JANUARY 16, 2025

PROJECT NO: 2533-6826

SENT VIA: E-MAIL
DMCKAY@MHBCPLAN.COM

Canadian Addiction Treatment Centres
c/o MHBC Planning, Urban Design & Landscape Architecture
7050 Weston Road, Suite 230
Woodbridge, ON L4L 8G7

Attention: **DAVID A. McKAY, BES, MSc, MLAI, MCIP, RPP - Vice President & Partner**

RE: **EXISTING CONDITIONS REPORT**
5843 TRAFALGAR ROAD
TOWN OF ERIN

Dear David,

C.F. Crozier & Associates Inc. (Crozier) was retained by Canadian Addiction Treatment Centres to review the existing servicing and grading at the property located at 5843 Trafalgar Road in the Town of Erin, County of Wellington (Site). This review has been completed to support the Zoning By-Law Amendment application for the Site, which is required to permit the current operation of the treatment centre.

Crozier's review included the following activities:

- Reviewed the Site's Topographic Survey, prepared by Van Nostrand & Gibson Ltd, dated July 18, 2023.
- Obtained and reviewed documentation for the onsite sewage system from the Town of Erin.
- Completed a Site visit on July 26, 2023 to review existing drainage patterns and observe the condition of the existing well and onsite sewage system components.

Site Description

The Site covers an area of approximately 5.32 ha and currently consists of an addiction treatment centre, a gravel driveway, two (2) gravel parking lots, a storage shed, and landscaped/forested areas. The Trafalgar Addiction Treatment Centre offers in-patient addiction and mental health rehabilitation treatment with 30 to 45-day treatment programs. The treatment centre currently has 21 client beds and 17 staff in total over 24 hours.

Existing Servicing

The treatment centre is serviced by an onsite sewage system and water supply well. The location of the onsite sewage system and water supply well is shown on Drawing C100 (enclosed).

The water supply well was identified during the Site visit. The well is a drilled well although a water well record confirming method of construction and depth could not be obtained. The steel well casing was observed to be in good condition and no surface drainage appeared to be directed towards the well area. The treatment centre contains a UV treatment system for water treatment as well as 3,000-L reservoir for additional storage. Site representatives indicated that a new UV treatment system is being installed this year and the 3,000-L reservoir is being replaced with the 3,000-gallon cistern. The Site representative indicated that the cistern was added to manage peak water demands for the treatment centre. The water supply well is also located greater than Ontario Building Code (OBC) setbacks (e.g., 15 m or 30 m depending on well construction).

The onsite sewage system consists of a septic tank, pump chamber, and leaching bed. Crozier contacted the Town of Erin to obtain any permits associated with the existing onsite sewage system. The Town of Erin provided a copy of Permit No. 2020-0196 (enclosed), which is related to the building permit issued for replacing the septic tank and pumping chamber in September 2020. According to the supporting design documentation (enclosed), the septic tank is 25,000 L in size and the pump chamber is 2,700 L in size. The new septic tank and pump chamber replaced an existing septic tank and pump chamber, which were subsequently decommissioned. No design documentation was available for the leaching bed.

The total daily design sewage flow was calculated for the treatment centre in accordance with Table 8.2.1.3A of the OBC, as shown below in Table 1. Treatment centre clients were considered a boarding school occupancy, which is consistent with the approved design documentation associated with Permit No. 2020-0196. According to the most current information provided by the Owner there are 21 treatment beds, we have allocated for up to 25 to be conservative. Crozier has also allocated some flow for non-resident staff as described in the boarding house section of Tabel 8.2.1.3.A. According to the Owner, staff shifts are divided up as follows:

a. **6am-6pm: 1 staff**

b. **7am-3pm: 3 staff**

c. **8am-4pm: 8 staff**

d. **10am-6pm: 2 staff**

e. **3pm-11pm: 2 staff**

f. **11pm-7am: 1 staff**

As shown, there are at times up to 18 non-resident staff in the building throughout the day based on the above shifts, however at no time are there more than 14 people in the building around the clock. We have therefore conservatively allocated for a total of 20 staff people over the course of 24 hours.

Table 1: Total Maximum Day Sewage Flow Calculation for Treatment Centre

Description	Number of Units	Additional Flow per Unit (L/day)	Total Daily Design Flow (L/day)
Boarding School, per person	25	300	7,500
Non-resident staff	20	40	800
Total Daily Design Sanitary Sewage Flow:			**8,300**

As shown, the total daily design sewage flow for the Site is 8,300 L/day.

According to OBC, the septic tank must be at least two (2) times to the total daily design sewage flow for residential occupancies. Boarding schools are considered residential occupancies. Therefore, the existing septic tank (25,000 L) is sufficiently sized to OBC requirements.

The condition of the sewage system was observed by Jessica Doherty, P.Eng. on July 26, 2023. The septic tank and pump chamber appeared to be consistent with the sizing outlined in the supporting documentation from Permit No. 2020-0196. All tanks are equipped with risers and access lids to facilitate maintenance and appeared to be in good condition. Access lids on the septic tank and the pump chamber were removed and a visual inspection of the tanks was completed. At the time of the Site visit, the liquid level in both compartments of the septic tank was approaching the top of the risers.The septic tank was subsequently pumped out on July 26, 2023 and Site representatives reported that the effluent filter was clogged. Once the effluent filter was cleaned, the Site representative reported that effluent was flowing freely from the second compartment of the septic tank to the pump chamber. Crozier recommends that the effluent filter be cleaned on a regular basis
(e.g., at least twice a year). Despite the high liquid levels observed, the septic tank appeared to be functioning as intended, e.g., water quality in the second compartment of the septic tank was observed to be improved compared to the first compartment. Regular pump-outs of the tank are recommended on an as needed basis.

Effluent from the septic tank flows to the pump chamber. Water quality in the pump chamber appeared to be good (e.g., clear) with little to no solids or scum. The pump was observed to be in good condition (e.g., wiring and discharge piping intact and accessible from the surface). No signs of recent pump malfunction were observed.

Effluent from the pump chamber is directed to a leaching bed located north of the pump chamber. The Site representative was not aware of the leaching bed type or any construction details. Within the pump chamber, the outlet pipe appeared to be directed north to a grassy area. The leaching bed appears to consist of an inground absorption trench bed. approximate location of the leaching bed is shown on Drawing C100. This area was observed during the Site visit and no signs of vulnerability or failure, such as soft, spongy ground or wet spots were identified. Crozier recommends continuing regular mowing of the leaching bed area and completing visual inspections to identify any signs of vulnerability.

Crozier has assumed that the capacity of the leaching bed was reviewed at the time the building permit was issued for the new septic tank in 2020, as required by Section 11.4.3.6. of the OBC. As no public health or environmental risks were identified during the Site visit, further intrusive investigation of the leaching bed area is unwarranted at this time.

Based on the information provided to date, it is Crozier's opinion that the existing sewage system is sufficient to service the current building. The sewage system should continue to be operated and maintained as described above and in accordance with best management practices. If any vulnerabilities are observed in future, the Owners should take prompt action to rectify the situation.

Proposed Fire Protection

As the property is located in a rural area, there is no municipal water infrastructure available to provide fire protection for the existing building. Fire protection will need to be provided via a fire cistern and dry hydrant to provide adequate fire protection in accordance with the National Fire Protection Association (NFPA) 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting (2012).

The fire storage volume was calculated assuming a building size of 335 m^2, Occupancy Hazard Classification Number (OHC) 7, Type III Construction (CC). Since the nearest building exceeds 50 feet of separation, the cistern storage volume was calculated using the equation for structures without exposure hazards. Table 2 below summarizes the preliminary fire storage volume calculated for the existing building.

Table 2: Minimum Fire Storage Calculation for Treatment Centre (NFPA 1142)

Total Area (m^2)	Height (m)	Volume (m^3)	OHC	CC	Required Fire Storage Volume (m^3)
335	6.0	2,010	7	1.0	38.37

As shown in Table 2, a fire storage volume of 38.40 m^3 is required for minimum fire protection of the existing building. Fire protection calculations have been provided in Appendix A. The proposed location of the fire cistern is shown on Drawing C100.

Existing Drainage Conditions

Drainage is well defined on the property with Trafalgar Road acting as a high point and all drainage being directed easterly from Trafalgar Road through the property.

Topographic slopes vary from roughly 40% (between Trafalgar Road and the existing driveway) to about 10% behind the house. The gravel driveway respects the steep grades onsite and is elongated to follow contours as much as possible and reduce longitudinal slope. Typical driveway slopes vary between 2% and 5%, with some short stretches which are a bit steeper (see Drawing C100). While it is quite feasible that some wash-out occurs following heavy rainfall, the driveway is well maintained and was in good condition during the Site visit.

The Site appears to drain largely as sheet flow beyond the east property line where the land is farmed.

As illustrated on Drawing C100, buildings and activities are centrally located on the property with an abundance of open space and no disturbance near the property boundaries. It is our opinion that the existing operation would have no impact to neighboring properties from a drainage perspective.

Conclusions

Based on the foregoing, Crozier is prepared to make the following conclusions:

- Water servicing for the treatment centre is provided by a water supply well. The treatment centre also contains a UV treatment system and is in the process of installing a 3,000-gallon cistern.

- Sanitary servicing for the treatment centre is provided by an onsite sewage system, which consists of a septic tank, pump chamber, and leaching bed. The septic tank is sufficiently sized in accordance with the Ontario Building Code (OBC) to meet the total daily design sewage flow for the Site (8,300 L/day). The anticipated leaching bed area was also observed, and no signs of vulnerability were noted. Based on the information provided to date, it is Crozier's opinion that the existing sewage system is sufficient to service the current building. Crozier recommends that pump-outs of the septic tank be completed on an as needed basis, the effluent filter be cleaned on a regular basis, and the leaching bed area be maintained. Repairs to existing infrastructure should be made as needed.

- Considering that the Site is characterized as having relatively steep slopes, the Site appears to be very stable. The stability may be attributed to a proper driveway design with minimal longitudinal slopes and all other areas being well vegetated.

- It is our opinion that the existing operation would have no impact to neighboring properties from a drainage perspective.

Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Sincerely,

C.F. CROZIER & ASSOCIATES INC.

Tony Elias, P. Eng.
Senior Project Manager

C.F. CROZIER & ASSOCIATES INC.

Katherine Rentsch, P.Eng.
Manager, Private Services

JD/rl:dd

Enclosure: Appendix A – Fire Protection Calculations
Appendix B – Building Permit 2020-0196 and Associated Design Documentation
Drawing C100: Existing Site Conditions Plan

\\Crozier-Files\Projects\2500\2533 - Canadian Addiction Treatment Centres\6826 - 5483 Trafalgar Road\Letters\Existing Conditions Report\2025.01.15_(2533-6826)_Existing Conditions Report final.docx

APPENDIX A

Fire Protection Calculations

CROZIER CONSULTING ENGINEERS

Project: 5483 Trafalgar Road
Project NO.: 2533-6826
Date: 2025-01-13
Designed By: CM
Checked By: TE

Minimum Water Supply Calculations (NFPA 1142 Version)
NFPA 1142 - Standard on Water Supplies for Suburban and Rural Fire Fighting

References

1. NFPA 1142 Standard on Water Supplies for Suburban and Rural Fire Fighting (2012)
2. Site Plan prepared by SRM Architects Inc., dated, October 3, 2023

Equation for Structures Without Exposure Hazards

$$WS_{min} = \frac{VS_{tot}}{OHC}(CC)$$

WS_{min}	Minimum Water Supplyin gal (For results in L, multiply by 3.785)
VS_{tot}	Total volume of structure in ft3 (If volume I measured in m3, multiply by 35.3)
OHC	Occupancy Hazard Classification Number
CC	Construction Classification Number

Minimum Supply of Water

Building Area =	335.0	m^2
Building Height =	6.0	m
VS_{tot} =	2,010.0	m^3
OHC =	7.0	Based on Section 5.2.5.2 of NFPA 1142
CC	1.0	Based on Section 5.2.5.2 of NFPA 1142
WS_{min} =	**38,365.30**	**L**
	38.37	**m^3**

APPENDIX B

Building Permit 2020-0196 and Associated Design Documentarion

Town Of Erin
5684 Trafalgar Road
Hillsburgh, Ontario,
N0B 1Z0
(519) 855-4407

Phone (519) 855-4407

Permit No.

2020-0196

Septic Permit - Tank Replacement

Action	Assessment Roll No.	Issued to	Date Issued
Replace	2316-000-004-15600-0000	Snow Brothers Contracting,	September 28, 2020

Contractor	Snow Brothers Contracting	9581 Sideroad 17, P.O. box 40 Erin, ON N0B 1Z0		
Property Address Legal Description	5483 TRAFALGAR RD ERIN CON 7 PT LOT 15 AND PT			
Brief Project Description	Septic Tank Replacement 25,000L Concrete Tank			
Structure	N/A	Length Height	Width Permit Area	500 Sq. Feet
Zoning	C3-113 (Special Provision)			

***The personal information on this permit was collected pursuant to the Building Code Act. Information contained herein may be available to the public in accordance with the provisions of the Municipal Freedom of Information and Protection of Privacy Act (MFIPPA), RSO 1990, c. M.56, s. 14(1)(c). Questions regarding this collection and* its release under the Act should be directed to the municipal Clerk during normal business hours**

The person to whom this permit has been issued shall notify the Chief Building Official in advance of the stages of construction specified in Building Code R.S.O. 1992 Reg 332/12, Division C, Part 1, s.1.3.5.1 (2) or attached

BUILDING CODE, O. Reg. 332/12 as amended

Paul Evans, Chief Building Official

STAGES OF CONSTRUCTION REQUIRING NOTICE

- Substantial completion of the installation of the sewage system before the commencement of backfilling

POST THIS CARD IN A LOCATION TO BE SEEN FROM THE ROAD / WATER

PRMT02

Town of Erin Building and Planning.
Plans examination review completed.

Init.: PE Date: Sep 28, 2020

Ham-Con Excavating
P.O Box 123
Orangeville, On
P : 519-833-5022

Ham Con Excavating BCIN 17016
Andrew Hamilton BCIN 11622

Qualified person who takes responsibility for design under 3.2.5 Div C of the O.B.C.
Name: ANDREW HAMILTON
Signature:

* Treatment unit to be min. 15m to well. Table 8.2.1.6.A.
* Piping and leaching chambers to be min. 15m to well with watertight casing to at least 6m and min. 30m to other well. Table 8.2.1.6.B.
* Holding Tank to be min. 15m to well. Table 8.2.1.6.C.

ONSITE SEWAGE SYSTEM DESIGN

FOR:

TRAIGAR RESIDENCE
5483 - TRAFALGAR RD. NORTH, ERIN

DAILY FLOW CALCULATION RESIDENTIAL OCCUPANCY

TABLE 8.2.1.3.A.

ITEM # 3 BOARDING SCHOOL PER PERSON 300L/D
∴ MAXIMUM 30 RESIDENTS @ 300L/D = 9,000L/D

ITEM # 2 (b) NON RESIDENT STAFF 40L/SHIFT
∴ 20 STAFF @ 40L/D 800 L/D

DAILY FLOW 9800 L/D

RESIDENTIAL TANK SIZING IS 2 TIMES DAILY FLOW
∴ 2 X 9800 L/D = 19,600
REC = 25,000 L CONC. TANK

TOWN OF ERIN BUILDING DEPARTMENT
REVIEWED PLANS
DATE: 9/28/2020
PERMIT No.: 2020-0196
NOTE: These reviewed plans form an integral part of the Building Permit issued under the permit number noted. Any changes to these plans must be approved in writing by the Chief Building Official. The reviewed plans must be kept on site at all times during construction.

CHIEF BUILDING OFFICIAL

☐ REVIEWED ☑ REVIEWED WITH NOTES

Site Copy
These documents must be kept on site at all times.

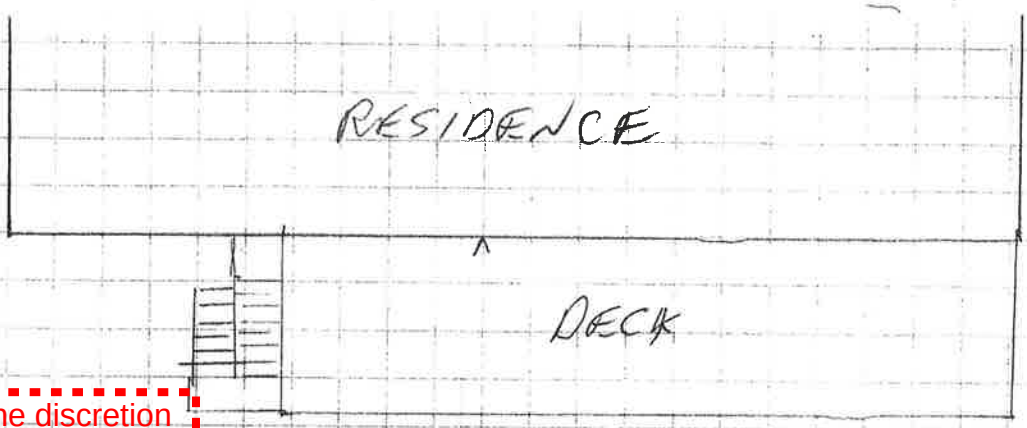
RECEIVED
TOWN OF ERIN
SEP 25 2020
BUILDING/PLANNING
DEPARTMENT

HAM-CON EXCAVATING
P.O BOX 123
ORANGEVILLE, ON
PHONE : 519-833-5022

TRAFALGAR RESIDENCE
5483 TRAFALGAR RD
ERIN ONT.

HAM-CON EXCAVATING BCIN 17016
ANDREW HAMILTON BCIN 11622
Qualified person who takes resposibility for design under the 3.2.5 Div C of the O.B.C.
Name: ANDREW HAMILTON
Signature:

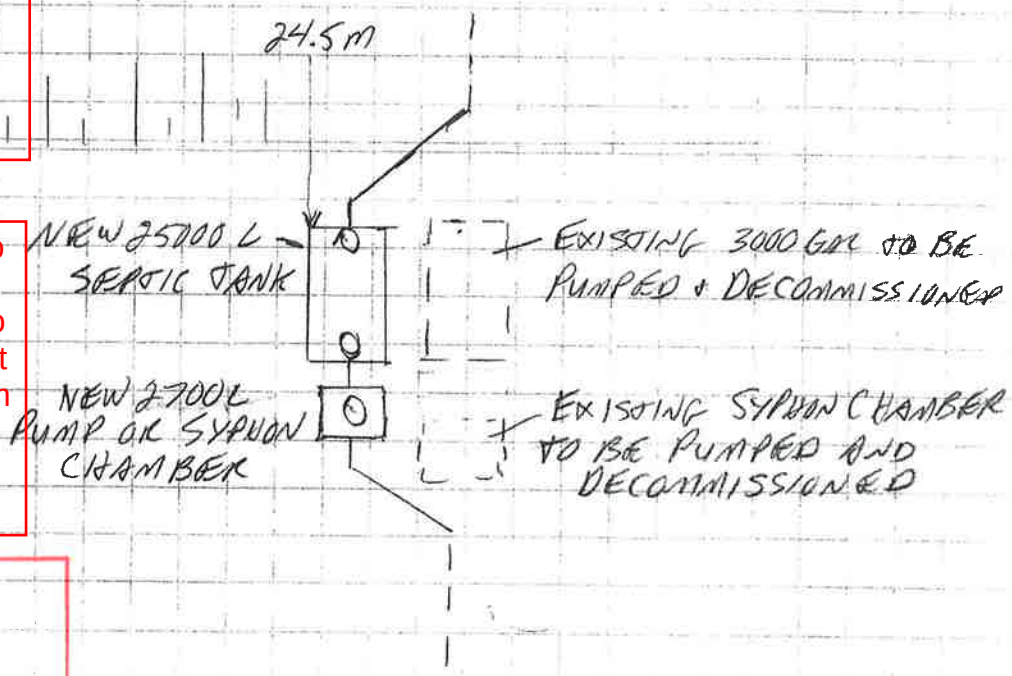
DATE: SEPT 17/20



Important note: At the discretion of the building inspector, you may be asked for site review and/or report of components by a professional engineer

SCALE 1:250

14 gauge TW solid copper light coloured plastic coated tracer wire to be provided to non-metallic water service pipe, fire service main, septic header lines and distribution pipes/leaching bed. 7.2.11.3.(1) & 8.7.2.2.(2)

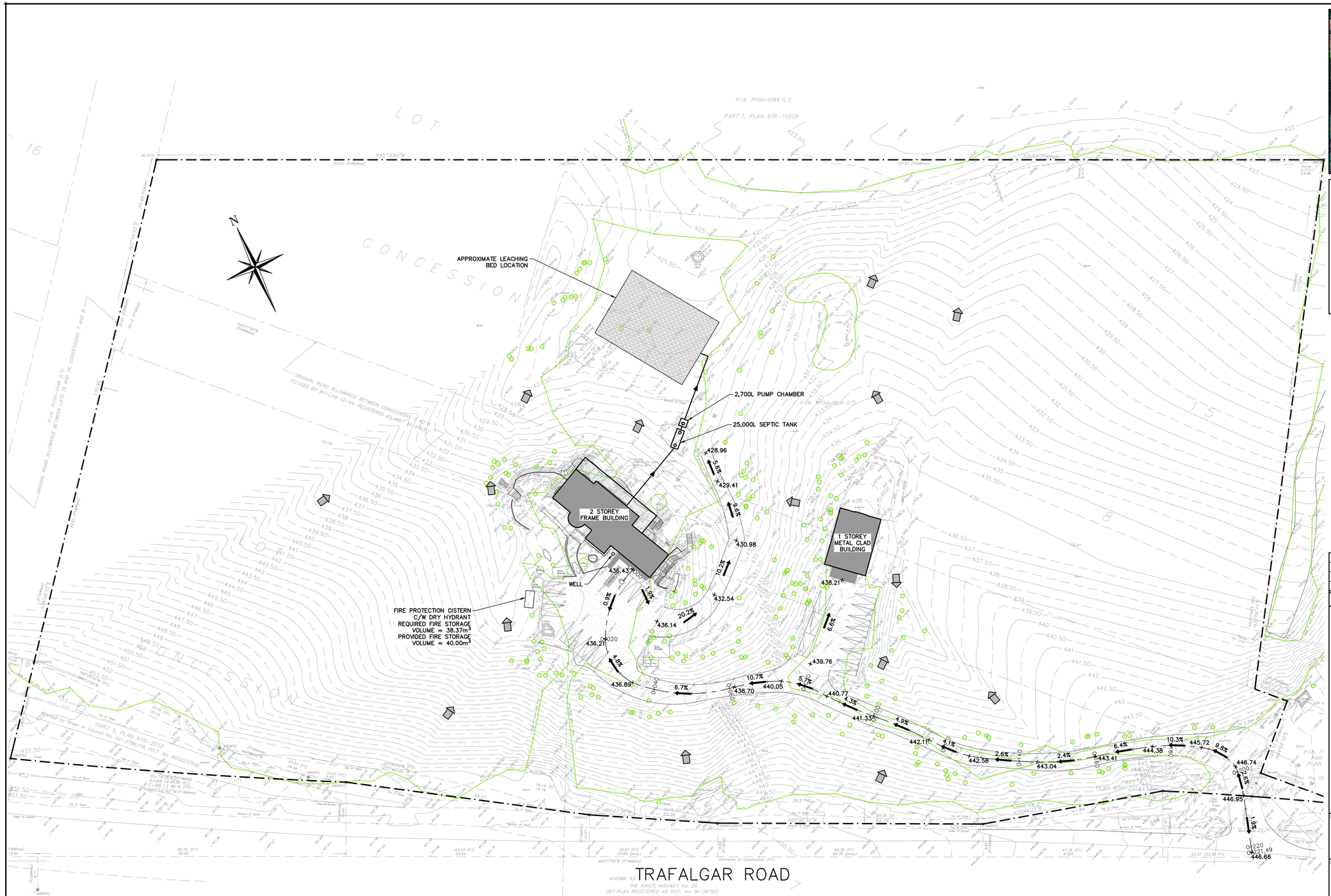


* Treatment unit to be min. 15m to well. Table 8.2.1.6.A.
* Piping and leaching chambers to be min. 15m to well with watertight casing to at least 6m and min. 30m to other well. Table 8.2.1.6.B.
* Holding Tank to be min. 15m to well. Table 8.2.1.6.C.

RECEIVED
TOWN OF ERIN
SEP 21 2020
BUILDING/PLANNING DEPARTMENT

Tank cannot be within 3.0 m of the property lines.

Drawing



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR (0.5m)
- EXISTING CONTOUR (1.0m)
- ×215.00 EXISTING GRADE
- 2.0% EXISTING MINOR FLOW DIRECTION
- OVERLAND FLOW ROUTE
- EXISTING SINGLE / DOUBLE CATCHBASIN
- EX. FIRE HYDRANT & VALVE
- LIMIT OF BUSH (DRIP LINE)
- GRAVEL PAVEMENT

No.	ISSUE / REVISION	YYYY/MMM/DD
2	ISSUED FOR SECOND SUBMISSION ZBA	2025/JAN/29
1	ISSUED FOR FIRST SUBMISSION ZBA	2024/JUN/11
0	DRAFT FOR REVIEW	2023/OCT/03

ELEVATION NOTE:

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM THE TOWN OF ERIN BENCHMARK No. 00819798432, ALSO KNOWN AS 798432.
LOCATION:
STEEL ROD WITH BRASS CAP BENCH MARK ON WEST SIDE OF HWY 25, 2.9 KM NORTH OF EAST JCT HWYS 24 AND 25 AT BRISBANE, 3.9 KM SOUTH OF ROSS R. MACKAY PUBLIC SCHOOL AT HILLSBURGH, 80.6 M SOUTH OF ERIN SIDEROAD 17 AND 14.9 M WEST OF CENTRELINE OF HWY 25. BENCH MARK IS SET FLUSH AT GROUND LEVEL, 5.78 M N.E. OF A NAIL IN A FENCE POST AND 30 CM EAST OF A MARKER POST ON WEST RIGHT-OF-WAY FENCE LINE.
PUBLISHED ELEVATION = 431.774m

SITE PLAN NOTES:

SITE PLAN COMPLETED BY SRM ARCHITECTS INC. (2025/JAN/28)
FILE NAME.: 24009

SURVEY NOTES:

SURVEY COMPLETED BY SPEIGHT, VAN NOSTRAND &GIBSON LTD. (2023/JUL/18)
FILE NAME.: A230088.DWG

DRAWING NOTES:

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, LEVELS, AND DATUMS ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO THIS OFFICE PRIOR TO CONSTRUCTION.

THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER PLANS AND DOCUMENTS APPLICABLE TO THIS PROJECT. DO NOT SCALE THIS DRAWING.

ALL EXISTING UNDERGROUND UTILITIES TO BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO CONSTRUCTION.

Project

5483 TRAFALGAR ROAD
TOWN OF ERIN

Drawing

EXISTING SITE CONDITIONS PLAN

SCALE: 1:500

Stamp

Stamp

LICENSED PROFESSIONAL ENGINEER
A. ELIAS
2025.01.29
PROVINCE OF ONTARIO

CROZIER & ASSOCIATES Consulting Engineers
2800 High Point Drive
Suite 100
Milton, ON L9T 6P4
905 875-0026 T
905 875-4915 F
www.cfcrozier.ca

Drawn	Design	Project No.	
R.L.	J.D.		2533-6826
Check	Check	Scale	Dwg.
J.D.	T.E.	1:500	C100