



March 13, 2020 (Revised May 5, 2022)

Our File Ref.: 170132.04

The Hindu Temple of Ottawa Carleton Inc.  
4835 Bank Street  
Ottawa, Ontario K1X 1G6

Attention: Mr. Harish Gupta

Subject: Terrain Analysis and Private Sewage Disposal System Impact Assessment  
- Proposed Assembly Hall  
The Hindu Heritage Centre of Ottawa Carleton, 4835 Bank Street, Ottawa,  
Ontario

Dear Mr. Gupta,

LRL Associates Ltd. (LRL) has conducted a Terrain Analysis and Private Sewage Disposal System Impact Study for the proposed Hindu Heritage Centre of Ottawa Carleton Assembly Hall to be constructed on the property located at 4835 Bank Street, Ottawa, Ontario (herein referred to as the "Site"). It is understood that it is proposed that a 1,593 m<sup>2</sup> assembly hall be constructed at the eastern portion of the existing developed property which will have an available capacity of approximately 500 individuals, increasing the total occupancy of the Site to approximately 750.

The proposed assembly hall will be supplied by municipal water supply and a private septic as is the existing development on the Site.

The assessment was carried out to determine if the proposed development:

- Has soil conditions that are suitable for onsite sewage disposal; and
- Will not impair the use of groundwater resources on the Site or on adjacent lands.

The proposed sewage system for the proposed assembly hall building will be designed for approximately 4.0 m<sup>3</sup>/day of wastewater, as outlined below. The existing building has two (2) existing sewage systems, each designed for 3,750 L/day, that operate independently of each other. Based on the capacity of the existing building of 250 persons and no food services/kitchen, and three (3) existing single resident apartment units, the sewage demand of the existing building has been reassessed to 2.8 m<sup>3</sup>/day. An application has been made to the Ottawa Septic System Office (OSSO) under separate cover to permit the change to the proposed design flow, and a response is currently pending. The response from the OSSO has been received and the approved permit is included in **Appendix H**. The OSSO has approved the upgrade of the existing sewage disposal system to include one (1) unit with a daily capacity of 4,825 L/day (4.8 m<sup>3</sup>/day), rather than the current two (2) 3,750 L/day capacity installations.



The assessment involved a desktop review of available information on the geology and hydrogeology of the Site and adjacent lands in addition to an intrusive subsurface investigation (test pitting program). The Site is serviced by municipal water supply, however, neighbouring properties within 500 m of the Site were found to have records of supply wells present.

## 1 SITE AND AREA DESCRIPTION

The property is situated at the southern extent of the City of Ottawa at 4385 Bank Street. The property is legally described as Part Lot 22, Concession 5RF Gloucester Parts 1 & 2, 5R3156. The location of the subject site is shown in **Figure 1**. The Site's area is approximately 3.8 hectares (9.4 acres). The property is currently occupied by the Hindu Heritage Centre of Ottawa Carleton. The footprints of the existing temple building and garage are approximately 1,168 m<sup>2</sup> and 105 m<sup>2</sup>, respectively. The existing temple is located at the western extent of the Site with the associated septic systems to the north and south of the temple. Based on the previously prepared Use Permit, dated December 5, 1985, issued by the MECP, and associated application, the existing sewage disposal system includes two (2) septic systems: one (1) to service the existing kitchen and washrooms and one (1) to service the remainder of the existing temple building. Each system was originally designed to handle the entire demand for the building, based on an assumed total occupancy of 250 individuals and the use of 15 L/day per individual. The systems are operating independently of each other, with no cross-connections. Since no food services are present in the building and none are proposed, the use of 8 L/day per individual instead of 15 L/day per individual is deemed more appropriate. This yields a total daily sewage capacity for the existing building of 2,000 L/day. An application of this change has been made to and approved by the OSSO.

The neighbouring land use is as follows:

- Bank street, followed by light industrial/commercial business to the west; and
- Vacant/treed land to the north, south and east.

The topography of the land is generally flat with an approximate elevation of 97 m above mean sea level.

These site features are shown in the **Figure 2**.

## 2 PROPOSED DEVELOPMENT

It is anticipated that an assembly hall will be constructed at the eastern portion of the Site with the associated septic system along the south of the proposed structure. The estimated proposed building footprint is 1,593 m<sup>2</sup>. The proposed assembly hall is anticipated to include a dining area, a lobby and two (2) halls. No food services are proposed. The proposed development will be equipped with a full basement. Water supply will be obtained from municipal services.

It is proposed that 14 additional parking spaces be created, for a total of 181 parking spaces with a total parking and circulation area of 5,380 m<sup>2</sup>.

In addition, it is proposed that the septic system for the existing temple building be consolidated into a single system with upgraded services.

The approximate preliminary proposed development plan is shown in **Figure 3**.



### 3 FIELDWORK

On May 8<sup>th</sup>, 2017, eight (8) test pits were advanced across the Site. The test pits were placed around the general perimeter of the Site so not to disrupt existing Site activities and services. The rationale for the test pits was to determine the general upper soil and perched water conditions. The test pits were advanced using a backhoe operated by a local contractor (Yelle Excavation, Ottawa) and under direct supervision by LRL field staff. The locations of the test pits are presented in **Figure 4** with the test pit logs included in **Appendix A**.

An open tube piezometer was installed in select test pits (TP1, TP3, TP5 and TP7) to allow for the groundwater elevation measurement and sampling of the perched water found in the overburden, herein referred to as groundwater. Groundwater samples were collected on May 8<sup>th</sup>, 2017 following purging of approximately three (3) well volumes from each piezometer. Groundwater samples were collected from each of the piezometers with the exception of TP5 which was found to have insufficient water available for sampling (i.e., dry). Samples were collected on one (1) occasion and do not represent seasonal variability. The samples collected were submitted for laboratory analyses of select nitrogen species parameters. The laboratory Certificate of Analysis is included in **Appendix B**.

Soil samples from two (2) test pits were submitted to LRL's material testing laboratory for sieve and hydrometer analyses. The sieve and hydrometer analysis certificates are included in **Appendix C**.

A ground surface elevation survey was carried out at each test pit location to obtain the elevation of the test pit ground surface and the piezometer stick-up. These elevations would aid in determining the groundwater elevations across the Site. A locally referenced benchmark was established as the top of the east arm of the hydrant located along the west of the southern entrance to the Site. The benchmark was assigned an arbitrary elevation of 100.00 m. The elevations are summarized in **Table 1A** and are presented in the test pit logs included in **Appendix A**.

### 4 TOPOGRAPHY, GEOLOGY AND HYDROGEOLOGY

Local topography indicates that the inferred overburden groundwater flow direction is east towards the North Castor River. The nearest open water body to the Site is an unnamed tributary that flows into the North Castor River, approximately 1.1 km east of the Site.

Surficial soil deposit mapping<sup>1</sup> indicates that the overburden consists of till, plain with local relief less than 5 m. Bedrock mapping<sup>2</sup> indicates that the underlying bedrock consists of dolomite and limestone, of the Oxford Formation.

The test pits completed across the Site were found to have a thin layer of topsoil over fill material which extended to depths between 0.7 and 1.5 m thick. The fill was underlain with silty sand in TP1. The fill layer generally extended to bedrock refusal, encountered at depths from 0.8 to 2.1 m bgs. Waste debris was observed in the fill material in TP2, TP3 and TP5, which included metal, tire debris and asphalt.

---

<sup>1</sup> St-Onge, D.A. (compilation), 2009: Surficial geology, lower Ottawa valley, Ontario-Quebec; Geological Survey of Canada, Map 2140A, scale 1:125000

<sup>2</sup> Harrison, J.E., 1976. Geological Survey of Canada, Generalized Bedrock Geology, Ottawa-Hull, Ontario and Quebec, Map 1508A, scale 1:125000.



A representative till sample collected during the test pitting activities (TP3-6) was submitted for sieve analysis. The till sample was reported to be 39% silt & clay, 40% sand, and 21% gravel. This represents fine silty sand. A second representative till sample collected (TP1-3) was submitted for hydrometer analysis. The sample was reported to be 22% clay, 64% silt, 9% sand and 5% gravel. This represents a silt loam. These results are presented in the sieve and hydrometer certificates of analysis that are included in **Appendix C** and are summarized in **Table 2**. As a conservative measure, sand will be used to define the soil infiltration factor and fine sandy loam will be used for moisture surplus.

A search was conducted of the available water well records from the MECP Water Well Record Department. The search by UTM coordinates covered a 500 m radius from the site. The search returned records for twenty-three (23) wells. The well records are included in **Appendix D** and their locations are presented in **Figure 5**.

Review of the records of the wells within 500 m of the site retrieved revealed that the wells are drilled wells extending to depths between 8.2 and 67.1 m. The well records show that the geological conditions within 500 m are relatively similar, and consist generally of mixed till materials including sand, clay, gravel and boulders from 0 to 8.0 m. Unidentified soil conditions, “soil” was described in one (1) of the well records, as noted in the table below. The described bedrock conditions varied slightly between limestone, sandstone and occasionally shale. Bedrock starting depths also vary from 0.6 to 7.9 m.

The general subsurface conditions indicated in the well records within 500 m of the site are as follows:

MOE Well Number	Distance and Direction from Site (m)	Depth (m)	Overburden Details			Bedrock Details	Groundwater Encountered (m)	Static Water Level (m)	Type of water
			Sand/ Fill (m)	Clay/ Loam (m)	Gravel/ Till (m)	Bedrock			
1502181	210 N	14.0	--	--	0 – 6.4	6.4- 14.0 (Limestone)	14.0	2.4	Fresh
7112950	485 N	52.7	--	0 – 3.3	--	3.3 – 52.7 (Limestone)	51.5	4.7	Unspecified
1533566	385 N	67.1	0 – 2.1	--	--	2.1 – 29.8 (Sandstone)	65.8	4.8	Unspecified
					29.8 - 38.7 (Limestone)				
					38.7 - 67.1 (Sandstone)				
1531693	385 N	67.1	--	--	0 – 0.9	0.9 – 67.1 (Sandstone)	62.7	9.1	Fresh
1502249	370 N	25.9	0 – 1.2	--	--	1.2 – 25.9 (Sandstone)	25.2	4.5	Unspecified
1502248	330 N	29.9	0 – 0.3	0.3 – 1.8	--	1.8 – 29.9 (Sandstone)	24.3, 29.5	4.2	Fresh
1502246	335 N	24.4	--	--	0 – 1.5	1.5 – 24.4 (Sandstone)	9.1, 18.2, 30.1	1.5	Fresh
1517349	260 N	8.2	0 – 2.4	--	--	2.4 – 8.2 (Granite)	8.2	1.5	Fresh
1509925	215 N	19.2	--	--	0 – 3.9 “Boulders”	3.9 – 19.2 (Sandstone)	18.2	0.6	Fresh
1502175	360 NW	18.3	0 – 6.0	--	--	6.0 – 18.3 (Sandstone)	18.3	3.0	Fresh



MOE Well Number	Distance and Direction from Site (m)	Depth (m)	Overburden Details			Bedrock Details	Groundwater Encountered (m)	Static Water Level (m)	Type of water
			Sand/ Fill (m)	Clay/ Loam (m)	Gravel/ Till (m)	Bedrock			
1502176	250 NM	13.7	--	0 – 5.4	--	5.4 – 13.7 (Limestone)	13.7	1.8	Fresh
1502179	50 W	27.1	--	--	0 – 4.8	4.8- 7.62 (Limestone) 7.62 – 27.1 (Sandstone)	27.1	6.1	Fresh
1513436	100 SW	15.0	--	0 – 3.6 "Soil"	3.6 – 4.8	4.8 – 15 (Limestone)	14.6	4.3	Fresh
1502180	140 S	16.8	--	0 – 1.8 "Loam"	--	1.8 – 16.8 (Limestone)	16.8	1.8	Fresh
1502177	195 S	18.2	0 – 2.1	--	2.1 – 6.1	6.1 – 18.2 (Sandstone)	18.2	1.8	Fresh
1512375	230 S	22.5	0 – 2.7	--	--	2.7 – 22.5 (Sandstone)	22.5	3.6	Fresh
1512265	245 S	14.6	--	0 – 0.9	--	0.9 – 14.6 (Limestone)	2.4, 6.4, 10.3	1.2	Fresh
1514664	220 SW	15.2	--	--	0 – 3.9	3.9 – 9.1 (Shale) 9.1 – 38.1 (Limestone)	9.7, 16.7	6.1	Fresh
1516052	15 S	54.2	0 - 2.8	--	2.8 – 7.9	7.9 – 13.1 (Limestone) 13.1 – 54.4 (Sandstone)	53.3	9.1	Fresh
1502178	310 SW	15.2	--	--	0 – 5.4	5.4 – 15.2 (Limestone)	14.6	3.9	Fresh
1510717	400 S	15.8	0 – 1.8	--	--	1.8 – 15.8 (Limestone)	15.2	2.1	Fresh
1514840	370 S	41.1	0 – 0.9 "Topsoil"	--	--	0.9 – 41.1 (Limestone)	32.0	6.0	Fresh
1502250	370 S	24.1	--	0 – 0.6 "Loam"	--	0.6 – 19.8 (Sandstone) 19.8 – 24.0 (Granite)	18.2, 24.0	6.0	Fresh

#### 4.1 Groundwater from Test Pits

Groundwater samples were collected following the test pit piezometers. Prior to collection of samples each piezometer was purged of approximately three (3) well volumes. Samples were collected on one (1) occasion and do not represent seasonal variability. The Site currently has two (2) operating septic disposal systems. Therefore, the water analytical results are not considered background.

**Table 3** summarizes the water quality analysis from the test pit piezometers for nitrates, nitrites, ammonia and total kjeldahl nitrogen (TKN). The Laboratory Certificate of Analysis is included in **Appendix B**.

Nitrites were not detected (<0.05 mg/L) in any of the groundwater samples collected. Nitrate levels were reported to be 0.5 mg/L in TP3 and <0.1 mg/L in both TP1 and TP7, below the ODWS of 10

mg/L. Ammonia was reported to be 0.28, 0.39 and 1.66 mg/L in TP1, TP3 and TP7, respectively. There are no set ODWS for ammonia.

TKN values were reported as 78.1, 65.3 and 131 mg/L in groundwater samples collected from TP1, TP3 and TP7, respectively. There are no set ODWS for TKN; however, based on the measured groundwater levels and corresponding elevations, the overburden groundwater flow direction is inferred to the east. TP7 is located along the extents of one of the existing septic beds on the property, and additionally, during the advancement of TP7, organic material including a tree stump was encountered. Both of which (septic and other organic decomposition) could contribute to the elevated levels of TKN across the central portion of the Site.

## 4.2 Groundwater Flow

Piezometers were installed in the test pits on May 8, 2017. Groundwater levels were measured in the piezometers on the same day as construction. It is likely that the water levels in the piezometers were not given sufficient time to stabilize prior to measurement. Therefore, the groundwater elevations measured in the test pits are not considered representative.

Four (4) monitoring wells were previously installed on September 23, 2019 as part of the Phase II ESA (Phase II Environmental Site Assessment, LRL, November 22, 2019). Groundwater elevations were measured on September 30, 2019. The groundwater elevations are summarized in **Table 1B** and the groundwater elevations and interpreted flow contours are presented in **Figure 4**. Based on the groundwater elevations measured on September 30, 2019 the groundwater flow is interpreted to the east-southeast.

The shallow bedrock flow is inferred to be toward the east to northeast based on review of “Map 3-16: Potentiometric Surface and Groundwater Flow in Shallow Bedrock, Source Protection Watershed Characterization Report Maps”, by Raisin Region Conservation Authority and South Nation Conservation, dated April 30, 2008. The adjacent properties to the east and northeast are undeveloped. Therefore, based on the inferred groundwater flow direction the risk to bedrock groundwater users is considered low.

## 5 RECEIVING GROUNDWATER

The current and potential uses of the aquifers are identified below.

### 5.1 Overburden Groundwater

The overburden groundwater is unlikely to be used as a water supply based on the following:

- The Site and the adjacent properties are currently serviced by municipal water although water well records were identified in the area.
- Based on the well records reviewed and the shallow overburden conditions, no shallow wells were identified on the subject site or adjacent lands. Generally, the overburden conditions are not suitable for construction of a well.
- The buildings in this area are serviced by private septic systems; therefore, the current use of the overburden groundwater is for the attenuation of the septic system effluent.

### 5.2 Bedrock Aquifer

Twenty-three (23) well records were available for properties located within a 500 m radius of the Site. The records indicate that all twenty-three (23) wells tap into bedrock aquifer. Although it is

our understanding that municipal water is available for the neighbouring properties, it is unknown at this time if these wells are still present or continue to be used for potable purposes.

A servicing map was provided by the City to LRL and is included in **Figure 6** (attached). As shown, the majority of properties within 500 m are serviced with municipal water. The undeveloped property immediately south of the site with no civic address is currently un-serviced. It is expected that future development would likely occur along Bank Street on the west end of the property and would be serviced with municipal water. Various properties to the north (4805 Bank St. and 3216, 3236, 3238, 3250, 3270 Blais Road.) are un-serviced. The risk to these properties from the proposed septic system is considered low due to their distance from the Site (>200 m).

## **6 TERRAIN ANALYSIS AND SEPTIC DESIGN**

The terrain analysis was conducted to demonstrate that the unconsolidated material on the Site is appropriate for the construction of an on-site subsurface sewage disposal system, with consideration taken regarding the existing installation.

The subsurface conditions indicated for the Site are considered suitable for a Class IV sewage disposal system with a partially to fully raised leaching bed depending on the lot specific soil and groundwater conditions at the actual location of the proposed septic system leaching bed. The leaching bed should be constructed to conform to the specifications set out in the Ontario Building Code (OBC). As part of this assessment, an analysis was carried out to ensure that sufficient space exists at the Site for the construction of a third septic system in accordance with the OBC which will service the proposed assembly hall.

### **6.1 Existing Building – Proposed Septic Design**

As previously mentioned, currently the existing temple building is serviced with two (2) sewage disposal systems located at the north and south sides of the buildings, respectively. Both are constructed with 9,000 L capacity fibreglass septic tanks and 8 runs of 13.3 m length piping. One (1) of the systems was intended to service the kitchen and washrooms and the other services the remainder of the existing temple building. However, it is understood that there is no longer a kitchen in the building. Since no food services are present in the building and none are proposed, the use of 8 L/day per individual instead of 15 L/day per individual is deemed more appropriate, as per the Ontario Building Code. Therefore, it is proposed that the use of 8 L/day (no kitchen) per individual instead of 15 L/day per individual is deemed more appropriate. This yields a daily required sewage capacity of 2,000 L/day. Furthermore, it is understood that three (3) single resident apartment units are present in the existing building, each with a daily sewage capacity of 275 L/day. The total required sewage capacity for the existing building on the site is 2,825 L/day rather than the previous 3,750 L/day.

Due to the lower required capacity of the existing building, it is proposed that the northern septic for the temple building will be decommissioned, and the southern septic system will be upgraded to become the consolidated septic for the entire temple building. The proposed system is anticipated will be designed to account for a conservative flow capacity of 4,825 L/day and will have a treatment unit to reduce the concentrations of nitrates in the product prior to discharge into the shallow buried trench system. The daily flow expected has been calculated as follows: 250 persons capacity place of worship with no food preparation for 2,000 L/day; and three (3) apartments with one (1) occupant in each for 825 L/day, less than the design flow capacity.

This upgraded system will utilize the existing septic tank as a balancing tank (if acceptable conditions, and is confirmed to be a minimum of 9,000 L capacity), and a pressurized shallow buried trench bed with four (4) runs of 26.16 m at 2.0 m spacing between pipes. Design drawings

for the proposed system for the existing temple building upgrades by Green Valley Environmental are provided as **Appendix E**. An approved application has been received from the OSSO for approval of this change to the existing disposal system on the Site, however revisions to the surface grades provided in the relevant drawings require revisions to correspond to other design aspects. Therefore, a revised permit request has been submitted to the OSSO, along with document Part 10.11 which requests approval for the daily sewage flow of the existing building to account for the reduced volumes. The previous response from the OSSO is included in **Appendix H**, however a revised version, once received will be submitted to the City of Ottawa for review under a separate cover. The proposed septic changes for the Site have been approved by the OSSO. The anticipated upgrades system will be a partially raised shallow buried trench system, with a design flow capacity of 4,825 L/day. Additional details and components of the system are as follows:

- Pre-Treatment Tank: To include a 3,785 L pre-treatment tank with a maximum cover of 300 mm of soil. Riser and lids will be installed to permit for accessibility;
- Treatment Unit: The treatment unit will include a Norweco hydro-kenetic 5670L-3M treatment unit, installed in series and located down stream of the pre-treatment tank. This unit will produce a tertiary treatment of the effluent quality. The effluent from the treatment unit will be pumped from a 300 gal pump chamber with a 0.5 hp pump, timer dosed at 35 s per 15 min, to the pressurized shallow buried trench bed;
- Filter Vault: The filter vault will include Norweco filters to be installed in series and downstream of the remaining treatment units. Accessibility to the filters will be permitted through the inclusion of access points along ground surface, constructed of risers and lids; and
- Pressurized Shallow Buried Trench Bed: The pressurized shallow buried trench bed will include a sand fill material to each side of the bed, and will have four (4) runs of 26.16 m in length, with 2.0 m spacing.

## 6.2 Proposed Building – Proposed Septic Design

The daily sewage flow for the proposed assembly hall is based on the assumption that 500 individuals will occupy the building. In accordance with Schedule 8 of the OBC, it is assumed that 8 L/day will be discharged into the septic system for each individual that occupies the building. This is the set value for an assembly hall not equipped with food services. As a conservative approach to determine the expected largest septic system envelope required to service the proposed assembly hall, a septic system envelope size was calculated assuming a fully raised bed with mantle, a percolation rate of 12 min/cm for the imported sand required and a daily sewage flow of 4,000 L. The total length of pipe required for the proposed septic bed for the proposed assembly hall, assuming imported fill, was calculated as approximately 240 m using the following equation:

$$L = QT/200$$

where L = length of pipe (m);

Q = daily sewage flow for the proposed assembly hall (L/day); and

T = percolation rate of the imported sand fill material (min/cm).





Therefore, an area of approximately 360 m<sup>2</sup> is required for the septic bed assuming 16 pipes, each having a length of 15 m and a spacing of 1.6 m between the pipes. A mantle of 15 m in length would be required along the downgradient portion of the bed. Based on the total coverage of the septic bed (raised portion and mantle plus a replacement area) an area of approximately 1,215 m<sup>2</sup> would be required. This is a conservative approach based on the OBC.

However, due to the total sewage demand of the existing and proposed buildings (6,825 L/day) and available infiltration area on the site (15,888 m<sup>2</sup>), a conventional system such as those used by the existing building presently is not adequate for the proposed assembly hall and tertiary treatment is necessary. It is proposed that a tertiary system, Norweco HK 4730L-3M, be considered for both the new assembly hall septic system.

As shown in **Appendix E**, a Norweco HK 4730L-3M tertiary treatment system is proposed for the proposed the assembly hall. The general details are as follows:

- **Balancing Tank:** A 2000 Gal balancing tank, with a LE40-series sewage pump is to be installed along with a timer to prevent peak loading in the Norweco treatment unit;
- **Treatment Unit:** The treatment unit will include a Norweco hydro-kinetic 5670L-3M treatment unit, installed in series and located down stream of the pre-treatment tank. This unit will produce a tertiary treatment of the effluent quality. The effluent from the treatment unit will be pumped from a 300 gal pump chamber with a 0.5 hp pump, timer dosed at 15 s per 6 min, to the pressurized shallow buried trench bed; and
- **Pressurized Shallow Buried Trench Bed:** The pressurized shallow buried trench bed will include a sand fill material to each side of the bed, and will have ten (10) runs of 15.26 m in length, with 2.0 m spacing.

### 6.3 Average Daily Water Demand Variance

It should be noted that the average daily water demand presented in the Site Servicing Report prepared by LRL, dated September 18, 2017 was calculated for the entire property using Section 7 of the OBC. The demand was calculated assuming a worst-case scenario where all fixtures at the property, both the existing and the proposed buildings, are turned on simultaneously at the applicable flowrate for each fixture as specified in the OBC. The purpose of this calculation is to size the piping required to service the site.

## 7 PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY

The groundwater impact assessment addresses the ability of the land to attenuate the sewage effluent created by the development. Three methods for conducting the assessment are outlined in MOE's *Procedure D-5-4 Technical Guideline for Individual On-Site Sewage Systems: Water Quality Impact Risk Assessment* (1996):

- *Lot Size Consideration* for lot greater than 10 000 m<sup>2</sup> (1 hectare);
- *System Isolation Consideration* for areas where the septic system is hydrogeologically isolated from the potable water source; and
- *Contaminant Attenuation Consideration* for sites that do not meet the above two points.

Bedrock was encountered at depths less than 2.0 m in more than two thirds of the site, therefore the site is considered hydrogeologically sensitive with areas of thin soil over highly permeable soils (i.e., bedrock). The depth to inferred bedrock encountered during the geotechnical investigation (Geotechnical Investigation, LRL, LRL, November 2019), Phase II ESA (Phase II

Environmental Site Assessment, LRL, November 22, 2019), and this terrain analysis are illustrated in **Figure 7** (attached). As shown, the depth to bedrock in the vicinity of the existing septic beds is approximately 1.4 m north of the building and 0.80 to 1.80 m south of the building. For the proposed assembly hall, at the southern locations in the general vicinity of the proposed Norweco septic bed the inferred depth to bedrock ranged from 2.10 m (TP-1) to 6.10 m (MW19-4). Based on these elevations there is evidence to suggest that there is sufficient overburden thickness to minimize the potential for the bedrock to be a receiver of the septic effluent in the vicinity of the proposed septic bed for the future assembly hall.

The overburden material generally consisted of a fill material in the test pits with a stratum of till (TP3) or silty sand (TP1) above the bedrock in areas. As discussed in Section 4, representative samples of the till material at TP3 and TP1 were collected for sieve analysis. The results represent fine silty sand and silt loam at TP3 and TP1, respectively. The receiving groundwater for the septic system effluent is identified as the fill, silty sand and till. This groundwater is not considered an aquifer as it was encountered at depths less than 2.0 m below grade. As stated in Section 5.1, this groundwater is not a suitable supply aquifer for potable water based on its assumed poor yield, poor quality, shallow depth and likely use for the attenuation of the Site's existing, and the neighbouring properties', septic effluents. This groundwater is considered a suitable attenuation zone because alternative sources of water are available (i.e., municipal water or bedrock aquifer).

As mentioned above, the lot size is 38,000 m<sup>2</sup>, with approximately 15,504 m<sup>2</sup> available for the installation of the proposed septic system. The lot size consideration for lots greater than 10,000 m<sup>2</sup> does not apply based on the anticipated total sewage demand of 6,000 L/day, including the existing building. Therefore, "**Contamination Attenuation**" was considered in this terrain analysis.

The Site has a total area of 38,000 m<sup>2</sup>. In accordance with Section 22.5.8 of the MECP Design Guidelines for Sewage Works, the stream which is identified to bisect the Site immediately east of the proposed development must be considered in the extent of the allowable dilution area. It is understood that a 20 m setback is required from the bank of the stream and any development on the Site. The proposed septic system layouts are shown in the proposed site development plan in **Figure 3**.

### **7.1 Contaminant Attenuation Method (Predictive Assessment)**

The Contaminant Attenuation Method (Predictive Assessment) was used to determine the impact of the proposed on-Site septic systems at the boundary of the Site. This procedure assesses the risk that the individual on-site systems will cause the concentration of the nitrate-nitrogen exceed 10 mg/L at the property boundaries. Dilution is the attenuation mechanism considered for nitrates, with precipitation being the only source of infiltration. The following parameters and assumptions were used in the nitrate attenuation calculations:

- Infiltration factors for the site;
  - Flat topography;
  - Infiltration Factors:
    - i. Grain size analysis ranged from fine silty sand to silt loam. A conservative assumption of clay loam was used for this calculation;
    - ii. Approximately 15,504 m<sup>2</sup> of the site is considered Cultivated Land;
  - Moisture Surplus:
    - i. The remaining cultivated land is considered Shallow Rooted Crops;



- ii. Grain size analysis ranged from fine silty sand to silt loam. An assumption of Silt Loam was used for this calculation;
  - o Impervious areas (existing and proposed) were calculated to be of 2,866 m<sup>2</sup> for the buildings and 5,380 m<sup>2</sup> of paved driveway and parking areas; and
  - o Moisture surplus values from the Ottawa weather station (Environment Canada, 2011).

The moisture surplus printout is included in **Appendix F**. This location is considered representative of the site located at the south-central extent of the City of Ottawa, Ontario.

Based on the total proposed sewage volume for the entire Site of 6,000 L/day, the existing lot size, soil conditions, a nitrate concentration of the sewage of 40 g/L, the calculated levels of nitrates at the property limits is estimated as 16.14 mg/L as presented in the attached **Table 4A**. This is above the procedure's guideline limit of 10 mg/L at the property line. Based on the "*Contaminant Attenuation Method*", without tertiary treatment the current lot size and soil conditions are not suitable to attenuate the nitrate impacts generated by the septic systems of the development in accordance with D-5-4 guideline.

The above calculations are based on the current D-5-4 guideline which requires the use of 40 mg/L as the contaminant source as per Section 5.6.2 (a). Therefore, the use of an advanced tertiary treatment system such as Norweco tertiary system is necessary to reduce the levels of nitrates prior to discharge to the disposal field. This particular system is approved by the OBC and the Building Materials Evaluation Commission of the Ontario Ministry of Municipal Affairs and Housing. Furthermore, Section 5.7 of the D-5-4 guideline states that the Ministry recognises "that as research continues, information and technologies may become available which warrant minor or substantial revisions to this guideline".

The Norweco HK 4730L-3M is certified for a minimum 50% total nitrogen reduction. Therefore, a nitrate effluent concentration of 20 mg/L was used for both the proposed upgraded system for the existing temple building the proposed assembly hall in this assessment. A copy of the specifications for the Norweco tertiary system is included in **Appendix G**.

The calculated nitrate level at the property line is estimated based on the daily sewage volume for the existing building (2,000 L), which is proposed to be handled by the southern system only, treated with a Noweco tertiary system, in addition to the the daily sewage volume of the proposed system for the new building of 4,000 L, treated with a Norweco tertiary system. The detailed calculations for the proposed development are presented in the attached **Table 4B**. It is assumed that the level of nitrates in the effluent from the proposed Norweco tertiary systems are 20 mg/L. Based on these assumptions the nitrates at the property limits is estimated as 8.06 mg/L. This is below the procedure's guideline of 10.0 mg/L. Based on the "*Contaminant Attenuation Method*" the current lot size and soil conditions are suitable to attenuate the nitrate impacts generated by the septic systems on the development in accordance with current D-5-4 guidelines, provided an appropriate tertiary treatment is used for the proposed system.



## 8 CONCLUSIONS

Based on our review of available information and the results of the groundwater sampling and laboratory analytical programs, we conclude the following:

1. Sufficient area exists on the property for the upgrading of the existing system in the temple building with a design sewage flow of up to 2,000 L/day, and the installation of a septic system in accordance with the OBC to service the proposed Assembly Hall with a design sewage flow of up to 4,000 L/day.
2. Pre-treatment of the sewage from the proposed sewage disposal systems with Norweco tertiary systems, which have a certified nitrogen reduction of a minimum of 50%, yields a calculated nitrate concentration at the property line of 8.06 mg/L, based on the **“Contaminant Attenuation Method”**.
3. Hydrogeologically sensitive conditions are present on the site due to thin overburden. The overburden generally consists of fill to bedrock, with till or silty sand observed at two (2) of the test pits.
4. Records of domestic wells were retrieved within 500 m of the site. The potable water source of these wells is the bedrock aquifer. A thin layer of either clay, gravel or till, with some sand in areas, being between 0.9 and 7.6 m thick over bedrock.

## 9 RECOMMENDATIONS

1. The septic system should be placed at least 30 m from any wells, and no future wells should be installed on the Site.
2. It is recommended that the water table be surveyed prior to installation of the sewage disposal systems.
3. It is recommended that the required 20 m setback from the normal high water mark of the identified stream east of the proposed development footprint be maintained.
4. Due to the thin soils and sensitive site conditions it is recommended that the leaching bed of the proposed system be fully raised. It is recommended that a service contract be initiated with the manufacturer. All manufacturer’s recommendations regarding maintenance and monitoring of the system shall be followed.
5. It is recommended that a geodetic benchmark be used for further investigations on the site, including any additional monitoring wells and groundwater elevations.

## 10 LIMITATIONS

The findings contained in this report are based on data and information collected during the Terrain Analysis of the subject property conducted by LRL Associates Ltd. The conclusions and recommendations are based solely on site conditions encountered at the time of our fieldwork on May 8<sup>th</sup>, 2017, supplemented by historical information and data obtained as described in this report. The information presented in this report represents the groundwater conditions at the locations sampled. Due to natural variations in geological conditions, no inference is made to the soil or groundwater conditions between sampling points. No assurance is made regarding changes in conditions subsequent to the time of this investigation. If additional information is discovered or obtained, LRL Associates Ltd. should be requested to re-evaluate the conclusions presented in this report and to provide amendments as required.



In evaluating the subject property, LRL Associates Ltd. has relied in good faith on information provided by individuals as noted in this report. We assume that the information provided is factual and accurate. We accept no responsibility for any deficiencies, misstatements or inaccuracies contained in this report as a result of omissions, misinterpretation or fraudulent acts of the persons contacted.

Yours truly,  
LRL Associates Ltd.



Jessica Arthurs  
Senior Environmental Technician



Alex Wood, P. Eng.  
Lead Environmental Engineer

Encl.

Figure 1 – Site Location

Figure 2 – Site Plan

Figure 3 – Proposed Site Layout

Figure 4 – Test Pit and Monitoring Well Locations, Groundwater Elevations and Groundwater Contours

Figure 5 – Well Locations, Ontario Well Records Within 500 m of the Site

Figure 6 – Servicing Map for Properties Within 500 m

Figure 7 – Depth to Bedrock in Boreholes and Test Pits

Table 1A – Summary of Groundwater Elevations in Test Pits

Table 1B – Summary of Groundwater Elevations in Monitoring Wells (September 30, 2019)

Table 2 – Summary of Sieve & Hydrometer Analyses

Table 3 – Summary of Analysis of Water Samples Collected from the Test Pits

Table 4A – Nitrate Attenuation Calculations

Table 4B – Nitrate Attenuation Calculations – Tertiary Treatment

Appendix A – Test Pit Logs

Appendix B – Laboratory Certificates of Analysis

Appendix C – Sieve & Hydrometer Analysis

Appendix D – Ontario Well Record Printouts

Appendix E – Proposed Sewage System Layout

Appendix F – Moisture Surplus Printout

Appendix G – Norweco Hydro Kinetic Specifications

Appendix H – OSSO Approval



## FIGURES



**LRJ**

ENGINEERING | INGÉNIERIE

5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lrl.ca | (613) 842-3434

PROJECT  
TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL  
SYSTEM IMPACT STUDY  
PROPOSED ASSEMBLY HALL  
4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE

SITE LOCATION  
(NOT TO SCALE)  
SOURCE: GEOOTTAWA

CLIENT

THE HINDU TEMPLE OF OTTAWA CARLETON

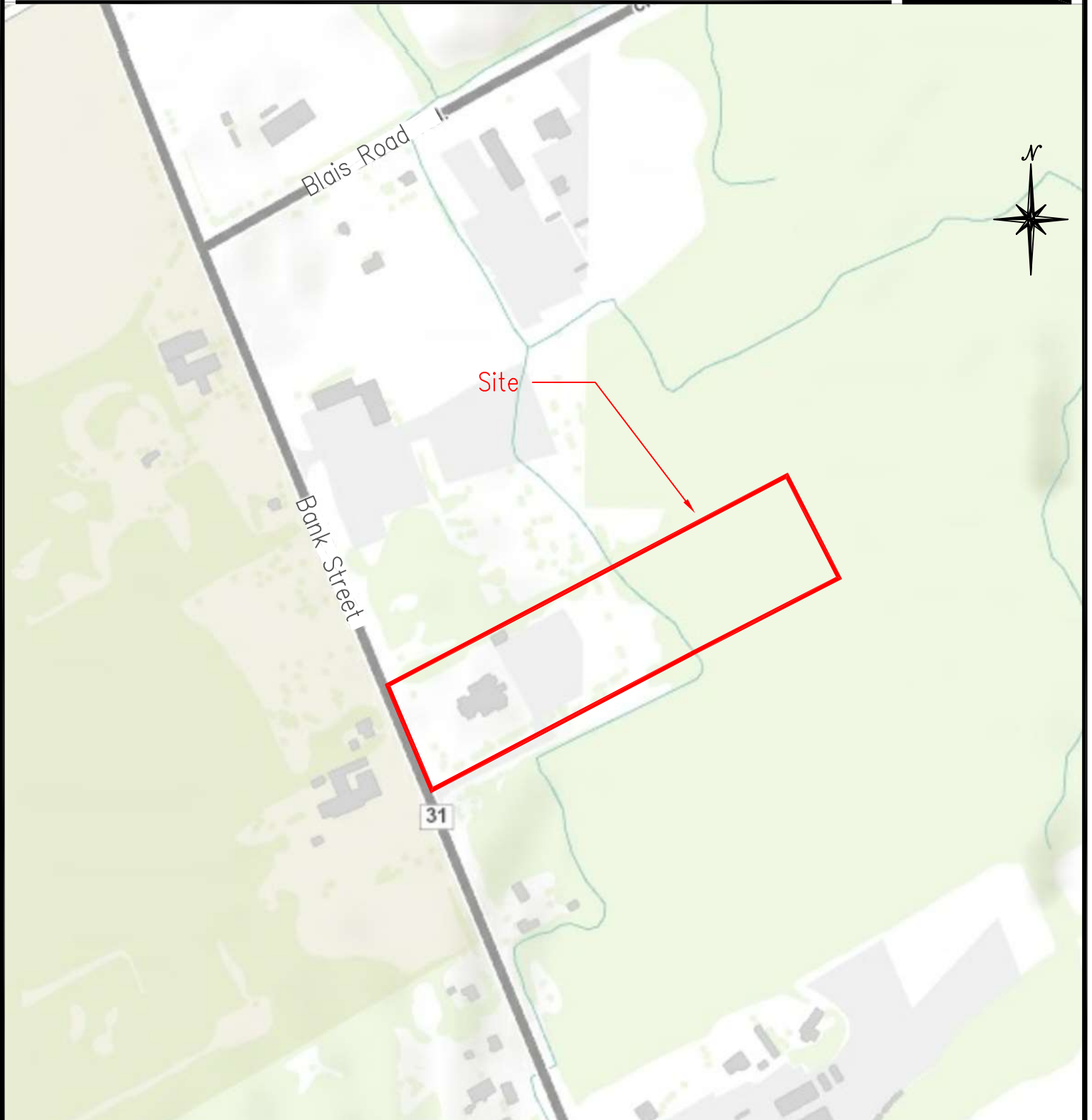
DATE

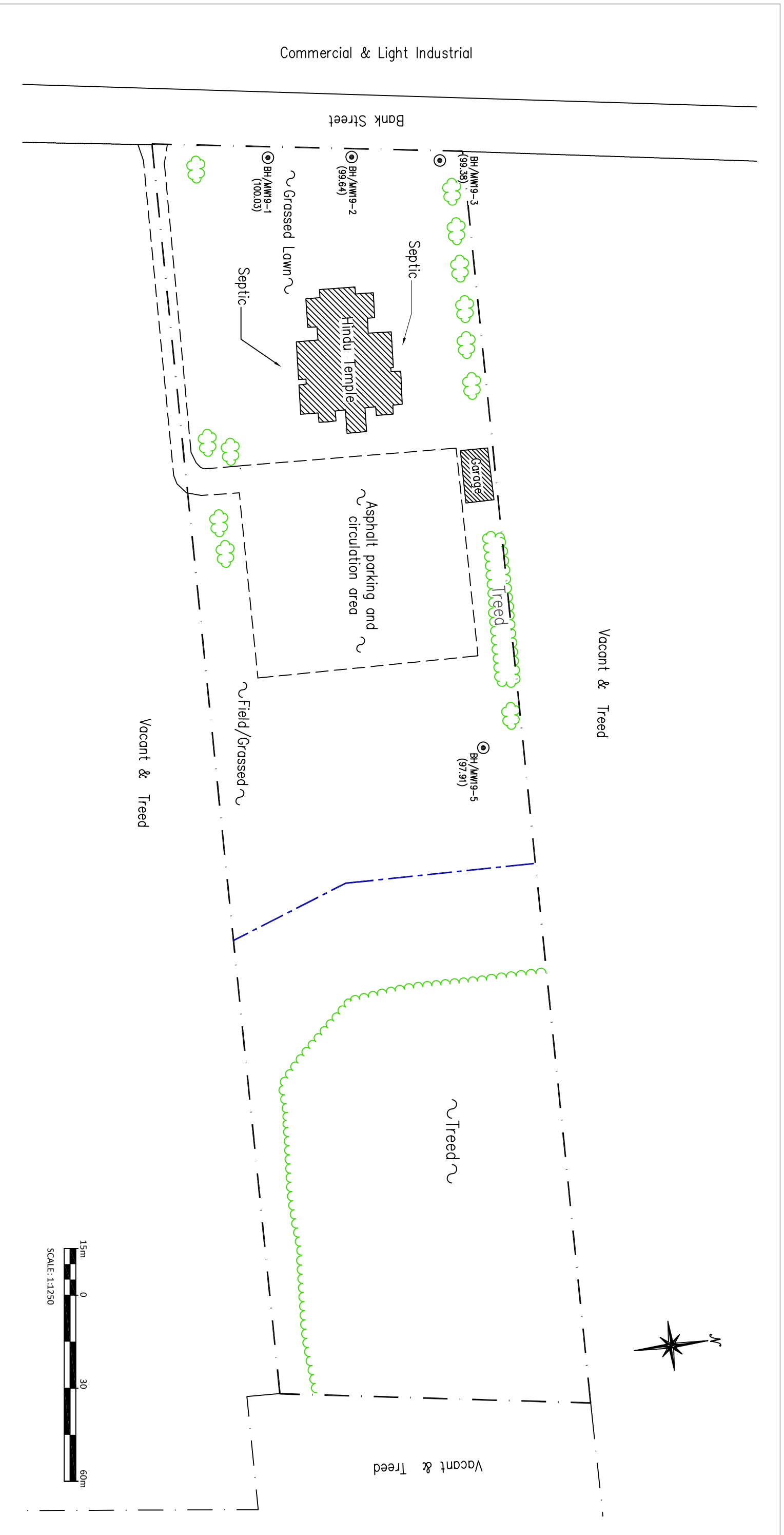
MAY 2022

PROJECT

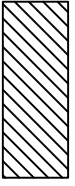
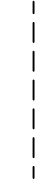




170132

**FIGURE 1**





**LEGEND**

-  Existing Building
-  Division between various surface materials
-  Property Line
-  Tree Line
-  Tree
-  Inferred Stream Location

No.	REVISIONS	BY	DATE
02	FINAL	J.A.	05/05/22
01	ISSUED FOR REVIEW	A.S	05/18/17



5430 Carleton Place, ON K1J 9G2  
 WWW.LRJ.CA | (905) 942-3434

CLIENT: THE HINDU TEMPLE OF OTTAWA  
 CARLETON

DESIGNED BY: --- DRAWN BY: A.S APPROVED BY: A.W.

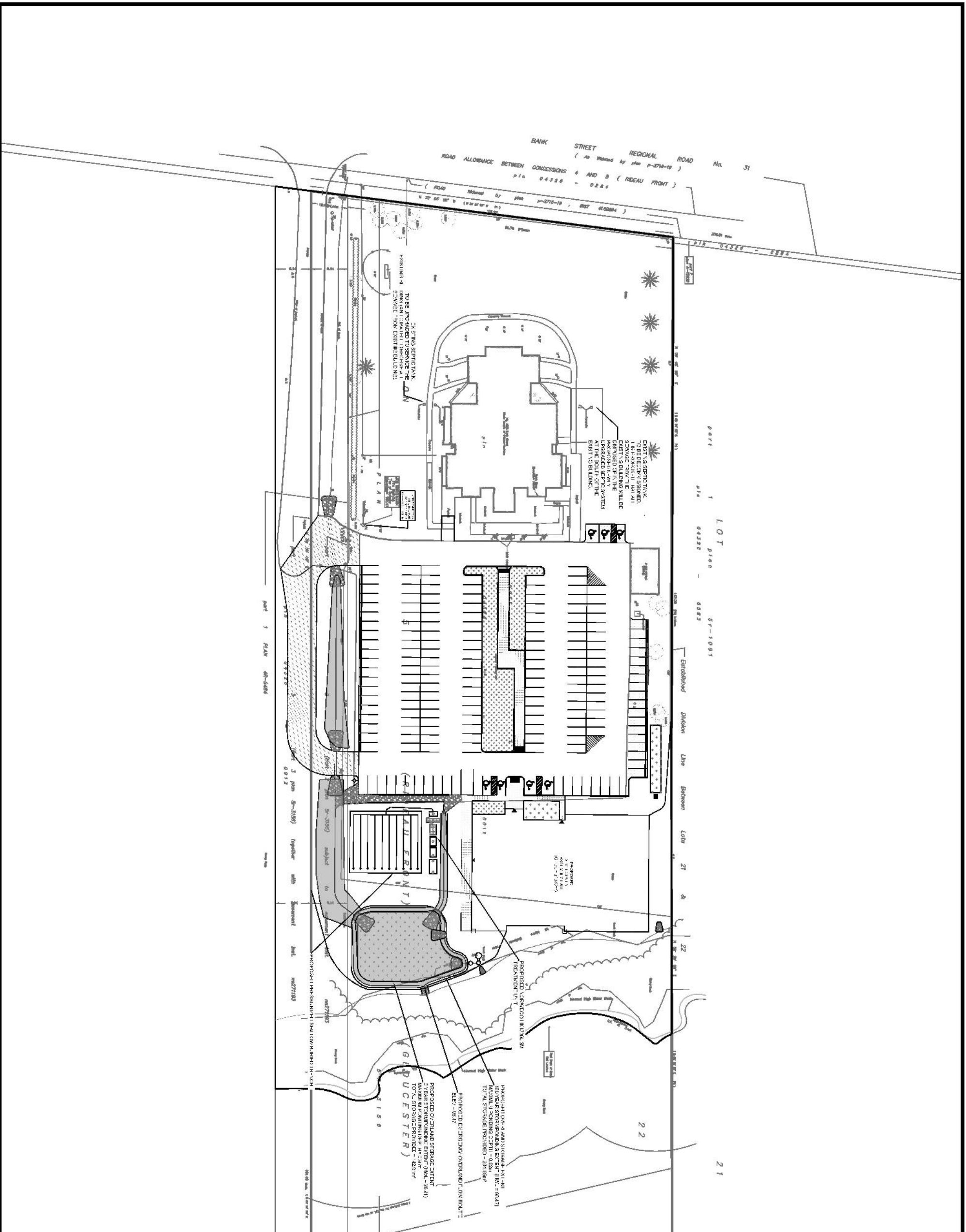
PROJECT: TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY - PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE: SITE PLAN

PROJECT NO.: 170132  
 DATE: MAY 2022

**FIGURE 2**





02	FINAL	J.A.	05/05/22
01	ISSUED FOR REVIEW	J.A.	01/31/18
No.	REVISIONS	BY	DATE



**CLIENT**  
THE HINDU TEMPLE OF OTTAWA  
CARLETON

**DESIGNED BY:** VDC  
**DRAWN BY:** VDC  
**APPROVED BY:**

**PROJECT**  
TERRAIN ANALYSIS AND PRIVATE  
SEWAGE DISPOSAL SYSTEM STUDY  
- PROPOSED ASSEMBLY HALL  
4835 BANK STREET, OTTAWA, ONTARIO









**DRAWING TITLE**  
PROPOSED SITE LAYOUT

**PROJECT NO.:** 170132  
**DATE:** MAY 2022

**FIGURES**



**LEGEND**

-  Existing Building
-  Division between various surface materials
-  Property Line
-  Tree Line
-  Test Pit (May 2017)
-  Borehole/Monitoring Well ID and Location
-  Groundwater Elevation (May 8, 2017)
-  Inferred Stream Location

No.	REVISIONS	BY	DATE
02	FINAL	J.A.	05/05/22
01	ISSUED FOR REVIEW	A.S	05/18/17



5450 Carleton Place, Ottawa, ON K1J 9G2  
 www.lroj.ca | (613) 942-3434


CLIENT  
**THE HINDU TEMPLE OF OTTAWA**  
 CARLETON

DESIGNED BY: --- DRAWN BY: A.S APPROVED BY: A.W.

PROJECT  
 TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL SYSTEM IMPACT STUDY - PROPOSED ASSEMBLY HALL 4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE  
**TEST PIT AND MONITORING WELL LOCATIONS, GROUNDWATER ELEVATIONS AND GROUNDWATER CONTOUR LINES**

PROJECT NO. 170132  
 DATE MAY 2022





**LRJ**

ENGINEERING | INGENIERIE

5430 Canolek Road | Ottawa, ON, K1J 9G2  
www.lrj.ca | (613) 842-3434

PROJECT

TERRAIN ANALYSIS AND PRIVATE SEWAGE DISPOSAL  
SYSTEM IMPACT STUDY  
PROPOSED ASSEMBLY HALL  
4835 BANK STREET, OTTAWA, ONTARIO

DRAWING TITLE

WELL LOCATIONS  
ONTARIO WELL RECORDS WITHIN 500 M OF THE SITE  
(NOT TO SCALE)

CLIENT

THE HINDU TEMPLE OF OTTAWA CARLETON

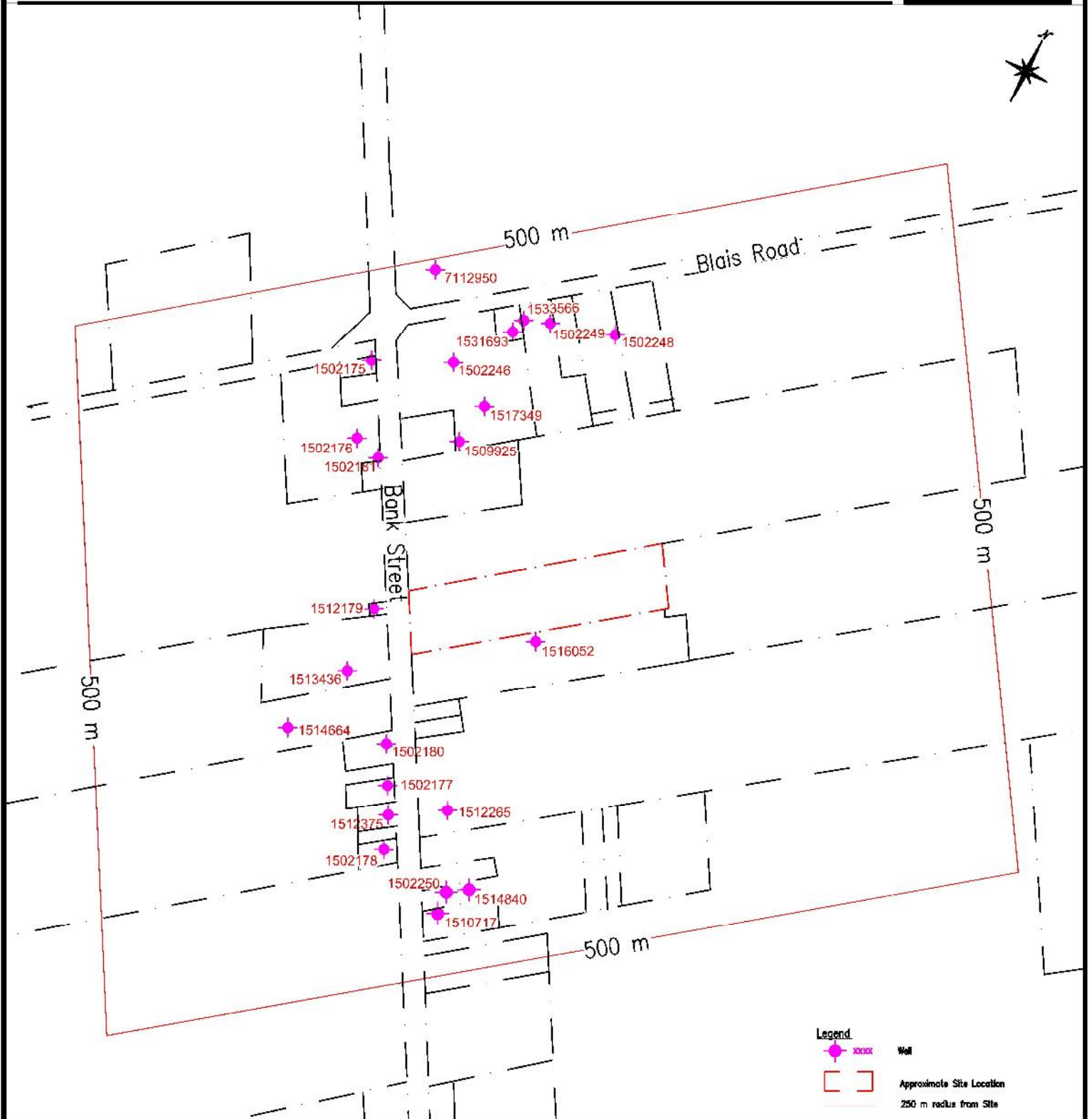
DATE

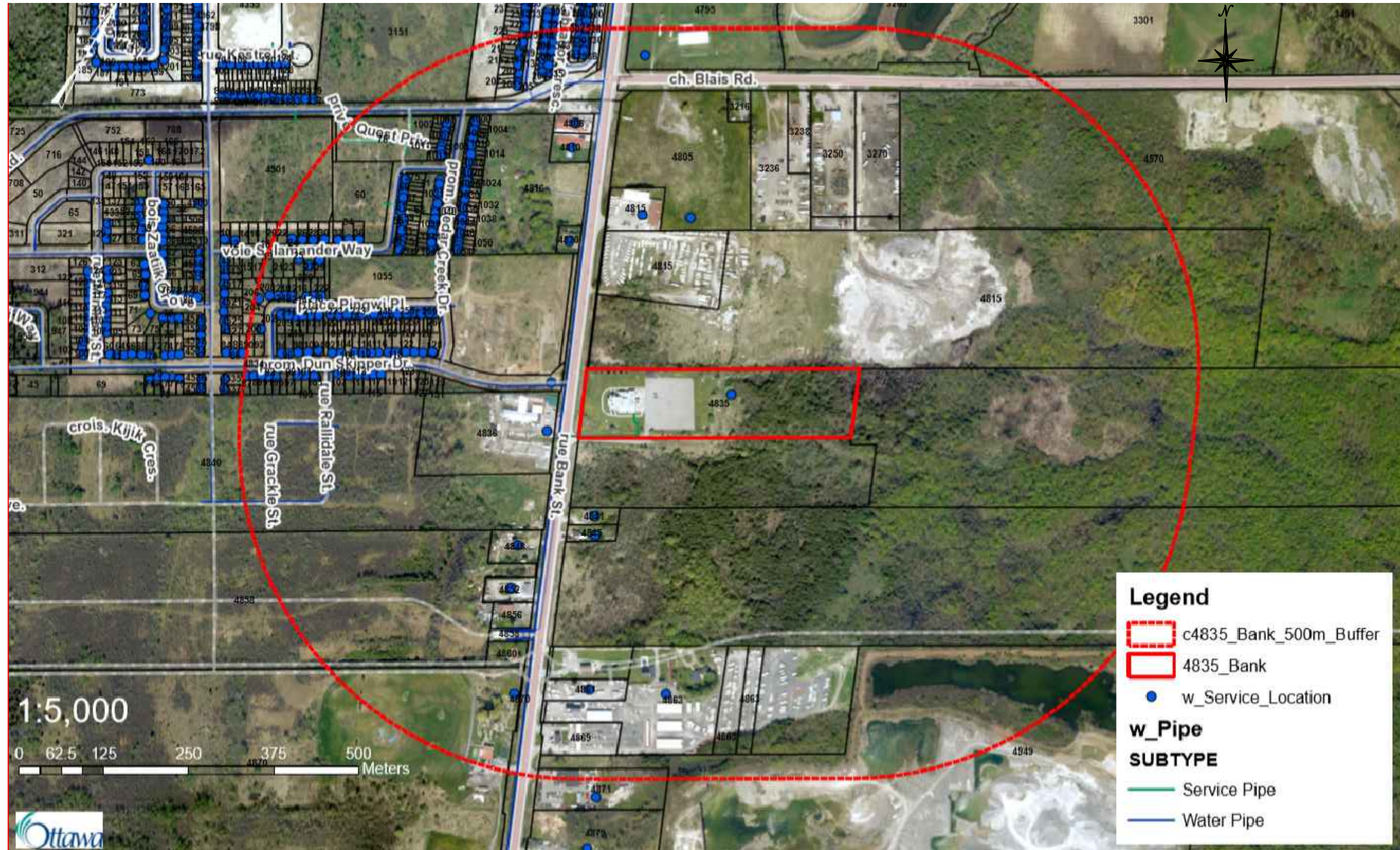
MAY 2022

PROJECT


170132

**FIGURE 5**





No.	REVISIONS	BY	DATE

 <p><b>LRJ</b> ENGINEERING   INGÉNIERIE 5430 Canotek Road   Ottawa, ON, K1J 9G2 www.lri.ca   (613) 842-3434</p>			
--	--	--	--

CLIENT	HINDU TEMPLE OF OTTAWA-CARLETON INC.		
DESIGNED BY:	DRAWN BY:	APPROVED BY:	
--	M.W.	M.W.	
PROJECT	TERRAIN ANALYSIS 4835 BANK STREET OTTAWA, ONTARIO		

CLIENT	HINDU TEMPLE OF OTTAWA-CARLETON INC.		
DESIGNED BY:	DRAWN BY:	APPROVED BY:	
--	M.W.	M.W.	
PROJECT	TERRAIN ANALYSIS 4835 BANK STREET OTTAWA, ONTARIO		

DRAWING TITLE	SERVICING MAP FOR PROPERTIES WITHIN 500 M		
PROJECT NO.	170132		
DATE	DECEMBER 2020		

**FIGURE 6**



**LEGEND**

	Existing Building
	Division amongst surface materials
	Fenceline
	Property Line
	Tree Line
	Tree
	BH/MW19-1 Borehole/Monitoring Well (Phase II ESA)
	BH19-1 Borehole (Geotechnical Investigation)
	TP19-1 Test Pit (Terrain Analysis)
	Inferred Bedrock Depth below Ground Surface

No.	REVISIONS	BY	DATE
01	ISSUED FOR REVIEW	G.M.	11/10/19

**LRJ**  
ENGINEERING | INGÉNIÉRIE

5430 Canotek Road | Ottawa, ON, K1J 9G2  
www.lri.ca | (613) 842-3434

CLIENT	HINDU TEMPLE OF OTTAWA-CARLETON INC.		
DESIGNED BY:	DRAWN BY:	APPROVED BY:	
--	G.M.	M.W	
PROJECT	TERRAIN ANALYSIS 4835 BANK STREET OTTAWA, ONTARIO		

DRAWING TITLE	DEPTH TO BEDROCK IN BOREHOLES AND TEST PITS
PROJECT NO.	170132
DATE	DECEMBER 2020

**FIGURE 7**

## TABLES

**Table 1A**  
**Summary of Groundwater Elevations in Test Pits**

Terrain Analysis - Proposed Assembly Hall  
4835 Bank Street, Ottawa, Ontario  
LRL File: 170132

Test Pit	Ground Surface Elevation <sup>1</sup> (m)	Reference Elevation <sup>2</sup> (m)	Depth To Water Table (m)		Groundwater Elevation (m)
			Reference Point	Ground Surface	
TP1	98.21	99.15	1.35	0.41	97.80
TP2	97.09	--	--	--	--
TP3	97.75	98.98	1.94	0.71	97.04
TP4	99.54	--	--	--	--
TP5	98.78	99.02	DRY	--	--
TP6	99.38	--	--	--	--
TP7	99.60	100.79	2.52	1.33	98.27

**NOTES**

<sup>1</sup> Elevations are based off of a temporary benchmark established at the top of the east arm of the fire hydrant along the south of the Site (100.00 m).

<sup>2</sup> Reference elevation is top of piezometer.

**Table 1B**  
**Summary of Groundwater Elevations in Monitoring Wells (September 30, 2019)**

Terrain Analysis - Proposed Assembly Hall  
4835 Brank Street, Ottawa, Ontario  
LRL File: 170132

Monitoring Well	Ground Surface Elevation <sup>1</sup> (m)	Reference Elevation <sup>2</sup> (m)	Depth To Water Table (m)		Groundwater Elevation (m)
			Ground Surface	Reference Point	
<b>BH/MW19-1</b>	100.03	100.01	2.25	2.23	97.78
<b>BH/MW19-2</b>	99.64	99.62	1.95	1.94	97.68
<b>BH/MW19-3</b>	99.38	99.32	2.48	2.42	96.90
<b>BH/MW19-5</b>	97.91	97.87	1.87	1.83	96.04

**NOTES**

<sup>1</sup> Elevations measured from the north rim of the hydrant valve in the central south portion of the Site (100.00 m).

<sup>2</sup> Reference elevation is top of PVC riser.



**Table 2**  
**Summary of Sieve & Hydrometer Analyses**  
Terrain Analysis - Proposed Assembly Hall  
4835 Bank Street, Ottawa, Ontario  
LRL File: 170132

Sample	Depth (m)	Sample Gradation <sup>1</sup>						Soil Texture Classification
		Percent Particles in Each Fraction						
		Gravel >4.75 mm	Sand			Silt 2 - 75 µm	Clay < 2µm	
Coarse 2.0 - 4.75 mm	Medium 425 µm - 2.0 mm		Fine 75 - 425 µm					
TP1-3	1.8 - 2.0	4.8	1.2	1.8	6.5	63.8	22.0	Silt Loam
TP3-6	1.4 - 1.6	21.3	7.0	12.7	20.1	39.0		Fine Silty Sand

**NOTES:**

<sup>1</sup> Unified Soil Classification System

**Table 3**  
**Summary of analysis of water samples collected from the test pits.**  
 Terrain Analysis - Proposed Assembly Hall  
 4835 Bank Street, Ottawa, Ontario  
 LRL File: 170132

Parameter	Units	MRL	Ontario Drinking Water Standards		Sample		
			Standard	Type	TP1	TP3	TP7
<b>Sample Date (d/m/y)</b>					<b>2017-08-05</b>	<b>2017-08-05</b>	<b>2017-08-05</b>
Ammonia	mg/L	0.01			0.28	0.39	1.66
Total Kjeldahl Nitrogen	mg/L	0.1			78.1	65.3	131
Nitrate as N	mg/L	0.1	10	MAC	<0.1	0.5	<0.1
Nitrite as N	mg/L	0.05	1	MAC	<0.05	<0.05	<0.05

**NOTES**

**MAC** Maximum Acceptable Concentration

**MRL** Minimum Reportable Limit

**Table 4A**  
**Nitrate Attenuation Calculations**  
Terrain Analysis and Private Sewage Disposal System Impact Study - Proposed Assembly Hall  
4835 Bank Street, Ottawa, Ontario  
LRL File: 170132

**1. Potential Infiltration**

Weather Station                      Ottawa

No.	Section Area (m <sup>2</sup> )	Infiltration Factor (IF) <sup>1</sup>							Moisture Surplus (MS)				Potential Infiltration (PI) (IF*MS) (mm)	
		Topography	Value	Soil	Value	Cover	Value	Total	Ground Cover	Soil Type	Moisture Retention <sup>2</sup> (mm)	Moisture Surplus <sup>3</sup> (mm)	Section	Weighted
1	23,750	Flat	0.3	Clay Loam	0.2	Cultivated Land	0.1	0.6	Shallow Rooted Crops	3 Silt Loam	125	349	209.4	209.4
<b>Total<sup>6</sup></b>													<b>Total</b>	<b>209.4</b>

**2. Area Available for Infiltration**

Approximate footprint of the existing assembly hall		H		1,168	m <sup>2</sup>
Approximate footprint of the existing garage		H		105	m <sup>2</sup>
Approximate footprint of the proposed assembly hall		H		1,593	m <sup>2</sup>
Approximate area of paved parking and circulation (Existing & Proposed)		d <sup>4</sup>		5,380	m <sup>2</sup>
Approximate Length of Road		L		--	m
Approximate Width of Road		w		--	m
Total Area of Property				23,750	m <sup>2</sup>
Impervious Area				8,246	m <sup>2</sup>
	Roads	l x w		-	m <sup>2</sup>
	Parking and Circulation	d		5,380	m <sup>2</sup>
	Building	Sum of H's		2,866	m <sup>2</sup>
<b>Area available Infiltration</b>		A		15,504	m <sup>2</sup>

**3. Nitrate Dilution Calculations**

Nitrate Concentration of Infiltration <sup>7</sup>	C <sub>i</sub>	0.05	mg/L
Site Infiltration	Q <sub>i</sub> = A*PI	3,247	m <sup>3</sup>
<b>Existing Development</b>			
Daily Sewage Volume - Existing Development	Q <sub>d</sub>	2.00	m <sup>3</sup>
Maximum Yearly Sewage Volume - Existing Development	Q <sub>e</sub> =365*Q <sub>d</sub>	730	m <sup>3</sup>
Nitrate Concentration in Sewage - Existing Development	C <sub>e</sub>	40	mg/L
<b>Proposed Development</b>			
Daily Sewage Volume - Proposed New Development <sup>8</sup>	Q <sub>d</sub>	4.00	m <sup>3</sup>
Maximum Yearly Sewage Volume (water) - Proposed New Development	Q <sub>e</sub> =365*Q <sub>d</sub>	1,460	m <sup>3</sup>
Nitrate Concentration in Sewage - Proposed New Development	C <sub>e</sub>	40	mg/L
Maximum Allowable Nitrate Concentration at Boundary <sup>5</sup>	C <sub>m</sub>	10.0	mg/L
Increase in Nitrate Concentration at Boundaries	C = (Q <sub>e,1</sub> C <sub>e,1</sub> +1+Q <sub>e,2</sub> C <sub>e,2</sub> +Q <sub>i</sub> C <sub>i</sub> )/(Q <sub>e,1</sub> +Q <sub>e,2</sub> +Q <sub>i</sub> )	16.14	mg/L

**NOTES**

- Table 2: Infiltration Factors, *Hydrological Technical Information Requirements for Land Development Applications*, Ministry of the Energy and Environment, April 1995.
- Thornthwaite and Mather's (1957) Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance.
- Moisture surplus for data for Ottawa ON (Environment Canada Meteorological Service of Canada, 2010).
- The value is a calculation of the total existing parking & circulation area footprint, and the proposed 202 Vehicle parking & circulation area presented Vector Design Architects site plan, May 2019.
- As per *Technical Guideline for Individual On-Site Sewage Systems: Water Quality and Impact Risk Assessment*, Ministry of the Energy and Environment, August 1996.
- The total area of the property used in this calculation is limited to the area of the Site located west of the stream.
- The nitrate concentration of infiltration is assumed to be 0.0 mg/L.
- Calculated using Part 8 of the Ontario Building Code, 2012: Assembly Hall - per seat, no food service, 8 L/day (500 seats)

**Table 4B**  
**Nitrate Attenuation Calculations - Tertiary Treatment**  
Terrain Analysis and Private Sewage Disposal System Impact Study - Proposed Assembly Hall  
4835 Bank Street, Ottawa, Ontario  
LRL File: 170132

**1. Potential Infiltration**

Weather Station                      Ottawa

No.	Section Area (m <sup>2</sup> )	Infiltration Factor (IF) <sup>1</sup>							Moisture Surplus (MS)				Potential Infiltration (PI) (IF*MS) (mm)	
		Topography	Value	Soil	Value	Cover	Value	Total	Ground Cover	Soil Type	Moisture Retention <sup>2</sup> (mm)	Moisture Surplus <sup>3</sup> (mm)	Section	Weighted
1	23,750	Flat	0.3	Clay Loam	0.2	Cultivated Land	0.1	0.6	Shallow Rooted Crops	3 Silt Loam	125	349	209.4	209.4
<b>Total<sup>6</sup></b>	23,750												<b>Total</b>	209.4

2. Area Available for Infiltration			
Approximate footprint of the existing assembly hall		H	1,168 m <sup>2</sup>
Approximate footprint of the existing garage		H	105 m <sup>2</sup>
Approximate footprint of the proposed assembly hall		H	1,593 m <sup>2</sup>
Approximate area of paved parking and circulation (Existing & Proposed)		d <sup>4</sup>	5,380 m <sup>2</sup>
Approximate Length of Road		L	-- m
Approximate Width of Road		w	-- m
Total Area of Property			23,750 m <sup>2</sup>
Impervious Area			8,246 m <sup>2</sup>
	Roads	l x w	- m <sup>2</sup>
	Parking and Circulation	d	5,380 m <sup>2</sup>
	Building	Sum of H's	2,866 m <sup>2</sup>
<b>Area available Infiltration</b>		A	15,504 m <sup>2</sup>

3. Nitrate Dilution Calculations			
Nitrate Concentration of Infiltration <sup>7</sup>	C <sub>i</sub>		0.00 mg/L
Site Infiltration	Q <sub>i</sub> = A * PI		3,247 m <sup>3</sup>
<b>Existing Development (Norweco Hydro-Kinetic System)</b>			
Daily Sewage Volume - Existing Development	Q <sub>d1</sub>		2.0 m <sup>3</sup>
Maximum Yearly Sewage Volume - Existing Development	Q <sub>e1</sub> = 365 * Q <sub>d1</sub>		730 m <sup>3</sup>
Nitrate Concentration in Sewage - Existing Development	C <sub>e1</sub>		20 mg/L
<b>Proposed Development (Norweco Hydro-Kinetic System)</b>			
Daily Sewage Volume - Proposed New Development <sup>8</sup>	Q <sub>d3</sub>		4.00 m <sup>3</sup>
Maximum Yearly Sewage Volume (water) - Proposed New Development	Q <sub>e</sub> = 365 * Q <sub>d</sub>		1,460 m <sup>3</sup>
Nitrate Concentration in Sewage - Proposed New Development	C <sub>e</sub>		20 mg/L
Maximum Allowable Nitrate Concentration at Boundary <sup>5</sup>	C <sub>m</sub>		10.0 mg/L
Increase in Nitrate Concentration at Boundaries	C = (Q <sub>i</sub> C <sub>i</sub> + Q <sub>e1</sub> C <sub>e1</sub> + Q <sub>e2</sub> C <sub>e2</sub> + Q <sub>e3</sub> C <sub>e3</sub> ) / (Q <sub>i</sub> + Q <sub>e1</sub> + Q <sub>e2</sub> + Q <sub>e3</sub> )		<b>8.06 mg/L</b>

**NOTES**

- Table 2: Infiltration Factors, *Hydrological Technical Information Requirements for Land Development Applications*, Ministry of the Energy and Environment, April 1995.
- Thornthwaite and Mather's (1957) Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance.
- Moisture surplus for data for Ottawa ON (Environment Canada Meteorological Service of Canada, 2010).
- The value is a calculation of the total existing parking & circulation area foot print, and the proposed 202 Vehicle parking & circulation area presented Vector Design Architects site plan, May 2019.
- As per *Technical Guideline for Individual On-Site Sewage Systems: Water Quality and Impact Risk Assessment*, Ministry of the Energy and Environment, August 1996.
- The total area of the property used in this calculation is limited to the area of the Site located west of the stream.
- The nitrate concentration of infiltration is assumed to be 0.0 mg/L.
- Calculated using Part 8 of the Ontario Building Code, 2012: Assembly Hall - per seat, no food service, 8 L/day (500 seats)

**APPENDIX A**  
**Test Pit Logs**



**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP1**

**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA					Water Content (%)		Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)	Liquid Limit (%)			
						50	150	25	
0	Ground Surface	98.21							
0	<b>TOPSOIL</b> Sandy, dark brown, dry.	0.00							
1	<b>FILL</b> Sandy clay, dark brown, dry.	98.01 0.20							
3	<b>Silty Sand</b> Trace clay, with clay seam from 1.7 to 1.8 m bgs, brown, dry.  Sieve analysis completed.	97.31 0.90		1					
4									
5									
6				2					
7									
7	<b>End of Test Pit</b> Refusal over inferred bedrock.	96.11 2.10		3					
8									

0.4 m bgs (08/05/17)

**Easting:** N/M

**Northing:** N/M

**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)

**Groundsurface Elevation:** 98.21

**Top of Riser Elev.:** 99.15

**Excavation Width:** 1.2 m

**Excavation Length:** 1.5 m

**NOTES:**

BGS- Below Ground Surface



**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP2**

**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)	
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)		Liquid Limit (%)		
					50	150	25		50
0	Ground Surface	97.09							
0	<b>FILL</b> Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs.  Buried metal structure/waste at approximately 0.9 m bgs.	0.00							
3	End of Test Pit	96.19		4					
0									
1									
2									
3									
4									
5									
6									
7									
8									

**Easting:** N/M

**Northing:** N/M

**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)

**Groundsurface Elevation:** 97.09

**Top of Riser Elev.:** --

**Excavation Width:** 1.2 m

**Excavation Length:** 1.5 m

**NOTES:**

Test pit terminated at 0.9 meters due to volume of water in pit.  
BGS- Below Ground Surface



**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP3**

**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Liquid Limit (%)			
					Shear Strength (kPa)	25	50	
0	Ground Surface	97.75						
0	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00						
	Brick debris found in top 0.2 m bgs.	97.55						
1	<b>FILL</b> Sandy silt, trace boulders, brown, dry.	0.20		5				
	Tire debris found at approximately 0.8 m bgs.							
3	<b>TILL</b> Silty sand, trace gravel, cobbles and boulders, brown, dry.	96.95						
	Sieve analysis completed.	0.80						
6	End of Test Pit	96.05		6				
	Refusal at 1.7 m bgs over inferred bedrock.	1.70						

0.71 m bgs (08/05/17)

**Easting:** 0454091      **Northing:** 5017670  
**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)  
**Groundsurface Elevation:** 97.75      **Top of Riser Elev.:** 98.98  
**Excavation Width:** 1.2 m      **Excavation Length:** 1.5 m

**NOTES:**  
 BGS- Below Ground Surface





**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP4**

**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)	
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)		Liquid Limit (%)		
					50	150	25		50
0	Ground Surface	99.54							
0	<b>TOPSOIL</b> Silty loam, trace clay, dark brown, dry.	0.00							
2	<b>FILL</b> Silty sand, trace cobbles and gravel, light brown, dry.  Changing to dark brown sandy fill with trace boulders at approximately 0.8 m bgs.	99.04 0.50		7					
4				8					
5	End of Test Pit Refusal at 1.4 m bgs over inferred bedrock or large concrete structure.	98.14 1.40							

**Easting:** 0454005

**Northing:** 5017628

**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)

**Groundsurface Elevation:** 99.54

**Top of Riser Elev.:** --

**Excavation Width:** N/M

**Excavation Length:** N/M

**NOTES:**

BGS- Below Ground Surface



**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP5**

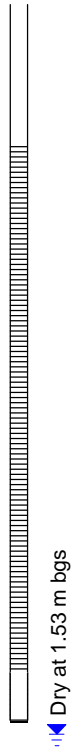
**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Shear Strength (kPa)	Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number		25	50	75	
0	Ground Surface	98.78							
0	<b>TOPSOIL</b> Silty loam some sand, dark brown, dry.	0.00							
0.15	<b>FILL</b> Sand, some silt, trace cobbles, brown, dry.  Waste debris of metal and asphalt pieces at approximately 0.9 m bgs.	98.63		10					
0.9									
3.0				9					
5.0	End of Test Pit Refusal at 1.5 m bgs over inferred bedrock.	97.28		11					
1.5		1.50							



**Easting:** 0453945      **Northing:** 5017595  
**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)  
**Groundsurface Elevation:** 98.78      **Top of Riser Elev.:** 99.02  
**Excavation Width:** N/M      **Excavation Length:** N/M

**NOTES:**  
 BGS- Below Ground Surface



**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP6**

**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)	
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)		Liquid Limit (%)		
					50	150	25		50
0	Ground Surface	99.38							
	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00							
	<b>FILL</b> Sand, some gravel, cobbles, boulders, silty seam at 0.7 m bgs, brown, dry.	99.23							
1		0.15							
	Refusal at 0.8 m bgs over inferred bedrock.			12					
2				13					
	End of Test Pit	98.58							
3		0.80							
4									
5									
6									
7									
8									

**Easting:** 0454003

**Northing:** 5017542

**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)

**Groundsurface Elevation:** 99.38

**Top of Riser Elev.:** --

**Excavation Width:** N/M

**Excavation Length:** N/M

**NOTES:**

BGS- Below Ground Surface



**Project No.:** 170132

**Client:** Hindu Temple of Ottawa Carleton

**Date:** May 08, 2017

**Excavation Method:** Backhoe

**Test Pit Log: TP7**

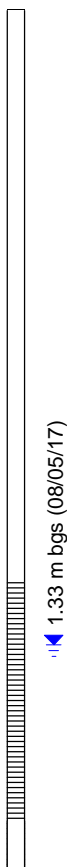
**Project:** Terrain Analysis

**Location:** 4835 Bank Street, Ottawa, ON

**Field Personnel:** JA

**Excavation Contractor:** Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Liquid Limit (%)			
					Shear Strength (kPa)	25	50	
0	Ground Surface	99.60						
0	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00						
1	<b>FILL</b> Sand, brown, trace metal debris, dry.	99.40 0.20						
3	<b>TILL</b> Silty sand, trace clay, boulders, grey, organics including tree stump, roots, etc. Refusal due to obstruction (tree stump).	98.90 0.70						
6	End of Test Pit	97.80 1.80						



**Easting:** 0454051      **Northing:** 5017564  
**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)  
**Groundsurface Elevation:** 99.60      **Top of Riser Elev.:** 100.79  
**Excavation Width:** N/M      **Excavation Length:** N/M

**NOTES:**  
 BGS- Below Ground Surface

**APPENDIX B**  
**Laboratory Certificates of Analysis**

## Certificate of Analysis

**LRL Associates Ltd.**

5430 Canotek Road  
Ottawa, ON K1J 9G2  
Attn: Jessica Arthurs

Client PO:  
Project: 170132  
Custody: 32310

Report Date: 15-May-2017  
Order Date: 11-May-2017

**Order : 171 377**

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

<b>Parcel ID</b>	<b>Client ID</b>
1719377-01	TP1
1719377-02	TP3
1719377-03	TP7

Approved By:



Dale Robertson, BSc  
Laboratory Director

Certificate of Analysis  
Client: LRL Associates Ltd.  
Client PO:

Report Date: 15-May-2017  
Order Date: 11-May-2017  
Project Description: 17 132

### Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Ammonia, as N	EPA 351.2 - Auto Colour	12-May-17	12-May-17
Anions	EPA 300.1 - IC	12-May-17	12-May-17
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	12-May-17	15-May-17

Certificate of Analysis  
 Client: LRL Associates Ltd.  
 Client PO:

Report Date: 15-May-2017

Order Date: 11-May-2017

Project Description: 17 132

<b>Client ID:</b>	TP1	TP3	TP7	-
<b>Sample Date:</b>	08-May-17	08-May-17	08-May-17	-
<b>Sample ID:</b>	1719377-01	1719377-02	1719377-03	-
<b>MDL/Units</b>	Water	Water	Water	-

**General Inorganics**

Ammonia as N	0.01 mg/L	0.28	0.39	1.66	-
Total Kjeldahl Nitrogen	0.1 mg/L	78.1	65.3	131	-

**Anions**

Nitrate as N	0.1 mg/L	<0.1	0.5	<0.1	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	<0.05	-



Certificate of Analysis  
 Client: LRL Associates Ltd.  
 Client PO:

Report Date: 15-May-2017

Order Date: 11-May-2017

Project Description: 17 132

**Method Quality Control: Blank**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Anions</b>									
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
<b>General Inorganics</b>									
Ammonia as N	ND	0.01	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						

Certificate of Analysis  
 Client: LRL Associates Ltd.  
 Client PO:

Report Date: 15-May-2017

Order Date: 11-May-2017

Project Description: 17 132

**Method Quality Control: Duplicate**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Anions</b>									
Nitrate as N	ND	0.1	mg/L	ND				20	
Nitrite as N	ND	0.05	mg/L	ND				20	
<b>General Inorganics</b>									
Ammonia as N	0.021	0.01	mg/L	0.022			2.4	8	
Total Kjeldahl Nitrogen	1.50	0.1	mg/L	1.52			1.8	10	

Certificate of Analysis  
 Client: LRL Associates Ltd.  
 Client PO:

Report Date: 15-May-2017

Order Date: 11-May-2017

Project Description: 17 132

**Method Quality Control: Spike**

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
<b>Anions</b>									
Nitrate as N	1.01	0.1	mg/L	ND	101	81-112			
Nitrite as N	1.02	0.05	mg/L	ND	102	76-117			
<b>General Inorganics</b>									
Ammonia as N	0.280	0.01	mg/L	0.022	103	81-124			
Total Kjeldahl Nitrogen	1.91	0.1	mg/L		95.7	81-126			

Certificate of Analysis  
**Client: LRL Associates Ltd.**  
**Client PO:**

Report Date: 15-May-2017  
Order Date: 11-May-2017  
**Project Description: 17 132**

**Qualifier Notes:**

***Login Qualifiers :***

Samples received submerged in water, possibly melted ice. This condition can compromise sample integrity.

*Applies to samples: TP1, TP3, TP7*

**Sample Data Revisions**

None

**Work Order Revisions / Comments:**

None

**Other Report Notes:**

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

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

%REC: Percent recovery.

RPD: Relative percent difference.

**APPENDIX C**  
**Sieve & Hydrometer Analysis**

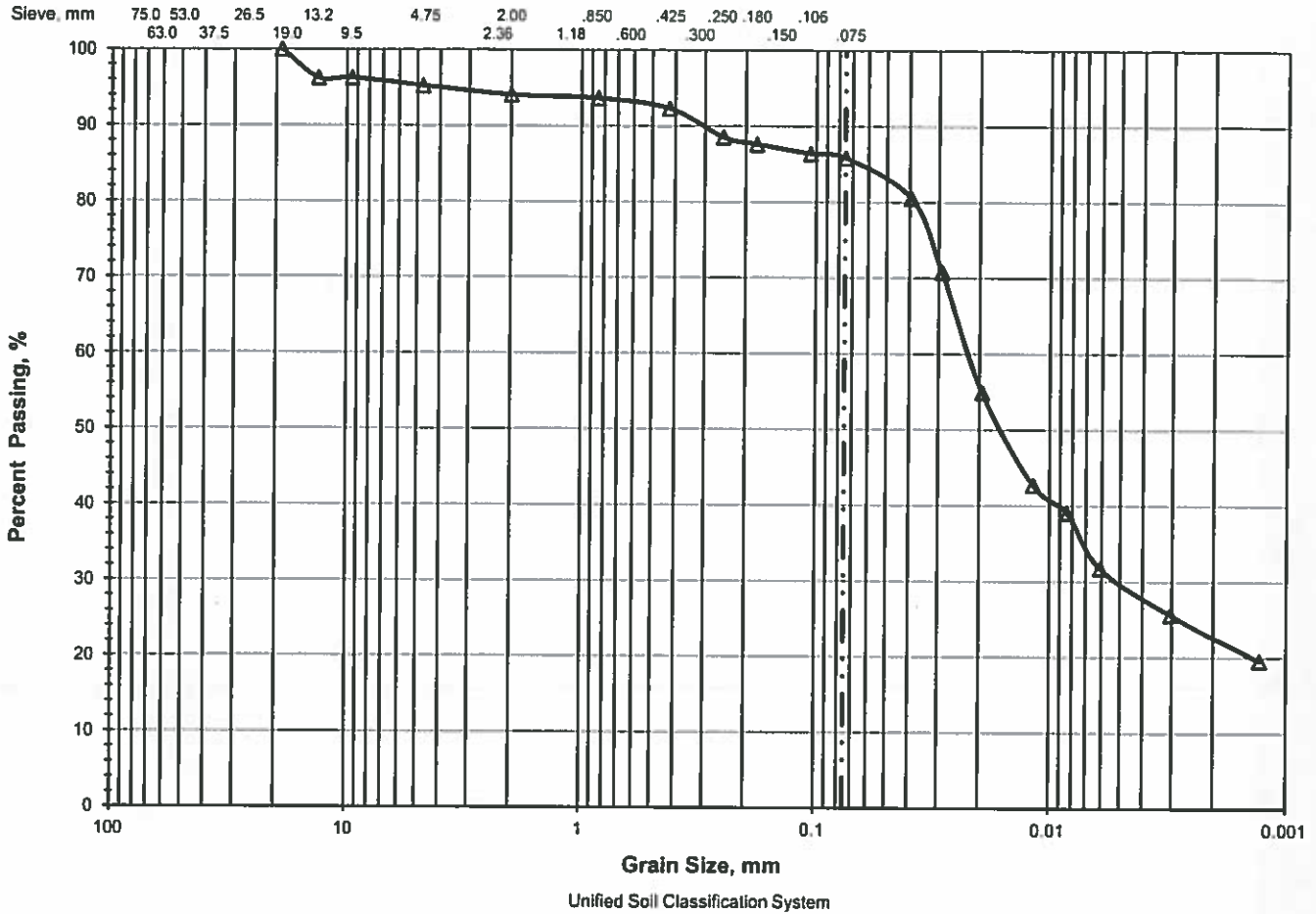


LRL Associates Ltd.

# PARTICLE SIZE ANALYSIS

Client: Lloyd Phillips & Associates Ltd.  
 Project: Hydrogeological Assessment & Terrain Analysis  
 Location: 4835 Bank Street., Ottawa, ON.

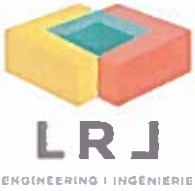
File No.: 170132  
 Report No.: 1  
 Date: May 8, 2017



> 75 mm	% GRAVEL		% SAND			% FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
△	0.0	4.8	1.2	1.8	6.5	63.8	22.0

Location	Sample	Depth, m	D <sub>60</sub>	D <sub>50</sub>	D <sub>30</sub>	D <sub>15</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>
△	TP-1	3	1.80 - 2.00	0.0226	0.0164	0.0052			





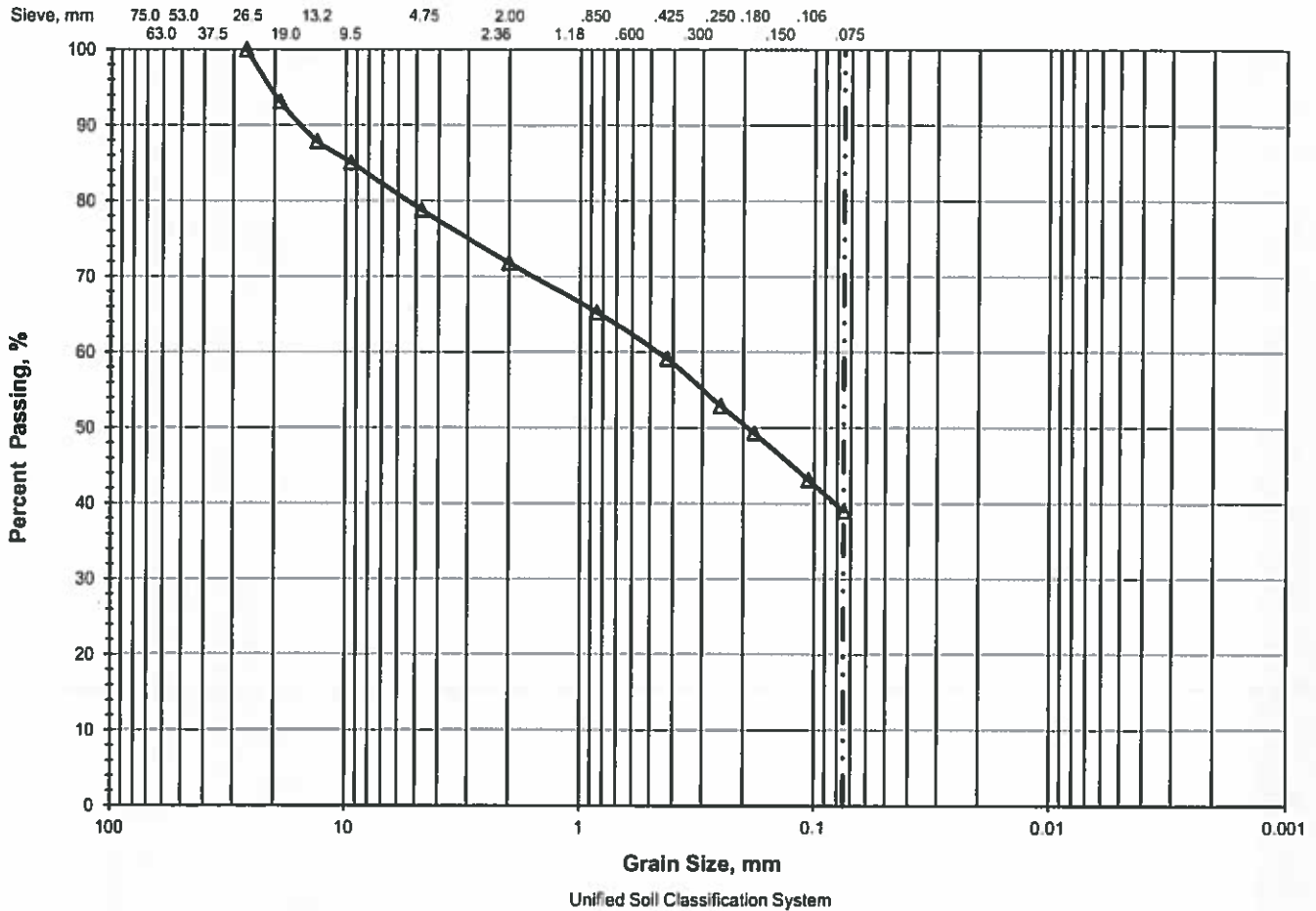
LRL Associates Ltd.

# PARTICLE SIZE ANALYSIS

ASTM D 422 / LS-702

Client: Lloyd Phillips & Associates Ltd.  
 Project: Hydrogeological Assessment & Terrain Analysis  
 Location: 4835 Bank Street., Ottawa, ON.

File No.: 170132  
 Report No.: 2  
 Date: May 8, 2017



> 75 mm	% GRAVEL		% SAND			% FINES	
	Coarse	Fine	Coarse	Medium	Fine	Silt & Clay	
△	0.0	6.0	15.3	7.0	12.7	20.1	39.0

Location	Sample	Depth, m	D <sub>60</sub>	D <sub>50</sub>	D <sub>30</sub>	D <sub>15</sub>	D <sub>10</sub>	C <sub>c</sub>	C <sub>u</sub>
△	TP3	6	1.4 - 1.6	0.4855	0.1932				



**APPENDIX D**  
**Ontario Well Record Printouts**



310/50

UTM 118Z 4513171210E

15R 51011717110N

Elev. 4R 0131016

Basin 215 F1 +  
Huron +

Con IV  
lot 21



The Water-well Drillers Act, 1954  
Department of Mines

GROUNDWATER BRANCH  
SEP 9 1957  
ONTARIO WATER  
RESOURCES COMMISSION

# Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester  
in Village, Town or City  
Address Building Bridge



(day) (month) (year)

### Pipe and Casing Record

### Pumping Test

Casing diameter (s) <u>2</u>	Static level <u>10 ft</u>
Length (s) <u>20</u>	Pumping rate <u>200 G.P.H.</u>
Type of screen	Pumping level <u>30 ft</u>
Length of screen	Duration of test <u>3 hr</u>

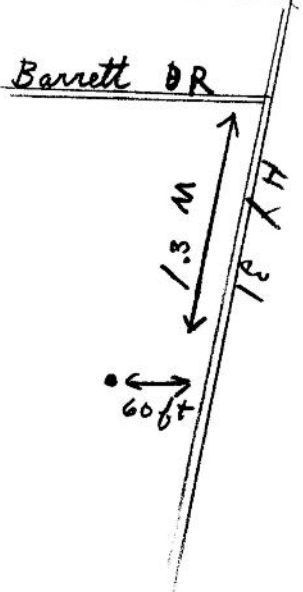
### Well Log

### 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>Boulders and sand</u>	<u>0</u>	<u>20</u>	<u>60</u>	<u>50</u>	<u>Fresh</u>
<u>Sand stone</u>	<u>20</u>	<u>60</u>			

For what purpose(s) is the water to be used? Home  
 Is water clear or cloudy? clear  
 Is well on upland, in valley, or on hillside? upland  
 Drilling firm F. R. Corsetti  
 Address 1652 Base line R.D. City Centre  
 Name of Driller F. R. Corsetti  
 Address \_\_\_\_\_  
 Licence Number 395

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



I certify that the foregoing statements of fact are true.  
 Date 29 Aug 57 F. R. Corsetti  
 Signature of Licensee

310/52



GROUND WATER BRANCH  
SEP 15 1962 No 2176  
ONTARIO WATER RESOURCES COMMISSION

UTM 118 4537610 E

15 R 561175610 N

The Ontario Water Resources Commission Act

Elev: 4 R 03115

# WATER WELL RECORD

Basin 251  
County or District CARLETON

Township, Village, Town or City GLOUCESTER

Con. HRF Lot 21

Date completed 20 JULY 62  
(day month year)

Address BILLINGS BRIDGE

## Casing and Screen Record

Inside diameter of casing .....  
Total length of casing ..... 184  
Type of screen .....  
Length of screen .....  
Depth to top of screen .....  
Diameter of finished hole ..... 4

## Pumping Test

Static level ..... 6  
Test-pumping rate ..... 6 G.P.M.  
Pumping level ..... 8  
Duration of test pumping ..... 1HR  
Water clear or cloudy at end of test ..... CU  
Recommended pumping rate ..... 6 G.P.M.  
with pump setting of 30 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 18

Limestone

18 45

45

F

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

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

Drilling or Boring Firm M MEDSTER

Address 65 DUNDAS

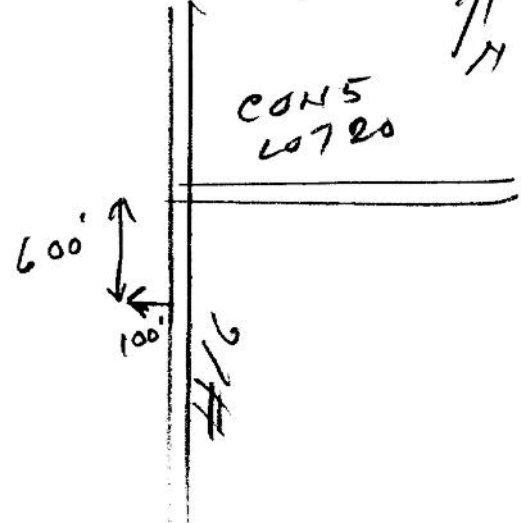
Licence Number 612  
Name of Driller or Borer 311416

Address .....  
Date Aug 28

(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.



# 864  
 UTM 1182 453191710<sup>E</sup>  
5<sup>R</sup> 50717101810<sup>N</sup>  
 Elev. 4<sup>R</sup> 103310  
 Basin 215 221

310/52



ONTARIO

The Water-well Drillers Act, 1954  
 Department of Mines

15 No 2177

GROUND WATER BRANCH  
 19  
 MAY 20 1957  
 ONTARIO WATER  
 RESOURCES COMMISSION

# Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester  
 in Village, Town or City  
 Address 46 Lawrence St Ottawa

(day) (month) (year)

Pipe and Casing Record		Pumping Test	
Casing diameter (s) <u>2"</u>	.....	Static level <u>6</u>	.....
Length (s) <u>21</u>	.....	Pumping rate <u>800 G.P.H</u>	.....
Type of screen	.....	Pumping level <u>2.5 ft</u>	.....
Length of screen	.....	Duration of test <u>2 hr</u>	.....

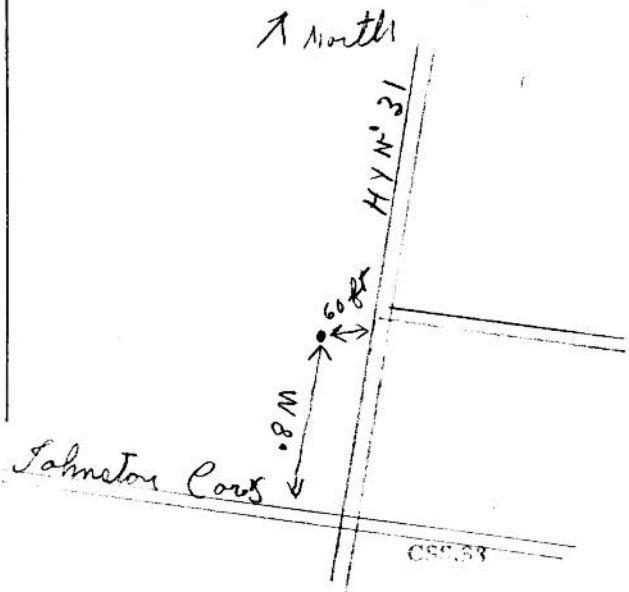
Well Log	Water Record				
Overburden and Bedrock Record	From ft.	To ft.	Depth (s) at which water (s) found	No. of feet water rises	Kind of water (fresh, salty, or sulphur)
<u>Sand</u>	<u>0</u>	<u>7</u>	<u>60</u>	<u>54</u>	<u>Fresh</u>
<u>Boulders and Sand</u>	<u>7</u>	<u>20</u>			
<u>Wt Sandstone</u>	<u>20</u>	<u>60</u>			

For what purpose(s) is the water to be used? Home  
 Is water clear or cloudy? Clear  
 Is well on upland, in valley, or on hillside? Upland  
 Drilling firm F. R. Corbett  
 Address 122 Base line rd  
city view  
 Name of Driller F. R. Corbett  
 Address .....  
 Licence Number 395

I certify that the foregoing statements of fact are true.

Date May 14/57 F. R. Corbett  
 Signature of Licensee

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



316/52  
 UTM 118<sup>W</sup> 4151310<sup>E</sup> 990  
 19<sup>R</sup> 510116121910<sup>N</sup>  
 Eley. 19<sup>R</sup> 0173131  
 Basin 215  
 Con IV  
 104 22



The Water-well Drillers Act, 1954  
 Department of Mines



# Water-Well Record

County or Territorial District Carleton Township, Village, Town or City Gloucester  
 Address Belting Bridge  
 (day) (month) (year)

## Pipe and Casing Record

## Pumping Test

Casing diameter (s) <u>4"</u>	Static level <u>13</u>
Length (s) <u>23 feet</u>	Pumping rate <u>240 gal PH</u>
Type of screen <u>1</u>	Pumping level <u>50 feet</u>
Length of screen	Duration of test <u>1 hour</u>

## 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>hard gravel</u>			<u>48 feet</u>	<u>37'</u>	<u>fresh</u>
<u>Clay &amp; Sand</u>	<u>0</u>	<u>18</u>			<u>low yield</u>
<u>&amp; boulders</u>					
<u>Very hard limestone</u>	<u>18</u>	<u>50</u>			
<u>Stone Rock</u>					

For what purpose(s) is the water to be used?  
house hold use only  
 Is water clear or cloudy? Clear  
 Is well on upland, in valley, or on hillside?  
uplands  
 Drilling firm  
 Address  
 Name of Driller James Kettle  
 Address (Perryville)  
 Licence Number 337

I certify that the foregoing statements of fact are true.

Date August 5 James Kettle  
 Signature of Licensee

## Location of Well

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



L.P.

316/52



GROUND WATER BRANCH  
NOV 14 1961  
15  
ONTARIO WATER RESOURCES COMMISSION

2170

UTM 18Z 45738610<sup>E</sup>

15R 5101173310<sup>N</sup>

The Ontario Water Resources Commission Act

Elev. 7 16 3 2 15

# WATER WELL RECORD

Basin 215 | 1 | Carleton

Township, Village, Town or City Gloucester

County or District 4 R F Lot P.T.22

Date completed 6 10 1961  
(day month year)

Address 28 Clarence St. Ottawa 2, Ont.

### Casing and Screen Record

Inside diameter of casing 6 3/16

Total length of casing 21'

Type of screen

Length of screen

Depth to top of screen NONE

Diameter of finished hole 6"

### Pumping Test

Static level 20'

Test-pumping rate 80 G.P.M.

Pumping level 70'

Duration of test pumping 1 hr.

Water clear or cloudy at end of test clear

Recommended pumping rate 80 G.P.M.

with pump setting of 80 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)
<del>Till and boulders, grey hard lime stone and sand stone.</del>	<del>0</del>	<del>16</del>	<del>85</del>	<del>fresh</del>
<del>SAND STONE</del>	<del>16</del>	<del>25</del>		
<del>Boulder Till</del>	<del>25</del>	<del>89</del>		
<u>Boulder Till</u>	<u>0</u>	<u>16</u>		
<u>HARD GREY LIMESTONE</u>	<u>16</u>	<u>25</u>		
<u>SANDSTONE</u>	<u>25</u>	<u>89</u>	<u>85</u>	<u>FRESH</u>

For what purpose(s) is the water to be used?  
Co-operative

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

Drilling or Boring Firm J. B. Dufresne Co. Ltd.

Address Ottawa, Ontario.

Licence Number 194

Name of Driller or Borer W. Roy

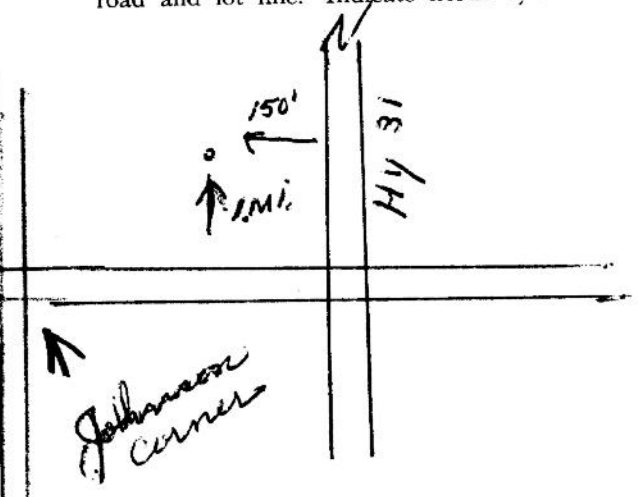
Address Hull

Date Oct 10/60

J.B. Dufresne  
(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.



31G/52



GROUND WATER BRANCH  
15 No 2180  
AUG 15 1961  
ONTARIO WATER  
RESOURCES COMMISSION

UTM 11BZ 4839710E

5R 501171210N

Elev. 4R 9330

The Ontario Water Resources Commission Act

# WATER WELL RECORD

Basin 25 | | | | |  
County or District **CHARLETON**

Township, Village, Town or City **GLOUCESTER**

Con. **4RP** Lot **22**

Date completed **29** **JUNE** **61**  
(day month year)

Address **BILLINGS BRIDGE**

### Casing and Screen Record

Inside diameter of casing **4"**  
Total length of casing **10'**  
Type of screen **—**  
Length of screen **—**  
Depth to top of screen **—**  
Diameter of finished hole **4"**

### Pumping Test

Static level **6'**  
Test-pumping rate **8** **4** G.P.M.  
Pumping level **8**  
Duration of test pumping **1HR**  
Water clear or cloudy at end of test **CLEAR**  
Recommended pumping rate **4** G.P.M.  
with pump setting of **30'** 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)
<b>LOAM</b>	<b>0</b>	<b>6</b>		
<b>GREY Limestone</b>	<b>6</b>	<b>55</b>	<b>55</b>	<b>FRESH</b>

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

**HOUSE**

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

Drilling or Boring Firm

**M MEAGHER**

Address

**OTTAWA**

Licence Number

**245**

Name of Driller or Borer

**SAME**

Address

Date

**AUG 9/61**

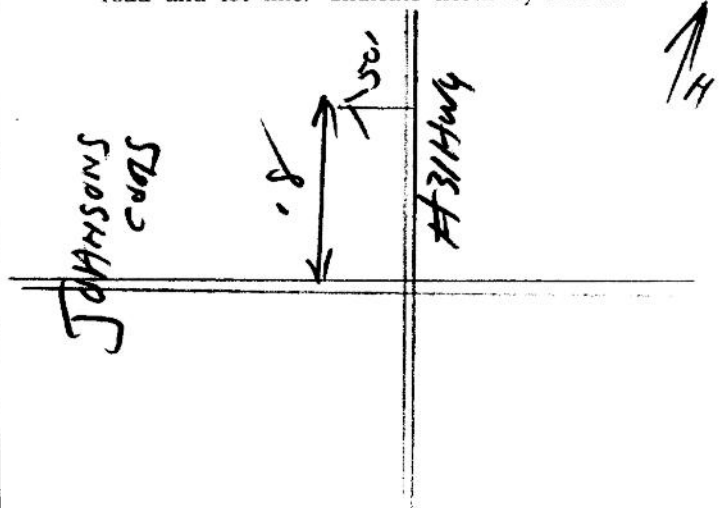
(Signature of Licensed Drilling or Boring Contractor)

*M Meagher*

Form 7 15M Sets 60-5930

### Location of Well

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



UTM 118<sup>Z</sup> 41513181010<sup>E</sup>

316/52



GROUND WATER BRANCH  
15 No  
SEP 5 1962  
ONTARIO WATER RESOURCES COMMISSION

~~2181~~

5<sup>R</sup> 570117151310<sup>N</sup>  
The Ontario Water Resources Commission Act

Elev. 4<sup>R</sup> 213115

# WATER WELL RECORD

Basin 215 County or District CHARLETON Township, Village, Town or City GLoucester

Con. 4RF Lot 2122 Date completed 26 JULY 62  
(day month year)



Address BILLINGS BRIDGE

### Casing and Screen Record

Inside diameter of casing 4  
Total length of casing 21  
Type of screen -  
Length of screen -  
Depth to top of screen -  
Diameter of finished hole 4

### Pumping Test

Static level 8  
Test-pumping rate 5 G.P.M.  
Pumping level 10  
Duration of test pumping 1 HR  
Water clear or cloudy at end of test cc  
Recommended pumping rate 5 G.P.M.  
with pump setting of 30 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)
<u>CLAY</u>	<u>0</u>	<u>21</u>		
<u>Limestone</u>	<u>21</u>	<u>46</u>	<u>46</u>	<u>F</u>

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

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

Drilling or Boring Firm MMEAGHER

Address OTTAWA

Licence Number 618

Name of Driller or Borer SDME

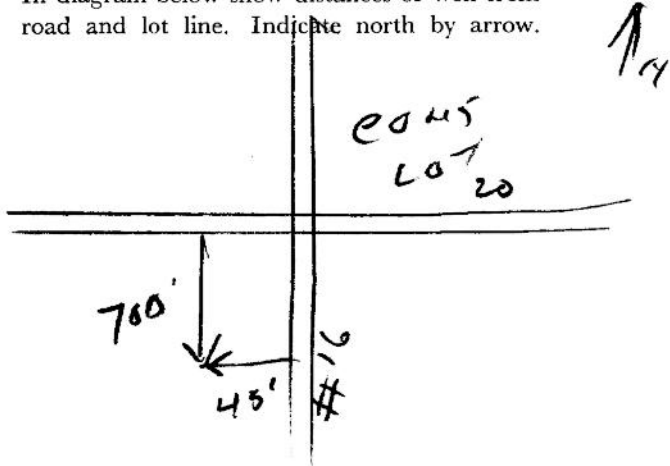
Address OTTAWA

Date NOV 24

Mmeagher  
(Signature of Licensed Drilling or Boring Contractor)

### Location of Well

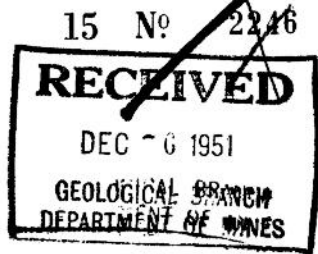
In diagram below show distances of well from road and lot line. Indicate north by arrow.



UTM 118Z 415318410E  
5R 51011718510N  
Elev. 4R 03105  
Basin 25



The Well Drillers Act  
Department of Mines, Province of Ontario



# Water Well Record

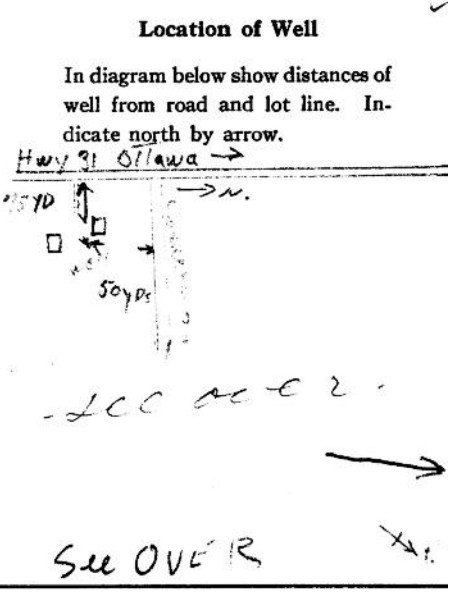
Township, Village, Town or City CARLTON Township, Village, Town or City Gloucester  
Town or City  
ss Leitrim  
Date Completed 7/20 (day) 1951 (month) 1951 (year) Cost of well (excluding pump) \$327.00

Pipe and Casing Record	Pumping Test
Casing diameter(s) <u>5"</u>	Date <u>Nov 24</u>
Length(s) of casing(s) <u>0</u>	Static level <u>5'</u>
Type of screen <u>—</u>	Pumping level <u>20'</u>
Length of screen <u>—</u>	Pumping rate <u>2 GPM</u>
Distance from top of screen to ground level <u>—</u>	Duration of test <u>30 Min</u>
Is well a gravel-wall type? <u>No</u>	Distance from cylinder or bowls to ground level <u>—</u>

### Water Record

Kind (fresh or mineral) <u>Fresh</u> Quality (hard, soft, contains iron, sulphur, etc.) <u>hard</u> Appearance (clear, cloudy, coloured) <u>clear</u> For what purpose(s) is the water to be used? <u>Farm</u>	Depth(s) to Water Horizon(s)	Kind of Water	No. of Feet Water Rises
	How far is well from possible source of contamination? <u>100' BRRN</u> What is the source of contamination? <u>BRRN</u> Enclose a copy of any mineral analysis that has been made of water	<u>30'</u> <u>60'</u> <u>79'</u>	<u>good</u> " "

Well Log		
Overburden and Bedrock Record	From	To
<u>BOULDER Till</u>	0 ft.	5 ft.
<u>SANDSTONE</u>	5'	20'



Situation: Is well on upland, in valley, or on hillside? up land  
Drilling Firm F. H. McW. KINN & SON  
Address 195 JAMES ST.  
Name of Driller M. Renaud Address \_\_\_\_\_  
Date Nov Dec 1, 50 Licence Number \_\_\_\_\_



UTR *R.F.* *316/52*  
*25* | *4540610* | E



15 No 2248

*15* | *21* | *50* | *11* | *7* | *8* | *7* | *9* | N The Ontario Water Resources Commission Act

Elev. *4* R | *03110*

# WATER WELL RECORD

Basin *25* | District *CARLETON*

Township, Village, Town or City *GLOUCESTER*

Con. *5 RP* Lot *21*

Date completed *25* *4* *1966*  
(day month year)

Address *P.O. BOX 212 R.R.#6 OTTAWA, ONT.*

### Casing and Screen Record

Inside diameter of casing *6 1/4"*  
Total length of casing *21' 3"*  
Type of screen  
Length of screen  
Depth to top of screen  
Diameter of finished hole *6"*

### Pumping Test

Static level *14'*  
Test-pumping rate *3* G.P.M.  
Pumping level *80*  
Duration of test pumping *1 1/2 HRS*  
Water clear or cloudy at end of test *CLEAR*  
Recommended pumping rate *3* G.P.M.  
with pump setting of *90* 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>TOP SOIL</i>	<i>0</i>	<i>1</i>		
<i>CLAY</i>	<i>1</i>	<i>6</i>		<i>FRESH</i>
<i>SANDSTONE</i>	<i>6</i>	<i>98</i>	<i>80 - 97</i>	

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

### Location of Well

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

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

Drilling or Boring Firm *MCLEAN WATER SUPPLY LTD.*

Address *1532 RAVEN AVE OTTAWA, ONT.*

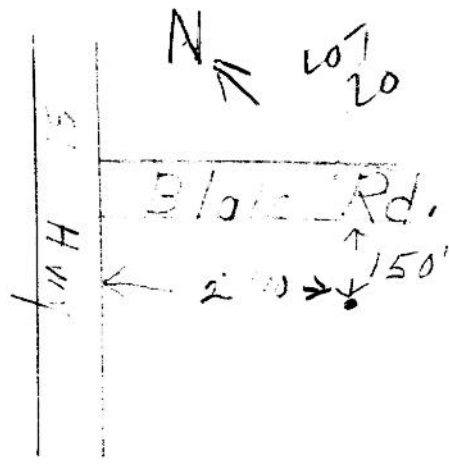
Licence Number *2154*

Name of Driller or Borer *LOUIS BURROWS*

Address

Date *APR. 26 - 1966*

*A. S. Schaefer*  
(Signature of Licensed Drilling or Boring Contractor)





WATER RESOURCES DIVISION  
 15 No. 2249  
 DEC 14 1966  
 ONTARIO WATER RESOURCES COMMISSION

UTM | 18Z | 453960E

| 5R | 5017880N

The Ontario Water Resources Commission Act

Elev. | 4R | 0300

# WATER WELL RECORD

Basin | 25 | 1 | Carl

Township, Village, Town or City *Georgetown*

Con. *5* | *1P* Lot *21*

Date completed *19* *Nov.* *1966*  
(day month year)

Address *RR #3 Metcalfe Ont*

### Casing and Screen Record

Inside diameter of casing *5"*  
 Total length of casing *20'*  
 Type of screen  
 Length of screen  
 Depth to top of screen  
 Diameter of finished hole *5"*

### Pumping Test

Static level *15*  
 Test-pumping rate *5* G.P.M.  
 Pumping level *45*  
 Duration of test pumping *1 hr*  
 Water clear or cloudy at end of test *cloudy*  
 Recommended pumping rate *5* G.P.M.  
 with pump setting of *75'* feet below ground surface

### Well Log

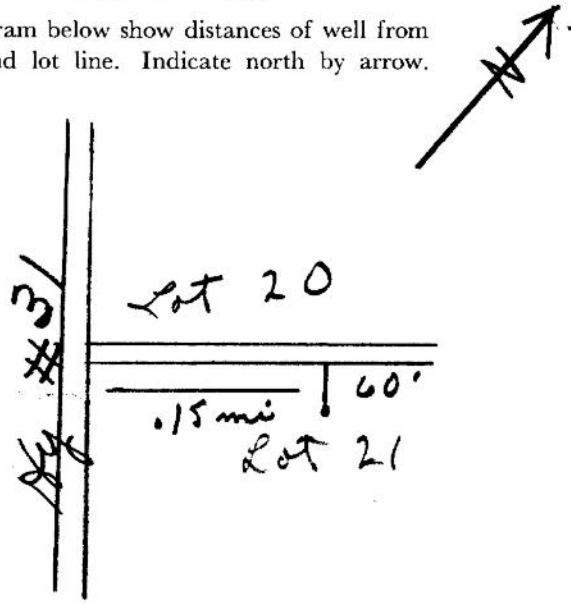
### Water Record

Overburden and Bedrock Record	From ft.	To ft.	Depth(s) at which water(s) found	Kind of water (fresh, salty, sulphur)
<i>sand fill</i>	<i>0</i>	<i>4</i>	<i>83</i>	<i>fresh</i>
<i>sandstone</i>	<i>4</i>	<i>85</i>		

For what purpose(s) is the water to be used? *old house*  
 Is well on upland, in valley, or on hillside? *upland*  
 Drilling or Boring Firm *Capital Water Supply*  
 Address *14 Ashford Dr Ottawa 6*  
 Licence Number *2158*  
 Name of Driller or Borer *A Scott*  
 Address  
 Date *Nov 19, 1966*  
*Walter Lavanagh*  
(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.



316/52



WATER RESOURCES DIVISION No. 2250 JAN 19 1965 ONTARIO WATER RESOURCES COMMISSION

UTM 18Z 4541110E

5R 5611619210N

The Ontario Water Resources Commission Act

Elev. 423

# WATER WELL RECORD

Basin 251 Curleton

Township, Village, Town or City Gloucester

Con. V B F Lot 23

Date completed 14 Dec 1964

Address Box 254 RR6, Ottawa

### Casing and Screen Record

Inside diameter of casing 5"

Total length of casing 10'

Type of screen none

Length of screen -

Depth to top of screen -

Diameter of finished hole 5"

### Pumping Test

Static level 20'

Test-pumping rate 4 G.P.M.

Pumping level 65'

Duration of test pumping 1 1/2 hrs

Water clear or cloudy at end of test cloudy

Recommended pumping rate 4 G.P.M.

with pump setting of 75 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)
loam	0	2		
Hard Sandstone	2	65		
Red Granite	65	79	60-79	fresh

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

house

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

Drilling or Boring Firm

McWean Water Supply Ltd

Address 1532 Raven Ave

Ottawa

Licence Number 1328

Name of Driller or Borer H. Sally

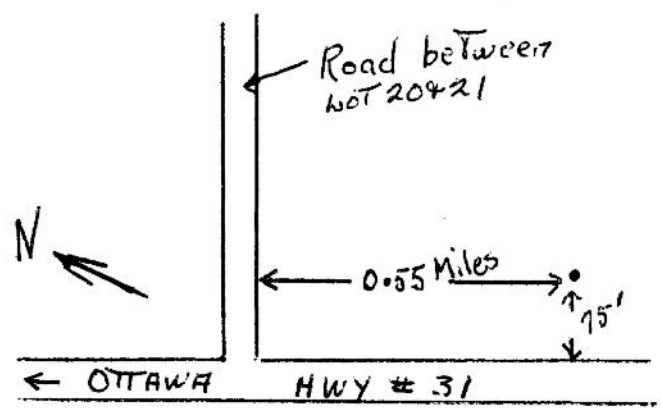
Address

Date Dec 17, 1964

(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 18 453 890  
 524 5017040  
 Elev. 4 0308  
 Section 25T



**CODED**  
 The Ontario Water Resources Commission Act  
**WATER WELL RECORD**

County or District **Carleton** Township, Village, Town or City **Gloucester**  
 Con. **RF 5** Lot **2021** Date completed **6 December 1968**  
 (day month year)  
 address **Long Sault, Ontario**

**Casing and Screen Record**

Inside diameter of casing **6"**  
 Total length of casing **15'**  
 Type of screen **nil**  
 Length of screen **n/a**  
 Depth to top of screen **n/a**  
 Diameter of finished hole **6"**

**Pumping Test**

Static level **2'**  
 Test-pumping rate **10** G.P.M.  
 Pumping level **5'**  
 Duration of test pumping **1 Hour**  
 Water clear or cloudy at end of test **cloudy**  
 Recommended pumping rate **10** G.P.M.  
 with pump setting of **25'** 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)
<b>Closely packed Boulders</b>	<b>0'</b>	<b>13'</b>		
<b>Very Abrasive Sandstone</b>	<b>13'</b>	<b>63'</b>	<b>60'</b>	<b>fresh</b>

For what purpose(s) is the water to be used?  
**Trailer Sales Depot**

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

Drilling or Boring Firm  
**Blair Phillips Drilling Co. Ltd.,**

Address **1119 Palaise Road, Ottawa 5, Ontario.**

Licence Number **2779**

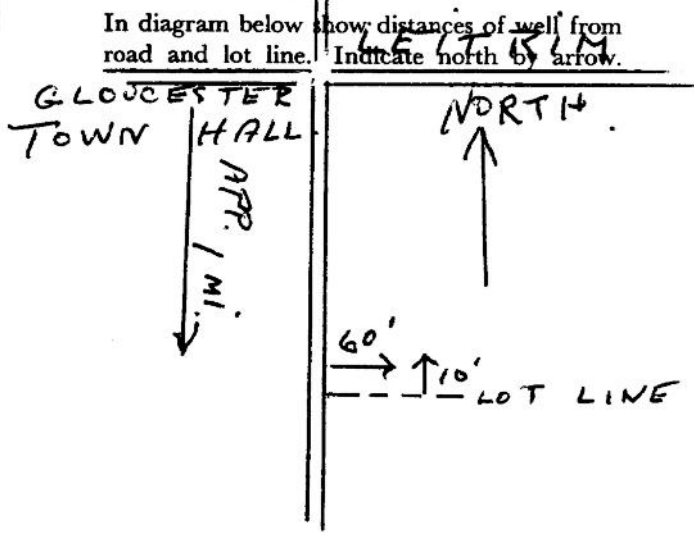
Name of Driller or Borer **J. Moore**

Address **Kars, Ontario**

Date **6 December 1968**

(Signature of Licensed Drilling or Boring Contractor)  
*Blair Phillips*

**Location of Well**





# WATER WELL RECORD

Water management in Ontario 1. PRINT ONLY IN SPACES PROVIDED

2. CHECK  CORRECT BOX WHERE APPLICABLE

11

17510717

MUNICIP.

CON.

15000 RF

CL 05

COUNTY OR DISTRICT

CARLETON

TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE

GLoucester

CON., BLOCK, TRACT, SURVEY, ETC.

RF

LOT 25-27

023

DATE COMPLETED

DAY 15 MO FEB YR 70

31 HIGHWAY KEITRUM  
NO. 016920 RC. ELEVATION 4 0342 RC. BASIN CODE 14 125

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
BROWN	RUBBLE	(FILLED IN LOT TO HIGHWAY GRADE)		0	6
GREY	LIMESTONE			6	52

31 0000013 0052215  
32

**41 WATER RECORD**

WATER FOUND AT - FEET: 0050

10-13	<input checked="" type="checkbox"/> FRESH <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL
15-18	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL
20-23	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL
25-28	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY	3 <input type="checkbox"/> SULPHUR 4 <input type="checkbox"/> MINERAL
30-33	<input type="checkbox"/> FRESH <input type="checkbox"/> SALTY	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
06-10-11	<input checked="" type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE	188	0	0020
17-18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input checked="" type="checkbox"/> OPEN HOLE			20-23
24-25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE			27-30

**SCREEN**

SIZE(S) OF OPENING (SLOT NO.):

DIAMETER: 31-33

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.)
FROM	TO	
10-13	14-17	
18-21	22-25	
26-29	30-33	

**71 PUMPING TEST**

PUMPING TEST METHOD:  PUMP  BAILER

PUMPING RATE: 0006 GPM

DURATION OF PUMPING: 22 HOURS 00 MINS

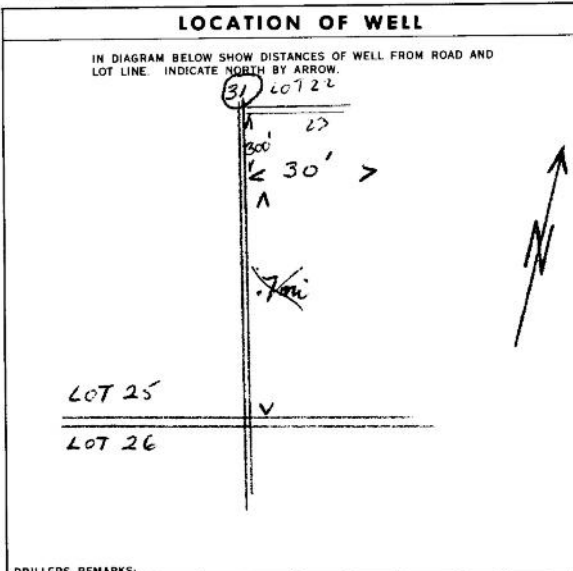
WATER LEVELS DURING PUMPING:

19-21	007	22-24	015	26-28	007	29-31	007	32-34	007	35-37	007
-------	-----	-------	-----	-------	-----	-------	-----	-------	-----	-------	-----

RECOMMENDED PUMP TYPE:  DEEP  SHALLOW

RECOMMENDED PUMP SETTING: 040 FEET

RECOMMENDED PUMPING RATE: 0005 GPM



**FINAL STATUS OF WELL**

WATER SUPPLY  OBSERVATION WELL  TEST HOLE  RECHARGE WELL

ABANDONED, INSUFFICIENT SUPPLY  ABANDONED, POOR QUALITY  UNFINISHED

**WATER USE** 05

DOMESTIC  STOCK  IRRIGATION  INDUSTRIAL  OTHER

COMMERCIAL  MUNICIPAL  PUBLIC SUPPLY  COOLING OR AIR CONDITIONING  NOT USED

**METHOD OF DRILLING**

CABLE TOOL  ROTARY (CONVENTIONAL)  ROTARY (REVERSE)  ROTARY (AIR)  AIR PERCUSSION

BORING  DIAMOND  JETTING  DRIVING

**CONTRACTOR**

NAME OF WELL CONTRACTOR: W. MOLOUGHNEY

LICENCE NUMBER: 3701

ADDRESS: 1110 FISHER

NAME OF DRILLER OR BORER: W. MOLOUGHNEY

LICENCE NUMBER:

SIGNATURE OF CONTRACTOR: [Signature]

SUBMISSION DATE: DAY 11 MO FEB YR 71

**OFFICE USE ONLY**

DATA SOURCE: 1

CONTRACTOR: 3701

DATE RECEIVED: 230271

DATE OF INSPECTION:

INSPECTOR:

REMARKS:

P/WI



# The Ontario Water Resources Commission Act WATER WELL RECORD

31/5/50

Water management in Ontario 1. PRINT ONLY IN SPACES PROVIDED  
2. CHECK  CORRECT BOX WHERE APPLICABLE

MUNICIP. 11 1512265-15002 RF 05  
CON. 15

COUNTY OR DISTRICT Carleton TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE Gloucester BLOCK, TRACT, SURVEY, ETC. 5 RF 8-11-2022  
OWNER (SURNAME, FIRST, LAST) ADDRESS DATE COMPLETED DAY 24 MO. Nov. YR. 72

DEPTH (FEET) 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
ELEVATION (FEET) 4 9336 25 26 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

### LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Clay	Sand & Stones	Sandy Clay & Stones	0	3
			Med. gray limestone	3	48

31 0003652812 0048115  
32

41 WATER RECORD

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

51 CASING & OPEN HOLE RECORD

INSIDE DIA. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
06	<input checked="" type="checkbox"/> STEEL	12	13-16
6*	<input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE	.250	0+6" 12+1/2"
17-18	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input checked="" type="checkbox"/> OPEN HOLE		20-23
24-25	<input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE		27-30

60 SIZES(S) OF OPENING (SLOT NO.) 31-33 DIAMETER 34-38 LENGTH 39-40

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

PUMPING TEST

10 PUMPING RATE 0008 GPM. 11-14 DURATION OF PUMPING 01 HOURS 00 MINS. 15-16 17-18

19-21 STATIC LEVEL 004 FEET 22-24 WATER LEVEL END OF PUMPING 048 FEET

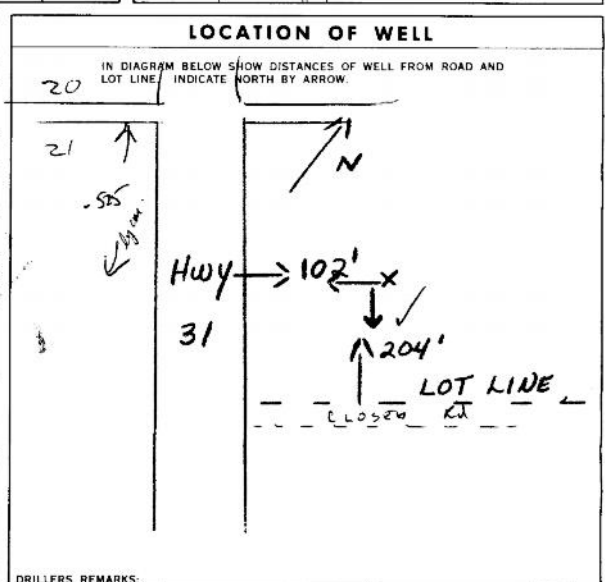
25 WATER LEVELS DURING PUMPING

15 MINUTES	30 MINUTES	45 MINUTES	60 MINUTES
004 FEET	004 FEET	004 FEET	004 FEET

38-41 PUMP INTAKE SET AT 48 FEET 42 WATER AT END OF TEST

43-45 RECOMMENDED PUMP SETTING 030 FEET 46-49 RECOMMENDED PUMPING RATE 0008 GPM.

50-53 000.2 GPM./FT. SPECIFIC CAPACITY



54 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

55-56 WATER USE 01

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

57 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

NAME OF WELL CONTRACTOR F. E. Johnston Drilling Co. LICENCE NUMBER 3002  
ADDRESS P.O. Box 4134, Str "E" Ottawa, Ont.  
DATE OF DRILLER OR BOREHOLE INSPECTION  
SUBMISSION DATE  
DAY MO YR

OFFICE USE ONLY

DATA SOURCE 1 3002 150173  
DATE OF INSPECTION INSPECTOR K  
REMARKS P X  
WI

PHOTOCOPY

Well ID Number: 1512375  
Well Audit Number:  
Well Tag Number:

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

## Well Location

Address of Well Location	
Township	GLOUCESTER TOWNSHIP
Lot	022
Concession	RF 04
County/District/Municipality	OTTAWA-CARLETON
City/Town/Village	
Province	ON
Postal Code	n/a
UTM Coordinates	NAD83 — Zone 18 Easting: 454020.70 Northing: 5017262.00
Municipal Plan and Sublot Number	
Other	

## Overburden and Bedrock Materials Interval

General Colour	Most Common Material	Other Materials	General Description	Depth From	Depth To
BRWN	OBDN	SAND		0 ft	9 ft
WHIT	SNDS			9 ft	74 ft

## Annular Space/Abandonment Sealing Record

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

## Method of Construction & Well Use

Method of Construction	Well Use
Diamond	Domestic

## Status of Well

Water Supply

## Construction Record - Casing

Inside Diameter	Open Hole or material	Depth From	Depth To
2 inch	GALVANIZED		20 ft
	OPEN HOLE		74 ft

## Construction Record - Screen

Outside Diameter	Material	Depth From	Depth To
------------------	----------	------------	----------

## Well Contractor and Well Technician Information

Well Contractor's Licence Number: 1703

## Results of Well Yield Testing

After test of well yield, water was	CLEAR
If pumping discontinued, give reason	
Pump intake set at	
Pumping Rate	8 GPM
Duration of Pumping	2 h:0 m
Final water level	12 ft
If flowing give rate	
Recommended pump depth	35 ft
Recommended pump rate	8 GPM
Well Production	PUMP
Disinfected?	

## Draw Down & Recovery

Draw Down Time(min)	Draw Down Water level	Recovery Time(min)	Recovery Water level
SWL	6 ft		
1		1	
2		2	
3		3	
4		4	
5		5	
10		10	
15	12 ft	15	
20		20	
25		25	
30	12 ft	30	
40		40	
45	12 ft	45	
50		50	
60	12 ft	60	

## Water Details

Water Found at Depth	Kind
74 ft	Fresh

## Hole Diameter

Depth From	Depth To	Diameter
------------	----------	----------

Audit Number:

Date Well Completed: November 27, 1972

Date Well Record Received by MOE: March 07, 1973

Updated: February 2, 2018

Rate [Rate](#)

Share [facebook](#) [twitter](#) [Print](#)

Tags

- [Environment and energy.](#)





Ontario

# MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act WATER WELL RECORD

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

11

1513436

MUNICIPALITY: 15.004 R.F. CON. 16/5a

31, 9/5a  
16/4

COUNTY OR DISTRICT <b>LETRIM Ottawa-Carleton</b>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <b>GLOUCESTER</b>	CON. BLOCK, TRACT, SURVEY, ETC. <b>IV RF</b>	LOT 25-27 <b>222</b>
OWNER (SURNAME FIRST) <b>UNITED CO - OF OF ONTARIO</b>	ADDRESS <b>R. R. #6 OTTAWA, ONTARIO.</b>	DATE COMPLETED <b>DAY 16 NO 08 YR 73</b>	

ZONE <b>18</b>	EASTING <b>4, 23, 8, 5, 0</b>	NORTHING <b>50, 17, 2, 1, 5</b>	RC <b>6</b>	ELEVATION <b>030.3</b>	RC <b>4</b>	BASIN CODE <b>26</b>
-------------------	----------------------------------	------------------------------------	----------------	---------------------------	----------------	-------------------------

### LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Top Soil		Soft	0	4
Brown	Soil	Boulder	Hard	4	12
Grey	Limestone	Clay	Soft Porous	12	16
White	Limestone	Limestone Grey	Medium Hard	16	50

31	100/4/92	100/4/21/31	100/4/21/50	100/4/21/5
32				

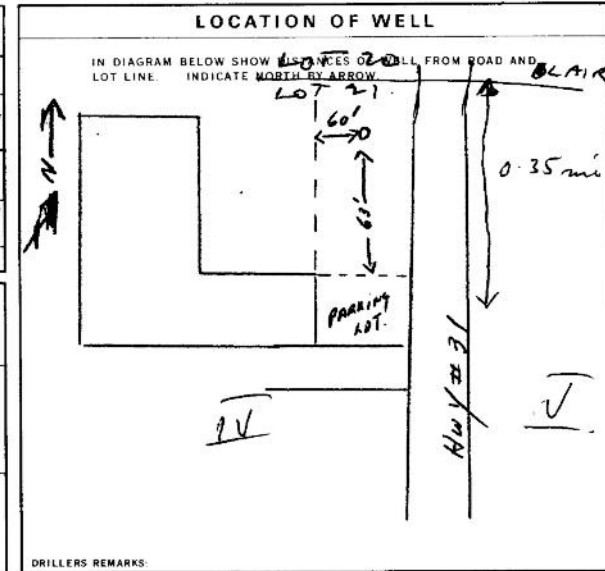
WATER RECORD	
WATER FOUND AT - FEET <b>06.48</b>	KIND OF WATER 1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
15-18	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 2 <input type="checkbox"/> 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

CASING & OPEN HOLE RECORD			
INSIDE DIAM. INCHES <b>06</b>	MATERIAL 1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	WALL THICKNESS INCHES <b>.188</b>	DEPTH - FEET FROM: <b>0</b> TO: <b>22</b>
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input 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	LENGTH
		INCHES	FEET
	MATERIAL AND TYPE	DEPTH TO TOP OF SCREEN	
		FEET	FEET

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
28-29	30-33

PUMPING TEST	
PUMPING TEST METHOD 1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILER	PUMPING RATE GPM <b>0005</b>
WATER LEVEL END OF PUMPING <b>014</b> FEET	WATER LEVELS DURING PUMPING 15 MINUTES: <b>025</b> FEET 30 MINUTES: <b>030</b> FEET 45 MINUTES: <b>030</b> FEET 60 MINUTES: <b>030</b> FEET
RECOMMENDED PUMP TYPE <input checked="" type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP	RECOMMENDED PUMP SETTING GPM <b>030</b>



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

CONTRACTOR <b>HAWTHORNE DRILLING LIMITED</b>	LICENCE NUMBER <b>2557</b>
NAME OF DRILLER OR BORER <b>YVON AUBIN</b>	LICENCE NUMBER <b>2557</b>
SIGNATURE OF CONTRACTOR <i>[Signature]</i>	SUBMISSION DATE DAY <b>25</b> MO <b>08</b> YR <b>73</b>

DATA SOURCE <b>1</b>	CONTRACTOR <b>2557</b>	DATE RECEIVED <b>28 09 73</b>
DATE OF INSPECTION	INSPECTOR <i>[Signature]</i>	
REMARKS: <b>P-R</b>		



Ontario

# WATER WELL RECORD

316/5a

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

11

1574664

MUNICIPALITY 15002 RF

04

COUNTY OR DISTRICT: Carleton Place TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Gloucester CON., BLOCK, TRACT, SURVEY, ETC.: III RF IV LOT 25-27: 022

OWNER (SURNAME FIRST): Canada Industries Ltd ADDRESS: Hwy #31 Ottawa Ont DATE COMPLETED: DAY 20 MO 02 YR 75

ZONE EASTING NORTHING ELEVATION RC BASIN CODE

18 453793 5017090 4 0340 4 26

LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)					
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Sand Gravel	Boulders	Dense	0	13
Black	Shale		Loose	13	30
Grey	Limestone		Sand.	30	111
White	Sandstone		Sand	111	125

31 0013622/1113 0030817 0111215 0125118

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 checked="" 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
10-11	1 <input checked="" type="checkbox"/> PEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE	1.85	0	22
17-18	1 <input type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input checked="" type="checkbox"/> OPEN HOLE		22	0125
22-25	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.)	DIAMETER INCHES	LENGTH 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	

71 PUMPING TEST METHOD

1  PUMP 2  BAILER

PUMPING RATE: 0012 GPM

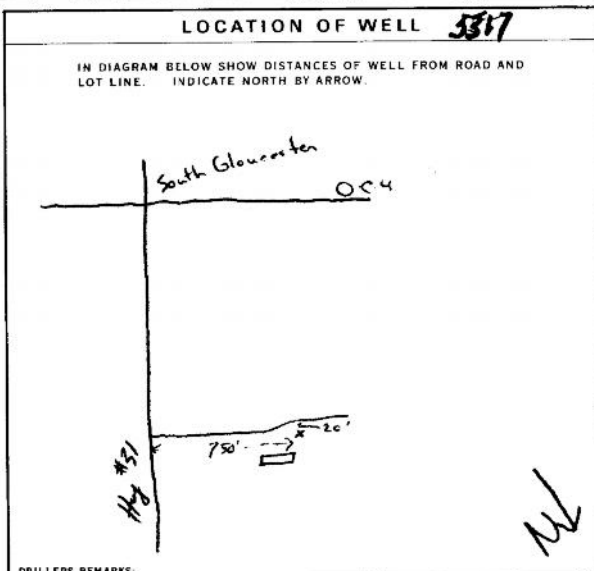
DURATION OF PUMPING: 01 HOURS 15 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING
020	020	15 MINUTES: 020 30 MINUTES: 020 45 MINUTES: 020 60 MINUTES: 020

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP

RECOMMENDED PUMP SETTING: 080 FEET

RECOMMENDED PUMPING RATE: 0008 GPM



FINAL STATUS OF WELL: 1  WATER SUPPLY

WATER USE: 04 INDUSTRIAL

METHOD OF DRILLING: 5 AIR PERCUSSION

CONTRACTOR: Hawthorne Drilling Ltd, Licence Number 2558

NAME OF DRILLER OR BORER: A. Emond, Licence Number 2558

SUBMISSION DATE: DAY 24 MO. 2 YR 75

OFFICE USE ONLY

DATE OF INSPECTION: 2558

INSPECTOR: [Signature]

REMARKS: P  WI



# The Ontario Water Resources Act WATER WELL RECORD

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

11

1594664

COUNTY OR DISTRICT <b>Carleton</b>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <b>Gloucester</b>	CON., BLOCK, TRACT, SURVEY, ETC. <b>111</b>	LOT NO. <b>22</b>
OWNER (SURNAME FIRST) <b>Canadian Industries Ltd.</b>	ADDRESS <b>Hwy # 31</b>	DATE COMPLETED <b>20</b> DAY <b>2</b> NO. <b>2</b> YR. <b>25</b>	
ZONE <b>21</b>	EASTING	NORTHING	ELEVATION

### LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Sand Gravel	Boulders	Dense	0	13
Black	Shale		Loose	13	30
Grey	Limestone		Sandst.	30	111
White	Sandstone		Sand	111	125

31	32
----	----

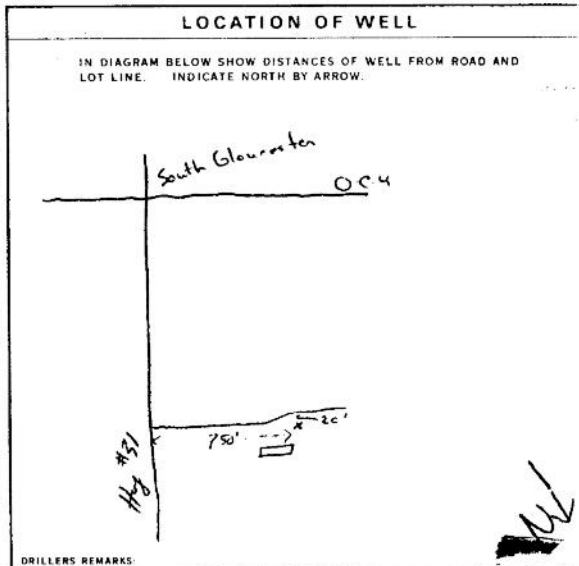
41 WATER RECORD	
WATER FOUND AT - FEET	KIND OF WATER
10-13	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 14
32	2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
15-18	1 <input checked="" type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 19
111	2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
20-23	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 24
	2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
25-28	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 29
	2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL
30-33	1 <input type="checkbox"/> FRESH 3 <input type="checkbox"/> SULPHUR 34
	2 <input type="checkbox"/> SALTY 4 <input type="checkbox"/> MINERAL

51 CASING & OPEN HOLE RECORD				
INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET	
	1 <input checked="" type="checkbox"/> STEEL 12		FROM	TO
6 1/4	2 <input type="checkbox"/> GALVANIZED	185	0	22
	3 <input type="checkbox"/> CONCRETE			
	4 <input type="checkbox"/> OPEN HOLE			
5 7/8	1 <input type="checkbox"/> STEEL 19		22	125
	2 <input type="checkbox"/> GALVANIZED			
	3 <input type="checkbox"/> CONCRETE			
	4 <input type="checkbox"/> OPEN HOLE			
14-25	1 <input type="checkbox"/> STEEL 26			
	2 <input type="checkbox"/> GALVANIZED			
	3 <input type="checkbox"/> CONCRETE			
	4 <input type="checkbox"/> OPEN HOLE			

SCREEN	SIZE (S) OF OPENING (S101 NO.)	DIAMETER	LENGTH
		INCHES	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 18-17	
18-21 22-25	
28-29 30-33	RO

71 PUMPING TEST	
PUMPING TEST METHOD 1 <input checked="" type="checkbox"/> PUMP 2 <input type="checkbox"/> BAILER	PUMPING RATE <b>12</b> GPM
15-16 DURATION OF PUMPING <b>15</b> HOURS	17-18 RECOVERY <b>15</b> MIN.
19-21 STATIC LEVEL <b>20</b> FEET	22-24 WATER LEVELS DURING
25-28 15 MINUTES <b>20</b> FEET	29-31 30 MINUTES <b>20</b> FEET
32-34 45 MINUTES <b>20</b> FEET	35-37 60 MINUTES <b>20</b> FEET
38-41 IF FLOWING GIVE RATE GPM	42-45 PUMP INTAKE SET AT <b>80</b> FEET
46-49 RECOMMENDED PUMP TYPE <input type="checkbox"/> SHALLOW <input checked="" type="checkbox"/> DEEP	50-53 RECOMMENDED PUMP SETTING <b>80</b> FEET
	54-57 RECOMMENDED PUMPING RATE <b>8</b> GPM
	58-61 GPM / FT. SPECIFIC CAPACITY



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 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 checked="" type="checkbox"/> INDUSTRIAL	8 <input type="checkbox"/> COOLING OR AIR CONDITIONING
	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 <b>Hawthorne Drilling Ltd</b>	LICENCE NUMBER <b>2558</b>
	ADDRESS <b>PO Box 4218 Stat. E.</b>	
	NAME OF DRILLER OR BORER <b>A. Emond</b>	LICENCE NUMBER <b>2558</b>
	SIGNATURE OF CONTRACTOR <i>[Signature]</i>	SUBMISSION DATE <b>24</b> DAY <b>2</b> NO. <b>2</b> YR. <b>25</b>

OFFICE USE ONLY	DATA SOURCE	CONTRACTOR	DATE RECEIVED
	DATE OF INSPECTION	INSPECTOR	
REMARKS:			P WI



Ontario

# WATER WELL RECORD

316/5a

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

11 | 1514840 | 15002 RE | 05

COUNTY OR DISTRICT <b>Ottawa</b>	TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE <b>Gloucester</b>	CON., BLOCK, TRACT, SURVEY, ETC. <b>Plot 23</b>	LOT <b>RE 023</b>
OWNER (SURNAME FIRST) <b>Hume Trading Co Ltd</b>	ADDRESS <b>P.O. Box 254 R.R. #6</b>	DATE COMPLETED <b>DAY 11 MO 07 YR 75</b>	

21 | ZONE | 18 | EASTING | 454143 | NORTHING | 5016952 | 4 | ELEVATION | 0345 | RC | 4 | BASIN CODE | 26

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	Top Soil		Top Soil	0	3
Grey	Limestone		Bed	3	135

31 | 0003602 | 0135216

32

4. WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-12	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
06	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	20.00
06	1 <input checked="" type="checkbox"/> STEEL 2 <input type="checkbox"/> GALVANIZED 3 <input type="checkbox"/> CONCRETE 4 <input type="checkbox"/> OPEN HOLE		20	0135

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 METHOD

1  PUMP 2  BAILER

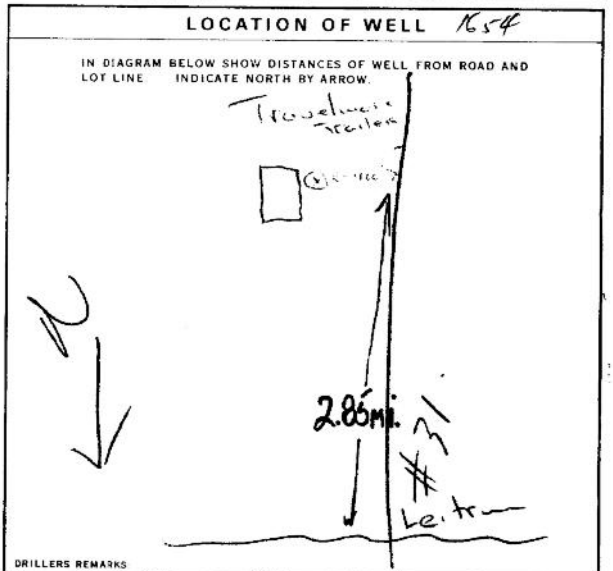
PUMPING RATE: 0009 GPM

DURATION OF PUMPING: 01 HOURS 10 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	RECOMMENDED PUMP TYPE	RECOMMENDED PUMP SETTING	RECOMMENDED PUMP RATE
020	090	090 090 090 090	1 <input type="checkbox"/> SHALLOW 2 <input checked="" type="checkbox"/> DEEP	090	0006

IF FLOWING, GIVE RATE: 90 GPM

30-33: 000.1 GPM/FT SPECIFIC CAPACITY



FINAL STATUS OF WELL: 1  WATER SUPPLY

WATER USE: 01

METHOD OF DRILLING: 5

CONTRACTOR: Hume Thorne Drilling Ltd

ADDRESS: P.O. Box 9218 St. E. Ottawa

DRILLER FOR BORER: Emerald

SUBMISSION DATE: DAY 15 MO 7 YR 75

OFFICE USE ONLY

DATA SOURCE: 1

CONTRACTOR: 2537

DATE RECEIVED: 08 08 75

DATE OF INSPECTION: [blank]

INSPECTOR: [blank]

REMARKS: [blank]

P

WI



# MINISTRY OF THE ENVIRONMENT The Ontario Water Resources Act WATER WELL RECORD

316-5a

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

(11) 1516052

MUNICIPALITY 15002 CON. BLOCK TRACT SURVEY, ETC. RF II OS  
22 23 24

COUNTY OR DISTRICT <b>Carleton</b>	TOWNSHIP, BOROUGH, CITY, TOWNSHIP, VILLAGE <b>Gloucester</b>	CON. BLOCK TRACT SURVEY, ETC. <b>5</b>	DATE COMPLETED DAY 13 MONTH 07 YEAR 77
OWNER (SURNAME FIRST) <b>Melco Investors Corp.</b>	ADDRESS <b>934 Sadler Cres. Ottawa, Ont. K2B 5H7</b>		48-53 <b>022</b>

(21) ZONE 18 EASTING 454099 NORTHING 5017399 HEIGHT 0330 BASIN CODE 9 A 6

GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
brown	sand	clay & boulders	fill	0	7
black	muck		soft	7	9
grey	hardpan	boulders	packed	9	26
grey	limestone		medium	26	43
grey	sandstone		hard	43	178

(31) 00070280519 000980385 00262141379 004321578 017821873

(41) WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
0175	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
15-18	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
20-23	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
25-28	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL
30-33	1 FRESH 3 SULPHUR 2 SALTY 4 MINERAL

(51) CASING & OPEN HOLE RECORD

INSIDE DIAM. INCHES	MATERIAL	WALL THICKNESS INCHES	DEPTH - FEET
6 1/2	STEEL	188	0 0028
06	GALVANIZED		28 278
06	STEEL		0178
24-25	STEEL		27-30

(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 PUMP 2 BAILEY

PUMPING RATE: 0015 GPM

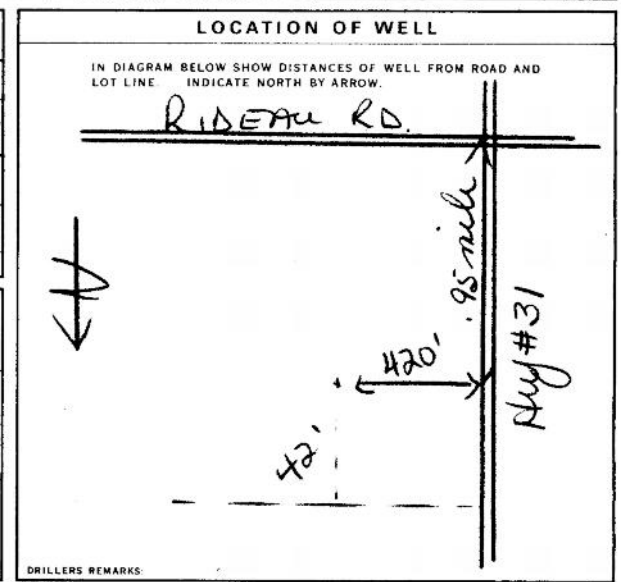
DURATION OF PUMPING: 01 HOURS 00 MINS

STATIC LEVEL	WATER LEVEL END OF PUMPING	WATER LEVELS DURING	RECOVERY
030 FEET	065 FEET	065 FEET 065 FEET 065 FEET 065 FEET	

RECOMMENDED PUMP TYPE: 1 CLEAR 2 CLOUDY

RECOMMENDED PUMP SETTING: 075 FEET

RECOMMENDED PUMPING RATE: 0005 GPM



FINAL STATUS OF WELL: 1 WATER SUPPLY

WATER USE: 01 DOMESTIC

METHOD OF DRILLING: 5 CABLE TOOL

CONTRACTOR: Capital Water Supply Ltd. Licence Number: 1558

Address: Box 490 Stittsville, Ontario

Name of Driller or Borer: Kavanagh

Submission Date: DAY 15 NO 7 YEAR 77

OFFICE USE ONLY

DATA SOURCE: 1

CONTRACTOR: 1558

DATE RECEIVED: 080877

DATE OF INSPECTION: Inspector: Kn.

REMARKS: P, WI



Ministry  
of the  
Environment  
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1517349

MUNICIPALITY

15002

CONTRACTOR

021

05

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

COUNTY OR DISTRICT: Ottawa C. D. TOWNSHIP, BOROUGH, CITY, TOWN, VILLAGE: Bluestem CON. BLOCK, TRACT, SURVEY, ETC.: 5 R.F. LOT: 25-27

DATE COMPLETED: 09 MO 06 DAY 19 YR 80

WELL NO.: 017699 RC: 14 ELEVATION: 0305 RC: 14 BASIN CODE: 26

## LOG OF OVERBURDEN AND BEDROCK MATERIALS (SEE INSTRUCTIONS)

GENERAL COLOUR	POST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
Brown	sandy soil	stone		0	8
Brown	hard	granite rock		8	27

31 00086021281 00276211373

32

41 WATER RECORD

WATER FOUND AT - FEET	KIND OF WATER
10-15	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 1/4	2 STEEL		0-18
6 1/4	2 GALVANIZED	188	18-30
	3 CONCRETE		
	4 OPEN HOLE		

SCREEN

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

MATERIAL AND TYPE: \_\_\_\_\_ DEPTH TO TOP OF SCREEN: \_\_\_\_\_ FEET

61 PLUGGING & SEALING RECORD

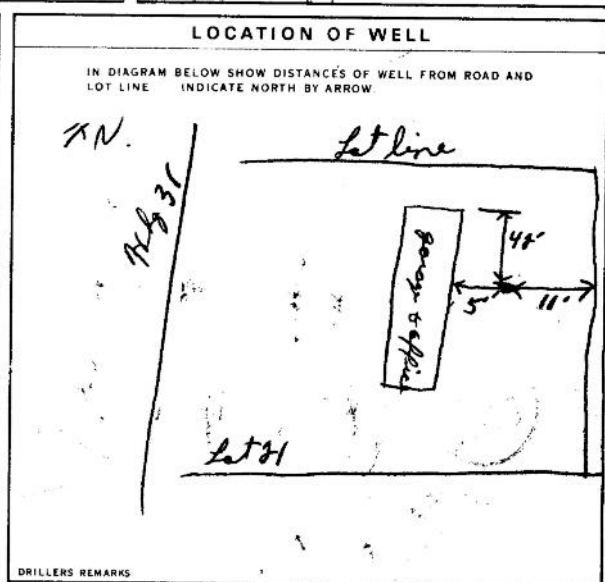
DEPTH SET AT - FEET	MATERIAL AND TYPE	CEMENT GROUT LEAD PACKER, ETC.
10-15		
18-21		
28-29		

71 PUMPING TEST

PUMPING TEST METHOD	PUMPING RATE	DURATION OF PUMPING
1 <input type="checkbox"/> PUMP 2 <input checked="" type="checkbox"/> BAILEY	0015 GPM	01 15-16 HOURS 00 MINS

STATIC LEVEL	WATER LEVELS DURING	RECOVERY
005 FEET	15 MINUTES: 014 FEET 30 MINUTES: 012 FEET 45 MINUTES: 014 FEET 60 MINUTES: 014 FEET	1 <input checked="" type="checkbox"/> PUMPING 2 <input type="checkbox"/> RECOVERY

RECOMMENDED PUMP TYPE:  SHALLOW  DEEP  
RECOMMENDED PUMP SETTING: 023 FEET  
RECOMMENDED PUMPING RATE: 0007 GPM



FINAL STATUS OF WELL: 1  WATER SUPPLY

WATER USE: 05  DOMESTIC

METHOD OF DRILLING: 1  RIGID FOOT

CONTRACTOR: Maxime Cyr Inc. LICENCE NUMBER: 1517

NAME OF DRILLER OR BORER: Casabron Ont.

SIGNATURE OF CONTRACTOR: Maxime Cyr SUBMISSION DATE: \_\_\_\_\_

OFFICE USE ONLY

CONTRACTOR: 1517 DATA SOURCE: 020980

DATE OF INSPECTION: \_\_\_\_\_ INSPECTOR: Km



Ministry  
of the  
Environment  
Ontario

The Ontario Water Resources Act

# WATER WELL RECORD

1517349

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

11

COUNTY OR DISTRICT: Ottawa Carleton TOWN: Blouinville CON. BLOCK TRACT SURVEY ETC: 5 LOT: 21  
 ADDRESS: R.R. #6 Ottawa Ont. DATE COMPLETED: 9 MONTH: June YEAR: 80

1. EASTING: 12 14 16 18 20 22 24 26 28 30 32  
 2. NORTHING: 12 14 16 18 20 22 24 26 28 30 32  
 3. ELEVATION: 12 14 16 18 20 22 24 26 28 30 32  
 4. BASIN CODE: 11 12 13 14 15 16 17 18 19 20

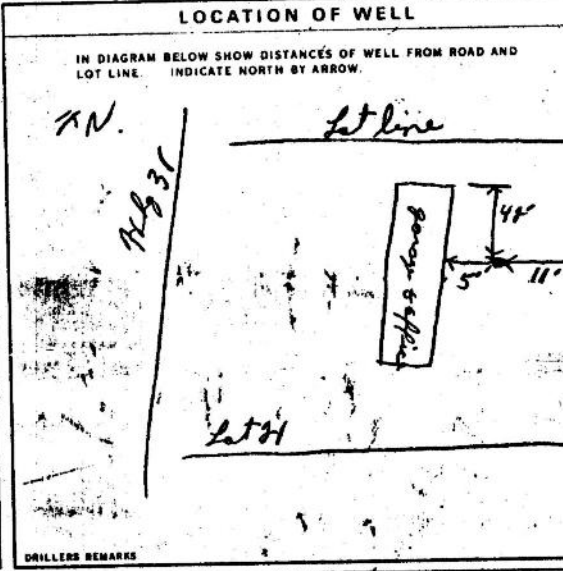
GENERAL COLOUR	MOST COMMON MATERIAL	OTHER MATERIALS	GENERAL DESCRIPTION	DEPTH - FEET	
				FROM	TO
<u>Brown</u>	<u>sandy soil</u>	<u>stone</u>		<u>0</u>	<u>8</u>
<u>Brown</u>	<u>hard</u>	<u>granite rock</u>		<u>8</u>	<u>27</u>

31. EASTING: 12 14 16 18 20 22 24 26 28 30 32  
 32. NORTHING: 12 14 16 18 20 22 24 26 28 30 32

<b>41 WATER RECORD</b> WATER FOUND AT - FEET: <u>27</u> KIND OF WATER: <input checked="" type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERAL <input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERAL <input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERAL <input type="checkbox"/> FRESH <input type="checkbox"/> SALTY <input type="checkbox"/> SULPHUR <input type="checkbox"/> MINERAL	<b>51 CASING &amp; OPEN HOLE RECORD</b> INSIDE DIAM INCHES: <u>6 1/4</u> MATERIAL: <input checked="" type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE WALL THICKNESS INCHES: <u>185</u> DEPTH - FEET: FROM: <u>0</u> TO: <u>20</u> FROM: <u>20</u> TO: <u>27</u> FROM: <u>27</u> TO: <u>30</u> MATERIAL: <input type="checkbox"/> STEEL <input type="checkbox"/> GALVANIZED <input type="checkbox"/> CONCRETE <input type="checkbox"/> OPEN HOLE	<b>SCREEN</b> SIZE OF OPENING (SLOT NO.): <u>1/2</u> DIAMETER: <u>3/4</u> LENGTH: <u>20</u> MATERIAL AND TYPE: <u>1/2" GALVANIZED</u> DEPTH TO TOP OF SCREEN: <u>27</u> FEET
---	--	---

<b>61 PLUGGING &amp; SEALING RECORD</b> DEPTH SET AT - FEET: FROM: <u>2</u> TO: <u>14</u> MATERIAL AND TYPE: <u>1/2" GALVANIZED</u> (CEMENT GROUT, LEAD PACKER, ETC.)
---

<b>71 PUMPING TEST</b> PUMPING TEST METHOD: <input type="checkbox"/> PUMP <input checked="" type="checkbox"/> BAILEY PUMPING RATE: <u>15</u> GPM DURATION OF PUMPING: <u>1</u> HOURS WATER LEVEL END OF PUMPING: <u>14</u> FEET WATER LEVELS DURING: 15 MINUTES: <u>12</u> FEET 30 MINUTES: <u>12</u> FEET 45 MINUTES: <u>14</u> FEET 60 MINUTES: <u>14</u> FEET PUMP INTAKE SET AT: <u>27</u> FEET WATER AT END OF TEST: <u>14</u> FEET RECOMMENDED PUMP TYPE: <input checked="" type="checkbox"/> SHALLOW <input type="checkbox"/> DEEP RECOMMENDED PUMP SETTING: <u>23</u> FEET RECOMMENDED PUMPING RATE: <u>7</u> GPM
---



<b>FINAL STATUS OF WELL</b> <input checked="" type="checkbox"/> WATER SUPPLY <input type="checkbox"/> OBSERVATION WELL <input type="checkbox"/> TEST HOLE <input type="checkbox"/> RECHARGE WELL <input type="checkbox"/> ABANDONED, INSUFFICIENT SUPPLY <input type="checkbox"/> ABANDONED POOR QUALITY <input type="checkbox"/> UNFINISHED
<b>WATER USE</b> <input checked="" type="checkbox"/> DOMESTIC <input type="checkbox"/> STOCK <input type="checkbox"/> IRRIGATION <input type="checkbox"/> INDUSTRIAL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> COMMERCIAL <input type="checkbox"/> MUNICIPAL <input type="checkbox"/> PUBLIC SUPPLY <input type="checkbox"/> COOLING OR AIR CONDITIONING <input type="checkbox"/> NOT USED
<b>METHOD OF DRILLING</b> <input checked="" type="checkbox"/> RIGID POOL <input type="checkbox"/> ROTARY (CONVENTIONAL) <input type="checkbox"/> ROTARY (REVERSE) <input type="checkbox"/> ROTARY (AIR) <input type="checkbox"/> AIR PERCUSSION <input type="checkbox"/> BORING <input type="checkbox"/> DIAMOND <input type="checkbox"/> JETTING <input type="checkbox"/> DRIVING

<b>CONTRACTOR</b> NAME OF WELL CONTRACTOR: <u>Maxine Cym</u> ADDRESS: <u>Carleton Ont.</u> NAME OF DRILLER OR BORE: <u>Carleton Ont.</u> SIGNATURE OF CONTRACTOR: <u>Maxine Cym</u> SUBMISSION DATE: _____	LICENCE NUMBER: <u>1517</u> LICENCE NUMBER: _____ DAY: _____ MO: _____ YR: _____
---	--

<b>OFFICE USE ONLY</b> DATA SOURCE: _____ DATE OF INSPECTION: _____ CONTRACTOR: <u>020980</u> INSPECTOR: _____ REMARKS: _____
--

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

11

1531693

Municipality 15002

Con. CON

OS

County or District: *Ottawa* Township/Borough/City/Town/Village: *Gloucester* Con block tract survey, etc.: *5* Lot: *6*  
Address: *Greely St* Date completed: *25* day *10* month *00* year

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
<i>gray</i>	<i>gravel sandstone</i>			<i>0</i>	<i>3</i>
				<i>3</i>	<i>220</i>

31  
32

41 WATER RECORD

Water found at - feet	Kind of water
<i>206</i>	<input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas
<i>214</i>	<input checked="" type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas

51 CASING & OPEN HOLE RECORD

Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
<i>6 1/4</i>	<input checked="" type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	<i>1 1/8</i>	<i>0</i>	<i>22</i>
<i>8 3/4</i>	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic		<i>0</i>	<i>20</i>
<i>6</i>	<input type="checkbox"/> Steel <input type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input checked="" type="checkbox"/> Open hole <input type="checkbox"/> Plastic		<i>20</i>	<i>220</i>

SCREEN

Sizes of opening (Slot No.)	Diameter inches	Length feet

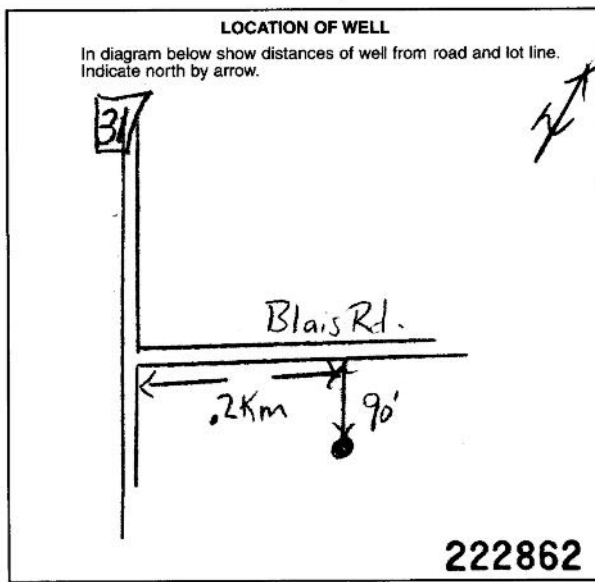
61 PLUGGING & SEALING RECORD

Depth set at - feet		Material and type (Cement grout, bentonite, etc.)
From	To	
<i>7 22</i>	<i>14 17</i>	<i>Cement grout</i>

71 PUMPING TEST

Pumping test method	Pumping rate	Duration of pumping
<input checked="" type="checkbox"/> Pump <input type="checkbox"/> Bailor	<i>10</i> GPM	<i>1</i> Hours <i>1</i> Mins

Static level	Water level end of pumping	Water levels during
<i>30</i> feet	<i>120</i> feet	<i>30</i> feet <i>30</i> feet <i>30</i> feet <i>30</i> feet



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  Abandoned (Other) 8  Dewatering 9  Unfinished 10  Replacement well

WATER USE

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

METHOD OF CONSTRUCTION

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

Name of Well Contractor: *Air-Rock Drilling Co Ltd* Well Contractor's Licence No.: *1119*  
Address: *RR# 2 Jasper St*  
Name of Well Technician: *Shannon Purcell* Well Technician's Licence No.: *T2122*  
Signature of Technician Contractor: *[Signature]* Submission date: *02 11 00*

MINISTRY USE ONLY

Data source: *11 19* Date received: *JAN 03 2001*  
Date of inspection: \_\_\_\_\_ Inspector: \_\_\_\_\_  
Remarks: \_\_\_\_\_  
CSS.ES1



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

11

1533566

Municipality  
15002

Con.  
RF

05

County or District <b>Ottawa Carleton</b>	Township/Borough/City/Town/Village <b>Gloucester</b>	Con block tract survey, etc. <b>5</b>	Lot <b>21</b>
Address <b>Gloucester, Ont</b>		Date completed <b>07 02 03</b> day month year	

21

Northing RC Elevation RC Basin Code ii iii iv

LOG OF OVERBURDEN AND BEDROCK MATERIALS (see instructions)					
General colour	Most common material	Other materials	General description	Depth - feet	
				From	To
	Sand			0	7
grey	Sandstone			7	98
"	Limestone			98	127
"	Sandstone			127	220

31

32

41 WATER RECORD	
Water found at - feet	Kind of water
18-13 <b>216</b>	<input type="checkbox"/> Fresh <input checked="" type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas <b>NOT TESTED</b>
15-18	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas
20-23	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas
25-28	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas
30-33	<input type="checkbox"/> Fresh <input type="checkbox"/> Salty <input type="checkbox"/> Sulphur <input type="checkbox"/> Minerals <input type="checkbox"/> Gas

51 CASING & OPEN HOLE RECORD				
Inside diam inches	Material	Wall thickness inches	Depth - feet	
			From	To
10-11 <b>6 1/4</b>	<input type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic	<b>188</b>	<b>0</b>	<b>22</b>
11-18 <b>8 3/4</b>	<input type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic		<b>0</b>	<b>20</b>
24-25 <b>6</b>	<input type="checkbox"/> Steel <input checked="" type="checkbox"/> Galvanized <input type="checkbox"/> Concrete <input type="checkbox"/> Open hole <input type="checkbox"/> Plastic		<b>20</b>	<b>220</b>

SCREEN	Material and type	Depth at top of screen	
		feet	feet

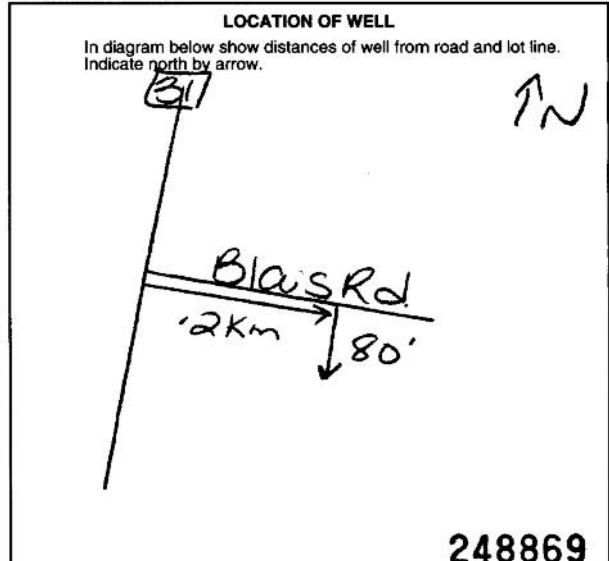
61 PLUGGING & SEALING RECORD	
Annular space <input type="checkbox"/> Abandonment	
Depth set at - feet	Material and type (Cement grout, bentonite, etc.)
From	To
<b>2 1/2</b>	<b>22 Cement grout</b>
18-21	22-25
26-29	30-33

71 PUMPING TEST	
Pumping test method	Pumping rate
<input checked="" type="checkbox"/> Pump <input type="checkbox"/> Bailor	<b>9</b> GPM
Duration of pumping	Static level
<b>1</b> Hours <b>17</b> Mins	<b>16</b> feet
Water level end of pumping	Water levels during
<b>120</b> feet	15 minutes <b>16</b> feet 30 minutes <b>16</b> feet 45 minutes <b>16</b> feet 60 minutes <b>16</b> feet
If flowing give rate	Pump intake set at
GPM	<b>120</b> feet
Recommended pump type	Recommended pump setting
<input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep	<b>120</b> feet
Water at end of test	Recommended pump rate
<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Cloudy	<b>9</b> GPM

FINAL STATUS OF WELL	
<input checked="" type="checkbox"/> Water supply	<input type="checkbox"/> Abandoned, insufficient supply
<input type="checkbox"/> Observation well	<input type="checkbox"/> Abandoned, poor quality
<input type="checkbox"/> Test hole	<input type="checkbox"/> Abandoned (Other)
<input type="checkbox"/> Recharge well	<input type="checkbox"/> Dewatering
<input type="checkbox"/> Unfinished	<input type="checkbox"/> Replacement well

WATER USE	
<input checked="" type="checkbox"/> Domestic	<input type="checkbox"/> Commercial
<input type="checkbox"/> Stock	<input type="checkbox"/> Municipal
<input type="checkbox"/> Irrigation	<input type="checkbox"/> Public supply
<input type="checkbox"/> Industrial	<input type="checkbox"/> Cooling & air conditioning
<input type="checkbox"/> Not use	<input type="checkbox"/> Other

METHOD OF CONSTRUCTION	
<input type="checkbox"/> Cable tool	<input checked="" type="checkbox"/> Air percussion
<input type="checkbox"/> Rotary (conventional)	<input type="checkbox"/> Boring
<input type="checkbox"/> Rotary (reverse)	<input type="checkbox"/> Diamond
<input type="checkbox"/> Rotary (air)	<input type="checkbox"/> Jetting
<input type="checkbox"/> Driving	<input type="checkbox"/> Digging
<input type="checkbox"/> Other	<input type="checkbox"/> Other



Name of Well Contractor <b>Arkoel Drilling Ltd</b>	Well Contractor's Licence No. <b>1119</b>
Address <b>RR#1 Richmond, Ont</b>	
Name of Well Technician <b>Shannon Pulcell</b>	Well Technician's Licence No. <b>12122</b>
Signature of Technician/Contractor <i>[Signature]</i>	Submission date <b>05 02 03</b> day mo yr

MINISTRY USE ONLY	
Data source	Contractor <b>1119</b>
Date received	<b>MAR 31 2003</b>
Date of inspection	Inspector
Remarks	<b>CSS.ES3</b>

**Well Owner's Information**

First Name: **Airport Golfland** Last Name: \_\_\_\_\_ E-mail Address: \_\_\_\_\_  Well Constructed by Well Owner

Mailing Address (Street Number/Name, RR): **6357 Emerald Links** Municipality: **Greely** Province: **Ontario** Postal Code: **K4P 1M4** Telephone No. (inc. area code): **613 850 5468**

**Part A Construction and/or Major Alteration of a Well**

Address of Well Location (Street Number/Name, RR): **Hwy 31** Township: **Gloucester** Lot: **20** Concession: **5**

County/District/Municipality: **Ottawa Carleton** City/Town/Village: **Gloucester** Province: **Ontario** Postal Code: \_\_\_\_\_

UTM Coordinates: Zone: **18** Easting: **453794** Northing: **5018088** GPS Unit Make: **Garmin** Model: \_\_\_\_\_ Mode of Operation:  Undifferentiated  Averaged  Differentiated, specify \_\_\_\_\_

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

General Colour	Most Common Material	Other Materials	General Description	Depth (Metres) From	Depth (Metres) To
Brown	Clay	Stones	Packed	0	3.35
Grey	Limestone		Broken	3.35	4.57
Grey	Limestone		Medium Hard	4.57	42.66
Grey	Limestone	Sandstone Layers	Hard	42.66	52.72

**Annular Space/Abandonment Sealing Record**

Depth Set at (Metres) From	Depth Set at (Metres) To	Type of Sealant Used (Material and Type)	Volume Placed (Cubic Metres)
6.40	0	Grouted Bentonite Slurry	.132m <sup>3</sup>

**Method of Construction**

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

**Water Use**

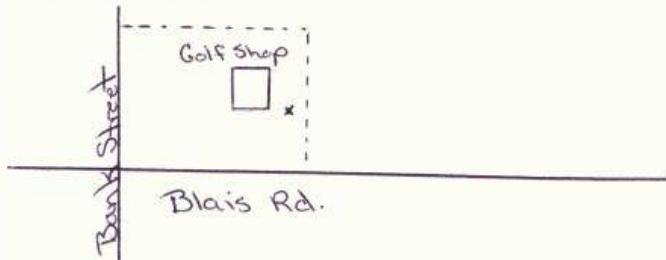
Public  Commercial  Not used  Municipal  Dewatering  Domestic  Livestock  Test Hole  Monitoring  Irrigation  Cooling & Air Conditioning  Industrial  Other, specify \_\_\_\_\_

**Status of Well**

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

**Location of Well**

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



Date Well Completed (yyyy/mm/dd): **2008/07/14** Was the well owner's information package delivered?  Yes  No Date the Well Record and Package Delivered to Well Owner (yyyy/mm/dd): **2008/07/15**

**Well Contractor and Well Technician Information**

Business Name of Well Contractor: **Capital Water Supply Ltd.** Well Contractor's Licence No.: **1 5 5 8**

Business Address (Street No./Name, number, RR): **Box 490** Municipality: **Stittsville**

Province: **Ontario** Postal Code: **K2S 1A6** Business E-mail Address: **office@capitalwater.ca**

Bus. Telephone No. (inc. area code): **613 836 1766** Name of Well Technician (Last Name, First Name): **Miller, Stephen**

Well Technician's Licence No.: **0 0 9 7** Signature of Technician: \_\_\_\_\_ Date Submitted (yyyy/mm/dd): **2008/07/16**

**Results of Well Yield Testing**

Check box if after test of well yield, water was: <input checked="" type="checkbox"/> Clear and sand free <input type="checkbox"/> Cannot develop to sand-free state	Draw Down		Recovery	
	Time (Min)	Water Level (Metres)	Time (Min)	Water Level (Metres)
If pumping discontinued, give reason:  Pumping test method: <b>Submersible</b> Pump intake set at (Metres): <b>45.71</b> Pumping rate (Litres/min): <b>54.6</b> Duration of pumping: <b>3</b> hrs + _____ min Final water level end of pumping (Metres): <b>21.37</b> Recommended pump type: <input type="checkbox"/> Shallow <input checked="" type="checkbox"/> Deep Recommended pump depth: <b>30.47</b> Metres Recommended pump rate (Litres/min): <b>45.5</b> If flowing give rate (Litres/min): _____	Static Level	<b>4.75</b>	Static Level	
	1	<b>6.42</b>	1	<b>18.19</b>
	2	<b>8.55</b>	2	<b>17.26</b>
	3	<b>9.96</b>	3	<b>15.67</b>
	4	<b>11.18</b>	4	<b>14.50</b>
	5	<b>12.29</b>	5	<b>13.32</b>
10	<b>16.10</b>	10	<b>9.44</b>	
15	<b>18.20</b>	15	<b>7.38</b>	
20	<b>19.51</b>	20	<b>6.24</b>	
25	<b>20.36</b>	25	<b>5.61</b>	
30	<b>20.94</b>	30	<b>5.18</b>	
40	<b>21.64</b>	40	<b>4.75</b>	
50	<b>22.01</b>	50		
60	<b>22.14</b>	60		

**Water Details**

Water found at Depth: **51.50** Metres Kind of Water:  Not Tested  Gas  Fresh  Salty  Sulphur  Minerals

Water found at Depth: \_\_\_\_\_ Metres Kind of Water:  Fresh  Salty  Sulphur  Minerals

Water found at Depth: \_\_\_\_\_ Metres Kind of Water:  Fresh  Salty  Sulphur  Minerals

**Casing Used**

**Screen Used**

**Casing and Well Details**

Galvanized  Steel  Fibreglass  Plastic  Concrete

Galvanized  Steel  Fibreglass  Plastic  Concrete

Diameter of the Hole (Centimetres): **15.39**  
Depth of the Hole (Metres): **52.72**  
Wall Thickness (Metres): **.48**  
Inside Diameter of the Casing (Metres): **15.86**  
Depth of the Casing (Metres): **+ .45 to 6.40**

No Casing and Screen Used:  Open Hole

Disinfected?  Yes  No

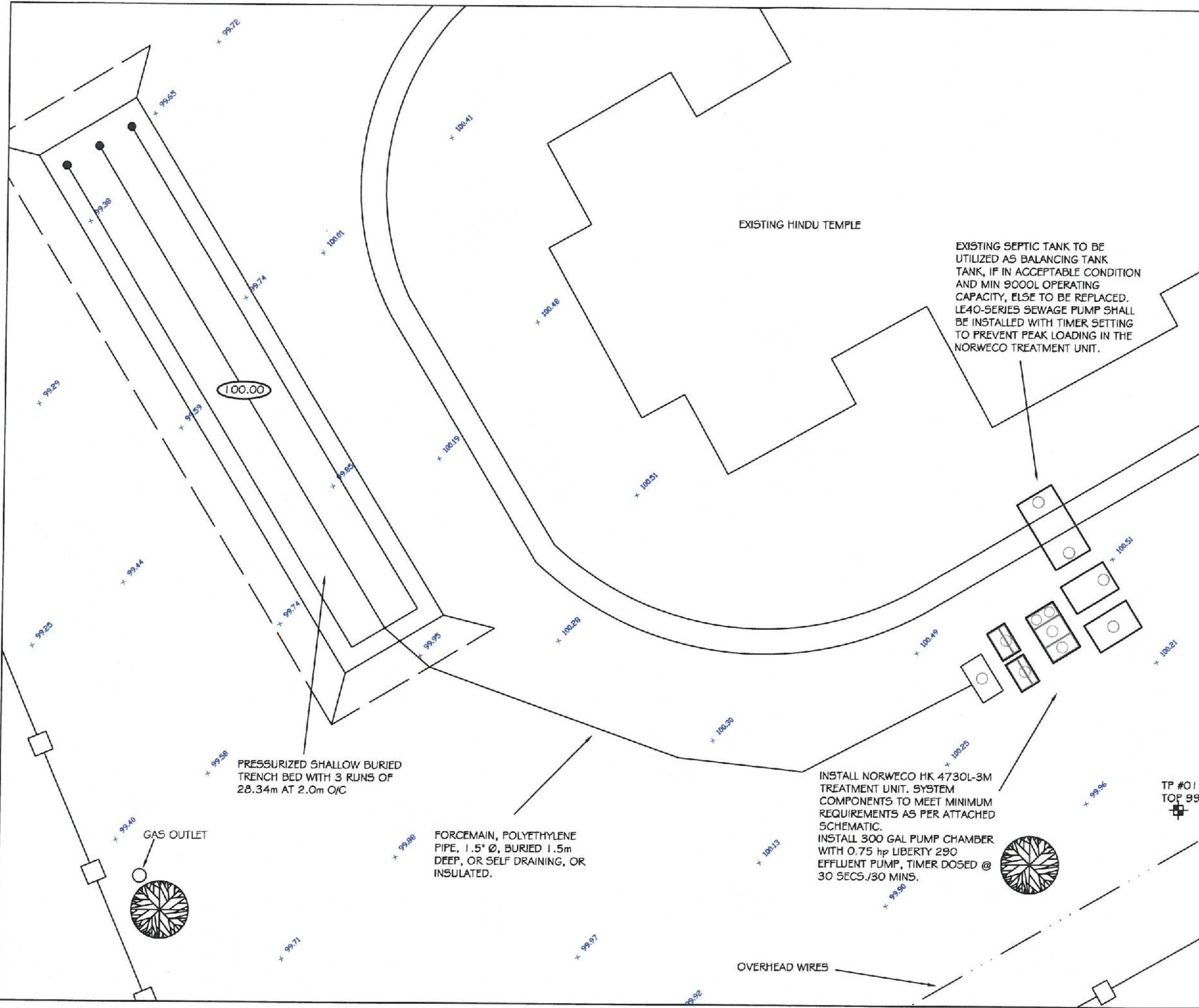
**Ministry Use Only**

Audit No.: **z 77392** Well Contractor No.: \_\_\_\_\_

Date Received (yyyy/mm/dd): **OCT 14 2008** Date of Inspection (yyyy/mm/dd): \_\_\_\_\_

Remarks: \_\_\_\_\_

**APPENDIX E**  
**Proposed Sewage System Layout**



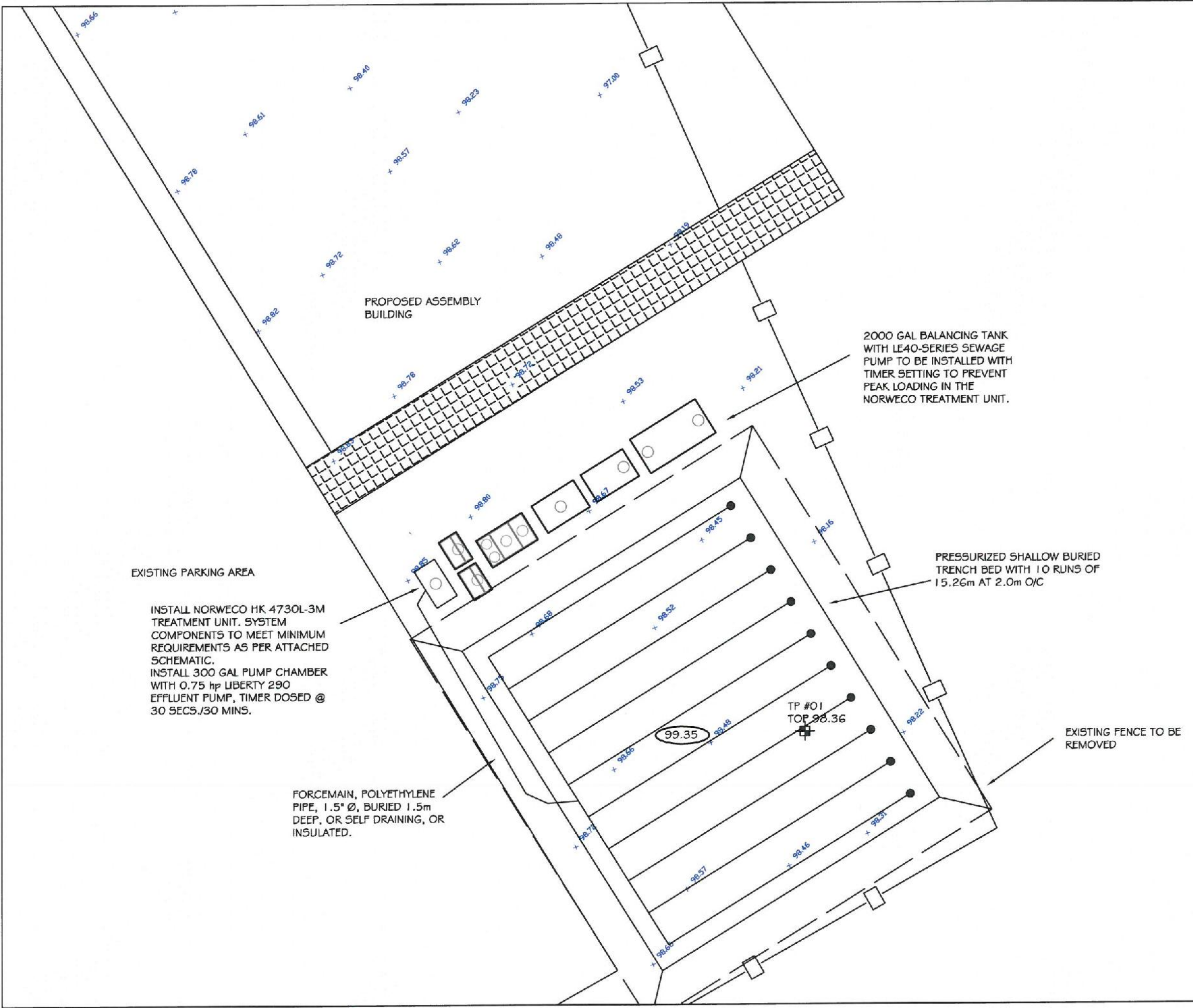
- NOTES:**
1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.
  2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.
  3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
  4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.
  5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE, FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
  6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.
  7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.
  8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.
  9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

**METRIC:**  
 DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

- LEGEND:**
- PROPOSED ELEVATION
  - EXISTING ELEVATION
  - EXISTING WORKS
  - PROPOSED SEWAGE WORKS
  - FENCE LINE
  - PROPERTY LINE
  - TBM TEMPORARY BENCH MARK (DESCRIPTION: TOP OF EAST ARM OF HYDRANT)
  - TEST PIT LOCATION

- SEPARATION DISTANCES:**
1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:
    - LOT LINE = 5.0m
    - HOUSE = 7.0m
    - DRILLED WELL = 17.0m
  2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:
    - LOT LINE = 3.0m
    - HOUSE = 1.5m
    - DRILLED WELL = 15.0m

Drawn by: JP	Drawn by: JP	Checked by: WS		
Rev.	Description	Date	Approved	
Township	Plan#	Lot	Sublot	Con
City Address: 4835 BANK ST.		Drawn No: SP6951-20	Date: 09/11/20	Scale: 1:200
GREEN VALLEY ENVIRONMENTAL				
On-Site Sewage Treatment Plan for the Residence of THE HINDU TEMPLE OF OTTAWA CARLETON				











**NOTES:**

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.
2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.
3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.
5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE, FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.
7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.
8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.
9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

**METRIC:**

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**LEGEND:**

	PROPOSED ELEVATION
	EXISTING ELEVATION
	EXISTING WORKS
	PROPOSED SEWAGE WORKS
	FENCE LINE
	PROPERTY LINE
	TEMPORARY BENCH MARK (DESCRIPTION: TOP OF EAST ARM OF HYDRANT)
	TEST PIT LOCATION

**SEPARATION DISTANCES:**

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:
  - LOT LINE = 5.0m
  - HOUSE = 7.0m
  - DRILLED WELL = 17.0m
2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:
  - LOT LINE = 3.0m
  - HOUSE = 1.5m
  - DRILLED WELL = 15.0m

Drawn by: JP		Drawn by: JP		Checked by: WS	
Rev.	Description			Date	Approved
Township	Plan#	Lot	Sublot	Con	
City Address: 4835 BANK ST.			Draw. No.: SP6951-20	Date: 09/11/20	Scale: 1:200
GREEN VALLEY ENVIRONMENTAL					
On-site Sewage Treatment Plan for the Residence of THE HINDU TEMPLE OF OTTAWA CARLETON					

**APPENDIX F**  
**Moisture Surplus Printout**

Ottawa Airport, ON                      Ottawa\_50mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32                      WATER HOLDING CAPACITY... 50 MM                      HEAT INDEX... 36.41  
 LONG... 75.67                      LOWER ZONE..... 30 MM                      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	27	83	50	299
28- 2	-8.8	57	12	18	1	1	0	29	110	50	356
31- 3	-2.7	66	32	80	5	5	0	107	64	50	422
30- 4	5.9	72	67	69	32	32	0	104	0	50	494
31- 5	13.0	74	74	0	80	79	-1	13	0	32	568
30- 6	18.3	82	82	0	116	97	-19	4	0	14	651
31- 7	20.8	89	89	0	135	94	-41	3	0	5	740
31- 8	19.5	87	87	0	117	83	-34	1	0	9	827
30- 9	14.6	84	84	0	75	66	-9	7	0	20	912
31-10	8.1	77	76	0	36	35	-1	24	0	37	77
30-11	1.3	80	63	8	10	10	0	50	9	49	157
31-12	-7.0	78	26	15	1	1	0	38	47	50	236
AVE	5.9 TTL	911	705	205	608	503	-105	407			

Ottawa Airport, ON                      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	31	43	0	55
28- 2	2.6	29	15	27	1	1	0	37	59	0	59
31- 3	2.3	28	22	47	4	4	0	53	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	11	5	21	0	19	85
30- 6	1.2	38	38	0	9	26	26	17	0	19	93
31- 7	1.2	42	42	0	8	30	31	12	0	14	93
31- 8	1.3	39	39	0	8	30	32	5	0	16	107
30- 9	1.5	38	38	0	8	14	13	20	0	21	110
31-10	1.4	37	37	2	7	7	3	27	0	19	37
30-11	1.7	27	28	9	4	4	0	30	13	6	45
31-12	3.0	30	22	14	1	1	0	29	34	0	56

Ottawa Airport, ON                      Ottawa\_75mm\_WBNRMSD.txt  
WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32                      WATER HOLDING CAPACITY... 75 MM                      HEAT INDEX... 36.41  
LONG... 75.67                      LOWER ZONE..... 45 MM                      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	27	83	75	299
28- 2	-8.8	57	12	18	1	1	0	29	110	75	356
31- 3	-2.7	66	32	80	5	5	0	107	64	75	422
30- 4	5.9	72	67	69	32	32	0	104	0	75	494
31- 5	13.0	74	74	0	80	80	0	13	0	56	568
30- 6	18.3	82	82	0	116	107	-10	4	0	28	651
31- 7	20.8	89	89	0	135	104	-32	2	0	10	740
31- 8	19.5	87	87	0	117	85	-32	1	0	12	827
30- 9	14.6	84	84	0	75	66	-9	4	0	26	912
31-10	8.1	77	76	0	36	35	-1	15	0	52	77
30-11	1.3	80	63	8	10	10	0	42	9	71	157
31-12	-7.0	78	26	15	1	1	0	36	47	75	236
AVE	5.9 TTL	911	705	205	608	526	-84	384			

Ottawa Airport, ON                      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	0	55
28- 2	2.6	29	15	27	1	1	0	37	59	0	59
31- 3	2.3	28	22	47	4	4	0	53	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	19	19	17	0	28	93
31- 7	1.2	42	42	0	8	28	30	11	0	22	93
31- 8	1.3	39	39	0	8	29	31	5	0	23	107
30- 9	1.5	38	38	0	8	14	14	17	0	29	110
31-10	1.4	37	37	2	7	7	2	23	0	28	37
30-11	1.7	27	28	9	4	4	0	33	13	11	45
31-12	3.0	30	22	14	1	1	0	30	34	3	56



Ottawa Airport, ON      Ottawa\_100mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY... 100 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE..... 60 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	25	83	99	299
28- 2	-8.8	57	12	18	1	1	0	28	110	99	356
31- 3	-2.7	66	32	80	5	5	0	106	64	100	422
30- 4	5.9	72	67	69	32	32	0	104	0	100	494
31- 5	13.0	74	74	0	80	80	0	13	0	81	568
30- 6	18.3	82	82	0	116	112	-4	4	0	47	651
31- 7	20.8	89	89	0	135	115	-21	2	0	19	740
31- 8	19.5	87	87	0	117	88	-29	1	0	18	827
30- 9	14.6	84	84	0	75	66	-8	3	0	32	912
31-10	8.1	77	76	0	36	35	-1	10	0	63	77
30-11	1.3	80	63	8	10	10	0	34	9	91	157
31-12	-7.0	78	26	15	1	1	0	33	47	97	236
AVE	5.9 TTL	911	705	205	608	545	-63	363			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	5	55
28- 2	2.6	29	15	27	1	1	0	37	59	3	59
31- 3	2.3	28	22	47	4	4	0	53	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	12	11	17	0	34	93
31- 7	1.2	42	42	0	8	25	26	11	0	30	93
31- 8	1.3	39	39	0	8	29	30	5	0	30	107
30- 9	1.5	38	38	0	8	14	13	15	0	35	110
31-10	1.4	37	37	2	7	6	2	21	0	36	37
30-11	1.7	27	28	9	4	4	0	34	13	19	45
31-12	3.0	30	22	14	1	1	0	30	34	8	56

Ottawa Airport, ON      Ottawa\_125mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY... 125 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE..... 75 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	24	83	122	299
28- 2	-8.8	57	12	18	1	1	0	28	110	123	356
31- 3	-2.7	66	32	80	5	5	0	105	64	125	422
30- 4	5.9	72	67	69	32	32	0	104	0	125	494
31- 5	13.0	74	74	0	80	80	0	13	0	106	568
30- 6	18.3	82	82	0	116	115	-1	4	0	69	651
31- 7	20.8	89	89	0	135	122	-13	2	0	33	740
31- 8	19.5	87	87	0	117	92	-25	1	0	28	827
30- 9	14.6	84	84	0	75	67	-7	3	0	41	912
31-10	8.1	77	76	0	36	35	-1	9	0	74	77
30-11	1.3	80	63	8	10	10	0	27	9	108	157
31-12	-7.0	78	26	15	1	1	0	29	47	119	236
AVE	5.9 TTL	911	705	205	608	560	-47	349			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	31	43	10	55
28- 2	2.6	29	15	27	1	1	0	37	59	8	59
31- 3	2.3	28	22	47	4	4	0	54	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	4	17	0	39	93
31- 7	1.2	42	42	0	8	21	23	11	0	37	93
31- 8	1.3	39	39	0	8	26	28	5	0	38	107
30- 9	1.5	38	38	0	8	13	11	14	0	42	110
31-10	1.4	37	37	2	7	6	2	20	0	42	37
30-11	1.7	27	28	9	4	4	0	32	13	25	45
31-12	3.0	30	22	14	1	1	0	30	34	14	56

Ottawa Airport, ON      Ottawa\_150mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY... 150 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE..... 90 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	23	83	144	299
28- 2	-8.8	57	12	18	1	1	0	26	110	146	356
31- 3	-2.7	66	32	80	5	5	0	103	64	150	422
30- 4	5.9	72	67	69	32	32	0	104	0	150	494
31- 5	13.0	74	74	0	80	80	0	13	0	131	568
30- 6	18.3	82	82	0	116	116	0	4	0	93	651
31- 7	20.8	89	89	0	135	127	-8	2	0	52	740
31- 8	19.5	87	87	0	117	97	-19	1	0	41	827
30- 9	14.6	84	84	0	75	68	-6	3	0	54	912
31-10	8.1	77	76	0	36	36	-1	8	0	88	77
30-11	1.3	80	63	8	10	10	0	23	9	126	157
31-12	-7.0	78	26	15	1	1	0	26	47	140	236
AVE	5.9 TTL	911	705	205	608	573	-34	336			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	31	43	15	55
28- 2	2.6	29	15	27	1	1	0	37	59	12	59
31- 3	2.3	28	22	47	4	4	0	54	83	0	65
30- 4	1.7	31	31	84	8	8	0	84	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	8	1	17	0	41	93
31- 7	1.2	42	42	0	8	18	18	11	0	42	93
31- 8	1.3	39	39	0	8	22	23	5	0	44	107
30- 9	1.5	38	38	0	8	12	10	14	0	49	110
31-10	1.4	37	37	2	7	6	2	19	0	47	37
30-11	1.7	27	28	9	4	4	0	30	13	31	45
31-12	3.0	30	22	14	1	1	0	29	34	20	56

Ottawa Airport, ON      Ottawa\_200mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...200 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE.....120 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	21	83	187	299
28- 2	-8.8	57	12	18	1	1	0	24	110	191	356
31- 3	-2.7	66	32	80	5	5	0	99	64	199	422
30- 4	5.9	72	67	69	32	32	0	103	0	200	494
31- 5	13.0	74	74	0	80	80	0	13	0	181	568
30- 6	18.3	82	82	0	116	116	0	4	0	143	651
31- 7	20.8	89	89	0	135	132	-3	2	0	97	740
31- 8	19.5	87	87	0	117	106	-11	1	0	78	827
30- 9	14.6	84	84	0	75	70	-4	3	0	89	912
31-10	8.1	77	76	0	36	36	0	7	0	123	77
30-11	1.3	80	63	8	10	10	0	19	9	164	157
31-12	-7.0	78	26	15	1	1	0	22	47	182	236
AVE	5.9 TTL	911	705	205	608	589	-18	318			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	24	55
28- 2	2.6	29	15	27	1	1	0	36	59	20	59
31- 3	2.3	28	22	47	4	4	0	55	83	4	65
30- 4	1.7	31	31	84	8	8	0	83	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	11	10	11	0	48	93
31- 8	1.3	39	39	0	8	16	16	5	0	54	107
30- 9	1.5	38	38	0	8	10	8	14	0	59	110
31-10	1.4	37	37	2	7	6	1	19	0	55	37
30-11	1.7	27	28	9	4	4	0	29	13	41	45
31-12	3.0	30	22	14	1	1	0	28	34	29	56

Ottawa Airport, ON      Ottawa\_225mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...225 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE.....135 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	21	83	209	299
28- 2	-8.8	57	12	18	1	1	0	24	110	214	356
31- 3	-2.7	66	32	80	5	5	0	97	64	224	422
30- 4	5.9	72	67	69	32	32	0	103	0	225	494
31- 5	13.0	74	74	0	80	80	0	13	0	206	568
30- 6	18.3	82	82	0	116	116	0	4	0	168	651
31- 7	20.8	89	89	0	135	133	-2	2	0	121	740
31- 8	19.5	87	87	0	117	109	-8	1	0	99	827
30- 9	14.6	84	84	0	75	71	-4	3	0	109	912
31-10	8.1	77	76	0	36	36	0	7	0	143	77
30-11	1.3	80	63	8	10	10	0	18	9	185	157
31-12	-7.0	78	26	15	1	1	0	21	47	204	236
AVE	5.9 TTL	911	705	205	608	594	-14	314			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	30	43	28	55
28- 2	2.6	29	15	27	1	1	0	36	59	24	59
31- 3	2.3	28	22	47	4	4	0	56	83	7	65
30- 4	1.7	31	31	84	8	8	0	82	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	10	7	11	0	49	93
31- 8	1.3	39	39	0	8	14	13	5	0	58	107
30- 9	1.5	38	38	0	8	10	7	14	0	63	110
31-10	1.4	37	37	2	7	6	1	19	0	58	37
30-11	1.7	27	28	9	4	4	0	29	13	44	45
31-12	3.0	30	22	14	1	1	0	28	34	33	56

Ottawa Airport, ON      Ottawa\_250mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...250 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE.....150 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	20	83	232	299
28- 2	-8.8	57	12	18	1	1	0	23	110	238	356
31- 3	-2.7	66	32	80	5	5	0	96	64	248	422
30- 4	5.9	72	67	69	32	32	0	102	0	250	494
31- 5	13.0	74	74	0	80	80	0	13	0	231	568
30- 6	18.3	82	82	0	116	116	0	4	0	193	651
31- 7	20.8	89	89	0	135	134	-1	2	0	145	740
31- 8	19.5	87	87	0	117	111	-6	1	0	121	827
30- 9	14.6	84	84	0	75	72	-3	3	0	130	912
31-10	8.1	77	76	0	36	36	0	7	0	164	77
30-11	1.3	80	63	8	10	10	0	18	9	207	157
31-12	-7.0	78	26	15	1	1	0	20	47	226	236
AVE	5.9 TTL	911	705	205	608	598	-10	309			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	32	55
28- 2	2.6	29	15	27	1	1	0	36	59	27	59
31- 3	2.3	28	22	47	4	4	0	56	83	9	65
30- 4	1.7	31	31	84	8	8	0	82	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	9	5	11	0	50	93
31- 8	1.3	39	39	0	8	12	11	5	0	61	107
30- 9	1.5	38	38	0	8	9	6	14	0	66	110
31-10	1.4	37	37	2	7	7	1	19	0	61	37
30-11	1.7	27	28	9	4	4	0	29	13	47	45
31-12	3.0	30	22	14	1	1	0	28	34	36	56

Ottawa Airport, ON      Ottawa\_265mm\_WBNRMSD.txt  
WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...265 MM      HEAT INDEX... 36.41  
LONG... 75.67      LOWER ZONE.....159 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	20	83	246	299
28- 2	-8.8	57	12	18	1	1	0	23	110	252	356
31- 3	-2.7	66	32	80	5	5	0	96	64	263	422
30- 4	5.9	72	67	69	32	32	0	102	0	265	494
31- 5	13.0	74	74	0	80	80	0	13	0	246	568
30- 6	18.3	82	82	0	116	116	0	4	0	208	651
31- 7	20.8	89	89	0	135	134	-1	2	0	160	740
31- 8	19.5	87	87	0	117	112	-5	1	0	135	827
30- 9	14.6	84	84	0	75	72	-3	3	0	144	912
31-10	8.1	77	76	0	36	36	0	7	0	177	77
30-11	1.3	80	63	8	10	10	0	18	9	221	157
31-12	-7.0	78	26	15	1	1	0	20	47	240	236
AVE	5.9 TTL	911	705	205	608	599	-9	309			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	34	55
28- 2	2.6	29	15	27	1	1	0	36	59	29	59
31- 3	2.3	28	22	47	4	4	0	56	83	10	65
30- 4	1.7	31	31	84	8	8	0	82	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	4	11	0	51	93
31- 8	1.3	39	39	0	8	11	10	5	0	62	107
30- 9	1.5	38	38	0	8	9	5	14	0	68	110
31-10	1.4	37	37	2	7	7	1	19	0	62	37
30-11	1.7	27	28	9	4	4	0	29	13	49	45
31-12	3.0	30	22	14	1	1	0	28	34	38	56

Ottawa Airport, ON      Ottawa\_275mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...275 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE.....165 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	255	299
28- 2	-8.8	57	12	18	1	1	0	23	110	261	356
31- 3	-2.7	66	32	80	5	5	0	96	64	272	422
30- 4	5.9	72	67	69	32	32	0	101	0	275	494
31- 5	13.0	74	74	0	80	80	0	13	0	256	568
30- 6	18.3	82	82	0	116	116	0	4	0	218	651
31- 7	20.8	89	89	0	135	135	-1	2	0	170	740
31- 8	19.5	87	87	0	117	113	-4	1	0	144	827
30- 9	14.6	84	84	0	75	72	-2	3	0	153	912
31-10	8.1	77	76	0	36	36	0	7	0	186	77
30-11	1.3	80	63	8	10	10	0	18	9	230	157
31-12	-7.0	78	26	15	1	1	0	20	47	249	236
AVE	5.9 TTL	911	705	205	608	601	-7	307			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	35	55
28- 2	2.6	29	15	27	1	1	0	36	59	30	59
31- 3	2.3	28	22	47	4	4	0	56	83	11	65
30- 4	1.7	31	31	84	8	8	0	81	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	3	11	0	51	93
31- 8	1.3	39	39	0	8	11	9	5	0	63	107
30- 9	1.5	38	38	0	8	9	5	14	0	69	110
31-10	1.4	37	37	2	7	7	1	19	0	63	37
30-11	1.7	27	28	9	4	4	0	29	13	50	45
31-12	3.0	30	22	14	1	1	0	28	34	39	56



Ottawa Airport, ON      Ottawa\_280mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...280 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE.....168 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	260	299
28- 2	-8.8	57	12	18	1	1	0	23	110	266	356
31- 3	-2.7	66	32	80	5	5	0	95	64	277	422
30- 4	5.9	72	67	69	32	32	0	101	0	280	494
31- 5	13.0	74	74	0	80	80	0	13	0	261	568
30- 6	18.3	82	82	0	116	116	0	4	0	223	651
31- 7	20.8	89	89	0	135	135	-1	2	0	175	740
31- 8	19.5	87	87	0	117	113	-4	1	0	148	827
30- 9	14.6	84	84	0	75	72	-2	3	0	157	912
31-10	8.1	77	76	0	36	36	0	7	0	191	77
30-11	1.3	80	63	8	10	10	0	18	9	234	157
31-12	-7.0	78	26	15	1	1	0	20	47	254	236
AVE	5.9 TTL	911	705	205	608	601	-7	306			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	35	55
28- 2	2.6	29	15	27	1	1	0	36	59	31	59
31- 3	2.3	28	22	47	4	4	0	56	83	12	65
30- 4	1.7	31	31	84	8	8	0	81	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	3	11	0	52	93
31- 8	1.3	39	39	0	8	10	9	5	0	64	107
30- 9	1.5	38	38	0	8	9	5	14	0	69	110
31-10	1.4	37	37	2	7	7	1	19	0	64	37
30-11	1.7	27	28	9	4	4	0	29	13	50	45
31-12	3.0	30	22	14	1	1	0	28	34	39	56

Ottawa Airport, ON      Ottawa\_300mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY...300 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE.....180 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	279	299
28- 2	-8.8	57	12	18	1	1	0	23	110	285	356
31- 3	-2.7	66	32	80	5	5	0	95	64	297	422
30- 4	5.9	72	67	69	32	32	0	101	0	300	494
31- 5	13.0	74	74	0	80	80	0	13	0	281	568
30- 6	18.3	82	82	0	116	116	0	4	0	243	651
31- 7	20.8	89	89	0	135	135	0	2	0	194	740
31- 8	19.5	87	87	0	117	114	-3	1	0	167	827
30- 9	14.6	84	84	0	75	73	-2	3	0	176	912
31-10	8.1	77	76	0	36	36	0	7	0	209	77
30-11	1.3	80	63	8	10	10	0	18	9	252	157
31-12	-7.0	78	26	15	1	1	0	20	47	272	236
AVE	5.9 TTL	911	705	205	608	603	-5	306			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	37	55
28- 2	2.6	29	15	27	1	1	0	36	59	33	59
31- 3	2.3	28	22	47	4	4	0	57	83	13	65
30- 4	1.7	31	31	84	8	8	0	81	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	2	11	0	52	93
31- 8	1.3	39	39	0	8	10	8	5	0	65	107
30- 9	1.5	38	38	0	8	9	5	14	0	71	110
31-10	1.4	37	37	2	7	7	1	19	0	65	37
30-11	1.7	27	28	9	4	4	0	29	13	52	45
31-12	3.0	30	22	14	1	1	0	28	34	41	56

Ottawa Airport, ON      Ottawa\_400mm\_WBNRMSD.txt  
 WATER BUDGET MEANS FOR THE PERIOD 1950-2010      DC20492

LAT.... 45.32      WATER HOLDING CAPACITY... 400 MM      HEAT INDEX... 36.41  
 LONG... 75.67      LOWER ZONE..... 240 MM      A..... 1.075

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	-10.6	64	13	15	0	0	0	19	83	375	299
28- 2	-8.8	57	12	18	1	1	0	22	110	382	356
31- 3	-2.7	66	32	80	5	5	0	94	64	395	422
30- 4	5.9	72	67	69	32	32	0	99	0	400	494
31- 5	13.0	74	74	0	80	80	0	13	0	381	568
30- 6	18.3	82	82	0	116	116	0	4	0	343	651
31- 7	20.8	89	89	0	135	135	0	2	0	294	740
31- 8	19.5	87	87	0	117	116	-1	1	0	265	827
30- 9	14.6	84	84	0	75	74	-1	3	0	272	912
31-10	8.1	77	76	0	36	36	0	7	0	305	77
30-11	1.3	80	63	8	10	10	0	18	9	349	157
31-12	-7.0	78	26	15	1	1	0	19	47	369	236
AVE	5.9 TTL	911	705	205	608	606	-2	301			

Ottawa Airport, ON      STANDARD DEVIATIONS FOR THE PERIOD 1950-2010      DC20492

DATE	TEMP (C)	PCPN	RAIN	MELT	PE	AE	DEF	SURP	SNOW	SOIL	ACC P
31- 1	3.0	26	16	18	1	1	0	29	43	44	55
28- 2	2.6	29	15	27	1	1	0	36	59	39	59
31- 3	2.3	28	22	47	4	4	0	57	83	20	65
30- 4	1.7	31	31	84	8	8	0	80	0	2	74
31- 5	1.9	32	32	0	12	12	0	21	0	22	85
30- 6	1.2	38	38	0	9	9	0	17	0	41	93
31- 7	1.2	42	42	0	8	8	0	11	0	53	93
31- 8	1.3	39	39	0	8	8	4	5	0	69	107
30- 9	1.5	38	38	0	8	8	2	14	0	76	110
31-10	1.4	37	37	2	7	7	0	19	0	69	37
30-11	1.7	27	28	9	4	4	0	29	13	57	45
31-12	3.0	30	22	14	1	1	0	28	34	46	56

**APPENDIX G**  
**Norweco Hydro Kinetic Specifications**



## HYDRO-KINETIC<sup>®</sup> GREEN WASTEWATER TREATMENT SYSTEM

WITH SERVICE PRO<sup>®</sup> CONTROL CENTER

# SPECIFICATIONS

### GENERAL SPECIFICATIONS

The contractor shall furnish and install one complete Hydro-Kinetic Green wastewater treatment system with all necessary parts and equipment as described in the following specifications. Treatment of the domestic wastewater shall be accomplished by the extended aeration process with non-mechanical flow equalization, pretreatment of the influent and filtration of the final effluent. The treatment system shall provide primary, secondary and tertiary treatment of the wastewater flow, denitrification, and if required, chlorination/dechlorination or ultraviolet disinfection of the effluent prior to discharge. All treatment processes shall be contained within tankage which shall be manufactured using high density polyethylene resin. The wastewater treatment system shall be a Hydro-Kinetic Green as manufactured by Norweco, Inc., Norwalk, Ohio, USA.



The wastewater treatment system shall include high density polyethylene tankage providing separate pretreatment, anoxic, aeration, clarification and final filtration chambers. The tankage shall be furnished with a Schedule 40 PVC inlet hub, submerged transfer ports, access risers with removable covers, molded plastic vent assembly, molded receiving flange and Schedule 40 PVC outlet hub. Principal items of electro-mechanical equipment supplied with the Hydro-Kinetic Green system shall be an air pump, recirculation pump, UL Listed Service Pro Model 801P electrical control center with MCD technology, flow equalization device and Hydro-Kinetic Bio-Film Reactor for final filtration of system effluent.

SPECIFICATIONS

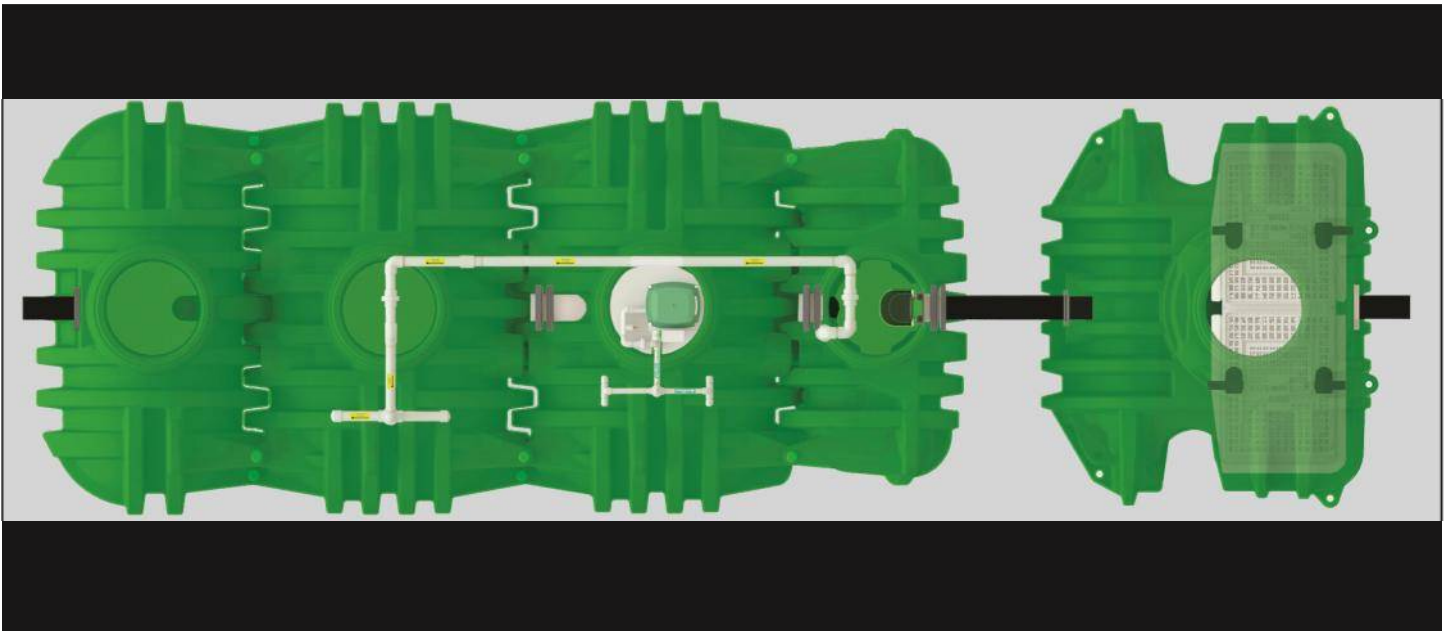
# HYDRO-KINETIC®

## OPERATING CONDITIONS

Total holding capacity of the system shall provide a minimum of 85 hour retention of the daily flow. The pretreatment chamber shall provide at least 18 hour retention, the anoxic chamber shall provide at least 24 hour retention, the extended aeration chamber shall provide at least 24 hour retention, the clarification chamber shall provide at least 7 hour retention and the Hydro-Kinetic Bio-Film Reactor shall provide at least 12 hour retention of the daily flow. The non-mechanical flow equalization device shall increase individual chamber and total system retention time in direct proportion to loading. Design of the system shall include a compartmented tank and non-mechanical flow equalization device to insure successful treatment performance without upset even when the significant runoff period is six hours. Hydraulic design considerations of the system and flow equalization device shall be such that intermittent peak flow factors as high as four shall not upset hydraulic reliability within the system. Capability of the system to perform as outlined, when built by an approved manufacturer, shall be certified by an independent testing laboratory and approved for use by the local governing regulatory agency.

## PRETREATMENT CHAMBER

The pretreatment chamber shall be an integral part of the wastewater treatment system. All domestic wastewater shall be preconditioned and flow equalized while passing through the pretreatment chamber prior to being introduced to the anoxic chamber. The outlet of the pretreatment chamber shall be equipped with a discharge tee that extends vertically into the liquid so that only the preconditioned flow from the center area of the chamber is displaced to the anoxic chamber. The discharge tee and transfer port shall be of adequate size to handle a peak flow factor of four without restricting the outlet and disturbing hydraulic displacement to the anoxic chamber. A removable inspection cover shall be incorporated into the top of the pretreatment chamber to allow tank and transfer tee inspection.



## ANOXIC CHAMBER

The anoxic chamber shall provide in excess of 24 hour retention of the equalized daily flow. In the anoxic chamber, low oxygen levels shall compel facultative heterotrophic bacteria to use nitrate-bound oxygen in their respiratory process. Nitrified liquid from the clarifier shall enter the chamber in measured doses and nitrogen compounds shall be converted to harmless nitrogen gas which shall escape into the atmosphere. Overall design of the chamber shall insure that effective mixing and suspension of the biomass is maintained in an anoxic condition to insure consistent biological denitrification. Systems that have not been performance certified to reduce Total Nitrogen (TN) more than 50% shall not be considered for this application.

## AERATION CHAMBER

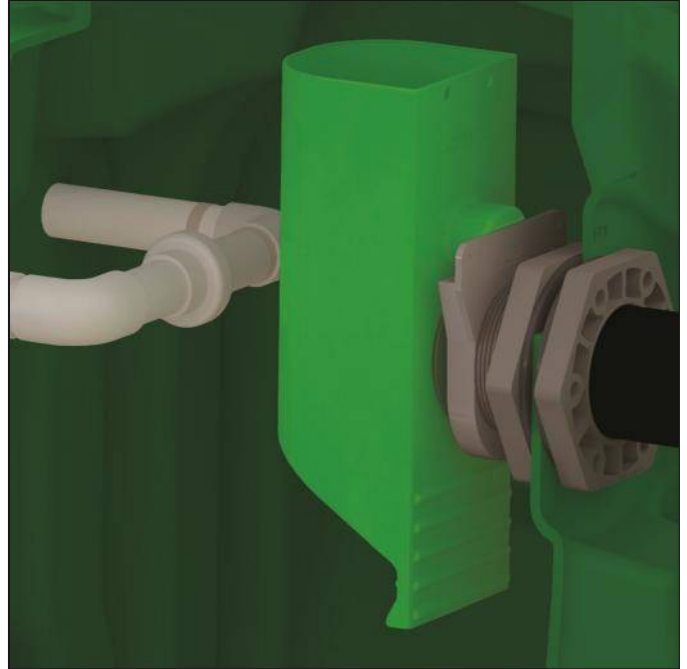
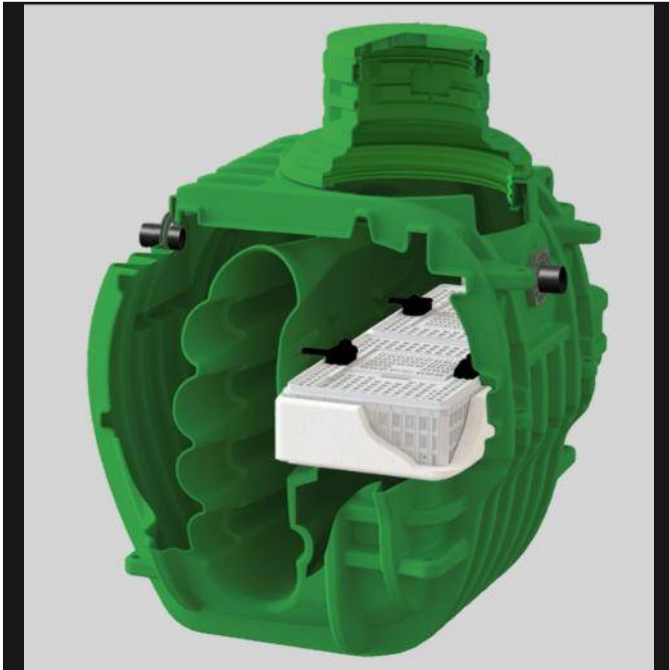
The extended aeration chamber shall provide in excess of 24 hour retention of the equalized daily flow. The chamber shall be of sufficient size to provide a minimum of 80 cubic feet of tank capacity per pound of applied BOD. The aeration chamber shall be an integral part of the system flow path and configured to insure effective mixing of microorganisms, wastewater and fresh air. No area of the chamber shall be isolated from process mixing, thereby eliminating dead or quiescent areas of the treatment chamber which are detrimental to the treatment process. Influent into the aeration chamber shall be preconditioned, equalized flow from the anoxic chamber.

## FINAL CLARIFICATION CHAMBER

The final clarification chamber shall consist of 5 functionally independent zones operating together to provide satisfactory settling and clarification of the equalized flow. An inlet zone shall be provided and shall dissipate transfer turbulence at the flow inlet of the clarifier. Liquid is then displaced into the hopper zone of the clarifier. In this zone, settling by gravity takes place. Three of the four sidewalls are slanted to form a hopper which directs all settled material back to the settled sludge zone. A recirculation pump in the settled sludge zone shall transfer a portion of the wastewater back to the anoxic chamber. Clarified liquid from the hopper zone shall be displaced into the final settling zone to provide additional clarification of the liquid. The liquid is finally displaced to the outlet zone where the treated effluent shall pass through the flow equalization device and be discharged from the final clarification chamber.

## FLOW EQUALIZATION DEVICE

The system shall include a non-mechanical, demand use, flow equalization device. The device shall be installed with the design flow equalization port located below the normal liquid level of the clarifier. If intermittent flow rates exceed the capacity of the design flow port, flow shall be held upstream until the intermittent flow dissipates. If the intermittent flow continues to increase, the liquid level may reach a sustained flow equalization port. With both ports in use, flow through the system increases while continuing to provide flow equalization to upstream and downstream processes. A peak flow equalization port is supplied but should not be required in a properly sized system. The device shall control normal residential flow rates and reduce typical residential flow surges. The flow equalization rate shall be dependent upon the specific loading pattern and the duration of flow surges. At the 600 GPD (gallons per day) NSF Standard 40/245 design loading schedule, minimum performance of the device shall equalize daily flow an average of 50%.



## HYDRO-KINETIC BIO-FILM REACTOR II

Significant reduction of organic matter shall occur in the treatment system prior to the Hydro-Kinetic Bio-Film Reactor. The Bio-Film Reactor shall provide final treatment of the effluent to a near pristine state. Flow equalized liquid from the clarifier shall enter the influent chamber, travel down and be evenly distributed beneath the Reactor Elements. The effects of gravity shall cause solids to settle to the bottom of the tank. As liquid travels up through the proprietary attached growth media, further reduction of organic matter shall take place. Additional settling and consolidation of solids shall take place downstream of the filter media. After passing through the filtration media for final polishing, the highly treated liquid shall flow into the final effluent zone before exiting the Bio-Film Reactor through the outlet tee.

# GREEN

## SERVICE PRO® MODEL 801P ELECTRICAL CONTROL CENTER

The Model 801P control center with MCD technology shall provide Monitoring, Compliance and Diagnostic functions for the treatment system. The pre-wired controls shall be mounted in a lockable NEMA rated enclosure designed specifically for outdoor use. The control center shall be a UL Listed assembly and shall include a time clock, alarm light, reset button, power switch, power light, phone/network light, recirculation pump light, air pump light, high water light and auxiliary alarm light. A pre-programmed time clock shall control the recirculation pump to insure that approximately 400% of the average daily flow is returned to the anoxic chamber. The control center shall monitor recirculation pump current, air pump operation, high water and auxiliary alarm circuitry. In the event of an alarm from the air pump or auxiliary input, the audible and visual alarms shall activate and the optional telemetry system shall report the condition. If abnormal operation of the recirculation pump is detected, a diagnostic sequence shall begin and the visual alarm shall activate. After a factory programmed recovery interval, an automatic restart attempt shall be initiated. If normal pump operation does not resume during 24 programmed recovery and restart cycles, the audible alarm shall activate and the optional telemetry system shall report the condition to the Service Pro monitoring center.



## SERVICE PRO<sup>®</sup> MONITORING CENTER

The Service Pro monitoring center shall include a 256 bit encrypted password protected website for interface with the monitoring center database. Access to the secure website shall be obtained through a unique user name and password that provides tiered access to data from monitored treatment systems. Access level tiers shall include dealers, service providers, regulatory agencies and individual system owners. Dealers and service providers shall be able to create accounts, enter serial numbers for system equipment, maintain service records and grant regulatory agencies access to the information. The monitoring center shall have the capability to schedule future service inspections and provide notification. Individual system owners shall be able to view information regarding their own systems, as well as download instructional information. Integrity of stored data shall be maintained through the use of multiple servers operating in geographically isolated locations.



## MODEL AT 1500 ULTRAVIOLET DISINFECTION SYSTEM (Optional)

The Hydro-Kinetic Green system shall be furnished complete with a Model AT 1500 ultraviolet disinfection system. The AT 1500 system shall incorporate a turbulence inducer and dual-pass design to insure bacteria receive maximum exposure to the ultraviolet light source. The ultraviolet disinfection system shall be UL Listed under Standard 979 as a residential treatment device and shall include a disinfection chamber, turbulence inducer, extension riser, quartz tube with Teflon cover, ultraviolet bulb and controls. An interlock switch shall be furnished to automatically disable the ultraviolet light source when the disinfection chamber is accessed. Ultraviolet disinfection systems without a residential UL Listing have not demonstrated compliance with international electrical standards for safety and reliability and shall not be considered for this application.



# SPECIFICATIONS

## CERTIFIED PERFORMANCE

The wastewater treatment system shall be certified to operate for 12 consecutive months at the rated daily capacity without routine service. This performance shall be demonstrated by a continuous 12 month evaluation performed by an independent ANSI accredited, third-party testing facility. The evaluation shall consist of 2 consecutive ANSI/NSF Standard 40 and 245 evaluations, including the stress sequences, with no maintenance allowed in between. The system shall also be certified by a SCC accredited, third-party testing facility to BNQ Standards CAN/BNQ 3680-600 and NQ 3680-910. For the entire certification protocol, the system shall achieve a total test average of less than 5 mg/L Biochemical Oxygen Demand (CBOD), less than 5 mg/L Total Suspended Solids (TSS), and greater than 50% reduction of Total Nitrogen (TN) in the effluent. Systems unable to meet these effluent quality parameters for at least 12 months of continuous testing by independent ANSI and SCC accredited, third-party testing facilities without service do not provide the desired level of effluent quality or service frequency, and shall not be considered for this application.



## AIR PUMP

The air pump shall be configured to allow remote mounting or installation within the mounting riser above the aeration chamber. When installed in the access riser, fresh air shall be supplied through a vented, injection molded, heavy duty, glass-filled polypropylene access cover above the air pump. Fresh air shall enter the air pump through a filter located under the housing cover and be introduced below the liquid surface through a prefabricated diffuser assembly. Only the plastic diffuser assembly and the air piping shall be installed in contact with the liquid. The air pump shall be wired for 115 volt, single phase, 60 cycle operation. The air pump shall include impact-resistant rubber diaphragms and valves which prolong operational life. The



unique design and construction shall provide easy maintenance, excellent cooling and quiet operation. The air pump shall continue aerating and mixing the aeration chamber even during high water conditions. Treatment systems that interrupt air delivery during high water conditions disrupt biological activity and shall not be considered for this application.

## RECIRCULATION PUMP

The submersible recirculation pump shall be wired for 115 volt, single phase, 60 cycle operation and shall be installed in the clarification chamber. Operation of the submersible recirculation pump shall be controlled by the Service Pro control center. The pump shall periodically recirculate nitrified liquid from the clarification chamber to the anoxic chamber. The pump shall be designed to be non-overloading throughout the entire pump curve and shall draw less than 8 full load amps. The pump motor shall contain moisture resistant windings and shall be securely mounted inside an oil-filled, watertight housing for maximum pump life. The stator housing and casing shall be of high grade cast iron, stainless steel or thermoplastic construction.

## BLUE CRYSTAL<sup>®</sup> CHLORINATION SYSTEM (Optional)

The Hydro-Kinetic Green system shall be furnished complete with a tablet feeder and a six month supply of Blue Crystal disinfecting tablets. Blue Crystal tablets shall be specifically formulated for consistent chlorine dosage and effluent disinfection to the sustained, variable and intermittent flows that are typical of domestic wastewater treatment systems. The tablets shall be manufactured from pure calcium hypochlorite and contain a minimum of 70% available chlorine. Each tablet shall be 2<sup>5</sup>/<sub>8</sub>" diameter, compressed to a 1" thickness, weigh approximately 5 ounces and be white in color with blue crystals for easy identification. The tablets shall dissolve in direct proportion to the flow rate, releasing controlled amounts of chlorine.

## BIO-MAX<sup>®</sup> DECHLORINATION SYSTEM (Optional)

The Hydro-Kinetic Green system shall be furnished complete with a tablet feeder and a six month supply of Bio-Max dechlorination tablets. The dechlorination tablets shall contain 92% sodium sulfite as the active ingredient and shall be specially formulated to chemically neutralize both free and combined chlorine. Each tablet shall be 2<sup>5</sup>/<sub>8</sub>" diameter, compressed to a 1<sup>3</sup>/<sub>16</sub>" thickness, weigh approximately 5 ounces and be green in color for easy identification. The tablets shall dissolve slowly, releasing controlled amounts of chemical for the instantaneous removal of residual chlorine from the system effluent.

## LIMITED WARRANTY

The wastewater treatment system shall be covered by a two year limited warranty. The air pump, recirculation pump, Service Pro Model 801P control center and any other Hydro-Kinetic components purchased from the manufacturer shall be warranted to be free from defects in material and workmanship, under normal use and service, for a period of two years from the date of purchase. A warranty registration card shall be attached to the system before shipment from the factory. A means to register the wastewater treatment system for warranty protection via the internet shall be provided by the manufacturer for the convenience of the dealer, customer and regulatory agency. The dealer shall provide details of the limited warranty to the regulatory agency, contractor and customer as required.

## EQUIPMENT MANUFACTURER

The equipment specified herein shall be the product of a manufacturer having a minimum of seven years experience in the construction of prefabricated wastewater treatment equipment and systems. Bids shall be prepared on the basis of the equipment and material specified herein for purposes of determining the low bid. This is not done, however, to eliminate other products or equipment of equal quality and efficiency. If equipment is to be substituted, approval of such substitution must be made prior to execution of any order. It is assumed that substitution will result in a reduction of cost to the contractor and that if accepted, these savings will be passed along by a reduction in the base bid.

**PROGRESS THROUGH SERVICE SINCE 1906**

***norweco***<sup>®</sup>

*Engineering the future of water  
and wastewater treatment*

220 REPUBLIC STREET  
NORWALK, OHIO, U.S.A. 44857-1156  
TELEPHONE (419) 668-4471  
FAX (419) 663-5440  
[www.norweco.com](http://www.norweco.com)

**DISTRIBUTED LOCALLY BY:**

Norweco<sup>®</sup>, Norweco.com<sup>®</sup>, Singulair<sup>®</sup>, Modulair<sup>®</sup>, Travalair<sup>®</sup>, Singulair R3<sup>®</sup>, Singulair Green<sup>®</sup>, Ribbit Rivet<sup>®</sup>, Hydro-Kinetic<sup>®</sup>, Hydro-Kinetic Bio-Film Reactor<sup>®</sup>, Evenair<sup>®</sup>, Lift-Rail<sup>®</sup>, Microsonic<sup>®</sup>, Bio-Dynamic<sup>®</sup>, Bio-Sanitizer<sup>®</sup>, Bio-Neutralizer<sup>®</sup>, Bio-Kinetic<sup>®</sup>, Bio-Static<sup>®</sup>, Bio-Gem<sup>®</sup>, Bio-Max<sup>®</sup>, Bio-Perc<sup>®</sup>, Blue Crystal<sup>®</sup>, Phos-4-Fade<sup>®</sup>, Enviro-C<sup>®</sup>, ClearCheck<sup>®</sup>, ChemCheck<sup>®</sup>, Tri-Max<sup>®</sup>, Hydra-Max<sup>®</sup>, Service Pro<sup>®</sup>, MCD<sup>®</sup>, TNT<sup>®</sup>, WASP<sup>®</sup>, Grease Buster<sup>®</sup> and "BUSTER" logo<sup>®</sup> are registered trademarks of Norwalk Wastewater Equipment Company, Inc.

©MMXIX NORWECO, INC. / REV. 09/2019

**APPENDIX H**  
**OSSO Approval**



STREET/CIVIC INITIAL   
\*\*EMAIL ONLY\*\*  
SEPTIC FILE #  
21-343  
OTTAWA

### INFORMATION FOR OWNER/APPLICANT

Attached is your Sewage System Permit. A minimum of two inspections are required before your proposed sewage system can be approved for use (additional inspections may be required for clay soils/bedrock and/or re-inspections). Inspections must be requested in writing. Please see attached:

- Inspection fax request form (all inspections MUST be requested in writing)
- As-built components and drawing form
- Copy of the approved application and schedule pages
- Approved Part 8 permit: \*Electronic copy only – Be sure to INCLUDE in Building Application Package for Plans Examiner at CITY of OTTAWA client services, if NEW or RENO construction project.

#### Special Note

- A permit is valid for 12 months from the original date of issuance noted in "permit date". If lapsed, it may be renewed only once for a period of 12 months from the date of expiry.

- No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. (Building Code Act 1992, c.23, s.8(12))

#### Sewage System Permit Construction Requirements

##### 1. Clay Soils/Bedrock only (if required per issued Approval)

In clay soils/bedrock, a site preparation inspection is required. The total contact area must be properly prepared. Scarification must be done under dry conditions prior to importing leaching bed fill.

##### 2. Installation Inspection – 2<sup>nd</sup> inspection

When the sewage system is substantially completed (i.e., before the final fill is placed over the septic tank and leaching bed system) an installation inspection is required. Prior to any inspection request, the following must be submitted:

- a) "as-built components" and "as-built drawings" — see attached form
- b) "engineer letter" — if the system is engineered
- c) grain size analysis and weight bills for all Filter Media types of septic systems
- d) Weigh bills for washed septic stone, where applicable
- e) Maintenance/service contract for treatment unit installed

##### 3. Final Grading Inspection – 3<sup>rd</sup> inspection

When construction of the sewage system is complete, a final grading inspection is required. Before a Certificate of Completion can be issued, the following must be complete:

- a) The leaching bed and septic tank must be covered with sand fill and topsoil and graded accordingly
- b) All conditions of the Sewage System Permit & comments on the installation inspection report must be met
- c) The depth of cover & material type must be identified by inspection pipes or holes placed over trenches at 4 corners of bed
- d) The 4 corners of the bed must be staked



ENCA RECEIVED  
FEB 18 2022

SEPTIC FILE #  
21-343

**LETTER OF AUTHORIZATION**

OTTAWA

Owner: Harish Gupta The Hindu Temple of Ottawa Carleton  
Address: 4835 Bank St  
Gloucester ON K1X 1G6

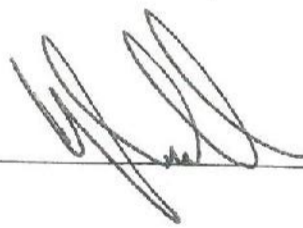
Phone No.: (613) 737-5939 Cell No.: (613) 866-2984  
Work No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

**LOCATION OF PROPERTY:**

Lot No.: 22  
Concession No.: 5RF  
Sub lot/Part No.: \_\_\_\_\_  
R. Plan No.: 5R 3156  
Civic Address: 4835 Bank St  
Municipality: Gloucester  
Roll No.: \_\_\_\_\_

Commercial: (provide description of building and intended use)  
Existing Building

I, the above – mentioned authorize Green Valley Environmental Services to act as my agent to apply for and obtain a sewage system permit from the responsible Approval Agency.

Signature: 

Date: 2.06.2021

RVCA RECEIVED  
 FEB 18 2022  
 REFER TO:

**Application for a Permit to Construct or Demolish**  
 This form is authorized under subsection 8(1.1) of the Building Code Act 1992

SEPTIC FILE  
 21-343  
 OTTAWA

**For use by Principal Authority**

Application number:	Permit number (if different):
Date received:	Roll number:

Application submitted to: **OTTAWA SEPTIC SYSTEM OFFICE**  
 (Name of municipality, upper-tier municipality, board of health or conservation authority)

**A. Project information**

Building number, street name 4335 Bank St.	Unit number	Lot/con. 22/5
Municipality Gloucester	Postal code K1X 1G6	Plan number/other description 5R3156
Project value est. \$	Area of work (m <sup>2</sup> )	

**B. Purpose of application**

<input checked="" type="checkbox"/> New construction	<input type="checkbox"/> Addition to an existing building	<input type="checkbox"/> Alteration/repair	<input type="checkbox"/> Demolition	<input type="checkbox"/> Conditional Permit
Proposed use of building Commercial Worship Building	Current use of building Commercial Worship Building			
Description of proposed work Install replacement septic system for existing Commercial Worship Building Revision to Permit 21-343				

**C. Applicant**

Applicant is:	Owner or	<input checked="" type="checkbox"/> Authorized agent of owner
Last name	First name	Corporation or partnership Green Valley Environmental
Street address 6107 First Line Rd.		Unit number
Municipality North Gower	Postal code K4M 1A7	Province ON
Telephone number (613) 692-2616	Fax (613) 692-1802	E-mail engineering@gvegroup.ca
		Cell number ( )

**D. Owner (if different from applicant)**

Last name Gupta	First name Harish	Corporation or partnership The Hindu Temple of Ottawa Carleton
Street address 4335 Bank St.		Unit number
Municipality Gloucester	Postal code K1X 1G6	Province ON
Telephone number (613) 737-5939	Fax ( )	E-mail harish.gcc@yahoo.com
		Cell number (613) 866-2984

Application for a Permit to Construct or Demolish - Effective January 1, 2014

E. Builder (optional)			
Last name	First name	Corporation or partnership (if applicable)	
Street address	Unit number	Lot/con.	
Municipality	Postal code	Province	E-mail
Telephone number ( )	Fax ( )	Cell number ( )	
<b>F. Taron Warranty Corporation (Ontario New Home Warranty Program)</b>			
i. Is proposed construction for a new home as defined in the <i>Ontario New Home Warranties Plan Act</i> ? If no, go to section G.		Yes	No <input checked="" type="checkbox"/>
ii. Is registration required under the <i>Ontario New Home Warranties Plan Act</i> ?		Yes	No <input checked="" type="checkbox"/>
iii. If yes to (ii) provide registration number(s): _____			
<b>G. Required Schedules</b>			
i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.			
ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.			
<b>H. Completeness and compliance with applicable law</b>			
i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted). Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the <i>Building Code Act, 1992</i> , to be paid when the application is made.	Yes <input checked="" type="checkbox"/>	No	
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> .	Yes <input checked="" type="checkbox"/>	No	
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes <input checked="" type="checkbox"/>	No	
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes <input checked="" type="checkbox"/>	No	
<b>I. Declaration of applicant</b>			
I, <u>Jacob Pruner</u> (print name)			declare that:
1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.			
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.			
Date	<u>February 7 2022</u>	Signature of applicant	<u>Jacob Pruner</u>

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor, Toronto, M5G 2E5 (416) 585-6666

FEB 18 2022

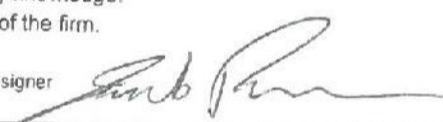
REFER TO:

SEPTIC FILE #

21-343

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project information			
Building number, street name 4835 Bank St.		Unit no.	Lot/con 22/5
Municipality Gloucester	Postal code K1X 1G6	Plan number/ other description 5R3156	
B. Individual who reviews and takes responsibility for design activities			
Name Jacob Pruner		Firm Green Valley Environmental	
Street address 6107 First Line Rd.		Unit no.	Lot/con
Municipality North Gower	Postal code K4M 1A7	Province ON	E-mail eng.neering@gvegroup.ca
Telephone number (613) 692-2616	Fax number (613) 692-1802	Cell number ( )	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]			
House	HVAC – House	Building Structural	
Small Buildings	Building Services	Plumbing – House	
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings	
Complex Buildings	Fire Protection	<input checked="" type="checkbox"/> On-site Sewage Systems	
Description of designer's work Design a replacement septic system for existing Commercial Waship Building Revision to Permit 21-343			
D. Declaration of Designer			
I, <u>Jacob Pruner</u>		declare that (choose one as appropriate):	
(print name)			
I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.			
Individual BCIN: <u>113751</u>			
Firm BCIN: <u>16035</u>			
I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.			
Individual BCIN: _____			
Basis for exemption from registration: _____			
The design work is exempt from the registration and qualification requirements of the Building Code.			
Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge.			
2. I have submitted this application with the knowledge and consent of the firm.			
Date	<u>February 7 2022</u>	Signature of Designer	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.



RVCA RECEIVED  
 FEB 18 2022  
 Schedule 2: Sewage System Installer Information  
 REFER TO:

SEPTIC FILE #  
 21-343

<b>A. Project Information</b>			
Building number, street name 4835 Bank St.		Unit number	Lot/con. 2215
Municipality Gloucester	Postal code K1X 1G6	Plan number/ other description 5R3156	
<b>B. Sewage system installer</b>			
Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?			
<input checked="" type="checkbox"/> Yes (Continue to Section C)		<input type="checkbox"/> No (Continue to Section E) <span style="float: right;">Installer unknown at time of application (Continue to Section E)</span>	
<b>C. Registered installer information (where answer to B is "Yes")</b>			
Name Green Valley Environmental		BCIN 11234	
Street address 6107 First Line Rd.		Unit number	Lot/con.
Municipality North Gower	Postal code K4M1A7	Province ON	E-mail
Telephone number (613) 692-2616	Fax (613) 692-1802	Cell number (613) 229-3900	
<b>D. Qualified supervisor information (where answer to section B is "Yes")</b>			
Name of qualified supervisor(s) Bill Seabrook		Building Code Identification Number (BCIN) 11234	
<b>E. Declaration of Applicant:</b>			
I, <u>Jacob Pruner</u> (print name) declare that:			
I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;			
<u>OR</u>			
I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge.			
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.			
Date	February 7 2022		Signature of applicant <u>Jacob Pruner</u>



RVCA RECEIVED  
FEB 18 2022

Do Not Complete Permit # SEPTIC 511  
Revision # 21-340  
Date 21-3-20  
OTTAWA

**Schedule 4**  
**Proposed Services**  
Complete Sections 1 thru 7

1. **Engineered**
  - Yes
  - No
2. **Water supply**
  - Proposed
  - Existing
3. **Type of work proposed**
  - New Installation
  - Replacement
  - Alteration
4. **Type of Well**
  - Dug/bored/Sandpoint well
  - Drilled well
  - Municipal
  - Other
5. **Residential Sewage Design Flow Info.**

Bedrooms \_\_\_\_\_  
House (floor area) \_\_\_\_\_ m<sup>2</sup>  
People \_\_\_\_\_  
Total Fixture Units \_\_\_\_\_ (Schedule 8)  
Residential Flow \_\_\_\_\_ L/day
6. **Sewage Design Flow Other Occupancies**

Design Flow 1825 L/day  
Detailed sewage flow calculations:  
Worship building no food preparation (500 people)  
500 x 3 = 1500  
3 x 275 = 825 L/day ← 3 Apartment 1 person each

  - Class 4 – BMEC Area Bed (Schedule 11)
    - Fully raised
    - Partially raised
    - In-ground
  - Class 4 – “Type A” Dispersal (Schedule 13)
    - Fully raised
    - Partially raised
    - In-ground
  - Class 4 – “Type B” Dispersal (Schedule 14)
    - Fully raised
    - Partially raised
    - In-ground
  - Class 5 – Holding Tank (9000L min)
    - Tank/Treatment Unit/Pump Chamber ONLY
    - Effluent Filter/Risers ONLY
7. **Type of System**
  - Treatment Unit Norweco HK 5670 - 3m
  - Class 2 – Leaching Pit
  - Class 3 – Cesspool
  - Class 4 – Shallow Buried Trench
  - Class 4 – Trench (Schedule 9)
    - Fully raised
    - Partially raised
    - In-ground
  - Class 4 – Filter Media (Schedule 10)
    - Fully raised
    - Partially raised
    - In-ground

RVCA RECEIVED  
FEB 18 2022

SEPTIC FILE  
Do Not Complete  
Permit # 21-343  
Revision # \_\_\_\_\_  
Date OTTAWA

**Schedule 5  
Sewage System Details**

Type of System Class 4 Shallow Buried Trench Bed ( Schedule 4)  
 Septic/Holding Tank Size: \_\_\_\_\_ Litres Make: \_\_\_\_\_  
 Septic Tank Effluent Filter Make: \_\_\_\_\_ Model: \_\_\_\_\_

Treatment Unit - Make & Model Norweco Hydro Kinetic 5670 -- 3M  
 Number of Units: 1 Other: \_\_\_\_\_

Refer to Typical Drawing # PC-5-1176

Mantle Information:

Native or imported =15m in \_\_\_\_\_ direction(s)

Pump(s) required \_\_\_\_\_  
 Pump Rate \_\_\_\_\_ L/15min

Note: Alarm required for all pumping systems

Slope subgrade \_\_\_\_\_ % slope  
 \_\_\_\_\_ direction(s)

Site to be Scarified (If clay) YES / NO  
 Clay Seal Required (If bedrock) YES / NO

Trench

Distribution Pipe Length \_\_\_\_\_ m  
 Loading Area \_\_\_\_\_ m<sup>2</sup>  
 Type of Chamber \_\_\_\_\_  
 Length of Chamber \_\_\_\_\_ m

Shallow Buried Trench

Pipe Length 104.64 m

BMEC Area Bed

Type A

Type B

Stone \_\_\_\_\_ m<sup>2</sup>  
 Sand \_\_\_\_\_ m<sup>2</sup>  
 Pipe \_\_\_\_\_ m  
 Linear Loading \_\_\_\_\_ L/m<sup>2</sup>

Filter Media Bed

Stone \_\_\_\_\_ m<sup>2</sup>  
 Extended Base \_\_\_\_\_ m<sup>2</sup>  
 Pipe \_\_\_\_\_ m  
 Weight of Filter Media \_\_\_\_\_ Kg  
 Loading Area \_\_\_\_\_ m<sup>2</sup>

Tank/Treatment Unit/Pump Chamber Replacement ONLY

Effluent Filter & Riser ONLY

Construction Notes:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



Ottawa Septic System Office Bureau des systèmes septiques d'Ottawa

RVCA RECEIVED  
FEB 18 2022  
REF ID: \_\_\_\_\_

Do Not Complete  
Permit # **SEPTIC FILE**  
Revision # \_\_\_\_\_  
Date **21-343**  
OTTAWA

**Schedule 6  
Soil and Water Table Information  
(Minimum depth of test pit: 2 metres)**

Name of Applicant/Agent: LRL  
Date: May 7 2017 Time: 10:00am  
Applicant/Agent Signature: [Signature]

Inspector: \_\_\_\_\_  
Date: \_\_\_\_\_ Time: \_\_\_\_\_  
Inspector Signature: [Signature]

EG (.....)	Soil Description	T
.5m	<i>See Attached Test Pit Log</i>	
1.0m		
1.5m		
2.0m		

EG (.....)	Soil Description	T
.5m	<i>Test pits not available for inspection. Engineer assumes all liability for soil and HGWT info/elv's</i>	
1.0m		
1.5m		
2.0m		

EG (.....)	Soil Description	T
.5m		
1.0m		
1.5m		
2.0m		

EG (.....)	Soil Description	T
.5m		
1.0m		
1.5m		
2.0m		

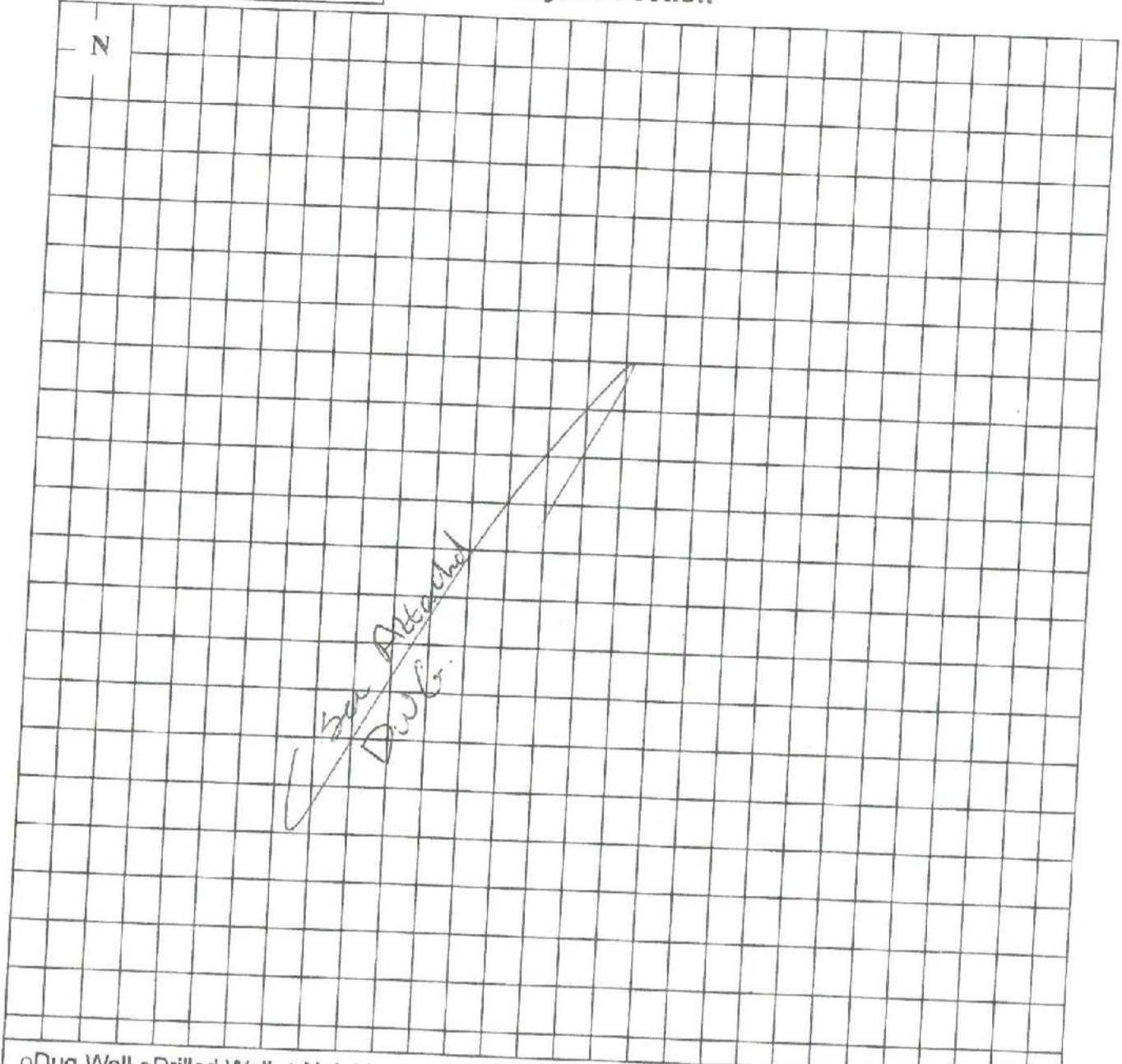
**LEGEND**  
BR = Bedrock      HGWT = High ground water table      EG = Existing grade  
GWT = Ground water table      M = metres      T = percolation rate

RVCA RECEIVED  
FEB 18 2022  
REFER TO: \_\_\_\_\_

Do Not Complete  
Permit # \_\_\_\_\_  
Revision # 21-343  
Date \_\_\_\_\_  
OTTAWA

Scale: 1Block = NTS

Schedule 7  
Layout Section



○ Dug Well ● Drilled Well ▲ Neighbouring Homes ◇ Benchmark --- Tile Drainage — Property Line

Elevations (metric only)  
B.M. 100.17 m  
B.M. Description East arm of hydrant  
located west of southern entrance to site  
Exact Location \_\_\_\_\_

Min. of 5 elevations in proposed system area (in X pattern)  
X<sub>1</sub> \_\_\_\_\_ X<sub>2</sub> \_\_\_\_\_  
X<sub>3</sub> \_\_\_\_\_ X<sub>4</sub> \_\_\_\_\_  
X<sub>5</sub> see Attached DWG. X<sub>6</sub> (toe) \_\_\_\_\_  
X<sub>7</sub> \_\_\_\_\_ X<sub>8</sub> \_\_\_\_\_



RVCA RECEIVED  
FEB 18 2022

Do Not Complete Permit # \_\_\_\_\_  
Revision # 21-343  
Date \_\_\_\_\_  
OTTAWA

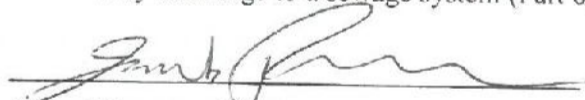
**Schedule 8  
Fixture unit count**

Fixtures	3 Apartment +	Worship Building	X	unit count	=	Fixture Count
<b>Bathroom</b>						
Bathroom group (toilet, sink and tub or shower) installed in the <u>same</u> room	3		X	6	=	18
Urinals Wall mounted Washout type		2	X	1.5	=	3
Shower stall			X	1.5	=	
Wash basin (SINK) (1 1/2 inch trap)		6	X	1.5	=	9
Watercloset (TOILET) tank operated		4	X	4	=	16
Bidet			X	1	=	
<b>Kitchen</b>						
Dishwasher			X	1	=	
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	3	2	X	1.5	=	4.5 3
<b>Other</b>						
Domestic washing machine	1		X	1.5	=	1.5
Combination sink and laundry tray single or double (Installed on 1 1/2 trap)			X	1.5	=	
<b>Sub-Total:</b>						<b>24 31</b>

\*Insert the TOTAL in section 5 of Schedule 4 (O.Reg 151/13 Table 7.4.9.3)

Total: 55

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

  
Agent/Owner signature

June 7 2021  
Date

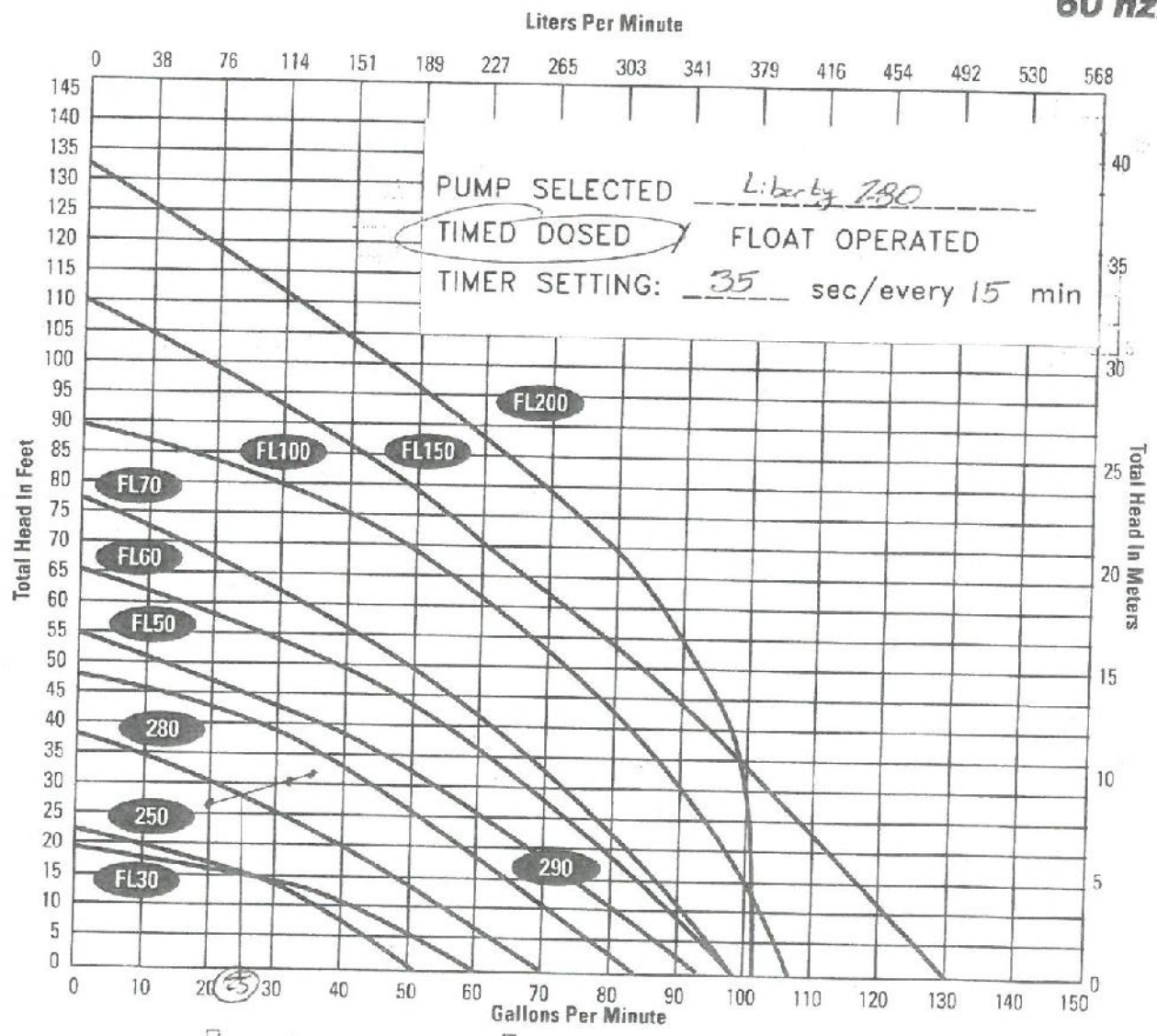
RVCA RECEIVED  
 FEB 18 2022  
 REFER TO: \_\_\_\_\_

SEPTIC FILE #  
 21-343  
 OTTAWA

# Liberty Pumps®

## Effluent Pumps

### Performance Curve Data 60 Hz.



innovate. evolve.

Liberty Pumps • 7000 Apple Tree Avenue • Bergen, NY 14416  
 Phone 800-543-2550 Fax (585) 494-1839  
 www.libertypumps.com

Specifications subject to change without notice.  
 Copyright © Liberty Pumps, Inc. 2013  
 All rights reserved. LLIT6625 R01/13

**GREEN VALLEY ENVIRONMENTAL SERVICES**

	In/Output			
Length of a Lateral ( m ):	26.16	26.16	26.16	26.16
Number of Laterals:	2.00	2.00	2.00	2.00
Input spacing of orifices(m):	0.60	0.60	0.60	0.60
Number of orifices(calculated):	42.60	42.60	42.60	42.60
chosen number of orifices:	42.00	42.00	42.00	42.00
space of orifice to edge (m)	0.78	0.78	0.78	0.78
total number of orifices:	84.00	84.00	84.00	84.00

input  
input  
input  
→  
input  
output  
output

diameter of orifice(inch):	0.12	0.12	0.12	0.12
Squirt height (feet):	2.00	5.00	7.00	8.00
Discharge of orifice (US gal/orifice x min)	0.24	0.39	0.42	0.49
Flow in a lateral (US gal/min x lateral)	10.24	16.20	17.74	19.17
Total discharge (US gal/min)	20.49	32.40	35.49	38.33
Total discharge (L/min)	77.56	122.63	134.33	145.10
Total discharge (Imp. gal/min)	17.06	26.98	29.55	31.92

diameter of orifice(inch):  
Squirt height (feet):  
Discharge of orifice (US gal/orifice x min)  
Flow in a lateral (US gal/min x lateral)  
Total discharge (US gal/min)  
Total discharge (L/min)  
Total discharge (Imp. gal/min)

RVCA RECEIVED  
FEB 18 2022  
REFER TO: \_\_\_\_\_

SEPTIC FILE #  
21-343  
OTTAWA

**Total Dynamic Head (ft)**

	(metric)				(Imperial)			
Length of force main(m)	5.00	16.40	16.40	16.40	16.40	16.40	16.40	16.40
Diameter of force main (in/cm)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Length of manifold (m)	2.00	6.55	6.55	6.55	6.55	6.55	6.55	6.55
Diameter of manifold (in/cm)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Length of lateral (m)	26.16	85.83	85.83	85.83	85.83	85.83	85.83	85.83
Diameter of lateral (in)	3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Friction loss in forcemain (m/ft)	0.18	0.60	1.40	1.66	1.92	2.17	2.42	5.06
Friction loss in manifold (m/ft)	0.02	0.08	0.19	0.22	0.25	0.29	0.32	0.67
Friction loss in lateral (m/ft)	0.09	0.29	0.68	0.80	0.93	1.05	1.17	2.45
Fittings' loss (estimated) (m/ft)	3.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Residual head on orifice (ft)	0.61	2.00	5.00	6.00	7.00	8.00	9.00	20.00
Elevation difference(assumed, from low water level in pump tank to manifold) (m)	4.00	13.12	13.12	13.12	13.12	13.12	13.12	13.12

input  
input  
input  
input  
input  
input  
output  
output  
output  
estimated  
input  
input  
  
output

TDH (estimated) (m/ft)	7.95	26.10	30.39	31.81	33.22	34.63	36.03	51.30
Q (gpm)	20.49	32.40	35.49	38.33	40.98	43.46	43.46	64.79

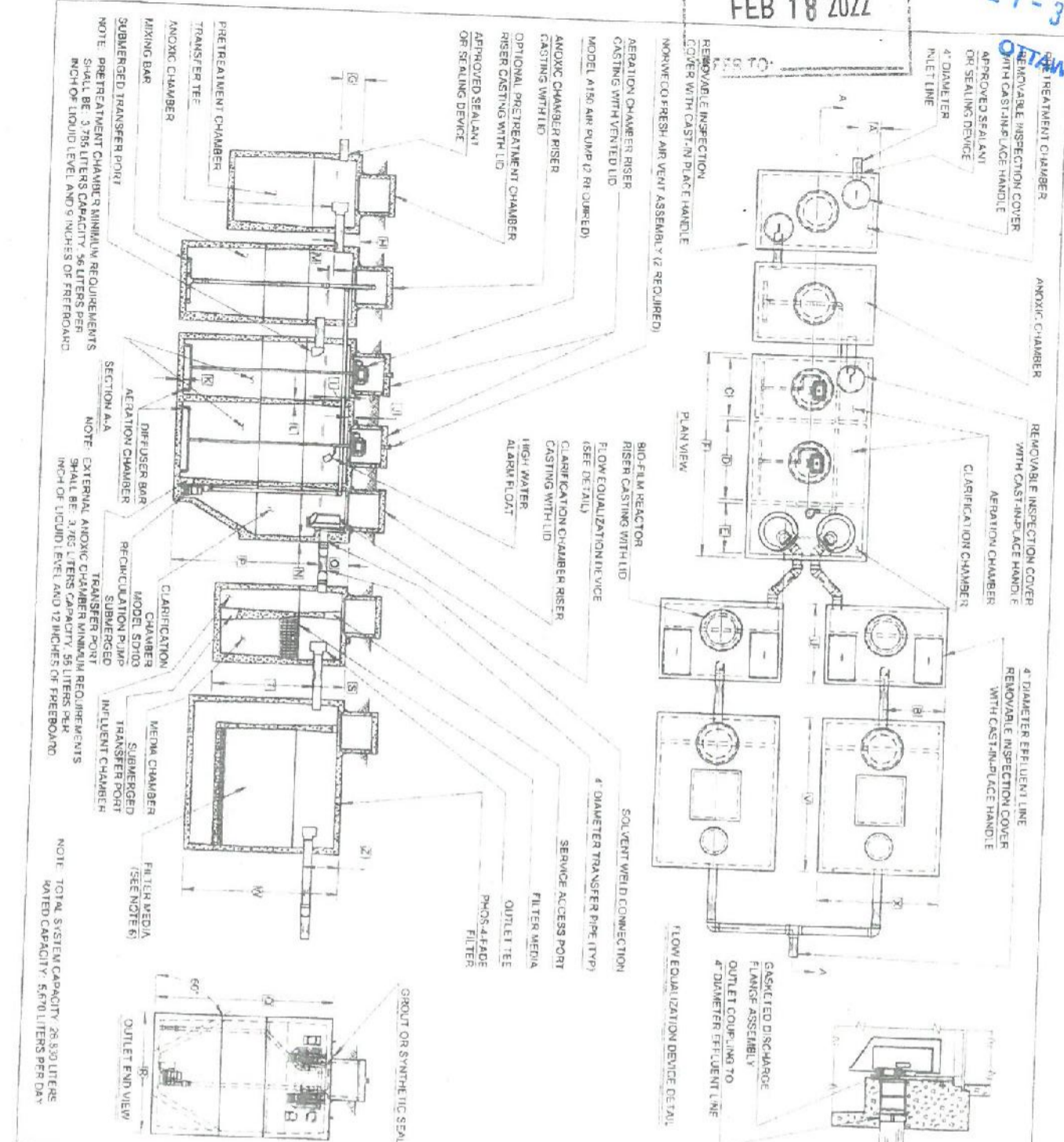


RVCA RECEIVED

FEB 18 2022

SEPTIC FILE #  
21-343

OTTAWA



**GENERAL NOTES**

- FALL THROUGH THE HYDRO-KINETIC PLANT FROM INLET INVERT TO OUTLET INVERT IS SEVEN INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- TANK REINFORCED PER A.C.I. 308-3-8.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- AIR PUMPS MAY BE MOUNTED INSIDE THE RISERS ABOVE THE AERATION CHAMBERS OR MAY BE REMOTE MOUNTED UP TO 100 FEET FROM TANK.
- BOTTOM LAYER CONTAINS 7" OF 3/4" TO 1" BASE MATERIAL. MIDDLE LAYER CONTAINS 7" OF 2" TO 1/2" BASE MATERIAL. TOP LAYER CONTAINS 2" OF PHOS-4-FRASE ADSORPTIVE MEDIA.

**CANIMB 3680 600 TREATMENT LEVEL CLASS B - IV, D-1-N-1-P-II**

PROJECT ENGINEER'S APPROVAL  
(I/VE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED

DATE \_\_\_\_\_  
NAME \_\_\_\_\_

CONTRACTOR'S CERTIFICATION  
(I/WE) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED

DATE \_\_\_\_\_  
NAME \_\_\_\_\_

**CRITICAL DIMENSIONS**

A	1'-0"	N	0'-2 1/2"
B	2'-9"	O	1'-4"
C	2'-8"	P	6'-8"
D	3'-7"	Q	3'-0"
E	2'-3"	R	5'-6"
F	9'-3"	S	1'-5"
G	1'-0"	T	4'-7"
H	1'-1"	U	3'-7 1/2"
I	1'-1"	V	7'-0"
J	0'-3"	W	7'-0"
K	0'-3"	X	5'-6"
L	0'-2"	Y	5'-6"
M	0'-3"	Z	1'-7"

**U.S. MANUFACTURED MATERIALS**

**norweco**

1000 WILSON AVENUE  
OTTAWA, ONTARIO K1H 1R1  
TEL: 613-735-1111  
WWW.NORWECO.COM

DATE: 05/27/2016  
BY: JMS  
NTS

PC-51177

**NOTE: PRETREATMENT CHAMBER MINIMUM REQUIREMENTS SHALL BE: 3,785 LITERS CAPACITY, 56 LITERS PER INCH OF LIQUID LEVEL AND 9 INCHES OF FREEBOARD.**

**NOTE: CLARIFICATION CHAMBER MINIMUM REQUIREMENTS SHALL BE: 3,785 LITERS CAPACITY, 56 LITERS PER INCH OF LIQUID LEVEL AND 12 INCHES OF FREEBOARD.**

**NOTE: MEDIA CHAMBER SUBMERGED TRANSFER PORT SHALL BE: 3,785 LITERS CAPACITY, 56 LITERS PER INCH OF LIQUID LEVEL AND 12 INCHES OF FREEBOARD.**

**NOTE: FILTER MEDIA (SEE NOTE 6)**

**NOTE: TOTAL SYSTEM CAPACITY: 28,830 LITERS DATED CAPACITY: 5,670 LITERS PER DAY**

**SECTION A-A**

**NOTE: EXTERNAL ANOXIC CHAMBER MINIMUM REQUIREMENTS SHALL BE: 3,785 LITERS CAPACITY, 56 LITERS PER INCH OF LIQUID LEVEL AND 12 INCHES OF FREEBOARD.**

**SECTION A-A**

**NOTE: CENTRAL ANOXIC CHAMBER MINIMUM REQUIREMENTS SHALL BE: 3,785 LITERS CAPACITY, 56 LITERS PER INCH OF LIQUID LEVEL AND 12 INCHES OF FREEBOARD.**

**APPENDIX A**  
**Test Pit Logs**

---

**RVCA RECEIVED**  
**FEB 18 2022**



**Project No.:** 170132  
**Client:** Hindu Temple of Ottawa Carleton  
**Date:** May 08, 2017  
**Excavation Method:** Backhoe

**Project:** Terrain Analysis  
**Location:** 4835 Bank Street, Ottawa, ON  
**Field Personnel:** JA  
**Excavation Contractor:** Maurice Yelle Excavation Ltd

**SEPTIC FILE**  
**21-343**  
**OTTAWA**

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	25	50	75	
0	Ground Surface	98.21						
0	<b>TOPSOIL</b> Sandy, dark brown, dry.	0.00						
1	<b>FILL</b> Sandy clay, dark brown, dry.	98.01 0.20						
3	<b>Silty Sand</b> Trace clay, with clay seam from 1.7 to 1.8 m bgs, brown, dry.  Sieve analysis completed.	97.31 0.90		1				
4				2				
7	<b>End of Test Pit</b> Refusal over inferred bedrock.	95.11 2.10		3				

**Easting:** N/M                      **Northing:** N/M  
**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)  
**Groundsurface Elevation:** 98.21                      **Top of Riser Elev.:** 99.15  
**Excavation Width:** 1.2 m                      **Excavation Length:** 1.5 m

**NOTES:**  
 BGS- Below Ground Surface



Project No.: 170132

Client: Hindu Temple of Ottawa Carleton

Date: May 08, 2017

Excavation Method: Backhoe

RVCA RECEIVED  
FEB 18 2022

REFER TO:

Project: Terrain Analysis

Location: 4835 Bank Street, Ottawa, ON

Field Personnel: JA

Excavation Contractor: Maurice Yelle Excavation Ltd.

Test Pit Log: TP1

SEPTIC FILE #  
21-343  
OTTAWA

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number				
0	Ground Surface	97.09			50	150	25 50 75	
0	FILL	0.00					25 50 75	
1	Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs.							
1	Buried metal structure/waste at approximately 0.9 m bgs.							
3	End of Test Pit	98.19		4				
3		0.90						

Easting: N/M

Northing: N/M

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.09

Top of Riser Elev.: --

Excavation Width: 1.2 m

Excavation Length: 1.5 m

**NOTES:**

Test pit terminated at 0.9 meters due to volume of water in pit  
BGS- Below Ground Surface



Project No.: 170132

Client: Hindu Temple of Ottawa Carleton

Date: May 08, 2017

Excavation Method: Backhoe

RVCA RECEIVED  
FEB 18 2022

REFER TO:

Project: Terrain Analysis

Location: 4835 Bank Street, Ottawa, ON

Field Personnel: JA

Excavation Contractor: Maurice Yelle Excavation Ltd.

Test Pit Log: TP3

21-343

OTTAWA

SUBSURFACE PROFILE		SAMPLE DATA			Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number				
0	Ground Surface	97.75			50	25		
0	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00			150	50	75	
0.2	Brick debris found in top 0.2 m bgs.	97.55						
0.2	<b>FILL</b> Sandy silt, trace boulders, brown, dry.	0.20		5				
0.8	Tire debris found at approximately 0.8 m bgs.	96.95						
0.8	<b>TILL</b> Silty sand, trace gravel, cobbles and boulders, brown, dry.	0.80		6				
1.7	End of Test Pit	96.05						
1.7	Refusal at 1.7 m bgs over inferred bedrock.	1.70						

Easting: 0454091

Northing: 5017670

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 97.75

Top of Riser Elev.: 98.98

Excavation Width: 1.2 m

Excavation Length: 1.5 m

NOTES:

BGS- Below Ground Surface



Project No.: 170132

Client: Hindu Temple of Ottawa Carleton

Date: May 08, 2017

Excavation Method: Backhoe

RVCA RECEIVED  
FEB 18 2022

REFER TO:

Project: Terrain Analysis

Location: 4835 Bank Street, Ottawa, ON

Field Personnel: JA

Excavation Contractor: Maurice Yelle Excavation Ltd.

Test Pit Log: DPA  
**SEPTIC FILE #**  
**21-343**  
**OTTAWA**

SUBSURFACE PROFILE		SAMPLE DATA			Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number				
0	Ground Surface	99.54			50	25		
0	<b>TOPSOIL</b> Silty loam, trace clay, dark brown, dry.	0.00			150	50	75	
2	<b>FILL</b> Silty sand, trace cobbles and gravel, light brown, dry.	99.04						
2	Changing to dark brown sandy fill with trace boulders at approximately 0.8 m bgs.	0.50		7				
4				8				
5	End of Test Pit Refusal at 1.4 m bgs over inferred bedrock or large concrete structure.	98.14						
5		1.40						

Easting: 0454005

Northing: 5017628

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.54

Top of Riser Elev.: --

Excavation Width: N/M

Excavation Length: N/M

**NOTES:**

BGS- Below Ground Surface

**RVCA RECEIVED**  
**FEB 18 2022**



Project No.: 170132

REFER TO:

Project: Terrain Analysis

Test Pit Log: TP5

Client: Hindu Temple of Ottawa Carleton

Location: 4835 Bank Street, Ottawa, ON

Date: May 08, 2017

Field Personnel: JA

Excavation Method: Backhoe

Excavation Contractor: Maurice Yelle Excavation Ltd

SEPTIC FILE #  
**21-343**  
**OTTAWA**

SUBSURFACE PROFILE		SAMPLE DATA							
Depth <small>ft m</small>	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)		Water Content (%)		Water Level (Standpipe or Open Excavation)
					50	150	25	50	
0	Ground Surface	98.78							
	<b>TOPSOIL</b> Silty loam some sand, dark brown, dry	0.00							
	<b>FILL</b> Sand, some silt, trace cobbles, brown, dry.  Waste debris of metal and asphalt pieces at approximately 0.9 m bgs.	98.63 0.15	[Pattern]	10					
1									
2									
3				9					
4									
5	End of Test Pit Refusal at 1.5 m bgs over inferred bedrock.	97.28 1.50		11					↓ Dry at 1.53 m bgs
6									
7									
8									

Eastings: 0453945

Northings: 5017595

**NOTES:**

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

BGS- Below Ground Surface

Groundsurface Elevation: 98.78

Top of Riser Elev.: 99.02

Excavation Width: N/M

Excavation Length: N/M



Project No.: 170132

Client: Hindu Temple of Ottawa Carleton

Date: May 08, 2017

Excavation Method: Backhoe

RVCA RECEIVED  
FEB 18 2022  
REFER TO:

Project: Terrain Analysis

Location: 4835 Bank Street, Ottawa, ON

Field Personnel: JA

Excavation Contractor: Maurice Yelle Excavation Ltd.

Test Pit Log: TP6

SEPTIC FILE #  
21-343  
OTTAWA

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Liquid Limit (%)			
					50	150	25	50
0	Ground Surface	99.38						
	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00						
	<b>FILL</b> Sand, some gravel, cobbles, boulders, silty seam at 0.7 m bgs, brown, dry.	99.23						
		0.15						
	Refusal at 0.8 m bgs over inferred bedrock.			12				
				13				
	End of Test Pit	99.58						
		0.80						

Eastings: 0454003

Northing: 5017542

**NOTES:**

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

BGS- Below Ground Surface

Groundsurface Elevation: 99.38

Top of Riser Elev.: --

Excavation Width: N/M

Excavation Length: N/M





**LRJ**

Project No.: 170132

Client: Hindu Temple of Ottawa Carleton

Date: May 08, 2017

Excavation Method: Backhoe

RECEIVED  
FEB 18 2022

Project: Terrain Analysis

Location: 4835 Bank Street, Ottawa, ON

Field Personnel: JA

Excavation Contractor: Maurice Yelle Excavation Ltd.

Test Pit Log TP7

SEPTIC FILE # 27-343

OTTAWA

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%)			Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Liquid Limit (%)			
					50	50	75	
0	Ground Surface	99.80						
0	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00						
1	<b>FILL</b> Sand, brown, trace metal debris, dry.	99.40 0.20						
2								
3	<b>TILL</b> Silty sand, trace clay, boulders, grey, organics including tree stump, roots, blk. Refusal due to obstruction (tree stump).	96.90 0.70						
6	End of Test Pit	97.80 1.80						

Eastings: 0454051

Northing: 5017564

**NOTES:**

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

BGS- Below Ground Surface

Groundsurface Elevation: 99.60

Top of Riser Elev.: 100.79

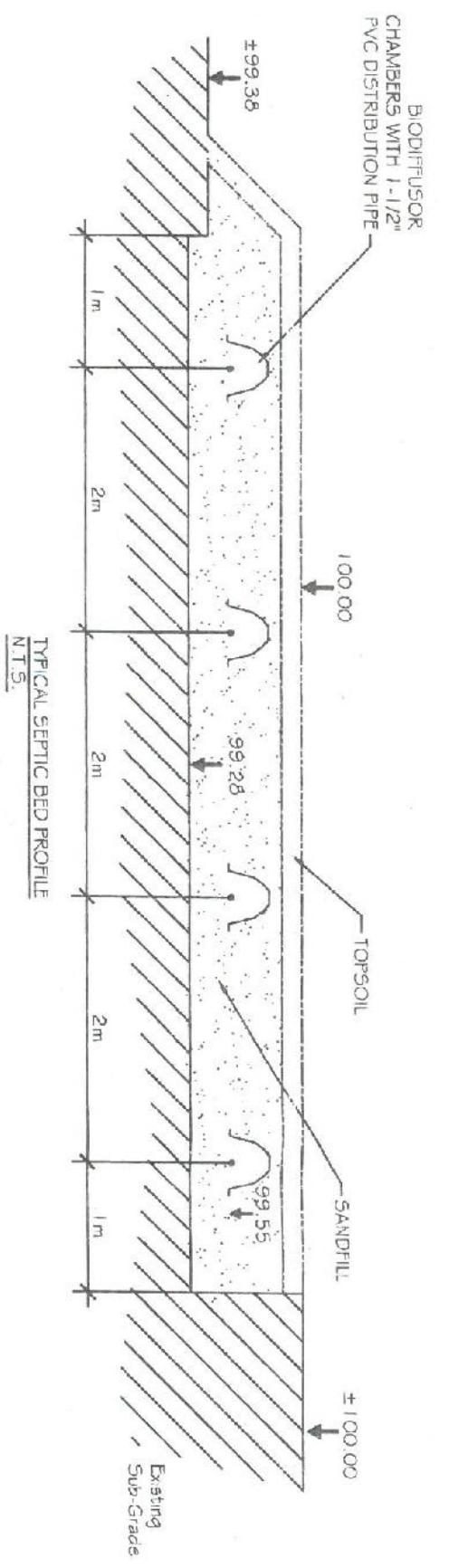
Excavation Width: N/M

Excavation Length: N/M

1. THIS CROSS SECTION IS NOT TO SCALE, ALL FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE  
 2. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GREEN VALLEY ENVIRONMENTAL INC. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.

**SEPTIC FILE - 4**  
 21-343  
 OTTAWA  
*Sam Handley*  
 April 28/22

**RVCA RECEIVED**  
 FEB 18 2022  
 REFER TO: \_\_\_\_\_



**PRETREATMENT TANK**

- INSTALL MIN. 3785L PRETREATMENT TANK.
- A MAXIMUM OF 300mm OF SOIL SHALL COVER THE PRETREATMENT TANK.
- RISERS AND LIDS SHALL BE INSTALLED FOR EASE OF ACCESS

**NORWECO TREATMENT UNIT**

- THE TREATMENT UNIT SHALL CONSIST OF A NORWECO HYDRO-KINETIC 5670L-3M TREATMENT UNIT.
- THE TREATMENT UNIT SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE PRETREATMENT TANK.
- THE TREATMENT UNIT SHALL PRODUCE A TERTIARY TREATMENT EFFLUENT QUALITY IN ACCORDANCE WITH COLUMN 2 AND 3 OPPOSITE A LEVEL IV TREATMENT UNIT OF TABLE 8.6.2.2. OF THE ONTARIO BUILDING CODE.
- THE TREATMENT UNIT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS SPECIFICATIONS BY A CERTIFIED INSTALLER
- THE OWNER OF THE TREATMENT UNIT MUST ENTER INTO A MAINTENANCE AGREEMENT WITH THE MANUFACTURERS REPRESENTATIVE
- THE TREATMENT UNIT SHALL BE BACKFILLED AND COMPACTED, IN LIFTS, WITH SELECT GRANULAR FILL, SUCH AS SAND OR CLEAR STONE
- THE TOP OF THE TREATMENT UNIT SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

**NORWECO FILTER VAULT(S)**

- FILTER VAULT(S) SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS
- FILTER VAULT(S) SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE TREATMENT UNIT
- FILTER VAULT(S) SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

**SHALLOW BURIED TRENCH BED**

- THE DISPERSAL BED SHALL CONSIST OF A TOTAL LENGTH EQUAL TO Q50 = 4825/50 = 96.5
- TOTAL LENGTH USED = 104.64m
- SAND FILL SHALL EXTEND 1.0m ON ALL SIDES.
- REMOVE LAYER OF TOP SOIL TO APPROXIMATE FOOT PRINT OF SEPTIC BED AND SIDE SLOPES
- THE PRESSURIZED DISTRIBUTION SYSTEM SHALL HAVE A PRESSURE HEAD OF NOT LESS THAN 600mm WHEN MEASURED AT THE MOST DISTANT POINT FROM THE PUMP.
- DISPERSAL BED SHALL BE BACKFILLED SO AS TO ENSURE THAT THE SURFACE WILL NOT FORM ANY DEPRESSIONS
- ALL SIDE SLOPES SHALL BE AT 1:3
- AT NO POINT DURING OR AFTER CONSTRUCTION SHALL A WHEELED VEHICLE DRIVE OVER THE SEPTIC BED AREA.
- EACH RUN SHALL CONSIST OF ONLY FULL CHAMBERS
- SEPTIC DESIGN BASED ON ADS BIO3 CHAMBERS, EACH RUN SHALL CONSIST OF 12 FULL ADS BIO3 CHAMBERS WITH A TOTAL OF 48 FULL BIO3 CHAMBERS FOR THE ENTIRE SEPTIC BED.

**MINIMUM CLEARANCE DISTANCE FROM LEACHING BED**

- 4.3m FROM ANY PROPERTY LINE
- 6.3m FROM ANY STRUCTURE
- 16.3m FROM ANY DRILLED WELL

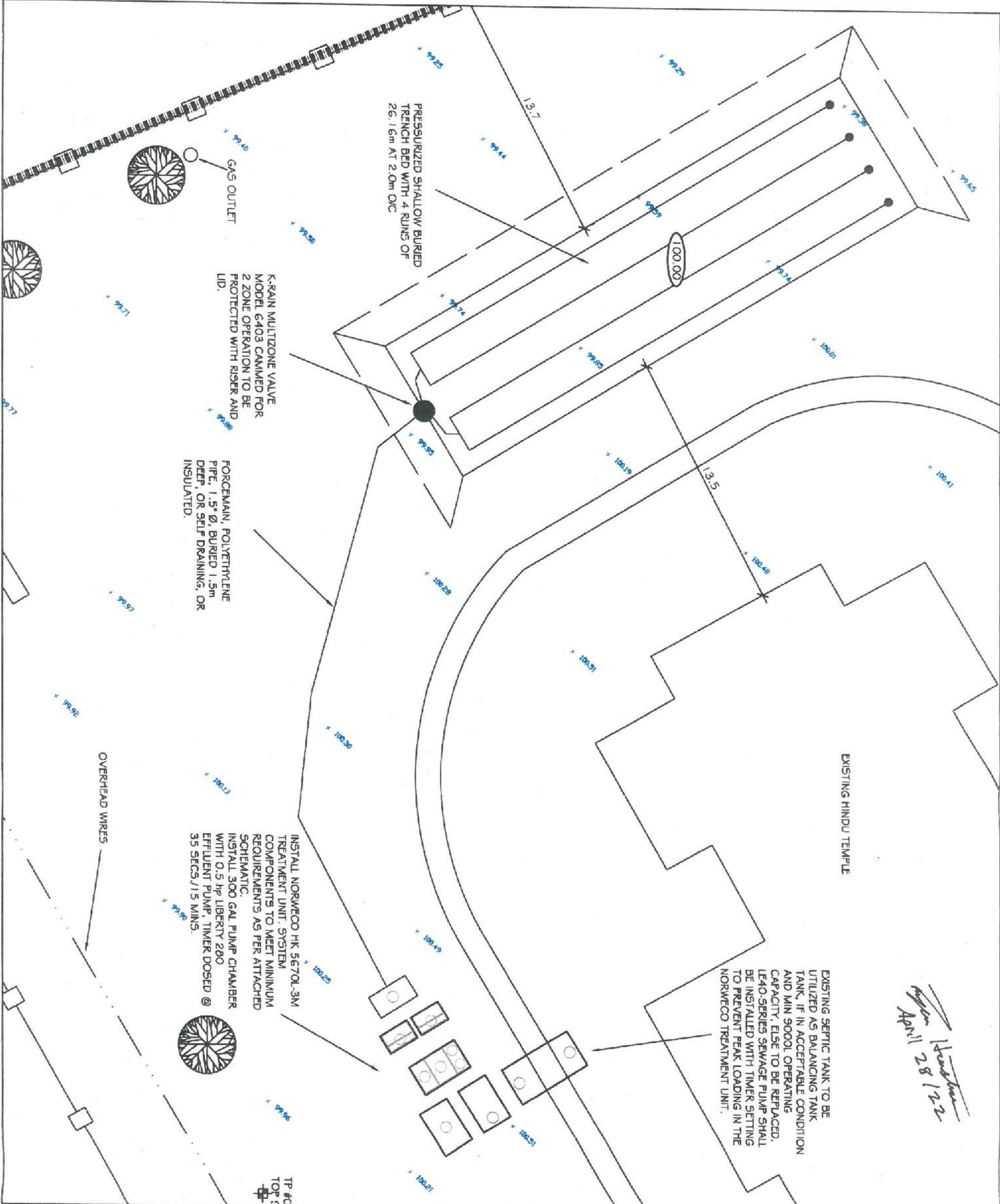
**MINIMUM CLEARANCE DISTANCE FROM TANKS**

- 3.0m FROM ANY PROPERTY LINE
- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED WELL

**GENERAL**

- THE BACKWASH WATERS FROM ANY HOUSEHOLD TREATMENT SUCH AS WATER SOFTENER SHALL NOT DISCHARGE INTO THE SEWAGE SYSTEM.
- CONTRACTOR SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- INSPECTION BY THE REGULATING AUTHORITIES IS A REQUIREMENT BY SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY GREEN VALLEY ENVIRONMENTAL INC
- IT IS RECOMMENDED THAT ALL TREES WITHIN 5m OF THE BED AREA BE REMOVED TO PREVENT ROOTS FROM INFILTRATING THE SYSTEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- SHOULD THE CONTRACTOR AT ANY TIME DURING CONSTRUCTION ENCOUNTER CONDITIONS THAT DIFFER FROM THE DESIGN CRITERIA IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGNER AND THE REGULATING AUTHORITY.
- GREEN VALLEY ENVIRONMENTAL INC. HAS PROVIDED DESIGNS BASED ON OUR INTERPRETATION OF THE ONTARIO BUILDING CODE AND THE TEST HOLES DUG ON THE PROPERTY.

Drawn by: JP	Checked by: WS		
Rev.	Description	Date	Approved
Township	Plan#	Lot	Sublot
			Con
County	City/Township	Dist. No.	Zone
	4035 BANK ST.	06951-22	07/06/21 N15
GREEN VALLEY ENVIRONMENTAL			
1055 St. George Street, Ottawa, Ontario K1R 6K7			
THE HINDU TEMPLE OF OTTAWA CARLETON			



*Handwritten signature*  
 April 28 122

**NOTES:**

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND O550.
2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.
3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.
5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.
7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.
8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.
9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

**METRIC:**

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**LEGEND:**

- PROPOSED ELEVATION
- EXISTING ELEVATION
- EXISTING WORKS
- PROPOSED SEWAGE WORKS
- FENCE LINE
- PROPERTY LINE
- TBM
- TEST PIT LOCATION

**RYCA RECEIVED**  
 FEB 18 2022

REFER TO: **SEPTIC FILE #**

21-343  
 OTTAWA

**SEPARATION DISTANCES:**

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:  
 LOT LINE = 5.0m  
 HOUSE = 7.0m  
 DRILLED WELL = 17.0m
2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:  
 LOT LINE = 3.0m  
 HOUSE = 1.5m  
 DRILLED WELL = 15.0m

Drawn by: JP	Checked by: WS		
Rev.	Description	Date	Approved
Township	Plan#	Lot	Sublot
			Con
			SP 6951-22-EPB
			4535 BANK ST.
			GREEN VALLEY ENVIRONMENTAL
			THE HINDU TEMPLE OF OTTAWA CARLETON
			25/01/24 1:200



Do Not Complete  
Permit No 21-343  
Revision No 1  
Date April 28, 2022  
Related Application  
B-22-014

## Permit

### Part 8 – Sewage System

### Ontario Building Code

**A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1**

This permit verifies that the on-site sewage system was reviewed and approved for construction under the *Ontario Building Code* and *O.Reg. 323/12* as amended by *O.Reg. 151/13*.

Inspected & Recommended by: Ryan Hiemstra Owner: Harish Gupta  
 Inspection Date & Time: April 28, 2022 Weather: \_\_\_\_\_  
 Civic Address: 4835 Bank Street (Existing Building) Legal: Lot 22, Con 5RF, Plan 5R3156  
 Osgoode:  Cumberland:  Gloucester:   
 number of bedrooms: \_\_\_\_\_ units: \_\_\_\_\_  
 finished floor area: \_\_\_\_\_ 4825 L/day  
 pretreatment tank 3785 Minimum L  
 effluent filter YES  
 pump rate Timer Dosed L/15 min  
 treatment unit Norweco Hydro-Kinetic 5670-3M  
 number of units 1

**\*\*NON-RESIDENTIAL\*\***  
 Commercial  
 Industrial  
 Institutional

bills for  yes  no  
 grain size analysis required  yes  no  
 site to be scarified  yes  no  
 clay seal inspection  yes  no  
 mantle required  yes  no  
 sub-grade inspection  yes  no

**ELEVATION**  In Ground  Partially Raised  Fully Raised

**TYPE OF SYSTEM**

- Trench  
 Pipe and Stone or  Chambers

type of chamber \_\_\_\_\_  
 loading area \_\_\_\_\_ m<sup>2</sup>  
 total trench length \_\_\_\_\_ m  
 trench configuration \_\_\_\_\_

**Dispersal Bed**

BMEC  Type A  Type B  
 stone \_\_\_\_\_ m<sup>2</sup>  
 sand \_\_\_\_\_ m<sup>2</sup>  
 pipe \_\_\_\_\_  
 weight of sand \_\_\_\_\_ kg

**Shallow Buried Trench**

pipe length 104.64 m  
 orifice spacing 0.6 m

**Filter Media Bed**

stone \_\_\_\_\_ m<sup>2</sup>  
 extended base \_\_\_\_\_ m<sup>2</sup>  
 pipe \_\_\_\_\_  
 weight of filter media \_\_\_\_\_ kg  
 loading area \_\_\_\_\_ m<sup>2</sup>

**Class 5 Holding Tank**

**Septic Tank Only**

Manager, Septic System Approvals: *Jason Hill* Permit Date: May 2, 2022

Comments: 1. Also see OSSO part 10/11 approval B-22-014  
2. No food preparation or food service within the worship building

- maintenance/pumping required  ESA permit # required  engineer to verify  
 Class 5 Holding Tank approval only valid for three years from date of issue  subgrade  squirt height

Manager, Septic System Approvals: \_\_\_\_\_ Revision Date: \_\_\_\_\_

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

NOTE: For further details, refer to corresponding application.



Ottawa Septic Bureau des systèmes  
System Office septiques d'Ottawa

3889 Rideau Valley Drive Box 599 Manotick, ON K4M 1A5

Septic File  
21-344

STREET/CIVIC INITIAL   
\*\*EMAIL ONLY\*\*

Phone: **613-692-3571** PRESS "4" for septic office 1-800-267-3504 Fax: 613-692-1507 Email: [septic@rvca.ca](mailto:septic@rvca.ca)  
SITE ADDRESS: 4835 BANK (HALL) Township: OSG-HUN-GLO-FIT-CUM-NEP-GOU-RID-KAN-TOR

CONTACT: 1. GVE 2.  3.

### INFORMATION FOR OWNER/APPLICANT

Attached is your Sewage System Permit. A minimum of two inspections are required before your proposed sewage system can be approved for use (additional inspections may be required for clay soils/bedrock and/or re-inspections). Inspections must be requested in writing. Please see attached:

- Inspection fax request form (all inspections MUST be requested in writing)
- As-built components and drawing form
- Copy of the approved application and schedule pages
- Approved Part 8 permit: \***Electronic copy only** - Be sure to **INCLUDE** in Building Application Package for Plans Examiner at **CITY of OTTAWA** client services, if **NEW or RENO** construction project.

#### Special Note

- A permit is **valid for 12 months** from the original date of issuance noted in "permit date". If lapsed, it **may be renewed only once** for a period of 12 months from the date of expiry.

- No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. (*Building Code Act 1992, c.23, s.8(12)*)

#### Sewage System Permit Construction Requirements

##### 1. Clay Soils/Bedrock only (If required per issued Approval)

In clay soils/bedrock, a site preparation inspection is required. The total contact area must be properly prepared. Scarification must be done under dry conditions prior to importing leaching bed fill.

##### 2. Installation Inspection - 2<sup>nd</sup> inspection

When the sewage system is substantially completed (i.e., before the final fill is placed over the septic tank and leaching bed system) an installation inspection is required. Prior to any inspection request, the following must be submitted:

- "as-built components" and "as-built drawings" — see attached form
- "engineer letter" — if the system is engineered
- grain size analysis and weight bills for all Filter Media types of septic systems
- Weight bills for washed septic stone, where applicable
- Maintenance/service contract for treatment unit installed

##### 3. Final Grading Inspection - 3<sup>rd</sup> inspection

When construction of the sewage system is complete, a final grading inspection is required. Before a Certificate of Completion can be issued, the following must be complete:

- The leaching bed and septic tank must be covered with sand fill and topsoil and graded accordingly
- All conditions of the Sewage System Permit & comments on the installation inspection report must be met
- The depth of cover & material type must be identified by inspection pipes or holes placed over trenches at 4 corners of bed
- The 4 corners of the bed must be staked

JULY 2020

Location: 2:Administration templates\CoverPart8page



**Green Valley Environmental Inc.**

FEB 18 2022

PHIC FILE #

21-344

REFER TO:  
**LETTER OF AUTHORIZATION**  
PITAWA

Owner: Harish Gupta The Hindu Temple of Ottawa Carleton  
Address: 4835 Bank St  
Gloucester ON K1X 1G6

Phone No.: (613) 737-5939 Cell No.: (613) 866-2984  
Work No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

**LOCATION OF PROPERTY:**

Lot No.: 22  
Concession No.: 5RF  
Sub lot/Part No.: \_\_\_\_\_  
R. Plan No.: 5R 3156  
Civic Address: 4835 Bank St  
Municipality: Gloucester  
Roll No.: \_\_\_\_\_

Commercial: (provide description of building and intended use)  
Proposed Building

I, the above - mentioned authorize Green Valley Environmental Services to act as my agent to apply for and obtain a sewage system permit from the responsible Approval Agency.

Signature:  \_\_\_\_\_ Date: 2.06.2021

RVCA RECEIVED

FEB 18 2022

# Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the Building Code Act, 1992

FOR TO:

## For use by Principal Authority

Application number:

Permit number (if different):

Date received:

Roll number:

## OTTAWA SEPTIC SYSTEM OFFICE

Application submitted to: \_\_\_\_\_  
(Name of municipality, upper-tier municipality, board of health or conservation authority)

### A. Project information

Building number, street name

4835 Bank St.

Unit number

22/5

Municipality

Gloucester

Postal code

K1X 1G6

Plan number/other description

5R3156

Project value est \$

Area of work (m<sup>2</sup>)

### B. Purpose of application

New construction

Addition to an existing building

Alteration/repair

Demolition

Conditional Permit

Proposed use of building

Commercial Assembly

Current use of building

Description of proposed work

Install new septic system for Proposed Assembly building (Revision)  
Existing Permit: 21-344

### C. Applicant

Applicant is:

Owner or

Authorized agent of owner

Last name

First name

Corporation or partnership

Street address

6107 First Line Rd.

Green Valley Environmental

Unit number

Lot/con.

Municipality

North Gower

Postal code

K4M 1A7

Province

ON

Telephone number

(613) 692-2816

Fax

(613) 692-1802

E-mail

eng@greenvalleyenv.com

Cell number

( )

### D. Owner (if different from applicant)

Last name

Gupta

First name

Harsh

Corporation or partnership

The Hindu Temple of Ottawa Carleton

Street address

4835 Bank St.

Unit number

Lot/con.

Municipality

Gloucester

Postal code

K1X 1G6

Province

ON

Telephone number

(613) 737-5939

Fax

( )

E-mail

eng@hntc.ca

Cell number

(613) 866-2984

Application for a Permit to Construct or Demolish - Effective January 1, 2014

<b>E. Builder (optional)</b>		<b>OTTAWA</b>	
Last name	First name	Corporation or partnership (if applicable)	
Street address	Unit number	Lot/con.	
Municipality	Postal code	E-mail	
Telephone number ( )	Fax ( )	Cell number ( )	
<b>F. Taron Warranty Corporation (Ontario New Home Warranty Program)</b>			
i. Is proposed construction for a new home as defined in the <i>Ontario New Home Warranties Plan Act</i> ? If no, go to section G.		Yes	No
ii. Is registration required under the <i>Ontario New Home Warranties Plan Act</i> ?		Yes	No

iii. If yes to (ii) provide registration number(s): \_\_\_\_\_

**G. Required Schedules**

- i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities
- ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

**H. Completeness and compliance with applicable law**

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted). Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the <i>Building Code Act, 1992</i> , to be paid when the application is made.	Yes	No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> .	Yes	No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes	No
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes	No

**I. Declaration of applicant**

Jacob Piner  
(print name)

declare that:

- 1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
- 2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022

Signature of applicant Jacob Piner

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor, Toronto, M5G 2E5 (416) 585-6666.



FEB 18 2022

SEPTIC FILE #  
21-344

## Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

<b>A. Project information</b>		Building number, street name		Unit no.	Lot/con.
Municipality		Postal code	Plan number/ other description		
1835 Bank St		K1X 1G6	5R 3156		
<b>B. Individual who reviews and takes responsibility for design activities</b>					
Name		Firm			
Jacob Prner		Green Valley Environmental			
Street address		Unit no.	Lot/con.		
6107 First Line Rd.					
Municipality		Postal code	Province	E-mail	
North Cove		K4M 1A7	ON	eng.prner@gvengroup.ca	
Telephone number		Fax number	Cell number		
(613) 692-2616		(613) 692-1802	( )		
<b>C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]</b>					
House		HVAC – House		Building Structural	
Small Buildings		Building Services		Plumbing – House	
Large Buildings		Detection, Lighting and Power		Plumbing – All Buildings	
Complex Buildings		Fire Protection		On-site Sewage Systems	
Description of designer's work					
Design a septic system for proposed assembly building.					
Revision to Permit 21-344					
<b>D. Declaration of Designer</b>					
I, <u>Jacob Prner</u>		declare that (choose one as appropriate):			
(print name)					
I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4 of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.					
Individual BCIN: <u>113751</u>					
Firm BCIN: <u>16035</u>					
I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5 of Division C, of the Building Code.					
Individual BCIN: _____					
Basis for exemption from registration: _____					
The design work is exempt from the registration and qualification requirements of the Building Code.					
Basis for exemption from registration and qualification: _____					
I certify that:					
1. The information contained in this schedule is true to the best of my knowledge.					
2. I have submitted this application with the knowledge and consent of the firm					
Date <u>February 7 2022</u>		Signature of Designer <u>Jacob Prner</u>			

## NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

RVCA

FEB 18 2022

FILE #  
21-344  
OTTAWA

**Schedule 2: Sewage System Installer Information**

**A. Project information**  
 Building number, street name: 4835 Bank St. Unit number: Lot/con: 245  
 Municipality: Gloucester Postal code: K1K 1G6 Plan number/other description: 5K3156

**B. Sewage system installer**  
 Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?  
 Yes (Continue to Section C)  No (Continue to Section E)  
 Installer unknown at time of application (Continue to Section E)

**C. Registered installer information (where answer to B is "Yes")**

Name	Green Valley Environmental	BCIN	11234
Street address	6107 First Line Rd.	Unit number	Lot/con.
Municipality	North Gower	Postal code	E-mail
Telephone number	(613) 692-2616	K4M1A7	Province
Fax	(613) 692-1802		ON

**D. Qualified supervisor information (where answer to section B is "Yes")**

Name of qualified supervisor(s): Bill Seabrook Building Code Identification Number (BCIN): 11234

**E. Declaration of Applicant:**

I, Jacob Prner (print name) declare that:


I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;

OR

I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.

I certify that:

- The information contained in this schedule is true to the best of my knowledge.
- If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date: February 7 2022 Signature of applicant: 



**RVCA RECEIVED**  
**FEB 18 2022**  
REFER TO:

**DISPERSED FILE #**  
Permit # \_\_\_\_\_  
Revision # 344  
Date \_\_\_\_\_  
**OTTAWA**

**Schedule 4**

**Proposed Services**  
Complete Sections 1 thru 7

**1. Engineered**

- Yes
- No

**2. Water supply**

- Proposed
- Existing

**3. Type of work proposed**

- New Installation
- Replacement
- Alteration

**4. Type of Well**

- Dug/bored/Sandpoint well
- Drilled well
- Municipal
- Other

**5. Residential Sewage Design Flow Info.**

**Bedrooms** \_\_\_\_\_  
**House (floor area)** \_\_\_\_\_ m<sup>2</sup>  
**People** \_\_\_\_\_  
**Total Fixture Units** \_\_\_\_\_ (Schedule 8)  
**Residential Flow** \_\_\_\_\_ L/day

**6. Sewage Design Flow Other Occupancies**

**Design Flow** 4000 L/day  
**Detailed sewage flow calculations:**  
No food preparation (Assembly bldg.)  
500 x B = 4000 L/day  
(500 people)

**7. Type of System**

- Treatment Unit Norweco 4730-3M
- Class 2 - Leaching Pit
- Class 3 - Cesspool
- Class 4 - Shallow Buried Trench

Class 4 - BMEC Area Bed (Schedule 11)

- Fully raised
- Partially raised
- In-ground
- Class 4 - "Type A" Dispersal (Schedule 13)
  - Fully raised
  - Partially raised
  - In-ground
- Class 4 - "Type B" Dispersal (Schedule 14)
  - Fully raised
  - Partially raised
  - In-ground

Class 4 - Trench (Schedule 9)

- Fully raised
- Partially raised
- In-ground

Class 4 - Filter Media (Schedule 10)

- Fully raised
- Partially raised
- In-ground

- Class 5 - Holding Tank (9000L min)
- Tank/Treatment Unit/Pump Chamber ONLY
- Effluent Filter/Risers ONLY



RVCA RECEIVED  
FEB 18 2022  
REFER TO:

SEPTIC FILE #  
Do Not Complete  
Permit # 21-344  
Revision #  
Date OTTAWA

Schedule 5  
Sewage System Details

Type of System Class 4 Shallow Buried Trench Bed ( Schedule 4)  
Septic/Holding Tank Size: \_\_\_\_\_ Litres Make: \_\_\_\_\_  
Septic Tank Effluent Filter Make: \_\_\_\_\_ Model: \_\_\_\_\_

Treatment Unit - Make & Model Norweco Hydro-Kinetic 4730-3M

Number of Units: 1

Refer to Typical Drawing # Pc-5-1174

Mantle Information: Pump(s) required \_\_\_\_\_  
Pump Rate L/15min

Native or imported = 1.5m in \_\_\_\_\_ direction(s)

Note: Alarm required for all  
pumping systems

Slope subgrade \_\_\_\_\_ % slope  
\_\_\_\_\_ direction(s)

Trench  
Site to be Scarified (If clay) YES / NO  
Clay Seal Required (If bedrock) YES (NO)

BMEC Area Bed  
Distribution Pipe Length \_\_\_\_\_ m  Shallow Buried Trench  
Loading Area \_\_\_\_\_ m<sup>2</sup> Pipe Length 139.52 m

Type of Chamber \_\_\_\_\_  
Length of Chamber \_\_\_\_\_ m  Filter Media Bed

Type A Stone \_\_\_\_\_ m<sup>2</sup>

Type B Extended Base \_\_\_\_\_ m<sup>2</sup>

Stone \_\_\_\_\_ m<sup>2</sup>

Sand \_\_\_\_\_ m<sup>2</sup>

Pipe \_\_\_\_\_ m

Linear Loading \_\_\_\_\_ L/m<sup>2</sup>

Tank/Treatment Unit/Pump Chamber Replacement ONLY

Effluent Filter & Riser ONLY

Construction Notes:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Ottawa Septic Bureau des systèmes  
System Office septiques d'Ottawa

**RVCA RECEIVED**  
**FEB 18 2022**  
REFER TO:

**SEPTIC FILE #**  
Do Not Complete  
Permit # 21-344  
Revision # \_\_\_\_\_  
Date OTTAWA

**Schedule 6**  
**Soil and Water Table Information**  
**(Minimum depth of test pit: 2 metres)**

Name of Applicant/Agent: <u>LRL</u>		Inspector: _____
Date: <u>May 8 2017</u>		Date: _____
Applicant/Agent Signature: <u>[Signature]</u>		Inspector Signature: <u>[Signature]</u>
Time: <u>10:00 am</u>		Time: _____

EG (.....)	Soil Description	EG (.....)	Soil Description
.5m	T <i>See Attached Test Pit Logs</i>	.5m	EG (.....) Soil Description
1.0m		1.0m	
1.5m		1.5m	
2.0m		2.0m	
.5m	T	.5m	EG (.....) Soil Description
1.0m		1.0m	
1.5m		1.5m	
2.0m		2.0m	

**LEGEND**  
BR = Bedrock  
GWT = Ground water table  
HGWT = High ground water table  
M = metres  
EG = Existing grade  
T = percolation rate

Test pits not available for inspection.  
Engineer assumes all liability for soil  
and HGWT info/tables

RVCA RECEIVED

FEB 18 2022

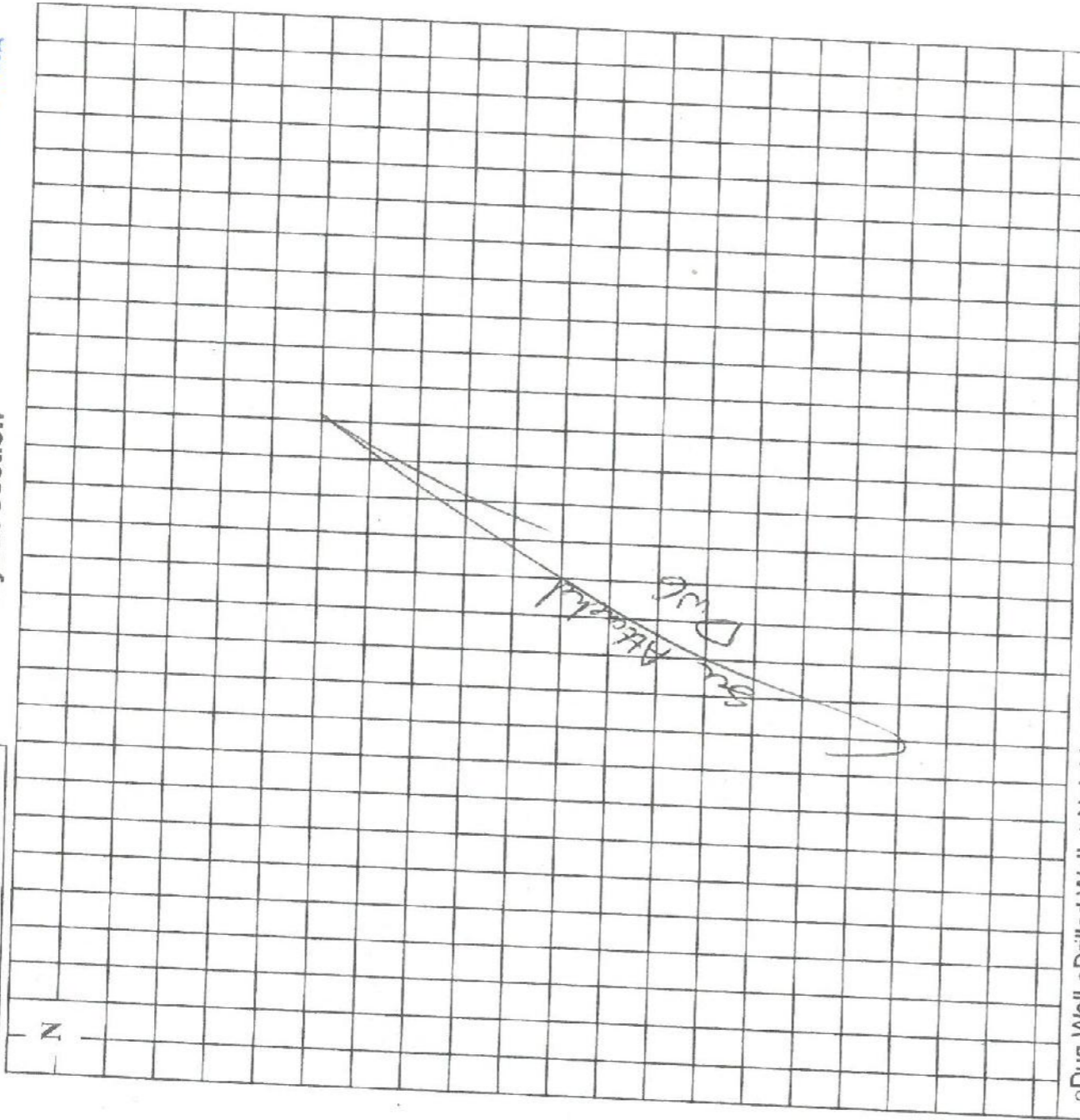
Ottawa Septic Bureau des systèmes  
System Office septiques d'Ottawa

Scale: 1Block = NTS

Schedule 7  
Layout Section

Do Not Copy  
Permit # \_\_\_\_\_  
Revision # 21-366  
Date \_\_\_\_\_

OTTAWA



o Dug Well • Drilled Well ▲ Neighbouring Homes ◊ Benchmark -- Tile Drainage --- Property Line

Elevations (metric only)

B.M. 100.17 m

B.M. Description East arm of hydrant  
located west of Southern entrance to site

Exact Location \_\_\_\_\_

Min. of 5 elevations in proposed system  
area (in X pattern)

X <sub>1</sub>	_____
X <sub>2</sub>	_____
X <sub>3</sub>	_____
X <sub>4</sub>	_____
X <sub>5</sub>	_____
X <sub>6</sub> (toe)	_____
X <sub>7</sub>	_____
X <sub>8</sub>	_____



RVCA RECEIVED

FEB 18 2022

REFER TO:

Do Not Complete  
Permit # \_\_\_\_\_  
Revision # 21-344  
Date \_\_\_\_\_  
OTTAWA

**Schedule 8  
Fixture unit count**

Fixtures	# Existing	+ # Proposed	X	unit count =	Fixture Count
<b>Bathroom</b>					
Bathroom group (toilet, sink and tub or shower) installed in the <u>same</u> room		+	X	6	=
<i>Urinal wall Mounted w/height Type</i>		+	X	10	= 15
Shower stall		+	X	1.5	= 3
Wash basin (SINK) (1 1/2 inch trap)		+	X	19	= 28.5
Watercloset (TOILET) tank operated		+	X	22	= 88
Bidet		+	X	1	=
<b>Kitchen</b>					
Dishwasher		+	X	1	=
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap		+	X	1.5	=
<b>Other</b>					
Domestic washing machine		+	X	1.5	=
Combination sink and laundry tray single or double (Installed on 1 1/2 trap)		+	X	1.5	=

\*Total: **134.5**

\*Insert the TOTAL in section 5 of Schedule 4 (O.Reg 151/13 Table 7.4.9.3)

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

*[Signature]*  
Agent/Owner signature

*June 7 2021*  
Date

SEPTIC FILE #

21-344

OTTAWA

RVCA RECEIVED

FEB 18 2022

REFER TO:

- GENERAL NOTES:
- FALL THROUGH THE HYDROKINETIC PLANT FROM INLET INVERT TO OUTLET INVERT IS SEVEN INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
  - ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND CASTINGS TO GRADE. INSPECTION COVERS MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
  - TANK REINFORCED PER ACI STD. 318.
  - REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
  - AIR PUMPS MAY BE MOUNTED INSIDE THE RISERS ABOVE THE AERATION CHAMBERS OR MAY BE REMOTE MOUNTED UP TO 100 FEET FROM TANK.
  - BOTTOM LAYER CONTAINS 3" OF 3/4" TO 1" BASE MATERIAL. MIDDLE LAYER CONTAINS 2" OF 3/8" TO 1/2" BASE MATERIAL. TOP LAYER CONTAINS 23" OF PHOS-4-FADE ADSORPTIVE MEDIA.

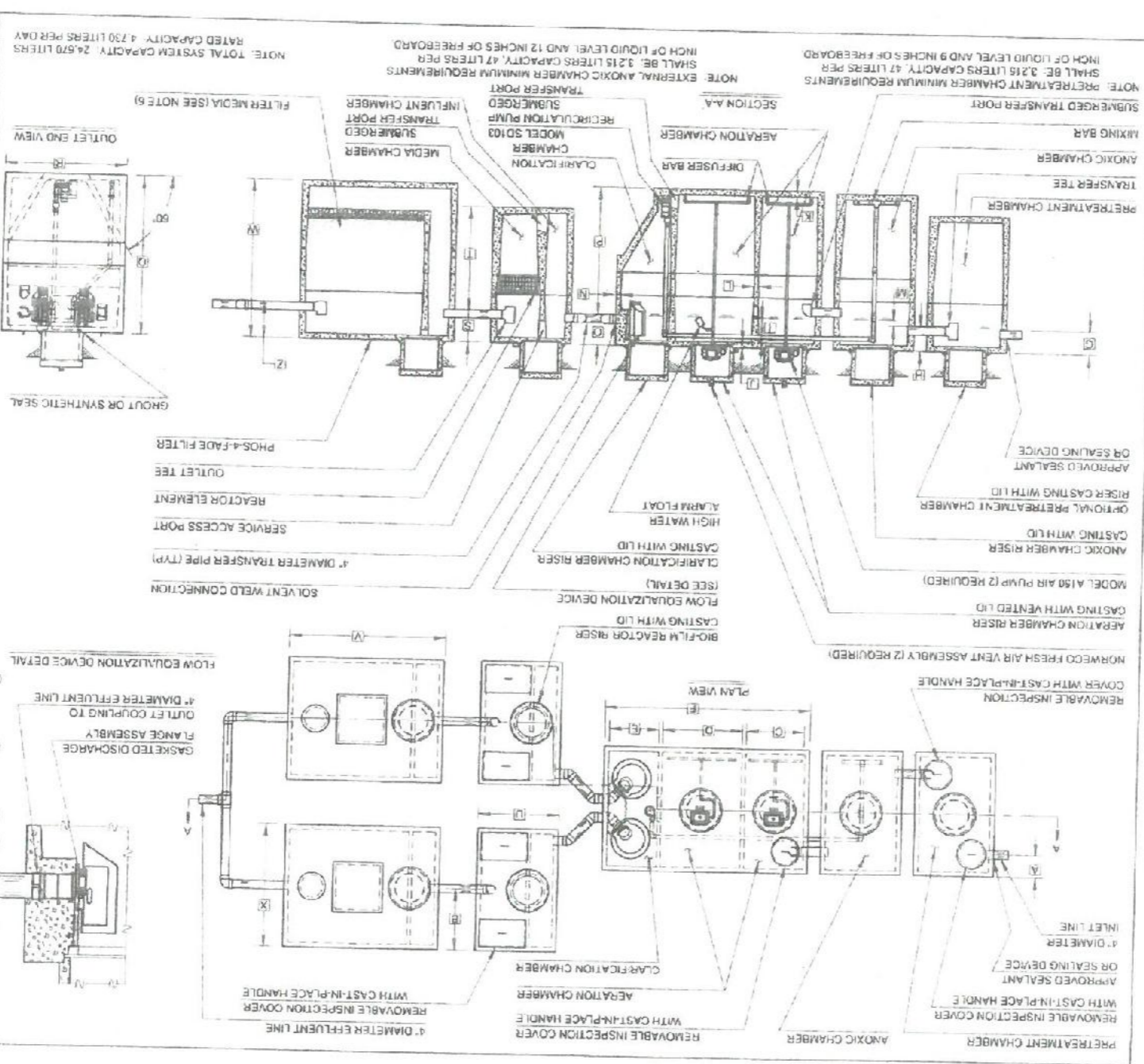
CANBIO 3680-600 TREATMENT LEVEL CLASS B - IV D - I, N - I, P - II  
 PROJECT ENGINEER'S APPROVAL  
 I (WEB) HERBERY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED  
 DATE: \_\_\_\_\_  
 NAME: \_\_\_\_\_  
 CONTRACTOR'S CERTIFICATION  
 I (WEB) HERBERY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED  
 DATE: \_\_\_\_\_  
 NAME: \_\_\_\_\_

CRITICAL DIMENSIONS

A	1'-0"	1'-0"
B	2'-9"	2'-9"
C	2'-8"	2'-8"
D	3'-7"	3'-7"
E	2'-3"	2'-3"
F	9'-3"	9'-3"
G	1'-0"	1'-0"
H	1'-1"	1'-1"
I	4'-1"	4'-1"
J	7'-0"	7'-0"
K	0'-3"	0'-3"
L	0'-2"	0'-2"
M	0'-3"	0'-3"
N	1'-7"	1'-7"

PERMITS

NO. 10-2017-A	1/15
NO. 10-2017-B	1/15
NO. 10-2017-C	1/15
NO. 10-2017-D	1/15
NO. 10-2017-E	1/15
NO. 10-2017-F	1/15
NO. 10-2017-G	1/15
NO. 10-2017-H	1/15
NO. 10-2017-I	1/15
NO. 10-2017-J	1/15
NO. 10-2017-K	1/15
NO. 10-2017-L	1/15
NO. 10-2017-M	1/15
NO. 10-2017-N	1/15
NO. 10-2017-O	1/15
NO. 10-2017-P	1/15
NO. 10-2017-Q	1/15
NO. 10-2017-R	1/15
NO. 10-2017-S	1/15
NO. 10-2017-T	1/15
NO. 10-2017-U	1/15
NO. 10-2017-V	1/15
NO. 10-2017-W	1/15
NO. 10-2017-X	1/15
NO. 10-2017-Y	1/15
NO. 10-2017-Z	1/15





**GREEN VALLEY ENVIRONMENTAL SERVICES**

4835 Bank St.

13.08	13.08	13.08	13.08	13.08	13.08	13.08	13.08	13.08	13.08
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
20.80	20.80	20.80	20.80	20.80	20.80	20.80	20.80	20.80	20.80
20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00

In/Output

0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
2.00	5.00	6.00	7.00	8.00	9.00	20.00	20.00	0.77	15.43
diameter of orifice(inch):	Squirt height (feet):	Discharge of orifice (US gal/orifice x min)		Flow in a lateral (US gal/min x lateral)		Total discharge (US gal/min)		Total discharge (L/min)	
36.93	58.39	63.97	69.09	73.86	78.35	116.79	25.69	116.79	116.79
8.12	12.85	14.07	15.20	16.25	17.23	25.69	25.69	25.69	25.69
Total discharge (imp. gal/min)									

input Length of a Lateral ( m ):  
 input Number of Laterals:  
 input Input spacing of orifices(m):  
 ← input Number of orifices(calculated):  
 input chosen number of orifices:  
 output space of orifice to edge (m)  
 output total number of orifices:

82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02
3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Diameter of force main (in/cm)								
25.00	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02
3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Diameter of manifold (in/cm)								
13.08	42.91	42.91	42.91	42.91	42.91	42.91	42.91	42.91	42.91
3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Length of lateral (m)								
4.00	13.12	13.12	13.12	13.12	13.12	13.12	13.12	13.12	13.12
4.00	13.12	13.12	13.12	13.12	13.12	13.12	13.12	13.12	13.12
input	Elevation difference(assumed, from low water level in pump tank to manifold (m)								
0.61	2.00	5.00	6.00	7.00	8.00	9.00	20.00	20.00	20.00
input	Residual head on orifice (ft)								
3.05	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
estimated	Fittings' loss (estimated) (m/ft)								
0.01	0.04	0.09	0.10	0.12	0.13	0.15	0.31	0.31	0.31
output	Friction loss in lateral (m/ft)								
0.01	0.02	0.05	0.06	0.06	0.07	0.08	0.17	0.17	0.17
output	Friction loss in manifold (m/ft)								
0.23	0.76	1.78	2.11	2.43	2.75	3.06	6.41	6.41	6.41
output	Friction loss in foremain (m/ft)								
3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Diameter of lateral (in)								
13.08	42.91	42.91	42.91	42.91	42.91	42.91	42.91	42.91	42.91
input	Length of lateral (m)								
3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Diameter of manifold (in/cm)								
2.00	6.55	6.55	6.55	6.55	6.55	6.55	6.55	6.55	6.55
input	Length of manifold (m)								
3.81	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
input	Diameter of force main (in/cm)								
25.00	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02	82.02
input	Length of force main(m)								
7.91	25.94	30.04	31.39	32.73	34.08	35.42	50.02	50.02	50.02
output	TDH (estimated) (m/ft)								
9.76	15.43	16.90	18.25	19.51	20.70	30.85	30.85	30.85	30.85
output	Q (gpm)								

6107 First Line Road, Manotick, Ontario, K4M 1A7  
 Box 882, Tel. (613) 692-2616, Fax: (613) 693-1802

RVCA RECEIVED  
 FEB 18 2022  
 REFER TO:

SEPTIC FILE #  
 21-344  
 OTTAWA

RVCA RECEIVED

FEB 18 2022

REFER TO:

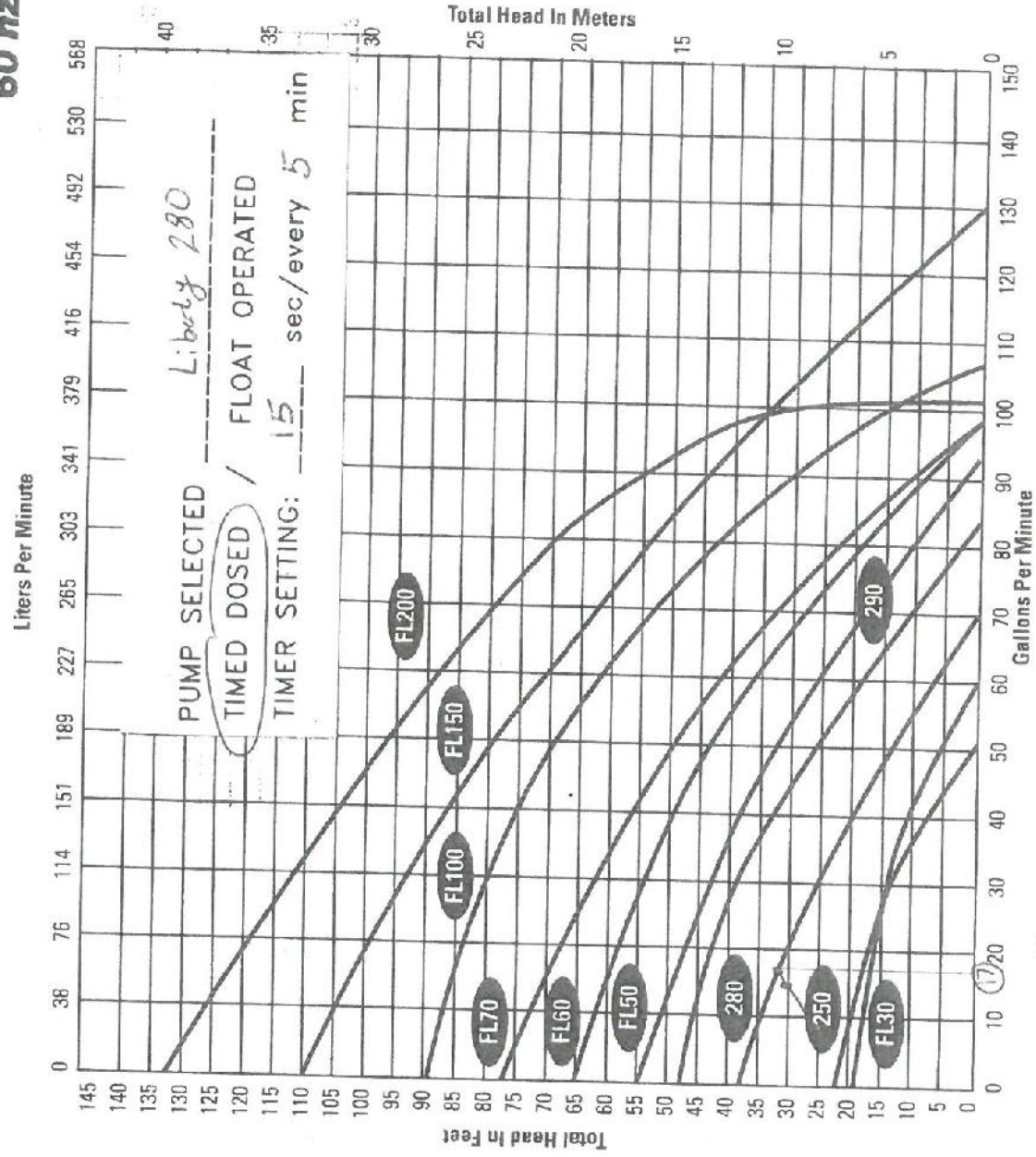
# Liberty Pumps®

SEPTIC FILE #  
21-344

OTTAWA

## Effluent Pumps

### Performance Curve Data 60 Hz.



# innovate. evolve.

Liberty Pumps • 7000 Apple Tree Avenue • Bergen, NY 14416  
Phone 800-543-2550 Fax (585) 494-1539  
www.libertypumps.com

Specifications subject to change without notice.  
Copyright © Liberty Pumps, Inc. 2013  
All rights reserved. LLI76625 R01/13

**APPENDIX A**

**Test Pit Logs**



LRJ

Test Pit Log: TPTTAWA

Project No.: 170132  
 Project: Terrain Analysis  
 Client: Hindu Temple of Ottawa Carleton  
 Location: 4835 Bank Street, Ottawa, ON  
 Date: May 08, 2017  
 Field Personnel: JA  
 Excavation Method: Backhoe  
 Excavation Contractor: Maurice Veille Excavation Ltd.

SUBSURFACE PROFILE

SAMPLE DATA

Depth ft/m	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
0	Ground Surface	98.21						
	TOPSOIL Sandy, dark brown, dry.	0.00						
	FILL Sandy clay, dark brown, dry.	98.01 0.20						
1				1				
3	Silty Sand Trace clay, with clay seam from 1.7 to 1.8 m bgs, brown, dry. Sieve analysis completed.	97.31 0.90						
2				2				
7	End of Test Pit Refusal over inferred bedrock.	96.11 2.10		3				

Eastings: N/M

Northings: N/M

NOTES:

Site Datum: Top east arm of hydrant at south entrance (100.00 m)  
 Groundsurface Elevation: 98.21  
 Top of Riser Elev.: 99.15  
 Excavation Width: 1.2 m  
 Excavation Length: 1.5 m  
 BGS- Below Ground Surface

**RVCA RECEIVED**  
**FEB 18 2022**  
 REFER TO:

**SEPTIC FILE #**  
**21-344**



**Project No.:** 170132  
**Client:** Hindu Temple of Ottawa Carleton  
**Date:** May 08, 2017  
**Excavation Method:** Backhoe  
**Project:** Terrain Analysis  
**Location:** 4835 Bank Street, Ottawa, ON  
**Field Personnel:** JA  
**Excavation Contractor:** Maurice Yelle Excavation Ltd.

**OTTAWA West Pit Log: TP2**

SUBSURFACE PROFILE		SAMPLE DATA		Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
Depth (m)	Soil Description	Elev./Depth (m)	Lithology				
0	Ground Surface	97.09					
0.00	FILL Silty sand with some clay, brown, saturated with water infiltration at 0.4 m bgs. Buried metal structure/waste at approximately 0.9 m bgs.	0.00	[Patterned area representing fill]	50	25	25	
3.00	End of Test Pit	96.19		150	50	50	
3.90		0.90					
4.00							
4.10							
4.20							
4.30							
4.40							
4.50							
4.60							
4.70							
4.80							
4.90							
5.00							
5.10							
5.20							
5.30							
5.40							
5.50							
5.60							
5.70							
5.80							
5.90							
6.00							

**Eastings:** N/M      **Northings:** N/M

**Site Datum:** Top east arm of hydrant at south entrance (100.00 m)

**Groundsurface Elevation:** 97.09      **Top of Riser Elev.:** --

**Excavation Width:** 1.2 m      **Excavation Length:** 1.5 m

**NOTES:**  
 Test pit terminated at 0.9 meters due to volume of water in pit.  
 BGS- Below Ground Surface

SEPTIC FILE #  
21-344

RVCA RECEIVED  
FEB 10 2022

**LRJ** Project No.: 170132 Test Pit Log: TP3  
 Client: Hindu Temple of Ottawa Carleton Project: Terrain Analysis  
 Location: 4835 Bank Street, Ottawa, ON  
 Date: May 06, 2017 Field Personnel: JA  
 Excavation Method: Backhoe Excavation Contractor: Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE		SAMPLE DATA			Water Content (%) Liquid Limit (%)	Shear Strength (kPa)	Water Level (Standpipe or Open Excavation)
Depth (m)	Soil Description	Elev./Depth (m)	Lithology	Sample Number			
0	Ground Surface	97.75					
0.00	TOPSOIL Sandy loam, dark brown, dry.	0.00					
0.20	Brick debris found in top 0.2 m bgs.	97.55					
	FILL Sandy silt, trace boulders, brown, dry.	0.20		5			
	Tire debris found at approximately 0.8 m bgs.						
	TILL Silty sand, trace gravel, cobbles and boulders, brown, dry.	96.95					
	Sieve analysis completed.	0.80					
1.70	End of Test Pit	96.05		6			
	Refusal at 1.7 m bgs over inferred bedrock.	1.70					



Eastings: 0454091      Northings: 5017670  
 Site Datum: Top east arm of hydrant at south entrance (100.00 m)  
 Groundsurface Elevation: 97.75      Top of Riser Elev.: 98.98  
 Excavation Width: 1.2 m      Excavation Length: 1.5 m

**NOTES**  
BGS: Below Ground Surface

**RVCA RECEIVED**  
**FEB 18 2022**



Project No.: 170132  
 Client: Hindu Temple of Ottawa Carleton  
 Date: May 06, 2017  
 Excavation Method: Backhoe

Test Pit Log: TPA  
 Project: Terrain Analysis  
 Location: 4835 Bank Street, Ottawa, ON  
 Field Personnel: JA  
 Excavation Contractor: Maurice Yelle Excavation

**SEPTIC FILE #**  
**21-344**  
**OTTAWA**

Depth	SUBSURFACE PROFILE		SAMPLE DATA		Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
	Soil Description	Elev./Depth (m)	Lithology	Sample Number			
0	Ground Surface	99.54			25	50	
0.00	TOPSOIL Silty loam, trace clay dark brown, dry	0.00			75	75	
0.80	FILL Silty sand, trace cobbles and gravel, light brown, dry.	99.04					
0.8	Changing to dark brown sandy fill with trace boulders at approximately 0.8 m bgs.			7			
1.40	End of Test Pit Refusal at 1.4 m bgs over inferred bedrock or large concrete structure	98.14		8			

Eastings: 0454005      Northing: 5017628      **NOTES:**  
 Site Datum: Top east arm of hydrant at south entrance (100.00 m)      BGS- Below Ground Surface  
 Groundsurface Elevation: 99.54      Top of Riser Elev.: --  
 Excavation Width: N/A      Excavation Length: N/A

**RVCA RECEIVED**  
**FEB 18 2022**

**SEPTIC FILE #**  
**21-344**  
**OTTAWA**



**Test Pit Log: TP3**

Project: Terrain Analysis  
Location: 4835 Bank Street, Ottawa, ON  
Field Personnel: JA  
Excavation Contractor: Maurice Yelle Excavation Ltd.

Project No.: 170132  
Client: Hindu Temple of Ottawa Carleton  
Date: May 08, 2017  
Excavation Method: Backhoe

SUBSURFACE PROFILE		SAMPLE DATA			Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
Depth	Soil Description	Elev./Depth (m)	Lithology	Sample Number				
0	Ground Surface	98.78			25	50	75	<p>Dry at 1.53 m bgs</p>
0.00	TOPSOIL	0.00			25	50	75	
0.15	Silty loam some sand, dark brown, dry	98.63		10	25	50	75	
	FILL	0.15			50	150		
	Sand, some silt, trace cobbles, brown, dry			9				
	Waste debris of metal and asphalt pieces at approximately 0.9 m bgs.							
1.50	End of Test Pit	97.28		11				
	Refusal at 1.5 m bgs over inferred bedrock.	1.50						

Eastings: 0453845

Northings: 5017595

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 98.78

Top of Riser Elev.: 99.02

Excavation Width: N/M

Excavation Length: N/M

**NOTES:**

BGS: Below Ground Surface





LRJ

RVCA RECEIVED  
FEB 18 2022

SEPTIC FILE #  
21-344  
OTTAWA

Test Pit Log: TP6

Project No.: 170138  
Project: Terrain Analysis  
Client: Hindu Temple of Ottawa Carleton  
Location: 4835 Bank Street, Ottawa, ON  
Date: May 06, 2017  
Field Personnel: JA  
Excavation Method: Backhoe  
Excavation Contractor: Maurice Yelle Excavation Ltd.

SUBSURFACE PROFILE

SAMPLE DATA

Depth m	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Stand pipe or Open Excavation)
0	Ground Surface	99.38						
0	TOPSOIL	0.00						
0.23	Sandy loam, dark brown, dry	99.23						
0.16	FILL	0.16						
0.7	Sand, some gravel, cobbles, boulders, silty seam at 0.7 m bgs, brown, dry.							
0.8	Refusal at 0.8 m bgs over inferred bedrock.							
0.8	End of Test Pit	98.58						
0.80		0.80		12				
				13				

Eastings: 0454003

Northings: 5017542

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.38

Top of Riser Elev.: --

Excavation Width: N/M

Excavation Length: N/M

NOTES:

BGS- Below Ground Surface

**RVCA RECEIVED**  
**FEB 18 2022**

**SEPTIC FILE #**  
**21-344**  
**OTTAWA**



**LRJ**

REFER TO:

Project No.: 170132  
 Client: Hindu Temple of Ottawa Carleton  
 Date: May 08, 2017  
 Excavation Method: Backhoe

Project: Terrain Analysis  
 Location: 4835 Bank Street, Ottawa, ON  
 Field Personnel: JA  
 Excavation Contractor: Maurice Yelle Excavation Ltd.

**SUBSURFACE PROFILE**

**SAMPLE DATA**

Depth ft m	Soil Description	Elev./Depth (m)	Lithology	Sample Number	Shear Strength (kPa)	Water Content (%)	Liquid Limit (%)	Water Level (Standpipe or Open Excavation)
0	Ground Surface	99.60						
	<b>TOPSOIL</b> Sandy loam, dark brown, dry.	0.00						
1	<b>FILL</b> Sand, brown, trace metal debris, dry.	99.40						
2		0.20						
3	<b>TILL</b> Silty sand, trace clay, boulders, grey, organics including tree stump, roots, etc. Refusal due to obstruction (tree bgstump).	98.90						
4		0.70						
5								
6	End of Test Pit	97.60						
7		1.80						
8								

1.33 m bgs (08/05/17)

Eastings: 0454051

Northings: 5017564

Site Datum: Top east arm of hydrant at south entrance (100.00 m)

Groundsurface Elevation: 99.60

Top of Riser Elev.: 100.79

Excavation Width: N/M

Excavation Length: N/M

**NOTES:**

BGS- Below Ground Surface

SEPTIC FILE #

21-344

OTTAWA

**REVISION**  
 FEB 18 2022  
 O.S.S.O. #:  
**RVCA RECEIVED**  
 FEB 18 2022  
 REFER TO:

*Jason Hamilton*  
 Apr 12/22

2000 GAL BALANCING TANK WITH LE40-SERIES SEWAGE PUMP TO BE INSTALLED WITH TIMER SETTING TO PREVENT PEAK LOADING IN THE NORWECO TREATMENT UNIT.

PROPOSED OVERLAND STORAGE EXTENT  
 100 YEAR STORMPONDING EXTENT  
 (HWL = 98.47)  
 MAXIMUM PONDING DEPTH = 0.82m  
 TOTAL STORAGE PROVIDED = 428.14m<sup>3</sup>

CLAY SEPARATION LAYER TO BE INSTALLED ON SIDES FACING THE SEPTIC BED. SEE DETAIL ON LRL DRAWING C301.

PROPOSED OVERLAND STORAGE EXTENT  
 5 YEAR STORMPONDING EXTENT  
 (HWL = 98.15)  
 MAXIMUM PONDING DEPTH = 0.50m  
 TOTAL STORAGE PROVIDED = 210.92m<sup>3</sup>

PRESSURIZED SHALLOW BURIED TRENCH BED WITH 12 RUNS OF 13.08m AT 2.0m O/C

EXISTING FENCE TO BE REMOVED

PROPOSED STORM WATER DRAINAGE SYSTEM

PROPOSED ASSEMBLY BUILDING

EXISTING PARKING AREA

INSTALL NORWECO HK 4730L-3M TREATMENT UNIT. SYSTEM COMPONENTS TO MEET MINIMUM REQUIREMENTS AS PER ATTACHED SCHEMATIC.  
 INSTALL 300 GAL PUMP CHAMBER WITH 0.5 hp LIBERTY 280 EFFLUENT PUMP, TIMER DOSED @ 15 SECS./5 MINS.

FORCEMAIN, POLYETHYLENE PIPE, 1.5" Ø, BURIED 1.5m DEEP, OR SELF DRAINING, OR INSULATED.

K-RAIN MULTIZONE VALVE MODEL 6000 CAMMED FOR 6 ZONE OPERATION TO BE PROTECTED WITH RISER AND LID.









**NOTES:**

1. ALL TREATMENT UNITS AND LEACHING BED ARE TO BE INSTALLED IN ACCORDANCE WITH MINIMUM OBC CLEARANCE DISTANCES. ANY OMISSIONS OR INACCURACIES SHALL BE BROUGHT TO THE ATTENTION OF GVE AND OSSO.
2. CARE IS TO BE EXERCISED DURING CONSTRUCTION ACTIVITIES NEAR OVERHEAD HYDRO WIRES.
3. EXISTING ELEVATIONS ARE APPROXIMATE. CONTRACTOR MUST VERIFY ALL ELEVATIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.
4. SOIL CONDITIONS ARE ACCURATE FOR THE LOCATIONS SHOWN. CONTRACTOR MUST CONTACT THE DESIGN ENGINEER OR REGULATORY AUTHORITY SHOULD SOIL CONDITIONS DIFFER.
5. ALL DIMENSIONS AND CONDITIONS TO BE VERIFIED ON SITE. FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE.
6. UTILITY LOCATES SHALL BE COMPLETED PRIOR TO ANY EXCAVATION.
7. THIS IS NOT A PLAN OF SURVEY AND SHALL NOT BE USED EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.
8. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GVE GROUP. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.
9. EXISTING LOT SERVICED WITH MUNICIPAL WATER.

**METRIC:**

DISTANCES AND ELEVATIONS SHOWN ON THIS PLAN ARE IN METERS AND MAY BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

**LEGEND:**

-  PROPOSED ELEVATION
-  EXISTING ELEVATION
-  EXISTING WORKS
-  PROPOSED SEWAGE WORKS
-  FENCE LINE
-  PROPERTY LINE
-  TBM
-  TEST PIT LOCATION

**SEPARATION DISTANCES:**

1. MINIMUM CLEARANCE FROM SEPTIC PIPE TO:  
 LOT LINE = 5.0m  
 HOUSE = 7.0m  
 DRILLED WELL = 17.0m
2. MINIMUM CLEARANCE FROM TREATMENT UNITS TO:  
 LOT LINE = 3.0m  
 HOUSE = 1.5m  
 DRILLED WELL = 15.0m

Drawn by: JP	Drawn by: JP	Checked by: WS		
Rev.	Description	Date	Approved	
Township	Plan#	Lot	Sublot	Con
Draw No. SP6951-22-FRB				
County	Civic Address: 4835 BANK ST.	Date: 25/01/22	Scale: 1:200	
GREEN VALLEY ENVIRONMENTAL				
On-Site Sewage Treatment Plan for the Residence of THE HINDU TEMPLE OF OTTAWA CARLETON				

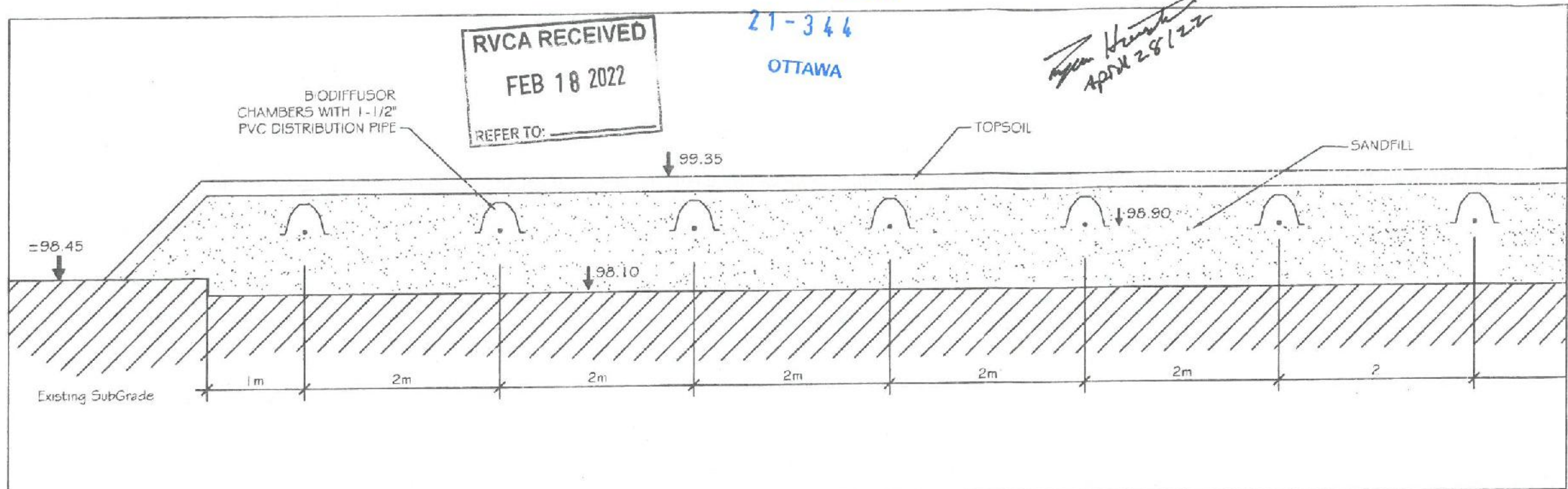
SEPTIC FILE #

21-346

OTTAWA

*Wesley H. H. H.*  
APR 28/22

RVCA RECEIVED  
FEB 18 2022  
REFER TO: \_\_\_\_\_



1. THIS CROSS SECTION IS NOT TO SCALE, ALL FIGURED DIMENSIONS TAKE PRECEDENCE OVER SCALE
2. THIS DOCUMENT IS COPYRIGHT PROTECTED AND IS THE SOLE PROPERTY OF GREEN VALLEY ENVIRONMENTAL INC. THIS DRAWING SHALL NOT BE ALTERED IN ANY MANNER.

**PRETREATMENT TANK**

- INSTALL MIN. 3215L PRETREATMENT TANK.
- A MAXIMUM OF 300mm OF SOIL SHALL COVER THE PRETREATMENT TANK.
- RISERS AND LIDS SHALL BE INSTALLED FOR EASE OF ACCESS

**NORWECO TREATMENT UNIT**

- THE TREATMENT UNIT SHALL CONSIST OF A NORWECO HYDRO-KINETIC 4730L-3M TREATMENT UNIT.
- THE TREATMENT UNIT SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE PRETREATMENT TANK.
- THE TREATMENT UNIT SHALL PRODUCE A TERTIARY TREATMENT EFFLUENT QUALITY IN ACCORDANCE WITH COLUMN 2 AND 3 OPPOSITE A LEVEL IV TREATMENT UNIT OF TABLE 8.6.2.2. OF THE ONTARIO BUILDING CODE.
- THE TREATMENT UNIT SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS BY A CERTIFIED INSTALLER.
- THE OWNER OF THE TREATMENT UNIT MUST ENTER INTO A MAINTENANCE AGREEMENT WITH THE MANUFACTURER'S REPRESENTATIVE.
- THE TREATMENT UNIT SHALL BE BACKFILLED AND COMPACTED, IN LIFTS, WITH SELECT GRANULAR FILL, SUCH AS SAND OR CLEAR STONE
- THE TOP OF THE TREATMENT UNIT SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

**NORWECO FILTER VAULT(S)**

- FILTER VAULT(S) SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS
- FILTER VAULT(S) SHALL BE INSTALLED IN SERIES AND DOWN STREAM FROM THE TREATMENT UNIT
- FILTER VAULT(S) SHALL BE ACCESSIBLE TO THE SURFACE. INSTALL RISERS AND LIDS TO SUIT.

**SHALLOW BURIED TRENCH BED**

- THE DISPERSAL BED SHALL CONSIST OF A TOTAL LENGTH EQUAL TO  $Q/30 = 4000/30 = 133.3$
- TOTAL LENGTH USED = 156.9m
- SAND FILL SHALL EXTEND 1.0m ON ALL SIDES.
- REMOVE LAYER OF TOP SOIL TO APPROXIMATE FOOT PRINT OF SEPTIC BED AND SIDE SLOPES
- THE PRESSURIZED DISTRIBUTION SYSTEM SHALL HAVE A PRESSURE HEAD OF NOT LESS THAN 600mm WHEN MEASURED AT THE MOST DISTANT POINT FROM THE PUMP.
- DISPERSAL BED SHALL BE BACKFILLED SO AS TO ENSURE THAT THE SURFACE WILL NOT FORM ANY DEPRESSIONS
- ALL SIDE SLOPES SHALL BE AT 1:3
- AT NO POINT DURING OR AFTER CONSTRUCTION SHALL A WHEELED VEHICLE DRIVE OVER THE SEPTIC BED AREA.
- EACH RUN SHALL CONSIST OF ONLY FULL CHAMBERS.
- SEPTIC DESIGN BASED ON ADS BIO3 CHAMBERS.
- EACH RUN SHALL CONSIST OF 6 FULL ADS BIO3 CHAMBERS WITH A TOTAL OF 72 FULL BIO3 CHAMBERS FOR THE ENTIRE SEPTIC BED.

**MINIMUM CLEARANCE DISTANCE FROM LEACHING BED**

- 6.0m FROM ANY PROPERTY LINE
- 8.0m FROM ANY STRUCTURE
- 18.0m FROM ANY DRILLED WELL

**MINIMUM CLEARANCE DISTANCE FROM TANKS**

- 3.0m FROM ANY PROPERTY LINE
- 1.5m FROM ANY STRUCTURE
- 15.0m FROM ANY DRILLED WELL

**GENERAL**

- THE BACKWASH WATERS FROM ANY HOUSEHOLD TREATMENT SUCH AS WATER SOFTENER SHALL NOT DISCHARGE INTO THE SEWAGE SYSTEM
- CONTRACTOR SHALL BE QUALIFIED AND REGISTERED UNDER PART 8 OF THE ONTARIO BUILDING CODE.
- CONTRACTOR SHALL VISIT THE SITE AND REVIEW ALL DOCUMENTATION TO DETERMINE SUITABLE METHODS OF CONSTRUCTION.
- INSPECTION BY THE REGULATING AUTHORITIES IS A REQUIREMENT BY SOME REGULATING AUTHORITIES AND IS STRONGLY RECOMMENDED BY GREEN VALLEY ENVIRONMENTAL INC.
- IT IS RECOMMENDED THAT ALL TREES WITHIN 5m OF THE BED AREA BE REMOVED TO PREVENT ROOTS FROM INFILTRATING THE SYSTEM.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT ALL EXISTING UNDERGROUND SERVICES.
- SHOULD THE CONTRACTOR AT ANY TIME DURING CONSTRUCTION ENCOUNTER CONDITIONS THAT DIFFER FROM THE DESIGN CRITERIA IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGNER AND THE REGULATING AUTHORITY.
- GREEN VALLEY ENVIRONMENTAL INC. HAS PROVIDED DESIGNS BASED ON OUR INTERPRETATION OF THE ONTARIO BUILDING CODE AND THE TEST HOLES DUG ON THE PROPERTY.

Drawn by	JP	Design by	JP	Checked by	WS
Rev.	Description	Date	Approved		
Township	Plan#	Lot	Sublot	Con	
County	City Address	Draw. No.	156987-22		
	4635 BANK ST.	Date	07/06/21	Scale	NTS
GREEN VALLEY ENVIRONMENTAL					
On Site Sewage Treatment: Part for the Reference of THE HINDU TEMPLE OF OTTAWA CARLETON					



Ottawa Septic Bureau des systèmes  
System Office septiques d'Ottawa

## Permit Part 8 – Sewage System Ontario Building Code

Do Not Complete  
Permit No 21-344  
Revision No 1  
Date April 28, 2022  
Related Application \_\_\_\_\_

**A copy of this permit must be posted on the property at all time during construction. OBC, Division C — Part 1, Section 1.3.2.1**  
This permit verifies that the on-site sewage system was reviewed and approved for construction under the *Ontario Building Code* and *O.Reg. 323/12* as amended by *O.Reg. 151/13*.

Inspected & Recommended by: Ryan Hiemstra Owner: Harish Gupta  
 Inspection Date & Time: April 28, 2022 Weather: \_\_\_\_\_  
 Civic Address: 4835 Bank Street (Assembly Building) Legal: Lot 22, Con 5RF, Plan 5R3156  
 Osgoode:  Cumberland:  Gloucester:   
 number of bedrooms: \_\_\_\_\_ units: \_\_\_\_\_  
 finished floor area: \_\_\_\_\_ 4000 L/day  
 pretreatment tank \_\_\_\_\_ 3215 minimum L  
 effluent filter \_\_\_\_\_ YES  
 pump rate \_\_\_\_\_ Timer Dosed \_\_\_\_\_ L/15 min  
 treatment unit Norweco HK 4730L-3M  
 number of units \_\_\_\_\_ 1

**\*\*NON-RESIDENTIAL\*\***  
 Commercial  
 Industrial  
 Institutional

\_\_\_\_\_ Lls for  yes  no  
 grain size analysis required  yes  no  
 site to be scarified  yes  no  
 clay seal inspection  yes  no  
 mantle required  yes  no  
 sub-grade inspection  yes  no

**ELEVATION**  In Ground  Partially Raised  Fully Raised

**TYPE OF SYSTEM**

Trench  
 Pipe and Stone or  Chambers  
 type of chamber \_\_\_\_\_ m  
 loading area \_\_\_\_\_ m<sup>2</sup>  
 total trench length \_\_\_\_\_ m  
 trench configuration \_\_\_\_\_  
 Dispersal Bed  
 BMEC  Type A  Type B  
 stone \_\_\_\_\_ m<sup>2</sup>  
 sand \_\_\_\_\_ m<sup>2</sup>  
 pipe \_\_\_\_\_  
 weight of sand \_\_\_\_\_ kg

**Shallow Buried Trench**  
 pipe length \_\_\_\_\_ 156.96 m  
 orifice spacing \_\_\_\_\_ 0.6 m  
 **Filter Media Bed**  
 stone \_\_\_\_\_ m<sup>2</sup>  
 extended base \_\_\_\_\_ m<sup>2</sup>  
 pipe \_\_\_\_\_  
 weight of filter media \_\_\_\_\_ kg  
 loading area \_\_\_\_\_ m<sup>2</sup>  
 **Class 5 Holding Tank**  
 **Septic Tank Only**

Manager, Septic System Approvals: *Jason Hill* Permit Date: May 2, 2022  
 Comments: 1. No food preparation or food service within the assembly building  
 maintenance/pumping required  ESA permit # required  engineer to verify  
 Class 5 Holding Tank approval only valid for three years from date of issue  subgrade  squirt height  
 Manager, Septic System Approvals: \_\_\_\_\_ Revision Date: \_\_\_\_\_  
 Comments: \_\_\_\_\_

NOTE: For further details, refer to corresponding application.



B - 22 - 014

Ottawa Septic Bureau des systèmes  
System Office des systèmes  
PART 10, 11 - OSSO

3889 Rideau Valley Drive Box 599 Manotick, ON K4M 1A5

Scan - Email -Phone  
Folder - CanadaPost -PickUp Box

Phone: 613-692-3571 Press "4"

Fax: 613-692-1507

Email: [septic@rvca.ca](mailto:septic@rvca.ca)

Address of property: 4835 Bank Street Township: Cum-Osg-Glo-Ott-Fit-Tor-Hun-Kan-Gou-Rid-Nep

Contact for pickup: GVE Phone#/Email: --

### INFORMATION FOR OWNER/APPLICANT

Attached is the completed plan review & comments for the proposed Renovation/Change of Use.

- Approval Part 10,11 – TWO (2) copies - attached:
  - APPLICANT – Copy #1 to retain for own reference & records
  - CITY – Copy #2 \*\* Agent/Property Owner is responsible for delivering directly to City Plans Examiner to append to concurrent building application package\*\*

#### PLEASE NOTE

- A permit is valid for 12 months from the original date of issuance noted in field labelled "permit date". If lapsed, it is not renewable.
- No person shall make a material change or cause a material change to be made to a plan, specification, document or other information on the basis of which a permit was issued without notifying, filing details with and obtaining the authorization of the Chief Building Official. (*Building Code Act 1992, c.23, s.8(12)*)

Visit our website for a detailed description of the review process  
[Ottawasepticsystemoffice.ca](http://Ottawasepticsystemoffice.ca)

### Questions – Contact Reviewer

**EAST of Rideau River:** Cumberland, Osgoode, Gloucester, Ottawa

**WEST of Rideau River:** Fitzroy, Torbolton, Huntley, Kanata, Goulbourn, Rideau, Nepean

Jason Hutton x1152 [jason.hutton@rvca.ca](mailto:jason.hutton@rvca.ca)

Thank You!



RVCA RECEIVED

FEB 18 2022

RENOVATION PERMIT #

B-22-014

PART 10 & 11 - OSSO

REFER TO:

**LETTER OF AUTHORIZATION**

Owner: Harish Gupta The Hindu Temple of Ottawa Carleton  
 Address: 4835 Bank St  
Gloucester ON K1X 1G6  
 Phone No.: (613) 737-5939 Cell No.: (613) 866-2984  
 Work No.: \_\_\_\_\_ Fax No.: \_\_\_\_\_

**LOCATION OF PROPERTY:**

Lot No.: 22  
 Concession No.: 5RF  
 Sub lot/Part No.: \_\_\_\_\_  
 R. Plan No.: 5R 3156  
 Civic Address: 4835 Bank St  
 Municipality: Gloucester  
 Roll No.: \_\_\_\_\_  
 Commercial: **(provide description of building and intended use)**  
Existing Building

I, the above – mentioned authorize Green Valley Environmental Services to act as my agent to apply for and obtain a sewage system permit from the responsible Approval Agency.

Signature: 

Date: 2.06.2021

RVCA RECEIVED

FEB 18 2022

Reno Part 10, 11  
Change of Use

REFER TO: \_\_\_\_\_

## Application for a Permit to Construct or Demolish

This form is authorized under subsection 8(1.1) of the Building Code Act, 1992

For use by Principal Authority		RENOVATION PERMIT #	
Application number:	Permit number (if different): <b>B-22-014</b>		
Date received:	Roll number: <b>PART 10 &amp; 11 - OSSO</b>		
OTTAWA SEPTIC SYSTEM OFFICE			
Application submitted to: _____ (Name of municipality, upper-tier municipality, board of health or conservation authority)			
<b>A. Project information</b>			
Building number, street name <b>4835 Bank St</b>		Unit number	Lot/con. <b>22/5</b>
Municipality <b>Gloucester</b>	Postal code <b>K1A 1G6</b>	Plan number/other description <b>5R 3156</b>	
Project value est. \$		Area of work (m <sup>2</sup> )	
<b>B. Purpose of application</b>			
New construction		Addition to an existing building	
		<u>Alteration/repair</u>	
		Demolition	
		Conditional Permit	
Proposed use of building Residential <u>Commercial</u> Other:		Current use of building Residential <u>Commercial</u> Other:	
Description of proposed work Check ALL that apply			
Add BEDROOMS	Y N	If OTHER, please describe project here: <u>Change to include the removal of kitchen facilities.</u>	
Add FIXTURES	Y N		
Add FINISHED FLOOR AREA	Y N		
CHANGE of USE	<input checked="" type="checkbox"/>		
<b>C. Applicant</b>			
Applicant is:		Owner or <input checked="" type="checkbox"/> Authorized agent of owner	
Last name <b>Pruner</b>	First name <b>Jacob</b>	Corporation or partnership <b>Green Valley Environmental, Inc.</b>	
Street address <b>6107 First Line Rd.</b>		Unit number	Lot/con.
Municipality <b>North Gower</b>	Postal code <b>K4M 1A7</b>	Province <b>ON</b>	E-mail <b>eng.mun.ng@gvogroup.ca</b>
Telephone number <b>(613) 692-2616</b>	Fax <b>(613) 692-1802</b>	Cell number <b>(613) 229-5840</b>	
<b>D. Owner (if different from applicant)</b>			
Last name <b>Gupta</b>	First name <b>Harish</b>	Corporation or partnership <b>The Hindu Temple of Ottawa Carleton</b>	
Street address <b>4835 Bank St.</b>		Unit number	Lot/con. <b>22/5</b>
Municipality <b>Gloucester</b>	Postal code <b>K1A 1G6</b>	Province <b>ON</b>	E-mail <b>harish.gee@yahoo.com</b>
Telephone number <b>(613) 737-5939</b>	Fax ( )	Cell number <b>(613) 866-2984</b>	

Application for a Permit to Construct or Demolish - Effective January 1, 2014



RVCA RECEIVED  
FEB 18 2022

<b>E. Builder (optional)</b>		<b>RENOVATION PERMIT #</b>	
Last name	REFERRER's name	Corporation or partnership (if applicable)	
Street address		Unit number	Lot/dock
Municipality	Postal code	Province	E-mail
Telephone number ( )	Fax ( )	PART 10 & 11 - OSSO	
Cell number ( )			

**F. Tarion Warranty Corporation (Ontario New Home Warranty Program)**

i. Is proposed construction for a new home as defined in the <i>Ontario New Home Warranties Plan Act</i> ? If no, go to section G.	Yes	No <input checked="" type="checkbox"/>
ii. Is registration required under the <i>Ontario New Home Warranties Plan Act</i> ?	Yes	No <input checked="" type="checkbox"/>
iii. If yes to (ii) provide registration number(s): _____		

**G. Required Schedules**

i) Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.

ii) Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.

**H. Completeness and compliance with applicable law**

i) This application meets all the requirements of clauses 1.3.1.3 (5) (a) to (d) of Division C of the Building Code (the application is made in the correct form and by the owner or authorized agent, all applicable fields have been completed on the application and required schedules, and all required schedules are submitted). Payment has been made of all fees that are required, under the applicable by-law, resolution or regulation made under clause 7(1)(c) of the <i>Building Code Act, 1992</i> , to be paid when the application is made.	Yes <input checked="" type="checkbox"/>	No
ii) This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> .	Yes <input checked="" type="checkbox"/>	No
iii) This application is accompanied by the information and documents prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes <input checked="" type="checkbox"/>	No
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes <input checked="" type="checkbox"/>	No

**I. Declaration of applicant**

I, Jacob Pruner declare that:

(print name)

- The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.
- If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.

Date February 7 2022 Signature of applicant Jacob Pruner

Personal information contained in this form and schedules is collected under the authority of subsection 8(1.1) of the *Building Code Act, 1992*, and will be used in the administration and enforcement of the *Building Code Act, 1992*. Questions about the collection of personal information may be addressed to: a) the Chief Building Official of the municipality or upper-tier municipality to which this application is being made, or, b) the inspector having the powers and duties of a chief building official in relation to sewage systems or plumbing for an upper-tier municipality, board of health or conservation authority to whom this application is made, or, c) Director, Building and Development Branch, Ministry of Municipal Affairs and Housing 777 Bay St., 2nd Floor, Toronto, M5G 2E5 (416) 585-6666.


FEB 18 2022

B-22-014

## Schedule 1: Designer Information

PART 10 &amp; 11 - OSSO

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information			
Building number, street name	4835 Bank St.	Unit no.	Lot/con. 22/5
Municipality	Gloucester	Postal code	K1X 1G6
		Plan number/ other description	5R3156
B. Individual who reviews and takes responsibility for design activities			
Name	Jacob Prouer	Firm	Green Valley Environmental Inc.
Street address	6107 First Line Rd.	Unit no.	Lot/con.
Municipality	North Gower	Postal code	K9M 1A7
		Province	ON
Telephone number	(613) 692-2616	Fax number	(613) 692-1802
		E-mail	eng:neering@gvegroup.ca
		Cell number	(613) 229-5890
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1. of Division C]			
House	HVAC – House	Building Structural	
Small Buildings	Building Services	Plumbing – House	
Large Buildings	Detection, Lighting and Power	Plumbing – All Buildings	
Complex Buildings	Fire Protection	On-site Sewage Systems	<input checked="" type="checkbox"/>
Description of designer's work			
Review proposed changes to determine change of use			
D. Declaration of Designer			
I, <u>Jacob Prouer</u> declare that (choose one as appropriate):			
(print name)			
I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories.			
Individual BCIN: <u>113751</u>			
Firm BCIN: <u>16035</u>			
I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code.			
Individual BCIN: _____			
Basis for exemption from registration: _____			
The design work is exempt from the registration and qualification requirements of the Building Code.			
Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge.			
2. I have submitted this application with the knowledge and consent of the firm.			
Date	February 7 2022	Signature of Designer	

## NOTE:


- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) (c) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of practice, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

RVCA RECEIVED  
 FEB 18 2022  
 REFER TO: \_\_\_\_\_

B-22-014

Schedule 2: Sewage System Installer Information

PART 10 & 11 - OSSO

<b>A. Project Information</b>			
Building number, street name 4835 Bank St		Unit number	Lot/con. 22/5
Municipality Gloucester	Postal code K1A 1G6	Plan number/ other description 5R 3156	
<b>B. Sewage system installer</b>			
Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?			
Yes (Continue to Section C)		<input checked="" type="checkbox"/> No (Continue to Section E) <span style="float: right;">Installer unknown at time of application (Continue to Section E)</span>	
<b>C. Registered installer information (where answer to B is "Yes")</b>			
Name		BCIN	
Street address		Unit number	Lot/con.
Municipality	Postal code	Province	E-mail
Telephone number ( )	Fax ( )	Cell number ( )	
<b>D. Qualified supervisor information (where answer to section B is "Yes")</b>			
Name of qualified supervisor(s)		Building Code Identification Number (BCIN)	
<b>E. Declaration of Applicant:</b>			
I, <u>Jacob Pinner</u> declare that: (print name)			
I am the applicant for the permit to construct the sewage system. If the installer is unknown at time of application, I shall submit a new Schedule 2 prior to construction when the installer is known;			
OR			
I am the holder of the permit to construct the sewage system, and am submitting a new Schedule 2, now that the installer is known.			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge.			
2. If the owner is a corporation or partnership, I have the authority to bind the corporation or partnership.			
Date	February 7 2022	Signature of applicant	



RVCA RECEIVED  
FEB 18 2022  
REFER TO:  
**Schedule 13**

RENOVATION PERMIT

B-22-014

PART 10 & 11 - OSSC

**Part 10 & 11 Site Amendment**  
Check All that apply to project

**Site Amendment/Description of Proposed Change/Renovation**

- Residential
- Commercial Property

Bedrooms:	#Existing	<input type="text"/>	+	#Proposed	<input type="text"/>	=	<input type="text"/>	Schedule 8 (m <sup>2</sup> )
Fixture Units	#Existing	<input type="text"/>	+	#Proposed	<input type="text"/>	=	<input type="text"/>	
Floor Area	#Existing	<input type="text"/>	+	#Proposed	<input type="text"/>	=	<input type="text"/>	

- Exceeding 15% of the gross area of the dwelling units for proposed addition
- Change in Use:
  - Major occupancy (e.g. residential to commercial)
  - Occupant load (e.g. Office to warehouse)

Please describe proposed use:

*Removal of kitchen facilities.*

- Installation of a POOL not meeting O.B.C Regulation setback distances
- Installation of a DECK not meeting O.B.C Regulation setback distances

**Required attachments**

To be supplied by applicant/agent at applicant's expense:

1. One of the following documents to **DESCRIBE CURRENT SEPTIC SYSTEM** (ONE x1 copy):
  - A. Copy of current sewage system approval (Use permit/ Certificate of Completion)
  - B. Professional engineer's report indicating size and location of system
2. Each of these documents to **DESCRIBE PROPOSED RENOVATION** (ONE x1 copy)
  - A. Copy of site plan: Drawn to scale, indicating the layout of the existing building, well, other structures i.e shed, workshop, cabana
  - B. Completed Reno 10,11 Application Form
  - C. Copy of Building Plans: Drawn to scale, showing the changes/additions as proposed



RVCA RECEIVED  
FEB 18 2022  
REFER TO:

RENOVATION PERMIT #  
Permit #  
Revision # **B-22-014**  
Date:  
**PART 10 & 11 - OSSO**

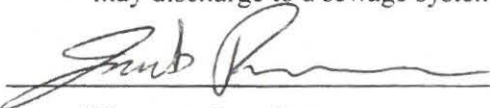
**Schedule 8  
Fixture unit count**

Fixtures	3 Apartment		worship Building	X	unit count	=	Fixture Count	
<b>Bathroom</b>								
Bathroom group (toilet, sink and tub or shower) installed in the <u>same</u> room	3	+		X	6	=	18	
Bathtub with/without overhead shower		+	2	X	1.5	=	3	
Shower stall		+		X	1.5	=		
Wash basin (SINK) (1 1/2 inch trap)		+	6	X	1.5	=	9	
Watercloset (TOILET) tank operated		+	4	X	4	=	16	
Bidet		+		X	1	=		
<b>Kitchen</b>								
Dishwasher		+		X	1	=		
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap	3	+	2	X	1.5	=	45	
<b>Other</b>								
Domestic washing machine	1	+		X	1.5	=	1.5	
Combination sink and laundry tray single or double (Installed on 1 1/2 trap)		+		X	1.5	=		
<b>*Total:</b>							24	31

\*Insert the TOTAL in Schedule 13 (0.Reg 151/13 Table 7.4.9.3)

Total: 55

1. Sump pumps and floor drains are not to be connected to the sewage system. Connection of such fixtures to a sewage system may lead to a hydraulic failure of the said system. The above mentioned fixtures should be discharged separately to an approved Class 2 (leaching pit) sewage system.
2. Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system (Part 8, OBC, 8.1.3.1(2)).

  
Agent/Owner signature

February 7 2022  
Date



Do Not Complete  
Permit No B-22-014  
Revision No \_\_\_\_\_  
Date \_\_\_\_\_

**Permit**  
Part 10/11- Change of Use/Renovation  
Ontario Building Code

This permit verifies that the on-site sewage system was reviewed under the *Ontario Building Code* and *Ontario Regulation 350/06* as amended by *Ontario Regulation 503/09*

Reviewed & Recommended by: Ryan Hiemstra Owner: Harish Gupta  
Civic Address: 4835 Bank Street (Existing Building) Legal: Lot 22, Con 5RF, Plan 5R3156  
Roll #: \_\_\_\_\_

**\*\*NON-RESIDENTIAL\*\***

- Commercial \_\_\_\_\_
- Industrial \_\_\_\_\_ m<sup>2</sup>
- Institutional \_\_\_\_\_

Existing number of bedrooms \_\_\_\_\_  
Existing finished floor area \_\_\_\_\_ m<sup>2</sup>  
Existing number of fixture units \_\_\_\_\_

Proposed design flow 4825 L/day Existing design flow \_\_\_\_\_ L/day

Type of system:  Trench  Filter Media Bed  Area Bed  Treatment Unit  Effluent filter  
Bed Configuration \_\_\_\_\_ runs at \_\_\_\_\_ m \_\_\_\_\_  
Tank size \_\_\_\_\_ L see OSSO permit # 21-343 for replacement system

**Permit Refused By:**

\_\_\_\_\_  
Terry K. Davidson, P.Eng., Manager Septic System Approvals \_\_\_\_\_ Date \_\_\_\_\_

Permit Refused for the following reasons:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- |   |  |
|---|--|
| <input type="checkbox"/> Contact a licensed installer                       | <input type="checkbox"/> Building plans required                         |
| <input type="checkbox"/> Must obtain a permit for tank replacement          | <input type="checkbox"/> Septic system records required                  |
| <input type="checkbox"/> Must obtain a permit for new sewage system         | <input type="checkbox"/> Engineer's assessment of septic system required |
| <input type="checkbox"/> Must obtain a permit for effluent filter and riser |  |

**Permit Approved and Issued By:**

 \_\_\_\_\_ May 2, 2022  
Terry K. Davidson, P.Eng., Manager - Septic System Approvals \_\_\_\_\_ Permit Date

- Details and Conditions of Approval:
1. Refer to OSSO permit # 21-343 for replacement system
  2. Kitchen facilities to be removed
  3. No food preparation or food service within the worship building

\_\_\_\_\_  
Terry K. Davidson, P.Eng., Manager - Septic System Approvals \_\_\_\_\_ Revision Date

Details and Conditions of Approval:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**\*\*Note: this permit is valid for 12 months from the date of signing. It is not renewable.\*\***