Sewage System Design Only

Preliminary For Discussion

Refer to Owner's grading plan for detailed overall site grading, except for the grading in the area of the septic system, as detailed herein.

Note:
1. All services including sewer, water, hydro, cable, telephone, and gas should be staked out prior to construction and appropriate pre-cautions taken to protect the existing services.
2. Soil and groundwater conditions may be variable across the site. If soil and underground water conditions, other than those used to prepare this design, are encountered during the installation, Gunnell Engineering Ltd. should be contacted to determine the effect on the proposed sewage system.
3. Contractor to verify location of neighbouring wells, if any, prior to septic system installation. Any conflict between wells and septic system, i.e. less than 30 metre clearance, should be discussed with Gunnell Engineering Ltd. prior to septic system installation.

All distribution piping to be a minimum of:
- 16.6m from drilled wells
- 31.6m from dug wells.
- 4.6m from property lines
- 6.6m from residence

Top of septic field raised 0.8m above existing grades. Therefore increase setbacks to distribution piping by 1.6m.

Notes:
1. All landscaped areas to be reinstated with 150mm topsoil and sod or seed, except septic field & to be provided with 200 / 300mm of topsoil & be sodded.
2. Existing elevations as noted, ie. 221.84
3. Proposed swale elevations as noted, ie. (221.95)
4. Proposed elevations as noted, ie. 220.40
5. Existing slopes shown, ie. (2.2%)
6. Maintain maximum slopes at 3 horizontal to 1 vertical, except slopes to be maximum 4:1 at septic field.
7. Provide new swales as detailed.
8. All site grading to be in accordance with OBC & Township of Georgian Bluffs requirements.

Sewage System Details: Class IV Eljen GSF Sewage System
Ontario Building Code Compliance Analysis

Proposed Residence = 198.0 m² (2,131.25 ft²): 2 bedrooms + 2 washrooms

Base Sewage Flow = 1,100 litres / day (based on 2 bedrooms)

Fixture Units = 2 washroom groups x 6 = 12 + 1.5 (1 kitchen sink x 1.5) + 1.5 (1 dishwasher x 1.5) + 1.5 (1 extra sink x 1.5)= 16.5

Additional Sewage Flows:
1) No. Fixture Units (above 20) = 0 x 50 L = 0 L/Day
2) House Size >200m²: (each 10m² from 201m² to 400m²) = 0 x 100 L = 0 L/Day
3) No. Bedrooms (over 5) = 0 x 500 L = 0 L/Day

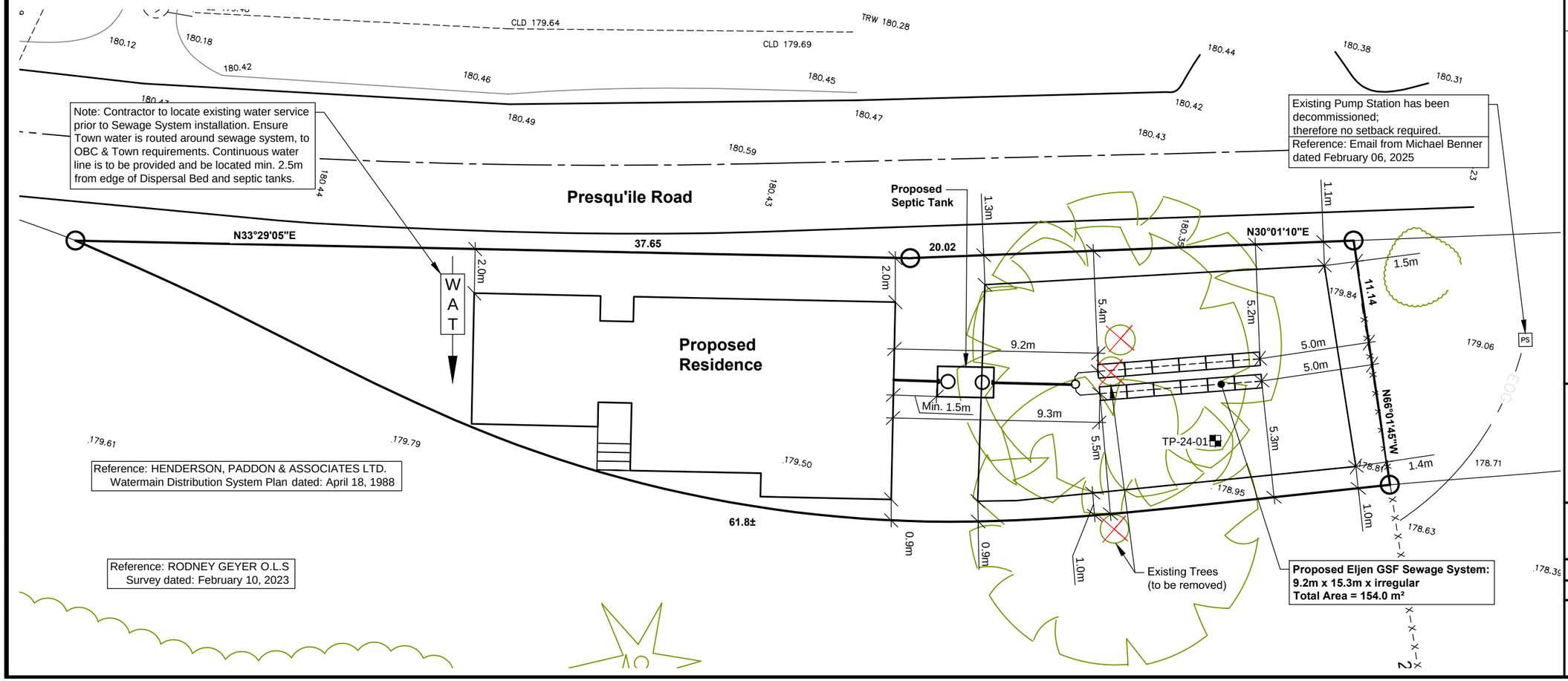
Q = 1,100 litres / day : Daily Design Sewage Flow

Soil Percolation: T = 50 min/cm. Test pit investigation carried out by Gunnell Engineering Ltd. on November 27, 2024 identified Clay soils. Refer to this drawing for Test Pit Soil Profile

Septic Tank Size: Min. 2 x Q = 2 x 1,100 L = 2,200 L. Provide Min. 3,600 L (900 gal.) two-compartment septic tank, with gravity-flow to Eljen Absorption Bed.

Tertiary Treatment System - Eljen Geotextile Sand Filter c/w A42 Modules (each module rated to 95 L/day). Refer to BMEC Authorization No. 20-03-395, dated October 28, 2020. No. of Eljen GSF A42 modules: Q / 95 = 1,100 L / 95 = 11.6
Provide 12 modules (2 rows x 6 modules per row).

Eljen Absorption Bed (Based on Q = 1,100 L/day & T = 50 min/cm):
1) Sand Contact Area = Q x T / 400 = 1,100 x 50 / 400 = 137.5 m². Provide (9.2m x 15.3m x irregular) 154.0m²



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1110 Stellar Drive, Unit 106
Newmarket, ON L3Y 7B7
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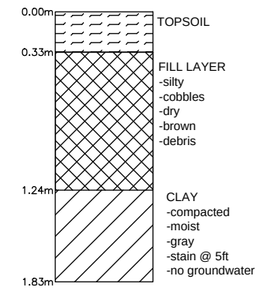
www.septicdesign.ca

LEGEND

- Septic Test Pit
- Trees to be removed

Draft

Test Pit Soil Profile



Septic Test Pit TP-24-01
Dug on Nov 27, 2024

Proposed Residence 183 Sutacriti Street, Kemble, Township of Georgian Bluffs

Part Site Plan & Sewage System Layout

Scale: 1:200	Designed By: SG
Date: 06-FEB-2025	Drawn By: SG
Project No.: D3804	Checked By: EG
	Drawing No.: SP-1