



July 14, 2026

File No.: 2372G-2v0

EM Guelph Developments Limited Partnership
6 Adelaide Street East, Suite 300
Toronto, Ontario
M5C 1H6

Attention: Mr. Safy Hassan, CEO

RE: Insitu Permeameter Testing
Proposed Infiltration Gallery
210 – 222 College Avenue East, Guelph, Ontario

We are pleased to present our report of findings for the above noted project. This report is based upon the geotechnical investigation and insitu testing conducted at the site to support the infiltration gallery feature proposed to be constructed at the site.

FIELD WORK

The field work was conducted on July 8, 2026 and consisted of excavating, inspecting, and conducting an in situ permeameter test at a single test pit location positioned within the western portion of the proposed infiltration gallery area due to limited site access, as shown on the drawing prepared by MTE Consultants Inc. (Drawing No. SSP-1, dated November 11, 2025).

It is understood that the bottom of the infiltration gallery is proposed at Elevation 342.00 m. Insitu permeameter testing using the Guelph Permeameter was conducted at the test pit just below the topsoil layer at Elevation 341.17 m.

The test pit was excavated by a mini excavator to a depth of 1.5 m below existing grade. The location of the test pit (and insitu permeameter testing) is illustrated on Drawing No. 1.

The exposed soil profile was visually inspected and logged by the field technician under the supervision of the Project Engineer from our firm. Groundwater conditions were monitored during the inspection of the test pit. The subsurface conditions encountered are detailed on the Test Pit Log Sheet, Enclosure 1.

The test pit was dry and open upon completion.

TESTING AND RESULTS

The following table presents the test pit/permeameter test location, the permeameter testing elevation and the soil type tested with the Guelph Permeameter:

Test Pit/Permeameter Test Location	Permeameter Test Elevation (m)	Soil Type Tested
Test Pit 1	341.17	Sand and Silt Till, trace gravel, trace clay, occ. sandy layers, cobbles and boulders

Preparation for insitu constant head permeability testing requires the augering of a uniform small diameter test hole into the soil in which the permeameter testing is conducted. CVD augured an 8.5 cm diameter hole that extended to a depth of 15 cm below the post-excavation grade prepared during the excavation of the test pit. Constant head permeability testing of the sand and silt till deposit was conducted using a constant head setting of 5 cm.

The following table presents the insitu field saturated hydraulic conductivity and estimated infiltration rate for the sand and silt till deposit encountered below the proposed invert level of the infiltration gallery feature to be constructed at Test Pit 1:

Soil Type	Elevation (m)	Field Saturated Hydraulic Conductivity (cm/s)	Infiltration Rate (mm/hr)
Sand and Silt Till, trace gravel, trace clay, occ. sandy layers, cobbles and boulders	341.17	2×10^{-4}	14



CLOSURE

The Limitations of Report, as quoted in Appendix “A”, is an integral part of this report.

We trust this report is sufficient for your immediate requirements. If you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

CHUNG & VANDER DOELEN ENGINEERING LTD.



Nandou Zhao, M.Eng., P.Eng.
Manager – Geotechnical Services



APPENDIX A

Limitations of Report



APPENDIX “A”

LIMITATIONS OF REPORT

The conclusions and recommendations given in this report are based on information determined at the testhole locations. Subsurface and groundwater conditions between and beyond the testholes may differ from those encountered at the testhole locations, and conditions may become apparent during construction which could not be detected or anticipated at the time of the site investigation. It is recommended practice that the Soils Engineer be retained during construction to confirm that the subsurface conditions throughout the site do not deviate materially from those encountered in the testholes.

The comments made in this report on potential construction problems and possible methods are intended only for the guidance of the designer. The number of testholes and their respective depths may not be sufficient to determine all the factors that may affect construction methods and costs. For example, the thickness of surficial topsoil or fill layers may vary markedly and unpredictably. The contractors bidding on this project or undertaking the construction should, therefore, make their own interpretation of the factual information presented and draw their own conclusion as to how the subsurface conditions may affect their work.

The benchmark and elevations mentioned in this report were obtained strictly for use in the geotechnical design of the project and by this office only, and should not be used by any other parties for any other purposes.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. CHUNG & VANDER DOELEN ENGINEERING LIMITED accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The design recommendations given in this report are applicable only to the project described in the text and then only if constructed substantially in accordance with the details stated in this report. Since all details of the design may not be known, we recommend that we be retained during the final design stage to verify that the design is consistent with our recommendations, and that assumptions made in our analysis are valid.

This report does not reflect the environmental issues or concerns unless otherwise stated in the report.



ENCLOSURES



FILE No: 2372G**TEST PIT No. 1**

Client: **EM Guelph Developments Limited Partnership**
 Project: **Proposed Infiltration Gallery**
 Location: **210-222 College Avenue, Guelph, Ontario**

EQUIPMENT DATA

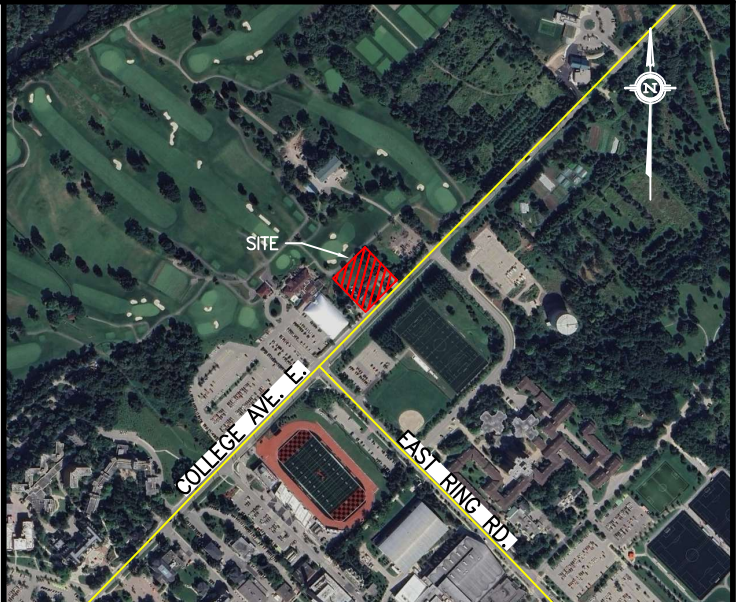
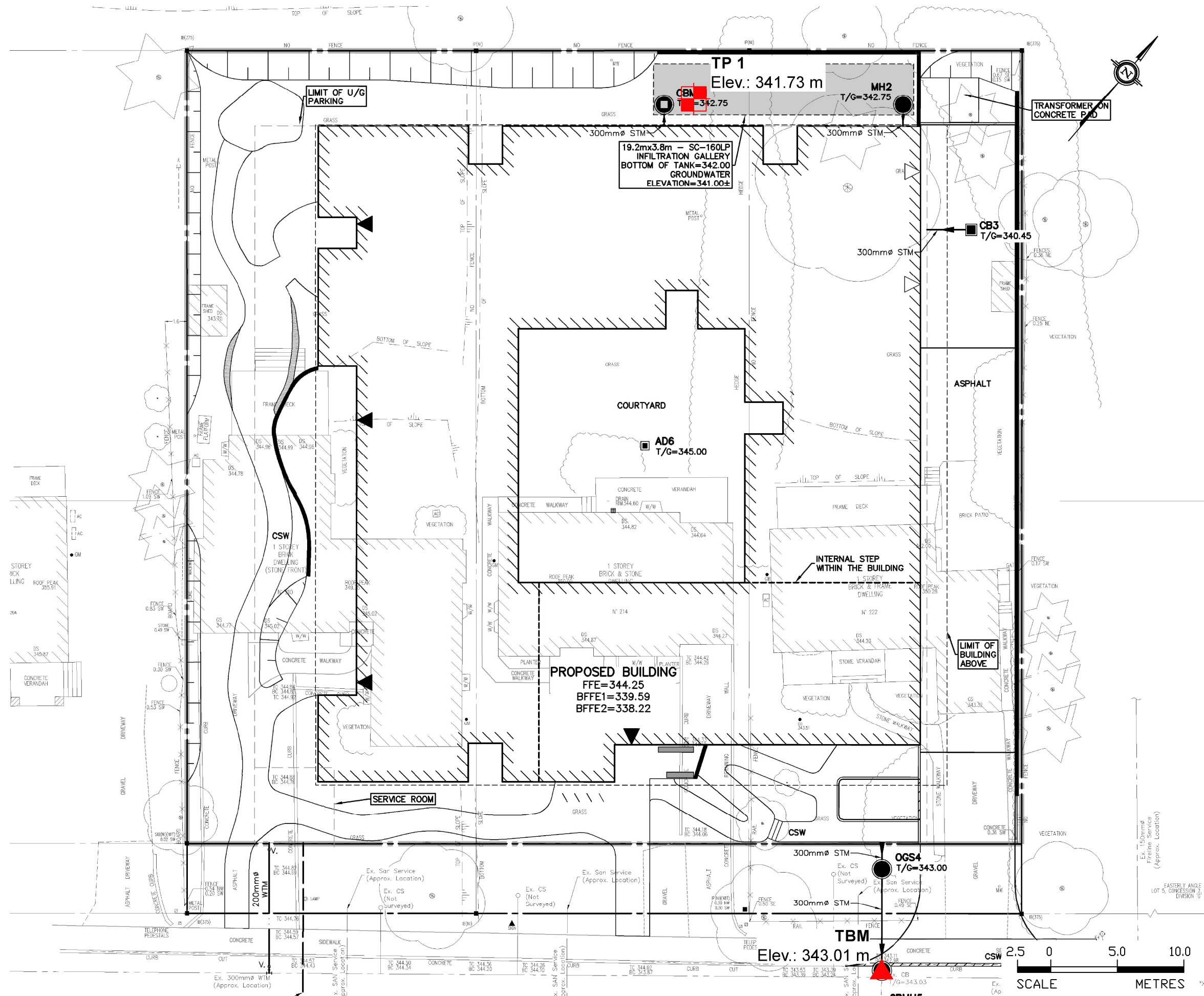
Machine: **Cat 300.9D**
 Method: **Bucket**
 Size:
 Date: **Jul 08 26** TO **Jul 08 26**

SOIL LITHOLOGY				SAMPLE			SHEAR STRENGTH (kPa)				WATER CONTENT (%)				WELL DATA	DEPTH (m)	REMARKS
ELEV./ DEPTH (m)	DESCRIPTION	DEPTH (m)	SYMBOL	SAMPLE ID	TYPE	N-VALUE	FIELD VANE: Peak ⊗ Rem. × LAB TEST: Unc. ■ P.P. □ 50 100 150 200				WATER CONTENT (%) W _p W W _L						
							PENETRATION RESISTANCE STANDARD ● DYN. CONE ○ 20 40 60 80				10 20 30						
Ground Elevation: 341.73 m																	
341.33 0.40	400 mm TOPSOIL																
	trace rootlets -----	0.5		1	BS											0.5	
	loose to compact brown																
	SAND AND SILT TILL trace gravel, trace clay occ. sandy seams/layers occ. cobbles and boulders	1.0														1.0	
	moist			2	BS												
340.23 1.50	End of Test Pit	1.5													1.5	Test pit open and dry upon completion	
		2.0													2.0		
		2.5													2.5		
		3.0													3.0		
		3.5													3.5		
		4.0													4.0		
		4.5													4.5		

PROJECT MANAGER: **NZ**

**CHUNG & VANDER DOELEN
ENGINEERING LTD.**

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 Kitchener, Ontario N2H 5E1
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KEY PLAN SOURCE: Google Earth

- LEGEND**
- TBM: Top of catch basin at road edge of westbound lane on College Avenue East, approximately 3 m west of existing driveway at 222 College Avenue East. Elev.: 343.01 m (Geodetic)**
 - Test pit and insitu infiltration testing location**

Elev. Ref.: The test pit locations and associated ground surface elevations were surveyed using a Network RTK Global Navigation Satellite System (GNSS) Receiver. The survey data was collected using UTM Zone 17N Projection, NAD83(CSRs)/7-2010 datum and Canada Geoid Model HT2_2010v70 (CGVD28).

DWG. Ref.: MTE Consultants Inc.; "Functional Site Servicing Plan"; Project No.: 61748_001; Drawing No.: SSP-1; 2025-11-11

TEST PIT LOCATION PLAN

Proposed Infiltration Gallery

210-222 College Avenue East
Guelph, Ontario



CHUNG & VANDER DOELEN
ENGINEERING LTD.

311 VICTORIA STREET NORTH
KITCHENER / ONTARIO / N2H 5E1 / 519-742-8979

Drawn By: JR	Date: July 2026	File No.: 2372G
Checked By: NZ	Scale: As shown	Drawing No.: 1