REASONABLE USE ASSESSMENT
FO GUANG SHAN TEMPLE,
6688 FRANKTOWN ROAD, OTTAWA ON

Project No.: CCO 25-1134

Prepared for:

Venerable Hui Tzu
International Buddhist Progress Society of Ottawa – Carleton
6688 Franktown Road
Richmond, ON
K0A 2Z0

Prepared by:

Egis Canada Ltd.
200-516 O'Connor Drive
Kingston, ON
K7P 1N3

Date: June 13, 2025

June 13, 2025

The Venerable Hui Tzu
International Buddhist Progress Society of Ottawa-Carlton
6688 Franktown Road
Richmond, ON
K0A 2Z0

Dear Sir:

Re: Reasonable Use Assessment
Proposed Redevelopment, Fo Guang Shan Temple, 6688 Franktown Road, Ottawa ON

Egis Canada Ltd. (Egis) is pleased to provide Reasonable Use Assessment for the property located at 6688 Franktown Road in Ottawa, Ontario (The "Site"). This assessment focused on the predictive attenuation evaluation for the septic system that will service the redeveloped of the Site. This assessment is based on proposed land utilization, occupancy levels vis-a-vis increased daily design flows, as well as prevailing conditions that will remain unchanged.

Should you have any questions or wish to discuss the findings of this report, please feel free to contact the undersigned.

Respectfully submitted,

Egis Canada Ltd.

25.06.13

Fraser Armstrong, P.Eng., QP$_{ESA}$
Sr. Geo-Environmental Engineer

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Appendices

1.0 INTRODUCTION

Egis Canada Ltd. (Egis) was retained by the International Buddhist Progress Society of Ottawa to prepare a Reasonable Use Assessment for the property located at 6688 Franktown Road in Ottawa, Ontario (the Site); see **Figure 1**. This Reasonable Use Assessment is being prepared in support of the Ministry of Environment, Conservation and Parks (MECP) Environmental Compliance Approval (ECA) for the construction and permitted usage of an on-site large subsurface sewage disposal system (LSSDS).

1.1 Background

The Site is 39.6 hectares (ha) in area and is currently partially developed with a 348 square metre (m^2) temple building, recreational and garden areas, surface-grade parking and associated landscape amenities. It is understood that the Site is to be redeveloped with a new temple building having a footprint area of (1,398 m^2), associated parking site (9,707 m^2) and amenities such as recreational areas and food gardens. It is also understood that the existing temple building will be repurposed into a community building including classrooms. The redeveloped site will have a spatial allotment of 1,746 m^2 for buildings, 9,707 m^2 of asphalt area and 381,250.07 m^2 of down-gradient landscape area. Drawings A001 and A002 as prepared by GRC Architects (see **Appendix A**) present the existing and proposed development for the Site.

Presently the Site is privately serviced through an on-site private well and an inground septic system; there are no municipal services for potable water supply or sanitary disposal. In May 2019, the Ottawa Septic System Office (OSSO) issued a permit granting authorization for the construction of an inground septic system designed for a daily flow of 9,999 litres per day (L/d); see **Appendix B**. However, with the proposed redevelopment, it is estimated that the total daily design flow will be in the order of 39,000 L/d and as such the MECP will be the governing authority to permit the expansion and usage of an LSSDS required to service the Site.

The ground surface of the Site is relatively flat sloping from the north to the south. Drainage in the area is interpreted to reflect the local topography and is likely controlled by roadside ditching. On-site drainage is expected to drain to the south towards the Richmond Fen. The regional groundwater is interpreted to flow southerly toward the Jock River.

2.0 INVESTIGATIONS

2.1 McIntosh Perry Hydrogeological Assessment - 2018

Egis under the banner of McIntosh Perry (MP), previously conducted a Hydrogeological Assessment for the original development of the Site in 2018 (2018 MP Hydrogeological Assessment). The Hydrogeological Assessment entailed a 6-hour pump test with the analytical assessment of two (2) groundwater samples for comparison to the 'subdivision supply' suite of parameters which include nitrate as well as metals.

As part of the 2018 MP Hydrogeological Assessment, an assessment for contaminant attenuation following the procedures of Guideline B-7: Incorporation of Reasonable Use Concept was also performed. The purpose of the

reasonable use assessment was to determine through a predictive assessment whether the downgradient concentration for nitrates would be less than or equal to the target concentration.

2.2 Egis Hydrogeological Assessment – 2025

Due to the proposed redevelopment of the Site, Egis was retained to undertake an updated Hydrogeological Assessment (2025 Egis Hydrogeological Assessment). Following consultation with the City of Ottawa's Hydrogeological Unit, the following were accepted for the updated hydrogeological investigation:

- The existing well (well tag #A252856 – previously tested in 2018) can be used to support the proposed on-site development if an updated groundwater quality sample is collected for the parameters outlined within the City of Ottawa Hydrogeological and Terrain Analysis Guidelines (March 2021) (HTAG, 2021), including Volatile Organic Compounds (VOCs).
- If the existing above-noted well is used for the proposed development, a pumping test will not be required as the pumping test data collected in 2018 was at a flow rate of approximately 92 L/min indicating there are no issues with the proposed flow rate, given that the proposed development has a water demand less than the previously selected pumping rate.

Based on the 2025 analytical testing, the concentration for nitrates was revealed to be less than the laboratory detection limit of 0.1 mg/L. The Certificates of Analyses for the 2025 groundwater testing are presented in **Appendix C**.

As the proposed redevelopment is projected to have a sewage daily design flow greater than 10,000 L/d due to the increase in potential occupancy, Egis did not prepare a contaminant attenuation assessment as part of that report. Notwithstanding, this Reasonable Use Assessment is intended to satisfy the reporting requirements for reasonable use in support of an ECA application for an LSSDS.

3.0 REASONABLE USE ASSESSMENT

3.1 Reasonable Use Calculations

Large subsurface sewage disposal systems (systems with daily design flows greater than 10,000 L/day) are governed and bound by the Ministry of the Environment, Conservation and Parks (MOECP) Guideline B-7: Incorporation of the Reasonable Use Concept into MOEE Groundwater Management. The maximum allowable boundary nitrate concentration is a fraction of the relevant drinking water standards. As per Guideline B-7, in this case, the maximum concentration of nitrate in groundwater is a correlation between one-quarter of the health-related Ontario Drinking Water Quality Standards (ODWQS) limit for nitrate of 10 mg/L, and the background nitrate concentration.

Calculations for the Reasonable Use Assessment are detailed below and presented in **Appendix D**.

3.1.1 Boundary Condition

The maximum concentration of nitrate at the property boundary is calculated as follows:

$$\boldsymbol{Cm = Cb + x\,(Cr - Cb)}$$

Where,

- Cm is the maximum concentration of nitrate that would be acceptable in the groundwater beneath the adjacent property.
- Cb is the background concentration of nitrate in the groundwater before it has been affected by human activity. The 2025 analytical results indicate that the concentration for nitrate was less than the laboratory reporting limit, as such a conservative concentration of 0.05 mg/L is used in the calculations.
- x is 0.25 for health-related parameters, and
- Cr is the maximum concentration of nitrate in accordance with the Ontario water management guideline (ODWQS in this case), as per Guideline B-7 (10 mg/L).

As part of the 2025 Egis Hydrogeological Assessment, Egis collected an updated groundwater sample for analytical testing for the chemical parameters previously listed. Referencing the analytical test results (see **Appendix C**), the concentrations for nitrate were less than the laboratory reportable detecting limit of 0.1 mg/L. Accordingly, for the reasonable use calculations, Egis has assumed a nitrate concentration of 0.05 mg/L.

Utilizing the aforementioned, data, Egis calculated a value for the maximum concentration (Cm) for nitrate that would be acceptable in the groundwater beneath the adjacent property as 2.54 mg/L.

The total area for the property is approximately 39.6 ha and when impermeable areas are excluded, the total permeable area for the Site is approximately 38.5 ha. The area downgradient of the septic system excluding impermeable portions is approximately 36.9 ha; this area is sufficiently large enough to accommodate the proposed septic system without increasing the nitrate concentrations above the property boundary nitrate concentration limit of 2.54 mg/L.

3.1.2 Land Area:

Approximate Land Area Downgradient of the Septic System Distribution Header (A) = 36.9 ha= 369,147.3 m^2

3.1.3 Water Surplus:

$$\boldsymbol{Water\ Surplus\ (Ws) = Precipitation - Evapotranspiration}$$

Where,

- Precipitation = 929.8 mm/year (based on Environment Canada's average yearly precipitation from 1991 to 2020 for the Ottawa MacDonald-Cartier International Airport).

- Evapotranspiration = 614.23 mm/year (Based on Thornthwaite Method, "Hydrology & Hydraulic Systems", Gupta).
- The calculated volume of water available for dilution purposes is in the order of 315.6 mm/year.

3.1.4 Infiltration Factor

The infiltration factor is based on topography, soil type and cover, and is a cumulative value. The calculation for the infiltration factor followed the equation:

$$\boldsymbol{Infiltration\ Factor\ (I_f) = \Sigma\ Topographic\ I_f + Soil\ I_f + Cover\ I_f}$$

Using infiltration factors based on the Ministry of Environment and Energy published values:

- Topographic Infiltration Factor for Flat & Rolling Terrain= 0.275.
- Soil Infiltration Factor for Sand and Silt= 0.4.
- Cover Infiltration Factor for Woodland / Meadow= 0.15.

Based on the above , the cumulative infiltration factor was calculated to be 0.825.

3.1.5 Infiltration

The total infiltration available for the Site is a product of the water surplus (Ws) and the infiltration factor (If) and is calculated as follows:

$$\boldsymbol{Infiltration\ (I) = W_s * I_f}$$

Using the aforementioned equation, the infiltration for the Site is 260 mm/yr or 0.26 m/year.

3.1.6 Dilution Water

The dilution water available to reduce an impacting constituent is the product of the permeable area available for infiltration (A) and the infiltration (I) and is calculated as follows:

$$\boldsymbol{Dilution\ Water\ Available\ (D_w) = A * I}$$

Using the aforementioned equation, the dilution water available for the Site is 100,114 m^3/year or 274,286 L/day

3.1.7 Nitrate Concentrations

The maximum nitrate concentration (Cw) originating at the disposal bed site that can be permitted to reach the adjacent property and not result in a Cm concentration greater than previously identified (Cm = 2.54 mg/L). The calculation for the nitrate concentration followed the equation:

$$\boldsymbol{C_w = C_m - C_p - C_o}$$

where,

- Cm is the maximum concentration of nitrate that would be acceptable in the groundwater beneath the adjacent property (2.54 mg/L).
- Cp is the background concentration of nitrate in the groundwater (0.05 mg/L).
- Co is the potential contaminant increase from other sources (0 mg/L).

Based on this calculation, the maximum concentration originating at the disposal bed (Cw) is 2.49 mg/L.

3.1.8 Effluent Nitrate Concentration

In determining the bulk nitrate concentration resulting from the disposal bed, consideration of the maximum Cw concentration in relation to the effluent loading volume as well as the available dilution volume is required and may be calculated through the following equation:

$$\boldsymbol{Effluent\ Nitrate\ Concentration}\ (\boldsymbol{C_e}) = \frac{(\boldsymbol{C_w} * \boldsymbol{D_w}) + (\boldsymbol{C_w} * \boldsymbol{Q_e})}{\boldsymbol{Q_e}}$$

Where,

- Qe is the effluent loading 39,000 L/d (Daily Design Flow) from the proposed new septic system.
- Cw is the maximum nitrate concentration originating in the disposal site that can be permitted to reach the adjacent property and not cause Cm to be exceeded.
- Dw is the total volume of water available for dilution (263,765.4 L/d).

Using the above equation, the effluent concentration (Ce) is calculated to be 19.31 mg/L. The typical nitrate concentration for domestic wastewater effluent without tertiary treatment (i.e., treated with a septic tank and leaching bed only) is 40 mg/L. It is noted that the existing septic system incorporates two Waterloo Biofilter components (an AD-23000 L anaerobic digestor and a BT-34000 L basket biofilter). Waterloo Biofilters typically can achieve a nitrate reduction of 50 % to 65 %. A 19.31 mg/L effluent nitrate concentration represents a 51.72 % reduction in nitrate from standard domestic wastewater effluent, which means that a minimum of 51.72 % reduction in nitrate concentration is required to achieve the required nitrate dilution to meet the target nitrate concentration (Cw). Therefore, the existing installation of Waterloo Biofilter components is sufficient to meet the required nitrate concentrations.

4.0 SUMMARY AND CONCLUSIONS

The property located at 6688 Franktown Road is presently developed for institutional purposes with the Fo Guang Temple. The existing development of the Site comprises a temple building and associated infrastructure, surface grade parking, hard and softscape landscaping including food gardens. The Site is privately serviced for both potable water supply (private well) and sanitary disposal (septic system).

It is proposed to redevelop the Site with a new larger temple building, increased surface parking as well as repurposing the exiting temple structure for community purposes. To enable this redevelopment, it is understood that the existing septic infrastructure will require modification to accommodate increased occupancy usage.

Based on the findings of this Reasonable Use Assessment, Egis notes that:

- The Site has sufficient permeable land mass to appropriately attenuate, sewage effluent that would be generated through the proposed redevelopment to permit usage increase of the Site
- The minimum reduction factor of nitrate is 51.72% to meet an effluent nitrate concentration of 19.31 mg/L
- The existing Waterloo Biofilters typically have a nitrate reduction of 50 % to 65 %, which exceeds the 51.72 % reduction requirement, and
- The lot is currently sufficient in size to dilute the nitrogen to the required target nitrate concentration.

5.0 LIMITATIONS

This report has been prepared, and the work referred to in this report has been undertaken by Egis for the Client. It is intended for the sole, and exclusive use of the Client with respect to the stated purpose of the work carried out by Egis.

The report may not be relied upon by any other person or entity without the express written consent of Egis. Any use which a third party makes of this report, or any reliance on decisions made based on it, without a Reliance Letter, are the responsibility of such third parties. Egis accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report or the information contained within it.

Any investigation undertaken by Egis with respect to this report and any conclusions or recommendations made in this report reflect Egis's judgment based on the Site conditions observed at the time of the Site investigations, inspections, and/or sampling on the date(s) set out in this report, and on information available at the time of the preparation of this report. Conditions such as ground cover, weather, physical obstructions, etc. may influence conclusions or recommendations made in this report. Egis does not certify or warrant the environmental status of the property.

This report has been prepared for specific application to this Site, and it may be based, in part, upon visual observation of the Site, subsurface investigation at discrete locations and depths, and/or specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future Site conditions, portions of the Site which were unavailable for direct investigation, Site locations, subsurface or otherwise, which were not investigated directly, or chemical parameters, materials, or analysis which were not addressed or performed. Substances other than those addressed by the investigation described in this report may exist at the Site, substances addressed by the investigation may exist in areas of the Site not investigated, and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If Site conditions or applicable standards change, or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary.

6.0 REFERENCES

Ontario Ministry of the Environment and Climate Change (MOECC), 1995. MOEE Hydrogeological Technical Information Requirements for Land Development Applications.

Ontario Ministry of the Environment, Conservation and Parks (MECP). Determination of Contaminant Limits and Attenuation Zones, Procedure B-7-1

Ontario Ministry of the Environment, Conservation and Parks (MECP). Incorporation of the Reasonable Use Concept into MOEE Groundwater Management Activities, Guideline B-7

Ram S Gupta 2016. Hydrology and Hydraulic Systems, Fourth Edition

Thornthwaite, C.W., and Mather, J.R., 1957. Instructions and tables for computing potential evapotranspiration and the water balance. Climatology, vol. 10.

FIGURES

APPENDIX A

GRC Architest Plans A001 & A002

APPENDIX B

Ottawa Septic System Office - Permit

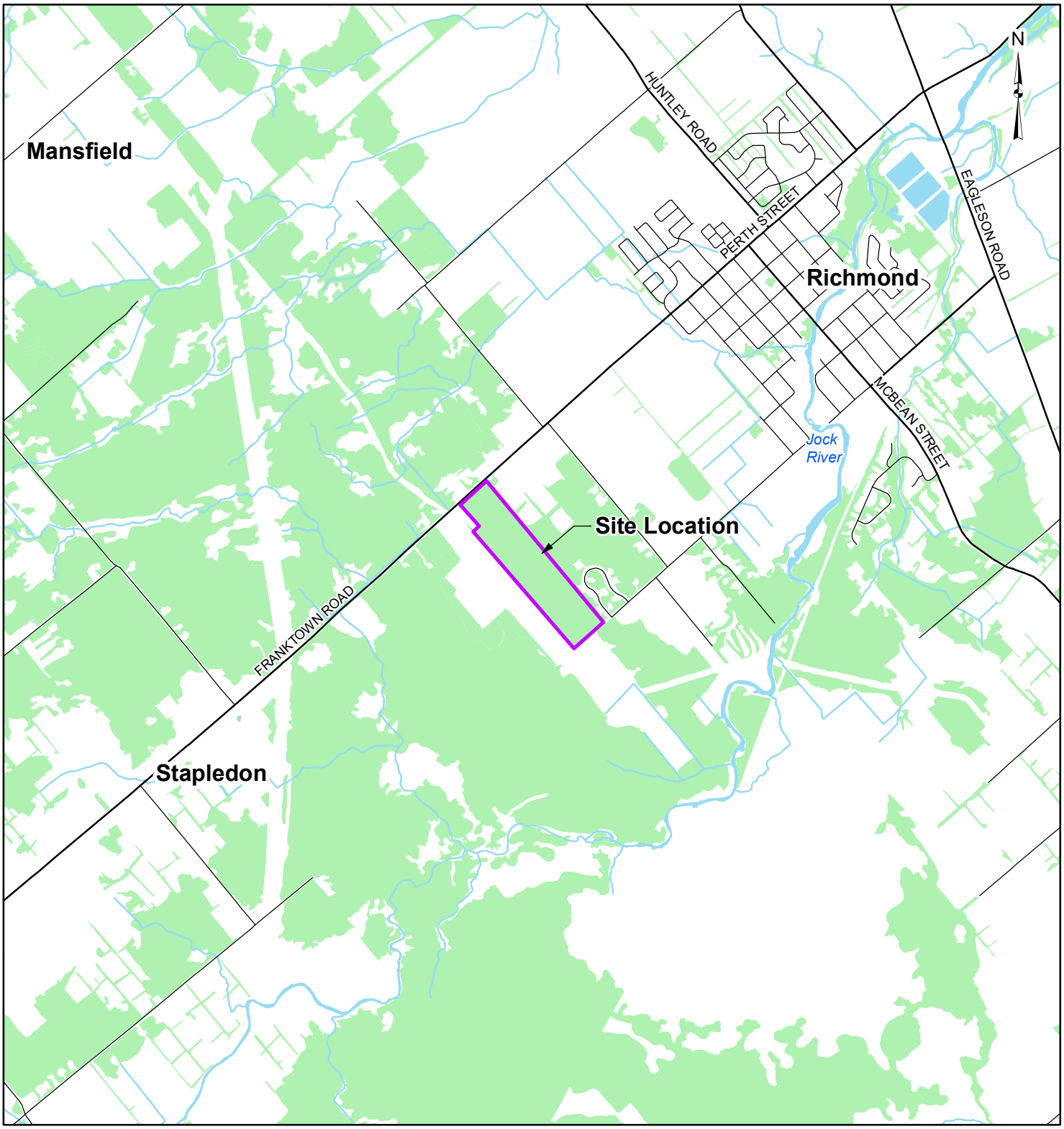
APPENDIX C

Analytical Certificates of Analyses

APPENDIX D

Reasonable Use Calculations

FIGURES



1,100 550 0 1,100

Scale 1:40,000 Metres

LEGEND

- Approximate Property Boundary
- Local Road
- Major Road
- Watercourse
- Waterbody
- Wooded Area

REFERENCE

GIS data provided by the Ontario Ministry of Natural Resources and Forestry, 2018.

CLIENT: BING PROFESSIONAL ENGINEERING

PROJECT: REASONABLE USE ASSESSMENT
6688 FRANKTOWN ROAD

TITLE: SITE LOCATION

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

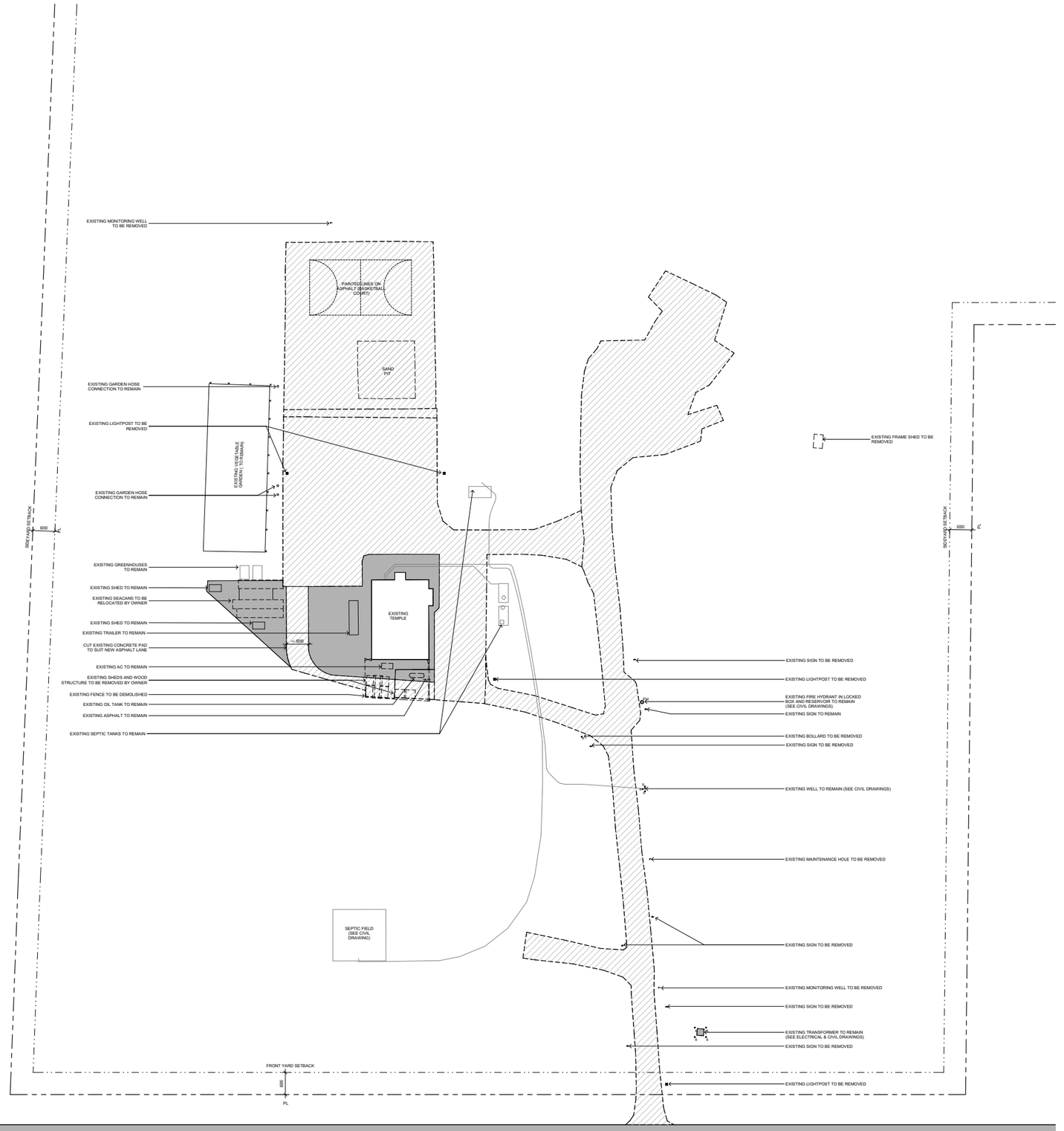
PROJECT NO:	CP-17-0503
Date	Jul., 17, 2018
GIS	JD
Checked By	JB

FIGURE: 1

H:\01 Project - Proposals\2017 Jobs\CP\0CP-17-0503 Bing Proffesional Eng Inc_Proposed Temple SPA_6688 Franktown Road\15 - GIS\mxd\HydroG\0CP-17-0503_01_SiteLocation6688Franktown.mxd

APPENDIX A

GRC Architest Plans A001 & A002



1 SITE PLAN AREA OF DEVELOPMENT
A001 1 : 400

PROJECT NAME:	**IBPS TEMPLE**
OWNER:	INTERNATIONAL BUDDHIST PROGRESS SOCIETY OF OTTAWA-CARLETON 6688 FRANKTOWN ROAD, RICHMOND, ON K0A 2Z0 T: 613 759 8111 F: 613 759 8110
ARCHITECT:	GRC ARCHITECTS 401-47 CLARENCE STREET, OTTAWA, ON K1N 9K1 T: 613 241 8203 F: 613 241 4180
LANDSCAPE ARCHITECT:	JAMES B. LENNOX & ASSOCIATES INC. 3332 CARLING AVENUE, OTTAWA, ON K2H 5A8 T: 613 722-5168
STRUCTURAL:	CUNLIFFE & ASSOCIATES INC. 102 - 1737 WOODWARD DRIVE, OTTAWA, ON K2C 0P9 T: 613 729-7242 F: 613 728-1461
CIVIL:	EXP 2650 QUEENSVIEW DR SUITE 100, OTTAWA, ON K2B 8H6 T: (613) 688-1899
ELECTRICAL & MECHANICAL:	SMITH + ANDERSEN 1600 CARLING AVE #530 OTTAWA, ON K1Z 1G3 T: (613) 230-1186
SURVEYOR: (CONTRACTED BY OWNER)	EGIS 3240 DRUMMOND CON. 5A, R.R. #7 PERTH, ON K7H 3C9 T: 613-267-6524 F 613-267-7992
ADDRESS	6688 FRANKTOWN RD, RICHMOND, ON K0A 2Z0

GENERAL NOTES

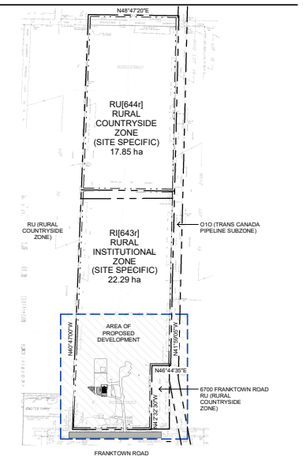
1. ALL DIMENSIONS ARE IN MILLIMETERS EXCEPT GRADE, FLOOR ELEVATIONS AND PROPERTY LINE DIMENSIONS (SHOWN IN METERS).
2. ALL LEGAL SURVEY INFORMATION OBTAINED FROM SURVEY PLANS PREPARED BY : MCINTOSH PERRY SURVEYING INC, DATED AUGUST 29, 2023.
3. REFER TO LANDSCAPE DRAWINGS FOR SOFT/HARD LANDSCAPING, AND PAVEMENT MATERIAL PATTERN LAYOUT.
4. REFER TO CIVIL DRAWING FOR SITE SERVICES, SITE GRADING, SURFACE DRAINAGE, ROAD WORK, PAVEMENT, SIDEWALK AND CONCRETE CURBS.
5. REFER TO ELECTRICAL DRAWING FOR LIGHT FIXTURES & ELECTRICAL SCOPE OF WORK.
6. ELEVATIONS SHOWN ARE REFERRED TO GEODETIC DATUM.
7. ALL PARKING SPACES TO HAVE 100mm WIDE PAINTED LINES ON ASPHALT, INCLUDING ACCESSIBLE PARKING SPACE PICTOGRAM.

FULL COURT BASKETBALL

- ALL GAME LINES FOR FULL COURT BASKETBALL TO BE PAINTED WHITE, UNLESS NOTED OTHERWISE
- LANE SPACE MARKS & NEUTRAL ZONE MARKS TO BE PAINTED A CONTRASTING COLOR TO THE BOUNDING LINES
- ALL GAME LINES FOR BASKETBALL TO BE 50mm WIDE, UNLESS NOTED OTHERWISE.

DEMOLITION SITE PLAN LEGEND

- PROPERTY LINE
- BUILDING SETBACK
- EXISTING MATERIAL TO BE DEMOLISHED
- EXISTING CONCRETE / ASPHALT TO BE RETAINED
- EXISTING TREE CANOPY OUTLINE AS PER MCINTOSH PERRY SURVEY DATED AUGUST 29, 2023
- FH — FIRE HYDRANT, SEE CIVIL
- B — EXISTING BOLLARD



EXISTING LOCATION PLAN

no.	date	revision	by
1	18/12/2024	ISSUED FOR SITE PLAN CONTROL	AL

grc architects
A PROVENCHER_ROY COMPANY
47 Clarence Street, Suite 401
Ottawa, Ontario K1N 9K1
t.613-241-4233 f. 613-241-41-80
info@grcarchitects.com
www.grcarchitects.com

consultant

northpoint

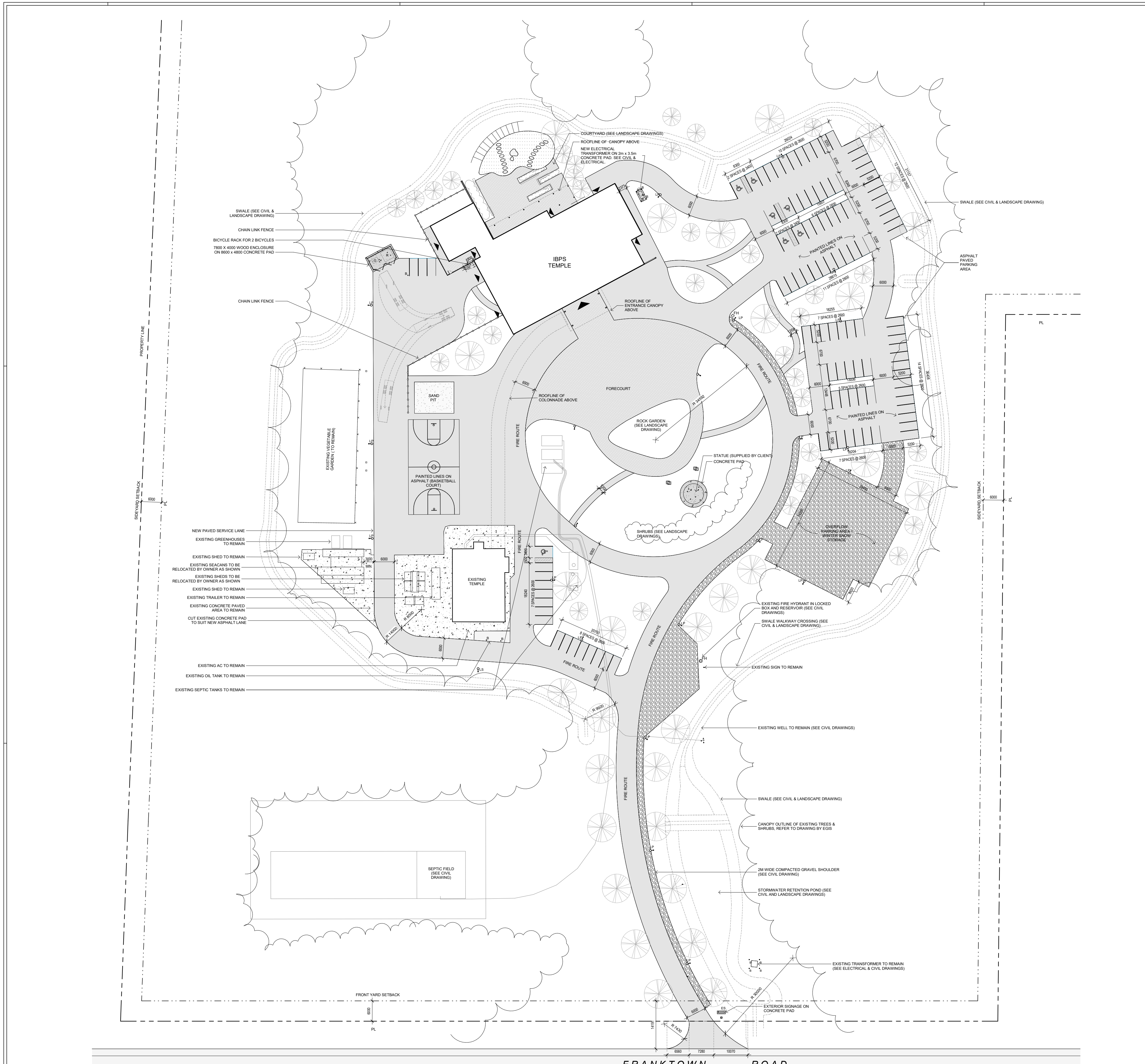
professional stamp
ONTARIO ASSOCIATION OF ARCHITECTS
ALEX LEUNG LICENCE 8371

project title
IBPS TEMPLE
address Ottawa, ON

drawing title
DEMOLITION SITE PLAN

date	DECEMBER 18, 2024	job. no.	0623
scale	As indicated		
drawn	CM	drawing no.	A001
approved	AL		
plot date	12/18/24		

1. DO NOT SCALE FROM THIS DRAWING
2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS: STRUCTURAL, MECHANICAL, ELECTRICAL



3
A002
SITE PLAN AREA OF DEVELOPMENT
1 : 400

PROJECT NAME: **IBPS TEMPLE**

OWNER: INTERNATIONAL BUDDHIST PROGRESS SOCIETY OF OTTAWA-CARLETON
6688 FRANKTOWN ROAD,
RICHMOND, ON K0A 2Z0
T: 613 759 8111 F: 613 759 8110

ARCHITECT: GRC ARCHITECTS
401-47 CLARENCE STREET,
OTTAWA, ON K1N 9K1
T: 613 241 8203 F: 613 241 4180

LANDSCAPE ARCHITECT: JAMES B. LENNOX & ASSOCIATES INC.
3332 CARLING AVENUE,
OTTAWA, ON K2H 5A8
T: 613 722-5168

STRUCTURAL: CUNLIFFE & ASSOCIATES INC.
102 - 1737 WOODWARD DRIVE,
OTTAWA, ON K2C 0P9
T: 613 729-7242 F: 613 728-1461

CIVIL: EXP
2650 QUEENSVIEW DR SUITE 100,
OTTAWA, ON K2B 8H6
T: (613) 688-1899

ELECTRICAL & MECHANICAL: SMITH + ANDERSEN
1600 CARLING AVE #530
OTTAWA, ON K1Z 1G3
T: (613) 230-1186

SURVEYOR: (CONTRACTED BY OWNER) EGIS
3240 DRUMMOND CON. 5A, R.R. #7
PERTH, ON K7H 3C9
T: 613-267-6524 F 613-267-7992

ADDRESS 6688 FRANKTOWN RD, RICHMOND, ON K0A 2Z0

ZONING PROVISION	REQUIRED	PROVIDED
LEGAL DESCRIPTION	PART OF LOT 19 CONCESSION 3	
ZONE PROVISIONS (TABLE 223-RI ZONE PROVISIONS)	RI[643R] RURAL INSTITUTIONAL ZONE	
(a) Minimum lot width	30m min lot width	> 30m min lot width
(b) Minimum lot area	2000m² min lot area	> 2000m² min lot area
(c) Minimum front yard setback	6m front yard setback	> 6m setback
(d) Minimum rear yard setback	i) 7.5m rear yard setback	> 7.5m setback
(e) Minimum interior side yard setback	6m interior side yard setback	> 7.5m setback
(f) Minimum corner side yard setback	6m interior corner side yard setback	> 6m setback
(g) Maximum principal building height	10m maximum building height	10m maximum building height
COVERAGE (TABLE 223-RI ZONE PROVISIONS) (h) Maximum lot coverage (%)	50%	**Site Area:** 224031m² (plot RI[643R]) **Building Area:** Existing Building footprint: 348m² New Building footprint: 1398m² 1746m² = 0.8% (1746/224031) **Asphalt Area:** 9707m² = 4% (9707/224031)
LANDSCAPE (TABLE 223-RI ZONE PROVISIONS) (i) Minimum landscaped area (%)	20%	**Landscaped Area:** 212857m² = 95% (212857/224031)
GROSS FLOOR AREA (CALCULATION PER ZONING BY-LAW 2008-250 "DEFINITIONS (SEC. 54)") Existing Building New Building		348m² 955m²
PARKING PROVISIONS (AREA "D" SCHEDULE 1A - N66 APPLIES TO ASSEMBLY AREA ONLY, ROW R22 6 ROOMING UNITS) ACCESSIBLE PARKING AS PER CITY OF OTTAWA ADS TABLE 3. PARKING RATES	**N66 Assembly Area:** = 10 per 100 m2 of Gross floor area of assembly area. = 73 parking spaces required (Shrine hall 342m2 + Dining room 192m2 + existing building workship area 195m2) **R22 Rooming Units:** 6 rooming units = 0.5 per rooming unit = 3 parking spaces required **ADS Table 3:** = 5 accessible spaces required	98 Standard Spaces (Assembly) 3 Standards Spaces (Rooming) 7 'Type A' Accessible Spaces **= 108 Total Spaces**
BICYCLE PARKING RATES (CALCULATION PER ZONING BY-LAW 2008-250 "DEFINITIONS (SEC. 111))"	**111A (a) 0.25 per rooming unit** = 2 required	2 spaces 0.6m x 1.8m

GENERAL NOTES

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5. REFER TO ELECTRICAL DRAWING FOR LIGHT FIXTURES & ELECTRICAL SCOPE OF WORK.
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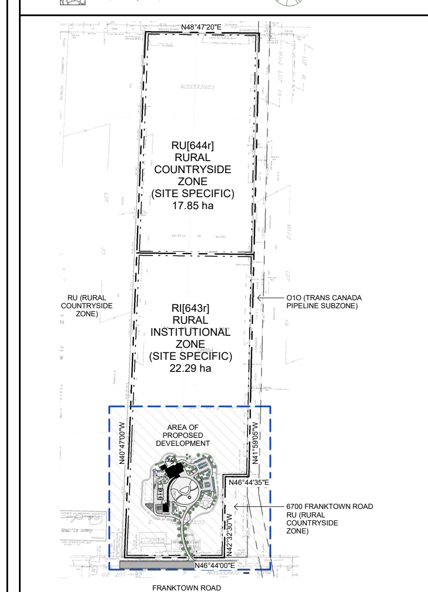
- LANE SPACE MARKS & NEUTRAL ZONE MARKS TO BE PAINTED A CONTRASTING COLOR TO THE BOUNDING LINES
- ALL GAME LINES FOR BASKETBALL TO BE 50mm WIDE, UNLESS NOTED OTHERWISE.

SITE PLAN LEGEND

PROPERTY LINE
BUILDING SETBACK
NEW CHAIN LINK FENCE
MAIN ENTRANCE
SECONDARY ENTRANCE
BARRIER FREE PARKING STALL
VEHICULAR DIRECTION
CONCRETE PAVERS, REFER TO LANDSCAPE DRAWINGS
EXISTING ASPHALT, SEE CIVIL
ASPHALT, SEE CIVIL
GRAVEL, SEE CIVIL
FH FIRE HYDRANT, SEE CIVIL
G 4 CUBIC YARD GARBAGE CONTAINER
R RECYCLE AREA
B NEW GALVANIZED STEEL BOLLARDS, PAINTED.
LP NEW LIGHT POST C/W CONCRETE BASE, REFER TO ELECTRICAL
ES EXTERIOR SIGNAGE. REFER TO ELECTRICAL
EXISTING CONCRETE, SEE CIVIL
CONCRETE, SEE CIVIL
EXISTING TREE CANOPY OUTLINE AS PER MCINTOSH PERRY SURVEY DATED AUGUST 29, 2023
PROPOSED TREE, SEE LANDSCAPE



LOCATION PLAN

no.	date	revision	by
1	18/12/2024	ISSUED FOR SITE PLAN CONTROL	AL

grc architects
A PROVENCHER_ROY COMPANY
47 Clarence Street, Suite 401
Ottawa, Ontario K1N 9K1
t:613-241-8203 f: 613-241-41-80
info@grcarchitects.com
www.grcarchitects.com

consultant

northpoint

professional stamp
ONTARIO ASSOCIATION OF ARCHITECTS
ALEX LEUNG
LICENCE
6370

project title
IBPS TEMPLE
address Ottawa, ON

drawing title
SITE PLAN

date	DECEMBER 18, 2024	job. no.	0623
scale	As indicated		
drawn	CM	drawing no.	A002
approved	AL		
plot date	12/18/24		

1. DO NOT SCALE FROM THIS DRAWING
2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES
3. THIS DRAWING TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS: STRUCTURAL, MECHANICAL, ELECTRICAL

APPENDIX B

Ottawa Septic System Office - Permit

Ottawa Septic System Office
Bureau des systèmes septiques d'Ottawa
3889 Rideau Valley Drive Box 599 Manotick, ON K4M 1A5
Phone: 613-692-3571 1-800-267-3504 Fax: 613-692-1507 Email: 'septic@rvca.ca

Scan - Email -Phone
Folder – CanadaPost -PickUp Box

SEPTIC APPLICATION 18-548
REQUIRED FOR ALL INQUIRIES

Address of property: 6688 Trankton N Township: OSG HUN-GLO-FIT-CUM-NEP-GOU-RID-KAN

Contact for pickup: International Buddhist Phone#/Email: (a) bingfeng.li@bingpro.ca
(b) p.leblanc@mcintoshperry.com
(b) CAN POST: 1950 Scott St.

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 (applicant copy – YELLOW)**(city copy#2 – PINK ** Agent Deliver Direct To City**)**

PLEASE 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 – 2nd 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 – 3rd 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

May 2016

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Main Phone: 613-692-3571 x 1129

SEPTIC APPLICATION 18-548 REQUIRED FOR ALL INQUIRIES

Inspection Request Form

Complete and **fax to: 613-692-1507** or **e-mail: septic@rvca.ca**

Section A. Property and General Information			
Date Submitted		**Septic File Number:**	
Civic Address			
Former Township	☐ Osgoode ☐ Cumberland ☐ Goulbourn ☐ Torbolton ☐ Nepean		
	☐ Huntley ☐ Rideau ☐ Gloucester ☐ Fitzroy ☐ Kanata ☐ Ottawa		
Property Owner			

Section B. Requestor Information			
Name of Requestor		**Phone Number:**	
E-mail		**Fax Number:**	
I am the (check one)	☐ Installer ☐ Engineer ☐ Property Owner		

Section C. I am Requesting the following:		
☐ **1st – Subgrade (If required - check one):**	☐ **2nd – Installation Inspection (Check all that apply)**	☐ **3rd – Final Grade Inspection**
☐ Scarification	**Refer to attached:**	**Note: Topsoil must be applied unless winter conditions exist at Director's discretion**
☐ Clay Seal	☐ As-Built Components Page	
☐ Subgrade	☐ As-Built Drawing	
	☐ Engineers Letter	**All deficiencies must be addressed from installation report**
	☐ Filter Media Bills	
	☐ Grain Size Analysis	
	☐ Maintenance Agreement	
	☐ ESA Permit Number:	
Notes/Comments		

Section D. Re-inspection			
☐ **Re-inspection - 1st call**	☐ **Re-inspection Request – 2nd call**		
	Note: Re-inspection fee applies on requests for same deficiency – Please provide payment information below		
	Card Type:	☐ Mastercard	☐ Visa
	Card Number:		**Expiry:**
	Cardholder Name:		
Notes/Comments			

Please Note:

- 3-5 business day turn around for inspections
- OSSO file will be given to inspector upon receipt of this request form
- PRIORITY will be given to requests that have septic file/permit numbers

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

SEPTIC PERMIT NO.

SEPTIC APPLICATION 18-548 REQUIRED FOR ALL INQUIRIES

AS-BUILT COMPONENTS

(required prior to installation inspection)

Elevations of installed system must be supplied with this report (in reference to the TBM).
Exact size and location of all structures, well(s) and system(s) and its components must be shown (including neighbouring lots).

Septic/Holding Tank: _____ L
Manufacturer: _____
❑ concrete ❑ plastic ❑ other
Filter: ❑ no ❑ yes _____ make
Treatment: Make _____
Unit: Model _____
Diameter of pipes _____ mm/inches
Make of pipes: _____
Ends: ❑ capped ❑ interconnected
Number of runs: _____ m
Length of runs: _____ m
Stone area _____ m^2

Filter media:
Amount Purchased: _____ kg
Date Purchased: _____
Supplier: _____
Grain/size analysis by: _____
Analysis dated: _____

Stone:
Amount Purchased: _____ kg
Date Purchased: _____
Supplier: _____

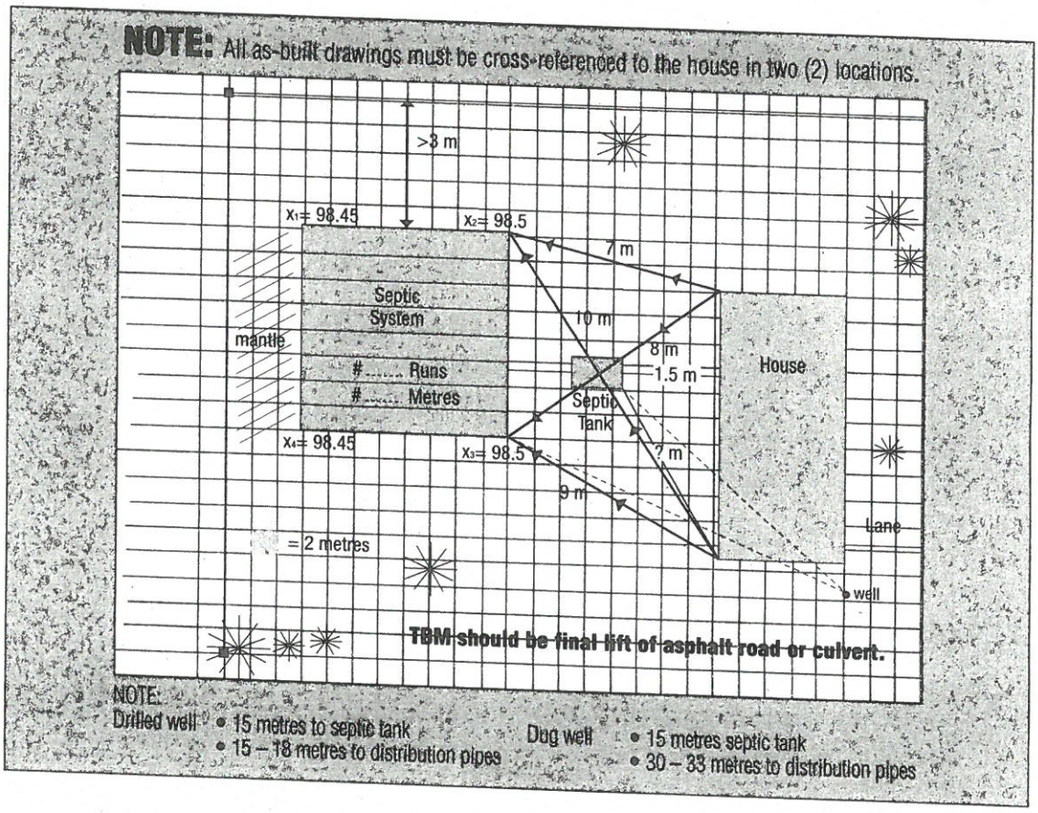
Name of owner: _____
Installer: _____
Installer Signature: _____
License Number: _____
Date of Installation: _____

Pump Systems:
ESA Permit #: _____
Volume discharge rates: _____ /15min
Alarm location: _____
Dimension of Pump Chamber: _____
Height of Float Switch: _____

Grease Interceptor:
❑ no ❑ yes Size: _____
Location: _____

*** Grain Size Analysis and weight bills must be supplied with this report.**

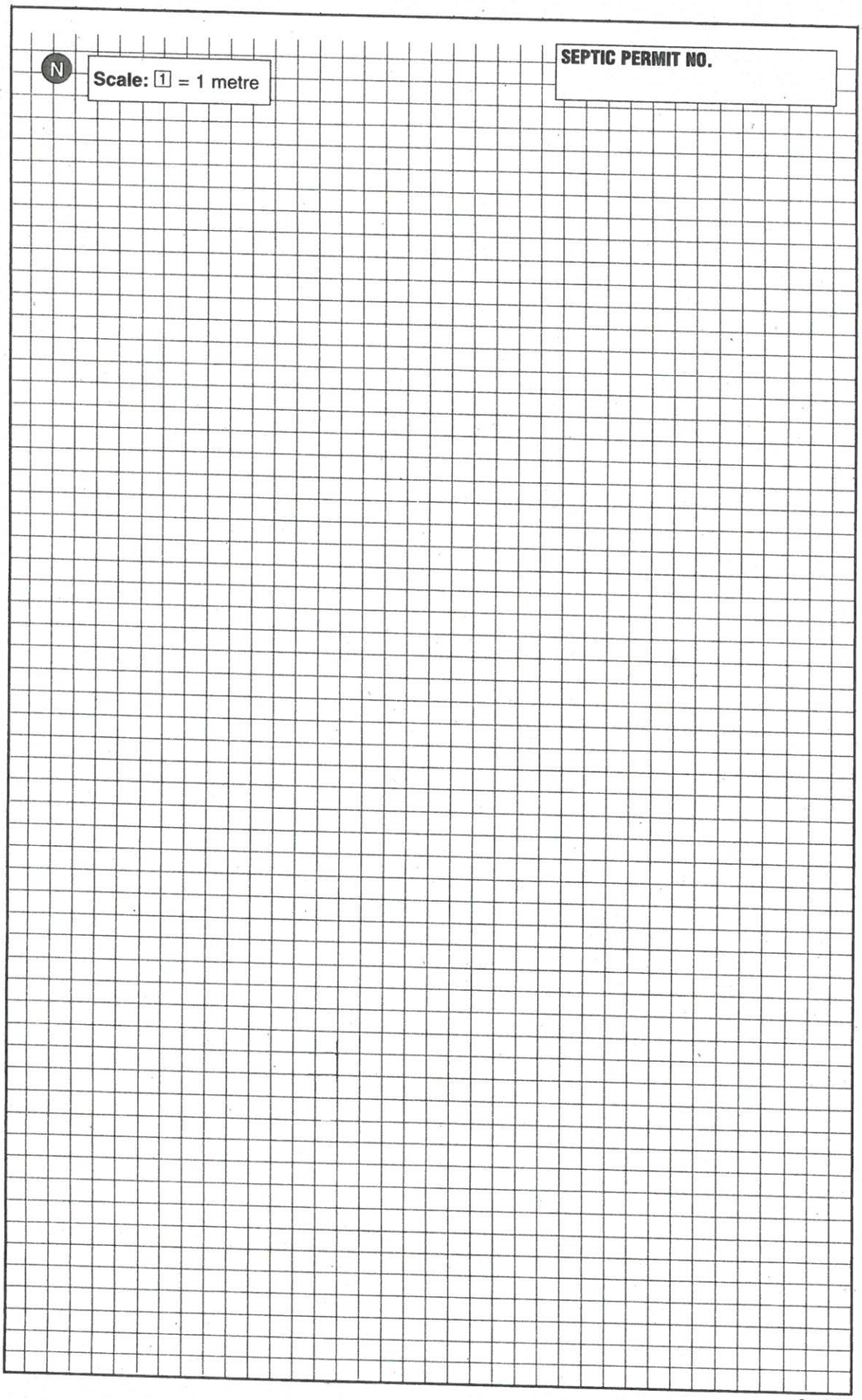
NOTE: All as-built drawings must be cross-referenced to the house in two (2) locations.



NOTE:
Drilled well • 15 metres to septic tank • 15 – 18 metres to distribution pipes
Dug well • 15 metres septic tank • 30 – 33 metres to distribution pipes

AS-BUILT DRAWING

SEPTIC APPLICATION
18-548
REQUIRED FOR ALL INQUIRIES



Batch # 12778
Entry #: 10

RECEIPT CONFIRMATION

Rideau Valley C. A.
P.O. Box 599
Manotick, Ontario K4M 1A5
Canada
Phone: (613) 692-3571
Fax: (613) 692-0831

DOCUMENT NO.: PY000033782

DATE: 4/23/2019

AMOUNT RECEIVED 965.00 CAD

FROM Patrick Leblanc

SF

SIGNATURE

PAID BY: CHECK **CHECK/RECEIPT NO.:** 000012778-00010 **DATE RECEIVED:** 4/23/2019

	DESCRIPTION	AMOUNT
4300-20-20600	NEW 6688 Franktown Road (GOU) Septic File 18-548	965.00
	SUB-TOTAL:	965.00
	TOTAL:	965.00

Application for a Permit to Construct or Demolish

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

R.V.C.A. RECEIVED
APR 2 3 2019
SEPTIC APPLICATION
18-548
REQUIRED FOR ALL INQUIRIES

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	Unit number	Lot/con.
6688 Franktown Road		Part Lot 19, Con 3

Municipality	Postal code	Plan number/other description
Ottawa, Geographic Township of Goulbourn	K0A 2Z0	

Project value est. $	Area of work (m^2)
	~924 sq.m

B. Purpose of application

(New construction) | Addition to an existing building | Alteration/repair | Demolition | Conditional Permit

Proposed use of building	Current use of building
Assembly/Place of Worship	N/A

Description of proposed work

Proposed development of a Class 4 leaching bed with a level IV treatment unit, and 'Type A' dispersal bed for the future development of a place of worship.
Leaching bed designed, as per this application, is intended to service the interim facility. Some components of the system which are expected to form part of a larger approval for the final build out of the development (to be approved by MECP) have been overdesigned for this reason.

C. Applicant

Applicant is: Owner or (Authorized agent of owner)

Last name	First name	Corporation or partnership	
Leblanc	Patrick	McIntosh Perry Consulting Engineers	
Street address		**Unit number**	**Lot/con.**
115 Walgreen Road, R.R. #3			
Municipality	**Postal code**	**Province**	**E-mail**
Carp	K0A 1L0	Ontario	p.leblanc@mcintoshperry.com
Telephone number	**Fax**		**Cell number**
(613) 714-4586	(613) 836-3742		(613) 229-5863

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership	
		International Buddhist Progress Society of Ottawa-Carleton	
Street address		**Unit number**	**Lot/con.**
1950 Scott Street			
Municipality	**Postal code**	**Province**	**E-mail**
City of Ottawa	K1Z 8L8	Ontario	bingfeng.li@bingpro.ca
Telephone number	**Fax**		**Cell number**
(613) 759-8111	( )		( )

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 ( )	

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SEPTIC APPLICATION 18-548 REQUIRED FOR ALL INQUIRIES

F. Tarion Warranty Corporation (Ontario New Home Warranty Program)

i. Is proposed construction for a new home as defined in the *Ontario New Home Warranties Plan Act*? If no, go to section G.	Yes	No X
ii. Is registration required under the *Ontario New Home Warranties Plan Act*?	Yes	No X

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).	Yes X	No
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 *Building Code Act, 1992*, to be paid when the application is made.	Yes X	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 *Building Code Act, 1992*.	Yes X	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 *Building Code Act, 1992* which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.	Yes X	No
iv) The proposed building, construction or demolition will not contravene any applicable law.	Yes X	No

I. Declaration of applicant

I Patrick Leblanc declare that:
(print name)

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 April 23, 2019 Signature of applicant

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.

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		Unit no.	Lot/con.
6688 Franktown Road			Part Lot 19, Con 3
Municipality: City of Ottawa, Geographic Township of Goulbourn	Postal code: K0A 2Z0	Plan number/ other description	

B. Individual who reviews and takes responsibility for design activities

Name	Firm	
Patrick Leblanc	McIntosh Perry Consulting Engineers	
Street address: 115 Walgreen Road, R.R. #3	Unit no.	Lot/con.
Municipality: Carp	Postal code: K0A 1L0	Province: Ontario
E-mail: p.leblanc@mcintoshperry.com		
Telephone number: (613) 714-4586	Fax number: (613) 836-3742	Cell number: (613) 229-5863

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

Description of designer's work

Proposed development of a Class 4 leaching bed with a Level IV treatment unit, and 'Type A' dispersal bed for the interim facility which will consist of a place of worship.

D. Declaration of Designer

I Patrick Leblanc 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: _____

Firm BCIN: _____

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: P.Eng. (Licence #100141438)

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 April 23, 2019 Signature of Designer

NOTE:

1. 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.
2. 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.

Schedule 2: Sewage System Installer Information

A. Project Information					
Building number, street name	6688 Franktown Road			Unit number	Lot/con. Part Lot 19, Con 3
Municipality	Ottawa, Geographic Township of Goulbourn	Postal code K0A 2Z0	Plan number/ other description		

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) | X Installer unknown at time of application (Continue to Section E)

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

Name			BCIN	
Street address			Unit number	Lot/con.
Municipality	Postal code	Province	E-mail	
Telephone number ( )	Fax ( )		Cell number ( )	

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

Name of qualified supervisor(s)	Building Code Identification Number (BCIN)

E. Declaration of Applicant:

I Patrick Leblanc (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:

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 April 23, 2019 Signature of applicant

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Do Not Complete
Permit No _____
Revision No _____
Date _____

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18-548
REQUIRED FOR ALL INQUIRIES

Schedule 4
Proposed Services
Complete Sections 1 thru 7

1. **Engineered**
   - [X] Yes
   - [ ] No

2. **Water supply**
   - [X] Proposed
   - [ ] Existing

3. **Type of work proposed**
   - [X] New Installation
   - [ ] Replacement
   - [ ] Alteration

4. **Type of Well**
   - [ ] Dug/bored/Sandpoint well
   - [X] Drilled well
   - [ ] Municipal
   - [ ] Other

5. **Residential** Sewage Design Flow Info.
   Bedrooms _____
   House (floor area) _____ **m²**
   People _____
   Total Fixture Units _____ **(Schedule 8)**
   Residential Flow _____ **L/day**

6. Sewage Design Flow **Other Occupancies**
   Design Flow 9,999 _____ L/day
   Detailed sewage flow calculations:
   Assembly Hall, Kitchen Facilities Provided: 36L/day/seat or person
   Assume Max Accupancy in one day is 277 People
   Flow (Q) = (36L/day/Person) *(277 People) = 9,972 L/day

7. **Type of System**
   - [X] Treatment Unit Waterloo Biofilter Baskets (2x)
   - [ ] 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
   - [ ] Class 4 – BMEC Area Bed **(Schedule 11)**
     - [ ] Fully raised
     - [ ] Partially raised
     - [ ] In-ground
   - [X] Class 4 – "Type A" Dispersal **(Schedule 13)**
     - [X] 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/TreatmentUnit/PumpChamber ONLY
   - [ ] Effluent Filter/Risers ONLY

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APR 23 2019

Do Not Complete
Permit No
Revision No
Date

SEPTIC APPLICATION
REQUIRED FOR ALL INQUIRIES

Schedule 5
Sewage System Details

Type of System: Class 4 Fully Raised Type A Dispersal Bed System (Schedule 4)

Septic/Holding Tank Size: 19,998 (min) Litres Make: MacGregor Concrete Products

Septic Tank Effluent Filter Make: Polylok PL-625 or Equivalent Model: MAC-23000-1P

Treatment Unit – Make & Model: Waterloo Biofilter (2x Biofilter Medium Filled Baskets)

Number of Units: 1 Other:

Refer to Typical Drawing # E Pump(s) required yes

Mantle Information: Pump Rate as per Waterloo

Native or imported ≈15m in S-E direction(s) **Note:** Alarm required for all pumping systems

Slope subgrade N/A % 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^2

Type of Chamber _____

Length of Chamber _____ m

☐ **BMEC Area Bed**

☒ **Type A**

☐ **Type B**

Stone _____ m^2

Sand _____ m^2

Pipe _____ m

Linear Loading _____ L/m^2

☐ **Shallow Buried Trench**

Pipe Length _____ m

☐ **Filter Media Bed**

Stone _____ m^2

Extended Base _____ m^2

Pipe _____ m

Weight of Filter Media _____ Kg

Loading Area _____ m^2

☐ **Tank/Treatment Unit/Pump Chamber Replacement** ONLY

☐ **Effluent Filter & Riser** ONLY

Construction Notes:

All tanks, piping and connections below original grade shall be sealed to prevent groundwater infiltration. Additionally, floatation protection shall be reviewed by contractor prior to installation for all tanks and accounted for during installation if determined to be required during review.

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

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APR 2 3 2019

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Permit No
Revision No
Date

SEPTIC APPLICATION
18-548
REQUIRED FOR ALL INQUIRIES

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

Name of Applicant/Agent: Patrick Leblanc
Date: October 18, 2018 Time: 11:30 AM
Applicant/Agent Signature:

Inspector:
Date: April 30/19 Time: 9:00AM
Inspector Signature:

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

See Attached Test Pit Logs

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

LEGEND

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

McINTOSH PERRY **TEST PIT ID:** TP1 **SHEET** 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth	Symbol	Description	Notes	Sample Type
0 ft / 0 m		Ground Surface		
		Topsoil (0m to 0.15m)		
0.2		Clay (0.15m to 0.90m)		
0.4				
0.6				
0.8				
1.0		EOH @ 0.90m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP2

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.25m)		
0.2				
		Reddish brown Brown Sand becoming lighter brown with depth (0.25m to 0.91m)		
0.4				
0.6				
0.8				
		EOH @ 0.91m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP3

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.1m)		
0.2		Medium Brown Sand (0.1m to 0.30m)		
0.4		Clayey Sand to Sandy Clay, with clay content increasing with depth (0.3m to 0.90m)		
0.6				
0.8				
1.0		EOH @ 0.90m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP4

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.1m)		
0.2		Clayey Sand to Sandy Clay, with clay content increasing with depth (0.1m to 0.90m)		
0.4				
0.6				
0.8				
		EOH @ 0.90m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP5

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.1m)		
0.2		Brown sand becoming grey with depth, trace clay (0.1m to 0.9m)		
0.4				
0.6				
0.8				
		EOH @ 0.90m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP6

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.15m)		
0.2		Medium brown sand (0.15m to 0.9m)	Rust mottling visible in upper sand layer	
0.4				
0.6				
0.8				
		EOH @ 0.90m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

REVIEWED BY: Patrick Leblanc

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP7

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.25m)		
0.2				
		Rusty red sand becoming lighter brown with depth (0.25m to 0.84m)		
0.4				
0.6				
0.8		EOH @ 0.84m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP8

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.25m)		
0.2				
		Medium red and brown sand becoming light brown with depth (0.25m to 0.94m)		
0.4				
0.6				
0.8				
1.0		EOH @ 0.94m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP9

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.25m)		
0.2				
		Medium brown sand with rust mottling throughout, becoming light brown with depth (0.25m to 0.97m)		
0.4				
0.6				
0.8				
1.0		EOH @ 0.97m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP10

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.10m)		
0.2		Medium brown sand, becoming light brown with depth (0.10m to 0.99m)		
0.4				
0.6				
0.8				
1.0		EOH @ 0.99m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP11

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.20m)		
0.2		Grey sand (0.20m to 0.30m)		
0.4		Rusty red sand, becoming light brown with depth (0.30m to 0.91m)		
0.6				
0.8				
1.0		EOH @ 0.91m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP12

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.20m)		
0.2		Grey sand (0.20m to 0.35m)		
0.4		Rusty red sand, becoming brown then light brown with depth (0.35m to 0.99m)		
1.0		EOH @ 0.99m (Dry)		
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand auger

REVIEWED BY: Patrick Leblanc

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP13

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.15m)		
0.2		Grey sand (0.15m to 0.30m)		
0.4		Brown sand with rust mottling, becoming light brown with depth (0.30m to 0.81m)		
0.6				
0.8		EOH @ 0.81m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand shovel

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP14

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.25m)		
0.2		Reddish brown sand, becoming light brown with depth (0.25m to 0.81m)		
0.4				
0.6				
0.8		EOH @ 0.81m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand shovel

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

REVIEWED BY: Patrick Leblanc

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP15

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.25m)		
0.2		Reddish brown sand, becoming light brown with depth (0.25m to 0.81m)		
0.4				
0.6				
0.8		EOH @ 0.81m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand shovel

REVIEWED BY: Patrick Leblanc

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

TEMPLATE: MP - Test Pit

McINTOSH PERRY

TEST PIT ID: TP16

SHEET 1 of 1

PROJECT No: CP-17-0503
SITE: 6688 Franktown Rd.
CLIENT: Bing Professional Engineering Inc.

LOGGED BY: Patrick Leblanc
CONTRACTOR: McIntosh Perry
DATE EXCAVATED: October 18, 2018

Depth (ft / m)	Symbol	Description	Notes	Sample Type
0 / 0		Ground Surface		
		Topsoil (0m to 0.30m)		
0.2				
		Reddish brown sand, becoming light brown with depth (0.30m to 0.81m)		
0.4				
0.6				
0.8		EOH @ 0.81m (Dry)		
1.0				
1.2				
1.4				
1.6				
1.8				
2.0				

NOTES Excavated using hand shovel

REVIEWED BY: Patrick Leblanc

Descriptions are based on observations and hand testing of grab samples.
Mechanical Tests were not performed unless otherwise stated.

TEMPLATE: MP - Test Pit

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Do Not Complete
Permit No _____
Revision No _____
Date _____

Scale: 1Block = _____

Schedule 7
Layout Section

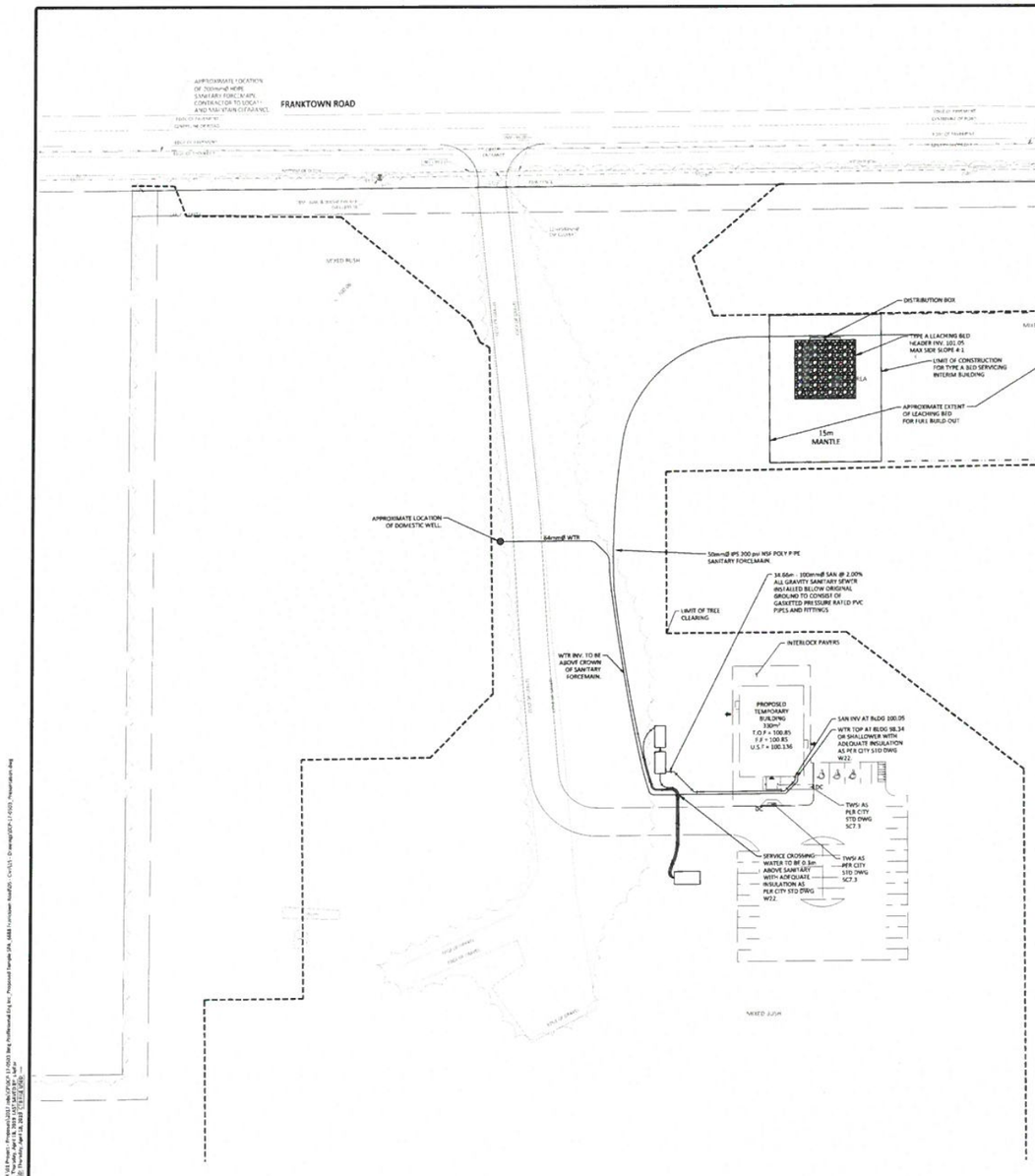
N

See Attached Drawings

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

Elevations (metric only)
B.M _____ m
B.M Description _____
_____
Exact Location _____
_____

Min. of 5 elevations in proposed system area (in X pattern)
X_1 _____ X_2 _____
X_3 _____ X_4 _____
X_5 _____ $X_{6\ (toe)}$ _____
X_7 X_8



GENERAL NOTES

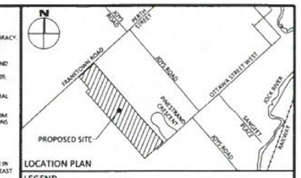
1. THE ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY, AND MPH NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION SHOWN.
2. THIS PLAN IS NOT A CADASTRAL SURVEY SHOWING LEGAL PROPERTY BOUNDARIES AND EASEMENTS. THE PROPERTY BOUNDARIES SHOWN HEREON HAVE BEEN DERIVED INFORMATION SUPPLIED BY (OR SHOWN ON) MPS: JOB #17-4410, DATED JANUARY 09, 2018 AND CANNOT BE RELIED UPON TO BE ACCURATE OR COMPLETE. THE PRECISE LOCATION OF THE CURRENT PROPERTY BOUNDARIES AND EASEMENTS CAN ONLY BE DETERMINED BY AN UP TO DATE LAND TITLES SEARCH AND A SUBSEQUENT CADASTRAL SURVEY PERFORMED AND CERTIFIED BY AN ONTARIO LAND SURVEYOR.
3. SURVEY ELEVATIONS FROM MPS, SURVEY PLAN #17-4410, ELEVATIONS DERIVED FROM THE FOLLOWING GSSNE GEODETIC BENCHMARK ARE 0.05m LOWER THAN ELEVATIONS SHOWN ON THE PLAN.
   - 3.1. STATION: 0011948024
   - 3.2. VERTICAL DATUM: CGVD-1928:1978
   - 3.3. VERTICAL ACCURACY: FIRST ORDER
   - 3.4. ORTHOMETRIC ELEVATION: 97.874
   - 3.5. LOCATION: TOWNSHIP: RICHMOND-MALAKOFF , ROAD BRIDGE OVER JOCK RIVER IN RICHMOND, 0.8km SOUTH OF RICHMOND ROAD, TABLET IN TOP OF EAST WALL, 2.7m FROM NORTH END.
4. THE CONTRACTOR IS TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF OTTAWA BEFORE COMMENCING CONSTRUCTION.
5. THE CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT.
6. THE CONTRACTOR IS TO DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
7. RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY OF OTTAWA AUTHORITIES.
8. EXCAVATE AND DISPOSE OF ALL EXCESS EXCAVATED MATERIAL SUCH AS ASPHALT, CURBING AND DEBRIS, OFF SITE AS DIRECTED BY THE ENGINEER AND THE CITY OF OTTAWA.
9. TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
10. ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SAFETY MEASURES DURING THE CONSTRUCTION PERIOD, INCLUDING THE SUPPLY, INSTALLATION, AND REMOVAL OF ALL NECESSARY SIGNAGE, DELINEATORS, MARKERS AND BARRIERS.
12. DO NOT ALTER GRADING OF THE SITE WITHOUT PRIOR APPROVAL OF THE CITY OF OTTAWA.
13. ALL ROADWAY, PARKING LOT, AND GRADING WORKS TO BE UNDERTAKEN IN ACCORDANCE WITH CITY OF OTTAWA STANDARDS AND SPECIFICATIONS. THE CONTRACTOR IS TO PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING.
14. CONTACT THE CITY OF OTTAWA FOR INSPECTION OF ROUGH GRADING OF PARKING LOTS, ROADWAYS AND LANDSCAPED AREAS PRIOR TO PLACEMENT OF ASPHALT AND TOPSOIL. ALL DEFICIENCIES NOTED SHALL BE RECTIFIED TO THE CITY OF OTTAWA'S SATISFACTION PRIOR TO PLACEMENT OF ANY ASPHALT, TOPSOIL, SEED & MULCH AND/OR SOD.
15. ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
16. ELECTRICAL, TELEPHONE AND TELEVISION SERVICE LOCATIONS ARE SUBJECT TO THE INDIVIDUAL UTILITIES.
    - ELECTRICAL SERVICE - HYDRO OTTAWA,
    - TELEPHONE SERVICE - BELL CANADA,
    - TELEVISION SERVICE - ROGERS.
17. PLEASE NOTE THERE IS NO GAS INFRASTRUCTURE WITHIN FRANKETOWN ROAD.
18. INSTALLATION TO BE IN ACCORDANCE WITH CURRENT CODES AND STANDARDS OF APPROVAL AGENCIES HYDRO OTTAWA, BELL AND THE CITY OF OTTAWA.
19. ALL PROPOSED CURB SHALL BE CONCRETE BARRIER CURB UNLESS SPECIFIED.
20. ALL EXISTING REDUNDANT PRIVATE APPROACHES FRONTING THIS DEVELOPMENT MUST BE REMOVED TO THE SATISFACTION OF THE CITY OR TOWNSHIP.
21. THIS PLAN MUST BE READ IN CONJUNCTION WITH GEOTECHNICAL REPORT BY McINTOSH PERRY REPORT #CP-17-0503, DATED JULY 2018 AND THE SITE SERVICING REPORT BY McINTOSH PERRY REPORT #CP-17-0503, DATED FEBRUARY 2019

SEWER NOTES

1. CONSTRUCT ALL SEWERS AND APPURTENANCES TO CITY OF OTTAWA STANDARDS (IF AVAILABLE) OR AS PER OPSD STANDARDS.
2. SEWER TRENCHING AND BEDDING SHALL CONFORM TO CITY OF OTTAWA STANDARD DRAWING S7 UNLESS NOTED OTHERWISE.
3. BEDDING SHALL CONFORM TO CITY OF OTTAWA STANDARD DRAWING S7. BEDDING SHALL BE A MINIMUM 150mm OF GRANULAR "A", COMPACTED TO MINIMUM 95% STANDARD PROCTOR DRY DENSITY. CLEAR STONE BEDDING SHALL NOT BE PERMITTED.
4. SUB BEDDING, IF REQUIRED SHALL BE AS PER THE DIRECTION OF A GEOTECHNICAL ENGINEER.
5. BACKFILL TO AT LEAST 300mm ABOVE TOP OF PIPE WITH GRANULAR "A" OR SAND.
6. TO MINIMIZE DIFFERENTIAL FROST HEAVING, TRENCH BACKFILL (FROM PAVEMENT SUBGRADE TO 2.0m BELOW FINISHED GRADE) SHALL MATCH EXISTING SOIL CONDITIONS.
7. SEWERS AND CONNECTIONS 150mm DIAMETER AND SMALLER TO BE PVC SDR 28 OR APPROVED EQUIVALENT. SEWERS AND CONNECTIONS 200mm DIAMETER AND LARGER TO BE PVC SDR 35 OR APPROVED EQUIVALENT.
8. INSULATE ALL SEWERS AND/OR SERVICES THAT HAVE LESS THAN 1.5M OF COVER WITH THERMAL INSULATION AS PER OPSD 1109.030.
9. SUPPLY AND INSTALL ALL PIPING AND APPURTENANCES AS SHOWN AND DETAILED TO WITHIN 1.0M OF BUILDING. ALL ENDS OF SERVICES TO BE PROPERLY CAPPED AND LOCATED WITH 2"x4"x8' LONG MARKER.
10. CONTRACTOR TO TELEVISE (CCTV) ALL PROPOSED SEWERS ON-SITE, OUTLET CONNECTION TO THE MAIN AND PIPES 150mmØ OR GREATER PRIOR TO BASE COURSE ASPHALT. UPON COMPLETION OF CONTRACT, THE CONTRACTOR IS RESPONSIBLE TO FLUSH AND CLEAN ALL SEWERS & APPURTENANCES.

WATERMAIN NOTES

1. CONSTRUCT ALL WATERMAINS AND APPURTENANCES IN ACCORDANCE WITH OPS STANDARDS AND SPECIFICATIONS, AS WELL AS CITY OF OTTAWA STANDARDS.
2. INSTITUTIONAL SERVICE CONNECTIONS TO BE 50mm COPPER PIPING AND SHALL CONFORM TO AS/ M 688 TYPE 'K' SOFT.
3. WATERMAINS AND/OR WATER SERVICES ARE TO HAVE A MINIMUM COVER OF 2.4m, OTHERWISE THERMAL INSULATION IS REQUIRED AS PER CITY STANDARDS W22.
4. USE APPROVED SADDLE CONNECTION WITH MAIN (CORPORATION) STOP AS PER CITY OF OTTAWA STANDARD DRAWING 'W26'.
5. THERMAL INSULATION OF WATERMAINS UNDER ROAD SIDE DITCHES AS PER CITY OF OTTAWA STANDARD DRAWING 'W21'.
6. TRACER WIRE SHALL BE PROVIDED TO THE CAPPED WATER SERVICE AS PER CITY OF OTTAWA STANDARD DRAWING W36.



LOCATION PLAN

LEGEND

- BARRIER CURB (GUTTER, INC & TOP OF CURB)
- MOUNTABLE CURB (GUTTER, INC)
- FASE MENT
- STORM MANHOLE
- CATCHBASIN OR DITCH INLET
- SANITARY MANHOLE
- PERFORATED PIPE IN SWALES
- WATER VAVLE/CHAMBER
- FIRE HYDRANT
- CENTRELINE OF SWALE
- SLOPING AT 3:1 (UNLESS SPECIFIED)
- PROPOSED ELEVATION / EXISTING ELEVATION
- SWALE ELEVATION
- SILT FENCE (AS PER OPSD 219.130)
- STRAW BALE CHECK DAM (AS PER OPSD 219.180)
- EMERGENCY OVERLAND FLOW ROUTE
- HEAVY DUTY GRAVEL

No.	Revision/Issue	Date
04	REVISED AS PER CITY COMMENTS	APR. 18, 2019
03	REVISED AS PER CITY COMMENTS	FEB. 22, 2019
02	ISSUED FOR BUILDING PERMIT	OCT. 01, 2018
01	ISSUED FOR REVIEW	JUL. 30, 2018

Check and verify all dimensions before proceeding with the work. Do not scale drawings

SCALE 1 : 500

0 10 20 30 40 50 Metres

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A 1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

Stamp: R.P. KENNEDY 100127 PROFESSIONAL ENGINEER PROVINCE OF ONTARIO

Client: BING PROFESSIONAL ENGINEERING INC.
248 HUNTSVILLE DRIVE
OTTAWA, ON K2T 0C3

Project: 6688 FRANKTOWN ROAD
PROPOSED FOGUANGSHAN TEMPLE INTERIM BUILDING
RICHMOND, ONTARIO

Drawing Title: SITE SERVICING PLAN

Scale:	1:500
Drawn by:	S.V.L.
Checked By:	R.P.K.
Designed By:	S.V.L.
Project Number:	CP-17-0503
Drawing Number:	C102

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

R.V.C.A. RECEIVED
APR 23 2019

Do Not Complete
Permit No _____
Revision No _____
Date _____

SEPTIC APPLICATION

18-548

REQUIRED FOR EIS INQUIRIES

Schedule 8
Fixture unit count

Fixtures	# Existing	+	# Proposed	X	unit count	=	Fixture Count
Bathroom							
Bathroom group (toilet, sink and tub or shower) with flush tank		+		X	6	=	
Bathtub with/without overhead shower		+		X	1.5	=	
Shower stall		+		X	1.5	=	
Wash basin (1½inch trap)		+		X	1.5	=	
Watercloset (toile	N/A (See Schedule 4)						
Bidet							
Kitchen							
Dishwasher							
Sink with/without garbage grinder(s), domestic and other small type single, double or 2 single with a common trap		+		X	1.5	=	
Other							
Domestic washing machine		+		X	1.5	=	
Combination sink and laundry tray single or double (Installed on 1½ trap)		+		X	1.5	=	

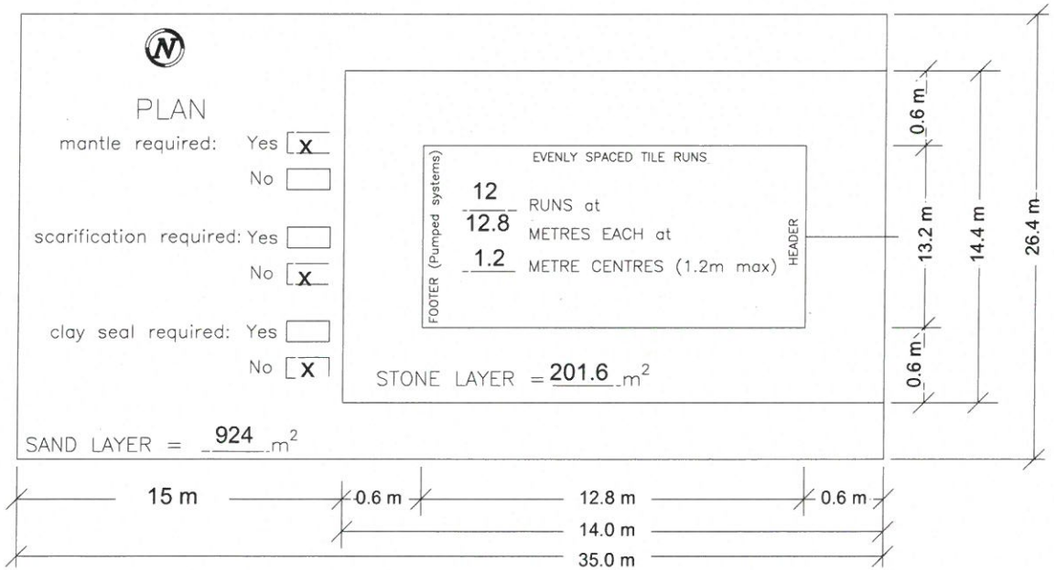
***Total:**

***Insert the TOTAL in section 5 of Schedule 4** (0.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)).

Agent/Owner signature

April 23, 2019
Date



NOT TO SCALE

Ottawa Septic System Office / Bureau des systèmes septiques d'Ottawa

SCHEDULE 13 – TYPICAL DRAWING E

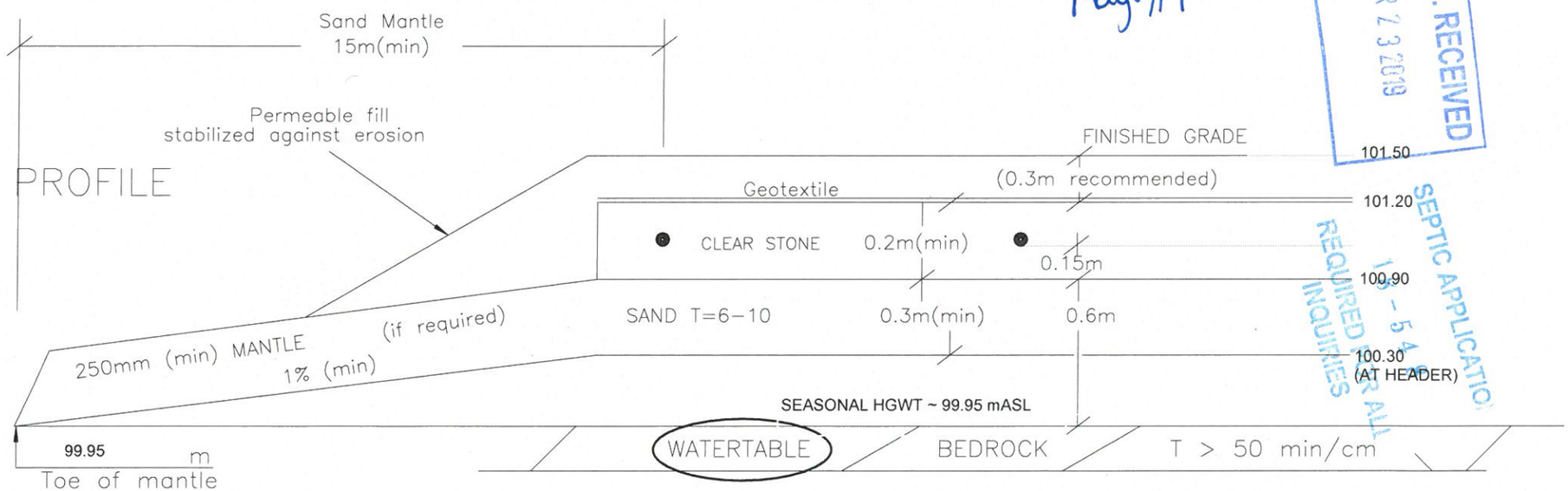
Type A Dispersal Bed

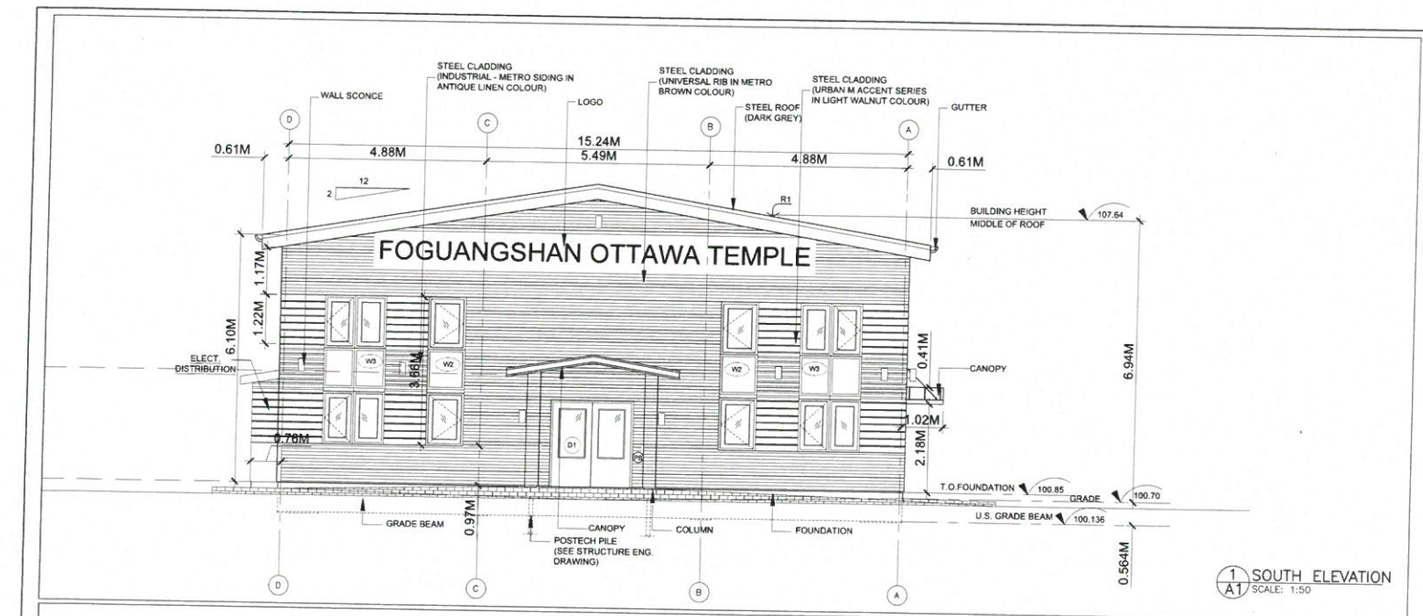
MANAGER, O.S.S.O. _____ DATE _____

May 2/19

R.V.C.A. RECEIVED
APR 2 3 2019

SEPTIC APPLICATIO
15 - 54
REQUIRED FOR ALL
INQUIRIES





PROPOSED FOGUANGSHAN TEMPLE INTERIM BUILDING AT

6688 FRANKTOWN RD.
RICHMOND, ON
K0I 2Z0

ONTARIO ASSOCIATION OF ARCHITECTS
SUSAN D. SMITH
LICENCE 3457
apr 11/19

R.V.C.A. RECEIVED
APR 15 2019

SUSAN D. SMITH ARCHITECT
941Merivale Rd, Ottawa,
Ontario K1Z 6A1
613-722-5327
s.smith@sdsarch.ca

NO.	REVISION	DATE
3	REISSUED FOR SITE PLAN CONTROL	02/2019
2	ISSUED FOR SITE PLAN CONTROL	11/2018
1	ISSUED FOR REVIEW	08/2018

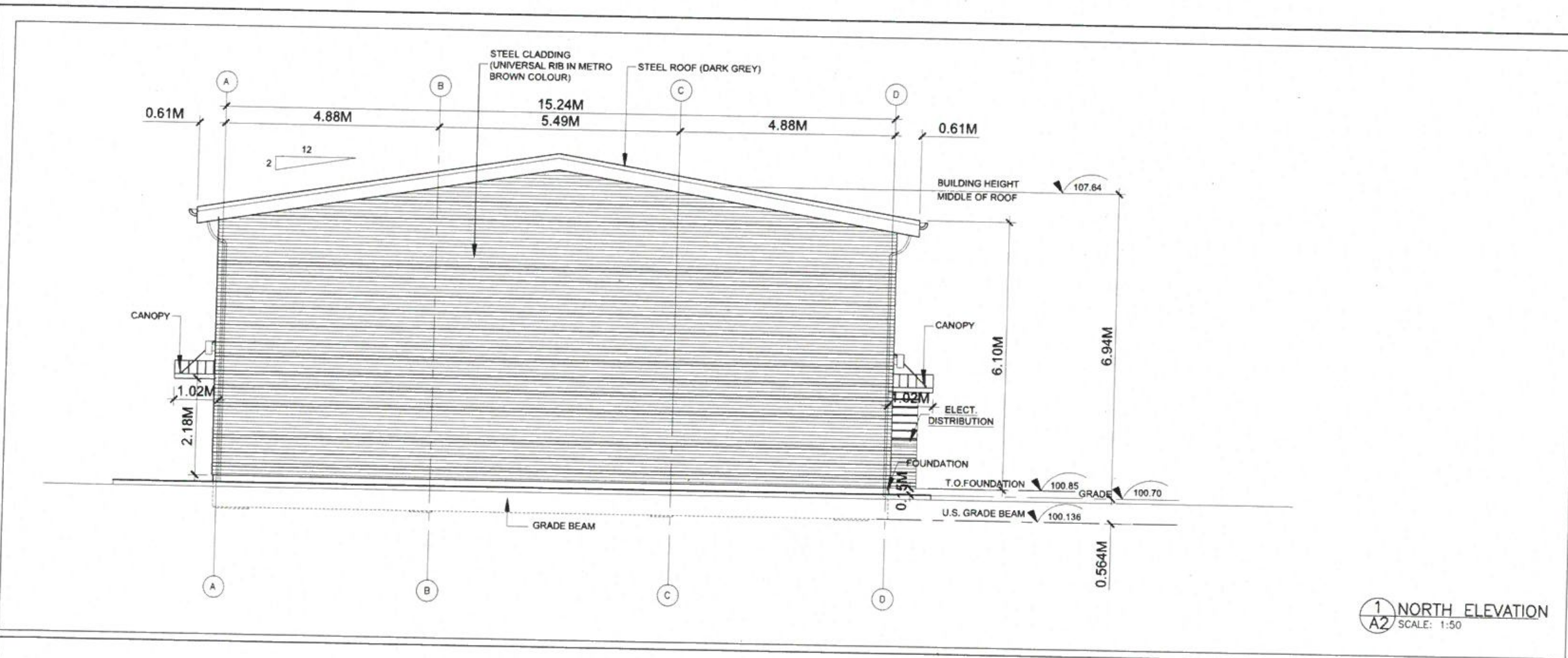
NOTES:
1. All dimensions are to be checked on site. Discrepancies or ambiguities should be reported prior to work on site or ordering of materials.
2. All work to be in accordance with the Ontario Building Code, latest edition.
3. All interior dimensions are to face of gypsum board

SOUTH ELEVATIONS.
WEST ELEVATIONS.

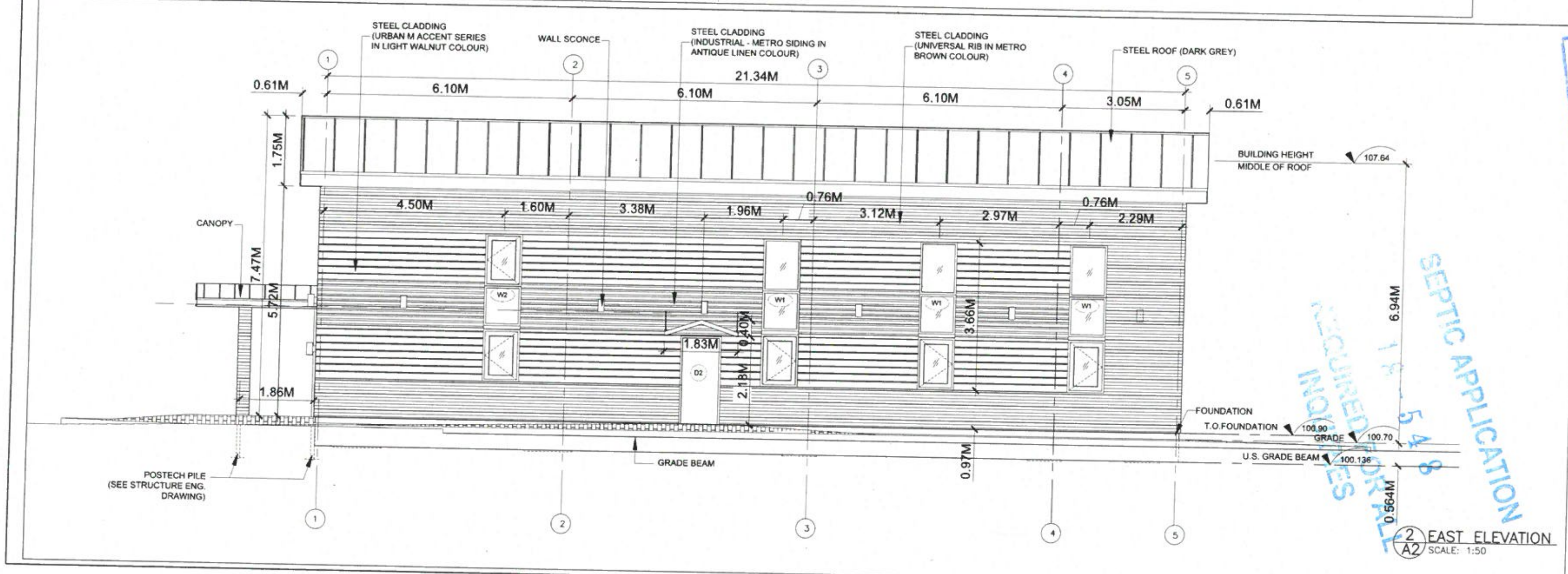
JOB #	DRAWING BY
1770B	SDS & ZL
DATE	SCALE
AUG/18	as noted

A1

SEPTIC APPLICATION
18 54 8
REQUIRED FOR ALL INTERIORES



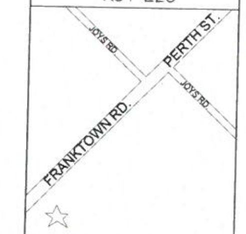
1 A2 NORTH ELEVATION
SCALE: 1:50



2 A2 EAST ELEVATION
SCALE: 1:50

PROPOSED FOGUANGSHAN TEMPLE INTERIM BUILDING AT

6688 FRANKTOWN RD.
RICHMOND, ON
K0I 2Z0



ONTARIO ASSOCIATION OF ARCHITECTS
SUSAN D. SMITH
LICENCE

R.V.C.A. RECEIVED
APR

SEPTIC APPLICATION
18-548
REQUIRED FOR ALL INQUIRIES

SUSAN D. SMITH ARCHITECT
941Merivale Rd, Ottawa,
Ontario K1Z 6A1
613-722-5327
s.smith@sdsarch.ca

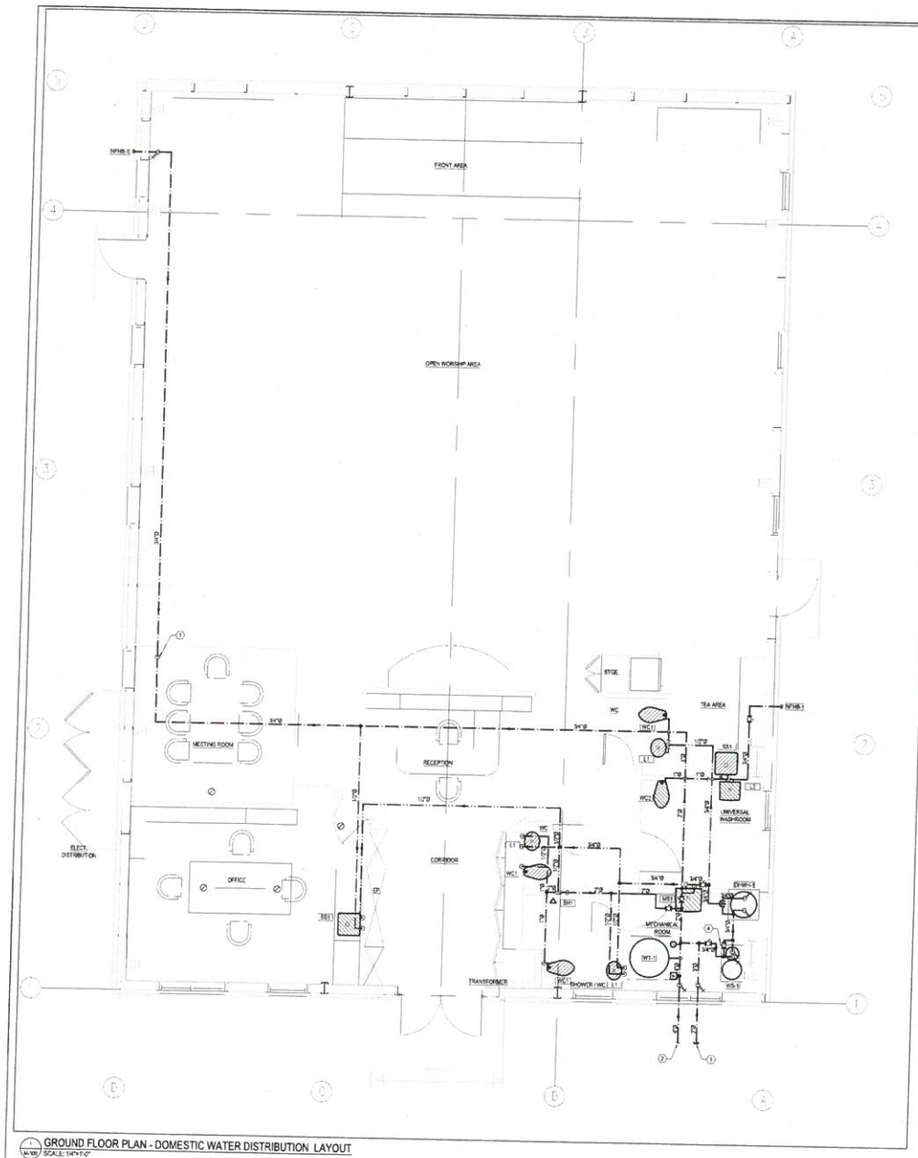
No.	REVISION	DATE
3	REISSUED FOR SITE PLAN CONTROL	APR. 17/2019
2	ISSUED FOR SITE PLAN CONTROL	JUNE 20/2018
1	ISSUED FOR REVIEW	JUL. 20/2018

NOTES:
1. All dimensions are to be checked on site. Discrepancies or ambiguities should be reported prior to work on site or ordering of materials.
2. All work to be in accordance with the Ontario Building Code, latest edition.
3. All interior dimensions are to face of gypsum board

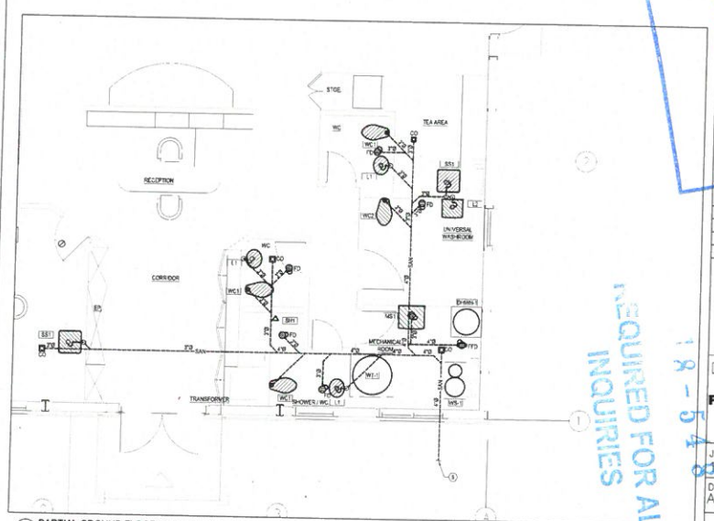
NORTH ELEVATIONS.
EAST ELEVATIONS.

JOB #	DRAWING BY
1770B	SDS & ZL
DATE	SCALE
AUG/18	as noted

A2



1 GROUND FLOOR PLAN - DOMESTIC WATER DISTRIBUTION LAYOUT
SCALE: 1/4"=1'-0"



1 PARTIAL GROUND FLOOR PLAN - SANITARY DRAINAGE LAYOUT
SCALE: 1/4"=1'-0"

GENERAL NOTES

1. PROVIDE VENTING AND PIPING IN ACCORDANCE WITH OBC.
2. UNLESS OTHERWISE SHOWN OR NOTED ON THIS DRAWING, ALL DOW AND DWA PIPING SHALL BE INSTALLED IN CEILING SPACE.

DRAWING NOTES

1. DOW EXTEND UP TO HIGH LEVEL AS HIGH AS PRACTICAL
2. CONNECT 4" WATER SERVICE TO SITE SERVICES AT APPROXIMATE THIS LOCATION. SEE CIVIL DRAWINGS FOR CONFIRMATION.
3. CAP 3" WATER SERVICE AT APPROXIMATE THIS LOCATION. THIS SERVICE IS RESERVED FOR FUTURE BUILDING.
4. DO NOT OPEN THIS VALVE UNLESS SERVICE AND MAINTENANCE OF THIS UNIT IS PERFORMED.
5. CONNECT 4" SANITARY BUILDING DRAIN TO SITE SERVICES AT APPROXIMATE THIS LOCATION. SEE CIVIL DRAWINGS FOR CONTINUATION.

PROPOSED FOGUANGSHAN TEMPLE INTERIM BUILDING AT

6688 FRANKTOWN RD.
RICHMOND, ON
K0I 2Z0

MECHANICAL & ELECTRICAL
Jp2g Consultants Inc.
ENGINEERS - PLANNERS - PROJECT MANAGERS
REF: 18-1073A

MECHANICAL SEAL | ELECTRICAL SEAL

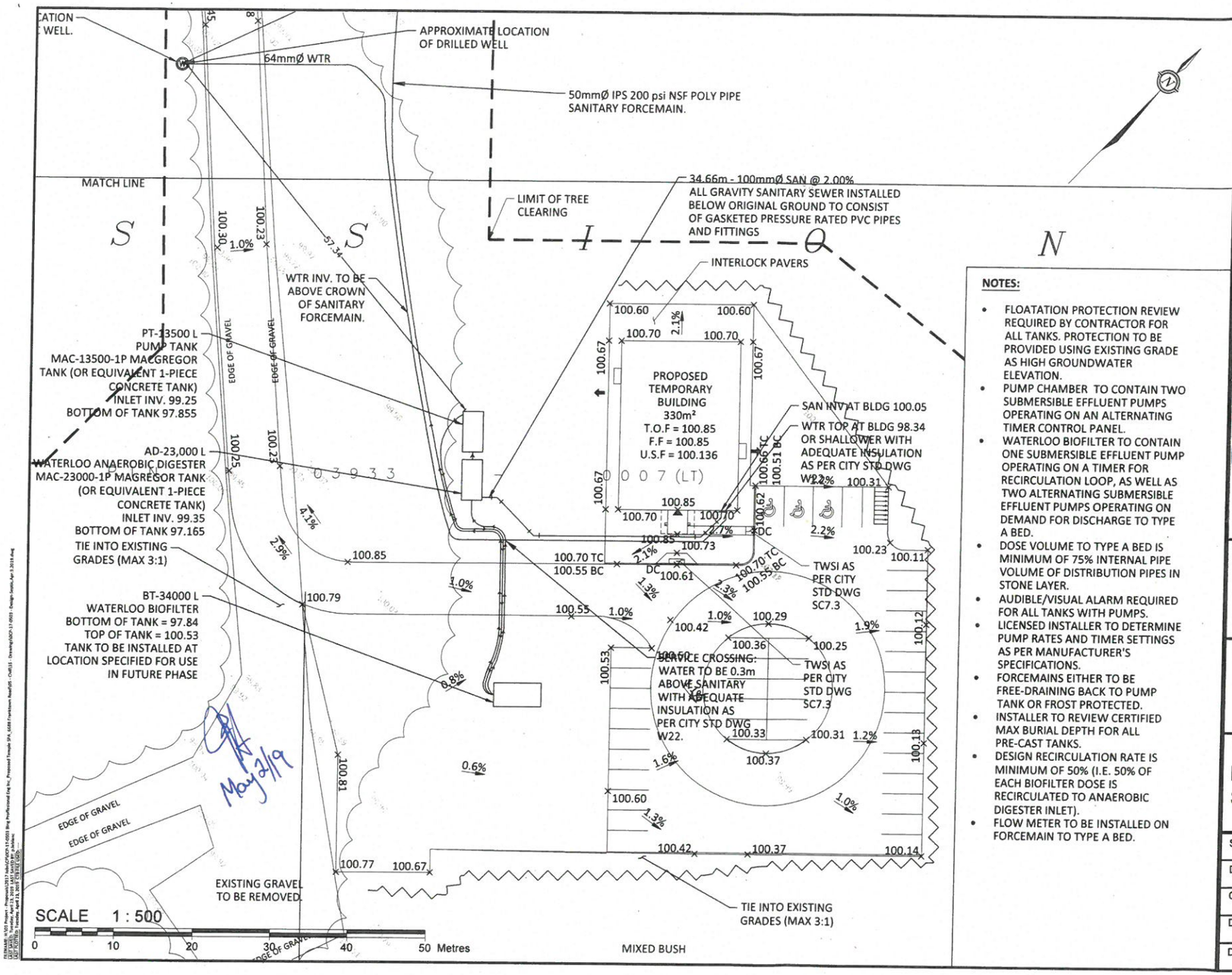
SUSAN D. SMITH ARCHITECT
941Meriva Rd. Ottawa,
Ontario K1C 6A1
613-722-5327
s.smith@sdsarch.ca

No.	REVISION	DATE
3	REISSUED FOR BUILDING PERMIT	2019/04/04
2	ISSUED FOR ADDENDUM MA-04	2019/03/25
1	ISSUED FOR BUILDING PERMIT	2018/09/28

DRAWING TITLE
GROUND FLOOR AND PARTIAL GROUND FLOOR PLANS - PLUMBING LAYOUT

JOB # 1770	DRAWING BY CC
DATE AUG/18	SCALE as noted

M-300



NOTES:

- FLOATATION PROTECTION REVIEW REQUIRED BY CONTRACTOR FOR ALL TANKS. PROTECTION TO BE PROVIDED USING EXISTING GRADE AS HIGH GROUNDWATER ELEVATION.
- PUMP CHAMBER TO CONTAIN TWO SUBMERSIBLE EFFLUENT PUMPS OPERATING ON AN ALTERNATING TIMER CONTROL PANEL.
- WATERLOO BIOFILTER TO CONTAIN ONE SUBMERSIBLE EFFLUENT PUMP OPERATING ON A TIMER FOR RECIRCULATION LOOP, AS WELL AS TWO ALTERNATING SUBMERSIBLE EFFLUENT PUMPS OPERATING ON DEMAND FOR DISCHARGE TO TYPE A BED.
- DOSE VOLUME TO TYPE A BED IS MINIMUM OF 75% INTERNAL PIPE VOLUME OF DISTRIBUTION PIPES IN STONE LAYER.
- AUDIBLE/VISUAL ALARM REQUIRED FOR ALL TANKS WITH PUMPS.
- LICENSED INSTALLER TO DETERMINE PUMP RATES AND TIMER SETTINGS AS PER MANUFACTURER'S SPECIFICATIONS.
- FORCEMAINS EITHER TO BE FREE-DRAINING BACK TO PUMP TANK OR FROST PROTECTED.
- INSTALLER TO REVIEW CERTIFIED MAX BURIAL DEPTH FOR ALL PRE-CAST TANKS.
- DESIGN RECIRCULATION RATE IS MINIMUM OF 50% (I.E. 50% OF EACH BIOFILTER DOSE IS RECIRCULATED TO ANAEROBIC DIGESTER INLET).
- FLOW METER TO BE INSTALLED ON FORCEMAIN TO TYPE A BED.

No.	Revision/Issue	Date
1	RESUBMISSION TO OSSO	APR/23/2019

McINTOSH PERRY
115 Walgreen Road, RR3, Carp, ON K0A 1L0
Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

Stamp:

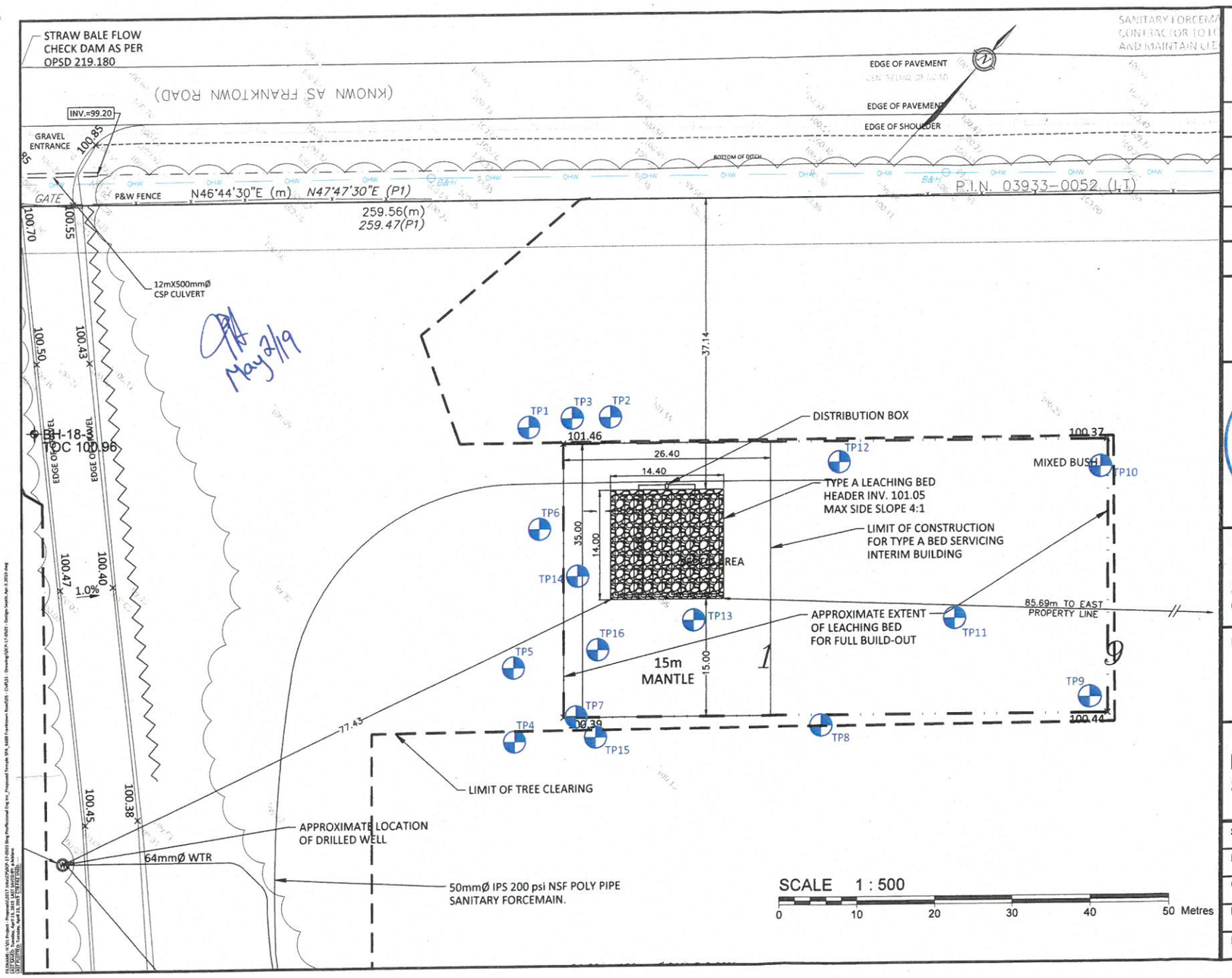
LICENSED PROFESSIONAL ENGINEER
P.M.R. LEBLANC
100141438
Apr. 23, 2019
PROVINCE OF ONTARIO

Client:
BING PROFESSIONAL ENGINEERING INC.
248 HUNTSVILLE DRIVE
OTTAWA, ON K2T 0C3

Project:
PROPOSED BUDDHIST TEMPLE
6688 FRANKTOWN ROAD, RICHMOND, ON

Drawing Title:
INTERIM FACILITY
SEWAGE SYSTEM DESIGN

Scale: 1:500	Project Number: 0CP-17-0503
Drawn by: BA	
Checked By: PL	
Designed By: PL	Drawing Number: SAN-01
Date: SEP/28/2018	1 of 2



R.V.C.A. RECEIVED
APR 23 2019

SEPTIC APPLICATION
18-548
REQUIRED FOR ALL INQUIRIES

No.	Revision/Issue	Date
1	RESUBMISSION TO OSSO	APR/23/2019

McINTOSH PERRY
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Tel: 613-836-2184 Fax: 613-836-3742
www.mcintoshperry.com

LICENSED PROFESSIONAL ENGINEER
P. M. R. LEBLANC
100141438
Apr. 23, 2019
PROVINCE OF ONTARIO

Stamp:

Client:
BING PROFESSIONAL ENGINEERING INC.
248 HUNTSVILLE DRIVE
OTTAWA, ON K2T 0C3

Project:
PROPOSED BUDDHIST TEMPLE
6688 FRANKTOWN ROAD, RICHMOND, ON

Drawing Title:
INTERIM FACILITY
SEWAGE SYSTEM DESIGN

Scale: 1:500	Project Number: 0CP-17-0503
Drawn by: BA	
Checked By: PL	Drawing Number: SAN-02
Designed By: PL	2 of 2
Date: SEP/28/2018	

Ottawa Septic System Office | Bureau des systèmes septiques d'Ottawa

Do Not Complete
Permit No 18-548
Revision No
Date
Related Application

SEPTIC APPLICATION REQUIRED FOR ALL INQUIRIES

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: J. Hutton
Owner: International Buddhist Progress Society of Ottawa Carleton
Inspection Date & Time: April 30/19 (9:00AM)
Weather:
Civic Address: 6688 Franktown Rd.
Legal:

number of bedrooms:
fixture units:
finished floor area:
Q: 9999 L/day

septic/holding tank/pretreatment tank AD-23000 L
effluent filter
pump rate 507 L/15 min to bed
treatment unit WB BT-34000L
number of units 1

weigh bills for filter media	☐ 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 m²
total trench length m
trench configuration

☒ **Dispersal Bed**
☐ BMEC ☒ Type A ☐ Type B
stone 201.6 m²
sand 924 m²
pipe 12 runs of 12.8m c/c 2m
linear loading — L/m²

☐ **Shallow Buried Trench**
pipe length m
orifice spacing m

☐ **Filter Media Bed**
stone m²
extended base m²
pipe
weight of filter media kg
loading area m²

☐ **Class 5 Holding Tank**
☐ **Septic Tank Only**

Manager, Septic System Approvals: Jason Hutt
Permit Date: May 2, 2019
Comments: (1) Toe of mantle shall outlet to topsoil or other free-draining soil
(2) OSSO shall inspect subgrade preparation prior to placing sand fill

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

Manager, Septic System Approvals:
Revision Date:
Comments:

NOTE: For further details, refer to corresponding application.

November 20116
Docket: 2K14-1801-OSSO

APPENDIX C

Analytical Certificates of Analyses

Certificate of Analysis

Client: Egis Canada Ltd.
115 Walgreen Rd., R.R. #3
Carp, ON
K0A 1L0
Attention: Ms. Rebecca Leduc
PO#:
Invoice to: EGIS Canada Ltd.

Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

Dear Rebecca Leduc:

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

Report Comments:

APPROVAL: Addrine Thomas 2024.12.27 13:40:54 -05'00'

Addrine Thomas, Inorganics Supervisor

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

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

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

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

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

eurofins | Environment Testing

Certificate of Analysis

Client: Egis Canada Ltd.
115 Walgreen Rd., R.R. #3
Carp, ON
K0A 1L0
Attention: Ms. Rebecca Leduc
PO#:
Invoice to: EGIS Canada Ltd.

Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

				Lab I.D.	1754616
				Sample Matrix	GW
				Sample Type	
				Sampling Date	2024-12-18
				Sample I.D.	TW1
Group	**Analyte**	**MRL**	**Units**	**Guideline**	
Anions	Cl	1	mg/L	AO 250	14
	F	0.10	mg/L	MAC 1.5	0.49
	N-NO2	0.10	mg/L	MAC 1.0	<0.10
	N-NO3	0.10	mg/L	MAC 10.0	<0.10
	SO4	1	mg/L	AO 500	39
General Chemistry	Alkalinity as CaCO3	5	mg/L	OG 30-500	279
	Colour (Apparent)	2	TCU	AO 5	10*
	Conductivity	5	uS/cm		630
	DOC	0.5	mg/L	AO 5	4.0
	pH	1.00		6.5-8.5	7.91
	Phenols	0.001	mg/L		<0.001
	S2-	0.01	mg/L	AO 0.05	<0.01
	Tannin & Lignin	0.1	mg/L		0.1
	TDS (COND - CALC)	1	mg/L	AO 500	410
	Turbidity	0.1	NTU	AO 5	1.2
Hardness	Hardness as CaCO3	1	mg/L	OG 80-100	309*
Indices/Calc	Ion Balance	0.01			1.03
Metals	Ag	0.0001	mg/L		<0.0001
	Al	0.01	mg/L	OG 0.1	<0.01
	As	0.001	mg/L	IMAC 0.01	<0.001
	B	0.01	mg/L	IMAC 5.0	0.21
	Ba	0.01	mg/L	MAC 1.0	0.10
	Be	0.0005	mg/L		<0.0005
	Ca	1	mg/L		76
	Cd	0.0001	mg/L	MAC 0.005	<0.0001

Guideline = ODWSOG *** = Guideline Exceedence**

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

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

eurofins | Environment Testing

Certificate of Analysis

Client: Egis Canada Ltd.
115 Walgreen Rd., R.R. #3
Carp, ON
K0A 1L0
Attention: Ms. Rebecca Leduc
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Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

				Lab I.D.	1754616
				Sample Matrix	GW
				Sample Type	
				Sampling Date	2024-12-18
				Sample I.D.	TW1
Group	**Analyte**	**MRL**	**Units**	**Guideline**	
Metals	Co	0.0002	mg/L		<0.0002
	Cr	0.001	mg/L	MAC 0.05	<0.001
	Cu	0.001	mg/L	AO 1	<0.001
	Fe	0.03	mg/L	AO 0.3	0.23
	Hg	0.0001	mg/L	MAC 0.001	<0.0001
	K	1	mg/L		5
	Mg	1	mg/L		29
	Mn	0.01	mg/L	AO 0.05	<0.01
	Mo	0.005	mg/L		<0.005
	Na	1	mg/L	AO 200	16
	Ni	0.005	mg/L		<0.005
	Pb	0.001	mg/L	MAC 0.010	<0.001
	Sb	0.0005	mg/L	IMAC 0.006	<0.0005
	Se	0.001	mg/L	MAC 0.05	<0.001
	Sn	0.01	mg/L		<0.01
	Sr	0.001	mg/L		2.60
	Ti	0.01	mg/L		<0.01
	Tl	0.0001	mg/L		<0.0001
	U	0.001	mg/L	MAC 0.02	<0.001
	V	0.001	mg/L		<0.001
	W	0.002	mg/L		<0.002
	Zn	0.01	mg/L	AO 5	<0.01
Microbiology	Escherichia Coli	0	ct/100mL	MAC 0	0
	Faecal Coliforms	0	ct/100mL		0
	Heterotrophic Plate Count	0	ct/1mL		0

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Certificate of Analysis

Client: Egis Canada Ltd.
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K0A 1L0
Attention: Ms. Rebecca Leduc
PO#:
Invoice to: EGIS Canada Ltd.

Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

				Lab I.D.	1754616
				Sample Matrix	GW
				Sample Type	
				Sampling Date	2024-12-18
				Sample I.D.	TW1
Group	**Analyte**	**MRL**	**Units**	**Guideline**	
Microbiology	Total Coliforms	0	ct/100mL	MAC 0	0
Nutrients	N-NH3	0.020	mg/L		0.115
	Total Kjeldahl Nitrogen	0.100	mg/L		0.360
VOCs Surrogates	1,2-dichloroethane-d4	0	%		103
	4-bromofluorobenzene	0	%		76
	Toluene-d8	0	%		122
Volatiles	1,1,1,2-tetrachloroethane	0.5	ug/L		<0.5
	1,1,1-trichloroethane	0.4	ug/L		<0.4
	1,1,2,2-tetrachloroethane	0.5	ug/L		<0.5
	1,1,2-trichloroethane	0.4	ug/L		<0.4
	1,1-dichloroethane	0.4	ug/L		<0.4
	1,1-dichloroethylene	0.5	ug/L	MAC 14	<0.5
	1,2-dichlorobenzene	0.4	ug/L	MAC 200	<0.4
	1,2-dichloroethane	0.5	ug/L	IMAC 5	<0.5
	1,2-dichloropropane	0.5	ug/L		<0.5
	1,3,5-trimethylbenzene	0.3	ug/L		<0.3
	1,3-dichlorobenzene	0.4	ug/L		<0.4
	1,3-Dichloropropylene (cis+trans)	0.5	ug/L		<0.5
	1,4-dichlorobenzene	0.4	ug/L	MAC 5	<0.4
	Acetone	5	ug/L		<5
	Benzene	0.5	ug/L	MAC 1	<0.5
	Bromodichloromethane	0.3	ug/L		<0.3
	Bromoform	0.4	ug/L		<0.4
	Bromomethane	0.5	ug/L		<0.5
	c-1,2-Dichloroethylene	0.4	ug/L		<0.4

Guideline = ODWSOG *** = Guideline Exceedence**

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

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Certificate of Analysis

Client: Egis Canada Ltd.
115 Walgreen Rd., R.R. #3
Carp, ON
K0A 1L0
Attention: Ms. Rebecca Leduc
PO#:
Invoice to: EGIS Canada Ltd.

Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

Group	Analyte	MRL	Units	Guideline	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D. 1754616 GW 2024-12-18 TW1
Volatiles	c-1,3-Dichloropropylene	0.5	ug/L		<0.5
	Carbon Tetrachloride	0.2	ug/L	MAC 2	<0.2
	Chloroethane	0.5	ug/L		<0.5
	Chloroform	0.5	ug/L		<0.5
	Dibromochloromethane	0.3	ug/L		<0.3
	Dichlorodifluoromethane	0.5	ug/L		<0.5
	Dichloromethane	4.0	ug/L	MAC 50	<4.0
	Ethylbenzene	0.5	ug/L	MAC 140	<0.5
	Ethylene Dibromide	0.2	ug/L		<0.2
	Hexane	5	ug/L		<5
	m/p-xylene	0.4	ug/L		<0.4
	Methyl Ethyl Ketone (MEK)	2	ug/L		<2
	Methyl Isobutyl Ketone (MIBK)	5	ug/L		<5
	Methyl Tert Butyl Ether (MTBE)	2	ug/L	AO 15	<2
	Monochlorobenzene	0.5	ug/L	MAC 80	<0.5
	o-xylene	0.4	ug/L		<0.4
	Styrene	0.5	ug/L		<0.5
	t-1,2-Dichloroethylene	0.4	ug/L		<0.4
	t-1,3-Dichloropropylene	0.5	ug/L		<0.5
	Tetrachloroethylene	0.3	ug/L	MAC 10	<0.3
	Toluene	0.4	ug/L	MAC 60	<0.4
	Trichloroethylene	0.3	ug/L	MAC 5	<0.3
	Trichlorofluoromethane	0.5	ug/L		<0.5
	Vinyl Chloride	0.2	ug/L	MAC 1	<0.2
	Xylene; total	0.5	ug/L	MAC 90	<0.5

Guideline = ODWSOG *** = Guideline Exceedence**

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

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

Certificate of Analysis

Client: Egis Canada Ltd.
115 Walgreen Rd., R.R. #3
Carp, ON
K0A 1L0
Attention: Ms. Rebecca Leduc
PO#:
Invoice to: EGIS Canada Ltd.

Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 470279 **Analysis/Extraction Date** 2024-12-19 **Analyst** L_V **Method** AMBCOLM1			
Escherichia Coli			
Faecal Coliforms			
Heterotrophic Plate Count			
Total Coliforms			
Run No 470314 **Analysis/Extraction Date** 2024-12-19 **Analyst** SKH **Method** EPA 350.1			
N-NH3	<0.020 mg/L	109	80-120
Run No 470322 **Analysis/Extraction Date** 2024-12-19 **Analyst** IP **Method** SM5530D/EPA420.2			
Phenols	<0.001 mg/L	105	50-120
Run No 470323 **Analysis/Extraction Date** 2024-12-19 **Analyst** M_B **Method** C SM2130B			
Turbidity	<0.1 NTU	103	70-130
Run No 470360 **Analysis/Extraction Date** 2024-12-19 **Analyst** AaN **Method** EPA 200.8			
Silver	<0.0001 mg/L	112	80-120
Aluminum	<0.01 mg/L	113	80-120

Guideline = ODWSOG *** = Guideline Exceedence**

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

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Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Arsenic	<0.001 mg/L	99	80-120
Boron (total)	<0.01 mg/L	101	80-120
Barium	<0.01 mg/L	97	80-120
Beryllium	<0.0005 mg/L	104	80-120
Cadmium	<0.0001 mg/L	101	80-120
Cobalt	<0.0002 mg/L	109	80-120
Chromium Total	<0.001 mg/L	97	80-120
Copper	<0.001 mg/L	109	80-120
Iron	<0.03 mg/L	100	80-120
Mercury	<0.0001 mg/L	103	80-120
Manganese	<0.01 mg/L	108	80-120
Molybdenum	<0.005 mg/L	107	80-120
Nickel	<0.005 mg/L	112	80-120
Lead	<0.001 mg/L	109	80-120
Antimony	<0.0005 mg/L	82	80-120
Selenium	<0.001 mg/L	97	80-120
Sn	<0.01 mg/L	92	80-120
Strontium	<0.001 mg/L	98	80-120

Guideline = ODWSOG *** = Guideline Exceedence**

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Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Titanium	<0.01 mg/L	100	80-120
Thallium	<0.0001 mg/L	107	80-120
Uranium	<0.001 mg/L	98	80-120
Vanadium	<0.001 mg/L	102	80-120
W	<0.002 mg/L	95	80-120
Zinc	<0.01 mg/L	108	80-120
Run No 470425 **Analysis/Extraction Date** 2024-12-23 **Analyst** IP **Method** SM 4110			
Chloride	<1 mg/L	100	90-110
N-NO2	<0.10 mg/L	106	90-110
N-NO3	<0.10 mg/L	99	90-110
SO4	<1 mg/L	100	90-110
Run No 470446 **Analysis/Extraction Date** 2024-12-23 **Analyst** AsA **Method** C SM4500-S2-D			
S2-	<0.01 mg/L	87	80-120
Run No 470468 **Analysis/Extraction Date** 2024-12-23 **Analyst** SKH **Method** EPA 351.2			
Total Kjeldahl Nitrogen	<0.100 mg/L	98	70-130

Guideline = ODWSOG *** = Guideline Exceedence**

Results relate only to the parameters tested on the samples submitted.
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MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

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Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 470469 **Analysis/Extraction Date** 2024-12-23 **Analyst** AsA **Method** SM2320,2510,4500H/F			
Alkalinity (CaCO3)	<5 mg/L	99	90-110
Conductivity	<5 uS/cm	100	90-110
F	<0.10 mg/L	107	90-110
pH		99	90-110
Run No 470472 **Analysis/Extraction Date** 2024-12-23 **Analyst** AsA **Method** SM 5310B			
DOC	<0.5 mg/L	99	80-120
Run No 470473 **Analysis/Extraction Date** 2024-12-24 **Analyst** AsA **Method** C SM2120C			
Colour (Apparent)	<2 TCU	105	90-110
Run No 470478 **Analysis/Extraction Date** 2024-12-24 **Analyst** Z_S **Method** M SM3120B-3500C			
Calcium	<1 mg/L	98	90-110
Potassium	<1 mg/L	103	87-113
Magnesium	<1 mg/L	94	76-124
Sodium	<1 mg/L	99	82-118

Guideline = ODWSOG *** = Guideline Exceedence**

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Report Number: 3013373
Date Submitted: 2024-12-18
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Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 470480 **Analysis/Extraction Date** 2024-12-24 **Analyst** Z_S **Method** C SM2340B			
Hardness as CaCO3			
Ion Balance			
TDS (COND - CALC)			
Run No 470483 **Analysis/Extraction Date** 2024-12-24 **Analyst** AsA **Method** C SM5550B			
Tannin & Lignin	<0.1 mg/L	90	80-120
Run No 470537 **Analysis/Extraction Date** 2024-12-20 **Analyst** H_S **Method** EPA 8260			
Tetrachloroethane, 1,1,1,2-	<0.5 ug/L	116	60-130
Trichloroethane, 1,1,1-	<0.4 ug/L	113	60-130
Tetrachloroethane, 1,1,2,2-	<0.5 ug/L	85	60-130
Trichloroethane, 1,1,2-	<0.4 ug/L	109	60-130
Dichloroethane, 1,1-	<0.4 ug/L	101	60-130
Dichloroethylene, 1,1-	<0.5 ug/L	112	60-130
Dichlorobenzene, 1,2-	<0.4 ug/L	98	60-130
Dichloroethane, 1,2-	<0.5 ug/L	120	60-130
Dichloropropane, 1,2-	<0.5 ug/L	87	60-130

Guideline = ODWSOG *** = Guideline Exceedence**

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Certificate of Analysis

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Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
1,3,5-trimethylbenzene	<0.3 ug/L	89	60-130
Dichlorobenzene, 1,3-	<0.4 ug/L	93	60-130
Dichlorobenzene, 1,4-	<0.4 ug/L	102	60-130
Acetone	<5 ug/L	103	60-130
Benzene	<0.5 ug/L	99	60-130
Bromodichloromethane	<0.3 ug/L	121	60-130
Bromoform	<0.4 ug/L	118	60-130
Bromomethane	<0.5 ug/L	88	60-130
Dichloroethylene, 1,2-cis-	<0.4 ug/L	99	60-130
Dichloropropene,1,3-cis-	<0.5 ug/L	76	60-130
Carbon Tetrachloride	<0.2 ug/L	120	60-130
Chloroethane	<0.5 ug/L	106	60-130
Chloroform	<0.5 ug/L	112	60-130
Dibromochloromethane	<0.3 ug/L	113	60-130
Dichlorodifluoromethane	<0.5 ug/L	99	60-130
Methylene Chloride	<4.0 ug/L	97	60-130
Ethylbenzene	<0.5 ug/L	102	60-130
Ethylene dibromide	<0.2 ug/L	119	60-130

Guideline = ODWSOG *** = Guideline Exceedence**

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Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Hexane (n)	<5 ug/L	83	60-130
m/p-xylene	<0.4 ug/L	102	60-130
Methyl Ethyl Ketone	<2 ug/L	110	60-130
Methyl Isobutyl Ketone	<5 ug/L	118	60-130
Methyl tert-Butyl Ether (MTBE)	<2 ug/L	109	60-130
Chlorobenzene	<0.5 ug/L	114	60-130
o-xylene	<0.4 ug/L	92	60-130
Styrene	<0.5 ug/L	103	60-130
Dichloroethylene, 1,2-trans-	<0.4 ug/L	93	60-130
Dichloropropene,1,3-trans-	<0.5 ug/L	91	60-130
Tetrachloroethylene	<0.3 ug/L	127	60-130
Toluene	<0.4 ug/L	104	60-130
Trichloroethylene	<0.3 ug/L	99	60-130
Trichlorofluoromethane	<0.5 ug/L	123	60-130
Vinyl Chloride	<0.2 ug/L	107	60-130
Run No 470540 **Analysis/Extraction Date** 2024-12-27 **Analyst** H_S **Method** EPA 8260			
Xylene Mixture			

Guideline = ODWSOG *** = Guideline Exceedence**

Results relate only to the parameters tested on the samples submitted.
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Certificate of Analysis

eurofins | Environment Testing

Client: Egis Canada Ltd.
115 Walgreen Rd., R.R. #3
Carp, ON
K0A 1L0
Attention: Ms. Rebecca Leduc
PO#:
Invoice to: EGIS Canada Ltd.

Report Number: 3013373
Date Submitted: 2024-12-18
Date Reported: 2024-12-27
Project: 25-1134
COC #: 918293

QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No 470541 **Analysis/Extraction Date** 2024-12-27 **Analyst** H_S **Method** EPA 8260			
Dichloropropene,1,3-			

Guideline = ODWSOG *** = Guideline Exceedence**

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Certificate of Analysis

McIntosh Perry Consulting Eng. (Carp)

115 Walgreen Rd.
RR# 3 Carp, ON K0A 1L0
Attn: Jordan Bowman

Client PO:
Project: 17-0503
Custody: 6644

Report Date: 16-Jul-2018
Order Date: 13-Jul-2018

Order #: 1828639

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

Paracel ID	Client ID
1828639-01	TW1-1
1828639-02	TW1-2

Approved By:

Dale Robertson, BSc
Laboratory Director

Certificate of Analysis
Client: McIntosh Perry Consulting Eng. (Carp)
Client PO:

Report Date: 16-Jul-2018
Order Date: 13-Jul-2018
Project Description: 17-0503

Analysis Summary Table

Analysis	Method Reference/Description	Extraction Date	Analysis Date
Alkalinity, total to pH 4.5	EPA 310.1 - Titration to pH 4.5	16-Jul-18	16-Jul-18
Ammonia, as N	EPA 351.2 - Auto Colour	16-Jul-18	16-Jul-18
Anions	EPA 300.1 - IC	16-Jul-18	16-Jul-18
Colour	SM2120 - Spectrophotometric	16-Jul-18	16-Jul-18
Conductivity	EPA 9050A- probe @25 °C	16-Jul-18	16-Jul-18
Dissolved Organic Carbon	MOE E3247B - Combustion IR, filtration	16-Jul-18	16-Jul-18
E. coli	MOE E3407	13-Jul-18	14-Jul-18
Fecal Coliform	SM 9222D	13-Jul-18	14-Jul-18
Metals, ICP-MS	EPA 200.8 - ICP-MS	16-Jul-18	16-Jul-18
pH	EPA 150.1 - pH probe @25 °C	16-Jul-18	16-Jul-18
Phenolics	EPA 420.2 - Auto Colour, 4AAP	16-Jul-18	16-Jul-18
Subdivision Package	Hardness as CaCO3	16-Jul-18	16-Jul-18
Sulphide	SM 4500SE - Colourimetric	16-Jul-18	16-Jul-18
Tannin/Lignin	SM 5550B - Colourimetric	16-Jul-18	16-Jul-18
Total Coliform	MOE E3407	13-Jul-18	14-Jul-18
Total Dissolved Solids	SM 2540C - gravimetric, filtration	13-Jul-18	16-Jul-18
Total Kjeldahl Nitrogen	EPA 351.2 - Auto Colour, digestion	16-Jul-18	16-Jul-18
Turbidity	SM 2130B - Turbidity meter	16-Jul-18	16-Jul-18

Certificate of Analysis

Client: McIntosh Perry Consulting Eng. (Carp)

Client PO:

Report Date: 16-Jul-2018

Order Date: 13-Jul-2018

Project Description: 17-0503

	Client ID:	TW1-1	TW1-2	-	-
	Sample Date:	07/13/2018 08:20	07/13/2018 14:12	-	-
	Sample ID:	1828639-01	1828639-02	-	-
	MDL/Units	Drinking Water	Drinking Water	-	-
Microbiological Parameters					
E. coli	1 CFU/100 mL	ND	ND	-	-
Fecal Coliforms	1 CFU/100 mL	ND	ND	-	-
Total Coliforms	1 CFU/100 mL	ND	ND	-	-
General Inorganics					
Alkalinity, total	5 mg/L	325	328	-	-
Ammonia as N	0.01 mg/L	0.12	0.12	-	-
Dissolved Organic Carbon	0.5 mg/L	2.9	3.2	-	-
Colour	2 TCU	3 [1]	4 [1]	-	-
Conductivity	5 uS/cm	697	834	-	-
Hardness	mg/L	259	327	-	-
pH	0.1 pH Units	7.7	7.6	-	-
Phenolics	0.001 mg/L	<0.001	<0.001	-	-
Total Dissolved Solids	10 mg/L	380	486	-	-
Sulphide	0.02 mg/L	<0.02	<0.02	-	-
Tannin & Lignin	0.1 mg/L	0.1	0.1	-	-
Total Kjeldahl Nitrogen	0.1 mg/L	0.2	0.2	-	-
Turbidity	0.1 NTU	1.5 [1]	1.4 [1]	-	-
Anions					
Chloride	1 mg/L	24	65	-	-
Fluoride	0.1 mg/L	0.4	0.4	-	-
Nitrate as N	0.1 mg/L	<0.1	<0.1	-	-
Nitrite as N	0.05 mg/L	<0.05	<0.05	-	-
Sulphate	1 mg/L	38	41	-	-
Metals					
Calcium	0.1 mg/L	55.7	75.4	-	-
Iron	0.1 mg/L	0.1	0.1	-	-
Magnesium	0.2 mg/L	29.2	33.7	-	-
Manganese	0.005 mg/L	0.006	0.006	-	-
Potassium	0.1 mg/L	4.6	4.8	-	-
Sodium	0.2 mg/L	17.6	21.6	-	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	ND	1	mg/L						
Fluoride	ND	0.1	mg/L						
Nitrate as N	ND	0.1	mg/L						
Nitrite as N	ND	0.05	mg/L						
Sulphate	ND	1	mg/L						
General Inorganics									
Alkalinity, total	ND	5	mg/L						
Ammonia as N	ND	0.01	mg/L						
Dissolved Organic Carbon	ND	0.5	mg/L						
Colour	ND	2	TCU						
Conductivity	ND	5	uS/cm						
Phenolics	ND	0.001	mg/L						
Total Dissolved Solids	ND	10	mg/L						
Sulphide	ND	0.02	mg/L						
Tannin & Lignin	ND	0.1	mg/L						
Total Kjeldahl Nitrogen	ND	0.1	mg/L						
Turbidity	ND	0.1	NTU						
Metals									
Calcium	ND	0.1	mg/L						
Iron	ND	0.1	mg/L						
Magnesium	ND	0.2	mg/L						
Manganese	ND	0.005	mg/L						
Potassium	ND	0.1	mg/L						
Sodium	ND	0.2	mg/L						
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL						
Fecal Coliforms	ND	1	CFU/100 mL						
Total Coliforms	ND	1	CFU/100 mL						

Certificate of Analysis
Client: McIntosh Perry Consulting Eng. (Carp)
Client PO:

Report Date: 16-Jul-2018
Order Date: 13-Jul-2018
Project Description: 17-0503

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	23.9	1	mg/L	23.8			0.4	10	
Fluoride	0.44	0.1	mg/L	0.44			1.1	10	
Nitrate as N	ND	0.1	mg/L	ND			0.0	20	
Nitrite as N	ND	0.05	mg/L	ND				20	
Sulphate	38.7	1	mg/L	38.3			0.9	10	
General Inorganics									
Alkalinity, total	319	5	mg/L	325			1.9	14	
Ammonia as N	0.103	0.01	mg/L	0.120			14.7	17.7	
Dissolved Organic Carbon	2.8	0.5	mg/L	2.9			4.8	37	
Colour	3	2	TCU	3			0.0	12	
Conductivity	691	5	uS/cm	697			0.9	11	
pH	7.8	0.1	pH Units	7.7			0.6	10	
Phenolics	ND	0.001	mg/L	ND				10	
Total Dissolved Solids	54.0	10	mg/L	54.0			0.0	10	
Sulphide	1.16	0.04	mg/L	1.18			1.5	10	
Tannin & Lignin	ND	0.1	mg/L	ND			0.0	11	
Total Kjeldahl Nitrogen	0.16	0.1	mg/L	0.17			4.4	10	
Turbidity	1.5	0.1	NTU	1.5			0.7	10	
Metals									
Iron	0.1	0.1	mg/L	0.1			9.6	20	
Magnesium	30.4	0.2	mg/L	29.2			3.9	20	
Manganese	0.007	0.005	mg/L	0.006			3.1	20	
Potassium	4.8	0.1	mg/L	4.6			2.5	20	
Sodium	17.8	0.2	mg/L	17.6			1.3	20	
Microbiological Parameters									
E. coli	ND	1	CFU/100 mL	ND				30	
Fecal Coliforms	ND	1	CFU/100 mL	ND				30	
Total Coliforms	ND	1	CFU/100 mL	ND				30	

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Anions									
Chloride	33.1	1	mg/L	23.8	92.6	78-112			
Fluoride	1.37	0.1	mg/L	0.44	92.3	73-113			
Nitrate as N	0.97	0.1	mg/L	ND	96.6	81-112			
Nitrite as N	0.911	0.05	mg/L	ND	91.1	76-107			
Sulphate	46.8	1	mg/L	38.3	84.3	75-111			
General Inorganics									
Ammonia as N	0.370	0.01	mg/L	0.120	100	81-124			
Dissolved Organic Carbon	12.6	0.5	mg/L	2.9	97.5	60-133			
Phenolics	0.022	0.001	mg/L	ND	89.9	69-132			
Total Dissolved Solids	106	10	mg/L		106	75-125			
Sulphide	0.50	0.02	mg/L		99.6	79-115			
Tannin & Lignin	1.1	0.1	mg/L	ND	111	71-113			
Total Kjeldahl Nitrogen	2.22	0.1	mg/L	0.17	103	81-126			
Metals									
Calcium	832		ug/L		83.2	80-120			
Iron	872		ug/L		87.2	80-120			
Magnesium	1050		ug/L		105	80-120			
Manganese	49.2		ug/L		98.3	80-120			
Potassium	1160		ug/L		116	80-120			
Sodium	1040		ug/L		104	80-120			

Qualifier Notes:

Login Qualifiers :

Samples received submerged in water, possibly melted ice. This condition can compromise sample integrity.
Applies to samples: TW1-1, TW1-2

Sample Qualifiers :

1 : This analysis was conducted after the accepted holding time had been exceeded.

QC Qualifiers :

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 D

Reasonable Use Calculations

CCO 25-1134
6688 Franktown Road, Ottawa Ontario
Nitrate Loading Calculations

Land Area	Total Down Gradient	38.12500	ha
		381250.0	m2
	Impermeable	11453	m2
	Permeable	369797	m2

Water Surplus (Ws)
Ws = Precipitation - Evapotranspiration

Precipitation		929.8	mm/yr
Evapotranspiration		614.2	mm/yr
	Ws	315.6	mm/yr
		0.316	m/yr

Infiltration Factor (If) per MOEE 1995

Topo	Flat & Rolling	0.275	
Soil	Sand and Silt	0.4	
Cover	Woodland / Meadow	0.15	
	If =	0.825	

Infiltration (I)

I=Ws * If

I =	0.260	m/yr

Dilution Water Avaiable (Dw)

Dw = A * I

Dw =	96274.4	m3/yr
	263765.4	L/day

Boundary Nitrate Concentration (Cm)
Cm = Cb + x (Cr - Cb)

health related parameters	x =	0.25
Background Nitrate Concentration (Cb)	Cb =	0.05 mg/L
Maximum concentration per ODWS	Cr =	10 mg/L
Boundary nitrate concentration	Cm =	2.538 mg/L

Target Nitrate Concentration (Cw)
Cw = Cm - Cp - Co

Potential contaminant increase from other sources	Co =	0 mg/L
Background concentration in groundwater	Cp =	0.05 mg/L
Boundary nitrate concentration	Cm =	2.54 mg/L
Target nitrate concentration	Cw =	2.49 mg/L

Effluent Nitrate Concentration (Ce)
Ce = (Cw * Dw) + (Cw * Qe) / Qe

Effluent Loading (Qe)	Qe =	39000 L/day/Lot
Effluent Nitrate Concentration (Ce)	Ce =	19.31 mg/L

Potential Evapotranspiration

Thornthwaite Method, "Hydrology & Hydraulic Systems", Gupta

Etmonth = 1.62 (10* Tm)/ I)^a
where:
a = 675* 10^-9* I^3 - 771 * 10^-7* I^2 +179* 10^-4 * I + 492* 10^-3

I = sum (Tm/5)^1.514 **Stn:** **Ottawa, Ontario (YOW)**

Month	Temp C	I	ET (cm) unadjustec	Daylight Factor	ET (cm) adjusted
January	-10				
Feb	-8.5				
March	-2.4				
April	5.9	1.2848	2.6215	1.13	2.9623
May	13.6	4.5492	6.5639	1.28	8.4017
June	18.7	7.3676	9.3145	1.29	12.0158
July	21.2	8.9091	10.6919	1.31	14.0064
Aug	20.1	8.2186	10.0837	1.21	12.2013
Sept	15.3	5.4373	7.4710	1.04	7.7698
Oct	8.2	2.1148	3.7642	0.94	3.5383
Nov	1.7	0.1953	0.6678	0.79	0.5275
Dec	-5.8				
I		38.07669	51.1784		**61.4232**
thus a =		1.0991			

Note: Daylight Factor is an adjustment factor for possible hours
Monthly temperature from Environment Canada

Input data from user
Set value
Calculated by worksheet