MTE Consultants
123 St. George St., London, Ontario N6A 3A1

December 15, 2020

MTE File No.: C48121-100

Deren Lyle, P.Eng.
Cyril J. Demeyere Limited
261 Broadway PO Box 460
Tillsonburg, ON N4G 4H8

Dear Mr. Lyle:

RE: Test Pit Investigation and Preliminary Slope Assessment
279 Hill Street, Port Stanley, Ontario

This letter briefly summarizes the observations made during our test pit investigation and preliminary slope assessment performed on October 2, 2020 at the above-noted site.

The purpose of the test pits was to inspect the native soils at the site and determine if the native soils were suitable for bearing of the proposed buildings. Three test pits were excavated at the site at locations designated by Cyril J. Demeyere Limited (CJDL) as shown on Figure 1 and the test pitting was witnessed by a representative of our geotechnical engineering staff.

A summary of the subsurface conditions observed in the test pits is provided in Table 101. The soil classifications given in the table are based on visual examination only. The test pits generally consisted of topsoil at the ground surface underlain by sandy silt and clayey silt. No free groundwater was encountered during excavation on October 2, 2020. All test pits were terminated about 2.6 to 2.8 m below the ground surface. Based on our review of the conditions encountered in the test pits at the site, it is considered that the subsurface conditions encountered in the test pits excavated for the proposed development are suitable. A vertical geotechnical bearing resistance of 3,000 pounds per square foot (psf) or 150 kilopascals (kPa) at Serviceability Limit States (SLS) may be used for the native sandy silt or clayey silt soils for design purposes. All footings should bear on the undisturbed native soils. All footings should be constructed at least 1.2 m below the ground surface or have appropriate insulation for frost protection.

The purpose of the slope assessment was to assess the overall stability of the slope based on visual observations. The slope assessment was performed on the slope to the west of the property and is closest to the property on the north side of the site. During our slope assessment site visit, photographs were taken and any visual indications of slope movement, vegetation, erosion conditions and groundwater seepage were noted. Selected photographs are attached following this letter. The following report supplied by CJDL was referenced during preparation of this letter:

- LVM Geotechnical Engineering Report, Sunset Bluffs Subdivision, Part Lot 1 & 2, Concession 2, Yarmouth Township, dated September 30, 2014.

Based on the preliminary topographic mapping of the area provided CJDL, the existing slope is approximately 30 to 33 metres (m) in height. The overall slope is inclined at an inclination of about 3.0 horizontal to 1.0 vertical. There is no watercourse located at the toe of the slope. The slope is well vegetated with tall grasses and brush with generally well standing vertical trees. Based on quaternary mapping in the area of the site and our experience in the area, the near-

surface soils at the site consist of the Port Stanley Till containing clayey silt to silty clay till soils with some glaciolacustrine deposits of silt, sandy silt and silty clay.

Using the Ministry of Natural Resources (MNR) Slope Stability Rating Chart, the slope assessment results in a slope rating for the ravine slope of about 20. The MNR rating chart provides an approximation of relative slope stability and investigation requirements. In this case, a rating of 20 corresponds to a slope instability rating of "low potential" requiring a "site inspection only, confirmation and report letter".

Based on the visual observations on site and the preliminary topographical information, there are no signs of slope instability for the overall slope to the west of the property at 279 Hill Street in Port Stanley, ON. Based on the preliminary slope assessment, a setback allowance will consist of an access allowance setback of 6 m from the top of the slope. All drainage should be directed away from the top of the slope to suitable receptors at the roadway. No fill materials should be placed on the face or at the top of the slope during or after construction. A footing subsoil inspection is recommended prior to placing concrete for the foundations of any proposed structures to verify the subsoil conditions.

A small portion of the ravine valley to the west of the driveway to the property at 279 Hill Street is proposed to be filled to allow access to the development. The fill required for the area could be up to 12 m in height. Any fill placed in the valley should be properly benched into the existing slopes as per OPSD 208.010. The slope of the fill should be at a maximum inclination of 3 horizontal to 1 vertical using native soils as backfill material. If granular soils, such as Granular B Type II, are used for backfill, an inclination of 2 horizontal to 1 vertical can be used for the valley area. All fill materials should be properly compacted in maximum 400 mm thick loose lifts.

We trust that this letter adequately summarizes our test pit investigation and preliminary slope assessment performed at the site. If you have any questions concerning this letter, or if we can be of further assistance, please do not hesitate to contact this office.

Yours Truly,

MTE Consultants Inc.

Brett Thorner, P. Eng.
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BRT
Encl. Figure 1 – Test Pit Location Plan
Table 101 – Summary of Test Pits
Appendix A – Site Photographs

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LEGEND

TP101-20 — MTE TEST PIT 2020

REFERENCES:

- AERIAL IMAGE FROM GOOGLE EARTH

MTE
Engineers, Scientists, Surveyors
519-204-6510

SCALE: 1:2000

CLIENT: CYRIL J. DEMEYERE LIMITED

PROJECT: 279 HILL STREET SLOPE ASSESSMENT & CONSULTATION

SITE: 279 HILL STREET, PORT STANLEY, ON

TITLE: TEST PIT INVESTIGATION AND PRELIMINARY SLOPE ASSESSMENT

Reviewed By	BXT
Prepared By	JJK
Drawn By	JJK
Date	DECEMBER 2020
Project No.	48121-100
Figure No.	1

N
NORTH

December 15, 2020 – 3:59 p.m. – Plotted By: JKoch 1 TEST PIT INVESTIGATION AND PRELIMINARY SLOPE ASSESSMENT Project: 48121-100 CAD: P:\48121\100\48121-100.DWG

TABLE 101

SUMMARY OF TEST PITS

Test Pit Investigation and Preliminary Slope Assessment
279 Hill Street, Port Stanley, ON

TEST PIT	ELEVATION (m)	DEPTH (m)	DESCRIPTION	REMARKS
TP101-20	209.60	0.00 to 0.35	Brown silty **TOPSOIL**, with roots	Test pit dry during excavation.
		0.35 to 1.40	Brown **SANDY SILT**, trace clay	
		1.40 to 2.80	Brown to grey at 2.7 m **CLAYEY SILT**, some sand	
TP102-20	209.88	0.00 to 0.30	Brown silty **TOPSOIL**, with roots	Test pit dry during excavation.
		0.30 to 1.10	Brown **SANDY SILT**, trace clay	
		1.10 to 2.60	Brown **CLAYEY SILT**, some sand	
TP103-20	210.15	0.00 to 0.25	Brown silty **TOPSOIL**, with roots	Test pit dry during excavation.
		0.25 to 1.50	Brown **SANDY SILT**, trace clay	
		1.50 to 2.60	Brown to grey at 2.2 m **CLAYEY SILT**, some sand	

NOTES:
1. Test pits excavated on October 2, 2020.
2. Table to be read in conjunction with accompanying letter.

Appendix A

Site Photographs

Photograph 1 – General view of the site looking south with the top of slope to the west.

Photograph 2 – Looking west from top of slope.

Photograph 3 – Looking west from mid slope. Note vertical trees and vegetation.

Photograph 4 – Looking north from toe of ravine slope near driveway to property at 279 Hill Street. Note drainage pipe and gabion baskets to the east.