



**REPORT ON
GEOTECHNICAL INVESTIGATION
7672 ELGIN MILLS ROAD EAST
MARKHAM, ONTARIO**

**REPORT NO.: 7152-26-GA
REPORT DATE: APRIL 9, 2026**

**PREPARED FOR
EVERGREEN HOSPICE
5762 HWY 7, SUITE 201
MARKHAM, ONTARIO
L3P 1A8**



Table of Contents

1.0 INTRODUCTION.....	1
2.0 SITE CONDITION.....	1
3.0 INVESTIGATION PROCEDURE.....	2
4.0 SUMMARIZED SUBSURFACE CONDITIONS.....	3
4.1 Ground Surface.....	3
4.2 Fill.....	3
4.3 Clayey Silt.....	3
4.4 Silty Sand Till.....	4
4.5 Sandy Gravel.....	4
4.6 Sandy Silt Till.....	5
4.7 Sand / Silty Sand.....	5
4.8 Groundwater.....	6
5.0 RECOMMENDATIONS.....	7
5.1 Site Preparation.....	7
5.2 Foundations.....	8
5.3 Floor Slab Construction.....	9
5.4 Earthquake Consideration.....	9
5.5 Excavation And Backfill.....	9
5.6 Lateral Earth Pressure.....	10
5.7 Pavement Construction.....	10
6.0 GENERAL STATEMENT OF LIMITATION.....	12

DRAWINGS

Borehole Location Plan

Borehole Logs

Section

Drawing No. 1

Drawing Nos. 2-8

Drawing No. 9

FIGURES

Grain Size Distribution

Backfill and Drainage System for Open Cut Excavation

Figure No. 1

Figure No. 2

APPENDIX A

Guidelines of Engineered Fill

1.0 INTRODUCTION

Toronto Inspection Ltd. was retained by Evergreen Hospice to conduct a geotechnical investigation for the proposed development at a property located at 7672 Elgin Mills Road East, Markham, Ontario (hereinafter described as “the Site”).

The purpose of the geotechnical investigation was to determine the subsoil and groundwater conditions affecting the design and construction of the development, consisting of one and two-storey hospice and related structures. In particular, geotechnical data was to be provided for:

- General founding conditions
- Foundation design bearing pressures
- Construction recommendations
- Excavation recommendations

This report is provided on the basis of the above terms of reference and on an assumption that the design of structures will be in accordance with the applicable building codes and standards. If there are any changes in the design features relevant to the geotechnical analysis, our office should be consulted to review the design and to confirm the recommendations and comments provided in the report.

2.0 SITE CONDITION

The Site, approximately 1.473 acre in area and near rectangle in shape, is located on the north side of Elgin Mills Road east, approximately 200m east of Reesor Road, in Markham, Ontario.

At the time of the investigation, the Site was occupied with a one and one half-storey residence with a basement and a detached garage with gravel driveway at the middle portion of the Site, and was undeveloped covered with vegetation and scattered trees at the remaining portion of the Site.

The site gradient was fairly flat, with a slightly drop towards the west.

3.0 INVESTIGATION PROCEDURE

The field work for the investigation was carried out on March 23, 2026, and consisted of drilling seven sampled boreholes. Boreholes 26BH-1 to 26BH-7, extending to depths of 1.8m to 6.2m from grade. The locations of the boreholes are shown in appended Borehole Location Plan, Drawing No. 1.

The boreholes were advanced using a track mounted drill rig, equipped with continuous flight hollow stem augers and sampling rods, supplied and operated by a specialist drilling contractor.

With the exemption of Boreholes 26BH-6 and 26BH-7, soil samples from the boreholes of 26BH-1 and 26BH-2 were retrieved at regular intervals of 0.8m to a depth of 3.0m from grade and at 1.5m intervals thereafter, using a split spoon sampler in conjunction with Standard Penetration Tests using a driving energy of 475 joules (350 ft-lbs). The soil samples from the boreholes of 26BH-3 to 26BH-5 were retrieved with continuous sampling. The soil samples were identified and logged in the field and were carefully bagged for later visual identification and laboratory testing, including moisture content determination.

Groundwater observations were made in the boreholes during and upon the completion of drilling. Boreholes 26BH-1, 26BH-2, 26BH-6 and 26BH-7 were completed as monitoring wells for the determination of groundwater conditions. The symbol (MW), besides the borehole identification on the Borehole Location Plan, indicates a monitoring well. The groundwater records are presented in the borehole logs.

The borehole locations, established in the field by our site personnel, are shown on the appended Borehole Location Plan, Drawing No. 1. The ground elevations, at the borehole locations, were determined using “GROUND of DRILLED WELL”, located in the grass area, approximately 10m to the east of the existing residence of the Site, as the temporary benchmark (TBM).

The geodetic elevation of 241.55m for the TBM was obtained from the Topographic Plan, part of Lot 26, Concession 10, City of Markham, prepared by E. W. Bowyer Inc., dated December 9, 2025, provided to our office by the client.

4.0 SUMMARIZED SUBSURFACE CONDITIONS

Reference is made to the appended Borehole Location Plan (Drawing No. 1) and the Logs of Boreholes (Drawing Nos. 2 to 8), and a section (Drawing No. 9), for details of field work, including soil classification, inferred stratigraphy, and groundwater observations in the boreholes.

The subsoil, below the topsoil at the borehole locations, consisted of fill overlying deposits of silty sand till, clayey silt, sandy silt till, sandy gravel, and sand/silty sand.

Brief descriptions of the subsurface materials, encountered at the borehole locations, are as follows:

4.1 Ground Surface

Topsoil, approximately 75mm to 410mm in thickness, was contacted at the ground surface, at the borehole locations.

4.2 Fill

Underlying the topsoil, at the borehole locations, a layer of fill was contacted. The fill consisted of a mixture of clayey silt, silty sand, sandy silt, trace gravel, with trace to some topsoil and rootlets.

It is possible that this deposit represents the reworked / disturbed native soil, due to the past activities at the Site. However, for identification purposes, the deposit has been identified as fill in the borehole logs. The fill at Boreholes 26BH-1 to 26BH-5 locations extended to depths varying from 0.5m to 1.2m from grade.

4.3 Clayey Silt

Underlying the fill, a clayey silt deposit was contacted at Boreholes 26BH-2, 26BH-3 and 26BH-5 locations, at depths of 0.5m to 0.8m from grade. The deposit contained trace to some sandy silt, trace gravel, or thin layers of sand.

Borehole 26BH-5 was terminated in the clayey silt deposit at a depth of 1.8m from grade. The clayey silt deposit at Boreholes 26BH-2 and 26BH-3 locations extended to depths of 1.4m and 0.8m from grade, respectively.

Based on the Standard Penetration N-values of 14 to 22 blows for a penetration of 300 mm, the consistency of the clayey silt deposit was stiff to very stiff.

The in-situ moisture content of the soil samples, retrieved from the clayey silt deposit, ranged from 10% to 25%, indicating moist to very moist conditions, with wet pockets.

4.4 Silty Sand Till

Underlying the fill, a silty sand till deposit was contacted at Borehole 26BH-1 location, at a depth of 1.2m from grade. The deposit consisted of a heterogeneous mixture of sand, silt, trace clay, trace to some gravel. The silty sand till deposit extended to a depth of 2.9m from grade.

Based on the Standard Penetration N-values of 9 to 37 blows for a penetration of 300 mm, the relative density of the deposit was loose to dense.

The in-situ moisture content of the soil samples, retrieved from the silty sand till deposit, ranged from 8% to 11%, indicating moist to very moist conditions, with wet pockets.

A grain size analysis was carried out on one soil sample from the deposit, obtained from Borehole 26BH-1 (SS4 – at a depth of 2.4m), using both of mechanical sieves and hydrometer methods. The results of the grain size distribution is shown on the appended Figure No. 1.

4.5 Sandy Gravel

Underlying the silty sand till deposit, a sandy gravel deposit was contacted at Borehole 26BH-1 location, at a depth of 2.9m from grade. The deposit contained river gravel and trace silt, with possible occasional cobbles. The sandy gravel deposit extended to a depth of 3.7m from grade.

Based on the Standard Penetration N-value of more than 100 blows for a penetration of 300 mm, the relative density of the deposit was very dense.

The in-situ moisture content of the soil sample, retrieved from the sandy gravel deposit, was 8%, indicating a wet condition.

4.6 Sandy Silt Till

A sandy silt till deposit was contacted underlying the fill at Borehole 26BH-4 location at a depth of 0.8m from grade, underlying the sandy gravel deposit at Borehole 26BH-1 location at a depth of 3.7m from grade, and underlying the clayey silt deposit at Borehole 26BH-2 and 26BH-3 locations at depths of 0.8m to 1.4m from grade. The deposit consisted of a heterogeneous mixture of silt, sand and clay, trace to some gravel, seams of fine sand, with occasional thin layers of sand, cobbles or boulders.

Boreholes 26BH-3 and 26BH-4 were terminated in the sandy silt till deposit at depths of 1.8m from grade. Boreholes 26BH-1 and 26BH-2 were terminated in the sandy silt till deposit at depths of 5.2m to 6.6m from grade.

Based on the Standard Penetration N-values of 21 to more than 100 blows for a penetration of 300 mm, the relative density of the deposit was compact to very dense.

The in-situ moisture content of the soil samples, retrieved from the sandy silt till deposit, ranged from 6% to 14%, indicating moist to very moist conditions, with wet pockets.

A grain size analysis was carried out on one soil sample from the deposit, obtained from Borehole 26BH-2 (SS3 – at a depth of 1.5m), using both of mechanical sieves and hydrometer methods. The results of the grain size distribution is shown on the appended Figure No. 1.

4.7 Sand / Silty Sand

Boreholes 26BH-6 and 26BH-7 were directly drilled to depths of 1.5m from grade and split spoon samples were obtained from depths of 1.5m to 2.1m from grade. The samples consisted of sand to silty sand deposits. The deposit was fine to medium grained and contained some gravel, some sandy silt, and trace clayey silt.

Boreholes 26BH-6 and 26BH-7 were further drilled to depths of 3.0m from grade for installation of monitoring wells. Boreholes 26BH-6 and 26BH-7 were terminated at depths of 3.0m from grade.

The in-situ moisture content of the soil samples, retrieved from the sand / silty sand deposit, ranged from 10% to 11%, indicating wet conditions.

4.8 Groundwater

Free water was recorded in the open boreholes 26BH-1 to 26BH-3 and 26BH-5 to 26BH-7, at depths of 0.41m to 4.57m from grade, with cave-in at 26BH-6 at a depth of 1.83m from grade, during the drilling process and upon the completion of drilling. No free water was recorded in the open borehole 26BH-4.

On April 3 and 7, 2026, the water levels, recorded in the monitoring wells installed at Boreholes 26BH-1, 26BH-2 26BH-6 and 26BH-7, were at depths of 0.88m from grade to 0.17m above grade, and are documented below:

BH/WELL ID	Ground Elevation	Water Level at Depth / Elevation		
		Upon Completion	Apr 3, 2026	Apr 7, 2026
26BH-1 (MW)	242.00m	1.68m/240.32m	0.59m/241.41m	0.88m/240.53m
26BH-2 (MW)	241.12m	4.57m/236.55m	0.33m/240.79m	0.48m/240.31m
26BH-6 (MW)	240.49m	0.51m/239.98m	-0.17m*/240.66m	-0.10m*/240.76m
26BH-7 (MW)	242.11m	2.67m/239.44m	0.09m/242.02m	0.26m/241.76m

*: minus “-” indicates the water level above the existing ground surface

Water accumulation was evident at the ground surface in the proximity of some boreholes due to snow melting and recent precipitation in the monitoring rounds.

Based on the field observations and the moisture content profiles of the soil samples, obtained from the boreholes, it is our opinion that the water levels recorded in the open boreholes and documented in the monitoring wells represent water in the sandy gravel, sand to silty sand deposits, and in the seams of fine sand within the sandy silt till deposit.

The static groundwater table conditions at the Site will be subject to the seasonal fluctuations.

5.0 RECOMMENDATIONS

A review of the Site Plan, Sheet No. A-1.00, prepared by David Johnston Architect, dated March 23, 2026, provided by the client, indicated that the development of the Site will consist of a two-storey hospice building with a basement, and with paved driveways and parking lots, in the middle portion of the Site, and a future new septic system at the northwest portion. We also understand from the client that the building will be with a crawl space due to the anticipated high water level. The finished floor elevation (FFE) will be 242.10m (same as the existing house) and the slab of the crawl space will be approximately 241.50m, 0.6m below FFE.

The finished grade of the Site was not known at the time of preparing this report. We have assumed that the final grades will be close to or slightly lower than the FFE. The anticipated founding level of the footings is estimated at and below depths of 1.5m from the FFE, to an elevation of 240.60m.

Based on the subsoil conditions encountered at the borehole locations, our comments and recommendations for the design and construction of the proposed development are as follow:

5.1 Site Preparation

The existing fill material is not suitable to be left within the proposed building footprint to support the either the foundations or slab-on-grade of the building.

The existing fill, including any such material under the existing house (after demolition), within the proposed building area should be completely removed and replaced with selected on-site suitable material or pre-approved imported material, compacted in lifts not exceeding 200mm, to 100% of the Standard Proctor maximum dry density (SPMDD), in accordance with the engineered fill requirements, attached in Appendix A.

Prior to placement of engineered fill, the top of the exposed subgrade should be inspected and proof-rolled under the supervision of a geotechnical engineer / technician from **Toronto Inspection Ltd.** Any soft or wet areas identified should be sub-excavated and replaced with compacted fill.

For the proposed pavement areas, the contractor must also allow for the removal of the topsoil, deleterious fill and materials with high moisture and/or organic content, if encountered during the construction, as directed by a geotechnical engineer /

technician from **Toronto Inspection Ltd.** The new fill in the pavement area should be placed in loose lifts not exceeding 200mm and compacted, using heavy compaction equipment, to at least 98% of its SPMDD.

The excavated fill material, if free of organics or deleterious material, may be suitable for re-use for engineered fill, following the moisture content requirement and the engineered fill guidelines in Appendix A. The existing topsoil or compressible material will have to be disposed off-site or reused in landscaped areas, subject to approval by the landscape architect.

5.2 Foundations (Boreholes 26BH-1 & 26BH-2)

Following the Site Preparation, as recommended in Section 5.1, the subsoil is anticipated to consist of engineered fill, native compact silty sand till deposit at the borehole locations of 26BH-1 and 26BH-2.

Conventional spread and strip footings of the proposed building, founded in the engineered fill and native compact deposit, at depths of 1.5m below FFE, at an elevation 240.60m, can be designed using the following bearing pressures:

- 150 kPa at Serviceability Limit State (SLS)
- 220 kPa at Factored Ultimate Limit State (ULS)

The total and differential settlement of footings, designed for the above Serviceability Limit States, will not exceed 25mm and 20mm, respectively.

For strip footings placed on the engineered fill, we recommend that all perimeter footings should be reinforced continuously with at least 2-15M steel bars. This reinforcement will bridge any loose pockets of fill, if any, under the footings.

All perimeter footings or any footings, which may be exposed to freezing conditions, should be placed below the frost penetration depth of 1.2m below the outside grade or provided with an equivalent thermal protection.

It should be noted that the above recommendations for the foundations have been analyzed by **Toronto Inspection Ltd.** from the information obtained at the borehole locations. The bearing material, the interpretation between the boreholes and the recommendations of this report must be checked through field inspection provided by **Toronto Inspection Ltd.** to validate the information for use during construction.

5.3 Floor Slab Construction

Following the Site Preparation, as recommended in Section 5.1, the slab on grade can be designed and constructed as a conventional slab-on-grade.

The subgrade for slab-on-grade construction will have to be proof-rolled, under the supervision of a soils engineer from **Toronto Inspection Ltd.**, prior to placement of the granular base. Any compressible, loose or weak spots observed during the inspection should be sub-excavated to a firm ground. Any new fill below the slab-on-grade should consist of organic free soils, compacted to at least 98% SPMDD.

A granular bedding consisting of at least 150 mm of granular A (OPSS Form 1010) or its approved equivalent, should be provided under the floor slab as a moisture barrier. The bedding should be compacted to at least 100% SPMDD.

Based on the groundwater conditions encountered at the borehole locations, we recommend that subfloor drains installed below the slab-on-grade.

5.4 Earthquake Consideration

The Ontario Building Code requires that all buildings be designed to resist earthquake forces. In accordance with Table 4.1.8.4.A of the Ontario Building Code, the site classification for the Seismic Site Response is Class D (very stiff soil). If Class C (Very dense soil) to be used, it should be confirmed using a shear wave velocity test.

The acceleration and velocity based site coefficients, F_a and F_v , should conform to Tables 4.1.8.4.B and 4.1.8.4.C. These values should be reviewed by the Structural Engineer.

5.5 Excavation and Backfill

All excavation should comply with the Ontario Occupational Health and Safety Act. Temporary slopes in the fill and sand/silty sand deposits should be sloped back to a safe angle of around 45° or flatter. Temporary slopes deeper than 1.2m in the native till deposits should be sloped back to a safe angle of around 45°.

We do not anticipate any serious groundwater problems during the excavation and removal of the unsuitable fill and the foundations of the existing structure at the Site.

However, provision should be made to use filtered sumps to remove any perched ground water that may be encountered.

The in-situ moisture contents in the fill and native deposits, to the depths of current investigation, are estimated to be near or slightly higher than their optimum moisture contents. In our opinion, some of the on-site material might have to be dried out to the dry side of its optimum moisture content before re-use as backfill for trenches. If the weather conditions are not favourable for drying of the soils with higher moisture content, these soils should only be used for backfilling the areas where any future settlement will be of little consequence.

Bedding for the underground services, including catch basins and manholes, should consist of OPSS Granular A, 20mm crusher run limestone, or equivalent.

5.6 Lateral Earth Pressure

Where subsurface walls, or retaining structures, will retain unbalanced loads, the lateral earth pressure in the overburden may be computed using the following equation:

$$P = K (\gamma H + q)$$

where	P = Lateral earth pressure	kPa
	K = Lateral earth pressure coefficient	0.4
	γ = Bulk unit weight of the soil	21.0 kN/m ³
	H = Depth of the wall below the finish grade	m
	q = Surcharge loads adjacent to the basement wall	kPa

The equation assumes that a permanent free draining system will be provided to prevent the buildup of hydrostatic pressure next to the wall.

The recommended backfill and drainage system, at the open cut excavation, is shown on the attached Figure No. 2.

5.7 Pavement Construction

The on-site shallow sub-soils generally consists of a mixture of clayey silt and sandy silt. This material is highly frost susceptible. The following minimum pavement design is recommended based on the assumption that perforated sub-drains will be installed to prevent buildup of water in the granular bases of the pavement:

	Heavy Duty	Light Duty
	<u>Roadway</u>	<u>Driveway</u>
Asphaltic Concrete: OPSS HL3	40 mm	65 mm
OPSS HL8	60 mm	-
Base course - OPSS Granular A or equivalent	150 mm	150 mm
Sub-base - OPSS Granular B or equivalent	300 mm	200 mm

Granular bases should be compacted to 100% of Standard Proctor maximum dry density. Asphaltic concrete should be placed and compacted to at least 96% Marshall density.

The above pavement thicknesses are based on favourable site conditions and the construction being carried out during the drier time of the year, that the subgrade is stable, and not heaving under construction traffic. If the subgrade is wet and unstable, additional thickness of sub-base material will be required.

Following site grading, the subgrade of the entire pavement should be proof-rolled using a heavy vibratory roller. Any soft spots revealed by the proof-rolling should be sub-excavated and replaced with approved dry material and compacted to at least 98% SPMDD.

Continuous perforated plastic longitudinal sub-drains should be installed on a positive gradient on both sides of the roadway, between catch basins and manholes to prevent the build-up of water in the roadway's and the parking lot's granular base courses. The subdrain pipes should be surrounded by a geotextile filter fabric as per Ontario Provincial Specifications Standard (OPSS 405). The sub-drains should be at least 300 mm below the subgrade level. Backfill above the drain should comprise of free draining sub-base material.

6.0 GENERAL STATEMENT OF LIMITATION

The comments and recommendations presented in this report are based on the subsoil and ground water conditions encountered at the borehole locations, indicated in the borehole location plan, and are intended for the guidance of the design engineer. Although we consider this report to be representative of the subsurface conditions at the subject property, the soil and the ground water conditions between and beyond the borehole locations may differ from those encountered at the time of our investigation and may become apparent during construction. Any contractor bidding on, or undertaking the works, should decide on their own investigation and interpretations of the groundwater and the soil conditions between the borehole / test pit locations.

Any use and / or the interpretation of the data presented in this report, and any decisions made on it by the third party are responsibility of the third parties. The responsibility of **Toronto Inspection Ltd.** is limited to the accurate interpretation of the soil and ground water conditions prevailing in the locations investigated and accepts no responsibility for the loss of time and damages, if any, suffered by the third party as a result of decisions or actions based on this report.

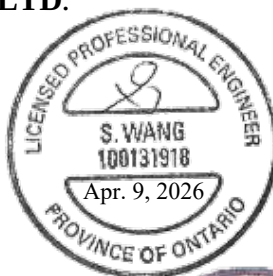
Any legal actions arising directly or indirectly from this work and/or **Toronto Inspection Ltd.**'s performance of the services shall be filed no longer than two years from the date of **Toronto Inspection Ltd.**'s substantial completion of the services. **Toronto Inspection Ltd.** shall not be responsible to the client for lost revenues, lost of profits, cost of content, claims of customers, or other special indirect, consequential or punitive damages.

To the fullest extent permitted by law, the client's maximum aggregate recovery against **Toronto Inspection Ltd.**, its directors, employees, sub-contractors and representatives, for any and all claims by clients for all causes including, but not limited to, claims of breach of contract, breach of warranty and /or negligence, shall be the amount of the fee paid to **Toronto Inspection Ltd.** for its professional services rendered under the agreement with respect to the particular site which is the subject of the claim by the client.

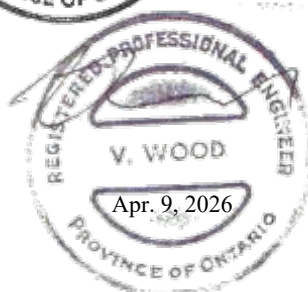
Yours very truly,

TORONTO INSPECTION LTD.


David S. Wang, P. Eng.
 Senior Engineer




Victor A. Wood, P. Eng.
 Principal Engineer





Toronto Inspection Ltd.

Drawings
Borehole Location Plan
Borehole Logs
Section



LEGEND:



Borehole and Monitoring
Well Location



Piezometer



Site Boundary

NOT TO SCALE

TorontoInspection
GEO-ENVIRONMENTAL CONSULTANTS

110 Konrad Crescent,
Unit 16
Markham, Ontario
L3R 9X2

Tel: 905-940 8509

Fax: 905-940 8192

Email : TIL@torontoinspection.com

TITLE: Borehole, Monitoring Well, and Piezometer Location Plan

LOCATION: 7672 Elgin Mills Road East, Markham, Ontario

PROJECT NO. 7152-26-GA

DATE : March 2026

DRAWING NO. 1



LEGEND:



Borehole and Monitoring
Well Location



Piezometer



Site Boundary

NOT TO SCALE

TorontoInspection
GEO-ENVIRONMENTAL CONSULTANTS

110 Konrad Crescent,
Unit 16
Markham, Ontario
L3R 9X2

Tel: 905-940 8509

Fax: 905-940 8192

Email : TIL@torontoinspection.com

TITLE: Borehole, Monitoring Well, and Piezometer Location Plan

LOCATION: 7672 Elgin Mills Road East, Markham, Ontario

PROJECT NO. 7152-26-GA

DATE : March 2026

DRAWING NO. 1

Project No. 7152-26-GA

Log of Borehole 26BH-1(MW)

Dwg No. 2

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 7672 Elgin Mills Road, Markham, Ontario

Date Drilled: 3/23/26

Auger Sample

SPT (N) Value

Dynamic Cone Test

Shelby Tube

Field Vane Test

Headspace Reading (ppm)

Natural Moisture

Plastic and Liquid Limit

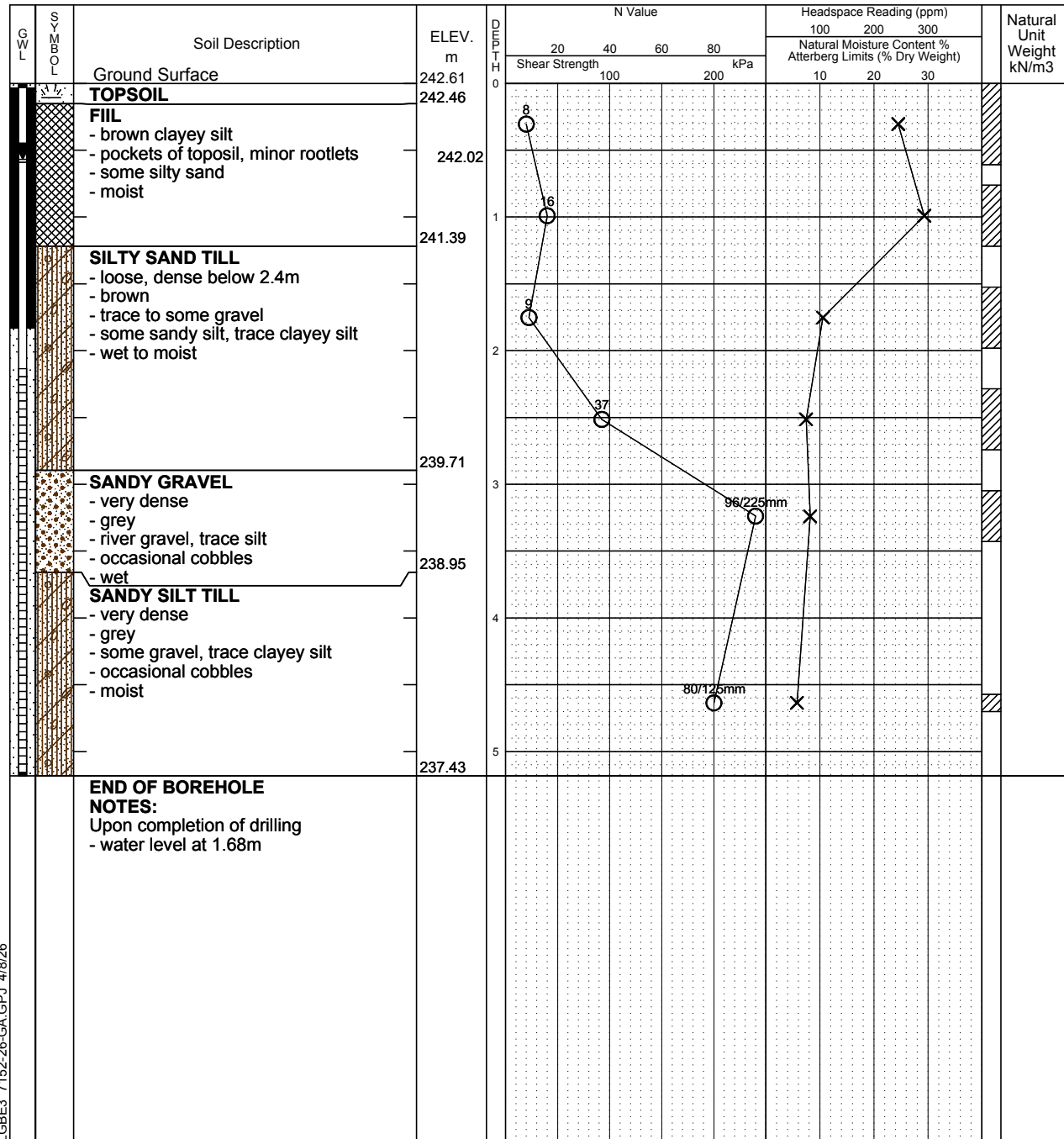
Unconfined Compression

% Strain at Failure

Penetrometer

Drill Type: Geo 205

Datum: Geodetic



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
April 3, 2026	0.59m	
April 7, 2026	0.88m	

Project No. 7152-26-GA

Log of Borehole 26BH-2(MW)

Dwg No. 3

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 7672 Elgin Mills Road, Markham, Ontario

Date Drilled: 3/23/26

Auger Sample

SPT (N) Value

Dynamic Cone Test

Shelby Tube

Field Vane Test

Headspace Reading (ppm)

Natural Moisture

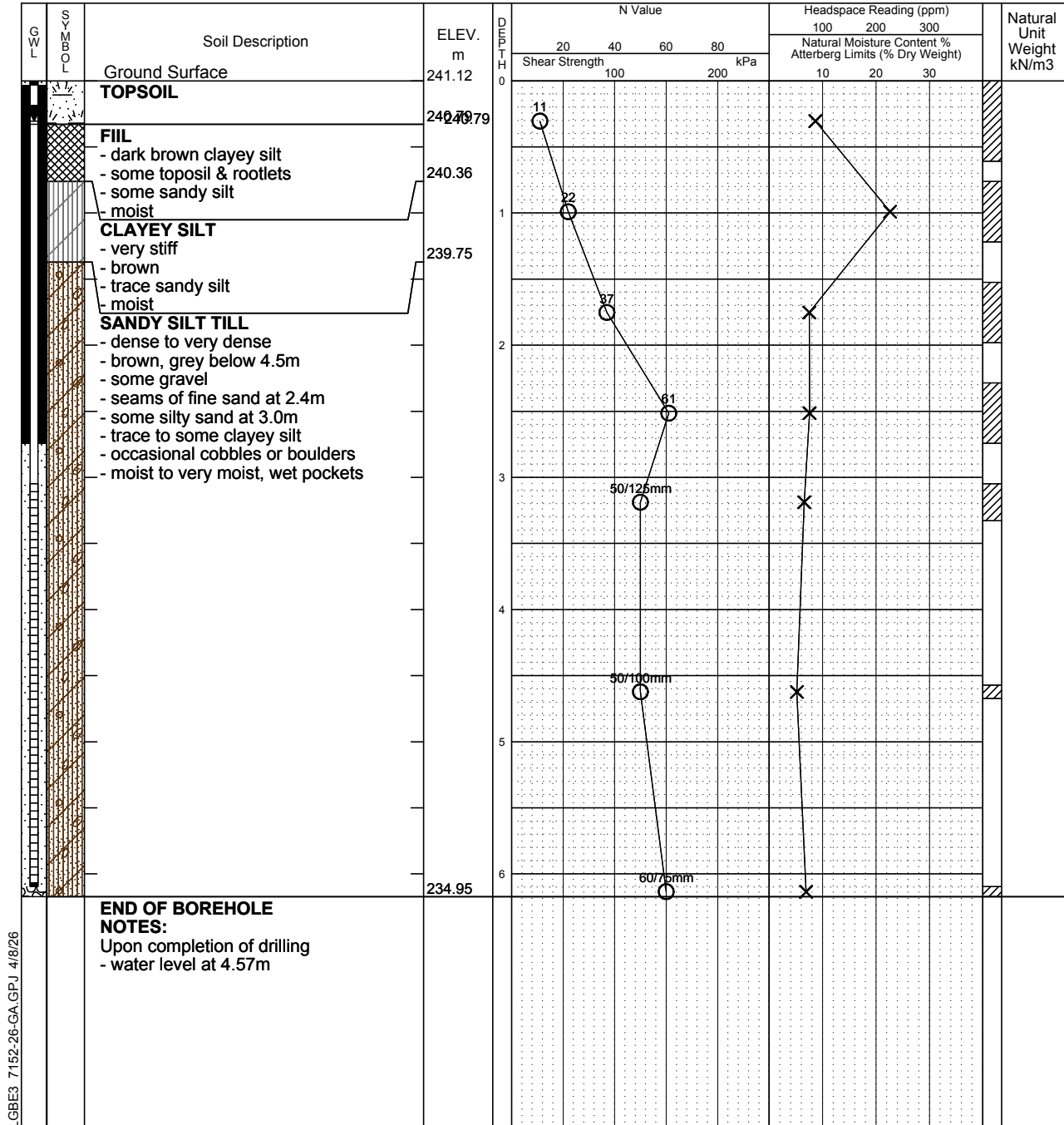
Plastic and Liquid Limit

Unconfined Compression

% Strain at Failure

Penetrometer

Datum: Geodetic



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
April 3, 2026	0.33m	
April 7, 2026	0.48m	

Project No. 7152-26-GA

Log of Borehole 26BH-3

Dwg No. 4

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 7672 Elgin Mills Road, Markham, Ontario

Date Drilled: 3/23/26

Auger Sample

SPT (N) Value

Dynamic Cone Test

Shelby Tube

Field Vane Test

Headspace Reading (ppm)

Natural Moisture

Plastic and Liquid Limit

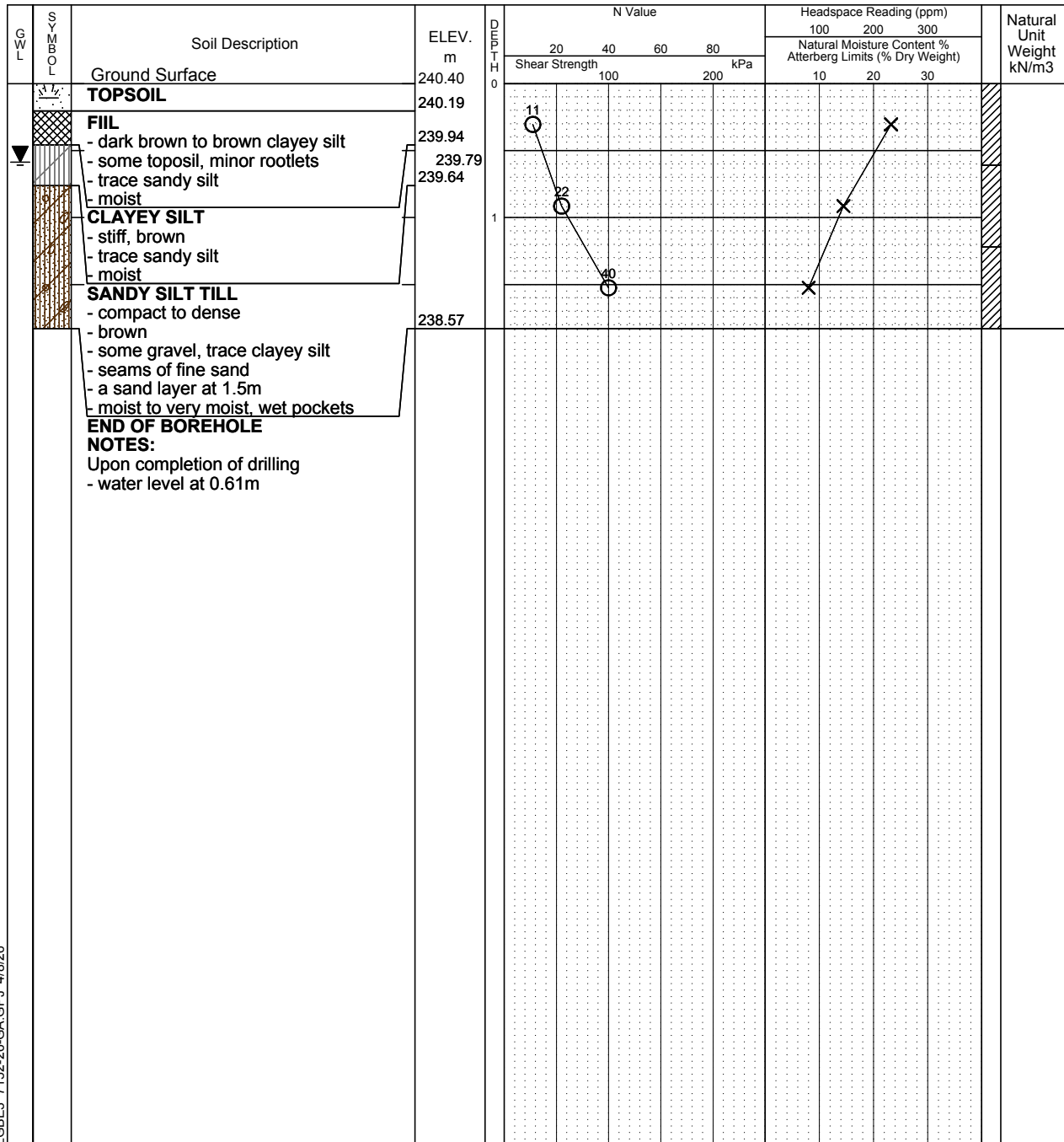
Unconfined Compression

% Strain at Failure

Penetrometer

Drill Type: Geo 205

Datum: Geodetic



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)

Project No. 7152-26-GA

Log of Borehole 26BH-4

Dwg No. 5

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 7672 Elgin Mills Road, Markham, Ontario

Date Drilled: 3/23/26

Auger Sample

SPT (N) Value

Dynamic Cone Test

Shelby Tube

Field Vane Test

Headspace Reading (ppm)

Natural Moisture

Plastic and Liquid Limit

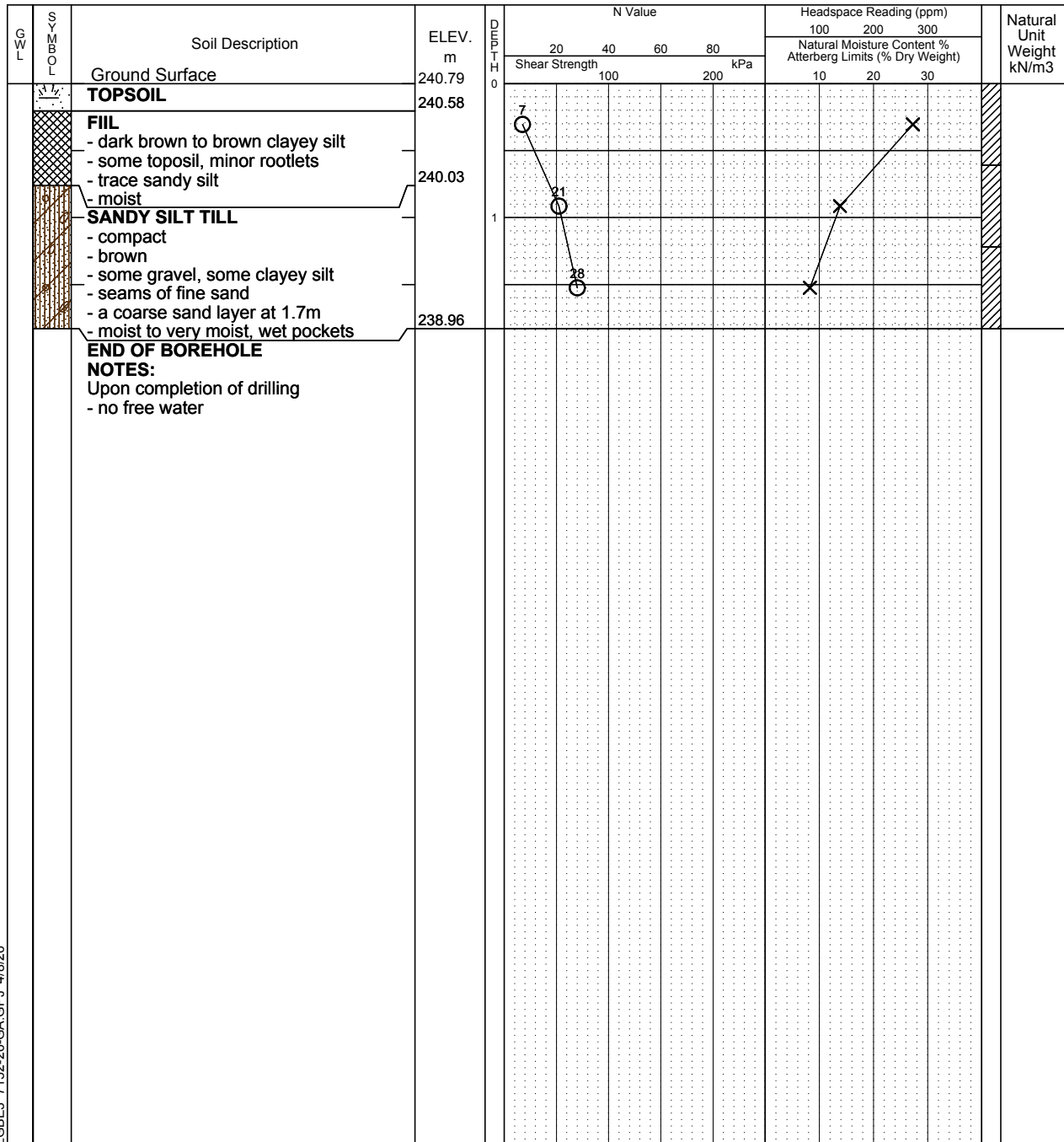
Unconfined Compression

% Strain at Failure

Penetrometer

Drill Type: Geo 205

Datum: Geodetic



NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)

Project No. 7152-26-GA

Log of Borehole 26BH-5

Dwg No. 6

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 7672 Elgin Mills Road, Markham, Ontario

Date Drilled: 3/23/26

Auger Sample

SPT (N) Value

Dynamic Cone Test

Shelby Tube

Field Vane Test

Headspace Reading (ppm)

Natural Moisture

Plastic and Liquid Limit

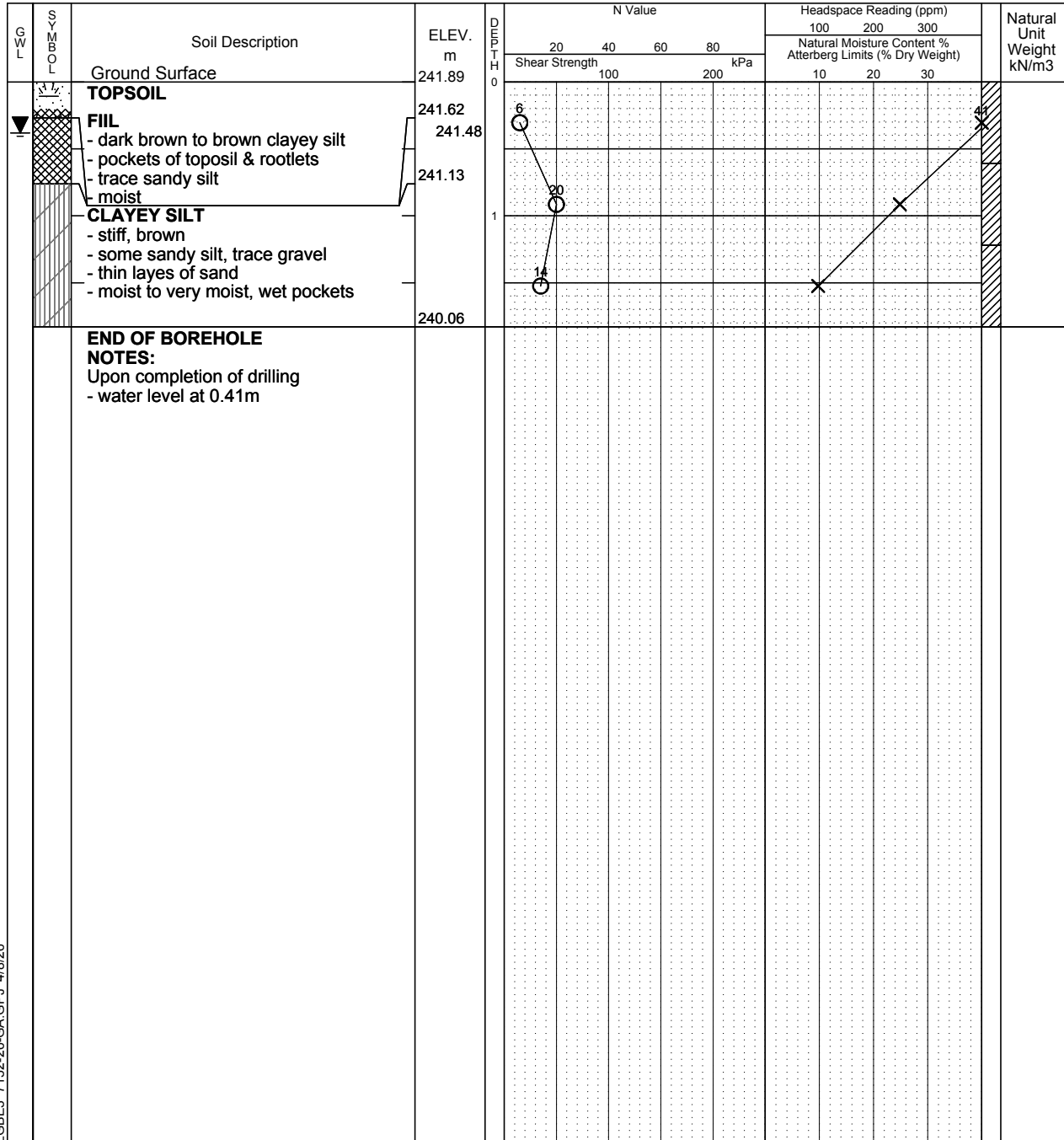
Unconfined Compression

% Strain at Failure

Penetrometer

Drill Type: Geo 205

Datum: Geodetic



LGBE3 7152-26-GA.GPJ 4/8/26

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)

Project No. 7152-26-GA

Log of Borehole 26BH-6(MW)

Dwg No. 7

Project: Geotechnical Investigation

Sheet No. 1 of 1

Location: 7672 Elgin Mills Road, Markham, Ontario

Date Drilled: 3/23/26

Auger Sample



SPT (N) Value



Dynamic Cone Test



Shelby Tube



Field Vane Test



Headspace Reading (ppm)



Natural Moisture



Plastic and Liquid Limit



Unconfined Compression



% Strain at Failure



Penetrometer



Datum: Geodetic

SYMBOL	Soil Description	ELEV.	DEPTH	N Value				Headspace Reading (ppm)			Natural Unit Weight kN/m3
				20	40	60	80	100	200	300	
				Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)			
	Ground Surface	240.49	0								
	TOPSOIL	240.41									
	Direct Drill										
	- no sampling										
		238.97	1								
	SAND/SILTY SAND										
	- brown										
	- fine to medium grained										
	- some gravel, trace clayey silt	238.36	2					X			
	- wet										
	Direct Drill										
	- no sampling										
		237.44	3								
	END OF BOREHOLE										
	NOTES:										
	Upon completion of drilling										
	- water level at 0.51m										
	- cave-in at 1.83m										

GBE3 7152-26-GA.GPJ 4/8/26

LGBE3 7152-26-GA.GPJ 4/8/26

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
April 3, 2026	-0.17m	
April 7, 2026	-0.10m	

Project No. 7152-26-GALog of Borehole 26BH-7(MW)Dwg No. 8Project: Geotechnical InvestigationSheet No. 1 of 1Location: 7672 Elgin Mills Road, Markham, OntarioDate Drilled: 3/23/26

Auger Sample



SPT (N) Value



Dynamic Cone Test



Shelby Tube



Field Vane Test



Headspace Reading (ppm)



Natural Moisture



Plastic and Liquid Limit



Unconfined Compression



% Strain at Failure



Penetrometer

Datum: Geodetic

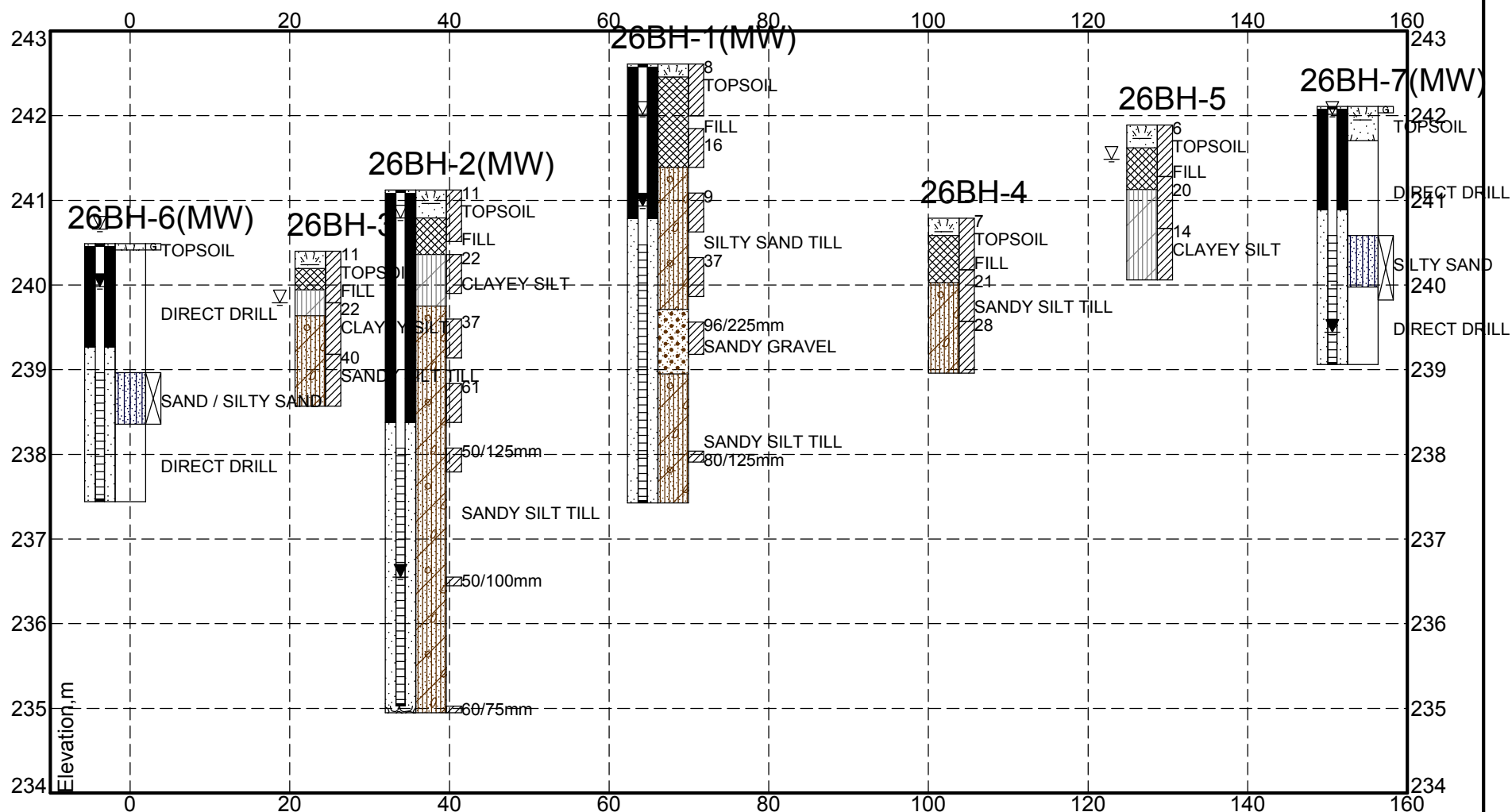
SYMBOL	Soil Description	ELEV. m	DEPTH m	N Value				Headspace Reading (ppm)			Natural Unit Weight kN/m3
				20	40	60	80	100	200	300	
				Shear Strength kPa				Natural Moisture Content % Atterberg Limits (% Dry Weight)			
	Ground Surface	242.11	0	100	200						
	TOPSOIL	242.02									
		241.70									
	Direct Drill - no sampling										
		240.58									
	SILTY SAND - brown - fine to medium grained - some sandy silt - some gravel, trace clayey silt - wet	239.98									
	Direct Drill - no sampling										
		239.06									
	END OF BOREHOLE NOTES: Upon completion of drilling - water level at 2.67m										

LGBE3 7152-26-GA.GPJ 4/8/26

NOTE: THE BOREHOLE DATA NEEDS INTERPRETATION ASSISTANCE BY TORONTO INSPECTION LTD. BEFORE USE BY OTHERS

Toronto Inspection Ltd.

Time	Water Level (m)	Depth to Cave (m)
April 3, 2026	0.09m	
April 7, 2026	0.26m	



Borehole No	Elev.	Depth
26BH-1(MW)	242.6	5.2
26BH-2(MW)	241.1	6.2
26BH-3	240.4	1.8
26BH-4	240.8	1.8
26BH-5	241.9	1.8
26BH-6(MW)	240.5	3.0
26BH-7(MW)	242.1	3.0

Toronto Inspection Ltd.

SUBSURFACE STRATIGRAPHY SECTION

Geotechnical Investigation

7672 Elgin Mills Road, Markham, Ontario

PROJECT #	DATE	DRAWING
7152-26-GA	Apr 26	9

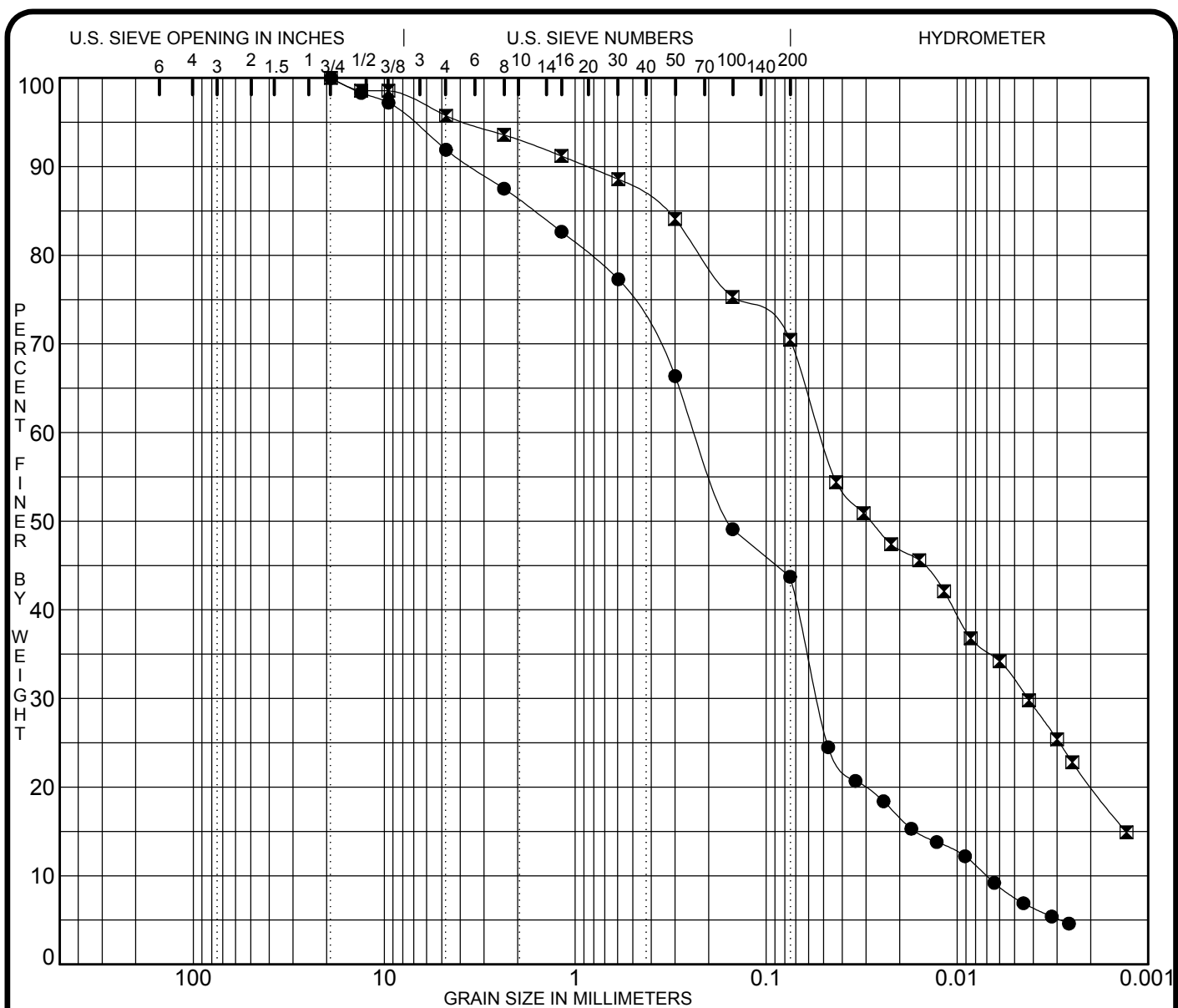


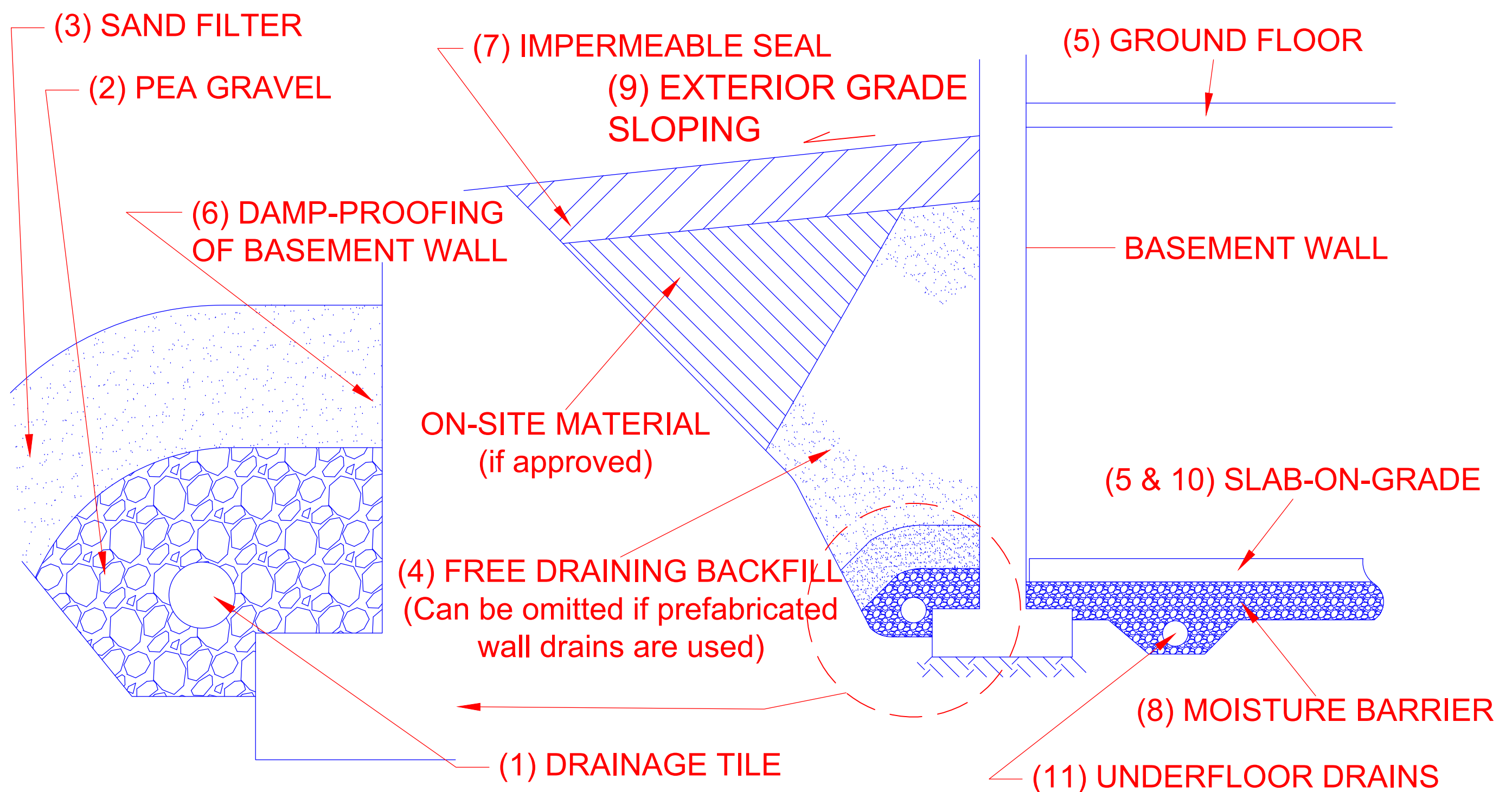
Toronto Inspection Ltd.

Figures

Grain Size Distribution

Backfill & Drainage System for Open Cut Excavation





Notes:

1. **Drainage tile:** consist of 100mm (4") diameter weeping tile or equivalent perforated pipe leading to a positive sump or outlet. Invert to be at minimum of 150mm (6") below underside of basement floor level.
2. **Pea gravel:** at 150mm (6") on the top and sides of drain. If drain is not placed on footing, provide 100mm (4") of pea gravel below drain. The pea gravel may be replaced by 20mm clear stone provided that the drain is covered by a porous geotextile membrane of Terrafix 270 R or equivalent.
3. **Filter material:** consists of C.S.A. fine concrete aggregate. A minimum of 300mm (12") on the top and sides of gravel. This may be replaced by an approved porous geotextile membrane of Terrafix 270R or equivalent.
4. **Free-draining backfill:** OPSS Granular B or equivalent, compacted to 93 to 95% (maximum) Standard Proctor Density. Do not compact closer than 1.8m (6ft.) from wall with heavy equipment. This may be replaced by on site material if prefabricated wall drains (Miradrain) extending from the finished grade to the bottom of the basement wall are used.
5. **Do not backfill** until the wall is supported by the basement floor slab and ground floor framing, or adequate bracing.
6. **Damp-proofing** of the basement wall is required before backfilling.
7. **Impermeable backfill seal** of compacted clay, clayey silt or equivalent. If the original soil in the vicinity is a free draining sand, the seal may be omitted.
8. **Moisture barrier:** consists of 20mm clear stone or compacted OPSS Granular A, or equivalent. The thickness of this layer to be 150mm (6") minimum.
9. **Exterior Grade:** slope away from basement wall on all the sides of the building.
10. **Slab-on-grade** should not be structurally connected to walls or foundations.
11. **Underfloor drains** * should be placed in parallel rows at 6-8m (20-25 ft.) centre, on 100mm (4") of pea gravel with 150mm (6") of pea gravel on top and sides. The invert should be at least 300mm (12") below the underside of the floor slab. The drains should be connected to positive sumps or outlets. Do not connect the underfloor drains to the perimeter drains.

* Underfloor drains can be deleted where not required.

NOT TO SCALE



Toronto Inspection Ltd.

Appendix A

Guidelines of Engineered Fill

GUIDELINES FOR ENGINEERED FILL

The information presented in this guideline is intended for general guidance only. Site specific and prevailing weather conditions may require modification of the material(s) to be used and the compaction standards or procedures changed. The site preparation and the material(s) to be used must be discussed and procedures agreed with ***Toronto Inspection Ltd.*** prior to the start of the earthworks and must be subjected to on going review during construction.

For fill to be classified as engineered fill, suitable for supporting structural loads, a number of conditions must be satisfied, including but not necessarily limited to the following:

1. Areal Extent

The engineered fill must extend beyond the envelope of the structure to be supported. The minimum extent should be 2.0m beyond the envelope in all directions at the foundation level, including the loading dock pad and the front sidewalk, and sloping downwards to the sub-grade at 45°. Once the envelope is set, the structure cannot be moved out of the envelope without consultation with ***Toronto Inspection Ltd.*** Similarly, no excavation should encroach on the engineered fill envelope without consultation with ***Toronto Inspection Ltd.***

2. Survey Control

Accurate survey control is essential to the success of an engineered fill project. The boundaries of the engineered fill must be laid out by a surveyor. During construction, it is necessary to have qualified surveyors providing control stations on the three-dimensional extent of the engineered fill.

3. Subsurface Preparation

Prior to placement of the engineered fill, the sub-grade must be prepared to the satisfaction of ***Toronto Inspection Ltd.*** All deleterious material must be removed and in some cases excavation of native mineral soils may also be required. Particular attention must be paid to wet sub-grade and possible additional measures required to achieve sufficient compaction. Where fill is placed against a slope, benching will be necessary and natural drainage paths must not be blocked.

4. Suitable Fill Material

All material to be used as fill must be approved by ***Toronto Inspection Ltd.*** Such approval will be influenced by weather factors. External sources of fill material must be sampled, tested and approved prior to material being hauled to the job site.

5. Trial Test Section

In advance of the construction of the engineered fill pad, the contractor should conduct a trial test section. The compaction criterion will be assessed for the backfill material to be used, using specified lift thicknesses and number of passes for the compaction equipment proposed by the contractor. To achieve a uniform degree of compaction of each layer, the lift thickness of loose

material, prior to start of compaction, must not exceed 200mm (8 inches). Additional trial test section(s) may be required throughout the course of the project to reflect changes in material sources, the moisture content of the material and the weather conditions.

6. Degree of Compaction

The minimum degree of compaction for the engineered fill should not be less than 100% of the Standard Proctor maximum dry density, or 95% of the Modified Proctor maximum dry density, to the level at or above 0.3m from proposed footing founding level. Each layer must be tested and approved by this office before the next layer is placed.

7. Inspection and Testing

Uniform and thorough compaction is crucial to the performance of the fill and the supported structure. Hence, all subgrade preparation, filling and compacting must be done with full time inspection and to the satisfaction of ***Toronto Inspection Ltd.*** All founding surfaces must be inspected and approved by ***Toronto Inspection Ltd.*** prior to placement of concrete.

8. Protection of Fill

Fills are generally more susceptible to the effects of weather than are natural soils. Fill placed and approved to the level at which structural support is required must be protected from excessive wetting, drying, erosion or freezing. Where inadequate protection had been provided, it may be necessary to provide deeper founding level for footings or to strip and re-compact some of the filled layers.

9. Limitations

The engineered fill is subjected to the following limitations:

- i. Proper drainage must be maintained at all times within the engineered fill pad.
- ii. If the engineered fill is left in place during the winter months, adequate protection must be provided against frost penetration to the proposed footing depths.
- iii. If the engineered fill depth exceeds 5m below the foundation depth, the construction of the foundations might have to be delayed for a period of 1 year after placement, depending on the type of fill material used.
- iv. Strip footings and foundation walls founded on engineered fill must be reinforced continuously with a minimum of two 15mm steel bars with at least 1m of overlap.