<0.020 mg/L	110	80-120
Run No 442988 Analysis/Extraction Date 2023-06-06 Analyst SD Method EPA 200.8			
Silver	<0.0001 mg/L	85	80-120
Aluminum	<0.01 mg/L	94	80-120

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Arsenic	<0.001 mg/L	89	80-120
Boron (total)	<0.01 mg/L	101	80-120
Barium	<0.01 mg/L	87	80-120
Beryllium	<0.0005 mg/L	104	80-120
Cadmium	<0.0001 mg/L	99	80-120
Cobalt	<0.0002 mg/L	96	80-120
Chromium Total	<0.001 mg/L	95	80-120
Copper	<0.001 mg/L	96	80-120
Iron	<0.03 mg/L	89	80-120
Mercury	<0.0001 mg/L	95	80-120
Manganese	<0.01 mg/L	96	80-120
Molybdenum	<0.005 mg/L	87	80-120
Nickel	<0.005 mg/L	98	80-120
Lead	<0.001 mg/L	96	80-120
Antimony	<0.0005 mg/L	106	80-120
Selenium	<0.001 mg/L	97	80-120
Strontium	<0.001 mg/L	88	80-120
Thallium	<0.0001 mg/L	93	80-120

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Uranium	<0.001 mg/L	88	80-120
Vanadium	<0.001 mg/L	93	80-120
Zinc	<0.01 mg/L	102	80-120
Run No 443014 Analysis/Extraction Date 2023-06-07 Analyst SS			
Method CCME O.Reg 153/04			
Petroleum Hydrocarbons F2	<20 ug/L	80	60-140
Petroleum Hydrocarbons F3	<50 ug/L	80	60-140
Petroleum Hydrocarbons F4	<50 ug/L	80	60-140
Run No 443022 Analysis/Extraction Date 2023-06-07 Analyst Z S			
Method M SM3120B-3500C			
Calcium	<1 mg/L	100	90-110
Potassium	<1 mg/L	105	87-113
Magnesium	<1 mg/L	100	76-124
Sodium	<1 mg/L	103	82-118
Run No 443045 Analysis/Extraction Date 2023-06-07 Analyst AaN			
Method C SM4500-S2-D			
S2-	<0.01 mg/L	82	80-120
Run No 443049 Analysis/Extraction Date 2023-06-07 Analyst SKH			
Method C SM2340B			

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QC Summary

Analyte	Blank	QC % Rec	QC Limits
Hardness as CaCO3			
Ion Balance			
TDS (COND - CALC)			
Run No 443125 Analysis/Extraction Date 2023-06-08 Analyst R G Method P 8270			
1+2-methylnaphthalene			
Run No 443384 Analysis/Extraction Date 2023-06-13 Analyst AET Method SUBCONTRACT-CA-INORG			
Tannin & Lignin			

Guideline = ODWSOG

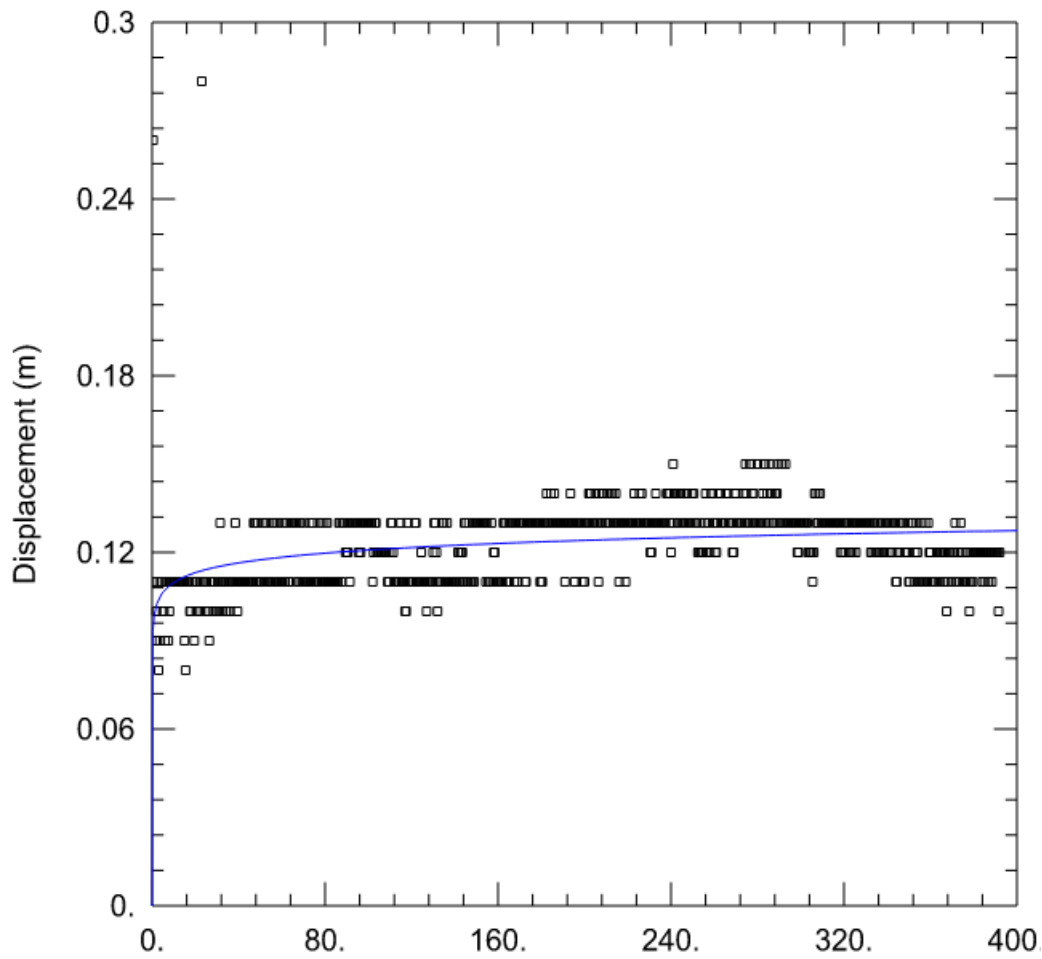
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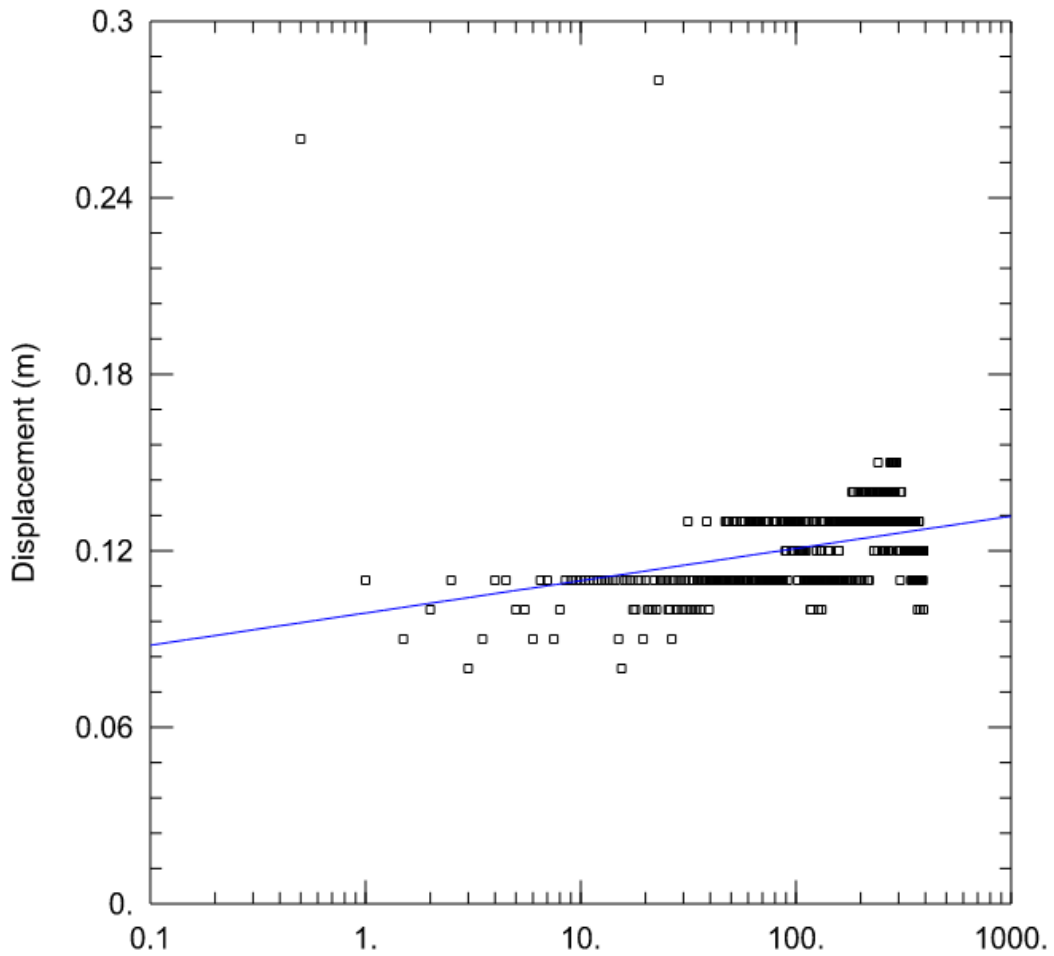
Pumping Test Analysis Report

File No.	PH4401	Well ID:	TW1
Date:	Thursday, June 1, 2023	Solution Method:	Theis
Client:	Cash for Trash	Transmissivity (m ² /day):	914.3
Site Address:	7628 Flewellyn Road	Discharge Rate (L/min)	38
Project:	Proposed Commercial Development	Analysis performed by:	AS



Pumping Test Analysis Report

File No.	PH4401	Well ID:	TW1
Date:	Thursday, June 1, 2023	Solution Method:	Cooper-Jacob
Client:	Cash for Trash	Transmissivity (m ² /day):	914.3
Site Address:	7628 Flewellyn Road	Discharge Rate (L/min)	18.75
Project:	Proposed Commercial Development	Analysis performed by:	AS



Pumping Test Analysis Report

File No. PH4401
Date: Thursday, June 1, 2023
Client: Cash for Trash
Site Address: 7628 Flewellyn Road
Project: Proposed Commercial
Development

Summary Table:			
Solution Method:	Well ID:	Transmissivity (m ² /day):	
Theis	TW1	914.3	
Cooper-Jacob	TW1	914.3	
Average:		914.30	

PREDICTIVE NITRATE IMPACT ASSESSEMENT

Infiltration Factors

Topography	0.20
Soil	0.10
Cover	0.10
Total	0.40

Site Characteristics

Area of Site :	202234.4	m ²
Assumed Impervious Bedrock Outcropping	18204	m ²
Cash for Trash buildings, park lot PLUS Outdoor Metal Storage	96606	m ²
Bedrock Outcropping plus Cash for Trash site	114810	m ²
Impervious Area	114810	m ²
Percent Impervious Area =	57	%
Infiltration Area =	87424	m ²

Septic Effluent

Concentration of Effluent (Cs) =	40	mg/L
Daily Sewage Flow (Qs)=	10	m ³
See Notes below.		

Infiltration Calculation

Nitrate concentration in precipitation (C _i) =	0	mg/L
Surplus Water (Environment Canada)	341	mm/yr
Factored Water Surplus =	136	mm/yr
Infiltration % due to stormwater management measures	-	%
Infiltration rate from stormwater management measures =	0	mm/yr
Infiltration Flow Entering the System (Q _i) =	33	m ³ /day

Mass Balance Model (MOEE, 1995)

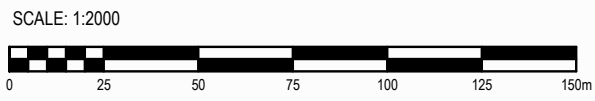
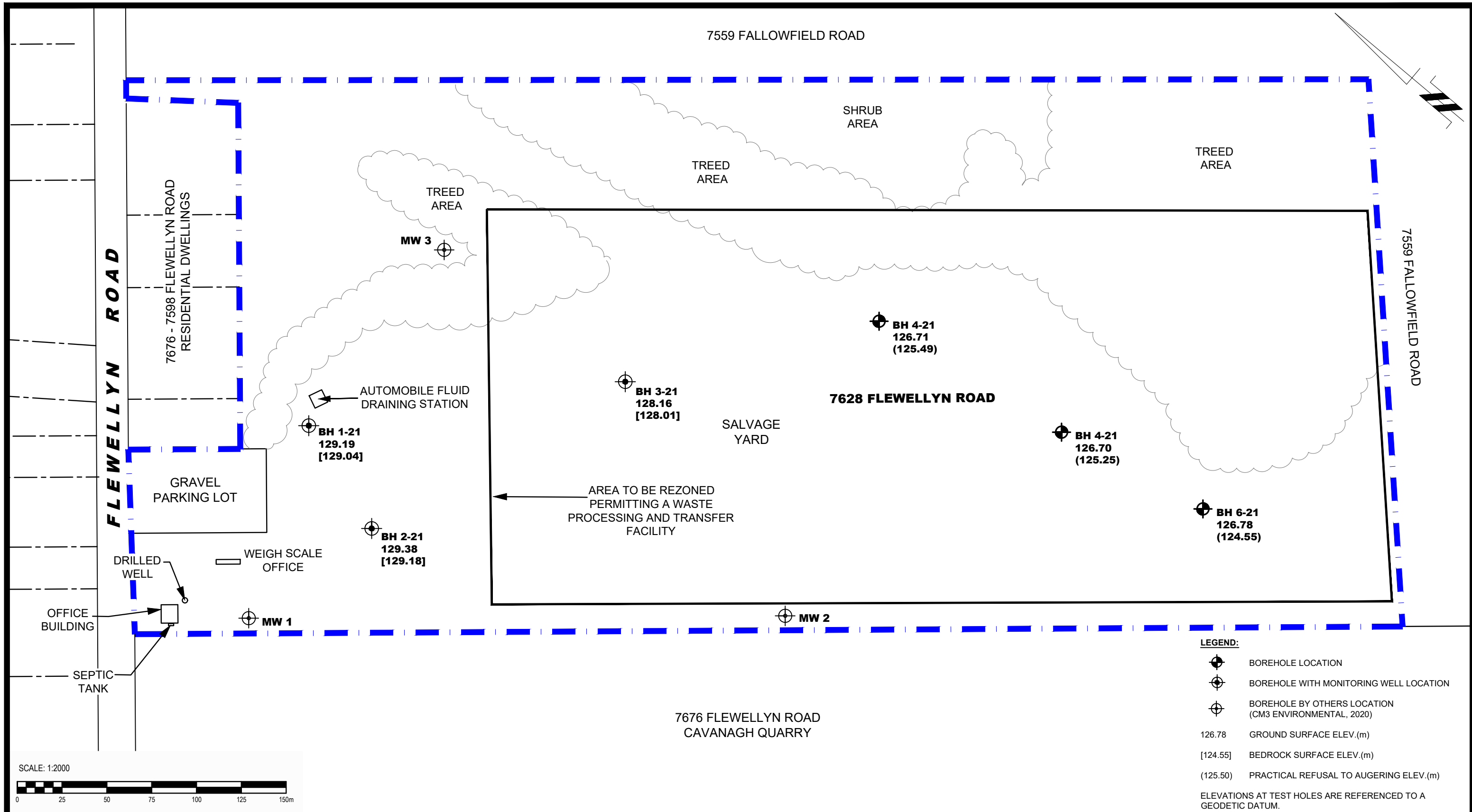
$$C_T = (Q_b C_b + Q_e C_e + Q_i C_i) / (Q_b + Q_e + Q_i) = \text{Cumulative Nitrate Concentration}$$

Q _b = flow entering the system across the upgradient area	0	m ³ /day
C _b = background nitrate concentration	0	mg/L
Q _e = flow entering the system from the septic drainfield	10	m ³ /day
C _e = concentration of nitrates in the septic effluent	40	mg/L
Q _i = flow entering the system from infiltration	33	m ³ /day
C _i = Concentration of nitrates in the infiltrate	0	mg/L
C_T =	9.37	mg/L

Notes: Site characteristic values were measured as approximate values from the available site plan. Daily Sewage Flow volume was calculated by Paterson Group.

TW1 inputs			
pH	8	A	0.17
TDS	500	B	2.32
Hardness	254	C	2.00
Alkalinity	276	D	2.44
Temp.	13		
		pHs =	7.346631847

Langelier Saturation Index (LSI) Calculation		(Langelier, 1936)
LSI = pH - pHs	A = (Log10 [TDS] - 1) / 10	
pHs = (9.3 + A + B) - (C + D)	B = -13.12 x Log10 (oC + 273) + 34.55	
Where:	C = Log10 [Ca2+ as CaCO3] - 0.4	
	D = Log10 [alkalinity as CaCO3]	
		LSI = 0.7
LSI	Effect	
0.5 to 2	Water is super saturated and tends to precipitate a scale layer of calcium carbonate (scale forming but non-corrosive)	
0 to 0.5	Water is super saturated and tends to precipitate a scale layer of calcium carbonate (slightly scale forming and corrosive).	
0	Water is saturated (in equilibrium) with calcium carbonate. A scale layer of calcium carbonate is neither precipitated nor dissolved.	
0 to -0.5	Water is under saturated and tends to dissolve solid calcium carbonate (slightly corrosivebut non-scale forming).	
-0.5 to -2	Water is under saturated and tends to dissolve solid calcium carbonate (seriously corrosive).	



LEGEND:

- BOREHOLE LOCATION
- BOREHOLE WITH MONITORING WELL LOCATION
- BOREHOLE BY OTHERS LOCATION (CM3 ENVIRONMENTAL, 2020)
- 126.78 GROUND SURFACE ELEV.(m)
- [124.55] BEDROCK SURFACE ELEV.(m)
- (125.50) PRACTICAL REFUSAL TO AUGERING ELEV.(m)

ELEVATIONS AT TEST HOLES ARE REFERENCED TO A GEODETIC DATUM.

patersongroup
consulting engineers

154 Colonnade Road South
Ottawa, Ontario K2E 7J5
Tel: (613) 226-7381 Fax: (613) 226-6344

NO.	REVISIONS	DATE	INITIAL
0			

**CASH FOR TRASH CANADA
GEOTECHNICAL INVESTIGATION
7628 FLEWELLYN ROAD**

OTTAWA, ONTARIO

TEST HOLE LOCATION PLAN

Scale:	1:2000	Date:	08/2021
Drawn by:	RCG	Report No.:	PG5783-1
Checked by:	KP	Dwg. No.:	PG5783-1
Approved by:	SD	Revision No.:	

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316/4e

UTM 118 Z 42411310 E

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Elev. 4 R 0430

Basin 25 1 1



ONTARIO

The Well Drillers Act
Department of Mines, Province of Ontario

15 No 25/8
RECEIVED
JAN - 4 1952
GEOLOGICAL BRANCH
DEPARTMENT OF MINES

Water Well Record

Country or Territorial District Canada Township Guelbourn Village, Town or City Stetterville, Ont.
Date Completed Jan 10 1952 Cost of well (excluding pump) \$ 212.50

Pipe and Casing Record

Pumping Test

Casing diameter(s) 4" Date.....
Length(s) of casing(s) 8 feet Static level 8'
Type of screen..... Pumping level.....
Length of screen..... Pumping rate.....
Distance from top of screen to ground level..... Duration of test.....
Is well a gravel-wall type? loam Distance from cylinder or bowls to ground level.....

Water Record

Kind (fresh or mineral) <u>fresh</u>	Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
Quality (hard, soft, contains iron, sulphur, etc.) <u>hard</u>	<u>8'</u>	<u>fresh</u>	<u>47'</u>
Appearance (clear, cloudy, coloured) <u>clear</u>			
For what purpose(s) is the water to be used? <u>house</u>			
How far is well from possible source of contamination? <u>75 yd</u>			
What is the source of contamination? <u>Barn</u>			
Enclose a copy of any mineral analysis that has been made of water.....			

Well Log

Overburden and Bedrock Record

From To

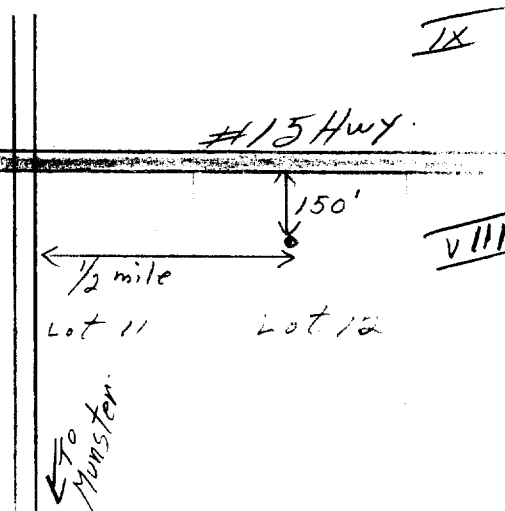
0 ft.ft.

8 loam and 47 of rock

loam 0 8
rock 8 55

Location of Well

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



Situation: Is well on upland, in valley, or on hillside? Hillside
Drilling Firm R. P. Sparks & Son
Address Stetterville, Ont.
Name of Driller same Address same
Date..... Licence Number 396
R. P. Sparks
Signature of Licensee

316/4e



GROUND WATER BRANCH
15 No. 2519
AUG 20 1957
ONTARIO WATER
RESOURCES COMMISSION

UTM 18 424140 E

5R 5005210 N

Elev. 470 430

Basin 25

The Water-well Drillers Act, 1954
Department of Mines

Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gaulburne
Village, Town or City
Address Stittsville

(day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter (s) 4 in. Static level 12
Length (s) 15 ft. Pumping rate 20 gpm per hr.
Type of screen NONE Pumping level 50 ft.
Length of screen Duration of test 10 minutes

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth (s) at which water (s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
<u>shale</u>	<u>0</u>	<u>5</u>			
<u>limestone GREY</u>	<u>5</u>	<u>57</u>	<u>55</u>	<u>43</u>	<u>sulphur</u>

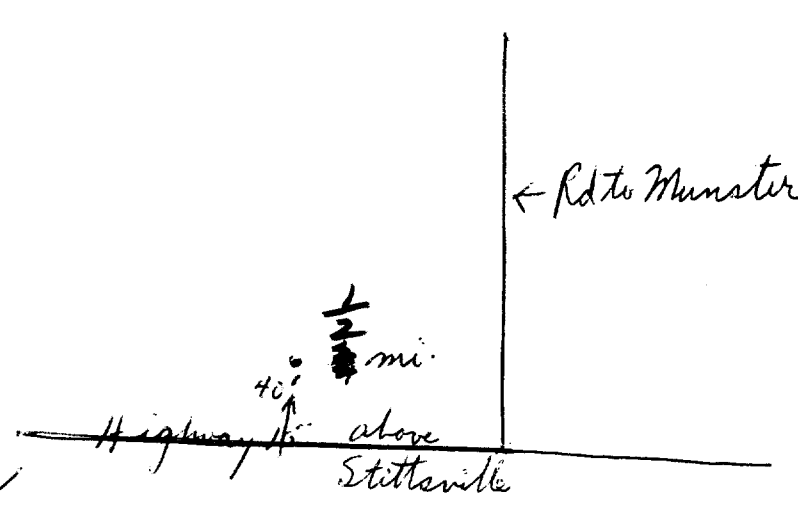
For what purpose(s) is the water to be used?
household
Is water clear or cloudy? cloudy
Is well on upland, in valley, or on hillside?
upland
Drilling firm
Address
Name of Driller B. Sparks
Address South March
Licence Number 490

I certify that the foregoing statements of fact are true.

Date Aug 17/57 B. Sparks
Signature of Licensee

Location of Well

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



69 541 316/4e



C

UTM 118Z 424040E

15 No 2521

5R 50051110N

The Ontario Water Resources Commission Act

Elev. 4R 0435

WATER WELL RECORD

Basin 35 Cableton

Township, Village, Town or City GOULBOURN

Con. 8 Lot 12

Date completed 25 JULY 66 (day month year)

Address DASHTON Hill

Casing and Screen Record

Inside diameter of casing 4
 Total length of casing 12
 Type of screen
 Length of screen
 Depth to top of screen
 Diameter of finished hole 4

Pumping Test

Static level 12
 Test-pumping rate 2 G.P.M.
 Pumping level 30
 Duration of test pumping 1HR
 Water clear or cloudy at end of test CCEM
 Recommended pumping rate 2 G.P.M.
 with pump setting of 30 feet below ground surface

Well Log

Water Record

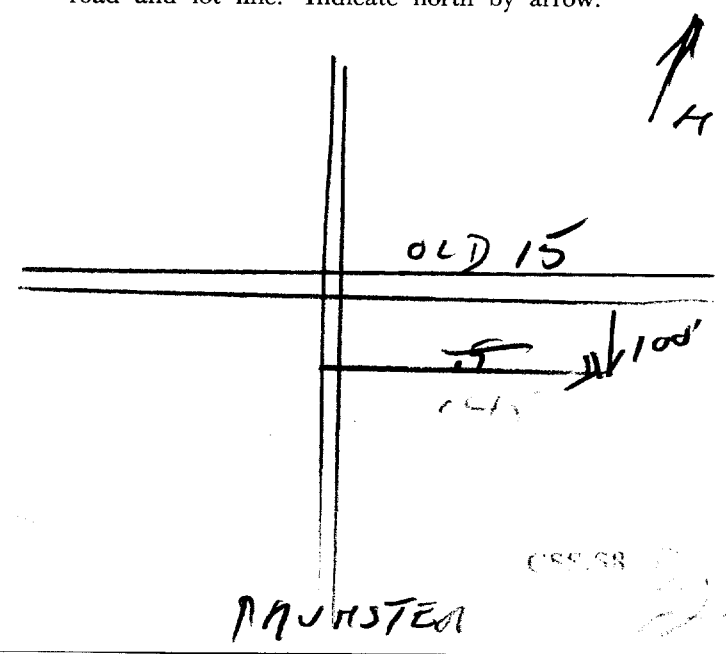
Overburden and Bedrock Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
SAND	0	12		
Limestone	12	34	32	FRESH

For what purpose(s) is the water to be used? HOUSE
 Is well on upland, in valley, or on hillside?
 Drilling or Boring Firm F.P. SPARIS
 Address STITTSVILLE
 Licence Number -
 Name of Driller or Borer CH SPARIS
 Address
 Date DE 28/66
 (Signature of Licensed Drilling or Boring Contractor) F.P. Sparis

Location of Well

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



Form 7 15M-60-4138

OWRC COPY

CSS 68

MUNSTER

310/4e



15 No. 2558
APR 26 1961
ONTARIO WATER RESOURCES COMMISSION

UTM 1182 423600E
5R 5004830N

Elev. 4R 0450 The Ontario Water Resources Commission Act, 1957

Basin 25X

WATER WELL RECORD

County or District Carleton Township, Village, Town or City Goulbourn

Lot 9 Date completed 30 Dec 1960
(day month year)
Stittsville Ont

Casing and Screen Record

Inside diameter of casing 4"
Total length of casing 12'
Type of screen -
Length of screen -
Depth to top of screen -
Diameter of finished hole 4"

Pumping Test

Static level 12'
Test-pumping rate 5' G.P.M.
Pumping level 15'
Duration of test pumping 1/2 hr
Water clear or cloudy at end of test clear
Recommended pumping rate 5' G.P.M.
with pumping level of 15'

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	No. of feet water rises	Kind of water (fresh, salty, sulphur)
<u>Red Sand</u>	<u>0</u>	<u>12'</u>			
<u>Gray lime Stone</u>	<u>12'</u>	<u>23'</u>	<u>23'</u>	<u>36</u>	<u>Brack</u>

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

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

Drilling Firm J P Sparks

Address 3 Stittsville Ont

Licence Number

Name of Driller Clayton H Sparks

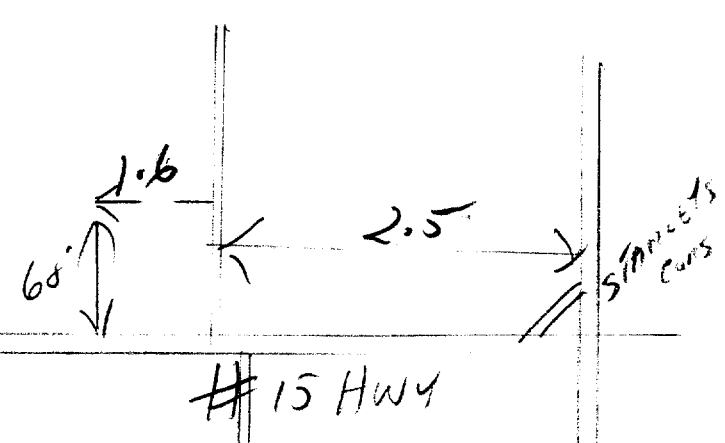
Address Stittsville Ont

Date Dec 30 1960

J P Sparks
(Signature of Licensed Drilling Contractor)

Location of Well

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



316/ae



GROUND WATER BRANCH
15 No. 2589
AUG 27 1963
ONTARIO WATER RESOURCES COMMISSION

C

UTM 18Z 423940E

CO5 RT5 005 1110N

The Ontario Water Resources Commission Act

WATER WELL RECORD

Elev. 04 R# 0433

Basin 25 | Carleton
County or District

Township, Village, Town or City Goodbourn

Lot #12 Date completed 14 August 1963
(day month year)

Address RR#1 Stittville Ontario

Casing and Screen Record

Inside diameter of casing 4"

Total length of casing 11'

Type of screen —

Length of screen —

Depth to top of screen —

Diameter of finished hole 4"

Pumping Test

Static level 4' *fill up over night*

Test-pumping rate 20 G.P.M.

Pumping level 74' ↓

Duration of test pumping 20 min

Water clear or cloudy at end of test CLEAR

Recommended pumping rate 10 G.P.M.

with pump setting of 74' feet below ground surface

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
<i>Dipped well from</i>	<i>0</i>	<i>52</i>		
<i>Black Limestone</i>	<i>52'</i>	<i>80'</i>		
			<i>70'</i>	<i>Fresh</i>

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

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

Drilling or Boring Firm Delmar S. Hueston

Address RR#2 Stittville Ont.

Licence Number #1017

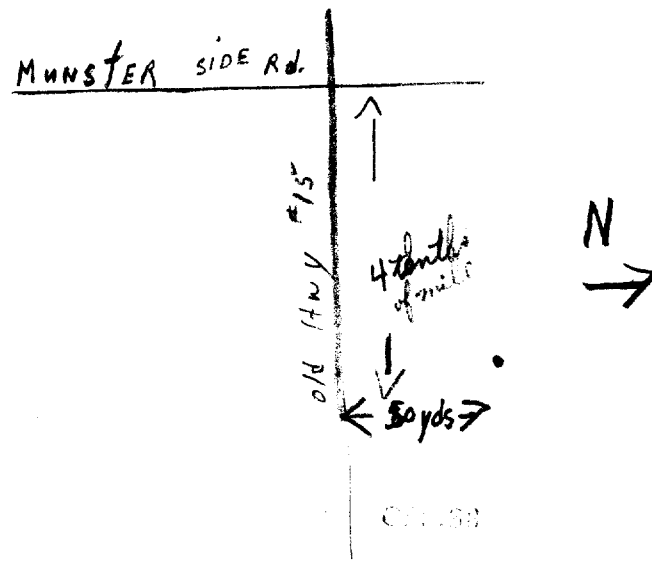
Name of Driller or Borer same

Address "

Date Aug 17/1963
Delmar S. Hueston
(Signature of Licensed Drilling or Boring Contractor)

Location of Well

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



UTM 18Z 424030
5R 5005210
 Elev. 4R 0440
 Basin 25

316/ae



15 No 2560

RECEIVED
 JAN - 4 1952
 GEOLOGICAL BRANCH
 DEPARTMENT OF MINES

The Well Drillers Act
 Department of Mines, Province of Ontario

Water Well Record

County Caledon Township Village, Town or City Houlbourn
 Town or City Stittville Ont.
Stittville Ont.

Date Completed June 19 1951 Cost of Well (excluding pump) \$182.00
 (day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter(s) <u>4"</u>	Date
Length(s) of casing(s) <u>15'</u>	Static level <u>1.5'</u>
Type of screen	Pumping level <u>15'</u>
Length of screen	Pumping rate <u>2 1/2 g.p.m.</u>
Distance from top of screen to ground level	Duration of test <u>1/2 hr.</u>
Is well a gravel-wall type? <u>gravel</u>	Distance from cylinder or bowls to ground level

Water Record

Kind (fresh or mineral) <u>fresh</u>	Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
Quality (hard, soft, contains iron, sulphur, etc.) <u>hard</u>	<u>15'</u>	<u>fresh</u>	<u>37'</u>
Appearance (clear, cloudy, coloured) <u>clear</u>	<u>52</u>		
For what purpose(s) is the water to be used? <u>house</u>			
How far is well from possible source of contamination? <u>100 yd.</u>			
What is the source of contamination? <u>Outside closet</u>			
Enclose a copy of any mineral analysis that has been made of water			

Well Log

Overburden and Bedrock Record

From To

15 feet gravel and 37 feet
rock limestone

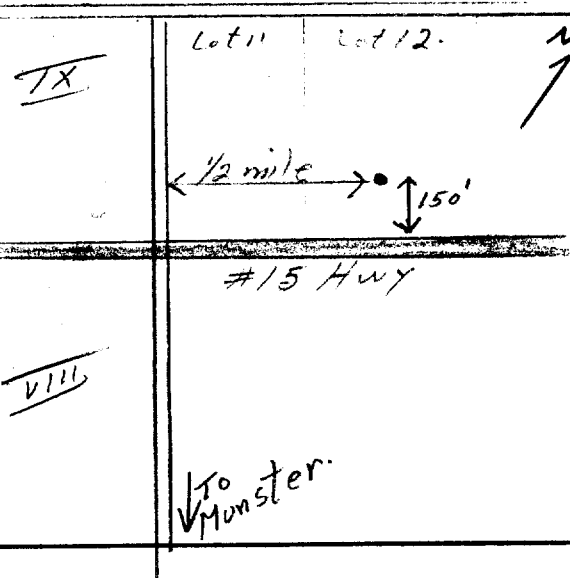
0 ft.ft.

Gravel
limestone

0 15
15 52

Location of Well

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



Situation: Is well on upland, in valley, or on hillside? upland
 Drilling Firm F. P. Sparks & Son
 Address Stittville Ont.
 Name of Driller same Address same
 Date Licence Number 396
F. P. Sparks
 Signature of Licensee

31G/4e



ONTARIO

15 No 2561

GROUND WATER BRANCH
DEC 6 1960
ONTARIO WATER
RESOURCES COMMISSION

X

UTM 118 2 424160 E

5 R 5005300 N

Elev. 480.430

Basin 1205A 121

The Water-well Drillers Act, 1954

Department of Mines

Water-Well Record

County of FRANKLIN Township, Village, Town or City GOULBOURN
Village, Town or City)
address

Date completed 21 1960
(day) (month) (year)

Pipe and Casing Record

Pumping Test

Casing diameter(s) 4"
Length(s) 12'
Type of screen
Length of screen

Static level 6
Pumping rate 6
Pumping level 10
Duration of test 1 HR

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth (s) at which water (s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
SHALEY ROCK	0	12			
GREY LIMESTONE	12	44	35-44	38	FRESH

For what purpose(s) is the water to be used?
New Home
Is water clear or cloudy? clean
Is well on upland, in valley, or on hillside?

Drilling firm F.P. SPARKS
Address 577 DUNDAS

Name of Driller CLAYTON H. SPARKS
Address

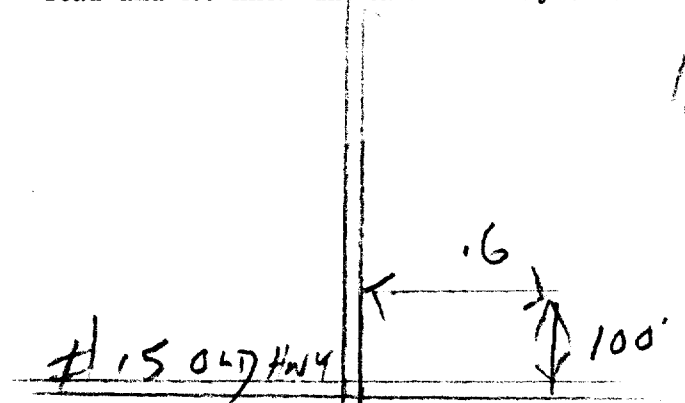
Licence Number

I certify that the foregoing statements of fact are true.

Date Nov 29 G.P. Sparks
Signature of Licensee

Location of Well

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



MUNSTER

31G/AE



GROUND-WATER BRANCH 15 N. 2162
AUG 30 1961
ONTARIO WATER RESOURCES COMMISSION

[Handwritten mark]

UTM 1182 4239810 E

105 R 150101511410 N

The Ontario Water Resources Commission Act

Elev. 104 R 102438

WATER WELL RECORD

Basin 215 | CARLETON

Township, Village, Town or City GOULBOURN

County or District #9

Lot PART 12

Date completed 4 Aug 61 (day month year)

Address RR #1 STITTSVILLE ONT.

Casing and Screen Record

Inside diameter of casing 4"

Total length of casing 13 ft. 7"

Type of screen -

Length of screen -

Depth to top of screen -

Diameter of finished hole 4"

Pumping Test

Static level 20'

Test-pumping rate 5 G.P.M.

Pumping level 30'

Duration of test pumping 1 HR.

Water clear or cloudy at end of test CLEAR

Recommended pumping rate 5 G.P.M.

with pump setting of 50' feet below ground surface

Well Log

Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
CLAY	0	3'		
SHALE	3'	5'		
FINE GRAVEL	5'	7 1/2'		
BLACK LIMESTONE	7 1/2"	52'	48'	FRESH

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

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

Drilling or Boring Firm Delmar S. Hueston

Address RR #1 STITTSVILLE

Licence Number #355

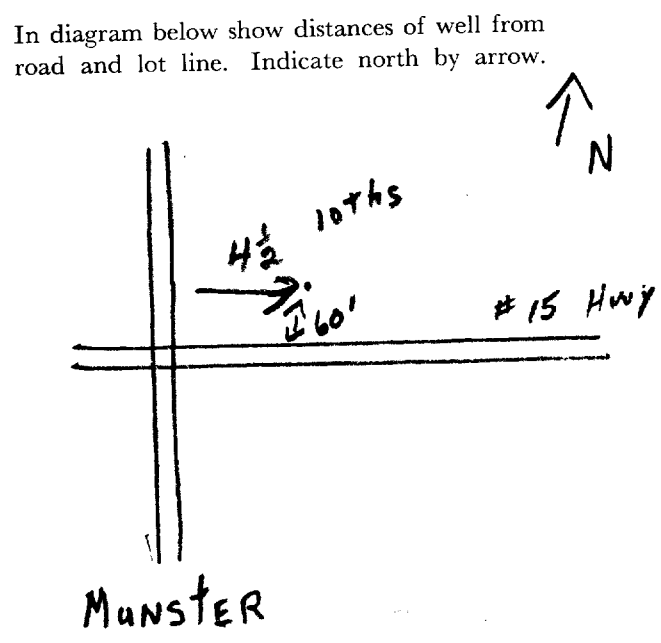
Name of Driller or Borer SAME

Address SAME

Date Aug 4, 1961

Delmar S. Hueston
(Signature of Licensed Drilling or Boring Contractor)

Location of Well





Ontario

WATER WELL RECORD

31/G4

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

11 1515762 15003 CON 08

COUNTY OR DISTRICT Carleton	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Goulburn	CON., BLOCK, TRACT, SURVEY, ETC. 8	LOC. NO. 012
ADDRESS 137 Bradford St. Ottawa, Ontario		DATE COMPLETED	48-53 DAY 05 MO. 11 YR. 76
HING 005075	RC 5	ELEVATION 037.2	RC 5
BASIN CODE 2.6			

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
brown	clay			0	8
grey	limestone		soft	8	82
grey	limestone	green streaks	broken	82	85

31	0008695	008221585	008521571						
32									

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
6.5	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	1.88	0	00 25
6.6	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE		25	85
6.6	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE			0085
6.6	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE			

SCREEN

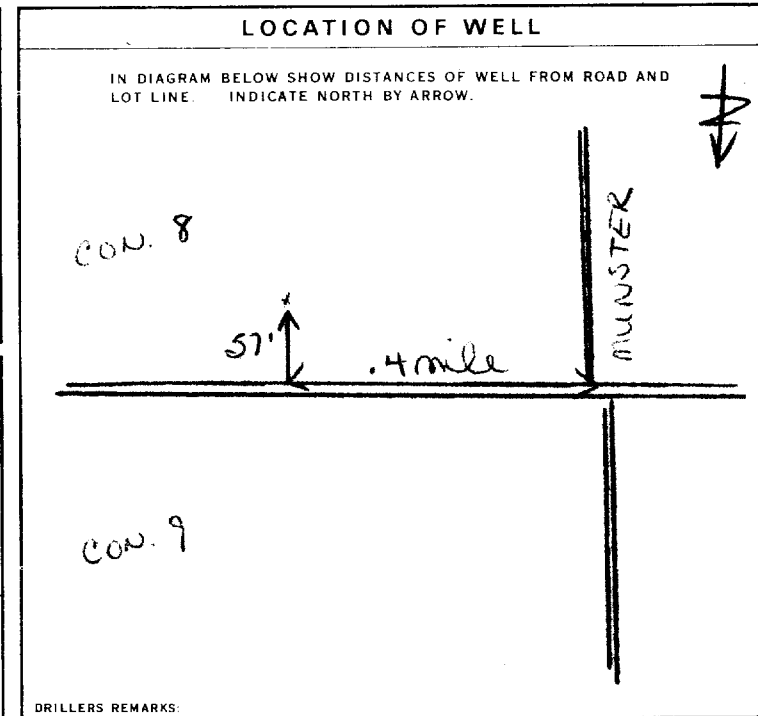
SIZE (S) OF OPENING (SLOT NO.)	31-33	DIAMETER	34-38	LENGTH	39-40
		INCHES		FEET	
MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN		41-44	80	
			FEET		

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	

71 PUMPING TEST

PUMPING TEST METHOD	1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER
PUMPING RATE	00 30 GPM
DURATION OF PUMPING	01 00 HOURS MINS
STATIC LEVEL	015 FEET
WATER LEVEL END OF PUMPING	045 FEET
WATER LEVELS DURING	15 MINUTES: 045 30 MINUTES: 045 45 MINUTES: 045 60 MINUTES: 045
IF FLOWING, GIVE RATE	
RECOMMENDED PUMP TYPE	<input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP
RECOMMENDED PUMP SETTING	0 55 FEET
RECOMMENDED PUMPING RATE	0 005 GPM



FINAL STATUS OF WELL

1 <input checked="" type="checkbox"/> WATER SUPPLY	5 <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY
2 <input type="checkbox"/> OBSERVATION WELL	6 <input type="checkbox"/> ABANDONED, POOR QUALITY
3 <input type="checkbox"/> TEST HOLE	7 <input type="checkbox"/> UNFINISHED
4 <input type="checkbox"/> RECHARGE WELL	

WATER USE

1 <input checked="" type="checkbox"/> DOMESTIC	5 <input type="checkbox"/> COMMERCIAL
2 <input type="checkbox"/> STOCK	6 <input type="checkbox"/> MUNICIPAL
3 <input type="checkbox"/> IRRIGATION	7 <input type="checkbox"/> PUBLIC SUPPLY
4 <input type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING
9 <input type="checkbox"/> OTHER	9 <input type="checkbox"/> NOT USED

METHOD OF DRILLING

1 <input type="checkbox"/> CABLE TOOL	6 <input type="checkbox"/> BORING
2 <input type="checkbox"/> ROTARY (CONVENTIONAL)	7 <input type="checkbox"/> DIAMOND
3 <input type="checkbox"/> ROTARY (REVERSE)	8 <input type="checkbox"/> JETTING
4 <input type="checkbox"/> ROTARY (AIR)	9 <input type="checkbox"/> DRIVING
5 <input checked="" type="checkbox"/> AIR PERCUSSION	

CONTRACTOR

NAME OF WELL CONTRACTOR Capital Water Supply Ltd.	LICENCE NUMBER 1558
ADDRESS Box 490 Stittsville, Ontario	
NAME OF DRILLER OR BORER D. McDougall	LICENCE NUMBER
SIGNATURE OF CONTRACTOR <i>[Signature]</i>	SUBMISSION DATE DAY 9 MO. 11 YR. 76

OFFICE USE ONLY

DATA SOURCE	CONTRACTOR	DATE RECEIVED	
1	1558	091276	
DATE OF INSPECTION	INSPECTOR		
17/6/77	<i>[Signature]</i>	PX	
REMARKS			
	P V		
	WI		



Ontario P.P.M.

WATER WELL RECORD

31 9/4

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

11 1515932- 15003 CON 09

COUNTY OR DISTRICT: [REDACTED] TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: **Southburn** 3 CON. BLOCK, TRACT, SURVEY, ETC.: 9

DATE COMPLETED: DAY 24 MO 05 YR 77

R. # 1 Stittsville, Ontario

NG 05100 RC 5 ELEVATION 0430 RC 5 BASIN CODE 2.6

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
		Previously drilled		0	98
grey	limestone			98	110

31 0098 24 0110215

41 WATER RECORD

WATER FOUND AT FEET	KIND OF WATER
0108	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
5 7/8	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE	188	0	0101
06	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE		101	110
05	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE			0110

SCREEN RECORD

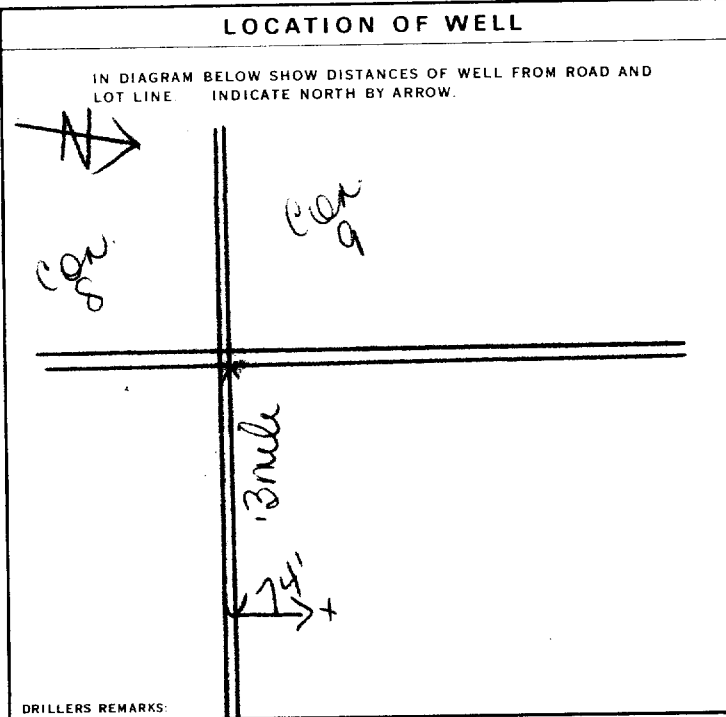
SIZE (S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE		DEPTH TO TOP OF SCREEN FEET

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	

71 PUMPING TEST

PUMPING TEST METHOD 1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER	PUMPING RATE 0015 GPM	DURATION OF PUMPING 15-16 HOURS 00 MINS
STATIC LEVEL 042 FEET	WATER LEVEL END OF PUMPING 045 FEET	WATER LEVELS DURING 15 MINUTES 045 FEET 30 MINUTES 045 FEET 45 MINUTES 045 FEET 60 MINUTES 045 FEET
IF FLOWING, GIVE RATE	PUMP INTAKE SET AT 060 FEET	WATER AT END OF TEST 1 <input checked="" type="checkbox"/> CLEAR 2 <input type="checkbox"/> CLOUDY
RECOMMENDED PUMP TYPE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING 060 FEET	RECOMMENDED PUMPING RATE 0005 GPM



FINAL STATUS OF WELL

1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY
2 OBSERVATION WELL 6 ABANDONED, POOR QUALITY
3 TEST HOLE 7 UNFINISHED
4 RECHARGE WELL

WATER USE

1 DOMESTIC 5 COMMERCIAL
2 STOCK 6 MUNICIPAL
3 IRRIGATION 7 PUBLIC SUPPLY
4 INDUSTRIAL 8 COOLING OR AIR CONDITIONING
 OTHER 9 NOT USED

METHOD OF DRILLING

1 CABLE TOOL 6 BORING
2 ROTARY (CONVENTIONAL) 7 DIAMOND
3 ROTARY (REVERSE) 8 JETTING
4 ROTARY (AIR) 9 DRIVING
5 AIR PERCUSSION

CONTRACTOR

NAME OF WELL CONTRACTOR: **Capital Water Supply Ltd.** LICENCE NUMBER: **1558**

ADDRESS: **Box 490 Stittsville, Ontario**

NAME OF DRILLER OR BORER: **B. Kavangh** LICENCE NUMBER: [REDACTED]

SIGNATURE OF CONTRACTOR: [Signature] SUBMISSION DATE: DAY 26 MO 5 YR 77

OFFICE USE ONLY

DATA SOURCE: 1 558 CONTRACTOR: 1558 DATE RECEIVED: 070677

DATE OF INSPECTION: August 77 INSPECTOR: [Signature]

REMARKS: [REDACTED]

WI



Ontario

WATER WELL RECORD

319/4

d.p.m.

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

11

1515941

MUNICIPALITY 15003

CON. 60N

08

COUNTY OR DISTRICT Carleton	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Goulburn	CON., BLOCK, TRACT, SURVEY, ETC. 8	LOCALITY 011
OWNER (SURNAME FIRST) Cavanagh Constr.	ADDRESS Ashton, Ontario	DATE COMPLETED DAY 30 MONTH 05 YEAR 77	

21

ZONE U T N 10 **18** EASTING 12 **423800** NORTHING 18 **5004850** RC 25 **5** ELEVATION 26 **0360** RC 30 **5** BASIN CODE 31 **216**

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
grey	crushed rock	fill	loose	0	1
brown	sand	broken rock	packed	1	4
grey	limestone		medium hard	4	30
grey	limestone	black streaks	medium soft	30	40
black	limestone		very soft	40	75
green	sandstone		medium soft	75	90

31 00012120177 00046281271 003021573 004021585 00758159085 009041885

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER			
10-13	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input checked="" type="checkbox"/> MINERAL	
15-18	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERAL	
20-23	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERAL	
25-28	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERAL	
30-33	1 <input type="checkbox"/> FRESH	3 <input type="checkbox"/> SULPHUR	4 <input type="checkbox"/> MINERAL	

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
6 1/8	1 <input checked="" type="checkbox"/> STEEL	188	0	0024
6 3/8	2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE		24	90
06	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE			0090

SCREEN

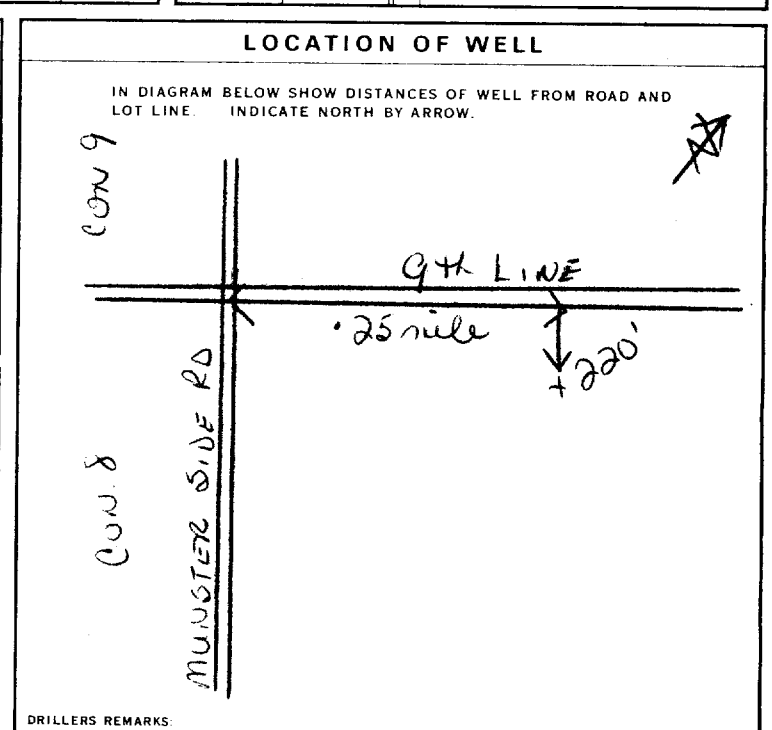
SIZE (S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET
MATERIAL AND TYPE		DEPTH TO TOP OF SCREEN FEET
		41-44

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
10-13	14-17
18-21	22-25
26-29	30-33

71 PUMPING TEST

PUMPING TEST METHOD 1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER	PUMPING RATE 0020 GPM	DURATION OF PUMPING 15-16 HOURS 00 MINS
STATIC LEVEL 048 FEET	WATER LEVEL END OF PUMPING 048 FEET	WATER LEVELS DURING PUMPING 15 MINUTES 048 FEET 30 MINUTES 048 FEET 45 MINUTES 048 FEET 60 MINUTES 048 FEET
RECOMMENDED PUMP TYPE 1 <input type="checkbox"/> SHALLOW 2 <input checked="" type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING 065 FEET	RECOMMENDED PUMPING RATE 0005 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

6 COMMERCIAL
7 MUNICIPAL
8 PUBLIC SUPPLY
9 COOLING OR AIR CONDITIONING
10 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

CONTRACTOR

NAME OF WELL CONTRACTOR
Capital Water Supply Ltd.

LICENCE NUMBER
1558

ADDRESS
Box 490 Stittsville, Ontario

NAME OF DRILLER OR BORER
J. Moore

LICENCE NUMBER

SIGNATURE OF CONTRACTOR
[Signature]

SUBMISSION DATE
DAY **2** MO. **6** YR. **77**

OFFICE USE ONLY

DATA SOURCE
1

CONTRACTOR
1558

DATE RECEIVED
070677

DATE OF INSPECTION
Aug 11/77

INSPECTOR
[Signature]

REMARKS

P **[Signature]**

WI



WATER WELL RECORD

1. PRINT ONLY IN SPACES PROVIDED
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11 1516554 15003 CON 09

COUNTY OR DISTRICT: Carleton Place TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Loulbourn CON., BLOCK, TRACT, SURVEY, ETC.: Con 9 LOT: P1012

DATE COMPLETED: DAY 11 MO 05 YR 78

GRID COORDINATES: 05300 4 6430 27026

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
<u>grey</u>	<u>clay</u>			<u>0</u>	<u>4</u>
<u>grey</u>	<u>limestone</u>			<u>4</u>	<u>58</u>

31 0004205 0058215

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER			
<u>0050</u>	<input checked="" type="checkbox"/> FRESH	<input type="checkbox"/> SALTY	<input type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERAL
<u>0058</u>	<input type="checkbox"/> FRESH	<input checked="" type="checkbox"/> SALTY	<input checked="" type="checkbox"/> SULPHUR	<input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
			FROM	TO
<u>06</u>	<input checked="" type="checkbox"/> STEEL	<u>188</u>	<u>0</u>	<u>0020</u>

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET		MATERIAL AND TYPE (CEMENT GROUT, LEAD PACKER, ETC.)
FROM	TO	
<u>10-13</u>	<u>14-17</u>	
<u>18-21</u>	<u>22-25</u>	
<u>26-29</u>	<u>30-33</u>	

71 PUMPING TEST METHOD

1 PUMP 2 BAILER

PUMPING RATE: 00/5 GPM

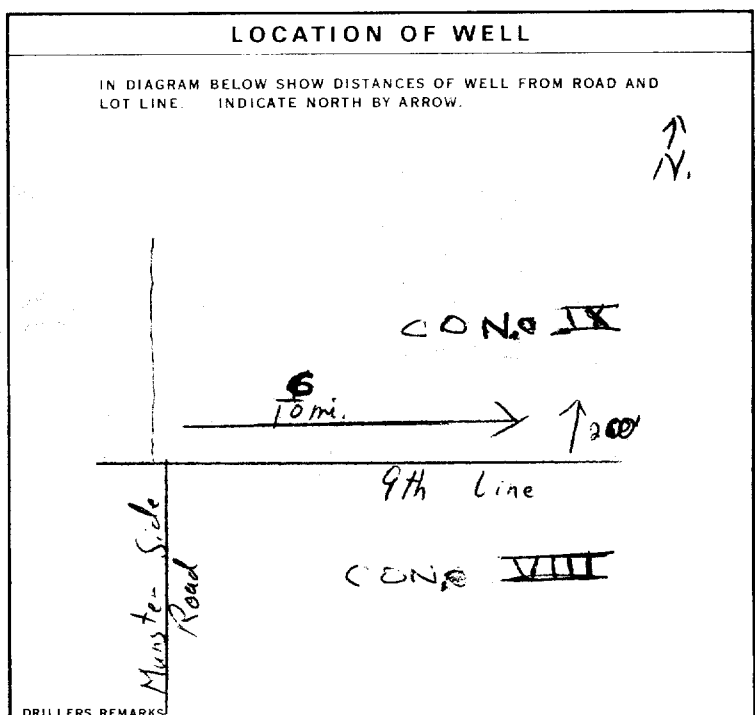
DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING PUMPING			
19-21 FEET	22-24 FEET	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
<u>002</u>	<u>025</u>	<u>025</u>	<u>025</u>	<u>025</u>	<u>025</u>

RECOMMENDED PUMP TYPE: SHALLOW DEEP

RECOMMENDED PUMP SETTING: 025 FEET

RECOMMENDED PUMPING RATE: 0005 GPM



FINAL STATUS OF WELL: 1

WATER USE: 01

METHOD OF DRILLING: 1

CONTRACTOR: Henry Mann Well Drilling LICENCE NUMBER: 3644

ADDRESS: Box 326, Richmond Ont.

NAME OF DRILLER OR BORER: Henry Mann LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: Henry Mann SUBMISSION DATE: DAY 15 MO 5 YR 78

OFFICE USE ONLY

DATA SOURCE: 1 CONTRACTOR: 3644 DATE RECEIVED: 120778

DATE OF INSPECTION: 15/5/79 INSPECTOR: Km. J.P.P.

REMARKS:



Ministry
of the
Environment
Ontario

The Ontario Water Resources Act

WATER WELL RECORD

3164e

1. PRINT ONLY IN SPACES PROVIDED
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11 1517686 15003 CON 09

COUNTY OR DISTRICT Orleton TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Leulbourn CON. BLOCK, TRACT, SURVEY, ETC. Con 9 LOT 012

Slitwell Ont. DATE COMPLETED DAY 21 MO 09 YR 81

BORING NO. 005199 RC 4 ELEVATION 0440 RC 4 BASIN CODE 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
grey	gravel			0	9
grey	limestone		shaly	9	87

31 0009211 008721582

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
06-10-11	1 <input checked="" type="checkbox"/> STEEL		13-16
06-11	2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	188	010022
06-17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE		20-23
24-25	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE		27-30

SCREEN

SIZE(S) OF OPENING (SLOT NO.)	DIAMETER INCHES	LENGTH FEET

MATERIAL AND TYPE _____ DEPTH TO TOP OF SCREEN 41-44 FEET

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
10-13	14-17	
18-21	22-25	
26-29	30-33	80

71 PUMPING TEST

PUMPING TEST METHOD 1 PUMP 2 BAILER

PUMPING RATE 0015 GPM DURATION OF PUMPING 01 15-16 HOURS 00 17-18 MIN.

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
19-21	22-24	15 MINUTES 26-28
047	080	080
		30 MINUTES 29-31
		080
		45 MINUTES 32-34
		080
		60 MINUTES 35-37
		080

IF FLOWING, GIVE RATE _____ PUMP INTAKE SET AT _____ FEET WATER AT END OF TEST 42

RECOMMENDED PUMP TYPE SHALLOW DEEP RECOMMENDED PUMP SETTING 080 FEET RECOMMENDED PUMPING RATE 0010 GPM

LOCATION OF WELL

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

↑ N

↑ 145'

6 km

Manston Side Rd

DRILLERS REMARKS

FINAL STATUS OF WELL

1 WATER SUPPLY 5 ABANDONED, INSUFFICIENT SUPPLY
2 OBSERVATION WELL 6 ABANDONED POOR QUALITY
3 TEST HOLE 7 UNFINISHED
4 RECHARGE WELL

WATER USE

1 DOMESTIC 5 COMMERCIAL
2 STOCK 6 MUNICIPAL
3 IRRIGATION 7 PUBLIC SUPPLY
4 INDUSTRIAL 8 COOLING OR AIR CONDITIONING
 OTHER 9 NOT USED

METHOD OF DRILLING

1 CABLE TOOL 6 BORING
2 ROTARY (CONVENTIONAL) 7 DIAMOND
3 ROTARY (REVERSE) 8 JETTING
4 ROTARY (AIR) 9 DRIVING
5 AIR PERCUSSION

CONTRACTOR

NAME OF WELL CONTRACTOR Henry Mains Well Drilling LICENSE NUMBER 3644

ADDRESS Box 326, Putnam Ont.

NAME OF DRILLER OR BORER Henry Mains LICENSE NUMBER _____

SIGNATURE OF CONTRACTOR _____ SUBMISSION DATE DAY 23 MO 9 YR 81

OFFICE USE ONLY

DATA SOURCE 1 3644 CONTRACTOR 3644 DATE RECEIVED 12 01 82

DATE OF INSPECTION _____ INSPECTOR _____

REMARKS _____

1. PRINT ONLY IN SPACES PROVIDED
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1518141

MUNICIPALITY 15003

CON. CON

08

COUNTY OR DISTRICT: OTTAWA CARLETON TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: GOULBOURN CON. BLOCK, TRACT, SURVEY, ETC.: 9 LOT: 012
DATE COMPLETED: DAY 10 MO 02 YR 83
ELEVATION: 0.5299 4 0.420 4 2.6

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	EARTH	FILL	LOOSE	0'	5'
GRAY	LIME STONE			5'	37'

31 00056029117 0037215
32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0037	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD

INSIDE DIAM INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
5.6	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE	1.48	0' 0022 22' 37'
06	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE		20-23 0037 27-30

SCREEN SIZE(S) OF OPENING (SLOT NO.) 31-33 DIAMETER 34-38 LENGTH 39-40
MATERIAL AND TYPE DEPTH TO TOP OF SCREEN 41-44

61 PLUGGING & SEALING RECORD

DEPTH SET AT - FEET	MATERIAL AND TYPE	(CEMENT GROUT LEAD PACKER, ETC.)
10-13		
18-21		
24-29		

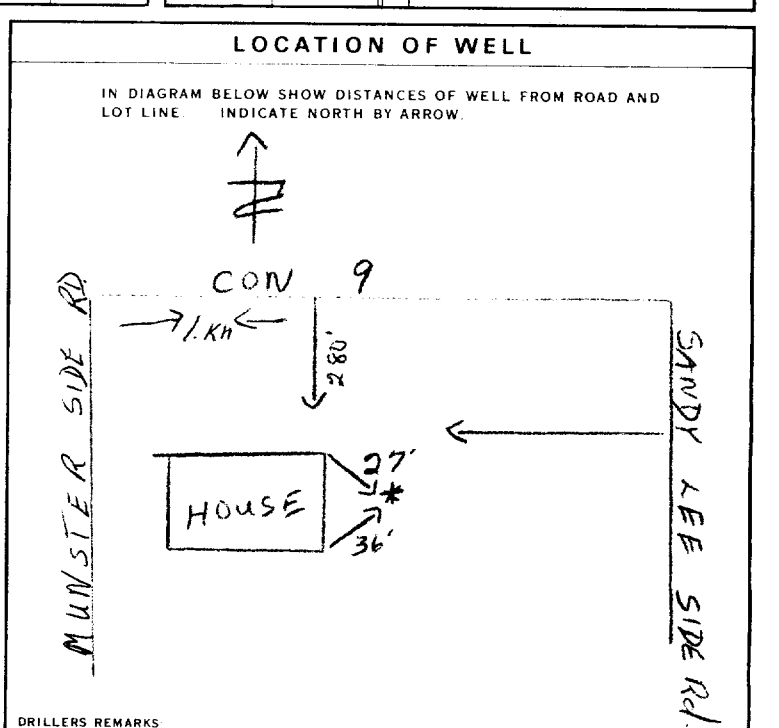
71 PUMPING TEST METHOD

1 PUMP 2 BAILER

PUMPING RATE: 0007 GPM DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING					
001'	025'	15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES		
		025'	025'	025'	025'		

RECOMMENDED PUMP TYPE: SHALLOW DEEP
RECOMMENDED PUMP SETTING: 030 FEET
RECOMMENDED PUMPING RATE: 0005 GPM



FINAL STATUS OF WELL: 1 WATER SUPPLY

WATER USE: 01 DOMESTIC

METHOD OF DRILLING: 1 CABLE TOOL

CONTRACTOR: M. KAVANAGH & SON LICENCE NUMBER: 3142
ADDRESS: RR 2 CARLETON PLACE
NAME OF DRILLER OR BORER: MIKE KAVANAGH LICENCE NUMBER: 3142
SIGNATURE OF CONTRACTOR: Michael Kavanagh SUBMISSION DATE: DAY 14 MO 2 YR 83

OFFICE USE ONLY

DATA SOURCE: 1 CONTRACTOR: 3142 DATE RECEIVED: 03 03 83
DATE OF INSPECTION: INSPECTOR:
REMARKS:

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

Address of Well Location (County/District/Municipality) **Ottawa Carleton 5** Township **Goulbourn** Lot **12** Concession **9**
 RR#/Street Number/Name **7579 Flewellyn Road** City/Town/Village **Stittsville** Site/Compartment/Block/Tract etc.
 GPS Reading NAD Zone Easting Northing Unit Make/Model Mode of Operation: Undifferentiated Averaged
8.3 18 42 41 62 50 054 99 Garnin Differentiated, specify _____

Log of Overburden and Bedrock Materials (see instructions)

General Colour	Most common material	Other Materials	General Description	Depth Metres	
				From	To
Brown	Sandy Soil	Stones		0	1.82
Brown	Shale			1.82	3.35
Gray	Limestone			3.35	12.19
Green & Red	Shale			12.19	35.96

Hole Diameter

Depth From	Metres To	Diameter Centimetres
0	6.40	22.75
6.40	35.96	15.23

Water Record

Water found at **32.1** m / Kind of Water **not tested**

Gas Sulphur 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 Metres	
			From	To
15.86	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	.48	+ .45	6.40
Screen				
Outside diam	<input type="checkbox"/> Steel <input type="checkbox"/> Fibreglass <input type="checkbox"/> Plastic <input type="checkbox"/> Concrete <input type="checkbox"/> Galvanized	Slot No.		
No Casing or Screen				
15.23	<input checked="" type="checkbox"/> Open hole		6.40	35.96

Test of Well Yield

Pumping test method	Draw Down		Recovery	
	Time min	Water Level Metres	Time min	Water Level Metres
submersible				
Pump intake set at - (metres) 30.47	Static Level	13.94		
Pumping rate - (litres/min) 54.6	1	14.64	1	13.84
Duration of pumping 2 hrs + min	2	14.76	2	13.85
Final water level end of pumping 14.93 metres	3	14.81	3	13.89
Recommended pump type. <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	4	14.83	4	13.96
Recommended pump depth. 22.85 metres	5	14.85	5	13.96
Recommended pump rate. 45.5 (litres/min)	10	14.87	10	13.96
If flowing give rate - (litres/min)	15	14.89	15	13.96
	20	14.88	20	13.95
	25	14.89	25	13.95
If pumping discontinued, give reason.	30	14.90	30	13.95
	40	14.90	40	13.95
	50	14.91	50	13.95
	60	14.91	60	13.95

Plugging and Sealing Record Annular space Abandonment

Depth set at - Metres From	To	Material and type (bentonite slurry, neat cement slurry) etc.	Volume Placed (cubic metres)
6.40	0	Grouted - Bentonite Slurry	.132m3

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

Location of Well

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

Audit No. **Z 26062** Date Well Completed **2005 7 12**

Was the well owner's information package delivered? Yes No Date Delivered **2005 7 13**

Well Contractor/Technician Information

Name of Well Contractor **Capital Water Supply Ltd.** Well Contractor's Licence No. **1558**
 Business Address (street name, number, city etc.) **P.O. Box 490 Stittsville, Ontario K2S 1A6**
 Name of Well Technician (last name, first name) **Miller; Stephen** Well Technician's Licence No. **T0097**
 Signature of Technician/Contractor **[Signature]** Date Submitted **2005 7 14**

Ministry Use Only

Data Source Contractor **1558**

Date Received **SEP 12 2005** Date of Inspection _____

Remarks _____ Well Record Number _____



Measurements recorded in: Metric Imperial

A282456

Tag#: A282456

5-24721 Page _____ of _____

Well Location

Address of Well Location (Street Number/Name): 7598 Flewellyn Rd
 Township: _____ Lot: _____ Concession: _____
 County/District/Municipality: _____ City/Town/Village: Stillsville
 Province: Ontario Postal Code: K2S1B6
 UTM Coordinates: Zone: 83 Easting: 18424113 Northing: 5005304
 Municipal Plan and Sublot Number: _____ Other: _____

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
BRN	top soil		soft	0	1.31
BRN	sand	silt	soft	0.31	1.52
GRY	limestone	shale	layered	1.52	6.7

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	3.35	bentonite	
3.35	6.7	filter sand	

Results of Well Yield Testing

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

Method of Construction

Cable Tool Diamond 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

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		Status of Well
			From	To	
5.20	PVC	.390	0	3.66	<input type="checkbox"/> Water Supply <input type="checkbox"/> Replacement Well <input checked="" type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input checked="" type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify _____ <input type="checkbox"/> Other, specify _____

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To
6.03	PVC	10	3.66	6.7

Water Details

Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify _____	Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
		0	3.1	11.43
		3.1	6.7	8.89

Well Contractor and Well Technician Information

Business Name of Well Contractor: Strata Drilling Group
 Well Contractor's Licence No.: 7121411
 Business Address (Street Number/Name): 129 Kingwood Dr.
 Municipality: Stillsville
 Province: ON Postal Code: L4A8C4 Business E-mail Address: wrc2000@stratasoil.com
 Bus. Telephone No. (inc. area code): 905 940 7911 Name of Well Technician (Last Name, First Name): McLoy, JAMES
 Well Technician's Licence No.: 71101 Signature of Technician and/or Contractor: [Signature] Date Submitted: 20200631

Map of Well Location

Please provide a map below following instructions on the back.

See Map MW3

Comments:

Well owner's information package delivered: Yes No

Date Package Delivered: YYY Y MM DD: 2020 06 30

Date Work Completed: YYY Y MM DD: 2020 06 30

Ministry Use Only

Audit No.: 2324267

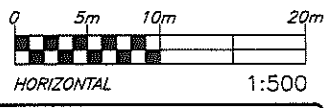
Received: [Signature]



APPROX. PROPERTY BOUNDARY

THE BACKGROUND IMAGE CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENSE - CITY OF OTTAWA.

LEGEND



DATE JAN 2020	CLIENT: 	project no.
DESIGN 	TITLE: 7598 FLEWELLYN RD. - SITE PLAN	scale 1:500
CHECKED 		FIG 2
DRAWN BY 		

C-7241
Z-324267

FEB 19 2020



A296273

Measurements recorded in: Metric Imperial

5-25224 Page _____ of _____

Address of Well Location (Street Number/Name) 7609 Flewellyn Road Township _____ Lot _____ Concession _____

County/District/Municipality _____ City/Town/Village Ottawa (Stittsville) Province **Ontario** Postal Code _____

UTM Coordinates Zone 18 Easting 924007 Northing 5342 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
<u>BRN</u>	<u>Topsoil</u>		<u>soft</u>	<u>0</u>	<u>1</u>
<u>BRN</u>	<u>Coarse Sand</u>	<u>Gravel silt</u>	<u>Soft loose</u>	<u>1</u>	<u>6</u>
<u>GRY</u>	<u>Limestone</u>		<u>hard</u>	<u>6</u>	<u>20</u>

Annular Space			
Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m ³ /ft ³)	
From	To		
<u>+3</u>	<u>monument casing</u>		
<u>1</u>	<u>grouted</u>		
<u>9</u>	<u>filter sand</u>		

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

Method of Construction		Well Use	
<input type="checkbox"/> Cable Tool	<input type="checkbox"/> Diamond	<input type="checkbox"/> Public	<input type="checkbox"/> Commercial
<input type="checkbox"/> Rotary (Conventional)	<input type="checkbox"/> Jetting	<input type="checkbox"/> Domestic	<input type="checkbox"/> Municipal
<input type="checkbox"/> Rotary (Reverse)	<input type="checkbox"/> Driving	<input type="checkbox"/> Livestock	<input checked="" type="checkbox"/> Test Hole
<input type="checkbox"/> Boring	<input type="checkbox"/> Digging	<input type="checkbox"/> Irrigation	<input checked="" type="checkbox"/> Monitoring
<input checked="" type="checkbox"/> Air percussion	<input type="checkbox"/> Other, specify <u>direct push</u>	<input type="checkbox"/> Industrial	<input type="checkbox"/> Cooling & Air Conditioning

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	
<u>2.057</u>	<u>PVC</u>	<u>.54</u>	<u>+3</u>	<u>10</u>	<input checked="" type="checkbox"/> Water Supply
					<input type="checkbox"/> Replacement Well
					<input checked="" type="checkbox"/> Test Hole
					<input type="checkbox"/> Recharge Well
					<input type="checkbox"/> Dewatering Well
					<input checked="" type="checkbox"/> Observation and/or Monitoring Hole
					<input type="checkbox"/> Alteration (Construction)
					<input type="checkbox"/> Abandoned, Insufficient Supply
					<input type="checkbox"/> Abandoned, Poor Water Quality
					<input type="checkbox"/> Abandoned, other, specify _____
					<input type="checkbox"/> Other, specify _____

Construction Record - Screen				
Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To
<u>2.375</u>	<u>PVC</u>	<u>10</u>	<u>10</u>	<u>20</u>

Water Details		Hole Diameter		
Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify _____	Depth (m/ft)	Diameter (cm/in)	
		From	To	
		<u>0</u>	<u>7</u>	<u>4.5</u>
		<u>7</u>	<u>20</u>	<u>3</u>

Well Contractor and Well Technician Information			
Business Name of Well Contractor: <u>Stella Drilling Group</u>		Well Contractor's Licence No.: <u>7121411</u>	
Business Address (Street Number/Name): <u>129 R. Inwood Dr</u>		Municipality: <u>Stittsville</u>	
Province: <u>ON</u>	Postal Code: <u>K4A1B9</u>	Business E-mail Address: <u>w.records@stella.ca</u>	
Bus. Telephone No. (inc. area code): <u>905 940 7919</u>		Name of Well Technician (Last Name, First Name): <u>McEoy James</u>	
Well Technician's Licence No.: <u>7107</u>		Signature of Technician and/or Contractor:	
		Date Submitted: <u>Y Y Y Y M M D D</u>	

Map of Well Location

Please provide a map below following instructions on the back.

Comments: EXP General Contractors On Site

Well owner's information package delivered: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Date Package Delivered: <u>Y Y Y Y M M D D</u>	Date Work Completed: <u>2020 05 25</u>
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Ministry Use Only	
Audit No. <u>2333418</u>	Received: _____



Well Tag#: A296272 (Below)
A296272

Measurements recorded in: Metric Imperial

7364349 CANADA INC. C/O

Address of Well Location (Street Number/Name): 2617 Flewellyn Road

County/District/Municipality: Ottawa (Stittsville) City/Town/Village: Ottawa (Stittsville) Province: Ontario Postal Code:

UTM Coordinates: Zone 18 Easting 423996 Northing 5005334 Municipal Plan and Sublot Number: Other:

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

General Colour	Most Common Material	Other Materials	General Description	Depth (m/ft) From	Depth (m/ft) To
<u>BLK</u>	<u>Topsoil</u>		<u>Soft loose</u>	<u>0</u>	<u>1</u>
<u>BRN</u>	<u>Coarse Sand</u>	<u>Gravel s.H</u>	<u>Soft loose</u>	<u>1</u>	<u>6</u>
<u>GRY</u>	<u>Clay</u>	<u>s.H Gravel</u>	<u>hard dense</u>	<u>6</u>	<u>7</u>
<u>GRY</u>	<u>Limestone</u>		<u>hard</u>	<u>7</u>	<u>20</u>

Annular Space

Depth Set at (m/ft) From	Depth Set at (m/ft) To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
<u>+3</u>	<u>1</u>	<u>monument casing</u>	
<u>1</u>	<u>9</u>	<u>Hole plug</u>	
<u>9</u>	<u>20</u>	<u>Filter Sand</u>	

Method of Construction

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 direct push Other, specify

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		Status of Well
			From	To	
<u>2.067</u>	<u>PVC</u>	<u>.154</u>	<u>+3</u>	<u>10</u>	<input checked="" type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input checked="" type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify <u> </u> <input type="checkbox"/> Other, specify <u> </u>

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To
<u>2.375</u>	<u>PVC</u>	<u>10</u>	<u>10</u>	<u>20</u>

Water Details

Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested <input type="checkbox"/> Gas <input type="checkbox"/> Other, specify <u> </u>	Depth (m/ft) From	Depth (m/ft) To	Diameter (cm/in)
		<u>0</u>	<u>10</u>	<u>4.5</u>
		<u>8</u>	<u>20</u>	<u>3</u>

Well Contractor and Well Technician Information

Business Name of Well Contractor: Strata Drilling Group Well Contractor's Licence No.: 72241

Business Address (Street Number/Name): 129 Ringwood Dr Municipality: Stittsville

Province: ON Postal Code: L4A8C1 Business E-mail Address: wrecords@strata soil.com

Bus. Telephone No. (inc. area code): 9059407919 Name of Well Technician (Last Name, First Name): McCoy James

Well Technician's Licence No.: 7107 Signature of Technician and/or Contractor: [Signature] Date Submitted: Y Y Y Y M M D D

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft):

Pumping rate (l/min / GPM):

Duration of pumping: hrs + min

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

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

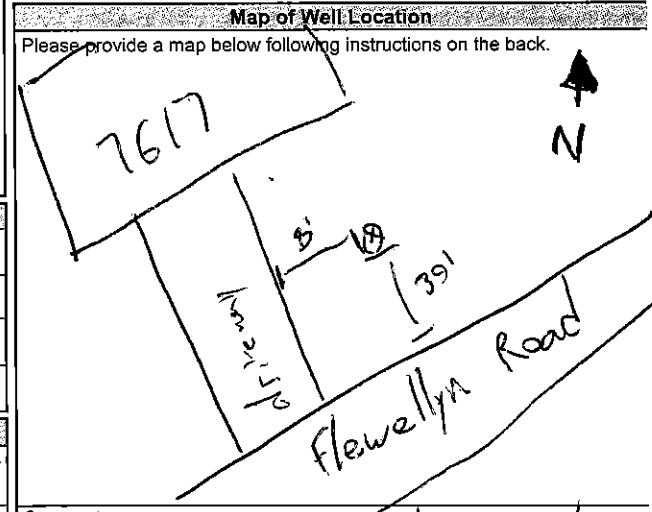
Recommended pump depth (m/ft):

Recommended pump rate (l/min / GPM):

Well production (l/min / GPM):

Disinfected? Yes No

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



Comments: EXP General Contractor On Site

Well owner's information package delivered: Yes No

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

Date Work Completed: 2020 05 25

Ministry Use Only

Audit No.: 7338146

Received: AUG 17 2020



Measurements recorded in: Metric Imperial

A296136

S-25532 Page _____ of _____

Well Owner's Information

First Name _____ Last Name / Organization **8784884 Canada Inc.** E-mail Address _____ Well Constructed by Well Owner

Mailing Address (Street Number/Name) **7628 Flewellyn Road** Municipality **Stittsville** Province **ON** Postal Code **K2S1B6** Telephone No. (inc. area code) _____

Well Location

Address of Well Location (Street Number/Name) **7623 Flewellyn Road** Township _____ Lot _____ Concession _____

County/District/Municipality _____ City/Town/Village **Ottawa** Province **Ontario** Postal Code _____

UTM Coordinates Zone **18Q** Easting **423987** Northing **5065314** 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
BRN	top soil		soft	0 .31
BRN	clay	silt	soft	.31 2.13
GRY	limestone		layered	2.13 6.1

Annular Space

Depth Set at (m/ft)	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
From To		
0 .31	concrete/mortar	
.31 2.79	butonite	
2.79 6.1	Pitler sand	

Results of Well Yield Testing

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

Method of Construction

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 _____

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft)		Status of Well
			From	To	
5.20	PVC	.340	0	3.1	<input type="checkbox"/> Water Supply <input checked="" type="checkbox"/> Replacement Well <input type="checkbox"/> Test Hole <input type="checkbox"/> Recharge Well <input type="checkbox"/> Dewatering Well <input checked="" type="checkbox"/> Observation and/or Monitoring Hole <input type="checkbox"/> Alteration (Construction) <input type="checkbox"/> Abandoned, Insufficient Supply <input type="checkbox"/> Abandoned, Poor Water Quality <input type="checkbox"/> Abandoned, other, specify _____ <input type="checkbox"/> Other, specify _____

Construction Record - Screen

Outside Diameter (cm/in)	Material (Plastic, Galvanized, Steel)	Slot No.	Depth (m/ft)	
			From	To
6.03	PVC	10	3.1	6.1

Water Details

Water found at Depth (m/ft)	Kind of Water: <input type="checkbox"/> Fresh <input type="checkbox"/> Untested
<input type="checkbox"/> Gas <input type="checkbox"/> Other, specify _____	
0 3.1	11.93
3.1 6.1	8.85

Well Contractor and Well Technician Information

Business Name of Well Contractor **Strata Drilling Coop** Well Contractor's Licence No. **7241**

Business Address (Street Number/Name) **129 Ruswood Dr.** Municipality **Stittsville**

Province **ON** Postal Code **L4A6C1** Business E-mail Address _____

Bus. Telephone No. (inc. area code) **9059407919** Name of Well Technician (Last Name, First Name) **M. JAMES**

Well Technician's Licence No. **7107** Signature of Technician and/or Contractor Date Submitted **20200904**

Map of Well Location

Please provide a map below following instructions on the back.

Comments: _____

Well owner's information package delivered Yes No

Date Package Delivered **20200804**

Date Work Completed _____

Ministry Use Only

Audit No. **338288**

OCT 06 2020

Received _____

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger

DATE May 21, 2021

FILE NO. **PG5783**

HOLE NO. **BH 1-21**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
								20	40	60	80		
GROUND SURFACE													
FILL: Brown silty sand with gravel and rock fragments	0.15	SS	1	100	50+	0	129.19						
		RC	1	100	31	1	128.19						
		RC	2	100	65	2	127.19						
		RC	3	100	100	3	126.19						
BEDROCK: Poor to excellent quality, grey limestone interbedded with grey dolostone and shale		RC	4	100	72	4	125.19						
- vertical seams from 6.45 to 6.8m and 7.7 to 8.0m depths		RC	5	100	57	5	124.19						
		RC	6	100	68	6	123.19						
		RC	7	100	88	7	122.19						
						8	121.19						
						9	120.19						
						10	119.19						
End of Borehole	10.06												

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger

DATE May 21, 2021

FILE NO. **PG5783**

HOLE NO. **BH 2-21**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
								20	40	60	80		
GROUND SURFACE						0	129.38						
FILL: Brown silty sand with crushed stone	0.20	SS	1		50+								
		RC	1	100	35	1	128.38						
		RC	2	100	40	2	127.38						
		RC	3	100	88	3	126.38						
BEDROCK: Poor to excellent quality, grey limestone interbedded with grey dolostone and shale		RC	4	100	92	4	125.38						
		RC	5	100	66	5	124.38						
		RC	6	100	25	6	123.38						
		RC	7	100	72	7	122.38						
						8	121.38						
						9	120.38						
						10	119.38						
End of Borehole	10.11												

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger

DATE May 25, 2021

FILE NO. **PG5783**

HOLE NO. **BH 3-21**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
								20	40	60	80		
GROUND SURFACE													
FILL: Brown silty sand with gravel and rock fragments	0.15	SS	1	75	50+	0	128.16						
		RC	1	100	81	1	127.16						
		RC	2	100	80	2	126.16						
		RC	3	100	80	3	125.16						
		RC	4	100	63	4	124.16						
BEDROCK: Good to excellent quality, grey limestone interbedded with grey dolostone and shale		RC	5	100	76	5	123.16						
		RC	6	100	89	6	122.16						
		RC	7	100	97	7	121.16						
						8	120.16						
						9	119.16						
						10	118.16						
End of Borehole	10.06												

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger

DATE May 25, 2021

FILE NO. **PG5783**

HOLE NO. **BH 4-21**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY	N VALUE or RQD			○ Water Content %				
GROUND SURFACE								20	40	60	80	
TOPSOIL	0.10	AU	1			0	126.71					
GLACIAL TILL: Brown silty sand with gravel, cobbles and boulders, trace clay	1.22	SS	2		50+	1	125.71					
End of Borehole Practical refusal to augering at 1.22m depth (BH dry upon completion)												

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

BORINGS BY Track-Mount Power Auger

DATE May 25, 2021

FILE NO. **PG5783**

HOLE NO. **BH 5-21**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			20	40	60	80	
GROUND SURFACE												
TOPSOIL	0.10	AU	1			0	126.70					
GLACIAL TILL: Brown silty sand, some gravel, cobbles and boulders, trace clay	1.45	SS	2	33	9	1	125.70					
End of Borehole Practical refusal to augering at 1.45m depth (BH dry upon completion)												

20 40 60 80 100
Shear Strength (kPa)
▲ Undisturbed △ Remoulded

DATUM Geodetic

REMARKS

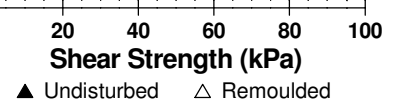
BORINGS BY Track-Mount Power Auger

DATE May 25, 2021

FILE NO. **PG5783**

HOLE NO. **BH 6-21**

SOIL DESCRIPTION	STRATA PLOT	SAMPLE				DEPTH (m)	ELEV. (m)	Pen. Resist. Blows/0.3m ● 50 mm Dia. Cone				Monitoring Well Construction	
		TYPE	NUMBER	RECOVERY %	N VALUE or RQD			○ Water Content %					
GROUND SURFACE								20	40	60	80		
FILL: Brown silty sand with gravel, trace organics	0.25	AU	1			0	126.78						
TOPSOIL	0.60	AU	2										
GLACIAL TILL: Brown silty sand, some gravel, cobbles and boulders, trace clay		SS	2	58	9	1	125.78						
		SS	3	0	36	2	124.78						
End of Borehole	2.23												
Practical refusal to augering at 2.23m depth (BH dry upon completion)													



SITE INFORMATION:

SITE AREA: 20.725 hectares / 51.21 acres
LEGAL DESCRIPTION: PART OF LOT 12, CONCESSION 8
GEOGRAPHIC TOWNSHIP OF GOULBOURN
CITY OF OTTAWA
PIN: 04438-0006

BUILDING INFORMATION

EXISTING BUILDING AREA:		
BUILDING A -	FERROUS METALS	59.0 SM
BUILDING B -	WEIGH SCALE OFFICE	49.9 SM
BUILDING C -	STAFF TRAILERS	111.8 SM
BUILDING D -	VEHICLE DRAINAGE SHED	91.4 SM
BUILDING E -	ATM	14.5 SM
BUILDING F -	OFFICE	81.4 SM
TOTAL		408.0 SM

NOTE: BUILDINGS A & C ARE PROPOSED TO BE DEMOLISHED; BUILDINGS B, D & E ARE PROPOSED TO BE RELOCATED

NEW BUILDING AREA:		
BUILDING G -	WAREHOUSE AND OFFICE (2 STOREYS)	2,008.6 SM
BUILDING H -	TRUCK MAINTENANCE AND REPAIR	937.0 SM
TOTAL AREA PROPOSED		2,945.6 SM

EXISTING TO REMAIN AND TO BE RELOCATED BUILDING AREA:		
BUILDING B -	WEIGH SCALE OFFICE (RELOCATED)	49.9 SM
BUILDING D -	VEHICLE DRAINAGE SHED (RELOCATED)	91.4 SM
BUILDING E -	ATM (RELOCATED)	14.5 SM
BUILDING F -	OFFICE	81.4 SM
TOTAL TO REMAIN		237.2 SM

ZONING INFORMATION (CITY OF OTTAWA BYLAW 2008 250)

CURRENT ZONING DESIGNATIONS: RG1(21) - RURAL GENERAL INDUSTRIAL
RU - RURAL COUNTRYSIDE

RG1 ZONING IS TO REMAIN; A PORTION OF THE AREA CURRENTLY ZONED AS RU IS PROPOSED TO BE ZONED AS RG1

ZONING BYLAW 2008-250 (Part 11 Sections 219, 220 and 227)

RG1 PERMITTED USES:

- ANIMAL CARE ESTABLISHMENT
- ANIMAL HOSPITAL
- AUTOMOBILE BODY SHOP
- AUTOMOBILE DEALERSHIP
- AUTOMOBILE SERVICE STATION
- CANNABIS PRODUCTION FACILITY
- DRIVE-THROUGH FACILITY
- DWELLING UNIT
- GAS BAR
- HEAVY EQUIP. & VEHICLE SALES, RENTAL & SERV.
- KENNEL
- LEAF AND YARD WASTE COMPOSTING FACILITY
- LIGHT INDUSTRIAL USES
- PARKING LOT
- PRINTING PLANT
- RETAIL STORE (LIMITED TO AGRI. CONST. & LANDSCAPE EQUIP. & SUPPLIES)
- SERVICE AND REPAIR SHOP
- STORAGE YARD
- TRUCK TRANSPORT TERMINAL
- WAREHOUSE
- WASTE PROCESSING AND TRANSFER FACILITY (NON-PUTRESCIBLE)

RU PERMITTED USES:

- AGRICULTURAL USE
- AGRICULTURE-RELATED USE
- ANIMAL CARE ESTABLISHMENT
- ANIMAL HOSPITAL
- ARTIST STUDIO
- BED AND BREAKFAST
- CANNABIS PRODUCTION FACILITY
- CEMETERY
- DETACHED DWELLING
- EQUESTRIAN ESTABLISHMENT
- ENVIRON. PRESERVE & EDUCATIONAL AREA
- FORESTRY OPERATION
- GROUP HOME
- HOME-BASED BUSINESS
- HOME-BASED DAY CARE
- KENNEL
- ON-FARM DIVERSIFIED USE
- RETIREMENT HOME
- SECONDARY DWELLING UNIT

EXCEPTION 21R:
A DETACHED DWELLING MUST BE ACCESSORY TO A PRINCIPAL USE.

ZONING PROVISIONS (TABLE 219 AND 227):

	RG1	RU
MINIMUM LOT WIDTH:	60 M	50 M (60 M IF AGRICULTURAL)
MINIMUM LOT AREA:	8.0 HA	0.8 HA (2.0 HA IF AGRICULTURAL)
MINIMUM SETBACKS:		
FRONT YARD:	15.0 M	10.0 M
REAR YARD:	15.0 M	10.0 M
INTERIOR SIDE YARD:	8.0 M	5.0 M
CORNER SIDE YARD:	12.0 M	10.0 M
MAXIMUM BUILDING HEIGHT:	15.0 M	12.0 M
MAXIMUM LOT COVERAGE:	50%	20%

PARKING (Part 4, Sections 100-114)

PARKING DESIGNATION: SCHEDULE 1A: AREA D - RURAL

PARKING SPACES (TABLE 101, ROWS N49, N59 AND N95):

MINIMUM PARKING REQUIRED:	
LIGHT INDUSTRIAL:	8 (0.8 PER 100 SM OF GFA)
OFFICE:	24 (2.4 PER 100 SM OF GFA)
WAREHOUSE:	4 (0.4 PER 100 SM OF GFA)
TOTAL	36

PROPOSED PARKING : 224 (INCLUDING 91 FOR "CFT AUTO" STOCK)

PARKING AREA LANDSCAPING PROVISIONS (SECTION 110):

LANDSCAPE BUFFER REQUIRED: 1.5 M FOR PARKING AREAS NOT ABUTTING A STREET
PROPOSED: MINIMUM 1.5 M

BICYCLE PARKING (SECTION 111): 1 PER 1,000 SM

REQUIRED FOR BUILDING G: 3
PROPOSED FOR BUILDING G: 3
REQUIRED FOR BUILDING H: 1
PROPOSED FOR BUILDING H: 1
NOTE THAT BUILDING G AND BUILDING H PROPOSED BICYCLE PARKING WILL BE PROVIDED IN ONE LOCATION CLOSE TO BUILDING G

MINIMUM WIDTH: 0.6 M
MINIMUM LENGTH: 1.8 M

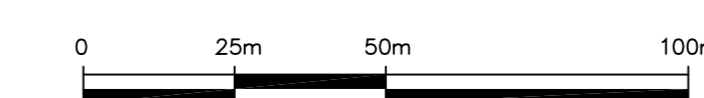
SEE 03/SP-A02 FOR CONTINUATION OF ZONING INFORMATION

02 SITE, BUILDING AND ZONING INFORMATION

SP-A01 SCALE: N/A

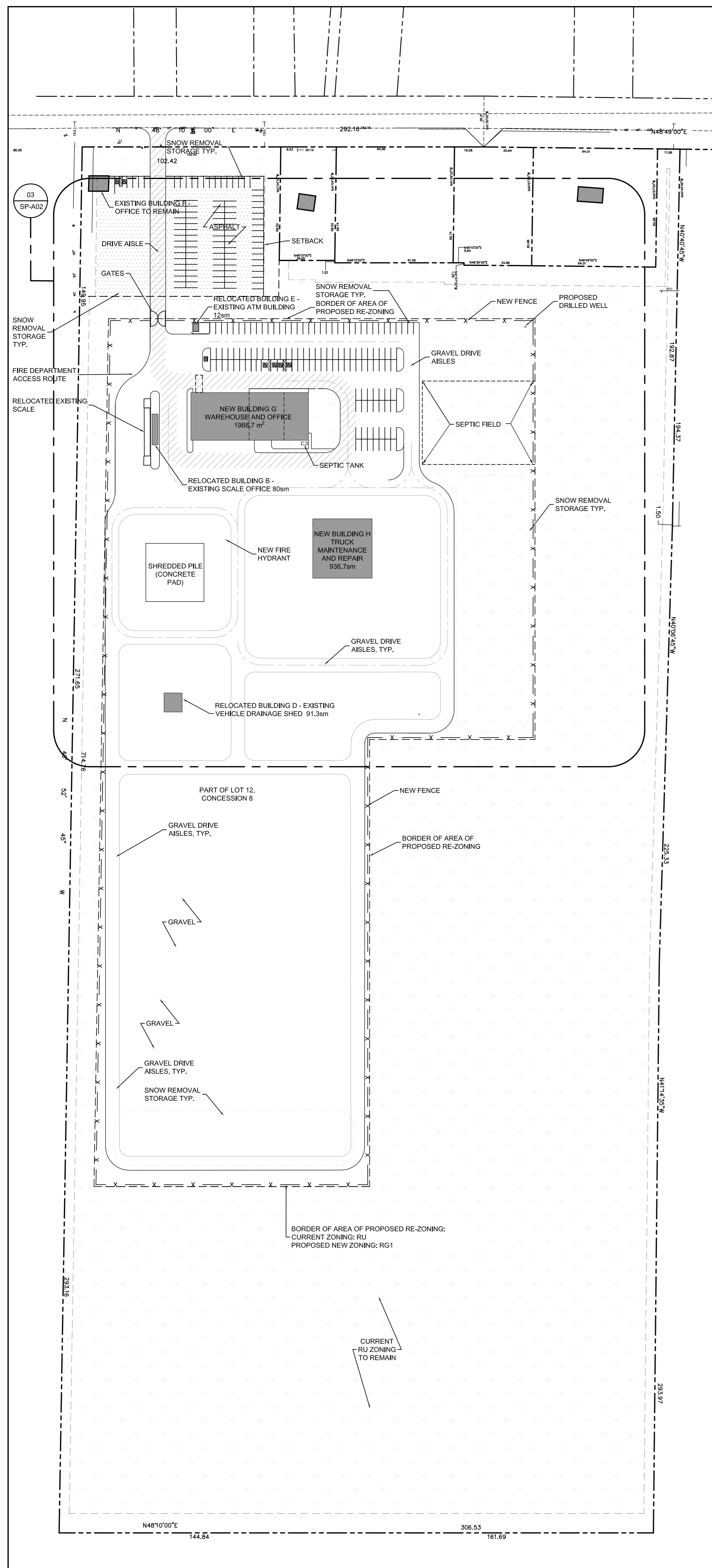
LEGEND

- PROPERTY LINE
- SETBACK FOR RU AND RG1 ZONING
- BORDER OF AREA OF PROPOSED RE-ZONING
- SNOW REMOVAL STORAGE
- FENCE
- AREA OF PROPOSED RE-ZONING SHOWN IN 03/SP-A01
- EXISTING LANDSCAPE TO REMAIN
- ASPHALT
- FIRE DEPARTMENT ACCESS ZONE



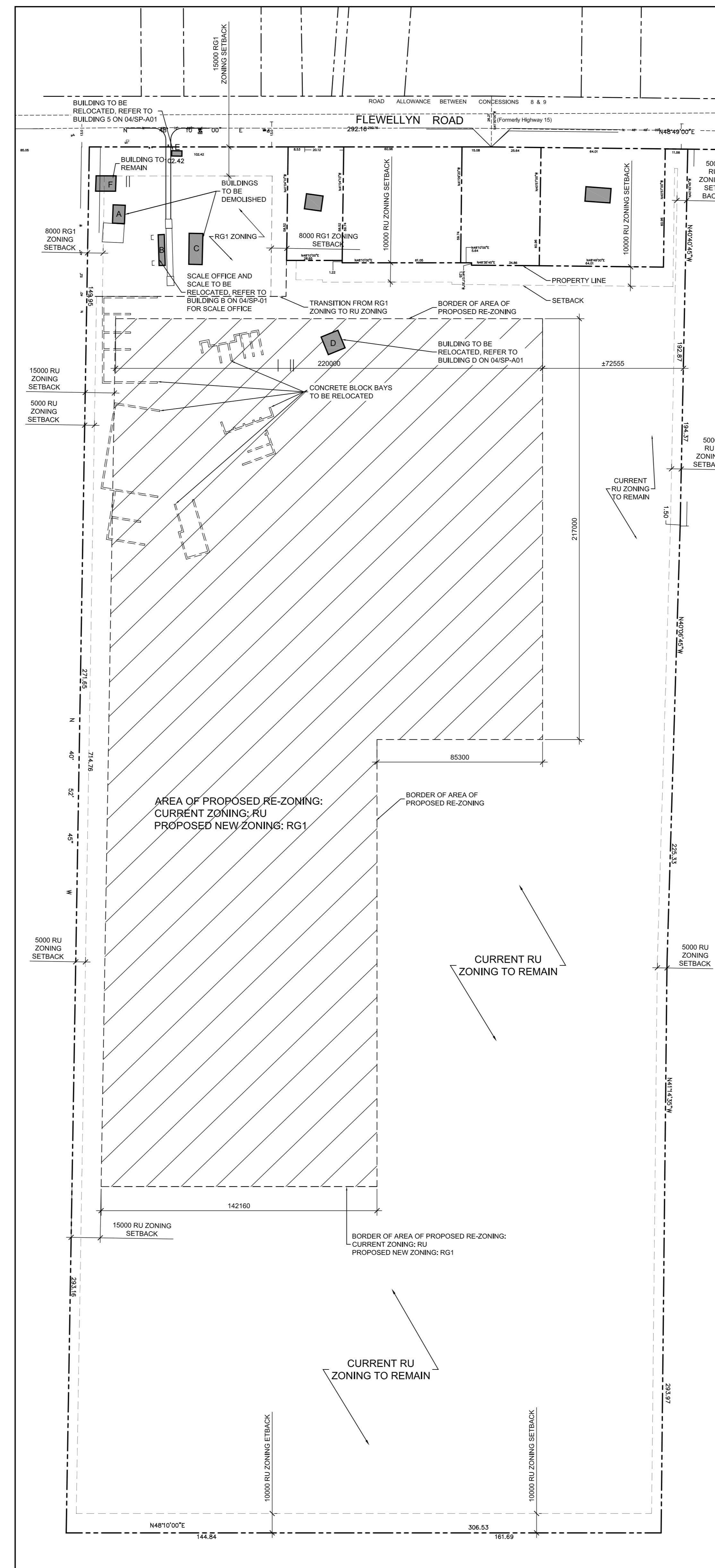
01 LEGEND & SCALE

SP-A01 SCALE: N/A



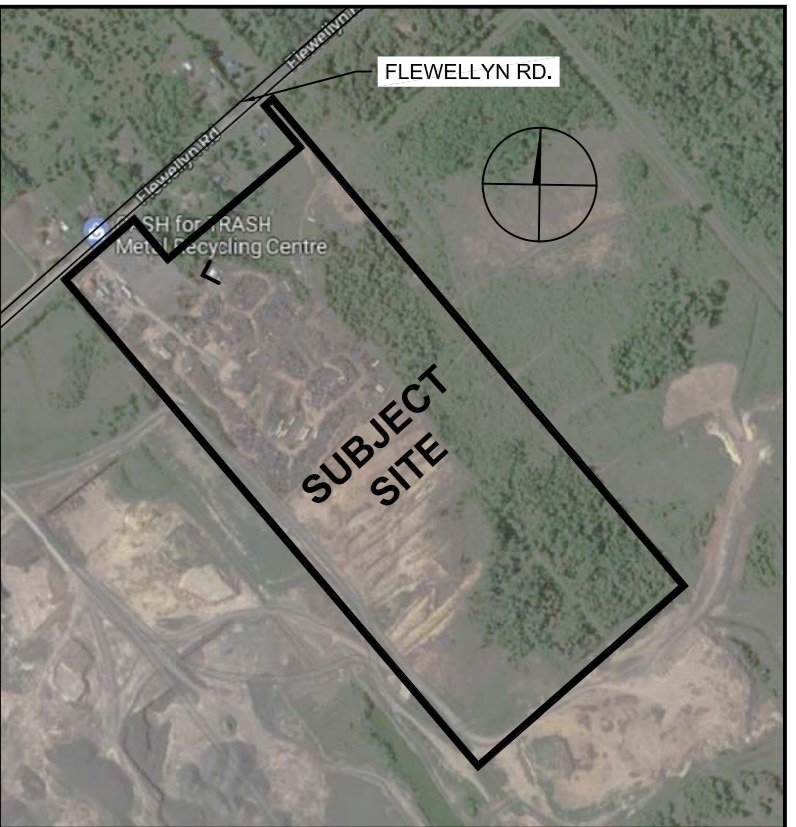
04 FULL SITE PLAN: NEW LAYOUT

SP-A01 SCALE: 1:1250



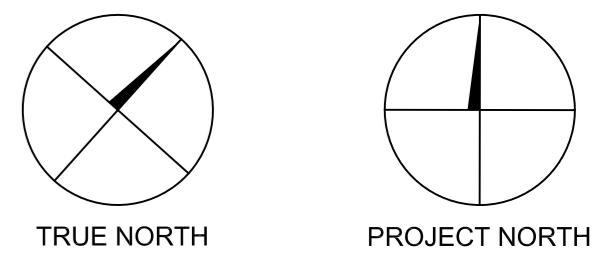
03 FULL SITE PLAN - EXISTING BUILDINGS, ZONING AND PROPOSED REZONING

SP-A01 SCALE: 1:1500



LOCATION PLAN

North



Revisions

No.	By	Description	Date
01	JT	ISSUED FOR SITE PLAN APPLICATION	31 JAN 2024
02	JT	REVISED AND ISSUED FOR REVIEW	15 AUG 2024

Project

**CFT
SITE PLAN
ZONING AMENDMENT**

7628 FLEWELLYN RD., OTTAWA

Drawing

**ZONING INFORMATION
LOCATION PLAN, EXIST.
AND NEW SITE PLAN**

Scale AS NOTED Stamp

Drawn JAS/KE

Checked

Project No.

21-139

Date

AUGUST 2021

Drawing No.

SP-A01