



Kollaard Associates

Engineers

210 Prescott Street, Unit 1

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Kemptville, Ontario K0G 1J0

Civil • Geotechnical •
Structural • Environmental •
Hydrogeology

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SERVICING FEASIBILITY REPORT
PROPOSED INDUSTRIAL WAREHOUSE DEVELOPMENT
6622 BANK STREET
CITY OF OTTAWA, ONTARIO

Prepared For:

CAMM Machinery and Rentals Inc.
6622 Bank Street
Ottawa, Ontario
K0A 2P0

PROJECT #: 230156

DISTRIBUTION
City of Ottawa
CAMM Machinery and Rentals Inc.
Kollaard Associates

Rev 0 – Issued for Site Plan Approval

July 31, 2024



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1 INTRODUCTION

Kollaard Associates was retained by CAMM Warehousing and Rentals Inc. to complete a Servicing Feasibility Report for a proposed industrial development to be located at 6622 Bank Street, Ottawa, Ontario. This report will address the serviceability of the proposed industrial warehouse development with respect to the water and sanitary demands, as well as outline the proposed design to meet these requirements.

For the purposes of this report, Bank Street is considered to be oriented along a north-south axis. The proposed development site is located along the west side of Bank Street. The site is approximately rectangular in shape and extends about 250 metres from Bank Street. The site has a total area of 6.019 hectares and was formerly cleared for agricultural purposes.

1.1 Background

This site is the location of a previous development. The existing development consists of a warehouse building (Building #1) with a footprint of 2310 square metres and an attached office with a footprint of 191 square metres. This development also included on-site servicing works. A full description of these works is available in the previous combined Servicing Design and Stormwater Management Brief. Presently, the site is serviced by means of a private onsite septic system and a drilled well. In addition, fire water storage is provided with onsite cast in place tanks.

1.2 Proposed Development

The proposed further development of the site will contain a warehouse building (Building #2) with a total footprint of 2174 square metres which includes accessory office space at the front (east) of the building. This building will face Bank Street in the southeast corner of the property.

An additional warehouse building (Building #3) with a total footprint of 2174 square metres will be located on the south side of the property. This building will be located west of Building #2 and east of the hydro easement which crosses diagonally the southeast corner of the site.

1.3 Proposed Servicing

The proposed development will be serviced by means of a private onsite septic system, and a drilled well. Fire water storage is to be provided by underground storage tanks.

The existing septic system onsite is designed to provide services to Building #1 and does not have the capacity to service the additional construction. The existing drilled well does have sufficient capacity to service the additional construction.

2 SANITARY DESIGN

As previously indicated, the proposed development will be occupied by two buildings each having a footprint of 2323 square metres. Building #2 will have an accessory office space at the



front of the building. Building #3 is entirely for storage and will be serviced with a single water closet in the southeast corner of the building.

2.1 Septic Design

Sanitary sewage will be disposed of by an on-site Class 4 sewage system with a level IV treatment unit. The on-site system will include a shallow buried trench disposal field preceded by a Waterloo Biofilter treatment system.

2.2 Design Flows

The sanitary sewage flow for the development was calculated based on the Ontario Building Code (O.B.C Table 8.2.1.3B) for the proposed occupancy. The calculations are provided in Table 3.1 on the following page.

Table 3.1 Sanitary Flow Demand Calculations

	Establishment	Volume, L	Quantity	Flow
	Office Building			
	a) per employee per 8 hour shift, or	75	8	600 L/day
x	b) per each 9.3 m ² of floor space	75	(105 m ² / 9.3 m ²)	900 L/day
	Warehouse			
x	a) per water closet, and	950	1	950 L/day
x	a) per loading bay	150	9	1350 L/day
Total Daily Residential Sewage Design Flow =				3200 litres/day

A sewage system application has been prepared for approval through the Ottawa Septic System Office. Details can be found on the septic design plan prepared by Kollaard Associates. The septic system design has been submitted to the Ottawa Septic Office for Permit.

3 WATER DEMAND

3.1 Domestic

The facility is to be serviced by the existing drilled well located as shown on Kollaard Associates Inc drawing 230156-SER. The Ministry of Environment Conservation and Parks (MECP) Well Record for this well indicates that the recommended pump rate for this well is 10 gpm (37.9 litres/minute). The water is currently in use for the existing development on the site and is known to be potable.



The water demand is calculated using the information from the sewage system daily design flow and the City of Ottawa Water Distribution Guidelines, 2010. The sewage design flows for the current development are calculated in Section 3 above and provide a total daily flow of 3200 litres/day. Also to be considered are the sewage flows for the existing development. According to the permit obtained for the existing development the design flow for the existing septic system is equal to 3250 litres/day. For convenience a reproduction of the approved permit has been attached to this document as Appendix B. The total septic design flow for the entire site will be 6450 litres/day.

Since septic system design is based on the maximum expected daily use, it is equivalent to the Average Daily Demand (ADD). The ADD is based on an eight hour operation schedule. This assumes that the full day usage occurs over an eight hour period rather than a twenty-four hour period.

The City of Ottawa calculates the Maximum Hour Demand (MHD) for commercial or industrial demand to be 1.8 x ADD. Calculations for ADD and MHD are presented below.

$$ADD = \frac{6450 \text{ litres}}{1 \text{ day}} \times \frac{1 \text{ day}}{8 \text{ hours}} \times \frac{1 \text{ hour}}{60 \text{ minutes}} \qquad ADD = 13.4 \frac{\text{litres}}{\text{minute}}$$

$$MHD = 1.8 \times 13.4 \frac{\text{litres}}{\text{minute}} \qquad MHD = 24.2 \frac{\text{litres}}{\text{minute}}$$

Based on the above calculations, the Maximum Hourly Demand of 24.2 litres/minute is well below the recommended pump rate of 37.9 litres/minutes. As such the existing pump will be more than sufficient to service the entire development.

To ensure proper servicing to the new construction, a seamless 1.25” polyethylene pipe rated at 160 psi shall be installed between the well and the building at a depth of at least 2.4m.

3.2 Water Demand for Fire Protection

There is no municipal water supply at the site. Fire protection will be provided by providing a fire access route and an onsite water supply for firefighting.

3.2.1 Fire Water Storage Requirements

Fire water storage requirements were determined using the Ontario Building Code. The calculation sheet is attached in Appendix A of this report.

Each of the proposed buildings has a total footprint of 2174 square metres. The type of construction and occupancy are identical. It is considered that it is unlikely that both buildings will be on fire simultaneously due to the amount of separation between them. According to the



provided OBC calculations the minimum water supply requirement for firefighting purposes is 270,000 litres.

3.2.2 Fire Water Storage

Fire water storage will be provided by the existing fire water storage tank for the previous development which has a capacity of 270,000 litres. Additionally dry hydrants will be installed near the fire water storage tanks and near Building #3 ensuring sufficient capacity and flow are available for all firefighting scenarios. The location of this tank and the dry hydrants are shown on Kollaard Associates Inc drawing 230156-SER.

These dry hydrants will be connected by means of a supply main consisting of 200 mm PVC DR18 C900 Class 235 gasketed pressure pipe. Two dry hydrants will be connected to the supply main using factory tees and 152 mm diameter leads. The proposed fire hydrants will be connected to the fire protection supply main in keeping with City of Ottawa STD W54.

4 CONCLUSIONS

The water and sanitary demands for the proposed development will be met by private services.

The sanitary demand will be met with an onsite Class 4 sewage system with a level IV treatment unit. The onsite system will include a pressurized shallow buried trench system preceded by a Waterloo Biofilter treatment unit and an anaerobic digester. The daily design flow for the entire site is below 10,000 litres per day. Therefore an application will be made to the Ottawa Septic System Office for the construction of the septic system.

The domestic water demand will be met by the existing drilled well on site. The water demand for firefighting purposes will be met with underground water storage tanks.

We trust that this report provides sufficient information for your present purposes. If you have any questions concerning this report please do not hesitate to contact our office.

Sincerely,
Kollaard Associates Inc.



Steve deWit, P.Eng.



Appendix A – Fire Flow Demand Calculations Using OBC

APPENDIX A: FIRE FLOW REQUIREMENTS

Client: CAMM Warehousing and Rentals
 Job No.: 230156
 Location: 6622 Bank St., Ottawa
 Date: July 31, 2024

Fire Water Storage and Supply Flow Rate Requirements

The following equation from the latest version of the Ontario Building Code (2012) was used for calculation of the on-site supply rates required to be supplied by the hydrants.

Formulae:

$$Q = KVS_{Tot}$$

$$S_{Tot} = 1.0 + [S_{side1} + S_{side2} + S_{side3} + S_{side4} + \dots]$$

OBC Classification of Building Use	Group, Division	Residential Group C	
Assumed Type of Construction	Combustible with Fire Separations	Building is of Combustible construction with fire separations and fire resistance ratings provided in accordance with Subsection 3.2.2 including Loadbearing walls, columns and arches.	
Water Supply Coefficient (Table 1, OBC)	K	17	
Exposure Distance 1		>10	m
Exposure Distance 2		>10	m
Exposure Distance 3		>10	m
Exposure Distance 4		>10	m
Spatial Coefficient 1	Sside	0	
Spatial Coefficient 2	Sside	0	
Spatial Coefficient 3	Sside	0	
Spatial Coefficient 4	Sside	0	
Total Spatial Coefficient	Stot	1	
Average Building Height	H	7.3	m
Building Footprint	A	2,174	sq.m
Total Building Volume	V	15,870	cu.m
Minimum Supply of Water	Q	269,793	L
Required Fire Flow	Qf	6300	L/min
		105	L/s
		1664	US gpm

per Table 2 on A-3.2.5.7 of the OBC

OBC - Table 2 of A-3.2.5.7.

REQUIRE MINIMUM WATER SUPPLY FLOW RATE (L/min)

Qf =	2700	If Q ≤ 108 000 L
Qf =	3600	108 000L < Q ≤ 135 000 L
Qf =	4500	135 000L < Q ≤ 162 000 L
Qf =	5400	162 000L < Q ≤ 190 000 L
Qf =	6300	190 000L < Q ≤ 270 000 L
Qf =	9000	Q > 270 000 L



Appendix B – Existing Septic Permit



Kollaard Associates
Engineers

210 Prescott Street Unit 1
PO Box 189
Kemptville, Ontario
K0G 1J0

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Hydrogeology

(613) 860-0923

Fax (613) 258-0475
www.kollaard.ca
info@kollaard.ca

Date: June 6, 2017

File # 170035

Attention:

Mr. Terry Davidson, P.Eng
Rideau Valley Conservation
3889 Rideau Valley Drive
Manotick, ON
K4M 1A5

Proposed Sewage System

6622 Bank Street
R. Plan 4R-25595, Parts 1 - 3
Lot 13, Conc. 6
Osgoode
City of Ottawa

Owner: CAMM Warehousing and Rentals Inc

Dear: Mr. Davidson

Please find attached the onsite septic system application package for the above noted client and property.

Included in the package are the:
Ontario Building Code Forms
Relevant Schedules
Relevant Drawings

Yours Sincerely,

Kaleb Lakew, P.Eng.

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APPLICANT
 TOWNSHIP/CITY
 FILE
 OTHER *Kollaard*



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Ottawa Septic System Office
Bureau des systèmes septiques d'Ottawa

Application for a Permit to Construct or Demolish

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

For use by Principal Authority

SEPTIC APPLICATION
17-207
REQUIRED FOR ALL INQUIRIES

R.V.C.A. RECEIVED
JUN 12 2017
REFER TO:

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: 6622 Bank Street		Unit number: --	Lot/con. 13 / 6
Municipality Osgoode	Postal code: --	Plan number/other description Parts 1 - 3 Plan 4R-25595	
Project value est. \$		Area of work (m ²)	

B. Purpose of application

<input checked="" type="checkbox"/> New construction	<input type="checkbox"/> Addition to an existing building	<input type="checkbox"/> Alteration / repair	<input type="checkbox"/> Demolition	<input type="checkbox"/> Conditional Permit
Proposed use of Building Light Industrial Building		Current use of Building		

Description of proposed work
On-Site Septic System

C. Applicant

Applicant is: **Authorized agent of Owner**

Last name --	First name --	Corporation or partnership Kollaard Associates Inc.	
Street address Box 189, 210 Prescott St.		Unit number: 1	Lot/con. --
Municipality Kemptville	Postal code: K0G 1J0	Province ON	E-mail info@kollaard.ca
Telephone number (613) 860-0923	Fax (613) 258-0475	Cell number --	

D. Owner (if different from applicant)

Last name	First name	Corporation or partnership CAMM Warehousing & Rentals Inc	
Street address 3460 Rideau Road		Unit number:	Lot/con. --
Municipality Ottawa	Postal code: K1G 3N4	Province	E-mail
Telephone number 613-822-2073	Fax	Cell number	

E. Builder (optional)				
Last name		First name		Corporation or partnership (if applicable)
Street address			Unit number:	Loft/cond.
Municipality	Postal code:	Province	E-mail	
Telephone number	City	Cell number		


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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.		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
ii. Is registration required under the <i>Ontario New Home Warranties Plan Act</i> ?		<input type="checkbox"/> Yes	<input type="checkbox"/> No	
iii. If yes to (ii) provide registration number(s): _____				

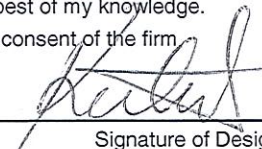
G. Required Schedules				
i. Attach Schedule 1 for each individual who reviews and takes responsibility for design activities.				
ii. Attach Schedule 2 where application is to construct on-site, install or repair a sewage system.				

H. Completeness and compliance with applicable law				
i. This application meets all the requirements of clauses 1.3.13 (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).		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
Payment has been made of all fees that are required, under applicable by-law, resolution or regulation made under clause 7(1)(c) of <i>Building Code Act, 1992</i> , to be paid when the application is made.		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
ii. This application is accompanied by the plans and specifications prescribed by the applicable by-law, resolution or regulation made under clause 7(1)(b) of <i>Building Code Act, 1992</i>		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
iii. This application is accompanied by the information and documents prescribed by-law, resolution or regulation made under clause 7(1)(b) of the <i>Building Code Act, 1992</i> which enable the chief building official to determine whether the proposed building, construction or demolition will contravene any applicable law.		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	
iv. The proposed building, construction or demolition will not contravene any applicable law.		<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	

I. Declaration of applicant				
I, <u>Kaleb Lakew, P.Eng.</u> declare that:				
1. The information contained in this application, attached schedules, attached plans and specifications, and other attached documentation is true to the best of my knowledge.				
2. If the owner is a corporation or partnership, I have authority to bind the corporation or partnership.				
<u>June 7/2017</u>				
Date		Signature of applicant		
<p>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</p>				

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17-2017
REQUIRED FOR ALL
INQUIRIES

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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: 6622 Bank Street		Unit number: --	Lot/con. 13/6
Municipality Osgoode	Postal code: --	Plan number/other description Parts 1 - 3 Plan 4R-25595	
B. Individual who reviews and takes responsibility for design activities			
Name Kaleb Lakew, P.Eng.		Firm Kollaard Associates Inc.	
Street address Box 189, 210 Prescott St.		Unit number: 1	Lot/con. --
Municipality Kemptville	Postal code: K0G 1J0	Province ON	E-mail info@kollaard.ca
Telephone number (613) 860-0923	Fax (613) 258-0475	Cell number	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 of Division C]			
<input type="checkbox"/> House	<input type="checkbox"/> HVAC – House	<input type="checkbox"/> Building Structural	
<input type="checkbox"/> Small Buildings	<input type="checkbox"/> Building Services	<input type="checkbox"/> Plumbing – House	
<input type="checkbox"/> Large Buildings	<input type="checkbox"/> Detection, Lighting and Power	<input type="checkbox"/> Plumbing – All Buildings	
<input type="checkbox"/> Complex Buildings	<input type="checkbox"/> Fire Protection	<input checked="" type="checkbox"/> On-site Sewage Systems	
Description of designers work Conventional ~ Fully Raised			
D. Declaration of Designer			
I, <u>Kaleb Lakew, P.Eng.</u> <small>(print name)</small>		declare that (choose one as appropriate):	
<input type="checkbox"/> 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: _____			
<input type="checkbox"/> I review and take responsibility for the design work 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: _____			
<input checked="" type="checkbox"/> The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: Licensed Professional Engineer			
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.			
<u>June 7/2017</u> Date		 Signature of Designer	
Note: 1. For the purpose of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1)d). 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 authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practice, a limited license to practice, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.			

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Schedule 2: Sewage System Installer 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: 6622 Bank Street		Unit number: --	Lot/con. 13 / 6
Municipality Osgoode	Postal code: --	Plan number/other description Parts 1 - 3 Plan 4R-25595	

B. Sewage system installer

Is the installer of the sewage system engaged in the business of constructing on-site, installing, repairing, servicing, cleaning or emptying sewage systems, in accordance with Building Code Article 3.3.1.1, Division C?

Yes (Continue to Section C)
 No (Continue to Section E)
 Installer unknown at time of application (Continue to Section E)

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

Name		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)	BCIN
---------------------------------	------

E. Declaration of Applicant:

I, Kaleb Lakew, P.Eng. declare that:
(print name)

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

I certify that:

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

June 7/2017 [Signature]
 Date Signature of applicant



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Date _____

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**Schedule 4
Proposed Services**

1. Engineered

Yes
 No

2. Water Supply

Proposed
 Existing

3. Type of work proposed

New Installation
 Replacement
 Alteration

4. Type of well

Dug/bored/Standpoint well
 Drilled well
 Municipal
 Other

5. Residential Sewage Design Flow Info.

Bedrooms _____
House (floor area) _____ m²
People _____
Total Fixture Units _____
Residential Flow _____ L/day

6. Sewage Design Flow for Other Occupancies

Design Flow _____ 3250 L/day
Detail sewage flow calculations:
Refer to Schedule 8

7. Type of System

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

Class 4 - Trench
 Fully Raised
Partially Raised
In-ground

Class 4 - Filter Media
Fully Raised
Partially Raised
In-ground

Conventional

Class 4 Area Bed
Fully Raised
Partially Raised
In-ground

Class 4 - Aerobic With Trench
Fully Raised
Partially Raised
In-ground

Class 4 - Aerobic with Filter Media
Fully Raised
Partially Raised
In-ground

Class 5 - Holding Tank





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**Schedule 5
 Sewage System Details**

Type of System **Conventional ~ Fully Raised** (Schedule 4)

Septic / Holding **11250** Litres Conventional

Septic Tank Effluent Filter **Yes**

Treatment Unit - Make & Model **Conventional**
 Number of Units

Refer to Typical Drawing **Conventional ~ Fully Raised**

Mantle information

Native or imported = 15 m in **1** direction(s)
 Slope Subgrade **1.0** % slope
NE direction(s)

Site to be Scarified (If in Clay) **NO** Yes / No

Clay Seal Required (If in bedrock) **NO** Yes / No

Minimum Required Contact Area **325** m² required

Pump(s) required **Yes**
 Specified discharge rate required **449** L/15min
 Note: Alarm required for all pumping systems

Trench Bed - Length of Distribution Pipe **132** m
 - Proposed diameter of Tile **76** mm

Filter Media Bed - Stone m²
 - Sand m²
 - Filter Sand m²
 - Pipe m
 - Amount of Filter Media Sand Kg required

SBT - Length of Distribution Pipe m

Area Bed - Stone m²
 - Sand m²
 - Pipe m

Construction Notes: See construction notes on Kollaard Associates Drawing No. **170035-SEP**



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Permit No	<u>17-207</u>
Revision No	
Date	

**REQUIRED FOR ALL
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SCHEDULE 6
Soil and Water Table Information

(Minimum depth of test pit: 2 metres)

File # 170035

June 6, 2017

6622 Bank Street
R. Plan 4R-25595, Parts 1 - 3
Lot 13, Conc. 6
Osgoode
City of Ottawa

Inspector: Adam Dillon
Date: June 13/17 @ 12:50pm
Signature: [Signature]

Test Pit #	Elevation / (Depth) [m]	Soil Description	Test Pit #	Elevation / (Depth) [m]	Soil Description
TP1	94.75				
	0.0-0.3	TOPSOIL			
	0.3-1.0	Grey brown silty sand, gravel, cobbles and boulders			
	1.05	End of test pit			
TP2	94.40				
	0.0-0.25	TOPSOIL			
	0.25-1.0	Grey brown silty sand, gravel, cobbles and boulders			
	1.0	End of test pit			

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



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 Schedule 8
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 Date _____
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SEWAGE DESIGN FLOW CALCULATION (OTHER OCCUPANCIES)

As per O.B.C. 8.2.1.3.(2)

File: 170035

Date: June 6, 2017

Establishment	Volume, L	Quantity	Flow
Office Building			
a) per employee per 8 hour shift, or	75	8	600 L/day
x b) per each 9.3 m ² of floor space	75	(192.1 m ² / 9.3 m ²)	1550 L/day
Warehouse			
x a) per water closet, and	950	1	950 L/day
x a) per loading bay	150	5	750 L/day

Total Daily Residential Sewage Design Flow = 3250 litres/day

Note:

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.

Where laundry waste is not more than 20% of the total daily design sanitary sewage flow, it may discharge to a sewage system. (Part 8, OBC, 8.1.3.1(2)).

Signature of Owner / Agent: [Signature]
 Date: June 7 / 2017

Kollaard Associates
 Engineers



Professional Engineers
 Ontario

Authorized by the Association of Professional Engineers Ontario to offer
 Professional Engineering Services



File: 170035

Conventional Bed ~Fully Raised~
 6622 Bank Street
 R:Plan 4R-25595, Parts 1 - 3
 Lot 13, Conc. 6
 Osgoode
 City of Ottawa
 June 6, 2017

Flow Rate
 Existing Soil Percolation
 Rate (7)
 Replacement Soil

3250 L/day
 30 min/cm
 8 min/cm

SEE KOLLAARD ASSOCIATES
 TECHNICAL DRAWING 170035-SEP
 FOR DETAILS

Pipe Length Min = $\frac{3250 \times 8}{200}$ = 130 metres

Sand Loading Area = $\frac{3250}{8}$ = 406.25 m²

Header Invert = 94.84
 Footer Invert = 94.75

Slope Subgrade = 1.00 %

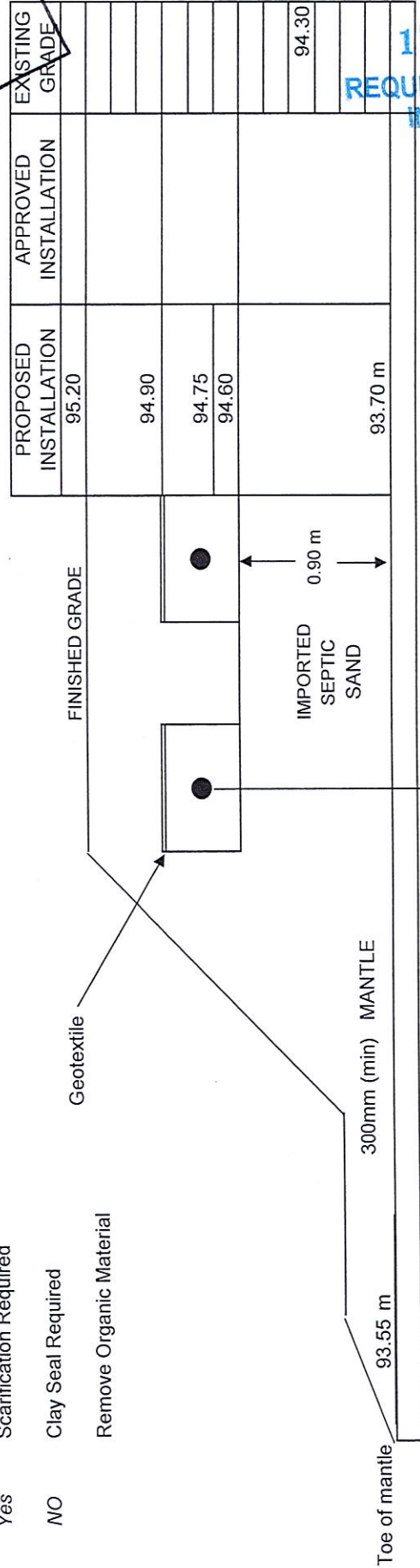
Mantle Required in NE Direction

Minimum Septic Tank Working Capacity
 The greater of 3600 Litres or 3 x 3250 = 11250

- Yes Scarification Required
- NO Clay Seal Required
- Remove Organic Material

R.V.C.A. RECEIVED
 JUN 12 2017
 REFER TO:

6 RUNS AT 22.00m EACH AT 1.6m



SEPTIC APPLICATION

17-207
 REQUIRED FOR ALL INQUIRIES

Toe of mantle

300mm (min) MANTLE

IMPORTED SEPTIC SAND

FINISHED GRADE

Geotextile

PROPOSED INSTALLATION	APPROVED INSTALLATION	EXISTING GRADE
95.20		
94.90		
94.75		
94.60		
		94.30

93.70 m

15.00m

0.90 m

93.55 m



Ottawa Septic Bureau des systèmes
System Office septiques d'Ottawa

SEPTIC APPLICATION

Do Not Complete
Permit No 17-207
Revision No _____
Date REQUIRED FOR ALL
INQUIRIES
Related Application _____

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: Adam Dillon Owner: CAmm Warehousing & Rentals Inc
Inspection Date & Time: June 13/17 @ 12:50 pm Weather: overcast 3 24°C
Civic Address: 6622 Bank St. Legal: _____

number of bedrooms: 5 fixture units: 1 water closet
finished floor area: 192 m² office area Q: 3250 L/day

septic/holding tank/pretreatment tank 11,250 L weigh bills for filter media yes no
effluent filter as per 8.6.2.1 (2) grain size analysis required yes no
pump rate 449 L/15 min site to be scarified yes no
treatment unit _____ clay seal inspection yes no
number of units _____ 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 n/a
loading area 456 m²
total trench length 132 m
trench configuration 6 @ 22m
 Dispersal Bed
 BMEC Type A Type B
stone _____ m²
sand _____ m²
pipe _____
linear loading _____ L/m²

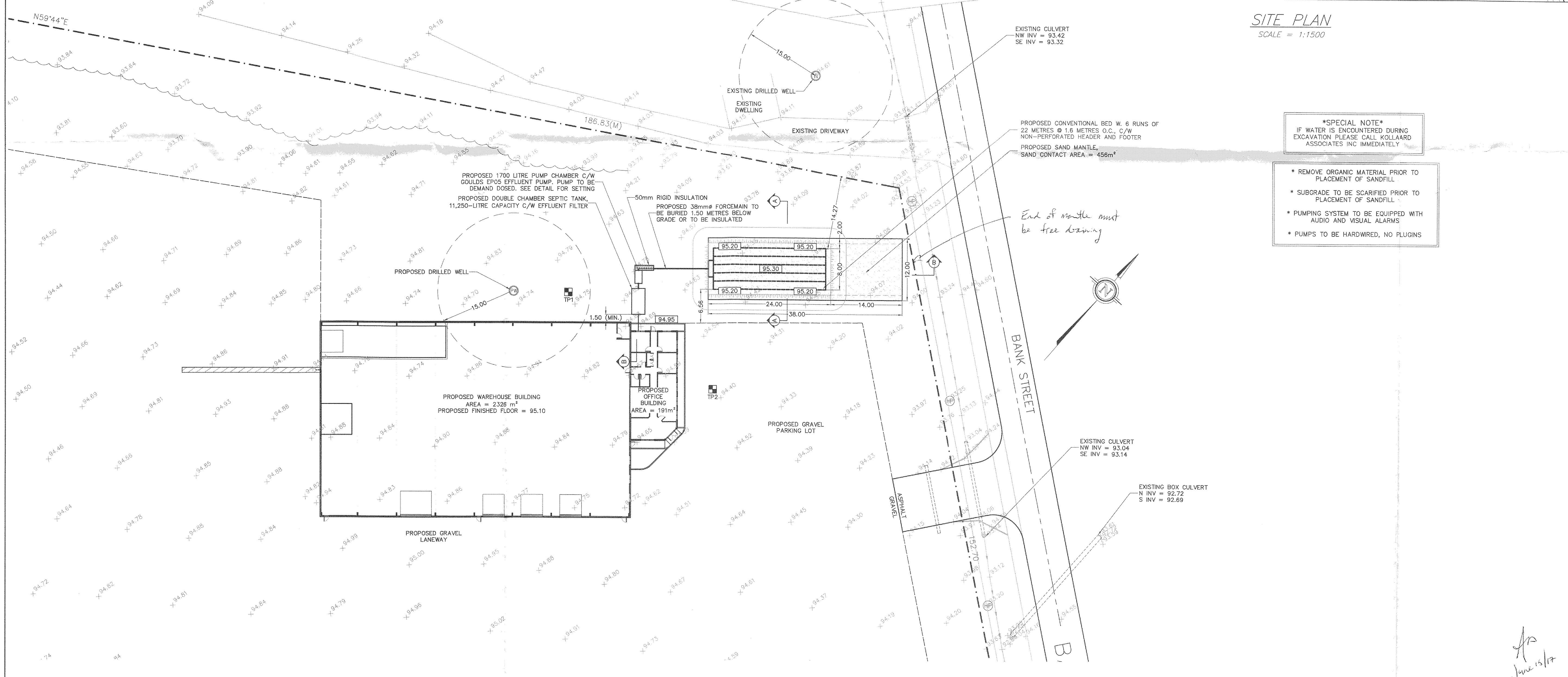
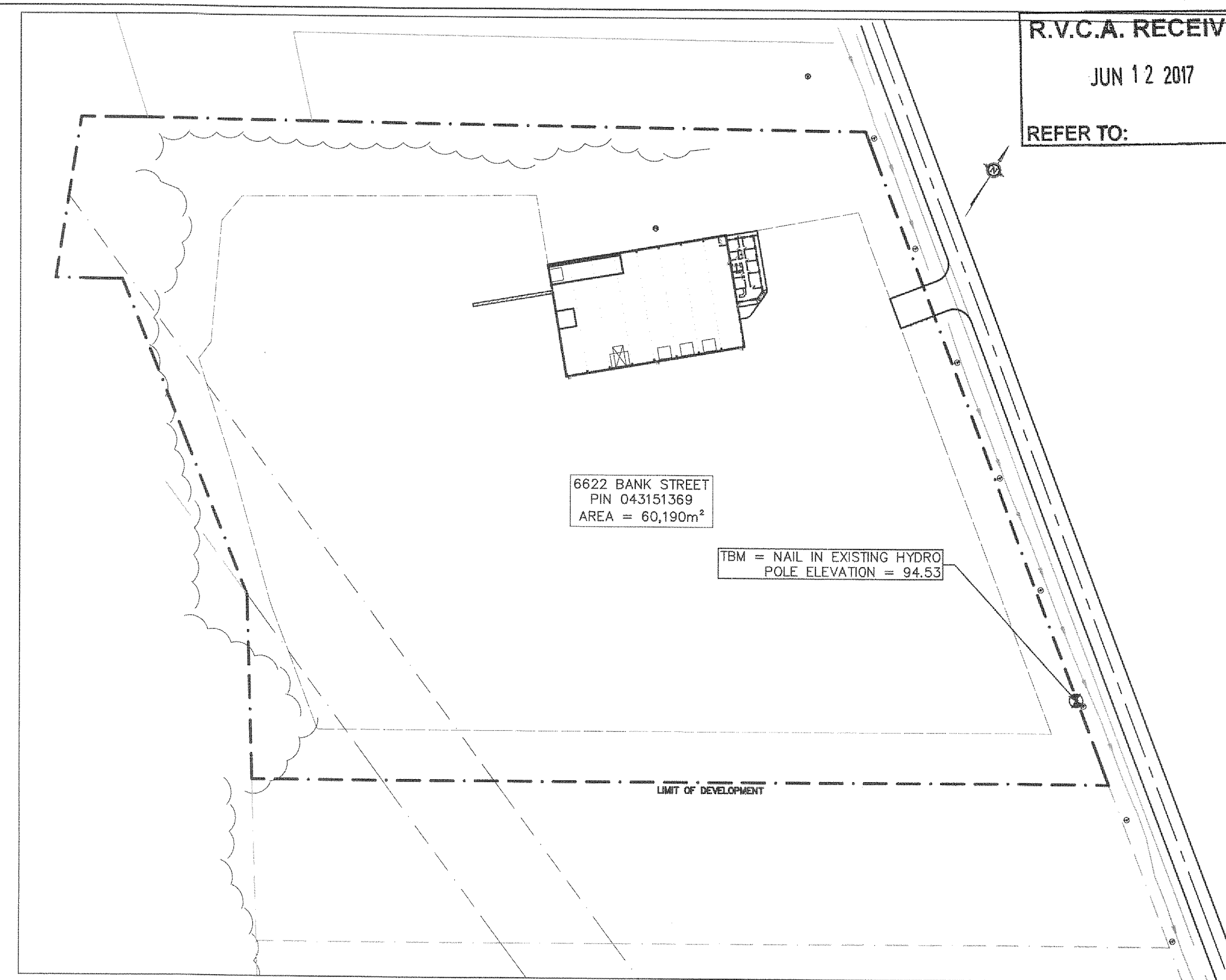
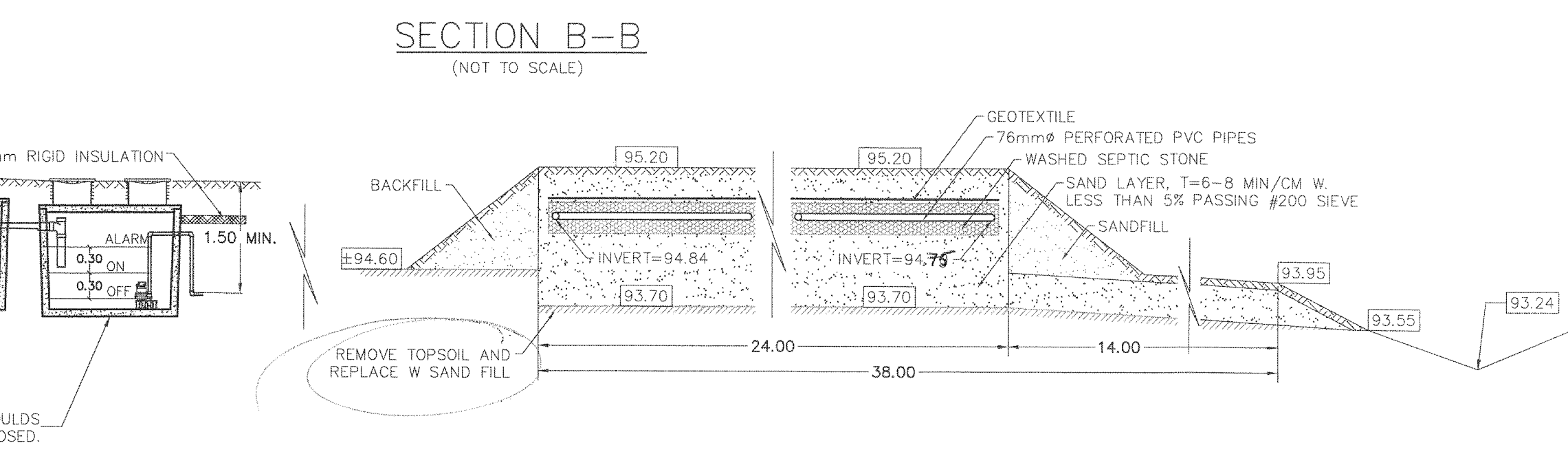
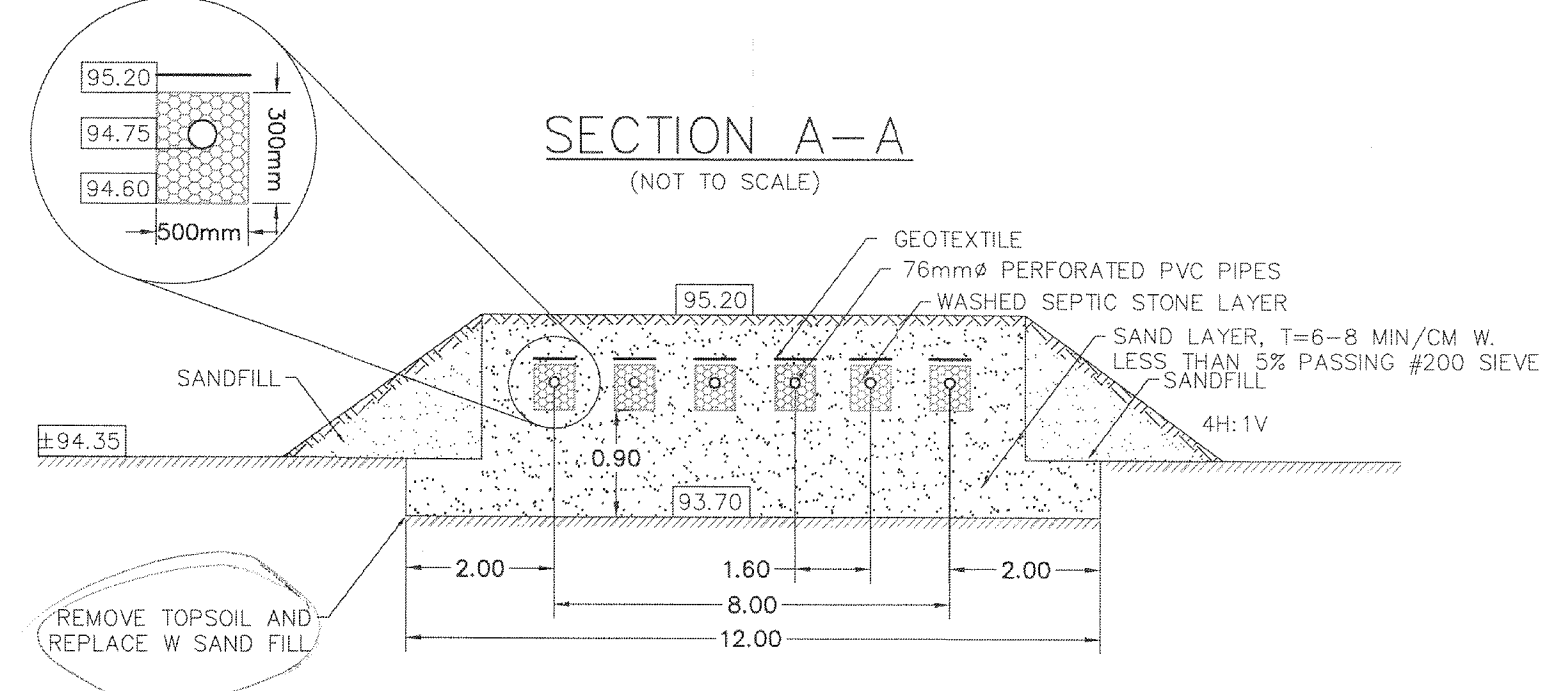
Shallow Buried Trench
pipe length _____ m
orifice spacing _____ m
 Filter Media Bed
stone _____ m²
extended base _____ m²
pipe _____
weight of filter media _____ kg
loading area _____ m²
 Class 5 Holding Tank
 Septic Tank Only

Manager, Septic System Approvals: [Signature] Permit Date: JUNE 15, 2017
Comments: _____

 maintenance/pumping required ESA permit # required engineer to verify
 Class 5 Holding Tank approval only valid for three years from date of issue subgrade
 squirt height _____
Manager, Septic System Approvals: _____ Revision Date: _____
Comments: _____

LEGEND

	EXISTING ELEVATION
	PROPOSED ELEVATION
	DRAINAGE SLOPE
	CENTRELINE OF ROAD
	TOP OF SLOPE
	PROPERTY LINE
	OVERHEAD WIRE
	CODE OF TREES
	PROPOSED HOUSE LOCATION
	EXISTING WELL
	PROPOSED DRILLED WELL
	TEST PIT
	TEMPORARY BENCHMARK



- All dimensions and elevations are in metres. Do not scale drawing. This drawing is not a site grading plan. This drawing is not for construction until approved by the relevant authorities.
- TBM = Nail in existing hydro pole. Elevation = 94.03.
- The sewage system envelope (leaching bed) as identified on the drawing must be maintained free of the deposit or disposal of any materials, structures, or equipment other than the material or equipment required for the construction of the leaching bed within the sewage system envelope.
- Topsoil (organic) to be removed from bed area and exposed subgrade. No wheeled vehicles to be allowed in leaching bed area.
- Percolation rate of any imported sand for bed to be 6 to 8 min/cm, with < 5% passing the #200 (0.080 mm) sieve.
- Stone layer to be washed septic stone, free of fine materials, with gradation conforming to OBC Table 8.7.3.3.A.
- The septic system leaching bed is to be graded to provide positive drainage away from the septic system and topped with 75 to 100 mm permeable topsoil and seed. Grass growth is to be established.
- The following are not to be connected to the septic system: Water softener, swimming pool or filter system backwash, sump pump discharge.
- Septic system to be installed in accordance with the OBC.
- Septic tank to meet criteria described in the OBC.
- No silt, clay or clayey or silty material to be placed around or over leaching bed.
- All changes to this design must be verified and approved by Kollaard Associates Incorporated.
- Minimum clearance from treatment unit to:
 - structure = 1.5m
 - property line = 3m
 - drilled well = 15m
- Minimum clearance from distribution piping to:
 - structure = 1.5m
 - property line = 5m
 - drilled well = 17m

Kollaard Associates Engineers
 P.O. BOX 189, 210 PRESCOTT ST. (613) 860-0923
 KEMPTVILLE, ONTARIO
 KOD 1.00 FAX (613) 258-0475
 http://www.kollaard.ca

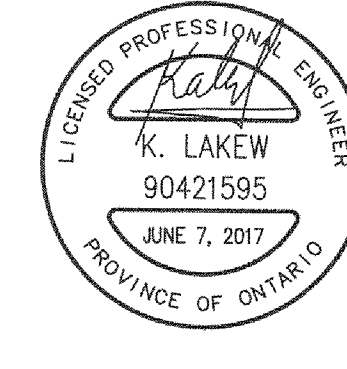
CONSULTANTS:
 SURVEYORS:
 H.A.KEN SHIPMAN SURVEYING LTD.
 P.O. BOX 53, North Gower,
 Ontario, N0A 2T0

CLIENT:
 CANN WAREHOUSING AND RENTALS INC.

PROJECT:
 PROPOSED WAREHOUSE WITH OFFICE

LOCATION:
 6222 BANK STREET, OTTAWA, ON

DESIGNED BY:	ML	CHECKED BY:	PLV
DRAWN BY:	ML	APPROVED BY:	KL
DATE:	MAY 29, 2017		
SCALE:	AS NOTED		
PROJECT NUMBER:	170035		



June 15/17